

# TRAFFIC IMPACT ASSESSMENT

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DEVELOPMENT AT EMMET ROAD, DUBLIN 8

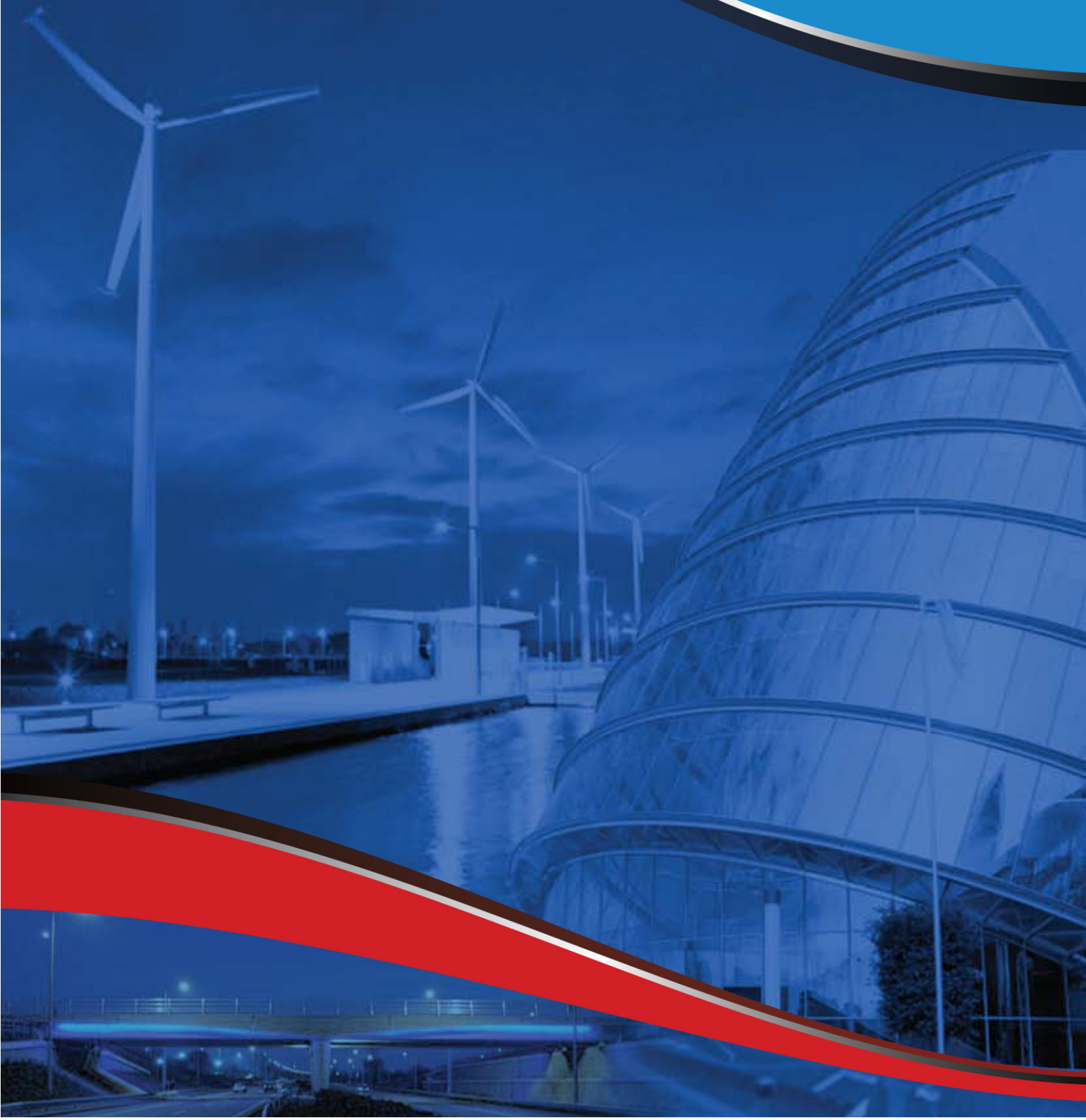
Dublin City Council  
**Project No. B967**  
*28 September 2022*



## OCSC

O'CONNOR | SUTTON | CRONIN

Multidisciplinary  
Consulting Engineers





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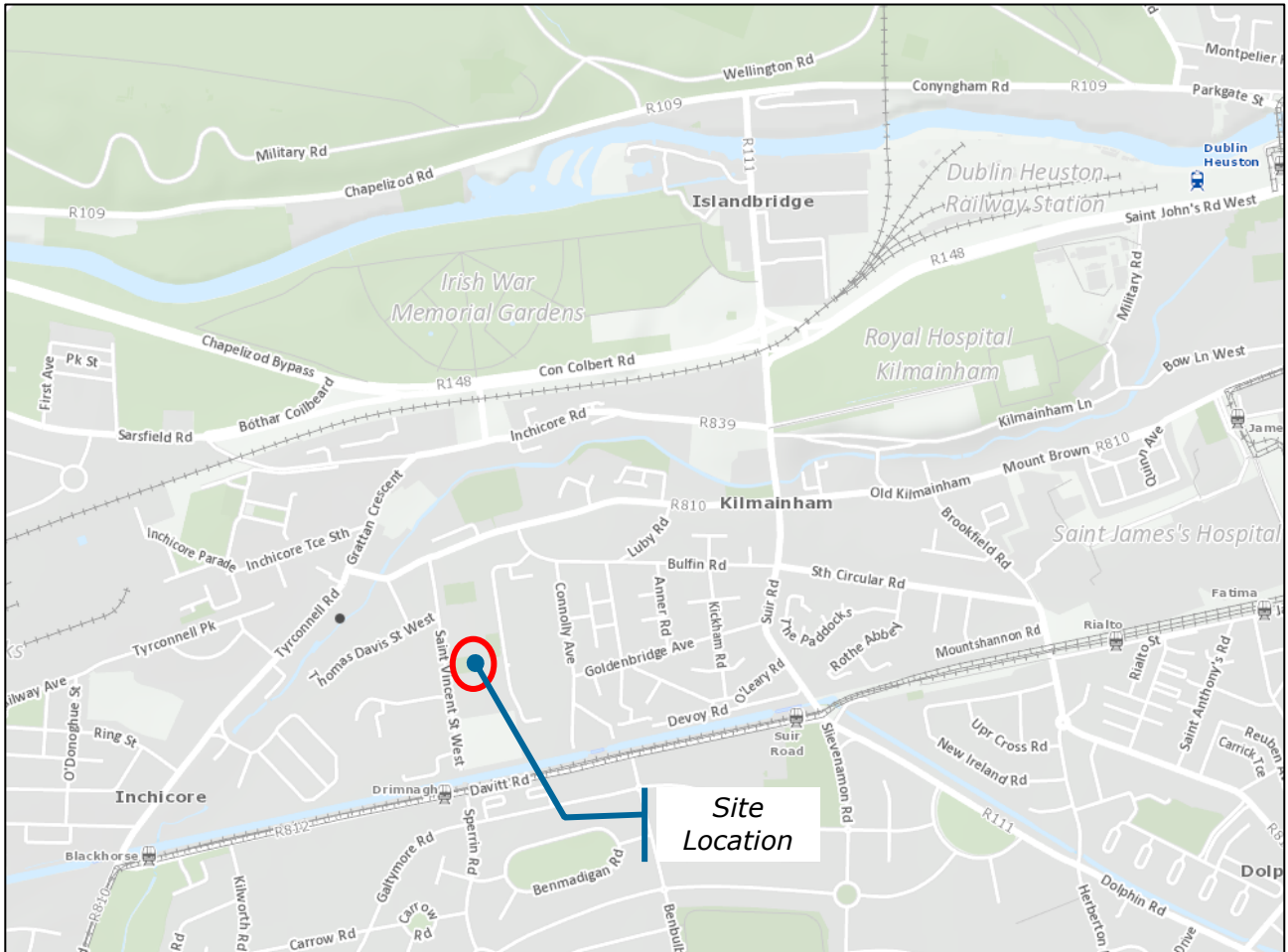
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# 1 INTRODUCTION

O'Connor Sutton Cronin & Associates (OCSC) have been commissioned to undertake this assessment with respect to the proposed redevelopment at Emmet Road, Inchicore, Dublin 8. The site location is shown indicatively in *Figure 1* below.



*Figure 1: Indicative Site Location Map*

The proposed development site is located in the heart of Inchicore and comprises a mixture of uses including residential, commercial and community.

The purpose of this report is to clearly assess the potential impact of the proposed development on the existing links and junctions which form the local road network as well as a review of the public transport capacity of the area. This report also seeks to clearly set out the parking strategy associated with the development.



This assessment has given due consideration to the relevant guidelines including:

- *Traffic & Transport Assessment Guidelines (2014)* as published by the former National Roads Authority now Transport Infrastructure Ireland (TII);
- *Guidelines for Traffic Impact Assessment (1997)* as published by the Chartered Institute of Highways & Transportation;
- *Dublin City Development Plan 2016-2022*;
- *Draft Dublin City Development Plan 2022-2028*.

## 2 STUDY METHODOLOGY

In order to get accurate data for traffic flows on the existing road network, Tracsis Traffic Data Ltd have been commissioned to carry out a series of bespoke surveys. The surveys were completed at the following locations:

**Junction 1:** R839 Grattan Crescent / R810 Emmet Road / R810 Tyrconnell Road;

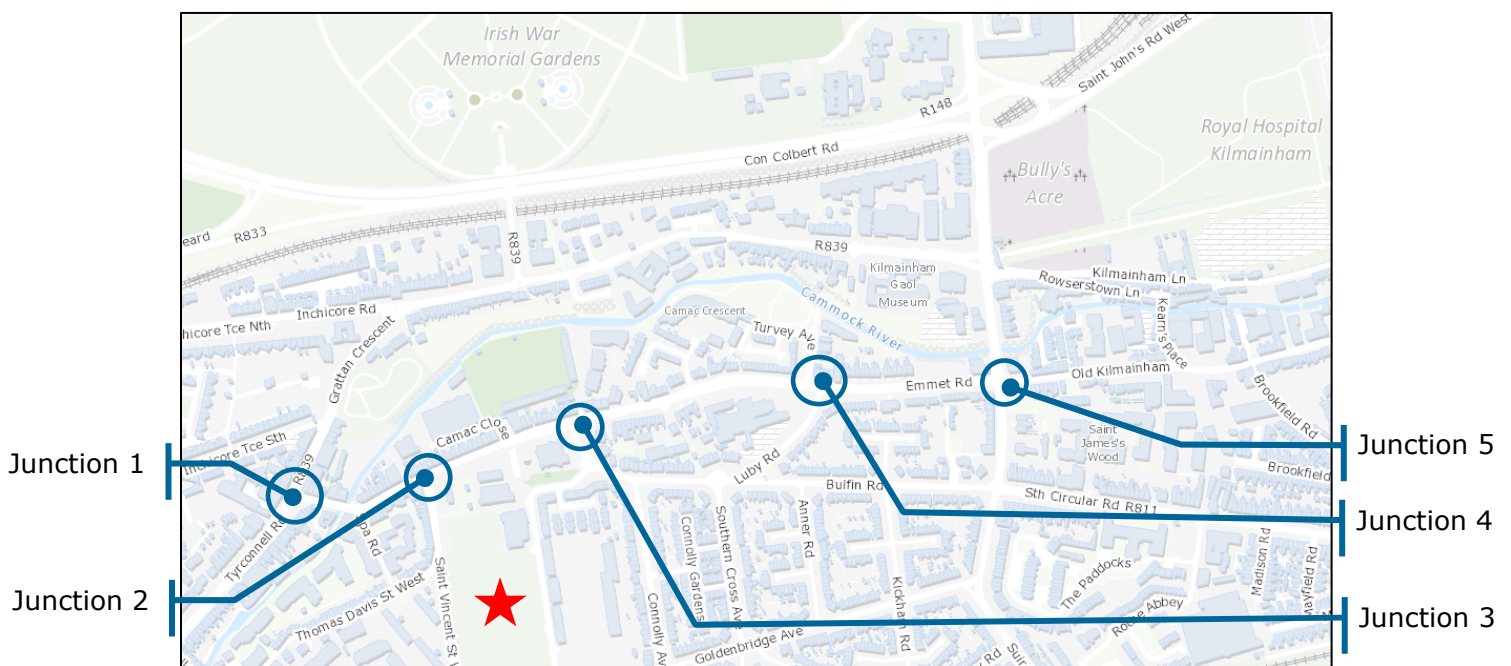
**Junction 2:** R810 Emmet Road / Saint Vincent Street West / R810 Emmet Road;

**Junction 3:** R810 Emmet Road / Bulfin Road / R810 Emmet Road;

**Junction 4:** Turvey Avenue / R810 Emmet Road / Luby Road / R810 Emmet Road;

**Junction 5:** R111 South Circular Road / R810 Old Kilmainham / R111 South Circular Road / R810 Emmet Road;

The exact locations of these junctions are highlighted in *Figure 2* below.



**Figure 2: Study Area & Traffic Survey Locations**

The surveys were carried out on April 28<sup>th</sup> 2022 and included 15 minute interval junction turning counts carried out between the hours of 07:00 – 19:00. It is noted that this date was a considerable period of time after all Covid 19 pandemic restrictions were

lifted and so are considered to be an accurate and up-to-date reflection of the operation of the local road network.

A seven-fold classification system was used which recorded cyclists, motorcycles, cars, light goods vehicles, OGV 1, OGV2 and buses.

The junction surveys also included:

- Queue length surveys which recorded the maximum queue lengths observed on a per lane basis at each approach of each junction over 5 minute intervals;
- Pedestrian crossing counts at each arm of each junction over 15 minute intervals.

A full copy of the results of all traffic surveys can be found in *Appendix A*, to the rear of this report.

The base year flows were then adjusted to the estimated future assessment years (Year of Opening & Design Year) using medium range TII Growth Factor<sup>1</sup>. The traffic generation potential of the development was then assessed using the Trics<sup>2</sup> planning database. This database is an industry standard too that contains information on thousands of sites in Ireland and the U.K. and can be used to predict the traffic that will be generated by numerous types of development.

The estimated additional traffic was assigned to the local road network and its impact on the operation of the local links and junctions was assessed using guidance from TII, the Design Manual for Roads and Bridges (DMRB) and task specific traffic modelling software.

The assessment considered the following scenarios:

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<sup>1</sup> Units 5.3 Travel Demand Projections, TII Project Appraisal Guidelines, October 2021

<sup>2</sup> Trip Rate Information Computer System

- Do Nothing – allowance for natural background traffic growth only;
- Do Something – allowance for natural background traffic growth and the additional traffic estimated to be generated by the proposed development.

### 3 THE RECEIVING ENVIRONMENT

The receiving environment is urban in nature. The existing primary arteries through the study area are the Emmet Road, Tyrconnell Road, Grattan Crescent, St Vincent Street West and South Circular Road. Outside of the study area, development generated traffic will dissipate considerably and so is expected to have a negligible impact on the operation of the wider network. While there is substantial variation in the type of traffic travelling on the links locally, during the peak travel hours, they would primarily be expected to carry commuter traffic.

As noted earlier, base traffic levels have been surveyed on the local network in 2022. By combining these base flows with the traffic generation estimates for the proposed development, the following peaks were identified:

- A.M. Peak Hour: 07:45 – 08:45;
- P.M. Peak Hour: 15:15 – 16:15.

The recorded flows during the above peak hours and across the course of an average day are shown in the following:

- Diagram 1: 2022 A.M. Peak Hour Base Flows (07:45 – 08:45);*
- Diagram 2: 2022 P.M. Peak Hour Base Flows (15:15 – 16:15);*
- Diagram 3: 2022 Annual Average Daily Traffic Base Flows.*

The aforementioned diagrams and all others referenced in this text can be found in *Appendix B*, to the rear of this report. Any apparent discrepancy in flows between sites may be attributed to vehicles accessing developments and minor roads between surveyed junctions.

TA 79/99 “Traffic Capacity of Urban Roads” from the DMRB provides information on the capacity of urban roads based on classification and width. *Table 1* following shows the capacities of various road types based on this manual and using a 60:40 split in flow.

<b>2 Way Single Carriageway – Busiest Direction of Flow (60/40 split)</b>										
Carriageway Width (m)		<u>Total Number of lanes</u>								
		2		2-3		3	3-4	4	4+	
		6.10	6.75	7.30	9.0	10.0		12.3	13.5	18.0
Road Type	UM	Not Applicable								
	UAP1	1020	1320	1590	1860	2010	2550	2800	3050	3300
	UAP2	1020	1260	1470	1550	1650	1700	1900	2100	2700
	UAP3	900	1110	1300	1530	1620	*	*	*	*
	UAP4	750	900	1140	1320	1410	*	*	*	*

*Table 1: Urban Road Capacities*

The local links have been classified based on the associated definitions in the DMRB. Using the previous table, link capacities have been calculated and current Ratio of Flow to Capacity (RFC) values have been assessed for the key links bordering the site. These are shown for the base year peak hours in *Table 2*.

It should be noted that given the variation in width across the links in question, an average figure for each has been used which is rounded down to the nearest value shown in the above table, thus ensuring a conservative assessment of link capacity.

Link	Width (m)	Link Capacity (veh/hr)	A.M. Peak (veh/hr)	RFC (%)	P.M. Peak (veh/hr)	RFC (%)
Grattan Crescent	6.1	900	693	77%	491	55%
Tyrconnell Road	6.1	900	547	61%	576	64%
Emmet Road	6.1	900	636	71%	528	59%
St Vincent Street West	6.1	900	120	13%	125	14%

*Table 2: Base Year Link RFC Values for Local Network*

As can be seen, all links are operating within capacity in the base case, with a highest value of 77% experienced in Grattan Crescent in the A.M. peak hour.

In order to accurately assess the impact of the proposed development in the future, the base traffic flows for the local network in 2022 have been expanded to the Year of

Opening and the Design Year using the medium range TII growth factors detailed in *Table 3* following.

Year	Growth Rates	
	Light Vehicles	Heavy vehicles
2022 - 2024	2.74%	5.99%
2022 - 2039	16.63%	42.50%

*Table 3: Background Traffic Growth Factors*

These factors allow for a variety of factors including additional traffic generated by development in the local and wider area, increased levels of car ownership and increased vehicle trips as a result of projected improvements to economic activity. This is considered a conservative approach given that these projections are likely to be higher than what will be experienced post-Covid 19 pandemic given the associated impacts to economic activity and work practices which will see a permanent reduction in commuting activity. Car ownership levels, in Dublin in particular, are also expected to reduce in line with local and national sustainable travel and planning policies. This background traffic growth allows for cumulative development in the area and on a wider basis, with the factors applied specific to the site location in Dublin.

With respect to permitted development which has yet to be completed, the following are of key relevance:

- Planning Register reference: 4260/19 – 52 no. older persons apartments including 13 no. new car parking spaces in St. Michael's Estate west of the proposed development site. The nature of the development combined with the low level of parking provision mean the potential traffic impact is negligible and is considered to be accounted for in the conservative background traffic growth allowance;
- Planning register Reference: ABP-303435-19 – 265 no. build to rent apartments with 119 car parking spaces on the former Duplex site south of the canal relative to the proposed development. This development is located on the opposite side of the canal relative to the proposed development which limits the potential interaction of traffic within the study area, after which the traffic associated with the proposed development will have dispersed to the extent that would make its impact negligible.

In particular, there is limited potential for traffic from the SHD development to route along Emmet Road based on consideration of reasonable travel desire lines. As a result, the potential traffic impact in the study area is negligible and is considered to be accounted for in the conservative background traffic growth allowance.

Thus, the future year traffic flows without development can be seen in the following:

- *Diagram 4: 2024 A.M. Peak Hour Flows – Do Nothing;*
- *Diagram 5: 2024 P.M. Peak Hour Flows – Do Nothing;*
- *Diagram 6: 2024 AADT – Do Nothing;*
  
- *Diagram 7: 2039 A.M. Peak Hour Flows – Do Nothing;*
- *Diagram 8: 2039 P.M. Peak Hour Flows – Do Nothing;*
- *Diagram 9: 2039 AADT – Do Nothing.*

The methodology adopted here is conservative as no consideration for the following has been allowed for when applying traffic growth factors:

- The local, national and worldwide economic impact of the recent global pandemic which will in turn impact on traffic growth potential;
- The expected long term cultural and work practice changes as working from home has been proven to be a more viable option for many workers and becomes more common, on a part or full time basis. This in turn have a positive impact on commuter and peak hour traffic volumes.

Thus, the background traffic growth allowed for is considered to be very conservative in nature and all results are considered to represent the worst-case scenario, particularly for the design year.



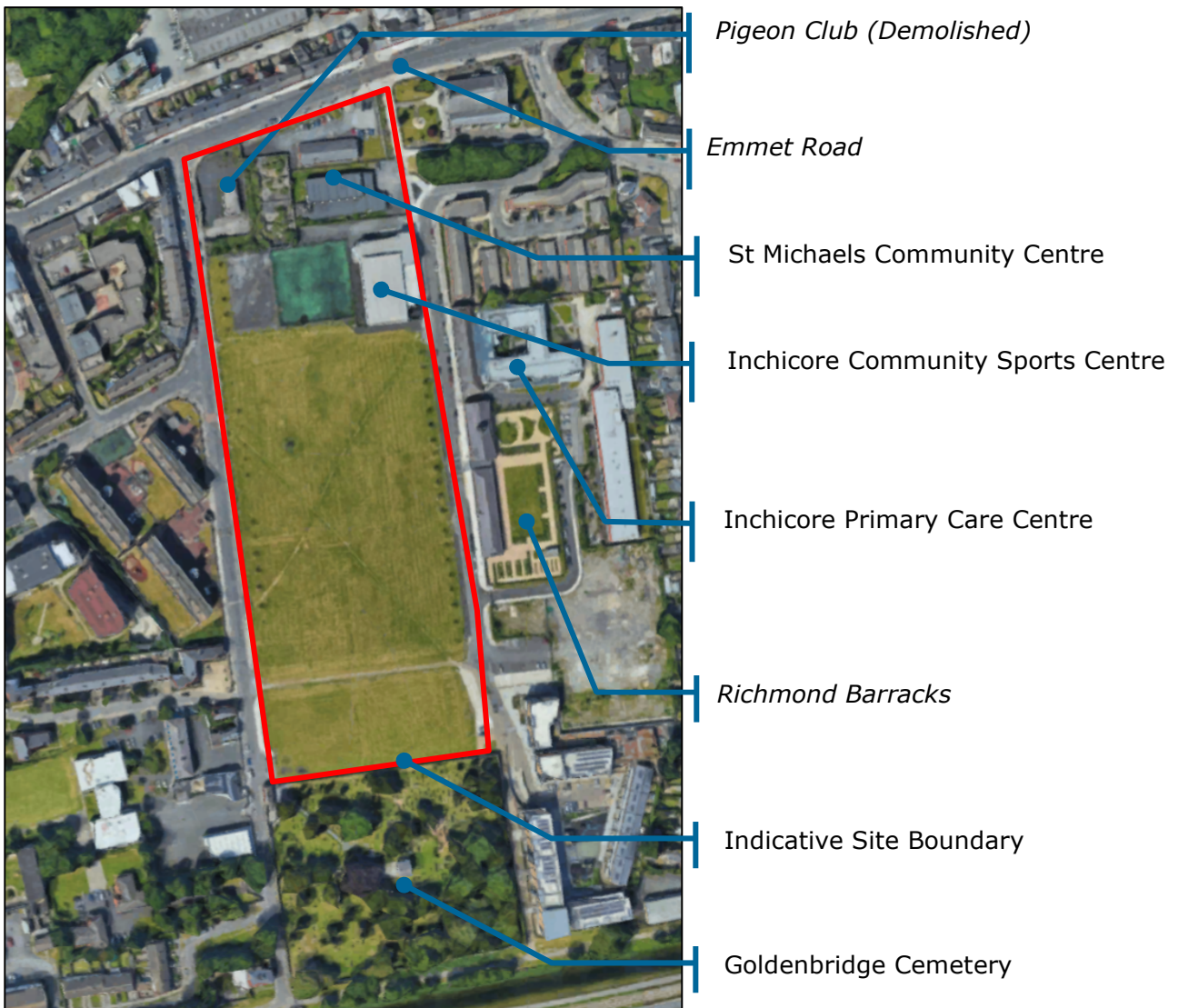
## 4 CHARACTERISTICS OF THE DEVELOPMENT

### EXISTING SITE OVERVIEW

This site is located in Inchicore which is a suburb of Dublin located to the west of the City Centre. The main development site covers an area of approximately 3.72 hectares and is bounded by the Emmet Road to the north, St. Vincent Street West to the western boundary, Goldenbridge Cemetery to the southern boundary and Patriots Path to the eastern boundary. Additional (water main upgrade) works are proposed along Emmet Road bringing the overall site area to some 4.68 hectares. It currently houses a mixture of brownfield areas which previously housed the St Michaels Estate development together with the current existing buildings/structures:

- St Michael's Community Centre (to be demolished as per permitted Part 8);
- Eve Tuiscint Health Centre (to be demolished as per permitted Part 8);
- Inchicore Community Sports Centre (to be retained)
- Boundary wall to the north western corner of the site (majority to be retained).

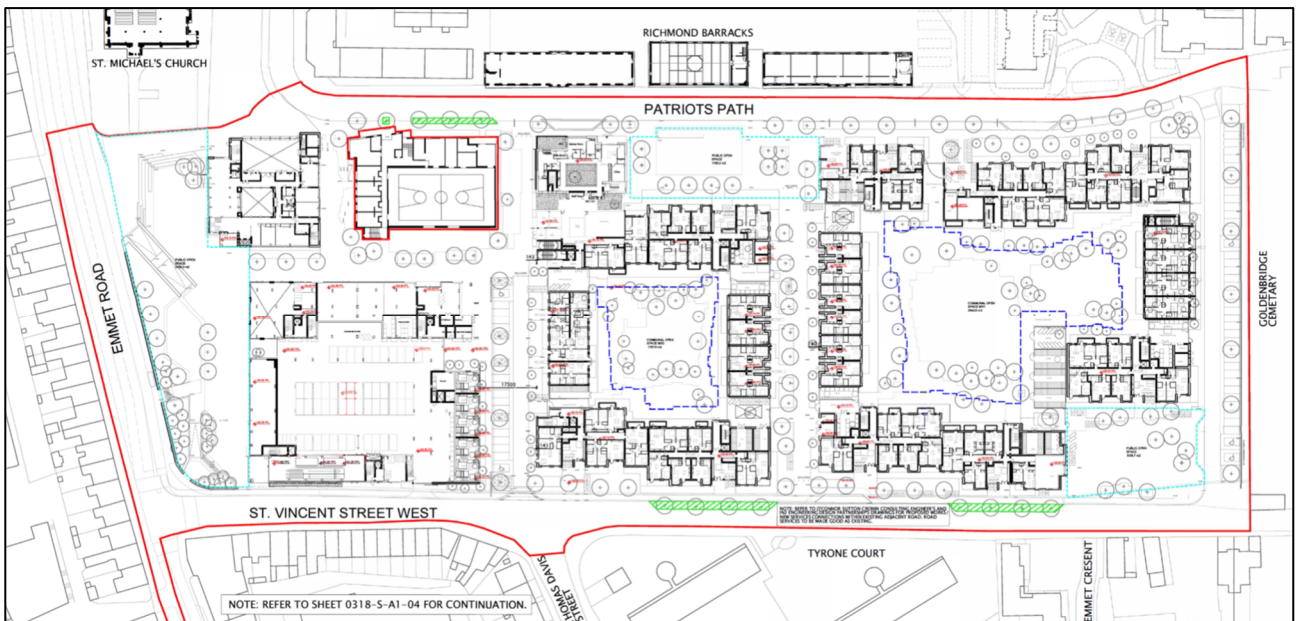
There are a number of existing structures outside of the site that are of note including the Inchicore Primary Care Centre and Richmond Barracks to the east of the site and Goldenbridge Cemetery to the south.



*Figure 3: Existing Site Overview*

**PROPOSED DEVELOPMENT OVERVIEW**

The development will comprise 578 no. apartments, community facilities (including Library/Community Hub, Creche, Retail/Commercial and Café units), a supermarket, a public plaza fronting onto Emmet Road and the installation of a new watermain c 200m in length along Emmet Road to the junction with Tyrconnell Road/Grattan Crescent. The proposal includes works to a protected structure (8705 - Richmond/Keogh Barracks, relating to rubble stone boundary walls).



*Figure 4: Proposed Site Layout*

As can be seen, from a roads perspective the proposals are relatively minimal to maximise the residential amenity of the site and quality of environment for residents by avoiding a car dominant design. The main village car parking area to serve the retail and community uses is located in the northern part of the site and will be accessed via a new entrance on the upper section St. Vincent Street West. Directly adjacent this will be a service access for large delivery vehicles to the main retail unit, with swept path analysis having been carried out for a maximum legal length articulated vehicle to inform the design.

Another entrance is to be provided just south of this location on St. Vincent Street West which will also facilitate some servicing activity for the commercial units, again informed by swept path analysis, as well as access to the residential and car club parking.

A new road link is proposed on the southern boundary which will join St. Vincent Street West to St. Michael’s Estate, with additional residential and car club parking also located along its length.

Permeability is a key priority of the design, particularly in an east-west manner to ensure existing desire lines are maintained and accessibility to, from and through the development is provided. This is further facilitated by both streets in the residential

portion of the site acting as shared spaces, in accordance with DMURS, to prioritise and facilitate the movement of pedestrians and cyclists.

The car parking strategy for the proposed development is set out in further detail in the following section but, in summary, it is proposed to provide:

- 20 no. residential car parking spaces;
- 30 no. car club vehicles (residential);
- 54 no. spaces to serve as a village car park including allowance for the retail and community elements;
- 2 no. spaces for Goldenbridge Cemetery.

## **TRIP GENERATION**

The residential and supermarket unit of the proposed development are expected to be the primary trip generator and form the basis of the development trip generation estimates. The ancillary elements (cafés, smaller retail units, library and community centre) are not expected to be primary trip generators, particularly during peak travel times, and are instead expected to serve local residents at the development and in the surrounding area. As a result, they have not been included in this assessment from a trip generation perspective.

The traffic generation potential of the proposed development has been estimated using the Trics software modelling database which is an industry-standard tool. When developing traffic generation estimates for any development, a number of surveys are selected from the database based on a range of factors including development type, size, location, public transport etc. The results are then used to establish trip rates for the development in question which is ultimately used to derive estimates for traffic generation.

In this instance, particular focus was given to the car parking provision proposed for the development which will significantly reduce the trip generation potential of the apartments in particular. However, the Trics database contains limited information of similar sites with such a low level of provision meaning a conservative approach has

been adopted where surveys at sites with a high level of parking provision have been used to development the following estimates.

Furthermore, no consideration has been given the following likely occurrences:

- Internal trips between the various uses proposed i.e. residents at the development will account for a significant portion of users of the real elements but have been assumed to be external and new to the study area for the purposes of this assessment;
- Pass-by trips which will see cars already on the local road network divert slightly to visit the retail element in particular as they pass by.

Thus, the trip generation estimates are considered to be conservative and represent a worst case scenario.

The Trics output files relative to this assessment can be found in *Appendix C* of this report.

The trip generation estimates have been produced for the proposed development are shown in the following table.

Time Range	Apartments		Retail	
	Arrivals	Arrivals	Departures	Departures
00:00-01:00	0	0	0	0
01:00-02:00	0	0	0	0
02:00-03:00	0	0	0	0
03:00-04:00	0	0	0	0
04:00-05:00	0	0	0	0
05:00-06:00	0	0	0	0
06:00-07:00	0	0	1	0
07:00-08:00	11	18	2	18
08:00-09:00	9	18	16	18
09:00-10:00	20	14	32	14
10:00-11:00	20	13	37	13
11:00-12:00	14	21	45	21
12:00-13:00	9	13	44	13
13:00-14:00	11	11	47	11
14:00-15:00	8	13	46	13
15:00-16:00	16	14	46	14
16:00-17:00	29	20	51	20
17:00-18:00	21	13	48	13
18:00-19:00	27	21	39	21
19:00-20:00	27	21	28	21
20:00-21:00	8	8	22	7
21:00-22:00	0	0	10	0
22:00-23:00	0	0	3	0
23:00-24:00	0	0	4	0
Daily Trips:	230	218	520	217

*Table 4: Proposed Residential Development Estimated Trip Generation*

The additional traffics outlined above was assigned to the study area based on existing traffic flows in the area combined with an assessment of the local network layout.

The assigned flows mentioned above are shown in the following diagrams:

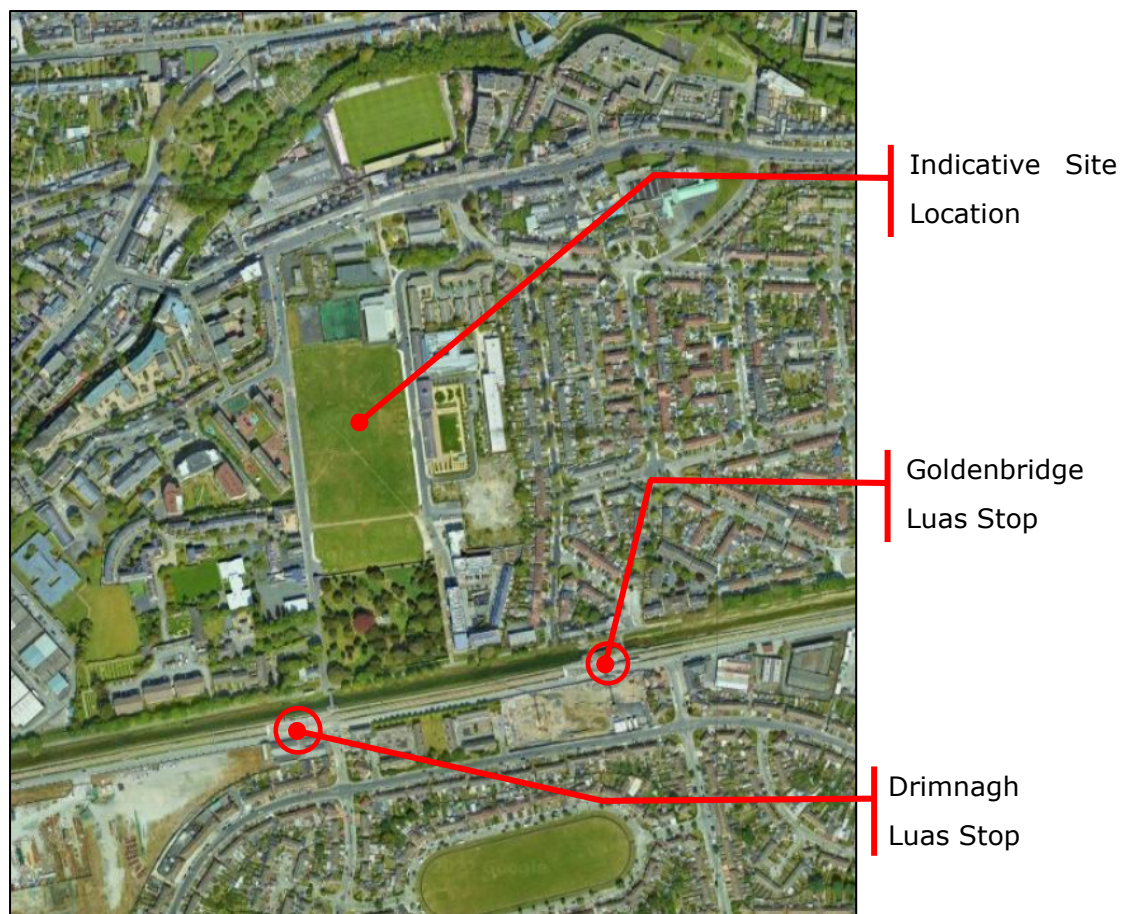
- *Diagram 10: A.M. Peak Hour Trip Generation & Assignment – Do Something;*
- *Diagram 11: P.M. Peak Hour Trip Generation & Assignment – Do Something;*
- *Diagram 12: AADT Trip Generation & Assignment – Do Something.*

**SITE ACCESSIBILITY**

There are a wide variety of public transport services and pedestrian/cycle facilities in the vicinity of the proposed development site including Luas and Dublin Bus services which link to the wider Dublin transportation network. The site accessibility is summarised following with further detail available in the Mobility Management Plan submitted under separate cover with the Part 10 application.

Rail

As can be seen in the figure overleaf, the existing Luas Red Line is located immediately south of the development site with the Drimnagh Stop located approximately 190m (3 minutes) walk away and accessible via footbridge over the canal. The Goldenbridge Stop is located approximately 350m (4 minutes) walk away via a fully accessible route over the at-grade lock gate bridge.



*Figure 5: Proximity of Luas Service Stop*

The overall Luas network is shown following.

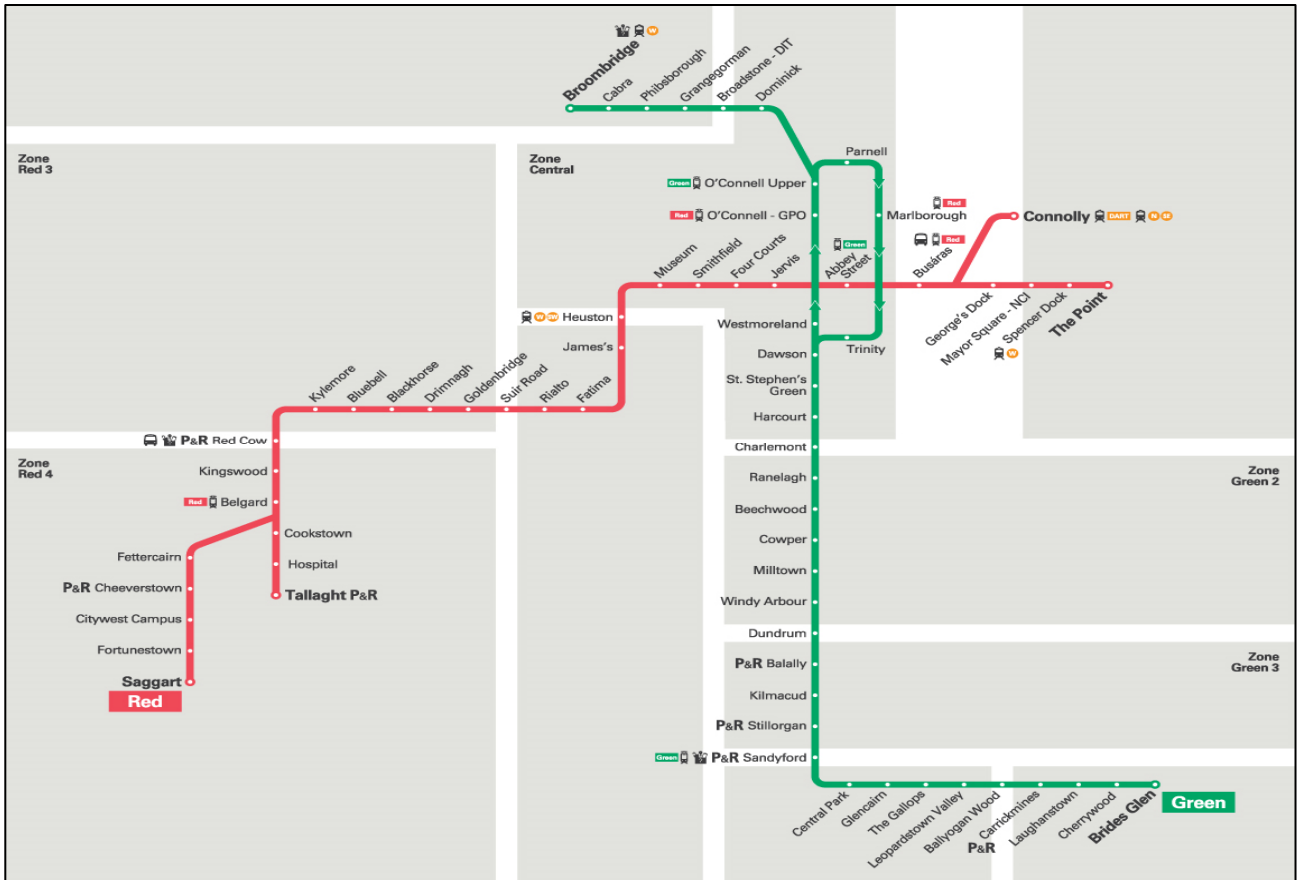


Figure 6: Luas Network Map

The Red Line provides a regular service between The Point/Connolly Station and Tallaght/Saggart with intermediate stops at key locations including Busáras, Heuston Station, the Red Cow and Citywest. The Red Line connectivity with Heuston Station, Connolly Station and Busáras effectively link the site with all the other commuter and intercity heavy rail and bus services operating in Dublin which is further complemented by the integrated ticketing system (Leap Card) designed to facilitate use of multiple public transport services in one trip.

The existing Luas Red Line also links with the Luas Green Line at O'Connell Street. The Green Line provides a similar service between Bride's Glen/Sandyford and Broombridge/Parnell. Luas trams operate on a frequency basis with those for the Drimnagh Stop in the eastbound direction shown following.

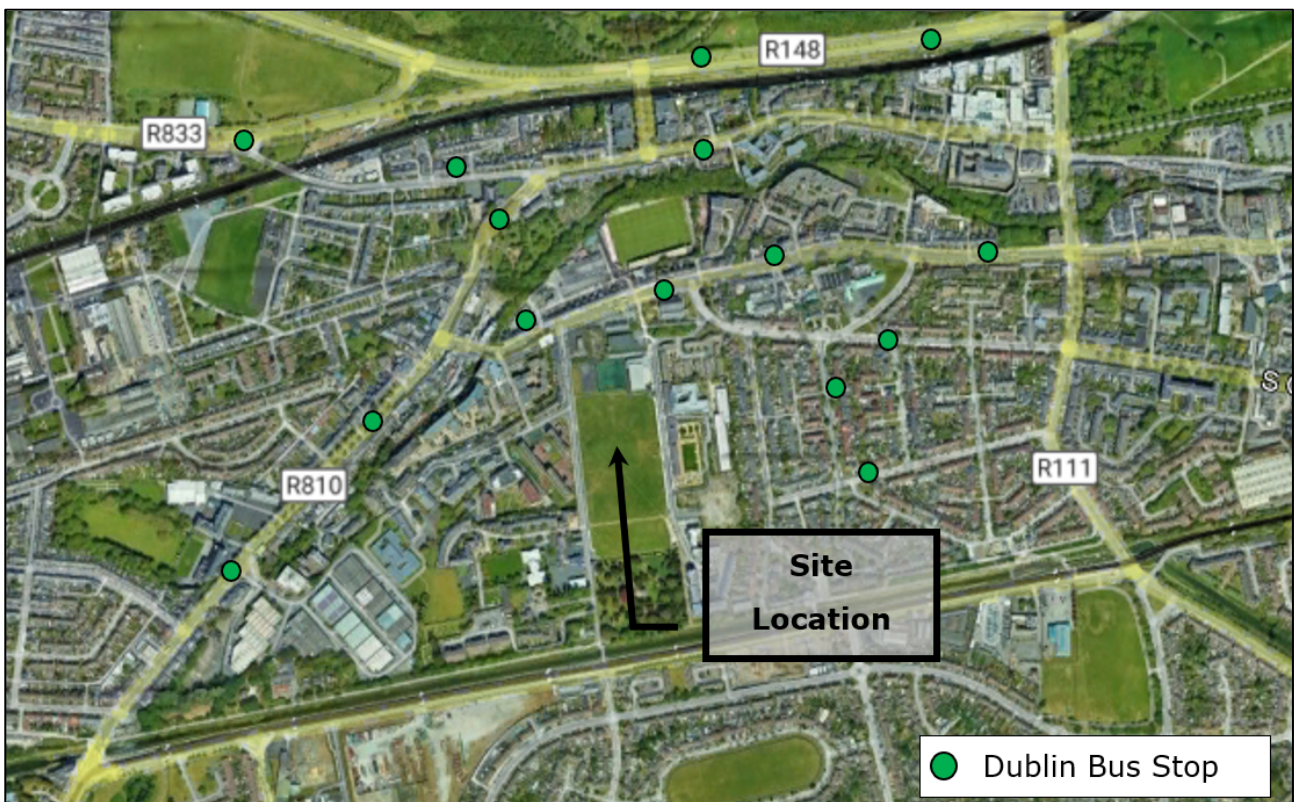


Monday - Friday				Saturday				Sunday & Bank Holidays			
	Min	Avg	Max		Min	Avg	Max		Min	Avg	Max
05:52-07:00	4	7	20	06:51-10:00	3	9	20	07:21-12:00	6	12	20
07:00-10:00	3	4	6	10:00-16:00	6	6	7	12:00-19:00	5	9	11
10:00-16:00	4	4	6	16:00-19:00	5	6	10	19:00-23:21	10	11	12
16:00-19:00	4	4	6	19:00-00:21	10	11	15				
19:00-00:22	4	11	15								

*Figure 7: Luas Drimnagh Stop Eastbound Operating Frequencies*

Bus

There are several Dublin Bus services serving stops in the local area within an approximate 200m – 800m (2-10 minute) walk. The service stops are shown in the following figure.



*Figure 8: Local Bus Service Stops*

The key services locally based on this metric are summarised as follows.

<b>Route</b>	<b>Description</b>	<b>Peak Frequency</b>	<b>Off-Peak Frequency</b>
13	Harristown – Grange Castle	10 mins	15 mins
40	Charlestown Shopping Centre – Liffey Valley Shopping Centre	10 mins	20 mins
51D	Aston Quay – Clondalkin	1 daily	-
52	Ringsend Road – Leixlip Intel	1 hour	-
68/a	Hawkins St – Newcastle	30 mins	1 hr
69	Hawkins St – Rathcoole	1 hour	-
79/a	Aston Quay – Spiddal Park / Parkwest	10/15 mins	20 mins
C1	Adamstown – Sandymount	8 mins	30/60 mins
C2	Adamstown – Sandymount	8/15 mins	30/60 mins
C3	Maynooth – Ringsend	30 mins	60 mins
C4	Celbridge – Ringsend	30 mins	60 mins
P29	Adamstown Station – Ringsend Road	8 per day	-
x25	UCD – Maynooth	5 per day	-
x26	Maynooth – Leeson Street Lower	3 per day	-
x27	Celbridge to UCD	5 per day	-
x28	Salesian College – UCD Belfield	5 per day	-
x30	Lucan (Dodsboro) – UCD	6 per day	-
x31	River Forest – Earlsfort Terrace	6 per day	-
x32	Hewlett Packard – Earlsfort Terrace	4 per day	-

*Table 5: Local Bus Services*

### Pedestrian / Cycling

There are relatively good quality footpaths on the surrounding roads which include public lighting. There are dedicated pedestrian crossing facilities on Emmet Road to the west and at the major signalised junctions locally. The Grand Canal also provides a walking route along its tow path which links to Dublin City to the east and Adamstown to the west. There are a wide variety of local amenities within a short walking distance in Inchicore including retail, leisure and community facilities which reduces the need to travel long distances, particularly by car. These are summarised as follows:

- The site is immediately bordered and in close proximity to considerable areas of employment in the extensively developed surrounding lands to the east and west, including Inchicore Village itself as well as extensive commercial and industrial uses to the west which includes employment centres such as the Irish Rail Inchicore Works;
- The nearby St James's Hospital (and site of future Children's Hospital) is approximately 1.6 km (21) minute walk from the development site but also accessible via the Luas Red Line;
- There are several moderate to large retail units within walking distance of the site. These include a supermarket on Spa Road, approximately 120m (1 minutes) walk away and another on Tyrconnell Road, approximately 180m (2 minutes) walk away. The proposed development also includes a large retail unit;
- There are a number of leisure and fitness amenities within close proximity including a gym in Drimnagh (300m away) and another in Kilmainham (950m away);
- There are several restaurants and cafes within a short walking distance including one on the South Circular Road, Bulfin Road, Emmet Road and Tyrconnell Road, all within a 750m walking distance. The proposed development also includes a café unit;
- There are numerous ATMs within the local area and a credit union located just 2 minutes away, situated on Tyrconnell Road. The closest major bank branch is an AIB located in Drimnagh, which is a 2km (24 minute) walk away;
- Bluebell is located approximately 25 minutes walking distance and 6 minutes cycling distance from the development site which provides access to several convenience shops/supermarkets, restaurants/cafes, gyms, schools and various community facilities. It is also accessible via the Luas Red Line;
- Kilmainham is located approximately 12 minutes walking distance and 5 minutes cycling distance from the development site which provides access to several convenience shops/supermarkets, restaurants/cafes, gyms, schools and various community facilities;
- Dublin City Centre is located approximately less than 40 minutes walking distance and 10 minutes cycling distance from the development site which provides access to several head offices, convenience shops/supermarkets, clothing/department stores restaurants/cafes, gyms, schools, public transport hubs and various community facilities;

- Dolphins Barn is located approximately 24 minutes walking distance and 7 minutes cycling distance from the development site which provides access to several convenience shops/supermarkets, restaurants/cafes, gyms, schools and various community facilities;
- There are several schools and childcare facilities within an approximate 1km walking distance;
- The proximity of public transport infrastructure, in particular the Luas, makes the site readily accessible to areas of employment, residential areas, commercial and leisure amenities in Dublin City and other areas along the respective routes;
- There are a wide number of residential areas and developments within reasonable walking and cycling distance of the development site which is particularly relevant for future employees at the development.

In terms of cycling facilities, The NTA has surveyed the cycle facilities for the Greater Dublin Area (GDA) as part of the *Greater Dublin Area Cycle Network Plan*. An extract from this plan showing the existing facilities in the vicinity of the proposed development is shown following.



Figure 9: Existing Cycle Facilities in Local

Pedestrian / Cycling

There are number proposals for future improvements to the local public transport, pedestrian and cycle infrastrucutre. Again, these are set out in detail in the Mobility Management Plan under separate cover but the key proposals are as follows:

- BusConnects – this proposal aims to overhaul the current bus system in the Dublin region by building a network of next generation bus corridors on the busiest routes to make bus journeys faster, more predictable and more reliable. It will see a revision to the overall network to increase efficiency and quality of service. Of particaulr note it the Liffey Vally to City Centre Core Bus Corridor which runs along Emmet Road to the north of the development site. A planning application for this route has been lodged to An Bord Pleanála, in July 2022, with an extract of the relevant section of design shown fronting onto the site on the following figure.

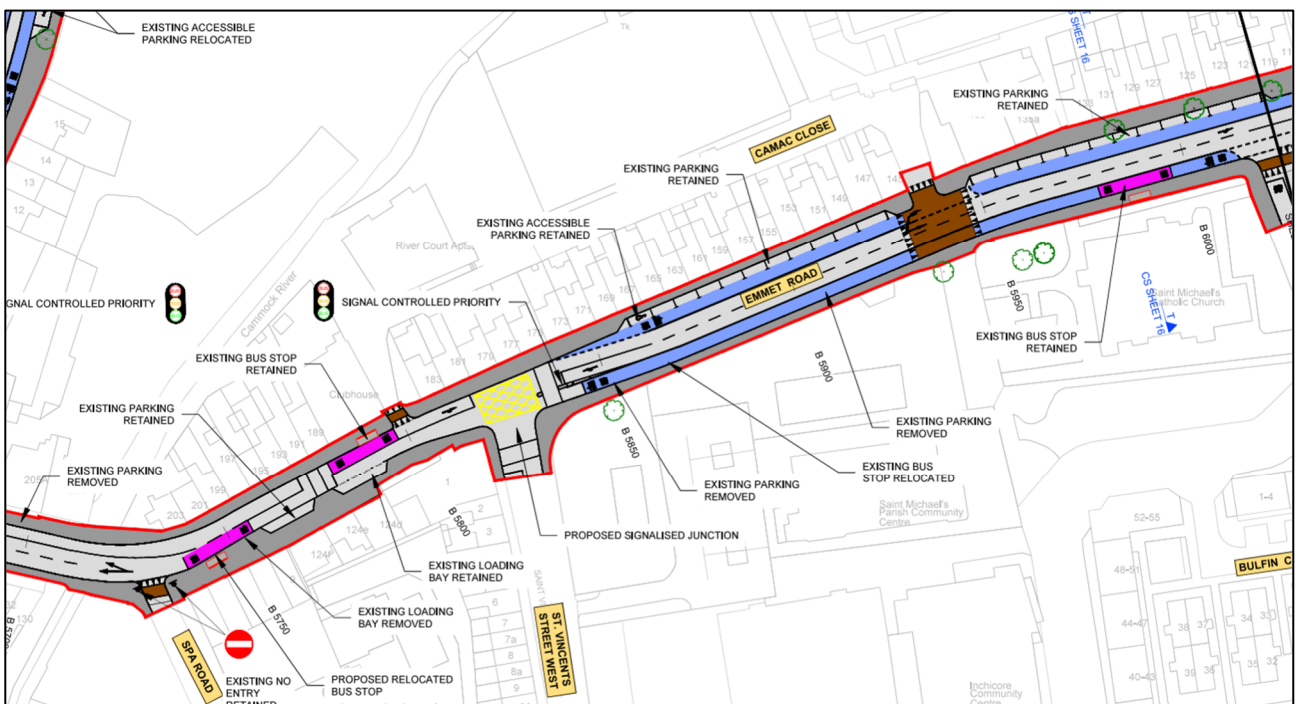


Figure 10: BusConnects Liffey Valley to City Centre Core Bus Corridor

- Metrolink – a high capacity, high-frequency heavy rail line running from Swords to Charlemont, linking Dublin Airport, Irish Rail, DART, Dublin Bus and Luas services, creating fully integrated public transport in the Greater Dublin Area. As well as linking major transport hubs, MetroLink will connect key destinations including Ballymun,

the Mater Hospital, the Rotunda Hospital, Dublin City University and Trinity College Dublin. Much of the 19-kilometre route will run underground, an exciting innovation for Irish public transport. It will connect with the site via its linkage with the Luas Red Line;

- The DART+ Programme consists of a series of proposals that aim to modernise and improve the existing rail services in the Greater Dublin Area (GDA). It will provide a sustainable, electrified, reliable and more frequent rail service, improving capacity on rail corridors serving Dublin. The current DART network is 50km long, extending from Malahide/ Howth to Greystones. The DART+ programme will increase the length of the DART network to 150km of railway corridor through the electrification and upgrade of existing lines transforming commuter train travel in the Greater Dublin Area (GDA). The DART+ Programme also includes the purchase of new train fleet. The Luas red Line connectivity with Heuston and Connolly Stations will provide direct linkages with this expanded network;
- Greater Dublin Area Cycle Network Plan – this sets out several additional cycle route proposals which focus on improvement and extension of the cycle network across Dublin. The proposals for the local area are shown below.

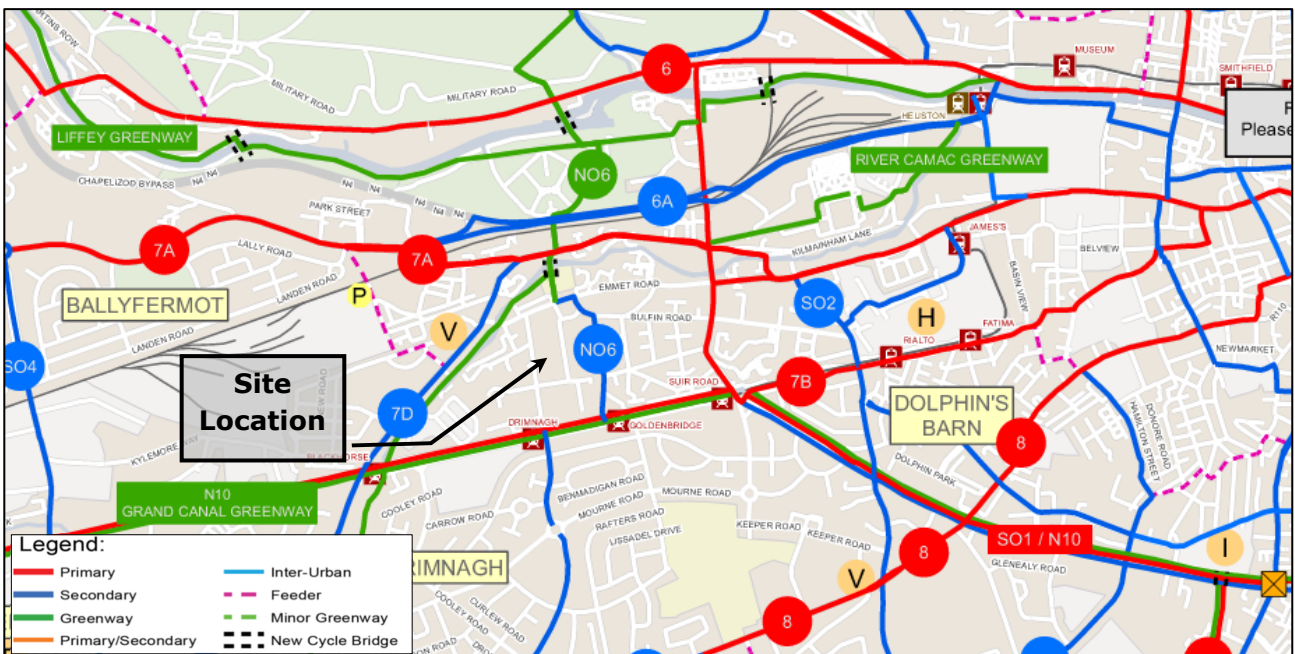


Figure 11: Proposed Future GDA Cycle Network

- Draft Greater Dublin Area Transport Strategy - The aforementioned measures outlined formed part of the current Greater Dublin Area Transport Strategy which is

in the process of being updated, with a draft version of same released for public consultation. As with the current iteration, this strategy sets forth a number of key proposals with respect to transport infrastructure including:

- Commitment to BusConnects project including revised bus networks, core bus corridors, improved fleet etc.;
- Allowance for Luas Extensions to Bray, Poolbeg, Finglas and Lucan;
- Additional improvements to existing rail servicing including level of priority, stop upgrades etc.;
- Commitment to MetroLink projects;
- Commitment to the DART+ programme and other heavy rail improvements;
- Improved pedestrian infrastructure including footpaths, crossings and wayfinding information;
- Commitment to the GDA Cycle Network Plan delivery;
- Improved cycle facilities including parking, sharing schemes, electric bike facilities, interaction with public transport, personal mobility devices etc.

Taking the previous into consideration, the site is highly accessible by a number of existing high quality, high frequency and high capacity public transport options within a very short walk of the site with good quality active travel infrastructure also available. Extensive improvements to the local network are proposed which will enhance this accessibility even further.

On this basis, the site is considered a prime opportunity for development which prioritises movement by sustainable modes over car based travel in line with local and national objectives regarding sustainable travel.

## 5 CAR PARKING STRATEGY

The proposed car parking strategy at the site has been developed taking into consideration a variety of factors to ensure the appropriate number of spaces are provided which is in line with current sustainable travel and development objectives.

On this basis the strategy has considered the standards set out within the Dublin City Development Plan to ensure the objectives below being achieved.

- The promotion of sustainable modes of travel, which are within a reasonable walking distance of the development site;
- Facilitating an appropriate level of car storage at the development;
- The prevention of potential overspill parking into the local area.

### STANDARDS & BASELINE DATA

In establishing the appropriate parking strategy for the development, a holistic approach has been taken to assessing site specific factors and the characteristics of the surrounding area. The overall accessibility of the site by non-car modes has been set out extensively both earlier in this report and in the Mobility Management Plan prepared for the development. However, consideration has also been given to a number of other factors and data sources as follows.

#### Car Parking Standards

Section 16.38 of the Dublin City Development Plan 2016 – 2022 considers the parking requirement for various type of development. In particular, Table 16.1 sets out the parking requirements for car parking, to be read in conjunction with the zoning set out in Map J of the Development Plan, with an extract from the latter recreated following.





*Figure 12: DCC Parking Zones as per Development Plan Map J*

As can be seen, the development site is located within Parking Zone 1. Section 16.38 of the Development notes that the standards are “generally regarded as the maximum parking provision” and that “parking provision below the maximum may be permitted provided it does not impact negatively on the amenities of surrounding properties or areas and there is no potential negative impact on traffic safety”. The Plan further states, specifically with respect to residential car parking in apartments, that “car parking standards are maximum in nature and may be reduced in specific, mainly inner city locations where it is demonstrated that other modes of transport are sufficient for the needs of residents” and goes on to acknowledge that car parking for residential development is largely used as car storage and not intended to promote the use of the car within the city.

The relevant maximum standards for car parking provision, as per Table 16.1 of the Development Plan, are as follows:

- Dwellings – 1 per dwelling;
- Retail Supermarkets – 1 per 100 sqm GFA;
- Other Retails – 1 per 275 sqm GFA;
- Café – 1 per 150 sqm seating area;

- Cultural and Recreational Buildings – 1 per 250 sqm GFA

Where a deviation from maximum standards is to be considered, a number of criteria are to be considered including:

- The civic importance of the scheme
- The identified need for public car parking in the area
- The accessibility of the surrounding area
- The mix and appropriateness of uses proposed
- The impact on the public realm, streetscape and urban fabric of the city
- Compliance with policies to safeguard investment in public transport and encourage modal shift

A similar approach is adopted in Appendix 5, Section 4.0 of the Draft Dublin City Development Plan 2022-2028. The maximum parking standards are identical with the exception of that for community uses which carries a proposed rate of 1 space per 275 sqm GFA. This change is considered immaterial in the context of the proposed development. The draft plan also makes similar provision for the reduction of car parking for highly accessible sites with good permeability which have robust mobility management measures such as are proposed for this development.

It is also noted that the *Sustainable Urban Housing, Design Standards for New Apartments (December 2020)* from the Department of Housing, Planning and Local Government are also applicable in this instance with respect to the residential car parking provision. Section 4 of these guidelines set out guidance and defines Central and/or Accessible Urban Locations, stating:

*“In larger scale and higher density developments, comprising wholly of apartments in more central locations that are well served by public transport, the default policy is for car parking provision to be minimised, substantially reduced or wholly eliminated in certain circumstances. The policies above would be particularly applicable in highly accessible areas such as in or adjoining city cores or at a confluence of public transport systems such rail and bus stations located in close proximity.*”

*These locations are most likely to be in cities, especially in or adjacent to (i.e. within 15 minutes walking distance of) city centres or centrally located employment locations. This includes 10 minutes walking distance of DART, commuter rail or Luas stops or within 5 minutes walking distance of high frequency (min 10 minute peak hour frequency) bus services."*

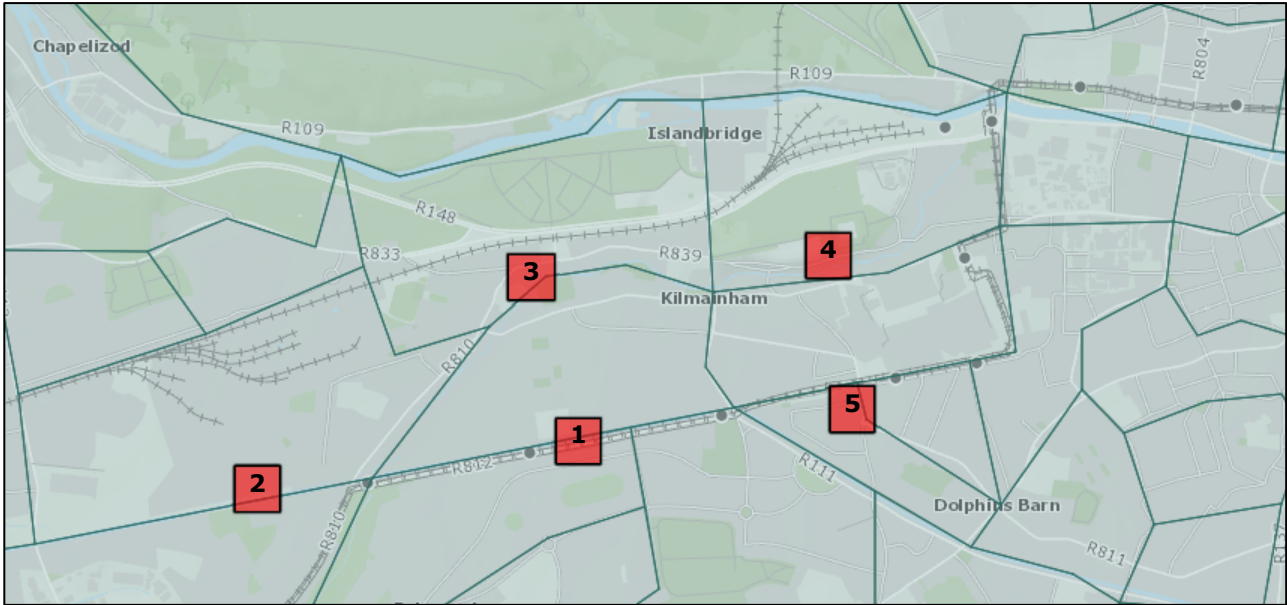
Based on the existing public transport facilities along with the location of the proposed development, it is clear that the development falls under the definition of an accessible location meaning it is appropriate to provide a significantly reduced quantum of car parking space at the proposed development.

### Residential Car Ownership & Usage

The provision of residential car parking is considered to be a balance between meeting an appropriate level of demand and associated car travel while also encouraging travel by more sustainable means and preventing overspill parking. While it is acknowledged that parking provision at destination, e.g. at work, is a critical factor, it cannot be denied that easier access to a private vehicle will make driving on a regular basis a more attractive option and must play a role in private car usage.

As a result, the parking provision at residential developments must also be given due consideration as per current national guidance. This is a critical consideration as part of the overall strategy proposed for this development which seeks to facilitate a cultural shift to more sustainable modes of travel.

As a starting point, and in order to establish the actual demand for residential car parking likely to be experienced by residents at the development, data from the 2016 Census (the most recent results available) has been interrogated. In this instance, the car ownership statistics have been obtained for the people currently living in areas highlighted in *Figure 13* following. It is noted similar data from the 2022 Census is not yet available will be published in quarter 1 2023.



*Figure 13: CSO Census 2016 Electoral Division Map ([www.census.cso.ie](http://www.census.cso.ie))*

The areas considered are defined as follows:

1. Electoral Division Kilmainham C;
2. Electoral Division Inchicore A;
3. Electoral Division Kilmainham B;
4. Electoral Division Ushers A;
5. Electoral Division Ushers F.

The data for households who do not own a car in each of these areas is presented in *Table 6* below.

Area	No. Apartments	No. Houses	No. Households with No Car	% Households with No Car	Equivalent Rate of Parking Required (space/unit)
1	1,062	1,017	781	37.57%	0.62
2	197	810	335	33.27%	0.67
3	682	340	337	32.97%	0.67
4	1471	188	685	41.29%	0.59
5	481	711	397	33.31%	0.67

*Table 6: CSO Census 2016 Car Ownership Data*

As can be seen, the records show that the percentage of households that do not own a car and therefore have no demand for a car parking space ranges from a rate of 31% – 41%. In particular, it is noted that areas with a higher portion of apartments also tend to have a notably lower level of car ownership based on the Census data as highlighted by Areas 1 & 4.

It should be stressed that these car ownership levels have developed without the benefit of any site specific parking or mobility management measures such as those set out following and in the Mobility Management Plan prepared for the development.

Furthermore, existing car ownership levels in the area have been influenced by a traditional historical approach to provide a minimum of 1 no. car parking space for every residential unit constructed which facilitated a culture of car ownership, in many instances unnecessarily. While many residents own a car, it is typically accepted that in highly accessible locations such as this, this is primarily for occasional use while commuting and other regular activity is carried out by sustainable and/or active modes.

To accurately demonstrate this, the Census data has again been interrogated, this time from a car usage point of view. Specifically, the data has been analysed to identify the number of residents who drive for their daily commute, which is considered to represent the majority of people's day to day travel. The results are presented in *Table 7* following for workers.

<b>Area</b>	<b>No. Workers</b>	<b>% Households with No Car</b>	<b>No. Workers that Drive</b>	<b>% Workers that Drive</b>
1	2181	37.57%	663	30.40%
2	1183	33.27%	381	32.21%
3	1275	32.97%	421	33.02%
4	2472	41.29%	577	23.34%
5	1437	33.31%	414	28.81%
<i>Total</i>	8548	35.68%	2456	29.56%

*Table 7: CSO Census 2016 Car Usage Data – Workers*

As can be seen, despite the level of car ownership noted previously, an average of just 29.56% of people in the locality currently drive for work. Again, using Area 1 is the best comparison to the development site, they have the low level of car usage at under 31%. In addition, it is noted that the areas with higher levels of car ownership also tend to have higher levels of car usage, further highlighting the correlation between these two factors.

### Conclusion

Based on the above, it is considered that a level of residential parking provision below the Development Plan maximum standard and in line with the *Design Standards for New Apartments* is wholly appropriate in this instance.

Ultimately, the above indicates that the area already experiences low levels of car ownership and usage which are lowest in locations with a higher proportion of apartments. Again, it is stressed that this is without any site specific car parking or mobility management in place. When considered in the context of the development site accessibility, this indicates there is further potential for a significant modal shift towards sustainable and active modes.

## **CAR PARKING PROVISION**

As outlined earlier, it is proposed to provide the following quantum of car parking for the respective uses:

- 20 no. residential car parking spaces;
- 30 no. car club vehicles (residential);
- 54 no. spaces to serve as a village car park including allowance for the retail and community elements;
- 2 no. spaces for Goldenbridge Cemetery.

With respect to the residential parking, the provision is below the maximum allowable standard set out in the Development Plan and in line with the reduced provision for accessible sites as per the *Design Standards for New Apartments*. This level of provision

is to be facilitated by a series of site specific measures which are set out later in this section.

With respect to the village car park, a portion of the spaces proposed are as per the Development Plan standards with 24 no. spaces for the retail uses and 12 no. spaces for the community uses. The remainder of spaces are proposed as a wider community facility to benefit the local residents and facilitate controlled but limited accessibility to the area for users who require a car for travel as well as pass-by trips.

These spaces will be fully accessible by the general public so as to provide a benefit to the wider community but their usage also controlled to ensure they do not encourage or facilitate commuting by car in particular. The limited number of spaces means they will not act as a significant trip generator or encourage car based travel while also facilitating the loss of existing, un-marked parking areas on St. Vincent's Street West. Further detail on the control measures proposed for these spaces are set out later in this section.

## **SITE SPECIFIC DESIGN & MANAGEMENT MEASURES**

In order to facilitate the further modal shift away from car based travel, specifically at the proposed development, a series of appropriate measures to facilitate same have been incorporated into the design and the proposed management of the development. These measures effectively combine as a Mobility Hub which will operate across the development site.

### Car 'Sharing' Club

As outlined earlier, car parking has traditionally been provided at residential developments within Dublin to primarily facilitate a storage role. This is on the basis that a car is not used on a regular basis such as for commuting and is instead required for infrequent trips such as bulky shopping trips which could not be facilitated through public transport or weekend, off peak recreational trips. This is considered to be a particularly inefficient use of space, particularly at a constrained brownfield location in a highly developed urban area such as the development site.

Taking this into consideration, the provision of car club spaces is considered an improved alternative option which both reduces the need for car ownership and provision of dedicated car parking while also maintaining access to a vehicle for infrequent use. This is in line with the Guidelines for Planning Authorities, Design Standards for New Apartments which state:

*"As well as showing that a site is sufficiently well located in relation to employment, amenities and services, it is important that access to a car sharing club or other non-car based modes of transport are available and/or can be provided to meet the needs of residents, whether as part of the proposed development, or otherwise. 'Car free' development is permissible and if developed, must be fully communicated as part of subsequent apartment sales and marketing processes".*

This is further supported by the aforementioned Census 2016 data which shows low existing demand for regular car based travel and further potential for a modal shift towards more sustainable means.

Car club services are very simple to use, with licensed and registered users able to book a vehicle through a convenient means such as a phone app. Fuel, tax, insurance, cleaning and maintenance costs are all typically included as part of the overall package which is a further incentive for users to switch from private car ownership as the overall cost of owning a car relative to the amount of use is not as attractive in many instances.

GoCar is an example of such an operator who are a well-established and experienced car club operator in Dublin. GoCar previously carried out a survey of their existing users to show the effectiveness of such a service, with the key results summarised as follows:

- 86% of GoCar use was for personal use with 14% for business use;
- 59% of GoCar users have used the service to replace a personal vehicle;
- 69% of users cite convenience as the biggest advantage of GoCar;
- 30% of users cite insurance costs as the biggest issue with owning a car while 26% cite maintenance and fuel costs as the biggest issue;
- Each GoCar takes 14 cars off Dublin streets;
- Top uses of GoCar are:



- Day trips;
- Family taxi;
- Big shopping trips.
- The average GoCar is used for just 1 hour a day.

Thus, such a facility would have numerous benefits over the current parking provision model, including:

- Reducing the need for car ownership and thereby reducing the potential for unnecessary travel by car;
- Maintaining access to travel by car to satisfy infrequent, unique trips as outlined previously;
- Reducing the space required for car parking provision and associated cost which has an associated positive impact on unit affordability;
- Reducing costs associated with car use as long term tax, insurance and maintenance costs associated with car ownership (estimated at €10,849.92 by AA Ireland) are replaced with significantly lower, short term costs consolidated into one payment;
- Facilitating more environmentally friendly car travel as 10% of the GoCar fleet consists of electric vehicles, with this share set to increase in the future.

Car clubs also have the added bonus of not contributing to long term commuting by car. As the vehicles must be returned from the point of origin, i.e. the development site, the cost associated with using them on a daily basis for commuting purposes means it would not be a realistic option.

OCSC have met with one potential supplier, GoCar to discuss the potential for an extensive quantum of car club vehicles to be located at the development and how such a facility could be managed to maximise benefit to residents at the site while also providing a potential benefit to the wider community.

GoCar confirmed that the proposed provision of 30. no car club vehicles would be viable. Furthermore, they advised that the availability of car club vehicles could be tailored to a suit the needs of residents at the development site. For example, the car club vehicles at the site could be made available to residents only during peak periods of demand to

ensure their availability for necessary trips. However, in periods of lower demand, the vehicles could be made available to the general public, providing a benefit to the wider community. The flexibility of such a control system means that it can adapt to the demand at the development specifically to give increased priority or indeed exclusivity to the residents as deemed necessary.

Thus, it is felt that the implementation of a car club base at the development site provides a viable and attractive option which will facilitate the level of car parking proposed at the development while maintaining access to a car where necessary.

### Cycle Parking Provision

In order to maximise the modal share for cycling, a significant quantum of high quality cycle parking is proposed at the development as follows:

- 920 no. spaces for residents in sheltered and secure areas in line with the standards set out in the *Design Standards for New Apartments* (1 space per bedroom);
- 289 no. residential visitor spaces in line with the standards set out in the *Design Standards for New Apartments* (0.5 spaces per unit);
- 30 no. spaces for the community centre and library, slightly in excess of the Development Plan standard;
- 36 no. spaces for the retail, commercial and café elements, slightly in excess of the Development Plan standard;
- 10 no. spaces for the creche.

The majority of cycle parking spaces will be provided in a secured stores within the structure and comprise stacked cycle parking spaces, with the design of the stores providing sufficient horizontal and vertical clearance to permit their use. A portion of spaces will also be suitable for use by alternative bicycle options such as cargo bikes, 60 of the residential spaces designed on this basis as well as a further 7 no. for the non-residential uses. Cargo bikes can make a wider variety of trips feasible by bicycle due to the increased storage features e.g. shopping trips, further reducing the need for car based trips.

### Mobility Management Plan

A site and development specific Mobility Management Plan has been prepared and submitted under separate cover as part of this application. The plan set out a series of objectives which relate to facilitating and encouraging travel by sustainable means. The plan includes details of a combination of hard and soft measures included in the development design and proposed to be put in place for its operation to achieve the stated objectives.

The plan will be a living document, continually updated in light of the experience gained through its operation in conjunction with residents, employees, and the Local Authority to ensure the maximum benefit is achieved.

### Communication & Tenant Management

A key aspect of the strategy will be early and effective communication with prospective tenants of the residential and commercial units. These units will be marketed on the basis of sustainable living, embracing the highly accessible nature of the site and local amenities. The demand for more sustainable living continues to grow in line with objectives to improve quality of life as well as address significant environmental issues such as climate change, a key contributor to which is burning of fossil fuels created by car based travel. As people are becoming more aware of these issues, which are becoming more and more prominent in day to day life, it is leading to a cultural shift and change in priority for many residents who would prefer to lead a more sustainable lifestyle.

This communication strategy will make the overall sustainability strategy and the associated parking strategy clear to the prospective tenants as part of the marketing for the units and from the initial stages of contact in line with Section 4.24 of the Design Standards for New Apartments. The communication strategy will also highlight the following:

- The proximity of local areas of employment;
- The proximity of local retail, commercial and leisure amenities;

- Key local transport options in the area;
- Key measures proposed to facilitate no car ownership at the development including availability of car club vehicles, extensive cycle parking provision, implementation of a Mobility Management Plan etc.

With respect to the commercial element, staff will be advised of the highlight accessible nature of the site and the various mechanisms in place to support and facilitate a high modal share for sustainable modes through the Mobility Management Plan which will be in operation at the site, as outlined previously.

### Parking Management

The Management Company will be responsible for the ongoing management and allocation of car parking for the residential, commercial and community uses.

The Management Company will retain the ownership of all residential car parking spaces to provide necessary flexibility of use and ensure that spaces are assigned on a demand basis as appropriate. The car club spaces are to be dispersed across the residential portion of the site but as ownership of all spaces is retained, there is flexibility to relocate these spaces to maximise their efficiency of use.

The use of the parking provided will be continually monitored and strictly controlled by the Management Company. In order to prevent unauthorised car parking taking place, a clamping system will be in place throughout the site whereby any cars parked in an unapproved location will be clamped and the owner required to pay a fine for release. All tenants will be advised of this system as part of the initial consultation with appropriate signage also provided.

A key aspect of the strategy will be the ongoing management of parking at the site. The parking strategy will come into effect from initial contact with prospective residents. It will be made very clear at the initial stage of communication as to what the parking availability is at the site and the lack of long term alternatives in the surrounding area. This is in line with Section 4.24 of the Design Standards for New Apartments.

Measures to prevent unauthorised car parking will be investigated should the need arise and may include:

- A clamping system whereby any cars parked in an unapproved location will be clamped and the owner required to pay a fine for release;
- Ongoing monitoring of visitor and crèche parking to ensure appropriate use.

All residents will be advised of any such measures as part of the initial/ongoing consultation with appropriate signage also provided.

With respect to the Village parking area, this will be controlled in a similar manner by the Management Company. The control of parking will be adaptable to the most suitable and cost effective systems available at the time. On this basis, it is expected that control will initially be via a traditional pay & display system which will be continually monitored and controlled by the Management Company. This is considered an appropriate and viable option given the relatively small scale of the car park in question and as traditional barriers may act as a disincentive to the proposed wider community use.

Appropriate signage will be provided to advise all users of these control measures and usage requirements while all staff will also be advised of the associated costs which will make use by commuters prohibitive. A barrier system will be provided to allow the car park to be closed at night to prevent unauthorised or inappropriate usage.

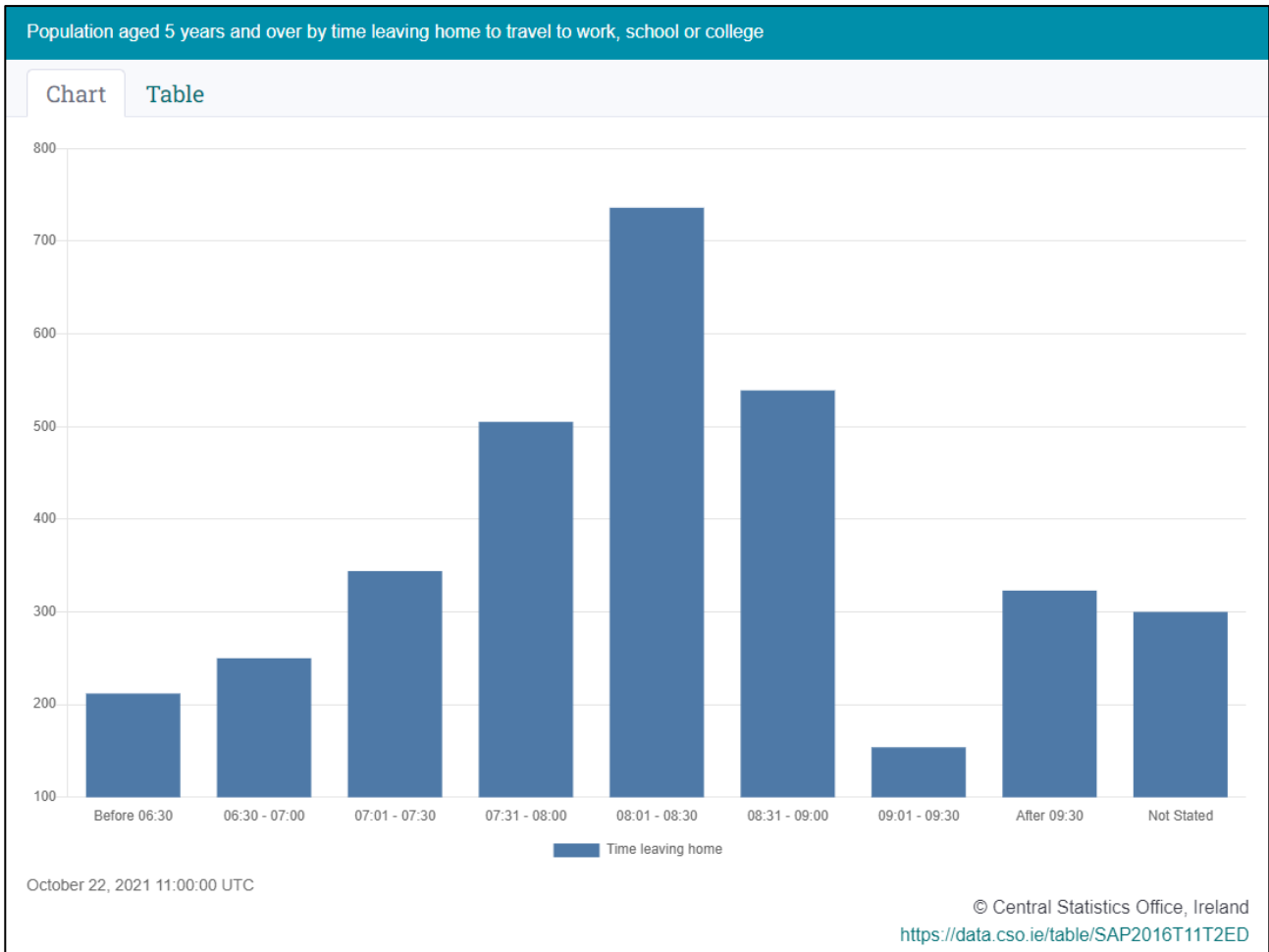
## 6 PUBLIC TRANSPORT CAPACITY ASSESSMENT

The movement strategy associated with the site places a significant emphasis on travel by sustainable means. As outlined within this report and in the Mobility Management Plan prepared for the site and submitted under separate cover, the site is highly accessible by a variety of means with considerable potential for travel by foot and bicycle given its proximity to Dublin City Centre as well as other suburbs and local amenities. Nevertheless, public transport services locally will play a key role in meeting the transportation needs of residents, workers, visitors and customers at the development.

OCSC have conducted a detailed review of the existing key public transport services in the area. This has considered the carrying capacity of the respective services combined with their frequency. This was then compared against the estimated demand generated by the proposed development along with bespoke survey observations carried out on these key services during peak times to assess their current operating capacity.

The peak public transport demand is considered to be during the A.M. period when both commuters to work and school tend to travel at similar times whereas in the P.M. period schools traditionally finish earlier than the working day, resulting a demand being spread across a longer time and limiting the concentration of demand. Demand during this period is expected to be driven by residents at the site who will be boarding services at this time. Workers and visitors travelling to the non-residential uses will be limited in number during the A.M. period and will be inbound trips, alighting at stops near the development site meaning they will free up capacity.

As a result, this assessment focuses on the A.M. peak demand generated by residents leaving the site as the worst case scenario. The peak demand period was established by again consulting the 2016 Census data for the area which includes information on when people leave for their commute to work and school. The relevant data for the Electoral Division of Kilmainham C, in which the development site is located and which contains a good sample population of over 5,000, is shown following.



*Figure 14: Commuting Time Data from 2016 Census for Kilmainham C*

As can be seen, the peak period for commuting activity is between 08:00-09:00.

**EXISTING CAPACITY**

The key services locally considered as part of this assessment are the Luas Red Line serving the nearby Drimnagh Stop and the Dublin Bus Routes No. 13 & 40 which serve stops on Emmet Road.

Rail

The nearby Luas Red Line is served by 35 no. Alstom Citadis 401 trams which each have a carrying capacity of 291 no. passengers (72 no. sitting and 219 no. standing). The average frequency for the Drimnagh stop between 07:00-19:00 is every 4 minutes in

both directions. This equates to an average of 15 trams in each direction in the peak hour which can facilitate 4,365 trips in each direction or a combined 8,730 trips.

OCSC carried observed the operating capacity of these services on the mornings of the morning of 5<sup>th</sup> August and the 19<sup>th</sup> September 2022. The September survey in particular is noted to have been a Monday when many third level institutions had reopened which is considered to have resulted in a higher level of demand which would likely balance out over time.

The observations on both dates indicated that there was general ample reserve capacity available on the Luas Red Line service at the Drimnagh stop. In some instances, a tram was observed to be at or near capacity but as a result of the high frequency of service, the next tram c. 4 minutes later had more reserve capacity available which is a normal and common occurrence on the Luas. The following pictures are a record of these observations, noted based on the time and date they were taken.



*Figure 15: Luas Red Line Capacity at Drimnagh at 08:01 on 5<sup>th</sup> August to City Centre*





*Figure 16: Luas Red Line Capacity at Drimnagh at 08:14 on 5<sup>th</sup> August to City Centre*



*Figure 17: Luas Red Line Capacity at Drimnagh at 08:20 on 5<sup>th</sup> August to City Centre*



*Figure 18: Luas Red Line Capacity at Drimnagh at 08:00 on 19<sup>th</sup> September to Tallaght*



*Figure 19: Luas Red Line Capacity at Drimnagh at 08:06 on 19<sup>th</sup> September to City Centre*



*Figure 20: Luas Red Line Demand at Drimnagh Stop at 08:17 on 19<sup>th</sup> September*



*Figure 21: Luas Red Line Capacity at Drimnagh at 08:22 on 19<sup>th</sup> September to City Centre*



*Figure 22: Luas Red Line Capacity at Drimnagh at 08:27 on 19<sup>th</sup> September to City Centre*

As can be seen in the majority of instances there was seating available and a notable level of standing room available for additional passengers. This indicates a good level of reserve capacity is available.

### Bus

There are a number of bus services within a reasonable walking distance of the site. Of these, the highest frequency services are Dublin Bus Routes No. 13 & 40 which serve stops on Emmet Road, directly adjacent the northern boundary of the development site. The bus services operating within a 10 minute walking distance are shown following along with the number of peak hour services each morning.

Route	Description	No. Services		Max Capacity	
		<i>Inbound</i>	<i>Outbound</i>	<i>Inbound</i>	<i>Outbound</i>
13	Harristown – Grange Castle	7	6	665	570
40	Charlestown SC – Liffey Valley SC	7	7	665	665
51D	Aston Quay – Clondalkin	1	0	95	0
51x	Dunawley – UCD Belfield	0	0	0	0
52	Ringsend Road – Leixlip Intel	1	1	95	95
68/a	Hawkins St – Newcastle	2	1	190	95
69	Hawkins St – Rathcoole	2	1	190	95
79/a	Aston Quay – Spiddal Park/Parkwest	6	5	570	475
C1	Adamstown – Sandymount	7	3	665	285
C2	Adamstown – Sandymount	7	3	665	285
C3	Maynooth – Ringsend	2	2	190	190
C4	Celbridge – Ringsend	3	3	285	285
P29	Adamstown Station – Ringsend Road	4	0	380	0
x25	UCD – Maynooth	3	0	285	0
x26	Maynooth – Leeson Street Lower	3	0	285	0
x27	Celbridge – UCD	2	0	190	0
x28	Salesian College – UCD Belfield	3	0	285	0
x30	Lucan (Dodsboro) – UCD	3	0	285	0
x31	River Forest – Earlsfort Terrace	3	0	285	0
x32	Hewlett Packard – Earlsfort Terrace	2	0	190	0

*Table 8: Local Bus Services Peak Hour Capacity*

The majority of the Dublin Bus fleet consists of buses with a passenger capacity of 95, though some increased capacity vehicles are available as part of the fleet. Conservatively assuming this is the capacity of buses using stops in the vicinity of the development site, there is capacity for approximately 9,500 passenger trips to be catered for during the peak morning period.

The site visits focussed on the highest frequency bus services travelling towards the City Centre which would be expected to cater for the majority of bus based trips. Specifically, capacity on Routes No. 13 & 49 was observed. The observations highlighted that there was reserve capacity available on all bus services with a combination of seats and standing room available. Again, it was noted that where some buses were observed to be near capacity, the high frequency nature of these routes resulted in a higher degree of reserve capacity available in the bus following.



*Figure 23: Dublin Bus Demand at Emmet Road Stop at 08:37 on 5<sup>th</sup> August*



*Figure 24: Dublin Bus No. 40 Capacity at Emmet Road at 08:37 on 5<sup>th</sup> August*



*Figure 25: Dublin Bus Demand at Emmet Road Stop at 08:47 on 5<sup>th</sup> August*



*Figure 26: Dublin Bus No. 13 Capacity at Emmet Road at 08:47 on 5<sup>th</sup> August*



*Figure 27: Dublin Bus No. 13 Capacity at Emmet Road at 08:47 on 5<sup>th</sup> August*



*Figure 28: Dublin Bus Demand at Emmet Road Stop at 08:43 on 19<sup>th</sup> September*





*Figure 29: Dublin Bus No. 13 Capacity at Emmet Road at 08:43 on 19<sup>th</sup> September*



*Figure 30: Dublin Bus No. 13 Capacity at Emmet Road at 08:43 on 19<sup>th</sup> September*



*Figure 31: Dublin Bus No. 40 Capacity at Emmet Road at 08:55 on 19<sup>th</sup> September*

As can be seen in the majority of instances there was seating available and a notable level of standing room available for additional passengers. This indicates a good level of reserve capacity is available.

## **DEVELOPMENT DEMAND**

The ability of these services to cater for the proposed development is set out in detail in the Traffic Impact Assessment submitted as part of this application with the results of same summarised following.

As calculated previously, there is an estimated maximum capacity for 8,730 rail trips and 9,500 bus trips during the peak morning period which is considered to represent

the peak daily demand period. During this time, the residential development will be the primary trip generator, with negligible demand generated by the commercial and community elements which will be destination trips alighting at the nearby stops.

In order to develop an estimate for the development population, the following average occupation of units has been assumed:

- Studio & 1 Bed – 1.5 residents per unit;
- 2 Bed – 3 residents per unit;
- 3 Bed – 4 residents per unit.

Based on the above, this equates to an overall population of 1,357 residents at the development. This assessment has assumed a worst case scenario where all residents are either working or attending school or college. In reality, there are likely to be a number of residents who do not work or attend school e.g. retirees or young children, meaning the assessment is conservative.

The Census data for the Electoral Division of Kilmainham C, in which the development site is located, has been further interrogated to get an accurate estimate for modal share. Consideration has also been given to the level of car parking provision. Thus, the modal share targets for the development, as shown in the Mobility Management Plan prepared as part of this application, are as follows:

<b>Mode</b>	<b>Modal Share</b>
Walking	26%
Bicycle	17%
Bus	30%
Rail	19%
Work From Home	5%
Car Driver	2%
Car Passenger	1%

*Table 9: Proposed Development Target Modal Share*

The above has a very conservative allowance for work from home which is likely to be notably higher given the long term impact of the worldwide pandemic which has highlighted this option as a viable working practice for many.

Applying these modal shares to the estimated development population gives 407 bus users and 258 rail users. The Census data has been further interrogated to establish the expected number of people travelling during the peak hours. The data for Electoral Division of Kilmainham C indicates that 41.6% of people travel between 08:00-09:00. Thus, the development is expected to generate a peak hour demand for 169 bus users and 107 rail users.

In the context of the aforementioned bus and rail service capacity locally, the demand generated by the development equates to approximately 1.8% of the bus capacity and 1.2% of the rail capacity which is considered negligible.

These 169 bus users will be spread out across a number of different routes within walking distance of the site and across a number of different buses during the peak period. If a worst case scenario was assumed where all demand was towards the city centre using only the high frequency services (Routes No. 13, 40, 79/a, C1 & c2) this would see the 160 bus users served by 36 buses in the peak hour which results in an average demand of just 4 passengers per bus. This level of demand is considered to be easily catered for by the reserve capacity observed to be available on the key services locally.

With respect to the 107 rail users, again assuming a worst case scenario where all are travelling towards the city centre, there will be 15 trams available in the peak hour which results in an average demand of just 7 additional passengers per tram. Again, this level of demand is considered to be easily catered for by the reserve capacity observed to be available on this service.

Taking the above into consideration, there is considered to be sufficient capacity available in the local public transport network to cater for the estimated demand for the proposed development. It is further noted that there is flexibility with respect to these services to provide increased frequency should demand on a wider basis justify it

through the provision of additional buses and trams on key routes by the respective service operators.

## 7 POTENTIAL TRAFFIC IMPACT OF DEVELOPMENT CONSTRUCITON

Relative to the operation stage, the construction period, which includes the demolition and site clearance works, will be temporary in nature. Construction traffic is expected to consist of the following categories:

- Private vehicles owned and driven by site construction staff and by full-time site supervisory staff and occasional professional supervisory staff i.e. design team members and supervisory staff from utility companies;
- Materials delivery and removal vehicles.

It is difficult to assess the exact quantum of traffic that will be generated during the construction period as it will vary throughout the construction process as different activities have different associated transportation needs. However, the following points are noted with regard to construction traffic:

- In general, the construction day will begin and end outside of peak travel hours. As a result, the majority of workers travelling to and from the site will arrive before the a.m. peak hour and depart after the p.m. peak hour;
- No on-site parking will be provided for use by critical staff only with the remainder of staff encouraged to travel by the numerous public transport options serving the locality;
- Adequate on-site compounding will be provided to prevent any potential overflow onto the local transport network;
- The potential for construction staff to be brought to the site in vans/minibuses will be investigated;
- Excavation and materials delivery vehicles travelling to and from the site will be spread across the course of the working day meaning the number of HGV's travelling during the peak hours will be relatively low.

The peak trip generation with respect to the construction stage is expected to relate to the removal of material from the site during both the demolition and construction stages when there will be additional HGV movements to and from the site. Utilising typical

construction rates and allowing for site logistics and management, during the excavation stage, there could be a maximum of 10 no. truckloads per hour on a given site.

However, the scale of demolition, site clearance and excavation on this site is limited meaning a lower average rate of 2 no. truck movements per hour is estimated, equating to 4 no. two-way HGV movements per hour. Assuming a 11-hour working day, this equates to 44 no. two-way HGV movements per day on the local road network. All suitable material will be reused for construction and fill activities where possible and appropriate. All spoil material will be removed to a registered landfill site in consultation with the local authority. In addition to the traffic generated by the disposal of surplus subsoil from the site, there will be traffic generated from construction staff and deliveries of construction materials and equipment though these will be spread across the course of the day limiting the potential impact during the peak hours in particular.

It is expected that the construction 'haul' route will be via Emmet Road to Tyrconnell Road, travelling south to the R110 Naas Road and on until meeting the main motorway network i.e. M50 & M7.

Thus, it is expected that the level of traffic generated by the construction works will be less than that generated by the operational phase of the development during the peak traffic hours. As a result, a detailed analysis of this stage has not been deemed necessary and the impact is considered to be negligible.

A Construction and Environmental Management Plan has been prepared and submitted as part of this application. This will be updated by the contractor upon appointment and submitted to the Local Authority for agreement prior to the commencement of construction, giving details on the following:

- Daily and weekly working hours;
- Agreed haul routes for incoming materials;
- Licensed hauliers to be used;
- Disposal sites;
- Travel arrangements for construction personnel;

- Appropriate on-site parking arrangements for construction personnel to prevent overspill parking on the local road network;
- Temporary construction entrances to be provided;
- Wheel wash facilities if required;
- Road cleaning and sweeping measures to be put in place if required;
- Temporary construction signage to be put in place and maintained;
- Any proposed traffic management measures such as temporary traffic lights and signage on any public roads.

There is potential for an overlap between construction activity associated with the development and the proposed Liffey Valley to City Centre Core Bus Corridor being delivered as part of BusConnects and which includes the section of Emmet Road bordering the development site. While a planning application has been lodged for the bus corridor upgrades, a decision is still pending. Nevertheless, the trip generation potential of these works is limited, as is that for the proposed development as outlined previously.

On that basis, the key consideration will be the traffic management proposals associated with the works to ensure the appropriate management of traffic within the area. These are set out in detail as part of the BusConnects application and would facilitate the traffic associated with the proposed development construction in the same manner as it is proposed to facilitate general traffic in the area. The construction access for the proposed development will not be on Emmet Road which will further reduce any potential interaction between the two projects. Overall, the construction periods will be temporary in nature and subject to strict and co-ordinated traffic management requirements to mitigate any potential impact.



## 8 POTENTIAL TRAFFIC IMPACT OF DEVELOPMENT OPERATION

In order to assess the actual impact of the operational development on the local road network, a number of different scenarios have been analysed as follows:

- Base Year (2019) – The current performance of the local road network was initially assessed along with the impact of the proposed development to establish which junctions require more detailed analysis;
- Year of Opening (2024) – The performance of the local road network was then assessed for the Year of Opening. In order to show the true impact of the proposed development, both the Do Nothing and Do Something scenarios were analysed;
- Design Year (2039) – The local road network was analysed for Design Year considering the Do Nothing and Do Something Scenario.

The junction analysis was carried out using TRANSYT, Junctions 9 while the link capacities for the Year of Opening and the Design Year were assessed based on the same methodology outlined earlier in this report.

### BASE YEAR

In order to establish which junctions require more detailed analysis, the impact of the proposed development relative to the existing traffic flows has been assessed. This overall assessment has been prepared based on the guidance set out in the TII Traffic & Transport Assessment Guidelines (2014) which states that one is required when:

*“Traffic to and from the development exceeds 10% of the traffic flow on the adjoining road”*

or

*“Traffic to and from the Development exceeds 5% of the traffic flow on the adjoining road where congestion exists or the location is sensitive”*

or

### *“Residential development in excess of 200 dwellings”*

As can be seen, the key threshold in relation to residential units has been met. However, with regard to the scope of the assessment, the guidelines state:

*“In general, the study area should include all road links and associated junctions where traffic to and from the development may be expected to exceed 10% of the existing traffic movements, or 5% in congested or other sensitive locations, including junctions with national roads. Where two or more of the supplementary criteria as indicated in Table 2.3 apply in relation to any of the adjoining links or junctions, then those links and junctions should also be considered for inclusion in the study area”*

As a result, the percentage increase in traffic has been used as the scoping basis for this assessment, as shown in the following:

- *Diagram 13: % Impact of Development on A.M. Peak Traffic;*
- *Diagram 14: % Impact of Development on P.M. Peak Traffic;*

The above figures show that the increase in traffic as a result of the existing Junctions 2 and 4 are over 5% within the study area and so require further detailed analysis.

## **YEAR OF OPENING**

As noted previously, the assessment considers the Do Nothing and Do Something scenarios. The Do Something scenario is established by adding the traffic estimated to be generated by the proposed development the projected expanded traffic flows on the local network at this time, as shown in the following:

- *Diagram 15: 2024 A.M. Peak Hour Flows Do Something;*
- *Diagram 16: 2024 P.M. Peak Hour Flows Do Something;*
- *Diagram 17: 2024 AADT Do Something;*

Prior to the analysis of the individual junctions, the main links in the network have been assessed for the year of opening Do Something scenario, with the results shown in *Table 8*.

Link	Width (m)	Link Capacity (veh/hr)	A.M. Peak (veh/hr)	RFC (%)	P.M. Peak (veh/hr)	RFC (%)
Grattan Crescent	6.1	900	720	80%	519	58%
Tyrconnell Road	6.1	900	570	63%	611	68%
Emmet Road	6.1	900	667	74%	571	63%
St Vincent Street West	6.1	900	147	16%	187	21%
South Circular Road	6.1	900	599	67%	612	68%

*Table 10: 2024 Do Something Link RFC Values*

As can be seen, the local links continue to operate with reserve capacity with RFC values remaining at or below 80% in each instance despite the increased traffic levels.

The tables following show a summary of the results of the Do Nothing and Do Something analysis for the Year of Opening, thereby allowing for a direct comparison of both scenarios to highlight the true impact of the proposed development.

When considering the below results, the following should be taken into account:

- For Junction 4, which is a signalised junction, allowance has conservatively been made for a pedestrian phase in each cycle given the observed pedestrian activity in this area;
- As noted previously, RFC is a measure of the junction's operation relative to its maximum capacity, expressed as a percentage value. 100% would indicate a junction is operating at full capacity, however the theoretical maximums for signalised and priority junctions are 90% and 85% respectively;
- All queue lengths are shown in Passenger Car Units (PCUs) with 1 PCU equivalent to a car;
- All RFC values and queue lengths shown represent the maximum experienced by the respective arm;

- All model output files associated with the analysis can be found in Appendix D of this report.

Junction 2

Approach	A.M. Peak Hour		P.M. Peak Hour	
	Queue	RFC	Queue	RFC
St Vincent Street West	0.2	17	0.6	21
Emmet Road (W)	0.7	23	0.6	21
Emmet Road (E)	-	-	-	-

*Table 11: Junction 2 – 2024 Peak Hour Do Nothing Analysis Results*

Approach	A.M. Peak Hour		P.M. Peak Hour	
	Queue	RFC	Queue	RFC
R155 (S)	0.3	19	0.5	31
R125 (E)	0.9	27	0.9	31
R125 (W)	-	-	-	-

*Table 12: Junction 2 – 2024 Peak Hour Do Something Analysis Results*

The results show that the junction operates within capacity with the development in place, with relatively minor increases in RFC values and queue lengths relative to the Do Nothing Scenario.

Junction 4

Approach	A.M. Peak Hour		P.M. Peak Hour	
	Queue	RFC	Queue	RFC
Emmet Road (W)	3.27	32	2.6	26
Turvey Avenue	0.05	3	0.03	2
Emmet Road (E)	2.65	29	3.7	39
Luby Road	0.14	8	0.15	11

*Table 13: Junction 4 – 2024 Peak Hour Do Nothing Analysis Results*

Approach	A.M. Peak Hour		P.M. Peak Hour	
	Queue	RFC	Queue	RFC
Emmet Road (W)	3.67	35	3.03	30
Turvey Avenue	0.05	3	0.03	2
Emmet Road (E)	2.82	31	4.08	43
Luby Road	0.16	8	0.19	12

*Table 14: Junction 4 – 2024 Peak Hour Do Something Analysis Results*

The results show that the junction continues to operate with a significant reserve capacity and low queue lengths for the Do Something scenario.

**DESIGN YEAR**

As before, the Do Something traffic flows are established by adding the traffic estimated to be generated by the proposed development to the expanded background traffic flows on the local network in the design year, as shown in the following:

- Diagram 18: 2039 A.M. Peak Hour Flows Do Something;
- Diagram 19: 2039 P.M. Peak Hour Flows Do Something;
- Diagram 20: 2039 AADT Do Something;

Prior to the analysis of the individual junctions, the main links in the network have been assessed for the year of opening for the Do Something scenario, with the results shown following.

Link	Width (m)	Link Capacity (veh/hr)	A.M. Peak (veh/hr)	RFC (%)	P.M. Peak (veh/hr)	RFC (%)
Grattan Crescent	6.1	900	820	91%	591	66%
Tyrconnell Road	6.1	900	650	72%	696	77%
Emmet Road	6.1	900	762	85%	650	72%
St Vincent Street West	6.1	900	165	18%	205	23%
South Circular Road	6.1	900	682	76%	695	77%

*Table 15: 2039 Do Something Scenario Link RFC Values*

As can be seen, the local links continue to operate below normal capacity limits in Design Year Do Something Scenario.

The tables following show the results of the Do Nothing and Do Something analysis for the Design Year, thereby allowing for a direct comparison to highlight the true impact of the proposed development. When considering the following results, the factors outlined for the year of opening analysis continue to apply.

Junction 2

Approach	A.M. Peak Hour		P.M. Peak Hour	
	Queue	RFC	Queue	RFC
St Vincent Street West	0.3	22	0.3	23
Emmet Road (W)	1.1	30	0.9	27
Emmet Road (E)	-	-	-	-

*Table 16: Junction 2 – 2039 Peak Hour Do Nothing Analysis Results*

Approach	A.M. Peak Hour		P.M. Peak Hour	
	Queue	RFC	Queue	RFC
St Vincent Street West	0.4	25	0.7	39
Emmet Road (W)	1.3	35	1.4	38
Emmet Road (E)	-	-	-	-

*Table 17: Junction 2 – 2039 Peak Hour Do Something Analysis Results*

The results show that the junction continues to operate within capacity with the development in place, with relatively minor increases in RFC values and queue lengths relative to the Do Nothing Scenario.

Junction 4

Approach	A.M. Peak Hour		P.M. Peak Hour	
	Queue	RFC	Queue	RFC
Emmet Road (W)	4.12	38	3.09	30
Turvey Avenue	0.07	4	0.04	3
Emmet Road (E)	3.13	34	4.33	46
Luby Road	0.22	10	0.25	15

*Table 18: Junction 4 – 2039 Peak Hour Do Nothing Analysis Results*

Approach	A.M. Peak Hour		P.M. Peak Hour	
	Queue	RFC	Queue	RFC
Emmet Road (W)	4.3	39	3.54	33
Turvey Avenue	0.08	4	0.05	3
Emmet Road (E)	3.27	35	4.73	50
Luby Road	0.26	11	0.32	17

*Table 19: Junction 4 – 2039 Peak Hour Do Something Analysis Results*

The results continue to show that the junction operates within capacity with the development in place, with relatively minor increases in RFC values and queue lengths as a result of the proposed development.

**SUMMARY**

The assessment has been based on bespoke survey data of the local area combined with allowance for conservative background traffic growth to account for local and wider development as well as increased levels of car ownership. Consideration has also been given to permitted development locally as part of this process. The results of the overall assessment show that the proposed development will have a negligible impact on the operation of the links and junctions in the local network.

## 9 DO NOTHING SCENARIO

The Do Nothing scenario would involve leaving the subject site in its current underdeveloped state. This would have a negative impact on the overall development of the area while simultaneously showing no real benefit in transportation terms.



## 10 REMEDIAL / MITIGATION MEASURES

The assessment has shown that no mitigation measures in terms of upgrades to the public road network are required to facilitate the proposed development aside from works set out as part of this application.

Mitigation measures in the form of a Mobility Management Plan and comprehensive Car Parking Strategy have been developed based on the specific characteristics of the development and are to be put in place at the site. Mitigation measures are also proposed for the Construction Stage as per the outline Construction Management plan submitted under separate cover.

## 11 MONITORING

While it has been demonstrated that the proposed development can be accommodated, it is nevertheless recommended that the local area should be monitored by the Local Authority in terms of transportation efficiencies into the future.

## 12 VERIFICATION

This report was compiled and verified by:

*Joshua Tai B.E., MIEI*  
*Civil Engineer*  
*O'Connor Sutton Cronin & Associates*



## Appendix A **TRAFFIC SURVEY DATA**



Origin: Arm A R839 Grattan Crescent

	Destination: Arm A R839 Grattan Crescent							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

	Destination: Arm B R810 Emmet Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
91	12	2	0	1	0	1	107	
91	17	3	0	2	1	0	114	
97	19	1	0	1	1	0	119	
92	14	0	0	1	1	0	108	
85	13	2	0	3	0	3	106	
96	10	0	0	1	2	2	111	
82	3	3	0	1	1	3	93	
75	7	0	1	2	1	1	87	
72	16	0	0	1	0	2	91	
74	10	0	0	2	0	0	86	
94	10	1	0	2	1	0	108	
61	13	2	0	2	0	2	80	
53	6	1	0	1	0	0	61	
48	16	1	0	3	0	1	69	
38	7	1	0	1	1	1	49	
48	12	1	0	2	2	0	65	
55	12	1	0	1	0	0	69	
61	4	0	0	1	1	1	68	
39	8	0	0	1	0	1	49	
49	8	1	0	0	0	1	59	
40	8	0	0	2	0	1	51	
46	7	0	1	1	1	1	57	
53	7	1	0	1	0	1	63	
44	10	0	0	2	1	1	58	
50	5	1	0	0	0	1	57	
54	6	1	0	2	0	3	66	
56	9	4	0	1	0	3	73	
50	2	2	0	1	0	1	56	
49	11	1	0	0	0	3	64	
43	4	0	0	3	0	1	51	
40	4	1	0	2	0	0	47	
40	5	2	0	1	0	0	48	
64	7	1	0	1	0	0	73	
51	6	0	0	4	0	1	62	
46	6	0	0	2	0	1	55	
50	6	0	0	1	0	1	58	
58	8	2	0	2	2	2	74	
32	5	0	0	0	0	2	39	
55	7	1	0	3	0	2	68	
61	5	0	0	2	1	3	72	
51	4	0	0	2	2	4	63	
53	4	0	0	2	0	2	61	
66	6	0	0	1	2	0	75	
65	6	0	0	2	0	1	74	
72	9	0	0	1	1	1	84	
65	8	0	0	2	1	2	78	
61	7	0	0	3	1	1	73	
48	4	0	0	1	2	3	58	
<b>Total</b>	<b>2864</b>	<b>393</b>	<b>37</b>	<b>2</b>	<b>74</b>	<b>26</b>	<b>61</b>	<b>3457</b>

	Destination: Arm C R810 Tyrconnell Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
44	10	1	0	4	1	2	62	
45	9	0	0	2	1	3	60	
79	8	2	0	1	2	1	93	
83	10	1	0	0	0	5	99	
51	4	2	0	0	3	4	64	
61	8	0	0	0	2	3	74	
59	5	2	0	1	2	2	71	
55	8	2	0	0	0	3	68	
38	9	1	0	2	0	2	52	
55	8	1	0	3	0	2	69	
43	6	2	0	0	0	0	51	
34	9	2	0	0	1	2	48	
32	10	2	1	0	0	0	45	
38	10	2	0	1	0	1	52	
29	7	1	0	1	2	1	41	
31	7	2	0	0	0	0	40	
34	11	2	0	0	2	0	49	
40	6	3	1	1	0	1	52	
31	14	1	0	1	0	1	48	
72	6	1	0	0	0	1	80	
51	6	0	0	1	0	1	59	
49	13	5	1	5	0	1	74	
40	13	4	0	2	3	2	64	
45	12	3	0	0	2	1	63	
47	12	4	0	0	0	2	65	
44	13	1	0	1	1	1	61	
55	11	1	0	1	2	5	75	
52	5	2	0	1	0	1	61	
43	12	0	0	0	2	0	57	
54	5	2	0	1	2	2	66	
56	10	1	0	0	1	3	71	
42	14	0	0	0	0	4	60	
55	10	1	0	0	0	1	67	
49	10	1	0	1	0	1	62	
49	8	0	0	1	2	1	61	
48	8	2	0	0	1	2	61	
62	9	0	0	1	1	1	74	
43	6	1	0	2	0	5	57	
68	14	1	0	2	2	0	87	
58	8	1	0	1	2	3	73	
63	9	2	0	0	1	6	81	
70	4	1	0	1	1	6	83	
57	2	0	0	0	0	7	66	
66	7	0	0	0	0	6	79	
61	7	0	0	1	1	4	74	
61	5	0	0	1	2	5	74	
54	6	0	0	1	0	1	62	
56	3	0	0	0	0	4	63	
<b>Total</b>	<b>2452</b>	<b>407</b>	<b>63</b>	<b>3</b>	<b>41</b>	<b>42</b>	<b>110</b>	<b>3118</b>

Arm Totals
169
174
212
207
170
185
164
155
143
155
159
128
106
121
90
105
118
120
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139
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145
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153
158
152
135
121
<b>#REF!</b>



## Junction Turning Count

**Project Number:** 3665-IRE  
**Project Name:** Emmet Rd  
**Client:** O' Connor Sutton Cronin Consulting Engineers



**Sites:** 1-5  
**Survey Date:** 28/04/2022



**Survey Time:** 07:00-19:00      **Weather:** Dry



**Observations:**

No incidents or observations during the survey period.

*Tracsis will retain all personal data relating to this project, including all video images, for a period of three months after receipt of this report and all other data files for one year.*

*If you would like a copy of the personal data or wish for us to retain for a longer period, please do not hesitate to contact us.*



Site 1

**Start/End Time**  
07:00 19:00

Origin Arm: ALL  
Dest Arm: ALL

**Class Selection**  
 Car  LGV  OGV1  
 OGV2  PSV  MC  
 PC

Vehicles  PCU  Values

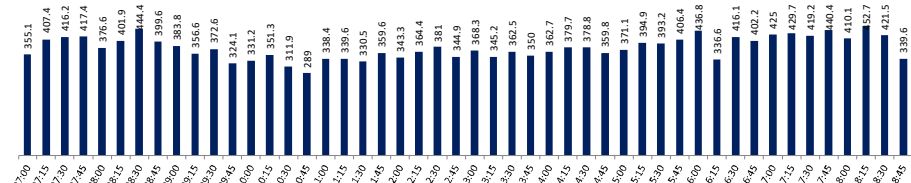
**Network Peak**  
AM IP PM ALL

**Display**  
 Sites  Show Flows  
 Overview

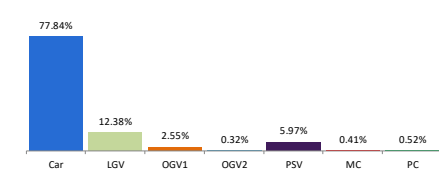


Arm	Location	Observations
A	R839 Grattan Crescent	53.33955
B	R810 Emmet Road	-6.32103
C	R810 Tyrconnell Road	

Total Number of Vehicles per Interval



Percentage of Classed Vehicles



	A	B	C
A	0	3509	3094
B	2211	0	3186
C	3209	2935	0



Site 2

**Start/End Time**  
07:00 19:00

Origin Arm ALL  
Dest Arm ALL

**Class Selection**  
 Car  LGV  OGV1  
 OGV2  PSV  MC  
 PC

Vehicles  PCU Values

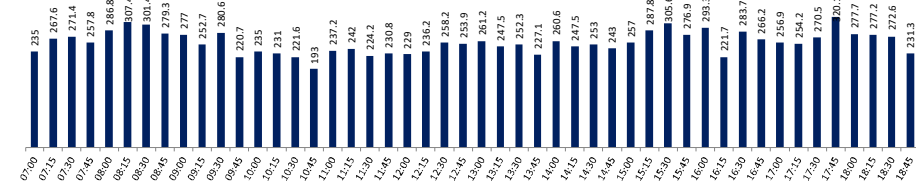
**Network Peak**  
AM IP PM ALL

**Display**  
 Sites  Show Flows  
 Overview

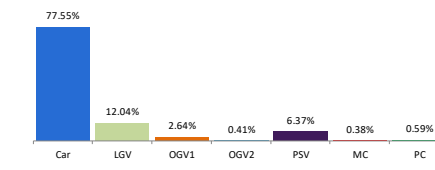


Arm	Location	Observations
A	R810 Emmet Road(ENE)	53.33972
B	Saint Vincent Street West	-6.31853
C	R810 Emmet Road(WSW)	

Total Number of Vehicles per Interval



Percentage of Classed Vehicles



	A	B	C
A	0	545	4662
B	383	0	160
C	5937	671	16





Site 3

**Start/End Time**  
07:00 19:00

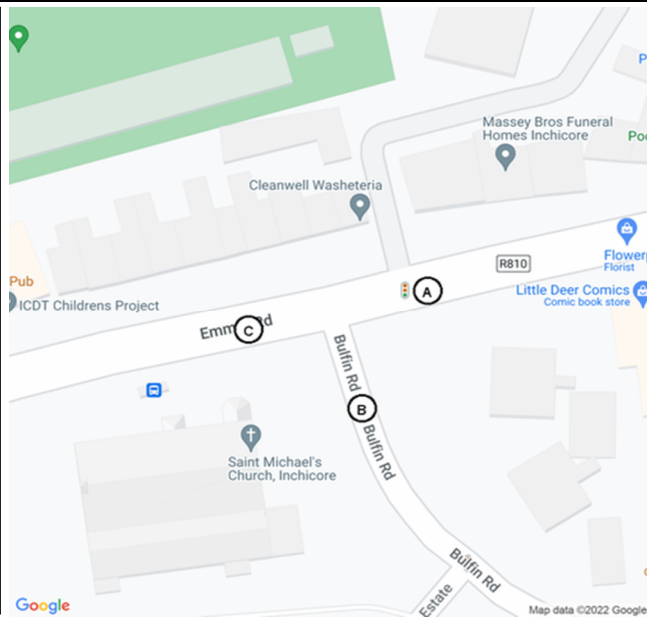
Origin Arm ALL  
Dest Arm ALL

**Class Selection**  
 Car  LGV  OGV1  
 OGV2  PSV  MC  
 PC

Vehicles  PCU Values

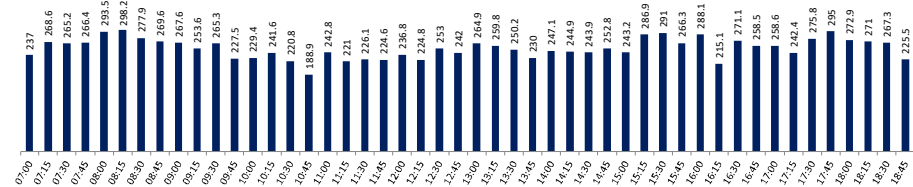
**Network Peak**  
AM IP PM ALL

**Display**  
 Sites  Show Flows  
 Overview

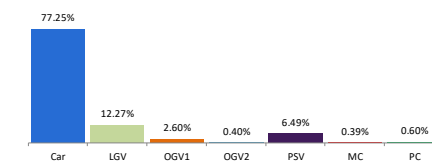


Arm	Location	Observations
A	R810 Emmet Road(ENE)	53.34026
B	Bulfin Road	-6.31574
C	R810 Emmet Road(WSW)	

Total Number of Vehicles per Interval



Percentage of Classed Vehicles



	A	B	C
A	2	455	3551
B	161	0	1666
C	3837	2485	8



Site 4

**Start/End Time**  
07:00 19:00

Origin Arm: ALL  
Dest Arm: ALL

**Class Selection**  
 Car  LGV  OGV1  
 OGV2  PSV  MC  
 PC

Vehicles  PCU Values

**Network Peak**  
 AM  IP  PM  ALL

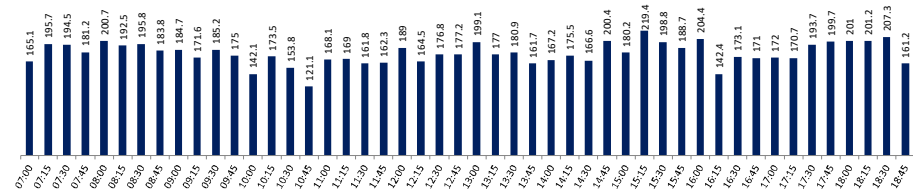
**Display**  
 Sites  Show Flows  
 Overview



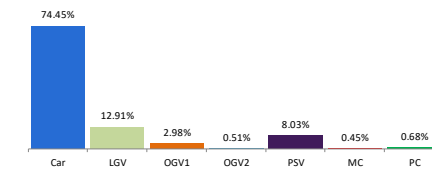
**Arm Location Observations**

- A Turvey Avenue 53.34061
- B R810 Emmet Road(E) -6.31105
- C Luby Road
- D R810 Emmet Road(W)

**Total Number of Vehicles per Interval**



**Percentage of Classed Vehicles**



	A	B	C	D
A	0	103	2	93
B	82	106	0	3726
C	24	398	0	121
D	71	3865	1	5



Site 5

**Start/End Time**  
07:00 19:00

Origin Arm: ALL  
Dest Arm: ALL

**Class Selection**  
 Car  LGV  OGV1  
 OGV2  PSV  MC  
 PC

Vehicles  PCU Values

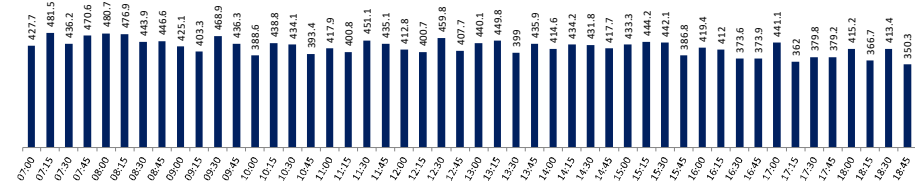
**Network Peak**  
AM IP PM ALL

**Display**  
 Sites  Show Flows  
 Overview

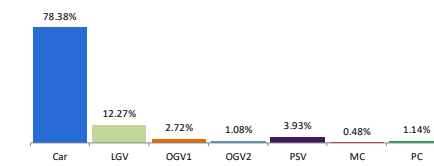


Arm	Location	Observations
A	R111 South Circular Road(N)	53.34063
B	R810 Old Kilmainham	-6.30768
C	R111 South Circular Road(S)	
D	R810 Emmet Road	

Total Number of Vehicles per Interval



Percentage of Classed Vehicles



	A	B	C	D
A	1	1393	4370	488
B	69	0	724	3383
C	4910	196	0	143
D	1231	3334	5	2



Origin : Arm B R810 Emmet Road

	Destination : Arm A R839 Grattan Crescent							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	13	1	0	0	1	0	0	15
07:15	20	5	1	1	2	0	1	30
07:30	28	2	0	0	1	0	1	32
<b>07:45</b>	<b>31</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>41</b>
08:00	36	2	1	0	2	0	0	41
08:15	37	7	2	0	1	1	1	49
08:30	37	4	2	0	2	0	0	45
08:45	32	6	1	0	2	0	2	43
09:00	32	4	0	0	2	0	0	38
09:15	24	2	0	1	1	0	0	28
09:30	24	4	0	0	0	0	2	30
09:45	20	3	1	1	3	0	0	28
10:00	31	5	0	0	2	0	0	38
10:15	29	6	0	0	2	0	2	39
10:30	32	5	1	0	1	0	1	40
10:45	24	4	1	1	1	0	1	32
11:00	26	6	0	0	2	0	0	34
11:15	26	3	1	1	2	0	1	34
11:30	29	3	1	0	1	0	0	34
11:45	41	7	0	0	0	0	0	48
12:00	34	5	1	1	2	1	1	45
12:15	23	7	1	0	3	0	0	34
12:30	39	4	0	0	0	0	1	44
12:45	34	5	1	0	1	1	0	42
13:00	43	2	0	0	2	0	0	47
13:15	30	6	1	0	0	0	3	40
13:30	39	6	1	0	2	0	0	48
13:45	38	1	1	0	3	0	0	43
14:00	36	1	0	1	1	0	1	40
14:15	31	8	2	0	1	0	1	43
14:30	50	2	0	1	2	0	2	57
14:45	38	3	0	0	1	0	0	42
15:00	43	10	2	1	1	1	1	59
<b>15:15</b>	<b>43</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>55</b>
<b>15:30</b>	<b>54</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>68</b>
<b>15:45</b>	<b>42</b>	<b>10</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>54</b>
<b>16:00</b>	<b>44</b>	<b>10</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>58</b>
16:15	49	5	0	0	2	0	4	60
16:30	54	10	1	0	1	0	4	70
16:45	53	7	0	0	0	1	2	63
17:00	38	5	0	0	2	1	2	48
17:15	47	6	0	0	1	1	5	60
17:30	50	5	0	0	2	0	2	59
17:45	52	4	0	0	2	0	3	61
18:00	41	3	0	0	1	0	1	46
18:15	43	7	0	0	2	1	1	54
18:30	39	1	0	0	2	1	0	43
18:45	40	2	0	0	1	1	4	48
<b>Total</b>	<b>1739</b>	<b>236</b>	<b>26</b>	<b>9</b>	<b>69</b>	<b>14</b>	<b>57</b>	<b>2150</b>

	Destination : Arm B R810 Emmet Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
<b>07:45</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
<b>15:15</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>15:30</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>15:45</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>16:00</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

	Destination : Arm C R810 Tyrconnell Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	26	8	2	0	1	1	1	39
07:15	31	7	1	0	4	1	2	46
07:30	40	6	2	0	2	1	0	51
<b>07:45</b>	<b>42</b>	<b>9</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>55</b>
08:00	41	6	3	0	2	0	1	53
08:15	53	12	2	0	1	0	2	70
08:30	69	14	2	0	1	1	5	92
08:45	58	4	2	0	3	2	2	71
09:00	44	12	0	0	2	1	1	60
09:15	29	9	3	0	0	0	0	41
09:30	44	8	3	0	2	0	2	59
09:45	31	5	3	0	3	1	0	43
10:00	50	8	0	0	1	0	0	59
10:15	39	11	1	0	2	0	3	56
10:30	38	5	3	0	1	0	1	48
10:45	32	6	1	0	3	1	0	43
11:00	46	15	4	0	1	0	0	66
11:15	48	8	3	0	2	2	2	65
11:30	45	11	2	0	2	1	2	63
11:45	38	8	2	0	1	0	2	51
12:00	55	11	2	1	4	1	0	74
12:15	47	4	2	1	0	2	1	57
12:30	44	19	4	0	1	2	2	72
12:45	53	14	0	0	3	0	0	70
13:00	57	10	2	0	5	1	1	76
13:15	55	13	5	0	3	0	0	76
13:30	44	4	1	0	1	0	1	51
13:45	39	7	2	0	2	1	0	51
14:00	50	12	1	0	6	0	2	71
14:15	57	9	2	0	2	0	1	71
14:30	48	9	4	0	2	1	0	64
14:45	59	12	1	0	3	2	3	80
15:00	48	10	1	0	2	0	0	61
<b>15:15</b>	<b>61</b>	<b>12</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>83</b>
<b>15:30</b>	<b>61</b>	<b>10</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>77</b>
<b>15:45</b>	<b>59</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>75</b>
<b>16:00</b>	<b>77</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>98</b>
16:15	37	9	0	0	3	3	3	55
16:30	56	10	2	0	1	2	3	74
16:45	45	10	0	0	0	3	0	58
17:00	56	8	0	0	2	1	0	67
17:15	42	4	2	0	5	1	3	57
17:30	60	12	2	0	2	1	1	78
17:45	69	8	2	0	5	0	4	88
18:00	48	4	1	0	1	3	1	58
18:15	50	8	1	0	3	2	5	69
18:30	63	5	1	0	4	0	1	74
18:45	48	6	1	0	1	0	3	59
<b>Total</b>	<b>2332</b>	<b>441</b>	<b>84</b>	<b>3</b>	<b>109</b>	<b>39</b>	<b>67</b>	<b>3075</b>

Arm Totals
54
76
83
96
94
119
137
114
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107
#REF!





ORIGIN SUMMARY

	Origin : Arm A R839 Grattan Crescent							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	135	22	3	0	5	1	3	169
07:15	136	26	3	0	4	2	3	174
07:30	176	27	3	0	2	3	1	212
07:45	175	24	1	0	1	1	5	207
1 Hr	622	99	10	0	12	7	12	762
08:00	136	17	4	0	3	3	7	170
08:15	157	18	0	0	1	4	5	185
08:30	141	8	5	0	2	3	5	164
08:45	130	15	2	1	2	1	4	155
1 Hr	564	58	11	1	8	11	21	674
09:00	110	25	1	0	3	0	4	143
09:15	129	18	1	0	5	0	2	155
09:30	137	16	3	0	2	1	0	159
09:45	95	22	4	0	2	1	4	128
1 Hr	471	81	9	0	12	2	10	585
10:00	85	16	3	1	1	0	0	106
10:15	86	26	3	0	4	0	2	121
10:30	67	14	2	0	2	3	2	90
10:45	79	19	3	0	2	2	0	105
1 Hr	317	75	11	1	9	5	4	422
11:00	89	23	3	0	1	2	0	118
11:15	101	10	3	1	2	1	2	120
11:30	70	22	1	0	2	0	2	97
11:45	121	14	2	0	0	0	2	139
1 Hr	381	69	9	1	5	3	6	474
12:00	91	14	0	0	3	0	2	110
12:15	95	20	5	2	6	1	2	131
12:30	93	20	5	0	3	3	3	127
12:45	89	22	3	0	2	3	2	121
1 Hr	368	76	13	2	14	7	9	489
13:00	97	17	5	0	0	0	3	122
13:15	98	19	2	0	3	1	4	127
13:30	111	20	5	0	2	2	8	148
13:45	102	7	4	0	2	0	2	117
1 Hr	408	63	16	0	7	3	17	514
14:00	92	23	1	0	0	2	3	121
14:15	97	9	2	0	4	2	3	117
14:30	96	14	2	0	2	1	3	118
14:45	82	19	2	0	1	0	4	108
1 Hr	367	65	7	0	7	5	13	464
15:00	119	17	2	0	1	0	1	140
15:15	100	16	1	0	5	0	2	124
15:30	95	14	0	0	3	2	2	116
15:45	98	14	2	0	1	1	3	119
1 Hr	412	61	5	0	10	3	8	499
16:00	120	17	2	0	3	3	3	148
16:15	75	11	1	0	2	0	7	96
16:30	123	21	2	0	5	2	2	155
16:45	119	13	1	0	3	3	6	145
1 Hr	437	62	6	0	13	8	18	544
17:00	114	13	2	0	2	3	10	144
17:15	123	8	1	0	3	1	8	144
17:30	123	8	0	0	1	2	7	141
17:45	131	13	0	0	2	0	7	153
1 Hr	491	42	3	0	8	6	32	582
18:00	133	16	0	0	2	2	5	156
18:15	126	13	0	0	3	3	7	152
18:30	115	13	0	0	4	1	2	135
18:45	104	7	0	0	1	2	7	121
1 Hr	478	49	0	0	10	8	21	566
Total	5316	800	100	5	115	68	171	6575

	Origin : Arm B R810 Emmet Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
39	9	2	0	2	1	1	54	
51	12	2	1	6	1	3	76	
68	8	2	0	3	1	1	83	
73	16	1	0	3	0	3	96	
231	45	7	1	14	3	8	309	
77	8	4	0	4	0	1	94	
90	19	4	0	2	1	3	119	
106	18	4	0	3	1	5	137	
90	10	3	0	5	2	4	114	
363	55	15	0	14	4	13	464	
76	16	0	0	4	1	1	98	
53	11	3	1	1	0	0	69	
68	12	3	0	2	0	4	89	
51	8	4	1	6	1	0	71	
248	47	10	2	13	2	5	327	
81	13	0	0	3	0	0	97	
68	17	1	0	4	0	5	95	
70	10	4	0	2	0	2	88	
56	10	2	1	4	1	1	75	
275	50	7	1	13	1	8	355	
72	21	4	0	3	0	0	100	
74	11	4	1	4	2	3	99	
74	14	3	0	3	1	2	97	
79	15	2	0	1	0	2	99	
299	61	13	1	11	3	7	395	
89	16	3	2	6	2	1	119	
70	11	3	1	3	2	1	91	
83	23	4	0	1	2	3	116	
87	19	1	0	4	1	0	112	
329	69	11	3	14	7	5	438	
100	12	2	0	7	1	1	123	
85	19	6	0	3	0	3	116	
83	10	2	0	3	0	1	99	
77	8	3	0	5	1	0	94	
345	49	13	0	18	2	5	432	
86	13	1	1	7	0	3	111	
88	17	4	0	3	0	2	114	
98	11	4	1	4	1	2	121	
97	15	1	0	4	2	3	122	
369	56	10	2	18	3	10	468	
91	20	3	1	3	1	1	120	
104	17	4	1	5	1	6	138	
115	20	2	0	4	3	1	145	
101	24	1	0	3	0	0	129	
411	81	10	2	15	5	8	532	
121	25	1	0	5	1	3	156	
86	14	0	0	5	3	7	115	
110	20	3	0	2	2	7	144	
98	17	0	0	0	4	2	121	
415	76	4	0	12	10	19	536	
94	13	0	0	4	2	2	115	
89	10	2	0	6	2	8	117	
110	17	2	0	4	1	3	137	
121	12	2	0	7	0	7	149	
414	52	6	0	21	5	20	518	
89	7	1	0	2	3	2	104	
93	15	1	0	5	3	6	123	
102	6	1	0	6	1	1	117	
88	8	1	0	2	1	7	107	
372	36	4	0	15	8	16	451	
Total	4071	677	110	12	178	53	124	5225

	Origin : Arm C R810 Tyrconnell Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
89	17	3	0	6	1	1	117	
110	22	1	0	5	3	5	146	
80	14	2	0	8	0	4	108	
80	9	4	1	7	2	5	108	
359	62	10	1	26	6	15	479	
74	11	1	0	8	5	4	103	
73	15	2	0	4	0	6	100	
107	26	1	0	3	3	1	141	
90	19	1	2	4	0	8	124	
344	71	5	2	19	8	19	468	
103	17	3	1	4	2	5	135	
84	21	5	0	4	1	5	120	
92	16	3	0	3	1	2	117	
85	15	1	0	5	1	2	109	
364	69	12	1	16	5	14	481	
88	18	0	0	6	0	2	114	
93	22	4	0	3	0	3	125	
93	22	2	1	4	2	2	126	
76	23	0	0	0	1	3	103	
350	85	6	1	13	3	10	468	
87	19	2	0	1	3	2	114	
73	20	2	2	5	1	0	103	
95	22	6	0	2	1	4	130	
82	21	4	0	5	1	3	116	
337	82	14	2	13	6	9	463	
79	13	3	0	2	2	1	100	
93	25	1	0	3	1	1	124	
105	19	1	0	4	2	3	134	
80	13	5	0	2	1	3	104	
357	70	10	0	11	6	8	462	
98	10	2	0	1	3	0	114	
75	13	2	0	2	1	3	96	
85	21	1	0	2	3	3	115	
98	18	2	0	4	0	2	124	
356	62	7	0	9	7	8	449	
95	15	3	0	4	2	4	123	
102	20	1	1	6	2	7	139	
108	16	4	0	1	0	3	132	
98	13	3	0	5	2	4	125	
403	64	11	1	16	6	18	519	
84	13	1	0	2	2	2	104	
94	21	0	0	3	1	4	123	
102	11	3	0	4	1	2	123	
118	20	6	0	3	2	0	149	
398	65	10	0	12	6	8	499	
103	13	1	0	4	2	3	126	
92	15	4	0	6	0	11	128	
96	10	0	0	3	2	7	118	
118	15	1	0	3	0	5	142	
409	53	6	0	16	4	26	514	
144	11	1	0	5	2	5	168	
137	17	2	0	5	1	6	168	
124	12	2	0	1	1	9	149	
122	7	1	0	2	1	7	140	
527	47	6	0	13	5	27	625	
127	9	0	0	6	1	4	147	
164	7	0	0	4	0	3	178	
137	12	1	0	3	4	3	160	
104	12	1	0	1	0	2	120	
532	40	2	0	14	5	12	605	
Total	4736	770	99	8	178	67	174	6032

Origin Totals	
340	
396	
403	
411	
1550	
367	
404	
442	
393	
1606	
376	
344	
365	
308	
1393	
317	
341	
304	
283	
1245	
332	
322	
324	
354	
1332	
329	
346	

DESTINATION SUMMARY

Destination : Arm A R839 Grattan Crescent								Total
Car	LGV	OGV1	OGV2	PSV	MC	PC		
07:00	58	7	1	0	4	0	1	71
07:15	74	20	1	1	5	0	6	107
07:30	68	8	1	0	8	0	5	90
07:45	71	11	1	1	5	0	5	94
1 Hr	271	46	4	2	22	0	17	362
08:00	69	9	1	0	5	4	2	90
08:15	71	12	2	0	4	1	6	96
08:30	99	17	3	0	4	1	0	124
08:45	80	18	1	0	3	0	8	110
1 Hr	319	56	7	0	16	6	16	420
09:00	80	9	1	0	4	0	5	99
09:15	50	14	2	1	3	1	4	75
09:30	63	14	1	0	1	0	3	82
09:45	61	11	2	1	8	1	1	85
1 Hr	254	48	6	2	16	2	13	341
10:00	70	9	0	0	5	0	1	85
10:15	77	15	1	0	4	0	4	101
10:30	75	15	1	0	2	1	3	97
10:45	61	19	1	1	1	0	2	85
1 Hr	283	58	3	1	12	1	10	368
11:00	73	14	0	0	3	1	2	93
11:15	62	16	1	1	5	0	1	86
11:30	70	18	5	0	2	0	2	97
11:45	79	18	2	0	3	1	0	103
1 Hr	284	66	8	1	13	2	5	379
12:00	79	12	3	1	3	3	2	103
12:15	74	19	2	0	4	1	0	100
12:30	90	11	0	0	1	1	3	106
12:45	73	11	3	0	1	1	2	91
1 Hr	316	53	8	1	9	6	7	400
13:00	97	8	0	0	2	3	0	110
13:15	64	13	1	0	1	0	5	84
13:30	87	12	1	0	3	2	1	106
13:45	88	14	3	0	3	0	1	109
1 Hr	336	47	5	0	9	5	7	409
14:00	93	10	1	1	3	1	4	113
14:15	89	18	2	0	5	0	6	120
14:30	119	9	2	1	3	0	4	138
14:45	95	10	1	0	3	1	3	113
1 Hr	396	47	6	2	14	2	17	484
15:00	95	17	2	1	3	1	2	121
15:15	90	16	1	0	4	2	6	119
15:30	106	15	0	0	3	2	3	129
15:45	100	21	3	0	1	2	0	127
1 Hr	391	69	6	1	11	7	11	496
16:00	106	16	1	0	4	3	4	134
16:15	106	13	2	0	6	0	11	138
16:30	111	15	1	0	4	1	10	142
16:45	113	15	0	0	0	1	6	135
1 Hr	436	59	4	0	14	5	31	549
17:00	125	12	1	0	4	3	5	150
17:15	127	16	1	0	5	1	11	161
17:30	131	14	1	0	2	0	9	157
17:45	120	8	1	0	3	0	8	140
1 Hr	503	50	4	0	14	4	33	608
18:00	107	10	0	0	3	1	5	126
18:15	143	14	0	0	5	1	3	166
18:30	104	6	0	0	3	5	2	120
18:45	91	11	0	0	2	1	5	110
1 Hr	445	41	0	0	13	8	15	522
Total	4234	640	61	10	163	48	182	5338

Destination : Arm B R810 Emmet Road								Total
Car	LGV	OGV1	OGV2	PSV	MC	PC		
135	23	4	0	4	1	1	1	168
147	24	4	0	4	4	0	0	183
137	27	2	0	2	1	0	0	169
132	19	3	0	4	3	2	1	163
551	93	13	0	14	9	3	2	683
126	17	3	0	8	1	5	1	160
135	20	2	0	2	2	3	1	164
127	16	3	0	2	3	4	1	155
117	14	1	3	5	1	3	1	144
505	67	9	3	17	7	15	2	623
127	28	2	1	3	2	2	2	165
132	19	3	0	4	0	1	1	159
147	16	3	0	4	2	1	1	173
105	20	2	0	2	0	3	1	132
511	83	10	1	13	4	7	2	629
102	20	1	0	4	0	1	1	128
93	29	4	0	4	0	2	1	132
88	19	3	1	4	2	1	1	118
87	20	1	0	2	3	2	1	115
370	88	9	1	14	5	6	4	493
95	23	3	0	1	2	0	1	124
98	11	2	2	3	2	1	1	119
93	15	2	0	2	1	3	1	116
93	18	3	0	2	0	4	1	120
379	67	10	2	8	5	8	4	479
74	14	1	0	3	0	1	1	93
88	20	0	1	3	1	2	1	115
107	19	2	0	4	1	2	1	135
85	17	3	0	4	2	2	1	113
354	70	6	1	14	4	7	2	456
94	9	3	0	1	0	1	1	108
95	12	3	0	3	1	4	1	118
93	24	5	0	2	1	5	1	130
98	7	2	0	5	0	2	1	114
380	52	13	0	11	2	12	2	470
87	17	3	0	2	1	4	1	114
87	14	1	1	5	2	3	1	113
79	13	3	0	2	0	1	1	98
81	11	4	0	4	1	1	1	102
334	55	11	1	13	4	9	2	427
96	13	2	0	1	2	1	1	115
98	16	0	0	5	0	2	1	121
96	12	3	0	4	1	1	1	117
110	15	4	0	4	0	1	1	134
400	56	9	0	14	3	5	4	487
99	15	3	0	3	2	2	1	124
67	12	2	0	2	0	6	1	89
94	12	1	0	3	1	3	1	114
119	12	1	0	5	1	4	1	142
379	51	7	0	13	4	15	4	469
108	8	0	0	5	2	6	1	129
110	11	1	0	3	1	2	1	128
109	9	1	0	2	3	2	1	126
119	9	0	0	3	1	3	1	135
446	37	2	0	13	7	13	5	518
133	11	0	0	5	1	1	1	151
129	8	0	0	3	1	3	1	144
133	14	1	0	5	1	2	1	156
101	7	1	0	1	2	4	1	116
496	40	2	0	14	5	10	5	567
Total	5105	759	101	9	158	59	110	6301

Destination : Arm C R810 Tyrconnell Road								Total
Car	LGV	OGV1	OGV2	PSV	MC	PC		
70	18	3	0	5	2	3	1	101
76	16	1	0	6	2	5	1	106
119	14	4	0	3	3	1	1	144
125	19	2	0	2	0	6	1	154
390	67	10	0	16	7	15	5	505
92	10	5	0	2	3	5	1	117
114	20	2	0	1	2	5	1	144
128	19	4	0	2	3	7	1	163
113	12	4	0	3	2	5	1	139
447	61	15	0	8	10	22	5	563
82	21	1	0	4	1	3	1	112
84	17	4	0	3	0	2	1	110
87	14	5	0	2	0	2	1	110
65	14	5	0	3	2	2	1	91
318	66	15	0	12	3	9	4	423
82	18	2	1	1	0	0	1	104
77	21	3	0	3	0	4	1	108
67	12	4	0	2	2	2	1	89
63	13	3	0	3	1	0	1	83
289	64	12	1	9	3	6	3	384
80	26	6	0	1	2	0	1	115
88	14	6	1	3	2	3	1	117
76	25	3	0	3	1	3	1	111
110	14	3	0	1	0	3	1	131
354	79	18	1	8	5	9	4	474
106	17	2	1	5	1	1	1	133
96	17	7	2	5	2	2	1	131
84	32	8	0	3	5	4	1	136
98	26	3	0	3	2	1	1	133
384	92	20	3	16	10	8	5	533
104	22	6	0	5	1	3	1	141
99	26	6	0	4	1	1	1	137
99	15	2	0	2	2	6	1	126
91	12	4	0	3	1	1	1	112
393	75	18	0	14	5	11	5	516
93	24	1	0	6	2	2	1	128
111	14	4	0	3	2	3	1	137
104	19	5	0	2	2	3	1	135
101	26	1	0	3	2	7	1	140
409	83	11	0	14	8	15	5	540
103	20	2	0	2	0	1	1	128
110	22	4	1	4	0	4	1	145
110	18	2	0	4	3	1	1	138
107	22	2	0	2	1	2	1	136
430	82	10	1	12	4	8	4	547
139	24	0	0	5	1	3	1	172
80	15	1	0	5	3	8	1	112
124	24	3	0	3	4	3	1	161
103	18	1	0	1	5	3	1	131
446	81	5	0	14	13	17	5	576
119	17	2	0	2	2	6	1	148
112	8	3	0	6	2	9	1	140
117	14	2	0	2	1	8	1	144
135	15	2	0	5	0	10	1	167
483	54	9	0	15	5	33	9	599
109	11	1	0	2	4	5	1	132
111	13	1	0	4	4	10	1	143
117	11	1	0	5	0	2	1	136



Origin : Arm A R810 Emmet Road(ENE)

	Destination : Arm A R810 Emmet Road(ENE)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0

	Destination : Arm B Saint Vincent Street West							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
1	1	0	0	0	1	0	0	3
2	1	0	0	0	0	0	0	3
3	1	0	0	0	0	0	0	4
4	1	1	0	0	0	0	0	6
9	1	0	0	1	1	0	0	12
14	0	0	0	0	0	1	0	15
21	0	1	0	1	0	0	0	23
18	0	0	0	1	0	0	0	19
11	0	0	0	0	0	0	0	11
12	2	0	0	0	0	2	0	16
12	1	0	0	1	0	0	0	14
6	1	0	0	0	0	0	0	7
6	1	0	0	0	0	0	0	7
2	1	0	0	0	0	0	0	3
1	2	1	0	0	0	1	0	5
6	2	0	0	1	0	0	0	9
6	1	2	1	0	0	0	0	10
9	3	0	0	0	0	0	0	12
6	0	0	0	0	0	0	0	6
2	3	1	0	0	1	0	0	7
4	3	0	0	0	0	0	0	7
14	3	0	0	0	0	0	0	17
6	0	0	0	0	0	0	0	6
12	0	0	0	0	0	0	0	12
12	2	0	0	0	0	0	0	14
8	0	0	0	0	0	0	0	8
13	0	0	0	0	0	0	0	13
6	2	0	0	0	0	0	0	8
15	0	0	0	0	1	0	0	16
18	3	0	0	0	0	2	0	23
11	1	0	0	2	0	0	0	14
10	2	0	0	0	0	1	0	13
11	1	1	0	0	0	0	0	13
10	0	0	0	1	0	2	0	13
24	3	1	0	1	1	0	0	30
7	3	1	0	0	0	0	0	11
10	0	0	0	0	0	1	0	11
10	0	0	0	0	0	0	0	10
17	2	0	0	0	0	0	0	19
9	3	0	0	0	1	2	0	15
7	0	0	0	0	0	2	0	9
7	1	0	0	0	0	2	0	10
5	1	0	0	0	1	2	0	9
12	3	1	0	0	0	4	0	20
11	1	0	0	0	0	3	0	15
9	0	0	0	0	0	0	0	9
8	0	1	0	0	0	0	0	9
5	0	0	0	0	0	2	0	7
Total	442	56	11	1	9	7	27	553

	Destination : Arm C R810 Emmet Road(WSW)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
33	7	2	0	2	0	0	0	44
42	10	1	1	6	1	1	0	62
57	7	1	0	3	1	0	0	69
61	12	2	0	3	0	3	0	81
70	6	3	0	4	0	1	0	84
72	16	4	0	2	2	2	0	98
75	16	4	0	1	1	6	0	103
57	15	2	0	5	2	5	0	86
57	10	0	0	3	1	0	0	71
46	9	2	1	1	0	0	0	59
53	11	2	0	4	0	3	0	73
42	6	4	1	4	1	0	0	58
62	12	0	0	3	0	1	0	78
60	15	1	0	4	0	4	0	84
62	11	4	0	2	0	4	0	83
48	7	2	1	4	1	0	0	63
58	18	3	0	3	0	0	0	82
67	10	3	1	4	0	2	0	87
64	13	3	0	3	1	3	0	87
72	13	2	0	1	1	2	0	91
75	14	3	2	6	2	0	0	102
60	11	2	1	3	2	1	0	80
68	20	4	0	1	2	2	0	97
83	17	3	0	4	0	0	0	107
85	13	0	0	7	1	1	0	107
76	16	6	0	3	0	4	0	105
68	12	2	0	2	0	2	0	86
70	7	2	0	5	1	0	0	85
73	14	1	1	7	0	5	0	101
74	15	3	0	5	0	6	0	103
67	8	4	1	2	1	4	0	87
91	12	1	0	3	2	2	0	111
77	16	3	1	3	1	4	0	105
93	21	3	0	5	1	5	0	128
92	17	2	0	3	2	2	0	118
84	21	0	0	3	0	1	0	109
101	16	2	0	4	1	6	0	130
83	15	1	0	5	3	10	0	117
104	19	1	0	2	2	5	0	133
81	14	0	0	1	3	3	0	102
83	12	0	0	4	1	4	0	104
79	11	2	0	4	2	10	0	108
99	16	1	0	4	1	2	0	123
101	10	2	0	7	0	13	0	133
83	10	1	0	3	3	5	0	105
82	15	1	0	4	3	5	0	110
83	6	1	0	6	0	4	0	100
69	9	0	0	2	1	5	0	86
Total	3442	611	96	11	170	47	148	4525

Arm Totals
47
65
73
87
96
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Origin: Arm B Saint Vincent Street West

	Destination: Arm A R810 Emmet Road(ENE)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	7	0	1	0	0	0	0	8
07:15	4	0	0	0	0	0	0	4
07:30	1	0	0	0	0	0	1	2
07:45	0	1	1	0	0	0	2	4
08:00	9	0	0	0	1	0	1	11
08:15	15	1	0	0	0	0	1	17
08:30	11	2	0	0	0	0	0	13
08:45	12	0	0	0	0	1	1	14
09:00	11	1	0	0	0	0	0	12
09:15	4	1	0	0	0	0	0	5
09:30	4	0	0	0	1	0	0	5
09:45	4	1	0	0	0	0	0	5
10:00	4	0	0	0	0	0	1	5
10:15	3	2	0	0	0	0	0	5
10:30	1	1	0	0	0	0	0	2
10:45	6	2	0	0	0	0	1	9
11:00	1	0	0	0	0	0	0	1
11:15	2	1	0	0	0	0	0	3
11:30	8	1	0	0	0	0	1	10
11:45	4	1	0	1	0	1	0	7
12:00	10	2	0	1	0	0	2	15
12:15	5	2	0	0	0	0	0	7
12:30	3	0	0	0	0	0	0	3
12:45	9	1	0	0	0	0	0	10
13:00	10	0	0	0	0	0	0	10
13:15	7	1	0	0	0	0	0	8
13:30	14	0	0	0	0	0	0	14
13:45	8	1	0	0	1	0	1	11
14:00	7	0	0	0	0	0	0	7
14:15	3	0	0	0	0	0	0	3
14:30	23	1	0	0	0	0	1	25
14:45	6	1	0	0	0	0	0	7
15:00	5	2	0	0	0	0	1	8
15:15	8	0	0	0	0	0	0	8
15:30	16	1	0	0	1	0	0	18
15:45	4	0	0	0	0	0	0	4
16:00	9	1	0	0	0	0	0	10
16:15	7	0	0	0	0	1	1	9
16:30	6	1	0	0	0	0	0	7
16:45	10	1	0	0	0	0	2	13
17:00	3	1	0	0	0	0	0	4
17:15	5	0	0	0	0	1	1	7
17:30	8	1	0	0	0	0	0	9
17:45	7	0	0	0	0	0	0	7
18:00	5	3	0	0	0	0	0	8
18:15	5	0	0	0	0	0	0	5
18:30	2	0	0	0	0	0	0	2
18:45	8	1	0	0	0	0	0	9
<b>Total</b>	<b>324</b>	<b>36</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>18</b>	<b>390</b>

	Destination: Arm B Saint Vincent Street West							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

	Destination: Arm C R810 Emmet Road(WSW)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	2	1	0	0	0	0	0	3
07:15	2	1	0	0	0	0	0	3
07:30	2	0	1	0	0	0	1	4
07:45	1	1	0	0	0	0	0	2
08:00	0	0	0	0	0	0	0	0
08:15	1	0	0	0	0	0	0	1
08:30	2	1	0	0	0	0	0	3
08:45	8	0	0	0	0	0	0	8
09:00	2	0	0	0	1	0	0	3
09:15	3	0	0	0	0	0	0	3
09:30	1	0	0	0	0	0	0	1
09:45	1	0	0	0	0	0	0	1
10:00	3	0	0	0	0	0	0	3
10:15	1	0	0	0	0	0	0	1
10:30	1	0	0	0	0	0	0	1
10:45	0	0	0	0	0	0	0	0
11:00	2	1	0	0	0	0	0	3
11:15	0	0	1	0	0	1	0	2
11:30	1	1	0	0	0	0	0	2
11:45	2	1	0	0	0	0	0	3
12:00	1	3	0	0	0	0	1	5
12:15	2	0	0	0	0	0	0	2
12:30	1	1	0	0	0	0	0	2
12:45	5	0	0	0	0	0	0	5
13:00	4	0	1	0	0	0	0	5
13:15	2	0	0	0	0	0	0	2
13:30	5	0	0	0	0	0	0	5
13:45	1	0	0	0	0	0	0	1
14:00	4	0	0	0	0	0	0	4
14:15	2	0	1	0	0	0	0	3
14:30	4	0	0	0	0	0	0	4
14:45	4	2	0	0	0	0	1	7
15:00	2	0	0	0	0	0	0	2
15:15	5	1	0	0	0	0	0	6
15:30	7	0	0	0	1	0	0	8
15:45	2	2	0	0	0	0	0	4
16:00	5	2	0	0	0	0	1	8
16:15	1	0	0	0	0	0	1	2
16:30	4	0	0	0	0	0	0	4
16:45	1	0	0	0	0	0	0	1
17:00	4	0	0	0	0	0	0	4
17:15	1	0	0	0	0	0	0	1
17:30	1	0	1	0	0	0	0	2
17:45	5	1	0	0	0	0	0	6
18:00	6	0	0	0	0	0	0	6
18:15	2	0	0	0	0	0	1	3
18:30	3	1	0	0	0	0	0	4
18:45	7	0	0	0	0	0	1	7
<b>Total</b>	<b>126</b>	<b>20</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>7</b>	<b>161</b>

Arm Totals
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Origin : Arm A R810 Emmet Road(ENE)

	Destination : Arm A R810 Emmet Road(ENE)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	1	0	0	0	0	0	0	1
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	1	0	0	0	0	0	0	1
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
<b>Total</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>

	Destination : Arm B Bulfin Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
5	0	0	0	0	0	0	0	5
10	1	1	0	0	0	0	1	13
7	0	0	0	0	0	0	1	8
8	2	0	0	0	0	0	0	10
4	3	0	0	1	0	0	0	8
6	0	0	0	0	0	4	0	10
7	3	0	0	0	0	0	0	10
10	1	0	0	1	0	0	0	12
6	0	0	0	0	0	1	7	7
8	0	1	0	0	0	0	0	9
7	1	0	0	0	1	0	0	9
9	4	0	0	0	0	0	0	13
5	0	0	0	0	0	0	0	5
10	1	0	0	0	0	0	0	11
9	1	0	0	0	0	1	0	11
3	1	0	0	0	0	0	0	4
5	2	0	0	0	0	1	0	8
3	2	0	0	0	0	0	0	5
8	3	0	0	0	0	0	0	11
8	1	0	0	0	0	0	0	9
5	3	0	0	0	0	0	0	8
4	1	0	0	0	0	0	0	5
9	1	0	0	0	0	0	0	10
6	0	0	0	0	0	0	0	6
14	2	0	0	0	0	0	0	16
13	2	0	0	0	0	0	0	15
7	3	0	0	0	0	0	0	10
10	0	0	0	0	0	0	0	10
8	3	0	0	0	0	2	0	13
7	0	1	0	0	0	0	0	8
11	1	0	0	0	1	1	0	14
6	0	0	0	0	1	0	0	7
10	2	0	0	0	0	0	0	12
5	1	1	0	0	0	0	0	7
11	1	0	0	0	0	0	0	12
10	2	0	0	0	0	0	0	12
5	1	0	0	0	0	0	0	6
6	0	0	0	0	0	2	0	8
12	1	0	0	0	0	1	0	14
8	1	0	0	0	0	0	0	9
11	1	0	0	0	0	0	0	12
7	2	1	0	0	0	0	0	10
7	1	0	0	0	0	0	0	8
7	0	0	0	0	0	1	0	8
8	2	0	0	0	0	1	0	11
11	0	0	0	0	0	0	0	11
12	0	0	0	0	0	0	0	12
11	1	1	0	0	0	0	0	13
<b>Total</b>	<b>379</b>	<b>58</b>	<b>6</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>17</b>	<b>465</b>

	Destination : Arm C R810 Emmet Road(WSW)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
26	7	2	0	2	1	0	0	38
27	7	0	1	6	1	1	0	43
46	6	1	0	2	1	0	0	56
40	9	2	0	3	0	1	0	55
45	6	3	0	3	1	1	0	69
55	16	3	0	2	2	3	0	81
50	11	4	0	1	1	6	0	73
50	12	2	0	5	2	2	0	73
39	7	0	0	2	1	0	0	49
40	9	3	1	1	0	3	0	57
34	11	0	0	4	0	2	0	51
36	7	4	1	5	1	1	0	55
38	9	0	0	1	0	1	0	49
46	10	1	0	5	0	2	0	64
40	9	3	0	1	0	4	0	57
37	7	0	1	3	0	0	0	48
42	15	3	1	4	0	0	0	65
53	11	4	1	3	0	1	0	73
44	13	1	0	3	1	1	0	63
50	15	3	0	2	0	2	0	72
59	13	3	2	5	1	0	0	83
53	9	2	0	3	1	1	0	69
47	13	5	0	1	1	1	0	68
61	10	2	0	3	0	0	0	76
66	13	0	0	5	1	1	0	86
52	12	5	0	4	0	4	0	77
54	10	1	0	3	0	1	0	69
58	10	1	0	3	1	1	0	74
63	11	0	1	5	0	2	0	82
59	12	4	0	5	0	3	0	83
51	6	3	1	3	1	1	0	66
63	16	1	0	4	2	3	0	89
59	9	3	1	1	0	2	0	75
77	18	3	0	7	0	3	0	108
67	12	2	0	1	2	1	0	85
57	17	1	0	3	0	0	0	78
72	15	1	0	3	1	3	0	95
44	8	0	0	5	3	5	0	65
60	14	1	0	2	2	3	0	82
62	12	1	0	1	4	1	0	81
54	9	0	0	5	1	2	0	71
46	5	2	0	3	2	4	0	62
80	13	2	0	3	1	2	0	101
72	9	1	0	7	0	6	0	95
65	9	0	0	3	3	6	0	86
58	9	1	0	3	2	5	0	78
58	4	2	0	6	0	2	0	72
44	5	0	0	2	1	5	0	70
<b>Total</b>	<b>2499</b>	<b>500</b>	<b>86</b>	<b>11</b>	<b>157</b>	<b>42</b>	<b>99</b>	<b>3394</b>

Arm Totals
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<b>#REF!</b>



Origin : Arm B Bulfin Road

	Destination : Arm A R810 Emmet Road(ENE)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	1	0	0	0	0	1
07:45	2	0	0	0	0	0	0	2
08:00	3	1	0	0	0	0	0	4
08:15	2	0	0	0	0	0	0	2
08:30	1	1	0	0	0	0	0	2
08:45	2	0	0	0	0	0	0	2
09:00	3	0	0	0	0	0	0	3
09:15	5	0	0	0	0	0	0	5
09:30	3	2	0	0	0	0	0	5
09:45	1	0	0	0	0	0	0	1
10:00	4	3	0	0	0	0	0	7
10:15	3	0	0	0	0	0	0	3
10:30	4	2	0	0	0	0	0	6
10:45	1	0	0	0	0	0	0	1
11:00	2	0	0	0	0	0	0	2
11:15	0	1	0	0	0	0	2	3
11:30	2	1	0	0	0	0	0	3
11:45	2	0	0	0	0	0	0	2
12:00	1	3	0	0	0	0	0	4
12:15	0	2	1	0	0	0	0	3
12:30	1	1	0	0	0	0	0	2
12:45	1	2	0	0	0	0	0	3
13:00	6	0	0	0	0	0	0	6
13:15	4	0	0	0	0	0	0	4
13:30	4	1	0	0	0	0	0	5
13:45	3	1	0	0	0	0	0	4
14:00	1	0	0	0	0	0	0	1
14:15	3	0	0	0	0	0	0	3
14:30	2	0	0	0	0	0	0	2
14:45	3	0	0	0	1	0	0	4
15:00	1	0	0	0	0	0	0	1
15:15	3	0	0	0	0	0	0	3
15:30	4	0	0	0	0	0	0	4
15:45	9	1	0	0	0	0	0	10
16:00	6	0	0	0	0	0	0	6
16:15	2	0	0	0	0	0	0	2
16:30	2	0	1	0	0	0	0	3
16:45	1	0	0	0	0	0	0	1
17:00	8	1	0	0	0	0	0	9
17:15	5	0	0	0	0	0	0	5
17:30	4	0	0	0	0	0	0	4
17:45	3	0	0	0	0	0	2	5
18:00	0	0	0	0	0	0	0	0
18:15	4	0	0	0	0	0	0	4
18:30	4	1	0	0	0	0	0	5
18:45	3	1	0	0	0	0	0	4
<b>Total</b>	<b>128</b>	<b>25</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>161</b>

	Destination : Arm B Bulfin Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	1	0	1
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>

	Destination : Arm C R810 Emmet Road(WSW)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	12	0	0	0	0	0	0	12
07:15	12	4	1	0	0	0	0	17
07:30	15	2	0	0	1	0	0	18
07:45	26	4	1	0	0	0	1	32
08:00	32	2	0	0	2	1	0	37
08:15	39	0	1	0	0	0	1	41
08:30	47	4	1	0	1	0	0	55
08:45	24	5	0	0	1	0	3	33
09:00	29	3	0	0	1	0	1	34
09:15	20	4	0	0	0	0	0	24
09:30	26	0	0	0	1	0	0	27
09:45	14	0	0	0	0	0	0	14
10:00	28	6	0	0	1	0	0	35
10:15	19	4	0	0	0	0	2	25
10:30	23	5	1	0	0	0	0	29
10:45	19	3	2	0	2	1	0	27
11:00	24	5	1	0	0	0	0	30
11:15	20	2	0	0	0	0	1	23
11:30	24	0	1	0	0	0	0	25
11:45	25	4	0	0	0	2	1	32
12:00	21	4	1	0	1	1	0	28
12:15	21	6	0	1	0	1	0	29
12:30	29	7	0	0	0	1	1	38
12:45	27	7	0	0	0	0	0	34
13:00	32	3	0	0	2	0	0	37
13:15	31	5	0	0	0	0	0	36
13:30	32	1	0	0	0	0	1	34
13:45	18	0	1	0	0	0	0	19
14:00	23	2	1	0	2	1	2	31
14:15	33	4	0	0	0	0	4	41
14:30	26	2	0	0	1	0	2	31
14:45	39	1	0	0	0	0	1	41
15:00	27	9	0	0	1	1	2	40
15:15	32	2	0	0	1	1	4	40
15:30	49	10	1	0	1	1	0	62
15:45	31	6	0	0	0	0	2	39
16:00	39	4	1	0	1	0	1	46
16:15	44	5	1	0	0	0	6	56
16:30	57	6	0	0	0	0	5	68
16:45	34	3	0	0	0	0	3	40
17:00	35	5	0	0	0	0	2	42
17:15	40	5	0	0	1	0	5	51
17:30	29	5	0	0	0	2	2	38
17:45	36	4	1	0	0	0	7	48
18:00	33	2	0	0	0	0	2	37
18:15	30	5	1	0	1	1	0	38
18:30	35	1	0	0	0	0	2	38
18:45	33	3	0	0	0	0	1	37
<b>Total</b>	<b>1394</b>	<b>174</b>	<b>17</b>	<b>1</b>	<b>22</b>	<b>14</b>	<b>65</b>	<b>1687</b>

Arm Totals
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Origin : Arm C R810 Emmet Road(WSW)

	Destination : Arm A R810 Emmet Road(ENE)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	95	16	4	0	2	1	0	118
07:15	92	22	3	0	2	4	2	125
07:30	85	23	1	0	4	1	2	116
07:45	67	12	5	0	2	2	2	90
08:00	85	6	3	0	6	1	4	105
08:15	73	9	2	0	2	0	4	90
08:30	63	15	1	0	2	2	2	85
08:45	58	16	1	1	4	0	3	83
09:00	82	17	2	2	3	1	1	108
09:15	73	13	2	0	4	0	0	92
09:30	78	9	1	0	3	1	1	93
09:45	65	11	2	0	3	1	3	85
10:00	54	11	0	0	3	0	5	73
10:15	59	18	1	0	3	0	1	82
10:30	52	17	3	1	4	0	1	78
10:45	44	10	1	0	1	1	0	57
11:00	63	16	3	0	2	1	1	86
11:15	48	4	2	0	3	1	0	58
11:30	62	8	1	0	1	1	3	76
11:45	50	11	2	1	2	1	4	71
12:00	41	9	2	1	1	0	7	61
12:15	47	16	0	0	5	1	1	70
12:30	62	15	0	1	3	1	2	84
12:45	50	9	2	0	3	1	4	69
13:00	54	5	2	0	2	0	3	66
13:15	63	5	1	0	3	1	2	75
13:30	54	14	2	0	2	1	2	75
13:45	49	10	2	0	4	0	0	65
14:00	54	8	2	0	1	1	5	71
14:15	42	6	0	1	6	0	2	57
14:30	47	11	2	0	1	0	2	63
14:45	49	4	3	0	3	1	1	61
15:00	51	7	2	0	1	3	1	65
15:15	54	12	0	0	4	0	1	71
15:30	56	10	4	0	3	1	2	76
15:45	54	3	4	0	2	0	0	63
16:00	54	10	1	0	4	3	3	75
16:15	39	7	1	0	2	1	5	55
16:30	51	4	0	0	2	1	2	60
16:45	52	9	1	0	4	0	3	69
17:00	51	3	1	0	5	0	3	63
17:15	53	6	0	0	3	0	3	65
17:30	55	8	1	0	2	1	3	70
17:45	68	4	0	0	3	1	2	78
18:00	70	6	0	0	3	1	2	82
18:15	81	2	0	0	4	1	2	90
18:30	72	8	0	0	2	1	2	85
18:45	58	4	1	0	2	0	2	67
<b>Total</b>	<b>2879</b>	<b>479</b>	<b>74</b>	<b>8</b>	<b>136</b>	<b>40</b>	<b>106</b>	<b>3722</b>

	Destination : Arm B Bulfin Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	46	6	1	0	1	0	1	55
07:15	54	4	1	0	1	0	4	64
07:30	53	6	0	0	0	0	1	60
07:45	60	8	0	0	1	1	3	73
08:00	52	9	1	0	2	0	3	67
08:15	64	7	1	0	1	2	6	81
08:30	50	2	1	0	0	0	7	60
08:45	49	4	0	0	1	3	3	60
09:00	49	9	0	0	0	1	2	61
09:15	54	4	0	0	0	0	1	59
09:30	62	6	1	0	1	0	1	71
09:45	41	8	0	0	0	0	1	50
10:00	43	10	2	0	1	0	1	57
10:15	40	6	2	0	0	0	1	49
10:30	23	7	0	0	1	2	1	34
10:45	33	7	1	0	0	2	1	44
11:00	32	9	0	0	0	1	0	42
11:15	39	9	0	1	0	0	2	51
11:30	35	7	1	0	1	0	0	44
11:45	32	5	0	0	0	0	0	37
12:00	37	6	0	0	0	0	1	44
12:15	33	6	0	0	0	0	0	39
12:30	38	5	1	0	1	0	1	46
12:45	36	9	2	0	0	0	0	47
13:00	42	3	0	0	0	0	0	45
13:15	36	6	1	0	0	0	3	46
13:30	47	6	0	0	0	0	0	53
13:45	40	2	1	0	2	0	1	46
14:00	39	5	1	0	0	0	2	47
14:15	36	4	0	0	0	2	1	43
14:30	51	4	2	0	2	0	0	59
14:45	37	4	1	0	1	0	0	43
15:00	41	4	1	0	0	0	2	48
15:15	40	4	0	0	1	0	0	45
15:30	39	3	0	0	2	0	1	45
15:45	50	4	0	0	1	0	3	58
16:00	47	6	2	0	0	0	1	56
16:15	29	5	0	0	0	0	4	38
16:30	38	8	0	0	1	0	1	48
16:45	56	2	0	0	0	1	3	62
17:00	48	3	0	0	1	2	1	55
17:15	47	2	0	0	0	0	3	52
17:30	53	1	0	0	0	1	2	57
17:45	57	5	0	0	0	0	0	62
18:00	52	6	0	0	1	0	0	59
18:15	42	4	0	0	0	0	3	49
18:30	45	2	0	0	1	0	0	48
18:45	43	3	1	0	0	1	2	50
<b>Total</b>	<b>2110</b>	<b>255</b>	<b>25</b>	<b>1</b>	<b>25</b>	<b>19</b>	<b>74</b>	<b>2509</b>

	Destination : Arm C R810 Emmet Road(WSW)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
09:30	1	0	0	0	0	0	0	1
09:45	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	1	1
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0
13:15	2	0	0	0	0	0	0	2
13:30	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	1	0	0	0	0	0	0	1
14:30	1	0	0	0	0	0	0	1
14:45	0	0	0	0	0	0	0	0
15:00	1	1	0	0	0	0	0	2
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	1	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
<b>Total</b>	<b>6</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>9</b>

Arm Totals
173
189
176
163
172
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145
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151
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<b>#REF!</b>







DESTINATION SUMMARY

	Destination : Arm A R810 Emmet Road(ENE)						Total	
	Car	LGV	OGV1	OGV2	PSV	MC		PC
07:00	96	16	4	0	2	1	0	119
07:15	92	22	3	0	2	4	2	125
07:30	85	23	2	0	4	1	2	117
07:45	69	12	5	0	2	2	2	92
1 Hr	342	73	14	0	10	8	6	453
08:00	88	7	3	0	6	1	4	109
08:15	75	9	2	0	2	0	4	92
08:30	64	16	1	0	2	2	2	87
08:45	60	16	1	1	4	0	3	85
1 Hr	287	48	7	1	14	3	13	373
09:00	85	17	2	2	3	1	1	111
09:15	78	13	2	0	4	0	0	97
09:30	81	11	1	0	3	1	1	98
09:45	66	11	2	0	3	1	3	86
1 Hr	310	52	7	2	13	3	5	392
10:00	58	14	0	0	3	0	5	80
10:15	62	18	1	0	3	0	1	85
10:30	56	19	3	1	4	0	1	84
10:45	45	10	1	0	1	1	0	58
1 Hr	221	61	5	1	11	1	7	307
11:00	65	16	3	0	2	1	1	88
11:15	48	5	2	0	3	1	2	61
11:30	64	9	1	0	1	1	3	79
11:45	52	11	2	1	2	1	4	73
1 Hr	229	41	8	1	8	4	10	301
12:00	42	12	2	1	1	0	7	65
12:15	47	18	1	0	5	1	1	73
12:30	63	16	0	1	3	1	2	86
12:45	51	11	2	0	3	1	4	72
1 Hr	203	57	5	2	12	3	14	296
13:00	60	5	2	0	2	0	3	72
13:15	67	5	1	0	3	1	2	79
13:30	58	15	2	0	2	1	2	80
13:45	52	11	2	0	4	0	0	69
1 Hr	237	36	7	0	11	2	7	300
14:00	55	8	2	0	1	1	5	72
14:15	45	6	0	1	6	0	2	60
14:30	49	11	2	0	1	0	2	65
14:45	52	4	3	0	4	1	1	65
1 Hr	201	29	7	1	12	2	10	262
15:00	52	7	2	0	1	3	1	66
15:15	58	12	0	0	4	0	1	75
15:30	60	10	4	0	3	1	2	80
15:45	63	4	4	0	2	0	0	73
1 Hr	233	33	10	0	10	4	4	294
16:00	60	10	1	0	4	3	3	81
16:15	41	7	1	0	2	1	5	57
16:30	53	4	1	0	2	1	2	63
16:45	53	9	1	0	4	0	3	70
1 Hr	207	30	4	0	12	5	13	271
17:00	59	4	1	0	5	0	3	72
17:15	58	6	0	0	3	0	3	70
17:30	59	8	1	0	2	1	3	74
17:45	71	4	0	0	3	1	4	83
1 Hr	247	22	2	0	13	2	13	299
18:00	70	6	0	0	3	1	2	82
18:15	85	2	0	0	4	1	2	94
18:30	76	9	0	0	2	1	2	90
18:45	61	5	1	0	2	0	2	71
1 Hr	292	22	1	0	11	3	8	337
Total	3009	504	77	8	137	40	110	3885

	Destination : Arm B Bulfin Road						Total	
	Car	LGV	OGV1	OGV2	PSV	MC		PC
51	6	1	0	1	0	1	60	
64	5	2	0	1	0	5	77	
60	6	0	0	0	0	2	69	
68	10	0	0	1	1	3	83	
243	27	3	0	3	1	11	288	
56	12	1	0	3	0	3	75	
70	7	1	0	1	2	10	91	
57	5	1	0	0	0	7	70	
59	5	0	0	2	3	3	72	
242	29	3	0	6	5	23	308	
55	9	0	0	0	1	3	68	
62	4	1	0	0	0	1	68	
69	7	1	0	1	1	1	80	
50	12	0	0	0	0	1	63	
236	32	2	0	1	2	6	279	
48	10	2	0	1	0	1	62	
50	7	2	0	0	0	1	60	
32	8	0	0	1	2	2	45	
36	8	1	0	0	2	1	48	
166	33	5	0	2	4	5	215	
37	11	0	0	0	1	1	50	
42	11	0	1	0	0	2	56	
43	10	1	0	1	0	0	55	
40	6	0	0	0	0	0	46	
162	38	1	1	1	1	3	207	
42	9	0	0	0	1	1	53	
37	7	0	0	0	0	0	44	
47	6	1	0	1	0	1	56	
42	9	2	0	0	0	0	53	
168	31	3	0	1	1	2	206	
56	5	0	0	0	0	0	61	
49	8	1	0	0	0	3	61	
54	9	0	0	0	0	0	63	
50	2	1	0	2	0	1	56	
209	24	2	0	2	0	4	241	
47	8	1	0	0	0	4	60	
43	4	1	0	0	2	1	51	
62	5	2	0	2	1	1	73	
43	4	1	0	1	1	0	50	
195	21	5	0	3	4	6	234	
51	6	1	0	0	0	2	60	
45	5	1	0	1	0	0	52	
50	4	0	0	2	0	1	57	
60	6	0	0	1	0	3	70	
206	21	2	0	4	0	6	239	
52	7	2	0	0	0	1	62	
35	5	0	0	0	0	6	46	
50	9	0	0	1	0	2	62	
64	3	0	0	0	1	3	71	
201	24	2	0	1	1	12	241	
59	4	0	0	1	2	1	67	
54	4	1	0	0	0	3	62	
60	2	0	0	0	1	2	65	
64	5	0	0	0	0	1	70	
237	15	1	0	1	3	7	264	
60	8	0	0	1	0	1	70	
53	4	0	0	0	0	3	60	
57	2	0	0	1	0	0	60	
54	4	2	0	0	1	2	63	
224	18	2	0	2	1	6	253	
Total	2489	313	31	1	27	23	91	2975

	Destination : Arm C R810 Emmet Road(WSW)						Total	
	Car	LGV	OGV1	OGV2	PSV	MC		PC
38	7	2	0	2	1	0	50	
39	11	1	1	6	1	1	60	
61	8	1	0	3	1	0	74	
66	13	3	0	3	0	2	87	
204	39	7	1	14	3	3	271	
77	8	3	0	5	2	1	96	
94	16	4	0	2	2	4	122	
97	15	5	0	2	1	6	126	
74	17	2	0	6	2	5	106	
342	56	14	0	15	7	16	450	
68	10	0	0	3	1	1	83	
60	13	3	1	1	0	3	81	
61	11	0	0	5	0	2	79	
50	7	4	1	5	1	1	69	
239	41	7	2	14	2	7	312	
66	15	0	0	2	0	2	85	
65	14	1	0	5	0	4	89	
63	14	4	0	1	0	4	86	
56	10	2	1	5	1	0	75	
250	53	7	1	13	1	10	335	
66	20	4	1	4	0	0	95	
73	13	4	1	3	0	2	96	
68	13	2	0	3	1	1	88	
75	19	3	0	2	2	3	104	
282	65	13	2	12	3	6	383	
80	17	4	2	6	2	0	111	
74	15	2	1	3	2	1	98	
76	20	5	0	1	2	2	106	
88	17	2	0	3	0	0	110	
318	69	13	3	13	6	3	425	
98	16	0	0	7	1	1	123	
85	17	5	0	4	0	4	115	
86	11	1	0	3	0	2	103	
76	10	2	0	3	1	1	93	
345	54	8	0	17	2	8	434	
86	13	1	1	7	1	4	113	
93	16	4	0	5	0	7	125	
78	8	3	1	4	1	3	98	
102	17	1	0	4	2	4	130	
359	54	9	2	20	4	18	466	
87	19	3	1	2	1	4	117	
109	20	3	0	8	1	7	148	
116	22	3	0	2	3	1	147	
88	23	1	0	3	0	2	117	
400	84	10	1	15	5	14	529	
111	19	2	0	4	1	4	141	
88	14	1	0	5	3	11	122	
117	20	1	0	2	2	8	150	
96	15	1	0	1	4	4	121	
412	68	5	0	12	10	27	534	
89	14	0	0	5	1	4	113	
86	10	2	0	4	2	9	113	
109	18	2	0	3	3	4	139	
108	13	2	0	7	0	13	143	
392	55	6	0	19	6	30	508	
98	11	0	0	3	3	8	123	
88	14	2	0	4	3	5	116	
93	5	2	0	6	0	4	110	
77	8	0	0	2	1	6	94	
356	38	4	0	15	7	23	443	
Total	3899	676	103	12	179	56	165	5090

Dest Totals
229
262
259
262
1012
280
305
283
263
1131
262
246
257
218
983
227
234
215
181
857
233
213
222
223
891
229
215
248
235
927
256
255
246
218
975
245
236
236
245
962
243
275
284
260
1062
284</



Origin : Arm A Turvey Avenue

	Destination : Arm A Turvey Avenue							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0

	Destination : Arm B R810 Emmet Road(E)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
	1	0	0	0	0	0	0	1
	1	0	0	0	0	0	1	2
	4	1	0	0	0	0	0	5
	2	0	0	0	0	0	0	2
	3	0	0	0	0	0	0	3
	3	0	0	0	0	0	1	4
	2	0	0	0	0	1	0	3
	2	0	0	0	0	0	1	3
	1	0	0	0	0	0	0	1
	0	0	0	0	0	0	0	0
	3	1	1	0	0	0	0	5
	1	0	0	0	0	0	0	1
	0	0	0	0	0	0	1	1
	1	0	1	0	0	0	0	2
	4	0	0	0	0	0	1	5
	4	0	0	0	0	0	0	4
	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	2
	1	1	0	0	0	0	0	2
	1	0	0	0	0	0	2	3
	3	0	0	0	0	0	0	3
	1	2	0	0	0	0	1	4
	2	0	0	0	0	0	1	3
	3	0	0	0	0	1	0	4
	2	1	0	0	0	0	1	4
	0	1	0	0	0	0	0	1
	3	0	0	0	0	0	0	3
	0	0	0	0	0	0	0	0
	1	1	0	0	0	0	1	3
	3	0	0	0	0	0	0	3
	0	0	0	0	0	0	0	0
	1	1	0	0	0	0	1	3
	3	0	0	0	0	0	0	3
	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	1	2
	3	1	1	0	0	0	0	5
	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	3	5
	1	0	0	0	0	0	0	1
	1	0	0	0	0	0	0	1
	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	1	2
	2	1	0	0	0	0	1	4
	3	1	0	0	0	0	0	4
	0	0	0	0	0	0	1	1
	2	0	0	0	0	0	0	2
	0	1	0	0	0	0	0	1
	2	0	0	0	0	0	0	2
	2	0	0	0	0	0	0	2
	3	0	0	0	0	0	0	3
Total	81	12	3	0	0	2	18	116

	Destination : Arm C Luby Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
Total	0	2	0	0	0	0	2	4

	Destination : Arm D R810 Emmet Road(W)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
	5	0	0	0	0	0	0	5
	1	0	0	0	0	0	0	1
	2	0	0	0	0	1	0	3
	3	0	1	0	0	0	0	4
	3	1	0	0	0	0	0	4
	1	0	0	0	0	0	0	1
	1	0	0	0	0	0	1	2
	3	0	0	0	0	0	0	3
	4	0	0	0	0	0	0	4
	3	0	1	0	0	0	0	4
	2	0	0	0	0	0	0	2
	2	1	0	0	0	0	0	3
	1	0	0	0	0	0	0	1
	1	0	0	0	0	0	0	1
	1	0	0	0	0	0	0	1
	1	0	0	0	0	0	0	1
	1	0	0	0	0	0	0	1
	1	0	0	0	0	0	0	1
	1	2	0	0	0	0	0	3
	3	0	0	0	0	0	0	3
	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	2
	2	0	0	0	0	0	0	2
	3	0	0	0	0	0	0	3
	3	0	0	0	0	0	0	3
	3	0	0	0	0	0	0	3
	1	0	0	0	0	0	0	1
	1	0	0	0	0	0	0	1
	0	0	0	0	0	0	0	0
	4	0	0	0	0	1	0	5
	2	0	0	0	0	0	0	2
	1	0	0	0	0	0	0	1
	1	1	0	0	0	0	0	2
	1	0	0	0	0	0	0	1
	2	0	0	0	0	0	0	2
	1	0	0	0	0	0	0	1
	0	0	0	0	0	0	0	0
	4	0	0	0	0	1	0	5
	1	0	0	0	0	0	0	1
	1	0	0	0	0	0	0	1
	4	0	0	0	0	0	0	4
	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	1
	1	0	0	0	0	0	0	1
	5	0	0	0	0	0	0	5
	0	1	0	0	0	0	1	2
Total	83	6	2	0	0	3	2	96

Arm Totals
6
3
8
6
7
6
6
4
5
4
7
4
2
3
5
6
3
6
5
9
7
2
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4
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2
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3
8
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3
7
5
#REF!





Site 4 - Turvey Avenue / R810 Emmet Road(E) / Luby Road / R810 Emmet Road(W)

Origin : Arm C Luby Road

	Destination : Arm A Turvey Avenue							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	2	0	0	0	0	0	0	2
12:00	1	1	0	0	0	0	0	2
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0
13:15	1	0	0	0	0	0	0	1
13:30	1	0	0	0	0	0	0	1
13:45	1	0	0	0	0	0	0	1
14:00	1	0	0	0	0	0	0	1
14:15	1	0	0	0	0	0	0	1
14:30	0	0	0	0	0	0	0	0
14:45	2	0	0	0	0	0	0	2
15:00	1	0	0	0	0	0	0	1
15:15	2	0	0	0	0	0	0	2
15:30	0	0	0	0	0	0	0	0
15:45	1	0	0	0	0	0	0	1
16:00	1	0	0	0	0	0	0	1
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	1	0	0	0	0	0	0	1
17:30	1	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0
18:00	1	0	0	0	0	0	1	2
18:15	1	0	0	0	0	0	0	1
18:30	2	1	0	0	0	0	0	3
18:45	1	0	0	0	0	0	0	1
<b>Total</b>	<b>22</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>25</b>

	Destination : Arm B R810 Emmet Road(E)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	0	1	0	0	0	0	0	1
07:15	5	1	0	0	0	0	0	6
07:30	5	1	1	0	0	0	0	7
07:45	10	0	0	0	1	0	0	11
08:00	8	0	0	0	0	0	1	9
08:15	10	1	0	0	0	0	2	13
08:30	18	1	0	0	0	0	2	21
08:45	9	2	0	0	0	0	0	11
09:00	5	2	0	0	0	0	1	8
09:15	1	0	0	0	0	0	0	1
09:30	3	0	0	0	0	0	0	3
09:45	3	0	0	0	0	0	0	3
10:00	4	0	0	0	0	0	0	4
10:15	1	0	0	0	0	0	0	1
10:30	4	0	0	0	0	0	0	4
10:45	4	0	0	0	0	0	0	4
11:00	2	0	0	0	0	0	0	2
11:15	1	1	0	0	0	0	0	2
11:30	5	0	0	0	0	0	0	5
11:45	7	0	0	0	0	0	0	7
12:00	4	2	0	0	0	0	0	6
12:15	3	0	0	0	0	0	0	3
12:30	7	0	0	0	0	0	0	7
12:45	4	1	0	0	0	0	0	5
13:00	11	2	0	0	0	0	0	13
13:15	3	1	0	0	0	0	1	5
13:30	7	1	0	0	0	0	0	8
13:45	3	0	0	0	0	0	0	3
14:00	7	0	0	0	0	0	0	7
14:15	8	1	0	0	0	0	1	10
14:30	3	0	0	0	0	0	0	3
14:45	12	0	0	0	0	0	0	12
15:00	6	3	0	0	0	0	0	9
15:15	9	1	0	0	0	0	2	12
15:30	7	2	0	0	0	0	1	10
15:45	16	2	0	0	0	0	0	18
16:00	17	1	0	0	0	0	0	18
16:15	13	1	0	0	0	1	1	16
16:30	10	0	0	0	0	0	0	10
16:45	6	0	0	0	0	0	0	6
17:00	13	1	0	0	0	0	0	14
17:15	10	1	0	0	0	0	0	11
17:30	12	0	0	0	1	0	0	13
17:45	12	0	0	0	0	0	0	12
18:00	11	2	0	0	0	1	0	14
18:15	11	0	0	0	0	0	0	11
18:30	14	0	0	0	1	0	0	15
18:45	10	0	0	0	0	0	0	10
<b>Total</b>	<b>354</b>	<b>32</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>12</b>	<b>404</b>

	Destination : Arm C Luby Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

	Destination : Arm D R810 Emmet Road(W)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	0	0	0	0	0	0	0	0
07:15	2	0	0	0	0	0	0	2
07:30	1	0	0	0	0	0	0	1
07:45	2	0	0	0	0	0	0	2
08:00	0	1	0	0	0	0	0	1
08:15	1	0	1	0	0	0	0	2
08:30	2	1	0	0	0	0	0	3
08:45	0	0	0	0	0	0	0	0
09:00	1	0	0	0	0	0	0	1
09:15	1	0	0	0	0	0	0	1
09:30	3	0	0	0	0	0	0	3
09:45	1	0	0	0	0	0	0	1
10:00	2	0	0	0	0	0	0	2
10:15	2	0	0	0	0	0	0	2
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	2	0	0	0	0	0	0	2
11:15	2	0	0	0	0	0	0	2
11:30	1	0	0	0	0	0	0	1
11:45	4	1	0	0	0	0	0	5
12:00	3	1	0	0	0	0	0	4
12:15	5	2	0	0	0	0	0	7
12:30	4	0	0	0	0	0	0	4
12:45	1	0	0	0	0	0	0	1
13:00	3	2	0	0	0	0	0	5
13:15	3	0	0	0	0	0	0	3
13:30	0	1	0	0	0	0	0	1
13:45	1	0	0	0	0	0	0	1
14:00	3	1	0	0	0	0	0	4
14:15	2	0	0	0	0	0	1	3
14:30	1	0	0	0	0	0	0	1
14:45	2	0	0	0	0	0	0	2
15:00	7	1	0	0	0			





ORIGIN SUMMARY

	Origin : Arm A Turvey Avenue							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	6	0	0	0	0	0	0	6
07:15	2	0	0	0	0	0	1	3
07:30	6	1	0	0	0	1	0	8
07:45	5	0	1	0	0	0	0	6
1 Hr	19	1	1	0	0	1	1	23
08:00	6	1	0	0	0	0	0	7
08:15	4	0	0	0	0	0	2	6
08:30	3	0	0	0	0	1	2	6
08:45	5	0	0	0	0	0	0	5
1 Hr	18	1	0	0	0	1	5	25
09:00	5	0	0	0	0	0	0	5
09:15	3	0	1	0	0	0	0	4
09:30	5	1	1	0	0	0	0	7
09:45	3	1	0	0	0	0	0	4
1 Hr	16	2	2	0	0	0	0	20
10:00	1	0	0	0	0	0	1	2
10:15	2	0	1	0	0	0	0	3
10:30	5	0	0	0	0	0	1	6
10:45	5	0	0	0	0	0	0	5
1 Hr	13	0	1	0	0	0	2	16
11:00	1	0	0	0	0	0	0	1
11:15	3	0	0	0	0	0	0	3
11:30	2	3	0	0	0	0	0	5
11:45	4	0	0	0	0	0	2	6
1 Hr	10	3	0	0	0	0	2	15
12:00	3	0	0	0	0	0	0	3
12:15	3	2	0	0	0	0	1	6
12:30	4	0	0	0	0	0	1	5
12:45	6	2	0	0	0	1	0	9
1 Hr	16	4	0	0	0	1	2	23
13:00	5	1	0	0	0	0	1	7
13:15	1	1	0	0	0	0	0	2
13:30	3	0	0	0	0	0	0	3
13:45	4	0	0	0	0	1	0	5
1 Hr	13	2	0	0	0	1	1	17
14:00	3	1	0	0	0	0	1	5
14:15	4	0	0	0	0	0	0	4
14:30	1	0	0	0	0	0	0	1
14:45	5	0	0	0	0	0	0	5
1 Hr	13	1	0	0	0	0	1	15
15:00	2	1	0	0	0	0	1	4
15:15	4	1	1	0	0	0	0	6
15:30	2	0	0	0	0	0	0	2
15:45	3	0	0	0	0	0	3	6
1 Hr	11	2	1	0	0	0	4	18
16:00	1	0	0	0	0	0	0	1
16:15	1	0	0	0	0	0	0	1
16:30	4	0	0	0	0	1	0	5
16:45	2	0	0	0	0	0	1	3
1 Hr	8	0	0	0	0	1	1	10
17:00	3	1	0	0	0	0	1	5
17:15	7	1	0	0	0	0	0	8
17:30	0	0	0	0	0	0	1	1
17:45	3	0	0	0	0	0	0	3
1 Hr	13	2	0	0	0	0	2	17
18:00	1	1	0	0	0	0	0	2
18:15	3	0	0	0	0	0	0	3
18:30	7	0	0	0	0	0	0	7
18:45	3	1	0	0	0	0	1	5
1 Hr	14	2	0	0	0	0	1	17
Total	164	20	5	0	0	5	22	216

	Origin : Arm B R810 Emmet Road(E)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
24	8	2	0	2	1	2	39	
33	6	1	1	6	1	1	49	
54	6	1	0	2	0	0	63	
40	10	1	0	3	0	1	55	
1 Hr	151	30	5	1	13	2	4	206
53	5	3	0	4	1	0	66	
59	16	2	0	2	3	5	87	
56	12	4	0	1	1	4	78	
55	12	2	0	6	2	2	79	
223	45	11	0	13	7	11	310	
45	7	0	0	2	1	1	56	
42	7	4	1	1	0	4	59	
42	12	1	0	4	1	3	63	
51	10	4	1	5	1	1	73	
1 Hr	180	36	9	2	12	3	9	251
43	11	0	0	1	1	1	37	
51	10	2	0	6	0	2	71	
43	9	2	0	0	0	6	60	
42	7	0	1	3	0	0	53	
1 Hr	179	37	4	1	10	1	9	241
45	15	3	1	4	0	2	70	
64	15	5	1	3	0	1	89	
50	15	1	0	3	1	1	71	
50	15	2	0	2	0	1	70	
209	60	11	2	12	1	5	300	
73	16	3	2	5	1	0	100	
49	12	4	0	3	1	2	71	
51	12	4	0	1	1	1	70	
76	12	2	0	3	0	1	94	
249	52	13	2	12	3	4	335	
70	13	1	0	5	1	1	91	
60	14	4	0	4	0	3	85	
63	14	2	0	3	0	2	84	
58	10	1	0	4	0	2	75	
251	51	8	0	16	1	8	335	
63	12	1	1	4	0	4	85	
63	11	5	0	5	0	3	87	
66	10	2	1	3	2	1	85	
75	19	3	0	4	3	4	108	
267	52	11	2	16	5	12	365	
66	11	3	1	1	1	2	85	
77	16	4	0	7	0	5	109	
80	14	1	0	1	3	1	100	
60	16	3	0	3	0	2	84	
283	57	11	1	12	4	10	378	
76	16	0	0	3	1	5	101	
51	8	0	0	5	2	9	75	
69	16	1	0	2	2	2	92	
74	10	0	0	1	4	1	90	
270	50	1	0	11	9	17	358	
55	11	0	0	5	1	3	75	
55	9	2	0	3	2	6	77	
82	13	3	0	3	1	2	104	
77	8	0	0	7	1	7	100	
269	41	5	0	18	5	18	356	
72	8	0	0	3	3	9	95	
72	11	1	0	3	2	5	94	
66	5	1	0	7	0	5	84	
56	8	0	0	2	0	4	70	
266	32	2	0	15	5	23	343	
2797	543	91	11	160	46	130	3778	

	Origin : Arm C Luby Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
0	1	0	0	0	0	0	1	
7	1	0	0	0	0	0	8	
6	1	1	0	0	0	0	8	
12	0	0	0	1	0	0	13	
25	3	1	0	1	0	0	30	
8	1	0	0	0	0	1	10	
11	1	1	0	0	0	2	15	
20	2	0	0	0	0	2	24	
9	2	0	0	0	0	0	11	
48	6	1	0	0	0	5	60	
6	2	0	0	0	0	1	9	
2	0	0	0	0	0	0	2	
6	0	0	0	0	0	0	6	
4	0	0	0	0	0	0	4	
18	2	0	0	0	0	1	21	
6	0	0	0	0	0	0	6	
3	0	0	0	0	0	0	3	
4	0	0	0	0	0	0	4	
4	0	0	0	0	0	0	4	
17	0	0	0	0	0	0	17	
4	0	0	0	0	0	0	4	
3	1	0	0	0	0	0	4	
6	0	0	0	0	0	0	6	
13	1	0	0	0	0	0	14	
26	2	0	0	0	0	0	28	
8	4	0	0	0	0	0	12	
8	2	0	0	0	0	0	10	
11	0	0	0	0	0	0	11	
5	1	0	0	0	0	0	6	
32	7	0	0	0	0	0	39	
14	4	0	0	0	0	0	18	
7	1	0	0	0	0	1	9	
8	2	0	0	0	0	0	10	
5	0	0	0	0	0	0	5	
34	7	0	0	0	0	1	42	
11	1	0	0	0	0	0	12	
11	1	0	0	0	0	2	14	
4	0	0	0	0	0	0	4	
16	0	0	0	0	0	0	16	
42	2	0	0	0	0	2	46	
14	4	0	0	0	0	0	18	
15	2	0	0	0	0	2	19	
10	2	0	0	0	0	1	13	
19	3	0	0	0	0	0	22	
58	11	0	0	0	0	3	72	
20	1	0	0	0	0	0	21	
14	1	0	0	0	1	1	17	
13	0	0	0	0	0	0	13	
7	0	0	0	0	0	0	7	
54	2	0	0	0	1	1	58	
20	1	0	0	0	0	0	21	
15	1	0	0	0	0	0	16	
15	0	0	0	1	0	0	16	
13	1	0	0	0	0	0	14	
63	3	0	0	1	0	0	67	
15	4	1	0	0	1	1	22	
13	0	0	0	0	0	0	13	
17	1	0	0	1	0	0	19	
15	1	0	0	0	0	0	16	
60	6	1	0	1	1	1	70	
477	51	3	0	3	2	14	550	

	Origin : Arm D R810 Emmet Road(W)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
94	14	3	0	2	1	1	115	
96	21	3	0	2	4	3	129	
81	21	2	0	3	1	1	109	
75	14	3	0	3	2	3	100	
346	70	11	0	10	8	8	453	
87	7	2	0	6	1	6	109	
72	9	3	0	1	1	6	92	
66	15	2	0	3	2	2	90	
54	15	1	1	4	0	3	78	
279	46	8	1	14	4	17	369	
85	18	1	2	2	1	1	110	
76	14	2	0	5	0	1	98	
86	11	1	0	3	1	1	103	
64	13	2	0	2	1	3	85	
311	56	6						





**Site 5 - R111 South Circular Road(N) / R810 Old Kilmainham / R111 South Circular Road(S) / R810 Emmet Road**

Origin : Arm A R111 South Circular Road(N)

	Destination : Arm A R111 South Circular Road(N)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	1	0	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	1

	Destination : Arm B R810 Old Kilmainham							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
34	9	0	0	0	0	0	0	43
43	8	0	0	0	0	0	2	53
21	9	2	0	0	0	0	0	32
40	8	0	0	0	1	1	1	50
36	8	1	0	0	0	0	2	47
37	5	0	0	0	1	0	0	43
21	4	1	0	0	2	0	0	28
26	7	1	0	0	1	1	1	36
27	1	1	0	0	0	0	1	30
21	5	3	0	0	0	0	0	29
47	6	0	1	0	1	0	55	
23	3	0	0	0	1	0	27	
26	3	0	1	0	1	0	31	
24	2	2	1	0	0	0	29	
27	5	1	2	0	1	0	36	
18	10	2	0	0	1	0	31	
22	3	4	0	0	0	0	29	
23	4	0	1	0	0	1	29	
30	3	0	0	1	0	0	34	
22	6	0	0	1	1	1	31	
17	4	2	1	0	0	0	24	
16	2	2	0	0	0	1	21	
21	2	0	0	0	0	0	23	
32	2	0	1	3	0	0	38	
26	2	0	0	0	0	1	29	
26	4	0	3	0	2	0	35	
19	2	0	0	0	0	0	21	
18	2	0	0	1	0	1	22	
23	4	0	0	0	0	0	27	
28	4	0	0	0	1	1	34	
24	5	0	0	0	0	0	29	
19	3	0	0	0	0	2	24	
15	5	0	0	0	0	1	21	
27	1	0	1	0	0	0	29	
18	3	0	1	0	2	0	24	
9	3	0	0	0	0	3	15	
19	0	0	0	0	0	0	19	
27	1	1	0	0	0	0	29	
22	2	0	0	0	0	0	24	
10	2	0	0	0	0	1	13	
34	1	0	0	0	0	0	35	
16	2	0	0	0	0	3	21	
17	0	0	0	0	0	0	17	
19	3	0	0	0	0	0	22	
19	3	0	0	0	0	0	22	
10	0	0	0	0	0	3	13	
16	1	0	0	0	0	0	17	
16	1	0	0	0	0	0	17	
Total	1131	173	23	13	6	16	26	1388

	Destination : Arm C R111 South Circular Road(S)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
99	16	3	2	0	2	8	130	
95	10	0	0	0	4	13	122	
87	16	1	1	0	0	14	119	
92	24	0	1	0	0	9	126	
83	17	0	0	0	0	15	115	
72	12	3	0	0	1	25	113	
72	9	1	2	0	7	17	108	
83	15	0	0	0	2	17	117	
87	9	2	1	2	2	9	112	
81	10	4	0	0	1	12	108	
73	12	2	0	0	3	7	97	
73	7	0	0	0	1	3	84	
71	14	1	1	0	1	3	91	
79	16	3	2	1	0	3	104	
71	11	1	1	0	0	5	89	
77	15	3	1	0	0	5	101	
90	11	0	3	1	1	1	107	
59	10	1	1	1	1	2	75	
82	17	4	1	1	1	0	106	
71	13	6	2	0	0	6	98	
63	7	1	0	0	0	2	73	
84	17	2	1	0	1	6	111	
70	16	3	1	0	1	2	93	
74	12	1	0	0	2	5	94	
73	15	3	0	2	1	4	98	
85	12	0	1	0	1	6	105	
69	11	5	1	1	3	8	98	
88	14	2	1	0	0	11	116	
81	10	2	1	0	1	6	101	
76	9	1	2	1	1	7	97	
83	9	2	0	1	1	4	100	
69	12	1	1	0	1	3	87	
69	15	2	0	3	1	8	98	
73	3	0	0	2	2	9	89	
77	8	1	1	1	0	9	77	
46	3	1	1	0	3	6	60	
69	10	0	0	0	0	8	87	
80	12	0	0	2	1	8	103	
67	9	0	0	1	0	7	84	
65	2	0	0	0	2	15	84	
85	7	1	0	1	2	10	106	
50	2	0	1	0	2	14	69	
61	3	0	0	0	1	15	80	
58	7	0	0	0	0	8	73	
74	4	0	0	0	1	16	95	
48	0	0	0	0	0	14	62	
77	8	0	0	0	2	14	101	
57	3	0	0	0	1	12	73	
Total	3548	504	63	31	21	58	411	4636

	Destination : Arm D R810 Emmet Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
3	1	0	0	0	0	1	5	
6	0	1	0	1	0	0	8	
7	0	0	0	0	0	0	7	
3	1	0	0	1	0	0	5	
5	2	0	0	0	1	0	8	
6	0	0	0	0	0	1	7	
9	1	0	0	0	0	0	10	
11	1	0	0	2	0	1	15	
5	0	0	0	0	0	0	5	
10	0	0	0	0	0	1	11	
7	1	0	0	1	0	0	9	
3	1	1	0	1	0	1	7	
10	0	0	0	0	1	0	11	
8	2	0	0	1	0	0	11	
5	3	0	0	0	0	0	8	
10	0	0	0	0	0	0	10	
6	1	1	0	0	0	0	8	
7	1	0	0	0	0	0	8	
7	1	0	0	1	1	0	10	
6	4	1	0	1	0	0	12	
6	3	0	0	0	0	0	9	
5	1	0	0	0	1	0	7	
3	1	0	0	0	0	1	5	
8	0	0	0	1	0	0	9	
1	5	1	0	0	0	1	8	
6	1	0	0	2	0	0	9	
4	0	0	0	0	0	0	4	
10	3	0	0	0	0	0	13	
4	1	0	0	1	0	1	7	
5	0	1	0	1	0	0	7	
8	0	1	0	0	1	0	10	
10	3	2	0	1	1	1	18	
16	2	0	0	1	1	0	20	
4	3	1	0	1	0	1	10	
8	3	0	0	0	0	0	11	
7	1	0	0	0	0	0	8	
7	1	0	0	2	0	0	10	
10	1	0	0	0	0	1	12	
18	1	0	0	0	0	1	20	
7	2	0	0	0	0	0	9	
12	1	0	0	2	0	3	18	
8	0	0	0	0	0	1	9	
8	1	1	0	2	0	1	13	
4	0	0	0	1	1	3	9	
10	1	0	0	3	1	0	15	
6	1	0	0	0	0	0	7	
10	1	0	0	1	0	0	12	
3	1	0	0	0	0	1	5	
Total	342	58	11	0	28	9	21	469

Arm Totals
178
183
158
181





Site 5 - R111 South Circular Road(N) / R810 Old Kilmainham / R111 South Circular Road(S) / R810 Emmet Road

Origin : Arm B R810 Old Kilmainham

	Destination : Arm A R111 South Circular Road(N)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	1	0	0	0	0	0	0	1
07:15	1	0	0	0	0	0	0	1
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
08:00	1	0	0	0	0	0	0	1
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0
09:45	1	0	0	0	0	0	0	1
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	1	0	0	0	0	0	0	1
11:15	2	0	0	0	0	0	0	2
11:30	0	0	0	0	0	0	0	0
11:45	3	1	0	0	0	0	0	4
12:00	1	0	0	1	0	0	0	2
12:15	3	0	0	0	0	0	0	3
12:30	0	1	0	0	0	0	0	1
12:45	1	1	0	0	0	0	0	2
13:00	1	1	0	0	0	0	0	2
13:15	4	0	0	0	0	0	0	4
13:30	1	0	0	0	0	0	0	1
13:45	0	1	0	0	0	0	0	1
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	1	0	1	0	0	0	2
14:45	0	0	0	0	0	0	0	0
15:00	0	1	1	0	0	0	0	2
15:15	5	2	0	1	0	0	0	8
15:30	5	1	0	0	0	0	0	6
15:45	2	0	0	0	0	0	0	2
16:00	2	0	0	0	0	0	0	2
16:15	1	0	0	0	0	0	0	1
16:30	2	0	0	0	0	0	0	2
16:45	3	0	0	0	0	0	0	3
17:00	1	1	0	0	0	0	0	2
17:15	2	0	0	0	0	1	0	3
17:30	1	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0
18:00	1	0	0	0	0	0	0	1
18:15	0	1	0	0	0	0	0	1
18:30	0	2	0	0	0	0	0	2
18:45	1	0	0	0	0	0	0	1
<b>Total</b>	<b>47</b>	<b>14</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>66</b>

	Destination : Arm B R810 Old Kilmainham							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

	Destination : Arm C R111 South Circular Road(S)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	4	1	0	0	0	0	0	5
07:15	9	1	0	0	0	0	1	11
07:30	4	1	0	0	0	0	1	6
07:45	7	1	0	0	0	0	0	8
08:00	5	1	1	0	0	1	1	9
08:15	9	2	0	0	0	0	0	11
08:30	8	0	1	0	0	1	1	11
08:45	7	1	2	0	0	0	1	11
09:00	7	0	0	0	0	0	0	7
09:15	8	4	0	0	0	0	0	12
09:30	28	5	0	0	0	0	0	33
09:45	35	6	0	0	0	0	0	41
10:00	20	4	1	0	1	1	1	28
10:15	22	5	1	0	0	0	2	30
10:30	42	5	1	0	0	0	0	48
10:45	25	5	4	0	0	0	1	35
11:00	16	4	0	0	0	1	2	23
11:15	15	4	3	0	0	0	0	22
11:30	18	4	1	0	0	0	0	23
11:45	15	3	1	0	0	0	0	19
12:00	9	0	0	1	0	0	0	10
12:15	11	2	0	0	0	0	0	13
12:30	13	2	0	1	1	0	0	17
12:45	11	3	1	0	0	0	4	19
13:00	19	2	0	0	0	0	0	21
13:15	17	1	0	0	0	0	0	18
13:30	5	4	0	0	0	1	0	10
13:45	19	2	0	0	0	0	3	24
14:00	12	4	3	0	0	1	1	21
14:15	23	6	0	0	0	0	0	29
14:30	15	6	1	0	0	0	3	25
14:45	7	5	0	0	0	0	0	12
15:00	7	1	0	0	0	0	0	8
15:15	8	1	0	0	0	0	2	11
15:30	10	2	2	0	0	2	0	16
15:45	4	2	0	0	0	1	0	7
16:00	6	0	1	0	0	0	1	8
16:15	7	0	0	0	0	0	0	7
16:30	5	2	0	0	0	0	1	8
16:45	3	0	0	0	0	0	0	3
17:00	6	0	0	0	0	1	0	7
17:15	4	1	0	0	0	0	2	7
17:30	6	1	0	0	0	0	1	8
17:45	7	1	0	0	0	0	1	9
18:00	5	1	0	0	0	0	1	7
18:15	3	0	0	0	0	0	0	3
18:30	5	1	0	0	0	0	3	9
18:45	9	0	0	0	0	0	3	12
<b>Total</b>	<b>560</b>	<b>107</b>	<b>24</b>	<b>2</b>	<b>2</b>	<b>10</b>	<b>37</b>	<b>742</b>

	Destination : Arm D R810 Emmet Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	20	6	2	0	2	1	0	31
07:15	24	5	1	1	5	1	1	38
07:30	47	5	0	0	2	0	0	54
07:45	32	10	1	0	2	0	1	46
08:00	48	3	3	0	4	0	0	58
08:15	52	16	4	0	2	2	2	78
08:30	47	10	2	0	2	1	3	65
08:45	44	11	2	0	3	2	2	64
09:00	37	6	0	0	2	1	1	47
09:15	29	7	4	1	1	0	3	45
09:30	25	10	1	0	3	1	1	41
09:45	51	9	2	1	4	0	0	67
10:00	33	10	0	0	1	0	0	44
10:15	41	7	2	0	5	0	1	56
10:30	37	4	2	0	0	0	5	48
10:45	34	6	0	1	3	0	0	44
11:00	37	11	2	1	4	0	0	55
11:15	57	11	5	1	3	0	0	77
11:30	41	13	1	0	2	0	1	58
11:45	52	12	1	0	1	0	1	67
12:00	62	12	2	2	6	1	1	86
12:15	46	10	4	0	2	0	1	63
12:30	55	12	4	0	1	3	0	75
12:45	60	11	2	0	2	0	2	77
13:00	66	7	1	0	5	1	0	80
13:15	54	13	4	0	2	0	2	75
13:30	52	12	0	0	3	0	1	68
13:45	51	5	1	0	4	0	1	62
14:00	60	10	1	1	3	0	3	78
14:15	56	12	4	0	3	0	3	78
14:30	55	8	1	1	3	1	2	71







ORIGIN SUMMARY

	Origin : Arm A R111 South Circular Road(N)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	136	26	3	2	0	2	9	178
07:15	144	18	1	0	1	4	15	183
07:30	115	25	3	1	0	0	14	158
07:45	135	33	0	1	1	1	10	181
1 Hr	530	102	7	4	2	7	48	700
08:00	124	27	1	0	0	1	17	170
08:15	115	17	3	0	0	2	26	163
08:30	102	14	2	2	0	9	17	146
08:45	120	23	1	0	2	3	19	168
1 Hr	461	81	7	2	2	15	79	647
09:00	119	10	3	1	2	2	10	147
09:15	112	15	7	0	0	1	13	148
09:30	127	19	2	1	1	4	7	161
09:45	99	11	1	0	1	2	4	118
1 Hr	457	55	13	2	4	9	34	574
10:00	107	17	1	2	0	3	3	133
10:15	111	20	5	3	2	0	3	144
10:30	103	19	2	3	0	1	5	133
10:45	105	25	5	1	0	1	5	142
1 Hr	426	81	13	9	2	5	16	552
11:00	118	15	5	3	1	1	1	144
11:15	89	15	1	2	1	1	3	112
11:30	119	21	4	1	3	2	0	150
11:45	99	23	7	2	2	1	7	141
1 Hr	425	74	17	8	7	5	11	547
12:00	86	14	3	1	0	0	2	106
12:15	105	20	4	1	0	2	7	139
12:30	94	19	3	1	0	1	3	121
12:45	114	14	1	1	4	2	5	141
1 Hr	399	67	11	4	4	5	17	507
13:00	100	22	4	0	2	1	6	135
13:15	117	17	0	4	2	3	6	149
13:30	92	13	5	1	1	3	8	123
13:45	116	19	2	1	1	0	12	151
1 Hr	425	71	11	6	6	7	32	558
14:00	108	15	2	1	1	1	7	135
14:15	109	13	2	2	2	2	8	138
14:30	115	14	3	0	1	2	4	139
14:45	98	18	3	1	1	2	6	129
1 Hr	430	60	10	4	5	7	25	541
15:00	100	22	2	0	4	2	9	139
15:15	104	7	1	1	3	2	10	128
15:30	83	14	1	2	1	2	9	112
15:45	62	7	1	1	0	3	9	83
1 Hr	349	50	5	4	8	9	37	462
16:00	95	11	0	0	2	0	8	116
16:15	117	14	1	0	2	1	9	144
16:30	107	12	0	0	1	0	8	128
16:45	82	6	0	0	0	2	16	106
1 Hr	401	43	1	0	5	3	41	494
17:00	131	9	1	0	3	2	13	159
17:15	75	4	0	1	0	2	18	100
17:30	86	4	1	0	2	1	16	110
17:45	81	10	0	0	1	1	11	104
1 Hr	373	27	2	1	6	6	58	473
18:00	103	8	0	0	3	2	16	132
18:15	64	1	0	0	0	0	17	82
18:30	103	10	0	0	1	2	14	130
18:45	76	5	0	0	0	1	13	95
1 Hr	346	24	0	0	4	5	60	439
Total	5022	735	97	44	55	83	458	6494

	Origin : Arm B R810 Old Kilmainham							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
25	7	2	0	2	1	0	37	
34	6	1	1	5	1	2	50	
51	6	0	0	2	0	1	60	
39	11	1	0	2	0	1	54	
149	30	4	1	11	2	4	201	
54	4	4	0	4	1	1	68	
61	18	4	0	2	2	2	89	
55	10	3	0	2	2	4	76	
51	12	4	0	3	2	3	75	
221	44	15	0	11	7	10	308	
44	6	0	0	2	1	1	54	
37	11	4	1	1	0	3	57	
53	15	1	0	3	1	1	74	
87	15	2	1	4	0	0	109	
221	47	7	2	10	2	5	294	
53	14	1	0	2	1	1	72	
63	12	3	0	5	0	3	86	
79	9	3	0	0	0	5	96	
59	11	4	1	3	0	1	79	
254	46	11	1	10	1	10	333	
54	15	2	1	4	1	2	79	
74	15	8	1	3	0	0	101	
59	17	2	0	2	0	1	81	
70	16	2	0	1	0	1	90	
257	63	14	2	10	1	4	351	
72	12	2	4	6	1	1	98	
60	12	4	0	2	0	1	79	
68	15	4	1	2	3	0	93	
72	15	3	0	2	0	6	98	
272	54	13	5	12	4	8	368	
86	10	1	0	5	1	0	103	
75	14	4	0	2	0	2	97	
58	16	0	0	3	1	1	79	
70	8	1	0	4	0	4	87	
289	48	6	0	14	2	7	366	
72	14	4	1	3	1	4	99	
79	18	4	0	3	0	3	107	
70	15	2	2	3	1	5	98	
71	20	1	0	3	2	1	98	
292	67	11	3	12	4	13	402	
65	10	4	1	0	1	2	83	
85	17	3	1	6	0	6	118	
90	14	4	0	1	4	1	114	
64	17	1	0	3	1	1	87	
304	58	12	2	10	6	10	402	
75	16	1	0	1	1	5	99	
56	7	0	0	5	3	5	76	
55	18	1	0	2	2	2	80	
77	10	0	0	1	3	1	92	
263	51	2	0	9	9	13	347	
51	12	0	0	3	2	1	69	
56	12	2	0	3	3	5	81	
81	13	2	0	2	1	2	101	
79	9	0	0	5	0	5	98	
267	46	4	0	13	6	13	349	
73	9	0	0	2	2	8	94	
69	10	1	0	2	2	3	87	
62	6	2	0	5	0	5	80	
59	7	0	0	2	0	4	72	
263	32	3	0	11	4	20	333	
Total	3052	586	102	16	133	48	117	4054

	Origin : Arm C R111 South Circular Road(S)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
84	13	1	0	1	0	5	104	
104	5	4	3	0	1	11	128	
79	6	2	0	0	1	10	98	
108	11	1	2	0	1	5	128	
375	35	8	5	1	3	31	458	
108	10	3	0	0	1	15	137	
115	3	2	0	1	2	12	135	
96	8	2	0	0	2	11	119	
99	12	2	0	0	0	17	130	
418	33	9	0	1	5	55	521	
89	13	2	1	1	2	8	116	
90	5	2	0	0	1	7	105	
102	16	1	2	0	1	8	130	
76	12	0	0	0	1	4	93	
357	46	5	3	1	5	27	444	
80	11	3	1	0	0	1	96	
93	9	2	0	1	0	8	113	
85	16	2	1	0	1	5	110	
75	13	1	1	0	0	3	93	
333	49	8	3	1	1	17	412	
78	12	5	1	0	1	3	100	
82	11	2	1	1	0	7	104	
97	24	3	1	0	0	1	126	
81	18	2	2	0	0	4	107	
338	65	12	5	1	1	15	437	
92	12	6	2	1	0	3	116	
72	20	3	1	1	2	5	104	
105	14	5	1	0	1	6	132	
69	10	4	0	1	0	5	89	
338	56	18	4	3	3	19	441	
89	16	2	0	0	0	4	111	
84	17	3	0	0	0	4	108	
87	14	5	1	0	2	2	111	
108	10	3	0	1	0	7	129	
368	57	13	1	1	2	17	459	
83	15	1	1	0	1	1	102	
90	11	1	1	1	1	3	108	
92	18	1	0	2	3	4	120	
79	11	3	1	0	1	8	103	
344	55	6	3	3	6	16	433	
95	19	3	0	1	0	7	125	
95	11	0	0	0	0	9	115	
89	16	0	1	1	4	6	117	
101	18	3	1	0	3	6	132	
380	64	6	2	2	7	28	489	
78	20	1	0	0	1	13	113	
92	19	2	0	0	1	10	124	
81	20	1	0	1	4	11	118	
71	20	1	0	0	2	15	109	
322	79	5	0	1	8	49	464	
112	18	1	0	0	3	17	151	
99	9	0	0	0	2	18	128	
69	2	0	1	1	4	29	106	
76	16	0	0	0	4	13	109	
356	45	1	1	1	13	77	494	
78	13	0	0	1	2	20	114	
86	10	0	0	0	5	22	123	
103	8	0	0	0	0	21	132	
83	8	0	0	0	1	13	105	
350	39	0	0	1	8	76	474	
Total	4279	623	91	27	17	62	427	5526

	Origin : Arm D R810 Emmet Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
91	13	2	0	2	1	1	110	
92	24	4	0	3	3	2	128	
103	19	3	0	3	2	1	131	
88	11	2	0	4	2	4	111	
374	67	11	0	12	8	8	480	
98	10	2	0					



DESTINATION SUMMARY

	Destination : Arm A R111 South Circular Road(N)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
07:00	97	12	2	0	1	0	5	117
07:15	115	5	3	2	0	1	10	136
07:30	103	8	1	0	0	1	11	124
07:45	124	12	0	2	0	1	5	144
1 Hr	439	37	6	4	1	3	31	521
08:00	125	11	2	0	0	2	16	156
08:15	125	4	2	0	1	3	12	147
08:30	129	10	2	0	0	2	13	156
08:45	111	11	2	0	0	0	17	141
1 Hr	490	36	8	0	1	7	58	600
09:00	106	16	1	1	1	2	8	135
09:15	94	7	1	0	0	0	6	108
09:30	98	14	2	2	0	1	7	124
09:45	101	16	0	0	0	2	4	123
1 Hr	399	53	4	3	1	5	25	490
10:00	88	11	3	1	0	0	2	105
10:15	100	12	2	0	1	0	8	123
10:30	95	14	1	1	0	0	6	117
10:45	92	15	0	0	0	1	4	112
1 Hr	375	52	6	2	1	1	20	457
11:00	85	12	6	1	0	1	1	106
11:15	96	12	2	1	1	0	7	119
11:30	99	25	3	1	0	0	1	129
11:45	94	18	1	2	0	2	5	122
1 Hr	374	67	12	5	1	3	14	476
12:00	99	17	6	4	2	0	4	132
12:15	83	22	4	1	1	2	5	118
12:30	122	16	5	1	0	2	6	152
12:45	77	17	4	0	0	1	6	106
1 Hr	381	72	19	6	4	5	21	508
13:00	107	19	2	0	0	0	5	133
13:15	106	18	5	0	0	1	4	134
13:30	104	13	3	1	0	3	0	124
13:45	108	11	3	0	1	0	6	129
1 Hr	425	61	13	1	1	4	15	520
14:00	93	15	1	1	0	1	1	112
14:15	110	12	1	1	0	1	3	128
14:30	102	23	1	1	2	3	5	137
14:45	100	13	2	1	1	2	9	128
1 Hr	405	63	5	4	3	7	18	505
15:00	117	24	3	0	1	2	8	155
15:15	115	16	1	1	0	0	10	143
15:30	118	22	1	1	1	3	8	154
15:45	134	21	3	1	0	3	7	169
1 Hr	484	83	8	3	2	8	33	621
16:00	117	25	3	0	0	3	14	162
16:15	117	20	2	0	0	2	10	151
16:30	107	21	1	0	0	3	12	144
16:45	96	23	1	0	0	3	16	139
1 Hr	437	89	7	0	0	11	52	596
17:00	137	22	2	0	0	3	17	181
17:15	126	14	0	0	0	3	18	161
17:30	97	4	0	1	2	5	29	138
17:45	106	17	0	0	0	5	12	140
1 Hr	466	57	2	1	2	16	76	620
18:00	101	15	0	0	1	3	19	139
18:15	117	13	0	0	0	5	21	156
18:30	123	11	0	0	0	0	17	151
18:45	116	8	0	0	1	1	14	140
1 Hr	457	47	0	0	2	9	71	586
Total	5132	717	90	29	19	79	434	6500

	Destination : Arm B R810 Old Kilmainham							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
113	22	1	0	2	1	1	1	140
121	31	5	1	3	3	5	5	169
99	25	6	0	3	2	0	0	135
110	18	3	0	4	3	3	3	141
443	96	15	1	12	9	9	585	
117	17	4	0	5	1	6	150	
117	17	3	0	2	1	6	146	
86	20	2	0	3	5	3	119	
80	22	3	1	3	1	8	118	
400	76	12	1	13	8	23	533	
96	17	2	1	2	1	3	122	
88	16	6	1	5	1	1	118	
132	20	1	1	2	2	1	159	
85	14	2	0	4	1	3	109	
401	67	11	3	13	5	8	508	
77	12	0	1	4	1	3	98	
75	20	3	1	2	0	2	103	
81	22	5	3	4	2	2	119	
59	16	4	1	1	1	0	82	
292	70	12	6	11	4	7	402	
72	16	6	0	2	0	2	98	
66	10	1	1	3	2	1	84	
90	10	1	0	3	0	1	105	
80	19	3	1	3	1	5	112	
308	55	11	2	11	3	9	399	
54	14	4	1	0	0	6	79	
55	13	3	0	5	1	4	81	
82	20	1	1	3	2	3	112	
79	9	3	1	5	0	3	100	
270	56	11	3	13	3	16	372	
77	5	2	0	3	0	4	91	
82	8	0	3	3	2	0	98	
64	16	2	0	2	0	3	87	
69	12	2	0	5	0	1	89	
292	41	6	3	13	2	8	365	
70	13	1	0	1	1	6	92	
66	9	0	1	5	1	2	84	
70	11	0	0	2	0	2	85	
63	6	5	0	3	1	3	81	
269	39	6	1	11	3	13	342	
64	13	2	0	1	2	4	86	
76	11	0	1	4	0	1	93	
70	11	4	1	3	3	2	94	
51	8	3	0	2	0	3	67	
261	43	9	2	10	5	10	340	
63	7	0	0	3	1	0	74	
64	6	2	0	3	1	7	83	
49	4	0	0	3	2	1	59	
61	9	1	0	4	0	4	79	
237	26	3	0	13	4	12	295	
73	4	0	0	4	0	2	83	
54	7	0	0	4	0	6	71	
70	5	2	0	0	0	3	80	
65	4	0	0	2	1	6	78	
262	20	2	0	10	1	17	312	
78	8	0	0	6	1	3	96	
75	2	0	0	4	0	4	85	
76	8	0	0	2	2	2	90	
70	6	0	0	2	0	3	81	
299	24	0	0	14	3	12	352	
3734	613	98	22	144	50	144	4805	

	Destination : Arm C R111 South Circular Road(S)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
103	17	3	2	0	2	8	135	
104	11	0	0	0	4	14	133	
92	17	1	1	0	0	15	126	
99	25	0	1	0	0	11	136	
398	70	4	4	0	6	48	530	
88	18	1	0	0	1	18	126	
81	14	3	0	0	1	26	125	
80	9	2	2	0	8	18	119	
90	16	2	0	0	2	19	129	
339	57	8	2	0	12	81	499	
94	9	2	1	2	2	9	119	
89	14	4	0	0	1	12	120	
101	17	2	0	0	3	7	130	
108	13	0	0	0	1	3	125	
392	53	8	1	2	7	31	494	
91	18	2	1	1	2	4	119	
101	21	4	2	1	0	5	134	
113	16	2	1	0	0	5	137	
102	20	7	1	0	0	6	136	
407	75	15	5	2	2	20	526	
106	15	0	3	1	2	3	130	
74	14	4	1	1	1	2	97	
100	21	5	1	1	1	0	129	
86	16	7	2	0	0	6	117	
366	66	16	7	3	4	11	473	
72	7	1	1	0	0	2	83	
95	19	2	1	0	1	6	124	
84	18	3	2	1	1	2	111	
85	15	2	0	0	2	9	113	
336	59	8	4	1	4	19	431	
92	17	3	0	2	1	4	119	
102	13	0	1	0	1	6	123	
75	15	5	1	1	4	8	109	
107	16	2	1	0	0	14	140	
376	61	10	3	3	6	32	491	
93	14	5	1	0	2	7	122	
99	15	1	2	1	1	7	126	
98	15	3	0	1	1	7	125	
76	17	1	1	0	1	3	99	
366	61	10	4	2	5	24	472	
76	16	2	0	3	1	8	106	
81	4	0	0	2	2	11	100	
67	10	3	1	1	2	9	93	
50	5	1	1	0	4	6	67	
274	35	6	2	6	9	34	366	
75	10	1	0	0	0	9	95	
87	12	0	0	2	1	8	110	
72	11	0	0	1	0	8	92	
68	2	0	0	0	2	15	87	
302	35	1	0	3	3	40	384	
91	7	1	0	1	3	10	113	
54	3	0	1	0	2	16	76	
67	4	0	0	0	1	17	89	
66	8	0	0	0	0	9	83	
278	22	1	1	1	6	52	361	
79	5	0	0	0	1	17	102	
51	0	0	0	0	0	14	65	
82	9	0	0	0	2	17	110	
66	3	0	0	0	1	15	85	
278	17	0	0	0	4	63	362	
4112	611	87	33	23	68	455	5389	

	Destination : Arm D R810 Emmet Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
23	8	2	0	2	1	1	37	
34	6	2	1	6	1	1	51	
54	6	0	0	2	0	0	62	
37	11	1	0	3	0	1	53	
148	31	5	1	13	2	3	203	
54	5	3						



# TRAFFIC DATA

Transport Data Collection and Analytics



## Max Queue Analysis by Video Observation

**Project Number:** 3665-IRE  
**Project Name:** Emmet Rd  
**Client:** O' Connor Sutton Cronin Consulting Engineers

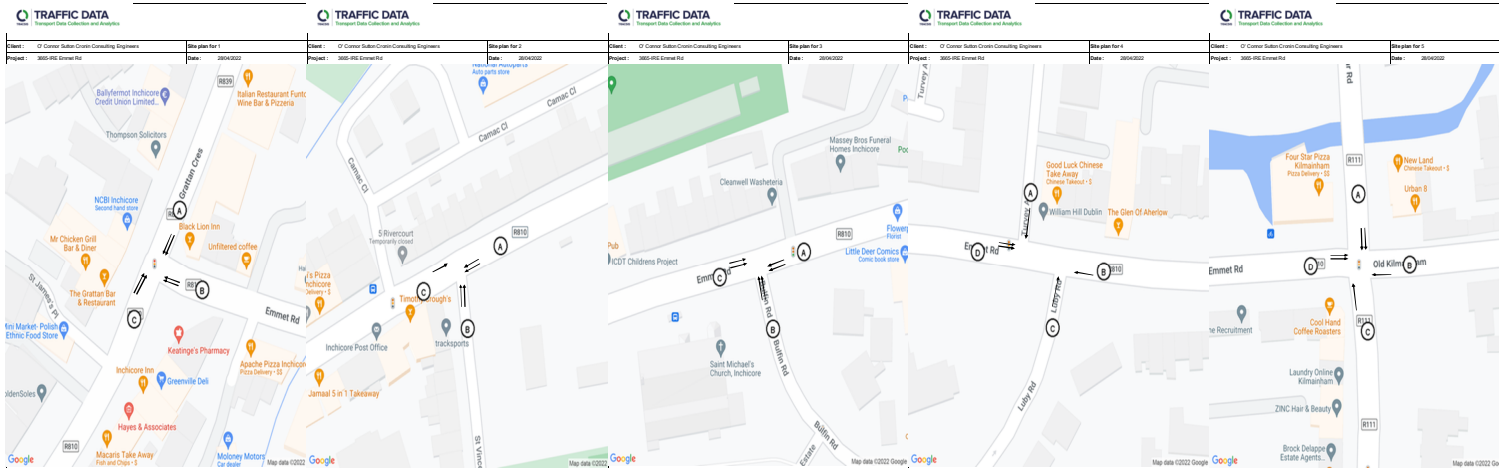
**Sites:** 1-5  
**Survey Date:** Thursday 28 April 2022

**Survey Time:** 07:00 - 19:00      **Weather:** Dry

**Observations:** No incidents or observations during the survey period.

*Tracsis will retain all personal data relating to this project, including all video images, for a period of three months after receipt of this report and all other data files for one year.*

*If you would like a copy of the personal data or wish for us to retain for a longer period, please do not hesitate to contact us.*

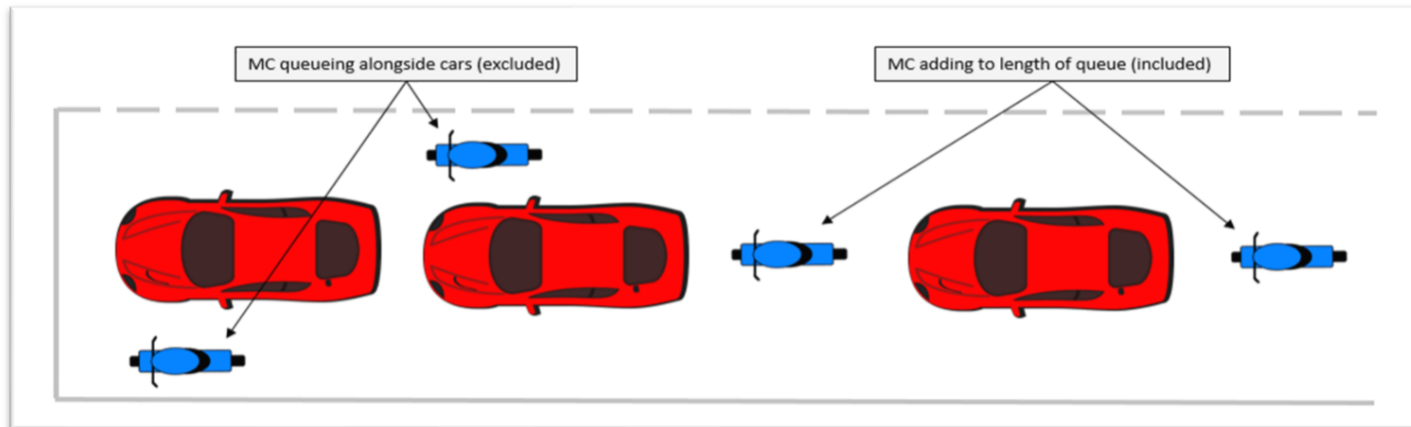


## Queue Methodology

A queue is defined as those vehicles at a junction which are stationary or which have slowed down to walking speed or less. Queues are counted according to the weighting system defined below.

Vehicle	Number	Metres
PC, MC	0.5	2.5
LV	1	5
OGV1	2	10
OGV2	3	15
Bus	3	15

Please note that PC or MC are only recorded as queueing when adding to the length of the queue and those that are stopped abreast with another vehicle will not be counted.



Instances in which there are "+" figures in the queue data represent the longest queue that can be accurately seen. These queues were longer than reported but would have to be estimated if any further vehicles exceeding these limits were reported.

On carriageway with more than 1 lane, each lane is identified with numbers, starting with the lane closest to the kerb (inside lane), which is called "Lane 1". The next lane is numbered sequentially, "Lane 2", "Lane 3" and so forth.





Client : O'Connell Sutton O'Connell Consulting Engineers  
 Project : 3605-FRE Emmet Rd  
 Site : 1 - R839 Galivan Crescent / R810 Emmet Road / R810 Tyrconnell Road  
 Date : Thursday 26 April 2022  
 Queue Method: Max  
 Queue Lengths: Vehicle Number

Vehicle	Number	Minutes
PC/MC*	0.5	2.3
LV	1	4
SCUV	2	10
ODVD	3	15
Bus	3	15

Arm A				Arm B		Arm C			
Lane 1(Visib)	Lane 1(Gap Method)	Lane 2(Visib)	Lane 2(Gap Method)	Lane 1	Lane 2	Lane 1(Visib)	Lane 1(Gap Method)	Lane 2(Visib)	Lane 2(Gap Method)
07:00	5	9		5	1	5		5	1
07:05	17	14		4	2	5		15+	21+
07:10	19	10		5	5	6		17+	23+
07:15	20	5		8	3	9		14+	25+
07:20	19+	24		9	6	11		14+	23+
07:25	22+	29		7	6	10		13+	27+
07:30	20	10		4	8	6		15+	21+
07:35	16	14		4	5	6		11	
07:40	19+	23		9	5	1		12	
07:45	16	10		7	7	2		13.5	
07:50	20+	28		8	6	3		12	
07:55	20+	27		5	5	4		13	
08:00	19+	28		7	4	6		14	
08:05	19+	31+		14	8	6		15+	20+
08:10	20+	31+		6	12	5		11+	21+
08:15	19+	30+	19+	9	9	5		16+	20+
08:20	20+	34+	11	9	7	1		17+	28+
08:25	20+	33+	12.5	11	6	10+	19+	17+	24+
08:30	18+	32+	11	13	11	10+	19+	17+	24+
08:35	19+	30+	7	16	9	12.5+	19.5+	15+	23+
08:40	16	16.5		6	10	11+	18+	17+	27+
08:45	14	7		9	4	6		19+	25+
08:50	18+	23		9.5	6	6		13+	24+
08:55	19+	26		9	7	8+	11	14+	26+
09:00	20	3		9	7	10		19+	29+
09:05	19+	27	19+	6	6	2		16+	22+
09:10	18	9	24	5	6	9.5		17+	24+
09:15	20+	26	8	5	5	14		12+	17+
09:20	19+	28	13	3	3	5		13+	23+
09:25	20+	29	16	6	5	13		18+	28
09:30	19+	27	7	7.5	5	11+		10+	21+
09:35	11	9		8	5.5	4		16	
09:40	14	4		3	5	4		16	
09:45	17	4.5		3	12	6		5	
09:50	12	7		8	4	4		8	
09:55	10	13		17	4	4		8	
10:00	11	7		4	8	6		10	
10:05	15	8		4	6	6		11+	20+
10:10	20	6		14	3	3		19+	27+
10:15	10	7		5	11	8		19+	27+
10:20	17	7		3	2.5	7		14+	21+
10:25	7	9		5	4	10		18+	27+
10:30	5	4		8	4	4.5		14	20
10:35	7	11.5		6	6	6		14	
10:40	11	5		4	7	8		11	
10:45	9	6		5	7	4		11.5	
10:50	6	3		5	4	5		14	
10:55	11	3		5	9	4		13	
11:00	9	8.5		12	4	5		12	
11:05	9	6		6	9	5		14+	21+
11:10	6	5.5		7	5	6		13.5	
11:15	9	11		8	3	8		16	
11:20	6	19		11	7	5		15+	21
11:25	10	3		9	5	3		16+	27+
11:30	6	8		10	4	18		11+	22+
11:35	7	3		6	8	18		14+	23+
11:40	5	6		5	7	8		15	
11:45	6	9		12	6	6		8	
11:50	6	14		4	11	5		12.2	
11:55	12	20		8	5	5		9	
12:00	8	9		14	3	6		8	
12:05	13	8		7	6	7		9	
12:10	13	11		8	7	5		6	
12:15	11	13		10	8	7.5		13	
12:20	9	17		5	5	4		11+	19+
12:25	13	17		10	4	5		16+	28+
12:30	8	9		9	3.5	10		16+	28+
12:35	10	10.5		4.5	10	5		11+	18
12:40	13	16		7	7	6		11	
12:45	4	7		10	4	5		7+	
12:50	12	9		9	9	6		11	
12:55	9	11		5	12	8		11+	15



Client : O' Connor Sullivan Croxall Consulting Engineers  
 Project : 3605-IRE Emmet Rd  
 Site : 1 - R839 Galvan Crescent / R810 Emmet Road / R810 Tyrconnell Road  
 Date : Thursday 28 April 2022  
 Queue Method: Max  
 Queue Lengths: Vehicle Number

Vehicle	Number	Mean
PC/MC*	1	2.5
CV	1	15
SCV1	2	15
SCV2	3	15
Bus	3	15

13:00	7	17	5	12	3.5	6
13:05	9	8	9	7	7	14
13:10	9	11	12	6	8	7
13:15	4	9	13	6	7	7
13:20	8	18	20	8	4	11
13:25	11	11	13	4	2	12.5*
13:30	9	10	6	6	9	20.5
13:35	18*	12	5	8	3	10*
13:40	14	15	8	6	6.5	9
13:45	7	12	11	9	14	14
13:50	12	8	3	7	14	15
13:55	7	11	14	6	13	11*
14:00	9	10	23	4.5	13	14*
14:05	6	9	9	5	11	19*
14:10	8	5	6	3	7	11
14:15	9	10	18	3.5	7	10
14:20	8	13	15	12	9	11.5
14:25	6	15	12	6	15	10
14:30	11	4	4	5	15	7
14:35	8	10	6	8	9	12
14:40	6	10	7	10	7	10
14:45	8	9	9	6	6	9
14:50	5	5	8	6	5	9
14:55	13	5	8	9	6	8
15:00	20	11	10	8	9	9
15:05	8.5	7	14	10	6	6
15:10	8	13	3	8.5	10	6
15:15	13	12	8	8.5	9	10
15:20	19	5	14	8.5	7	16*
15:25	9	10	12	5	9	16*
15:30	12	13	17	4	10	14
15:35	10	8	15	9	10	15*
15:40	3	6	15	12	3	15*
15:45	9	6	9	12	7	10*
15:50	2	11	9	12	8	13
15:55	17	9	14	10	8	13
16:00	7	10	7	6	10.5	9
16:05	11	19	10	5	10.5	9
16:10	11.5	15	9	9	15	7
16:15	4	18*	17	10	11	5
16:20	8	19*	17	11	9	5
16:25	6	13*	18	9	9	10
16:30	13	18	6	9	9	8.5
16:35	16*	32*	21	12	6	15
16:40	18	13	19	9	11	21*
16:45	17*	30*	6.5	11	12	21
16:50	19*	32*	7.5	10	12	13*
16:55	11	10.5	11	11	6	11
17:00	50.5	11	17	12	11*	21*
17:05	8	8	11	7	12	13*
17:10	10	14	8	6	10	17*
17:15	6	11	15	8	16*	17*
17:20	7	12	5	13.5	15	14*
17:25	12	10	10	9	11	16*
17:30	12	5	21	11	7	16
17:35	11	15*	19	11	10	5
17:40	16*	11	20	3	9	10
17:45	14	15*	17	9	11	15
17:50	21*	32*	16	6	11	10
17:55	18*	32*	13	9	14	12
18:00	16*	34*	7	11	11	11*
18:05	19*	35*	8.5	9	8	13*
18:10	18*	31*	25	11	11	16
18:15	16*	27	20	8.5	11	17*
18:20	18*	32*	13	10	12*	20*
18:25	13	7	4	8	14*	17*
18:30	14	8	8	8	9	16*
18:35	8	17	11	7	14	20
18:40	9	16	7	5	5	15
18:45	6	4	6	6.5	6	12
18:50	7	6	11	5	11	10
18:55	5	10	9	7	7	12*



**Client :** O' Connor Sutton Cronin Consulting Engineers  
**Project :** 3665-IRE Emmet Rd  
**Site :** 2 - R810 Emmet Road(ENE) / Saint Vincent Street West / R810 Emmet Road(WSW)  
**Date :** Thursday 28 April 2022  
**Queue Method:** Max  
**Queue Lengths:** Vehicle Number

Vehicle	Number	Metres
PC,MC*	0.5	2.5
LV	1	5
OGV1	2	10
OGV2	3	15
Bus	3	15

	Arm A		Arm B		Arm C
	Lane 1	Lane 2	Lane 1	Lane 2	
07:00	0	0	2	0	0
07:05	0	0	2	0	0
07:10	0	0	1	0	0
07:15	0	0	1	0	0
07:20	0	0	1	0	0
07:25	0	0	0	0	12
07:30	0	0	1	0	0
07:35	0	0	0	0	0
07:40	0	0	0.5	0	0
07:45	0	0	0	1	1
07:50	6	0	1	0	3
07:55	3	0	0	0	10
08:00	0	0	0	0	0
08:05	0	0	1	0	0
08:10	5	0	1	0	0
08:15	2	0	2	0	0
08:20	0	0	3	0	21
08:25	2	0	8	0	13
08:30	2	0	8	0	13
08:35	0	0	1	0	8
08:40	0	0	2	0	3
08:45	0	0	2	0	3
08:50	0	0	2	0	14
08:55	2	0	5	0	12
09:00	0	0	5	0	6
09:05	0	0	4	0	6
09:10	2	0	1	0	1
09:15	0	0	1	0	7
09:20	2	0	1	0	4
09:25	13	0	1	0	2
09:30	0	0	2	0	8
09:35	0	0	1	0	1
09:40	0	0	1	0	3
09:45	0	0	1	0	0
09:50	0	0	1	0	0
09:55	4	0	0	0	12
10:00	0	0	0	0	3
10:05	0	0	0	0	10
10:10	0	0	1	0	7
10:15	0	0	1	0	1
10:20	0	0	0	0	0
10:25	0	0	1	0	5
10:30	0	0	1	0	4
10:35	0	0	0	0	1
10:40	0	0	2	0	0
10:45	0	0	2	0	1
10:50	0	0	0	0	1
10:55	6	0	1	0	5
11:00	0	0	0	0	8
11:05	2	0	0	0	0
11:10	0	0	1	0	0
11:15	0	0	0	0	0
11:20	0	0	0	0	3
11:25	2	0	3	0	3
11:30	1	0	3	0	1
11:35	0	0	1	0	0
11:40	0	0	1	0	0
11:45	5	0	5	0	5
11:50	0	0	0	0	5
11:55	1	0	0	0	2
12:00	4	0	1	0	5
12:05	2	0	4	0	2
12:10	0	0	1	0	5
12:15	0	0	1	0	6
12:20	0	0	1	0	0
12:25	4	0	1	0	12
12:30	0	0	1	0	14
12:35	3	0	0	0	0
12:40	5	0	0	0	0
12:45	0	0	2	0	1
12:50	0	0	1	0	4
12:55	0	0	2	0	0



**Client :** O' Connor Sutton Cronin Consulting Engineers  
**Project :** 3665-IRE Emmet Rd  
**Site :** 2 - R810 Emmet Road(ENE) / Saint Vincent Street West / R810 Emmet Road(WSW)  
**Date :** Thursday 28 April 2022  
**Queue Method:** Max  
**Queue Lengths:** Vehicle Number

Vehicle	Number	Metres
PC, MC *	0.5	2.5
LV	1	5
OGV1	2	10
OGV2	3	15
Bus	3	15

13:00	0	0	1	0	0
13:05	1	0	2	0	9
13:10	2	0	0	0	8
13:15	2	0	1	0	3
13:20	9	0	1	0	0
13:25	0	0	1	0	3
13:30	1	0	2	0	0
13:35	0	0	2	0	1
13:40	0	0	3	0	0
13:45	0	0	2	0	1
13:50	0	0	1	0	0
13:55	3	0	3	0	2
14:00	3	0	2	0	5
14:05	0	0	1	0	2
14:10	5	0	2	0	5
14:15	0	0	0	0	4
14:20	3	0	1	0	7
14:25	1	0	1	0	4.5
14:30	0	0	3	0	1
14:35	0	0	5	0	6
14:40	4	0	1	0	5
14:45	0	0	1	0	4
14:50	0	0	1	0	1
14:55	0	0	2	0	1
15:00	2	0	2	0	6
15:05	0	0	2	0	2
15:10	0	0	1	0	6
15:15	1	0	2	0	0
15:20	8	2	2	0	0
15:25	8	0	1	0	9
15:30	0	0	1	0	3
15:35	0	0	4	0	21
15:40	10	0	4	0	6
15:45	5	0	0	0	16
15:50	0	0	1	0	0
15:55	0	0	3	0	6
16:00	5	0	2	0	6
16:05	4	0	4	0	14
16:10	0	0	1	0	1
16:15	4	1	0.5	0	2
16:20	8	0	1	0	7
16:25	5	0	1	0	3
16:30	6	0	1	0	6
16:35	5	0	1	0	8
16:40	13	0	1	0	10
16:45	2	0	3	0	15
16:50	0	0	5	0	8
16:55	0	0	1	0	1
17:00	7	0	1	0	12
17:05	0	0	1	0	3
17:10	0	0	1	0	0
17:15	3	0	1	0	8
17:20	0	0	2	0	17
17:25	0	0	1	0	8
17:30	12	0	2	0	4
17:35	13	0	1	0	2
17:40	9	0	1	0	9
17:45	9	0	2	0	2
17:50	2	0	1	0	8
17:55	0	0	2	0	14
18:00	0	0	2	0	10
18:05	0	0	1	0	20
18:10	7	0	1	0	9
18:15	4	0	1	0	5
18:20	0	0	1	0	5
18:25	0	0	0	0	8
18:30	0	0	0	0	12.5
18:35	0	0	1	0	11
18:40	0	0	1	0	2
18:45	0	0	3	0	0
18:50	3	0	2	0	3
18:55	2	0	1	0	0

Vehicle	Number	Metres
PC,MC*	0.5	2.5
LV	1	5
OGV1	2	10
OGV2	3	15
Bus	3	15

	Arm A		Arm B		Arm C	
	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
07:00	0	0	0	0	0	1
07:05	0	0	0	0	0	1
07:10	0	0	1	0	4	4
07:15	0	0	1	0	1	2
07:20	8	0	0	0	8	2
07:25	2	0	0	0	5	1
07:30	0	0	2	0	0	2
07:35	0	0	3	0	0	2
07:40	0	0	1	0	0	3
07:45	0	0	4	0	0	3
07:50	3	0	1	0	0	4
07:55	3	0	4	0	3	2.5
08:00	0	0	2.5	0	0	5
08:05	5	0	4	0	0	8
08:10	1	0	3	0	3	3
08:15	7	0	1	0	3	2
08:20	7	0	4	0	5	4
08:25	0	0	2	0	7	5
08:30	1	0	4	0	2	2
08:35	2	0	3	0	4	1
08:40	0	0	2	0	0	2
08:45	4	0	2	0	3	2
08:50	0	0	1	0	3	2
08:55	7	0	2	0	1	1
09:00	4	0	2	0	1	4
09:05	3	0	1	0	6	0
09:10	1	0	2	0	10	2
09:15	4	0	2	0	7	2
09:20	1	0	2	0	3	0
09:25	2	0	2	0	0	3
09:30	4	0	4	0	4	4
09:35	2	0	3	0	5	1
09:40	0	0	2	0	2	1
09:45	0	0	0	0	0	3
09:50	0	0	0	0	0	4
09:55	10	0	0	0	3	3
10:00	0	0	1	0	0	1
10:05	0	0	1	0	2	3
10:10	0	0	1	0	2	0
10:15	14	0	1	0	0	4
10:20	0	0	1	0	0	2
10:25	0	0	3	0	2	2
10:30	0	0	3	0	6	2
10:35	0	0	2	0	0	0
10:40	0	0	2	0	0	1
10:45	0	0	2	0	1	2
10:50	0	0	4	0	0	0
10:55	0	0	1	0	0	1
11:00	0	0	2	0	0	0
11:05	4	0	2	0	0	3
11:10	0	0	3	0	0	3
11:15	0	0	4	0	0	2
11:20	2	0	1	0	0	3
11:25	1	0	2	0	0	4
11:30	0	0	2	0	0	3
11:35	0	0	1	0	0	1
11:40	0	0	2	0	0	1
11:45	2	0	2	0	0	3
11:50	2	0	1	0	4	0
11:55	3	0	2	0	0	2
12:00	6	0	5	0	8	1
12:05	7	0	2	0	3	2
12:10	9	0	1	0	3	4
12:15	7	0	4	0	4	1
12:20	1	0	1	0	0	2
12:25	0	0	1	0	0	1
12:30	1.5	0	1	0	0	4
12:35	11	0	0	0	5	2
12:40	6	0	1	0	7	1
12:45	0	0	2	0	6	1
12:50	0	0	3	0	0	7
12:55	3	0	4	1	5	2



**Client :** O' Connor Sutton Cronin Consulting Engineers  
**Project :** 3665-IRE Emmet Rd  
**Site :** 3 - R810 Emmet Road(ENE) / Bulfin Road / R810 Emmet Road(W/SW)  
**Date :** Thursday 28 April 2022  
**Queue Method:** Max  
**Queue Lengths:** Vehicle Number

Vehicle	Number	Metres
PC, MC *	0.5	2.5
LV	1	5
OGV1	2	10
OGV2	3	15
Bus	3	15

13:00	9	0	3	0	6	4
13:05	7.5	0	5	0	4	1
13:10	0	0	3	0	0	1
13:15	3	0	3	0	5	1
13:20	3	0	2	0	9	2
13:25	5	0	3	0	4	1
13:30	0	0	1	0	0	2
13:35	3	0	3	0	7	2
13:40	9	0	3	0	4	2
13:45	5	0	1	0	0	6
13:50	0	0	0	0	2	1
13:55	4	0	2	0	3	1
14:00	0	0	3	0	0	5
14:05	10	0	1	0	4	2
14:10	3	0	2	0	0	2
14:15	5	0	3	0	1	2
14:20	0	0	3	0	0	4
14:25	9	0	1	0	0	3
14:30	0	0	0	0	0	3
14:35	6	0	1	0	4	3
14:40	1	0	1	0	4	3
14:45	2	0	2	0	0	2
14:50	5	0	1	0	0	3
14:55	11	0	2	0	2	2
15:00	0	0	1	0	0	1
15:05	2	0	3	0	2	1
15:10	0	0	3	0	0	1
15:15	9	0	2	0	2	1
15:20	1	0	3	0	5	5
15:25	4	0	2	0	2	6
15:30	0	0	0	0	0	0
15:35	2	0	8	0	3	2
15:40	6	0	11	0	3	2
15:45	0	0	4	0	0	3
15:50	0	0	4	0	0	7
15:55	0	0	5	0	0	6
16:00	10	0	8	1	4	2
16:05	9	0	6	0	1	2
16:10	1	0	5	0	0	4
16:15	0	0	1	0	0	4
16:20	0	0	3	0	0	0
16:25	0	0	2	0	0	0
16:30	5	0	6	0	1	1
16:35	5	0	3	0	0	1
16:40	1	2	5	0	0	4
16:45	0	0	2	0	9	2
16:50	4	0	3	0	1	2
16:55	6	0	3	0	1	3
17:00	9	0	5	0	2	2
17:05	0	0	2.5	0	0	1
17:10	0	0	7	0	0	5
17:15	2	0	1	0	1	1
17:20	10	0	3	0	2	2
17:25	8	0	3	0	4	1
17:30	11	0	3	0	9.5	2
17:35	12	0	2	0	2	2
17:40	10	0	10	0	0	3
17:45	7	0	4	0	5	5
17:50	10	0	3	0	4	3
17:55	7	0	2	0	1	1
18:00	0	0	2	0	7	2
18:05	0	0	7	0	7	2
18:10	10	0	1	0	1	6
18:15	0	0	5	0	0	2
18:20	0	0	4	0	0	1
18:25	0	0	4	0	0	3
18:30	0	0	2	0	0	4
18:35	11	0	2	0	3	2
18:40	0	0	2	0	0	4
18:45	0	0	3	0	0	0
18:50	0	0	5	0	0	2
18:55	0	0	2	0	0	2

Vehicle	Number	Metres
PC, MC *	0.5	2.5
LV	1	5
OGV1	2	10
OGV2	3	15
Bus	3	15

	Arm A	Arm B	Arm C	Arm D	
				Lane 1	Lane 2
07:00	1	0	0	0	0
07:05	1	0	0	0	0
07:10	0	0	1	0	0
07:15	0	0	1	0	0
07:20	1	0	1	0	7
07:25	1	0	0	0	0
07:30	1	0	0	0	0
07:35	1	0	1	0	6
07:40	0	0	1	0	0
07:45	0	0	2	0	0
07:50	0	0	2	0	0
07:55	1	0	1	0	0
08:00	1	1	2	0	0
08:05	2	0	1	0	0
08:10	1	0	1	0	0
08:15	0	0	2	0	0
08:20	2	0	0	0	3
08:25	1	0	2	0	0
08:30	0	1	0	1	3
08:35	0	0	2	0	9
08:40	1	0	1	0	0
08:45	0	0	1	0	0
08:50	1	0	1	0	0
08:55	1	0	1	0	6
09:00	1	0	1	0	0
09:05	2	0	1	0	3
09:10	1	1	2	0	0
09:15	3	0	0	0	2
09:20	0	0	0	0	4
09:25	1	0	1	0	0
09:30	1	0	1	0	0
09:35	1	0	0	0	0
09:40	1	0	1	0	0
09:45	0	0	1	0	2
09:50	1	0	0	0	0
09:55	0	0	1	1	4
10:00	0	0	1	0	0
10:05	0	0	0	0	0
10:10	0	0	1	0	0
10:15	0	0	0	0	0
10:20	1	0	1	0	2
10:25	0	0	1	0	0
10:30	1	0	1	0	0
10:35	1	0	1	0	0
10:40	0	0	0	0	0
10:45	1	0	0	0	0
10:50	0	0	1	0	0
10:55	1	0	0	0	0
11:00	0	1	0	0	0
11:05	1	1	1	0	2
11:10	0	0	1	1	0
11:15	0	0	0	0	0
11:20	0	0	0	0	0
11:25	1	0	1	0	0
11:30	1	0	0	0	1
11:35	1	1	0	0	0
11:40	0	0	1	0	0
11:45	0	0	1	0	0
11:50	0	0	1	0	0
11:55	0	0	1	0	0
12:00	0	1	2	0	0
12:05	0	0	1	0	0
12:10	1	0	1	0	0
12:15	0	1	1	0	0
12:20	1	0	0	0	0
12:25	0	0	1	0	0
12:30	0	0	1	0	4
12:35	1	0	1	0	0
12:40	1	0	1	0	0
12:45	1	0	0	0	1
12:50	0	4	0	0	1
12:55	1	0	1	0	0

Vehicle	Number	Metros
PC, MC *	0.5	2.5
LV	1	5
OGV1	2	10
OGV2	3	15
Bus	3	15

13:00	1	1	2	0	0
13:05	0	0	2	0	0
13:10	2	0	1	1	1
13:15	1	0	1	0	0
13:20	0	0	1	0	0
13:25	0	0	1	0	0
13:30	1	0	1	0	0
13:35	0	0	2	0	0
13:40	1	0	1	0	0
13:45	1	0	0	0	0
13:50	1	1	0	0	0
13:55	0	0	1	0	0
14:00	0	0	1	0	1
14:05	0.5	0	2	0	0
14:10	1	0	1	0	0
14:15	0	4	2	0	0
14:20	0	0	1	0	0
14:25	1	0	1	0	0
14:30	0	0	1	0	2
14:35	0	0	0	0	0
14:40	0	0	0	0	0
14:45	1	0	1	0	0
14:50	0	0	1	0	1
14:55	1	0	3	0	0
15:00	0	0	1	0	0
15:05	0	0	1	0	0
15:10	0	0	1	0	0
15:15	0	0	1	0	0
15:20	1	0	1	0	0
15:25	1	0	4	0	0
15:30	1	0	1	0	0
15:35	0	1	1	0	0
15:40	0	0	2	0	0
15:45	0	0	2	0	0
15:50	0	0	1	0	0
15:55	0	0	2	0	0
16:00	0	0	2	0	0
16:05	0	0	1	0	0
16:10	0	0	2	0	0
16:15	1	0	1	0	0
16:20	0	0	2	0	1
16:25	0	0	4	0	0
16:30	0	0	1	0	0
16:35	0	0	2	0	0
16:40	1	0	2	0	0
16:45	0	0	1	0	0
16:50	0	0	1	0	0
16:55	0	0	1	0	0
17:00	0	0	1	0	0
17:05	1	0	1	0	0
17:10	1	0	2	0	4
17:15	1	0	1	0	0
17:20	1	0	1	0	0
17:25	1	0	0	0	0
17:30	0	0	2	0	3
17:35	0	0	4	0	0
17:40	0	0	3	0	0
17:45	0	0	2	0	0
17:50	1	0	1	0	0
17:55	0	0	1	0	0
18:00	1	1	1	1	0
18:05	0	0	2	0	0
18:10	0	0	1	0	0
18:15	1	1	2	0	0
18:20	0	0	1	0	0
18:25	0	1	2	0	0
18:30	0	0	1	0	0
18:35	1	0	1	0	3
18:40	1	0	3	0	9
18:45	1	0	1	0	0
18:50	0.5	1	2	0	0
18:55	0	0	1	0	0



Vehicle	Number	Metres
PC, MC *	0.5	2.5
LV	1	5
OGV1	2	10
OGV2	3	15
Bus	3	15

	Arm A		Arm B		Arm C	Arm D	
	Lane 1	Lane 2	Visible	Gap Method		Lane 1	Lane 2
07:00	17	1	3		6	3	12
07:05	16	1	8		11	2	20
07:10	16	0	9		21	3	14
07:15	17	1	4		19	3	22
07:20	17	1	9		11	3	24
07:25	16	4	9		17.5	10	21
07:30	14	2	6		16.5	7	22
07:35	18	0	8		16.5	3	19
07:40	18	1	11		19	3	23
07:45	18	1	2		17	5	21
07:50	18	1	12		19	5	12.5
07:55	11	1	9		2	9	17
08:00	4	0	7		15	2	25
08:05	4	1	12		19.5	7	22
08:10	12	3	14		17.5	5	24
08:15	7	2	19+		17	2	26
08:20	18	0	19+	28+	12	1	28
08:25	14	3	16		14	6	18
08:30	17	2	15		10	7	14
08:35	18	0	7		18	6	22
08:40	12	1	15		19	5	9
08:45	9	2	15		14	3	12
08:50	18	3	8.5		18	3	10
08:55	18	3	16		10	4	16
09:00	5	1	9		11	5	21
09:05	1	0	5		18	6	26
09:10	8	2	6		16	3	25
09:15	12	0.5	4		11	2	26
09:20	18	2	13		10	1	28
09:25	5	2	10		11.5	1	24
09:30	18	1	7		11	3	20
09:35	18.5	1	16.5		13	2	22
09:40	18	1	18		15	0.5	10
09:45	18	1	20+	25+	18	7	18
09:50	13	0	9		14	3	10
09:55	17	1	19+	24	15	1	8
10:00	18	0.5	9		18	6	6
10:05	3	1.5	9		16	2	8
10:10	14	3	19+	25+	18	2	13
10:15	18	1	19+	37+	19.5	3	9
10:20	18	2	21+	33+	16	2	14
10:25	18	1	18		15	2	13
10:30	5	1	20+	29+	11	4	12
10:35	18	0	20+	30+	17	1	13
10:40	18	1	21+	38+	10	2	9
10:45	2	1	20+	28+	9	6	6
10:50	4	0	21+	29+	7	3	7
10:55	5	1	19+	26+	9	3	7
11:00	18	1	22+	33+	9	1	19
11:05	18	4	22+	26+	9	3	14
11:10	10	1	21+	31+	11.5	3	9
11:15	0	1	24+	31+	14	1	5.5
11:20	17	1	23+	33+	10	3	4
11:25	18	0	21+	29+	16	3	5
11:30	17	2	22+	30+	20	4	8
11:35	6	0	23+	36+	21	2	12
11:40	0	2	24+	32+	19	4	10
11:45	18	0	28+	38+	18	5	9
11:50	17	0	22+	34+	17	2.5	13
11:55	6	1	25+	36+	13	3.5	18
12:00	12	0	27+	34+	20	5	5
12:05	0	0	19+	24+	17	2	9
12:10	9	0	17		20	6	9
12:15	0	0	10		17	5	10
12:20	10	0	21+	27+	15	1	7
12:25	13	0	20+	28+	19.5	5	19
12:30	12	0	24.5+	32	16.5	5	10
12:35	1	0	20+	26+	19	5	8
12:40	17	0	15		20	4	12
12:45	18	0	24+	29+	9	3	6.5
12:50	18	0	16		12	4	10
12:55	18	1	17		10	4	8



**Client :** O' Connor Sutton Cronin Consulting Engineers  
**Project :** 3665-IRE Emmet Rd  
**Site :** 5 - R111 South Circular Road(N) / R810 Old Kilmainham / R111 South Circular Road(S) / R810 Emmet Road  
**Date :** Thursday 28 April 2022  
**Queue Method:** Max  
**Queue Lengths:** Vehicle Number

Vehicle	Number	Metres
PC, MC *	0.5	2.5
LV	1	5
OGV1	2	10
OGV2	3	15
Bus	3	15

13:00	8	0	23+	29+	9	3	11
13:05	17	1	23+	30+	14	3	9
13:10	7	2	19		18	6	10
13:15	10	3	14		20	6	9
13:20	17.5	1	16		12	3	6
13:25	4	3	16		20	4	15
13:30	13	1	17		16	2.5	12
13:35	3	0	24+	34+	21	5	14
13:40	18	2	21+	28+	20	6	11
13:45	18	2	13		15	3	9
13:50	18	1	23+	33+	13	3	10
13:55	18	4	24+	31+	19	2	14
14:00	18	1	21+	27+	21	1	13
14:05	18	1	19+	24+	10	3.5	6
14:10	0	1	23+	34+	20	3	4
14:15	18	3	17		19	3	14
14:20	9	0	18+	26+	20	4	15
14:25	18	3	22+	28+	21	5.5	6
14:30	14	3	18+	28+	20	2	16
14:35	13	1	16		21	2	5
14:40	4	1	9		20	3	5
14:45	4	3	14.5		19	5.5	10
14:50	18	1	21+	29+	20	2	8.5
14:55	17	6	17		19	5	9
15:00	13	3	19+	26+	18	6	10
15:05	9	2	24+	36+	21	6	10
15:10	6	2	22+	31+	15	3	8.5
15:15	9	1	26+	34+	19	1	5
15:20	11	1	25+	34+	19	5	13
15:25	16	4	23+	31+	16	4	9
15:30	12	2	22+	29+	20	4	9
15:35	5	1	19.5+	26+	20	7	6
15:40	8	2	24+	33+	20	6	10
15:45	18	3.5	21+	25+	20	9	9
15:50	18	1	23+	29+	19	4	11
15:55	18	1	21+	28+	21	5	11
16:00	13	1	20+	27+	16	5	9
16:05	18	6	24+	29+	21	5	13
16:10	17	1	11		21	5	9
16:15	14	2	19+	24+	21	4	13
16:20	9	2	23+	28+	20	3	8
16:25	4	0	21+	32+	20.5	5	11
16:30	11	1	25+	34+	18	2	4
16:35	6	2	23+	29+	18	2	2.5
16:40	12	2	21+	29+	19	8	9
16:45	18	1	20+	26+	18	5.5	8
16:50	18	3	21+	27+	19	4	8
16:55	18	5	22+	30	18.5	5	8
17:00	12.5	4	9		19	2	5
17:05	10	1	14		19	3	11
17:10	11	7	19+	25+	19.5	6	16
17:15	18	2	20+	26+	18	4	8.5
17:20	18	2	25+	31+	18	6	6
17:25	18	4	25+	31+	17	10	11
17:30	15	1	23+	33+	20	11	8
17:35	14	2	24+	31+	20	4	13
17:40	17	6	22+	26+	18.5	3	5
17:45	18	1	23+	29+	19	6	16
17:50	14	1	21		20	7	5
17:55	18	1	8		17	6	3
18:00	17	1	21+	28+	18	3	11
18:05	18	1	23+	29+	17	7	12
18:10	17	5	22+	33+	19	5	10
18:15	18	1	23+	31+	19	6	13
18:20	17	1	23+	35+	20	7	9
18:25	15	1	19+	27+	19	7	11
18:30	17	3	15		17	3	10.5
18:35	17	3.5	9		18	4	9
18:40	17	1	14		18	10	15
18:45	18	1	18+	25+	17	10	17
18:50	18	0	19		17	5	10
18:55	17	2	22+	29+	15	6	6



## Pedestrian Analysis by Video Observation

**Project Number:** 3665-IRE  
**Project Name:** Emmet Rd  
**Client:** O' Connor Sutton Cronin Consulting Engineers

**Sites:** 1-5  
**Survey Date:** Thursday 28 April 2022

**Survey Start:** 07:00                      **AM Weather:** Dry  
**Survey End:** 19:00                      **PM Weather:** Dry

**Observations:**

No incidents or observations during the survey period

Tracsis will retain all personal data relating to this project, including all video images, for a period of three months after receipt of this report and all other data files for one year.

If you would like a copy of the personal data or wish for us to retain for a longer period, please do not hesitate to contact us.



	Arm A					Arm B					Arm C			
	Eastbound		Westbound			Northbound		Southbound			Eastbound		Westbound	
	Ped	PC	Ped	PC		Ped	PC	Ped	PC		Ped	PC	Ped	PC
07:00	1	0	1	0	07:00	2	0	1	0	07:00	1	0	1	0
07:15	0	0	0	0	07:15	0	0	0	0	07:15	3	0	0	0
07:30	0	0	1	0	07:30	3	1	5	0	07:30	9	0	3	0
07:45	2	0	1	0	07:45	4	0	5	0	07:45	2	2	3	0
1 Hr	3	0	3	0	1 Hr	9	1	11	0	1 Hr	15	2	7	0
08:00	0	0	3	0	08:00	3	0	4	0	08:00	9	1	3	1
08:15	2	0	2	0	08:15	5	2	14	0	08:15	12	0	3	0
08:30	3	0	23	0	08:30	8	0	13	0	08:30	22	0	16	1
08:45	5	0	13	0	08:45	6	1	18	0	08:45	12	0	2	0
1 Hr	10	0	41	0	1 Hr	22	3	49	0	1 Hr	55	1	24	2
09:00	4	0	3	0	09:00	9	0	8	0	09:00	10	0	11	0
09:15	0	0	4	0	09:15	12	0	13	0	09:15	5	0	9	0
09:30	7	0	6	0	09:30	6	0	4	0	09:30	10	0	2	0
09:45	7	0	5	0	09:45	6	0	7	0	09:45	7	0	10	0
1 Hr	18	0	18	0	1 Hr	33	0	32	0	1 Hr	32	0	32	0
10:00	1	0	7	0	10:00	5	2	3	0	10:00	12	0	9	0
10:15	3	0	4	0	10:15	6	1	3	0	10:15	11	0	7	0
10:30	6	0	4	0	10:30	4	0	13	0	10:30	4	0	18	0
10:45	2	0	8	1	10:45	10	0	12	0	10:45	7	0	10	0
1 Hr	12	0	23	1	1 Hr	25	3	31	0	1 Hr	34	0	44	0
11:00	0	0	3	0	11:00	7	0	13	0	11:00	11	0	9	0
11:15	2	0	2	0	11:15	14	1	5	0	11:15	8	0	6	0
11:30	0	0	6	0	11:30	3	0	4	0	11:30	5	0	6	0
11:45	6	0	3	0	11:45	10	0	9	0	11:45	6	0	8	0
1 Hr	8	0	14	0	1 Hr	34	1	31	0	1 Hr	30	0	29	0
12:00	7	0	6	0	12:00	10	0	10	0	12:00	8	0	7	0
12:15	11	0	3	0	12:15	10	0	21	0	12:15	5	0	10	0
12:30	42	1	7	0	12:30	14	0	16	0	12:30	11	0	8	0
12:45	12	0	15	0	12:45	10	1	12	0	12:45	14	0	13	0
1 Hr	72	1	31	0	1 Hr	44	1	59	0	1 Hr	38	0	38	0
13:00	20	0	10	0	13:00	19	0	19	0	13:00	13	0	9	0
13:15	5	0	39	0	13:15	13	0	12	0	13:15	15	0	15	0
13:30	5	0	14	0	13:30	13	0	20	0	13:30	7	0	11	0
13:45	3	0	16	0	13:45	27	0	4	1	13:45	12	0	25	0
1 Hr	33	0	79	0	1 Hr	72	0	55	1	1 Hr	47	0	60	0
14:00	8	0	1	0	14:00	7	0	12	1	14:00	10	0	12	0
14:15	10	0	13	0	14:15	5	0	10	1	14:15	7	0	8	0
14:30	10	0	7	0	14:30	11	0	14	0	14:30	32	0	19	0
14:45	5	0	10	0	14:45	13	0	9	1	14:45	26	0	13	0
1 Hr	33	0	31	0	1 Hr	36	0	45	3	1 Hr	75	0	52	0
15:00	5	0	10	0	15:00	6	0	22	0	15:00	13	0	12	0
15:15	4	0	8	0	15:15	11	0	10	0	15:15	9	0	12	0
15:30	8	0	8	0	15:30	11	1	7	0	15:30	22	1	22	0
15:45	2	0	5	1	15:45	25	1	14	0	15:45	11	0	11	0
1 Hr	19	0	31	1	1 Hr	53	2	53	0	1 Hr	55	1	57	0
16:00	8	0	12	0	16:00	21	0	12	0	16:00	14	2	5	0
16:15	4	0	7	0	16:15	8	0	20	0	16:15	21	0	17	0
16:30	4	0	8	0	16:30	20	0	10	0	16:30	16	0	18	0
16:45	8	0	6	0	16:45	17	0	14	0	16:45	9	0	9	0
1 Hr	24	0	33	0	1 Hr	66	0	56	0	1 Hr	60	2	49	0
17:00	6	0	3	0	17:00	8	0	21	1	17:00	7	0	12	3
17:15	2	0	3	0	17:15	10	0	22	0	17:15	7	0	10	0
17:30	5	0	4	0	17:30	13	0	22	0	17:30	7	1	7	0
17:45	6	0	3	0	17:45	32	0	20	1	17:45	18	0	12	0
1 Hr	19	0	13	0	1 Hr	63	0	85	2	1 Hr	39	1	41	3
18:00	8	0	11	0	18:00	12	0	16	0	18:00	9	0	17	0
18:15	6	0	2	0	18:15	18	0	27	0	18:15	9	0	9	0
18:30	1	0	3	0	18:30	9	0	16	0	18:30	7	0	6	0
18:45	1	0	2	1	18:45	7	0	4	0	18:45	10	0	8	0
1 Hr	16	0	18	1	1 Hr	46	0	63	0	1 Hr	35	0	40	0
Total	267	1	335	3	Total	503	11	570	6	Total	515	7	473	5

	Arm A					Arm B					Arm C			
	Northbound		Southbound			Eastbound		Westbound			Northbound		Southbound	
	Ped	PC	Ped	PC		Ped	PC	Ped	PC		Ped	PC	Ped	PC
07:00	0	0	1	0	07:00	1	0	2	0	07:00	1	0	0	0
07:15	0	0	0	0	07:15	8	0	4	1	07:15	0	0	1	0
07:30	0	0	0	0	07:30	4	1	4	0	07:30	1	0	1	0
07:45	0	0	1	0	07:45	11	0	3	0	07:45	1	0	0	0
1 Hr	0	0	2	0	1 Hr	24	1	13	1	1 Hr	3	0	2	0
08:00	0	0	0	0	08:00	14	0	9	0	08:00	2	0	0	0
08:15	0	0	0	0	08:15	4	0	12	0	08:15	1	0	3	0
08:30	0	0	0	0	08:30	13	0	17	1	08:30	4	0	2	0
08:45	0	0	1	0	08:45	12	0	15	0	08:45	1	0	2	0
1 Hr	0	0	1	0	1 Hr	43	0	53	1	1 Hr	8	0	7	0
09:00	0	0	1	0	09:00	11	0	13	0	09:00	1	0	0	0
09:15	0	0	0	0	09:15	18	0	11	0	09:15	0	0	0	0
09:30	0	0	0	0	09:30	10	0	11	0	09:30	1	0	1	0
09:45	1	0	2	0	09:45	11	1	7	0	09:45	2	0	2	0
1 Hr	1	0	3	0	1 Hr	50	1	42	0	1 Hr	4	0	3	0
10:00	0	0	1	0	10:00	8	0	15	0	10:00	2	0	0	0
10:15	0	0	0	0	10:15	5	0	8	0	10:15	2	0	3	0
10:30	0	0	0	0	10:30	16	0	12	0	10:30	1	0	0	0
10:45	1	0	0	0	10:45	15	0	9	0	10:45	1	0	3	0
1 Hr	1	0	1	0	1 Hr	44	0	44	0	1 Hr	6	0	6	0
11:00	0	0	1	0	11:00	15	0	13	0	11:00	3	0	1	0
11:15	0	0	0	0	11:15	4	0	17	0	11:15	5	0	3	0
11:30	0	0	0	0	11:30	14	0	9	0	11:30	3	0	4	0
11:45	0	0	0	0	11:45	11	0	15	0	11:45	1	0	0	0
1 Hr	0	0	1	0	1 Hr	44	0	54	0	1 Hr	12	0	8	0
12:00	1	0	0	0	12:00	11	0	25	1	12:00	1	0	2	0
12:15	2	0	1	0	12:15	17	0	13	0	12:15	3	0	0	0
12:30	0	0	1	0	12:30	8	0	16	0	12:30	1	0	2	0
12:45	0	0	2	0	12:45	14	0	12	0	12:45	0	0	2	0
1 Hr	3	0	4	0	1 Hr	50	0	66	1	1 Hr	5	0	6	0
13:00	0	0	0	0	13:00	11	0	21	0	13:00	0	0	0	0
13:15	0	0	1	0	13:15	14	0	20	0	13:15	0	0	2	0
13:30	0	0	0	0	13:30	13	0	8	0	13:30	4	0	2	0
13:45	0	0	0	0	13:45	12	0	19	0	13:45	2	0	8	0
1 Hr	0	0	1	0	1 Hr	50	0	68	0	1 Hr	6	0	12	0
14:00	0	0	0	0	14:00	11	0	8	0	14:00	2	0	1	0
14:15	0	0	1	0	14:15	14	0	17	0	14:15	3	0	1	0
14:30	0	0	1	0	14:30	24	0	16	0	14:30	6	0	1	0
14:45	0	0	0	0	14:45	14	0	11	1	14:45	2	0	2	0
1 Hr	0	0	2	0	1 Hr	63	0	52	1	1 Hr	13	0	5	0
15:00	2	0	1	0	15:00	5	1	14	0	15:00	3	0	2	0
15:15	0	0	1	0	15:15	16	1	17	0	15:15	5	0	3	0
15:30	0	0	1	0	15:30	15	2	11	0	15:30	0	0	3	0
15:45	2	0	2	0	15:45	10	0	9	1	15:45	1	0	1	0
1 Hr	4	0	5	0	1 Hr	46	4	51	1	1 Hr	9	0	9	0
16:00	0	0	0	0	16:00	7	0	21	0	16:00	2	0	0	0
16:15	1	0	0	0	16:15	20	0	29	1	16:15	3	1	2	0
16:30	0	0	2	0	16:30	19	0	19	0	16:30	5	0	3	0
16:45	1	0	0	0	16:45	8	0	16	1	16:45	2	0	2	0
1 Hr	2	0	2	0	1 Hr	54	0	85	2	1 Hr	12	1	7	0
17:00	1	0	0	0	17:00	12	0	18	0	17:00	1	0	0	0
17:15	0	0	1	0	17:15	19	0	21	0	17:15	2	0	1	0
17:30	0	0	0	0	17:30	17	0	26	0	17:30	5	0	4	0
17:45	3	0	1	0	17:45	22	1	26	0	17:45	3	0	2	0
1 Hr	4	0	2	0	1 Hr	70	1	91	0	1 Hr	11	0	7	0
18:00	2	0	0	0	18:00	15	0	20	0	18:00	8	0	4	0
18:15	0	0	2	0	18:15	13	0	27	0	18:15	5	0	1	0
18:30	2	0	0	0	18:30	7	0	28	0	18:30	3	0	4	0
18:45	1	0	0	0	18:45	7	0	14	0	18:45	5	0	3	0
1 Hr	5	0	2	0	1 Hr	42	0	89	0	1 Hr	21	0	12	0
Total	20	0	26	0	Total	580	7	708	7	Total	110	1	84	0

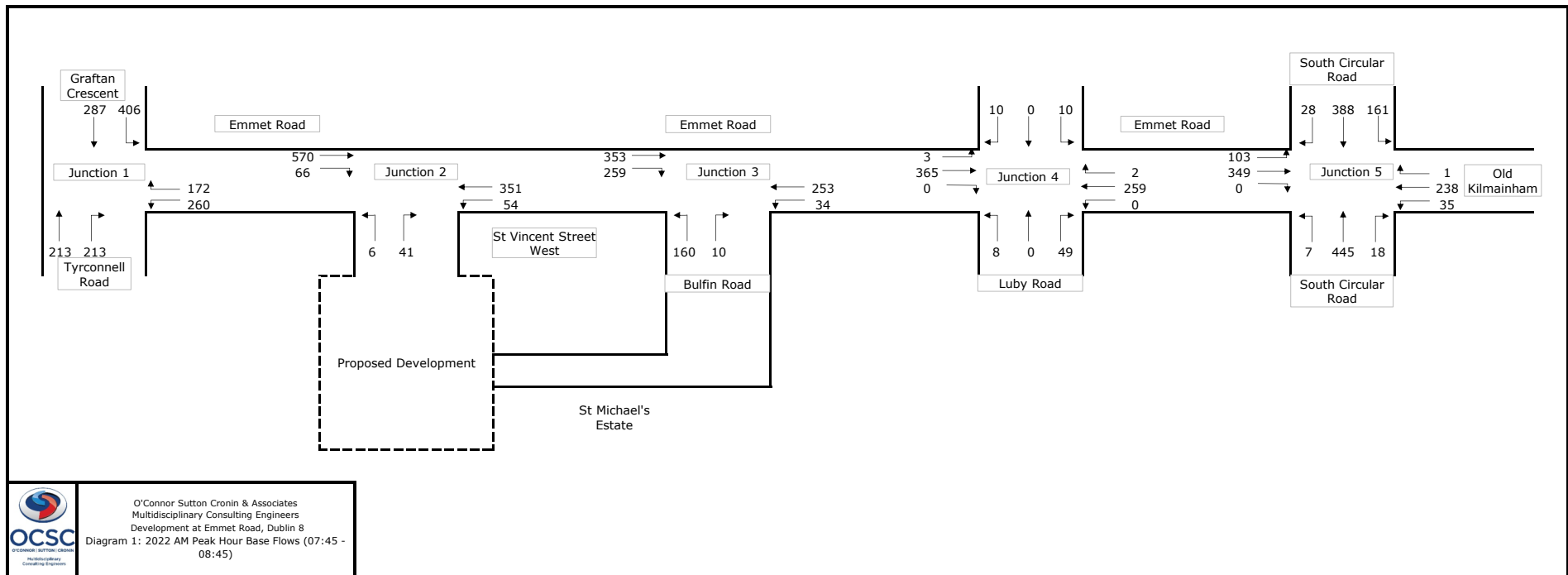
	Arm A					Arm B					Arm C			
	Northbound		Southbound			Eastbound		Westbound			Northbound		Southbound	
	Ped	PC	Ped	PC		Ped	PC	Ped	PC		Ped	PC	Ped	PC
07:00	1	0	2	0	07:00	0	0	0	0	07:00	0	0	1	0
07:15	2	0	2	0	07:15	2	0	1	0	07:15	0	0	0	0
07:30	5	0	3	0	07:30	5	0	6	0	07:30	1	0	0	0
07:45	4	1	4	0	07:45	5	1	4	0	07:45	0	0	0	0
1 Hr	12	1	11	0	1 Hr	12	1	11	0	1 Hr	1	0	1	0
08:00	7	0	3	0	08:00	9	0	2	0	08:00	0	0	0	0
08:15	4	0	2	0	08:15	3	0	1	0	08:15	0	0	0	0
08:30	5	0	5	0	08:30	8	0	7	1	08:30	1	0	0	0
08:45	4	0	11	0	08:45	3	0	7	0	08:45	0	0	0	0
1 Hr	20	0	21	0	1 Hr	23	0	17	1	1 Hr	1	0	0	0
09:00	5	0	8	0	09:00	7	0	3	0	09:00	0	0	0	0
09:15	6	0	7	0	09:15	3	0	4	0	09:15	0	0	1	0
09:30	7	0	3	0	09:30	8	0	4	0	09:30	0	0	0	0
09:45	6	0	4	0	09:45	2	0	3	0	09:45	0	0	0	0
1 Hr	24	0	22	0	1 Hr	20	0	14	0	1 Hr	0	0	1	0
10:00	6	0	3	0	10:00	3	0	6	0	10:00	1	0	0	0
10:15	5	0	3	0	10:15	7	0	1	0	10:15	1	0	1	0
10:30	3	0	5	0	10:30	9	0	6	0	10:30	0	0	0	0
10:45	3	0	2	0	10:45	6	0	5	0	10:45	4	0	2	0
1 Hr	17	0	13	0	1 Hr	25	0	18	0	1 Hr	6	0	3	0
11:00	7	0	0	0	11:00	8	0	2	0	11:00	2	0	0	0
11:15	4	0	3	1	11:15	6	0	2	0	11:15	1	0	1	0
11:30	0	1	0	0	11:30	6	0	1	0	11:30	1	0	0	0
11:45	3	0	5	0	11:45	1	0	3	0	11:45	1	0	1	0
1 Hr	14	1	8	1	1 Hr	21	0	8	0	1 Hr	5	0	2	0
12:00	8	0	6	0	12:00	5	0	5	0	12:00	1	0	1	0
12:15	4	0	1	0	12:15	5	0	3	0	12:15	0	0	0	0
12:30	5	0	5	0	12:30	6	0	3	0	12:30	1	0	0	0
12:45	2	0	6	1	12:45	2	0	3	0	12:45	0	0	1	0
1 Hr	19	0	18	1	1 Hr	18	0	14	0	1 Hr	2	0	2	0
13:00	4	0	8	0	13:00	13	0	10	0	13:00	2	0	1	0
13:15	4	0	9	0	13:15	3	0	4	0	13:15	0	0	0	0
13:30	7	0	4	0	13:30	5	0	3	0	13:30	2	0	2	0
13:45	12	0	5	0	13:45	2	1	5	0	13:45	0	0	1	0
1 Hr	27	0	26	0	1 Hr	23	1	22	0	1 Hr	4	0	4	0
14:00	7	0	4	0	14:00	4	0	7	0	14:00	1	0	0	0
14:15	5	0	10	0	14:15	1	0	3	0	14:15	2	0	0	0
14:30	6	0	7	0	14:30	7	0	5	0	14:30	3	0	0	0
14:45	11	0	4	0	14:45	9	0	3	0	14:45	0	0	2	0
1 Hr	29	0	25	0	1 Hr	21	0	18	0	1 Hr	6	0	2	0
15:00	5	0	2	0	15:00	6	0	3	0	15:00	2	0	2	0
15:15	4	0	7	0	15:15	4	0	5	0	15:15	1	0	0	0
15:30	5	0	2	0	15:30	6	1	0	0	15:30	1	0	0	0
15:45	4	0	4	0	15:45	1	1	4	0	15:45	0	1	1	0
1 Hr	18	0	15	0	1 Hr	17	2	12	0	1 Hr	4	1	3	0
16:00	8	0	10	0	16:00	7	0	7	0	16:00	1	0	1	0
16:15	4	0	3	0	16:15	1	0	14	0	16:15	0	0	0	0
16:30	3	0	3	0	16:30	4	0	6	0	16:30	0	0	0	0
16:45	7	0	1	0	16:45	11	0	3	0	16:45	0	0	0	0
1 Hr	22	0	17	0	1 Hr	23	0	30	0	1 Hr	1	0	1	0
17:00	3	1	3	0	17:00	4	0	7	0	17:00	0	0	1	0
17:15	12	0	4	0	17:15	8	0	6	0	17:15	1	0	2	0
17:30	5	0	2	0	17:30	9	0	6	0	17:30	0	0	0	0
17:45	15	0	8	0	17:45	5	0	5	0	17:45	0	0	2	0
1 Hr	35	1	17	0	1 Hr	26	0	24	0	1 Hr	1	0	5	0
18:00	3	0	3	0	18:00	10	0	11	0	18:00	0	0	0	0
18:15	6	0	4	0	18:15	13	0	1	1	18:15	0	0	2	0
18:30	7	0	1	0	18:30	5	0	7	0	18:30	0	0	0	0
18:45	5	0	0	0	18:45	4	0	7	0	18:45	0	0	2	0
1 Hr	21	0	8	0	1 Hr	32	0	26	1	1 Hr	0	0	4	0
Total	258	3	201	2	Total	261	4	214	2	Total	31	1	28	0

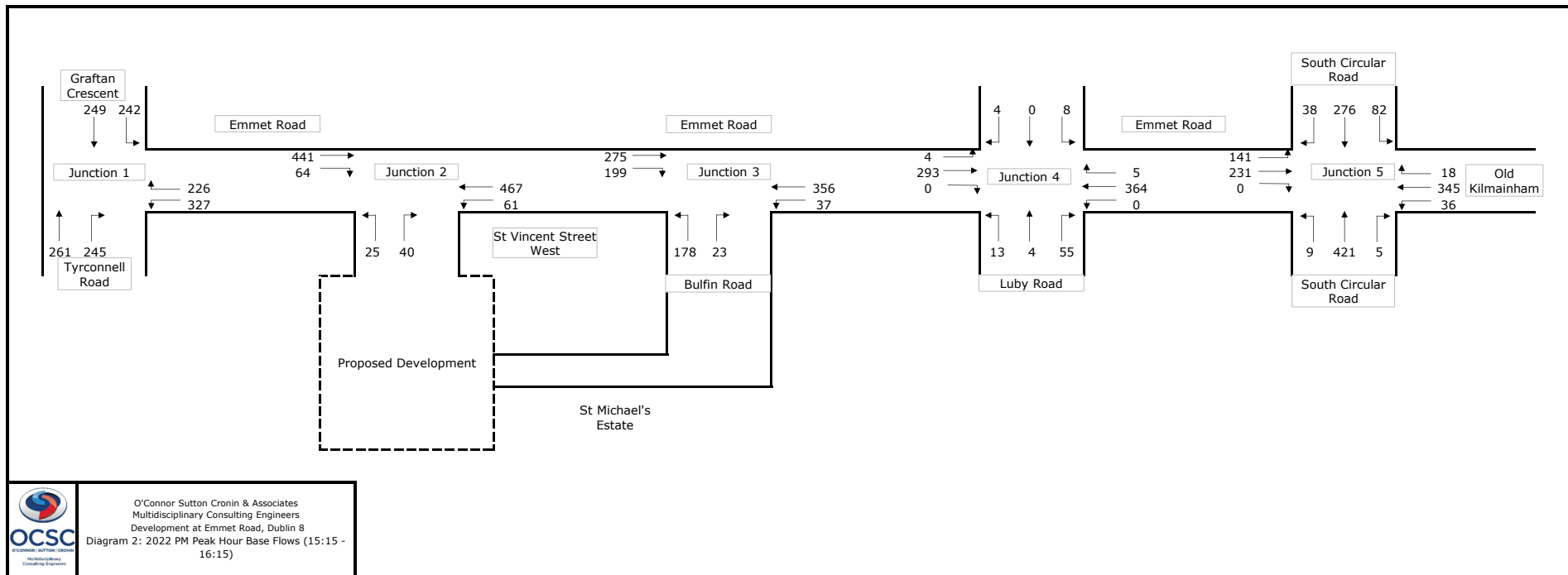
	Arm A				Arm B				Arm C				Arm D						
	Eastbound		Westbound		Northbound		Southbound		Eastbound		Westbound		Northbound		Southbound				
	Ped	PC	Ped	PC	Ped	PC	Ped	PC	Ped	PC	Ped	PC	Ped	PC	Ped	PC			
07:00	4	0	1	0	07:00	1	0	0	0	07:00	3	0	1	0	07:00	0	0	1	0
07:15	4	0	0	0	07:15	2	0	1	0	07:15	3	0	1	0	07:15	0	0	0	0
07:30	2	0	1	0	07:30	2	0	1	0	07:30	2	0	4	0	07:30	0	0	1	0
07:45	3	1	1	0	07:45	1	0	0	0	07:45	8	0	0	0	07:45	0	0	1	0
1 Hr	13	1	3	0	1 Hr	6	0	2	0	1 Hr	16	0	6	0	1 Hr	0	0	3	0
08:00	7	0	2	0	08:00	1	0	2	0	08:00	4	0	1	0	08:00	1	0	2	0
08:15	10	0	4	1	08:15	2	0	1	0	08:15	2	0	1	0	08:15	0	0	5	0
08:30	9	0	2	0	08:30	5	0	0	0	08:30	8	0	10	0	08:30	0	0	9	0
08:45	6	0	8	1	08:45	8	0	0	0	08:45	5	0	2	0	08:45	2	0	3	0
1 Hr	32	0	16	2	1 Hr	16	0	3	0	1 Hr	19	0	14	0	1 Hr	3	0	19	0
09:00	8	0	3	0	09:00	1	0	0	0	09:00	4	0	2	0	09:00	3	0	0	0
09:15	2	0	3	0	09:15	2	0	0	0	09:15	1	0	1	0	09:15	0	0	0	0
09:30	5	0	2	0	09:30	2	0	0	0	09:30	4	0	4	0	09:30	0	0	1	0
09:45	3	0	2	0	09:45	0	0	2	0	09:45	2	0	2	0	09:45	1	0	1	0
1 Hr	18	0	10	0	1 Hr	5	0	2	0	1 Hr	11	0	9	0	1 Hr	4	0	2	0
10:00	3	0	2	0	10:00	2	0	1	0	10:00	0	0	4	0	10:00	1	0	1	0
10:15	6	0	4	0	10:15	1	0	0	0	10:15	0	0	1	0	10:15	3	0	1	0
10:30	4	0	4	0	10:30	1	0	0	0	10:30	5	0	4	0	10:30	0	0	0	0
10:45	0	0	1	0	10:45	1	0	1	0	10:45	3	0	4	0	10:45	0	0	1	0
1 Hr	13	0	11	0	1 Hr	5	0	2	0	1 Hr	8	0	13	0	1 Hr	4	0	3	0
11:00	3	0	2	0	11:00	0	0	0	0	11:00	3	0	3	0	11:00	0	0	1	0
11:15	6	0	4	0	11:15	1	0	0	0	11:15	3	0	5	0	11:15	0	0	1	0
11:30	5	0	4	0	11:30	1	0	1	0	11:30	2	0	1	0	11:30	1	0	3	0
11:45	1	0	4	0	11:45	1	0	0	0	11:45	1	0	2	0	11:45	0	0	2	0
1 Hr	15	0	14	0	1 Hr	3	0	1	0	1 Hr	9	0	11	0	1 Hr	1	0	7	0
12:00	4	0	8	0	12:00	1	0	1	0	12:00	1	0	2	0	12:00	0	0	1	0
12:15	2	0	4	0	12:15	1	0	0	0	12:15	4	0	3	0	12:15	3	0	2	0
12:30	11	1	4	0	12:30	2	0	4	0	12:30	10	0	1	0	12:30	4	0	3	0
12:45	4	0	4	0	12:45	2	0	2	0	12:45	4	0	1	0	12:45	3	0	1	0
1 Hr	21	1	20	0	1 Hr	6	0	7	0	1 Hr	19	0	7	0	1 Hr	10	0	7	0
13:00	3	0	4	0	13:00	2	0	0	0	13:00	6	0	3	0	13:00	1	0	4	0
13:15	1	0	4	0	13:15	1	0	1	0	13:15	6	0	3	0	13:15	1	0	1	0
13:30	6	0	6	0	13:30	1	0	0	0	13:30	2	0	3	0	13:30	1	0	1	0
13:45	6	0	8	0	13:45	1	0	0	0	13:45	3	0	1	0	13:45	2	0	2	0
1 Hr	16	0	22	0	1 Hr	5	0	1	0	1 Hr	17	0	10	0	1 Hr	5	0	8	0
14:00	7	0	7	0	14:00	0	0	0	0	14:00	4	0	8	0	14:00	2	0	2	0
14:15	2	0	7	0	14:15	3	0	1	0	14:15	0	0	5	0	14:15	3	0	7	0
14:30	12	0	6	0	14:30	5	0	0	0	14:30	3	0	3	0	14:30	2	0	1	0
14:45	3	0	4	0	14:45	2	0	0	0	14:45	6	0	4	0	14:45	5	0	0	0
1 Hr	24	0	24	0	1 Hr	10	0	1	0	1 Hr	13	0	20	0	1 Hr	12	0	10	0
15:00	5	1	8	0	15:00	3	0	0	0	15:00	5	0	5	0	15:00	4	0	0	0
15:15	10	0	9	0	15:15	2	0	1	0	15:15	5	0	0	0	15:15	6	0	0	0
15:30	7	0	3	0	15:30	1	0	0	0	15:30	1	0	2	0	15:30	0	0	1	0
15:45	4	0	4	0	15:45	3	0	0	0	15:45	2	0	2	0	15:45	1	0	2	0
1 Hr	26	1	24	0	1 Hr	9	0	1	0	1 Hr	13	0	9	0	1 Hr	11	0	3	0
16:00	3	0	7	1	16:00	4	0	0	0	16:00	4	1	6	0	16:00	0	1	3	1
16:15	10	1	5	0	16:15	0	0	0	0	16:15	2	0	4	1	16:15	4	1	2	0
16:30	5	0	9	1	16:30	0	0	3	0	16:30	3	0	5	0	16:30	3	0	0	0
16:45	7	0	3	0	16:45	1	0	3	0	16:45	5	0	2	0	16:45	1	0	0	0
1 Hr	25	1	24	2	1 Hr	5	0	6	0	1 Hr	14	1	17	1	1 Hr	8	2	5	1
17:00	6	0	11	0	17:00	2	0	0	0	17:00	3	0	6	0	17:00	1	0	3	0
17:15	8	0	6	1	17:15	7	0	0	0	17:15	3	0	5	0	17:15	1	0	0	0
17:30	3	0	12	2	17:30	2	0	6	0	17:30	4	0	6	0	17:30	1	0	0	0
17:45	6	0	14	0	17:45	5	0	1	0	17:45	1	0	5	0	17:45	1	0	1	0
1 Hr	23	0	43	3	1 Hr	16	0	7	0	1 Hr	11	0	22	0	1 Hr	4	0	4	0
18:00	5	0	12	0	18:00	0	0	0	0	18:00	5	0	2	0	18:00	2	0	5	0
18:15	17	1	16	0	18:15	2	0	5	0	18:15	4	0	4	0	18:15	3	0	2	0
18:30	1	0	14	0	18:30	2	0	3	0	18:30	4	0	10	0	18:30	4	0	2	0
18:45	3	0	9	0	18:45	2	0	1	0	18:45	8	0	5	0	18:45	0	0	9	0
1 Hr	26	1	51	0	1 Hr	6	0	9	0	1 Hr	21	0	21	0	1 Hr	9	0	18	0
Total	252	5	262	7	Total	92	0	42	0	Total	171	1	159	1	Total	71	2	89	1

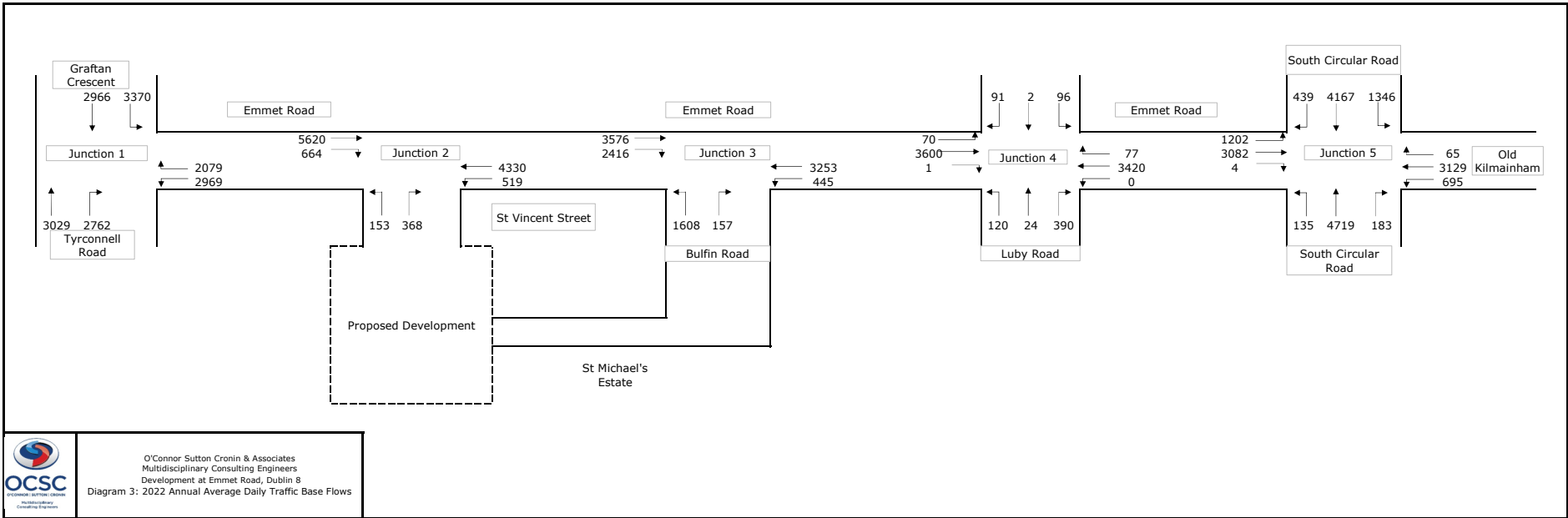


	Arm A				Arm B				Arm C				Arm D			
	Eastbound		Westbound		Northbound		Southbound		Eastbound		Westbound		Northbound		Southbound	
	Ped	PC	Ped	PC	Ped	PC	Ped	PC	Ped	PC	Ped	PC	Ped	PC	Ped	PC
07:00	2	0	0	0	2	0	2	0	3	0	3	0	7	0	6	0
07:15	3	0	1	0	4	0	3	0	8	1	4	0	5	0	16	2
07:30	0	0	1	0	3	0	3	0	7	0	5	0	9	0	24	1
07:45	4	0	3	0	10	0	4	0	11	2	2	0	9	0	17	1
1 Hr	9	0	5	0	19	0	12	0	29	3	14	0	30	0	63	4
08:00	6	0	5	0	2	0	3	0	14	2	2	0	7	0	37	1
08:15	8	0	4	1	9	0	6	0	8	1	5	1	24	2	10	3
08:30	4	0	2	0	2	0	8	0	4	2	8	0	43	6	24	1
08:45	4	0	3	0	6	0	3	0	10	1	12	0	32	1	21	0
1 Hr	22	0	14	1	19	0	20	0	36	6	27	1	106	9	92	5
09:00	6	0	2	0	5	0	4	0	11	0	3	0	19	0	24	0
09:15	2	0	2	0	3	0	3	0	5	0	4	0	16	0	17	0
09:30	4	0	2	0	5	0	3	0	6	0	2	0	26	0	12	1
09:45	4	0	5	0	7	0	3	0	4	0	4	0	11	0	9	0
1 Hr	16	0	11	0	20	0	13	0	26	0	13	0	72	0	62	1
10:00	4	0	3	0	5	0	0	0	1	0	4	0	9	0	19	0
10:15	4	0	5	0	3	0	2	0	3	0	3	1	10	0	17	0
10:30	1	0	3	0	1	0	1	0	4	0	7	0	13	0	19	0
10:45	4	0	1	0	1	0	2	0	3	0	6	0	22	0	19	0
1 Hr	13	0	12	0	10	0	5	0	11	0	20	1	54	0	74	0
11:00	2	0	3	0	3	0	5	0	10	0	7	0	16	0	25	0
11:15	2	0	1	0	8	0	5	0	8	0	7	0	27	0	14	0
11:30	1	0	5	0	7	0	2	0	8	0	5	0	13	1	20	0
11:45	5	0	4	1	3	0	2	0	4	1	4	0	19	0	27	0
1 Hr	10	0	13	1	21	0	14	0	30	1	23	0	75	1	86	0
12:00	7	0	2	0	7	0	4	0	2	0	3	0	15	0	29	0
12:15	2	0	1	0	6	0	3	0	7	0	5	0	34	0	22	0
12:30	5	0	1	0	4	0	7	0	3	0	6	0	22	0	13	0
12:45	7	1	3	0	9	0	9	0	7	1	16	3	17	2	12	0
1 Hr	21	1	7	0	26	0	23	0	19	1	30	3	88	2	76	0
13:00	3	0	4	0	9	0	6	0	7	0	4	0	23	0	28	0
13:15	3	0	7	0	17	0	10	0	4	1	0	0	52	0	24	0
13:30	5	0	1	1	5	0	11	0	2	0	2	0	25	0	19	0
13:45	7	0	2	0	5	1	13	0	2	0	1	0	18	0	16	1
1 Hr	18	0	14	1	36	1	40	0	15	1	7	0	118	0	87	1
14:00	7	0	2	0	5	0	12	0	7	0	6	0	23	1	12	0
14:15	5	0	5	1	1	0	7	0	4	0	7	0	23	0	13	1
14:30	6	0	0	1	8	0	7	0	5	0	10	0	25	2	17	6
14:45	0	0	1	2	10	0	6	0	8	0	11	0	20	0	23	2
1 Hr	18	0	8	4	24	0	32	0	24	0	34	0	91	3	65	9
15:00	5	0	8	0	7	0	1	0	2	0	9	0	30	0	17	1
15:15	4	0	3	0	8	1	9	0	7	0	3	0	19	0	16	0
15:30	10	0	3	0	8	0	11	0	6	0	4	0	24	0	27	0
15:45	3	1	1	1	16	0	1	0	4	0	4	0	18	0	14	0
1 Hr	22	1	15	1	39	1	22	0	19	0	20	0	91	0	74	1
16:00	33	0	7	2	9	0	3	0	3	0	10	0	22	0	39	4
16:15	6	0	2	4	11	1	6	0	6	0	6	0	19	0	19	0
16:30	4	0	4	1	13	1	11	0	4	0	6	0	18	0	22	0
16:45	7	0	12	1	8	0	8	0	13	0	8	0	19	1	32	0
1 Hr	50	0	25	8	41	2	28	0	26	0	30	0	78	1	112	4
17:00	2	0	11	0	15	0	8	0	9	0	5	0	13	0	26	0
17:15	7	0	9	0	13	0	8	0	7	0	6	0	24	0	38	0
17:30	9	1	11	3	12	0	7	0	9	0	13	1	30	1	27	2
17:45	5	0	10	2	7	0	12	0	3	0	17	0	31	1	34	0
1 Hr	23	1	41	5	47	0	35	0	28	0	41	1	98	2	125	2
18:00	5	0	7	2	12	0	15	0	6	0	7	0	18	1	19	0
18:15	9	0	13	2	26	1	15	0	8	0	19	0	32	0	27	0
18:30	4	0	4	2	11	0	8	0	4	0	8	2	26	0	11	0
18:45	9	0	4	0	21	0	14	0	7	0	10	0	29	2	14	2
1 Hr	27	0	28	6	70	1	52	0	25	0	44	2	105	3	71	2
Total	249	3	193	27	372	5	296	0	288	12	303	8	1006	21	987	29

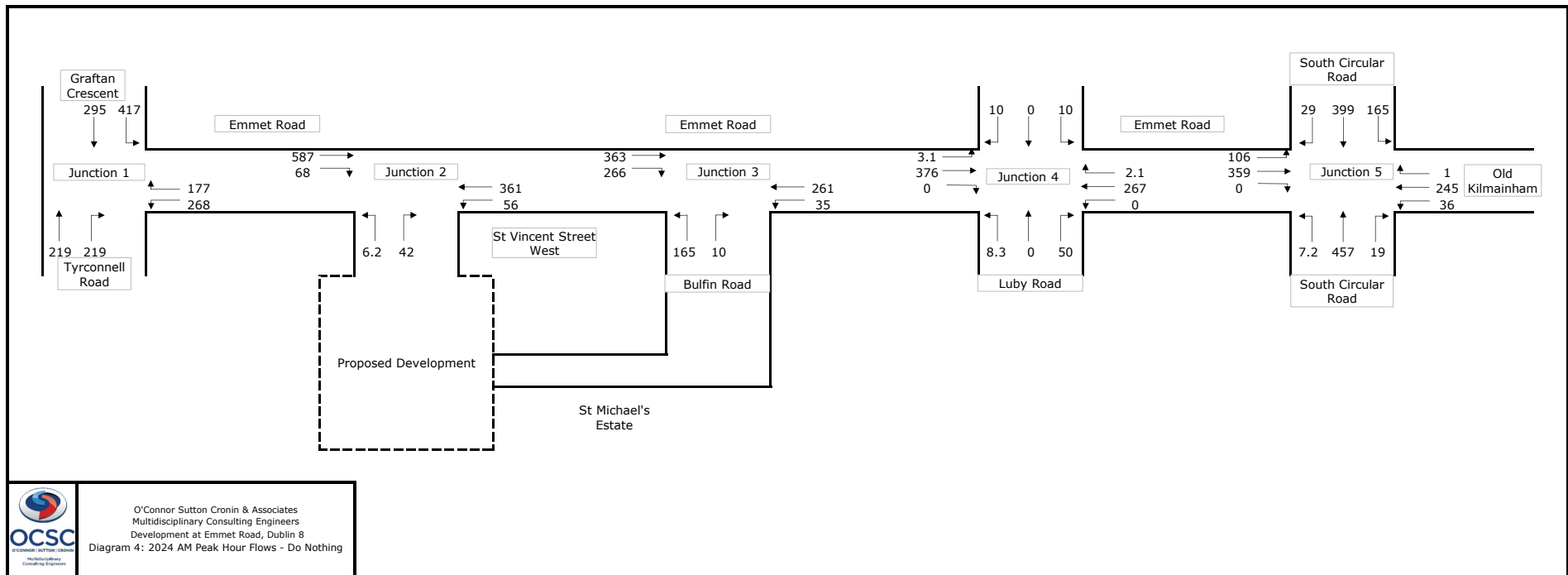
## Appendix B **TRAFFIC FLOW DIAGRAMS**

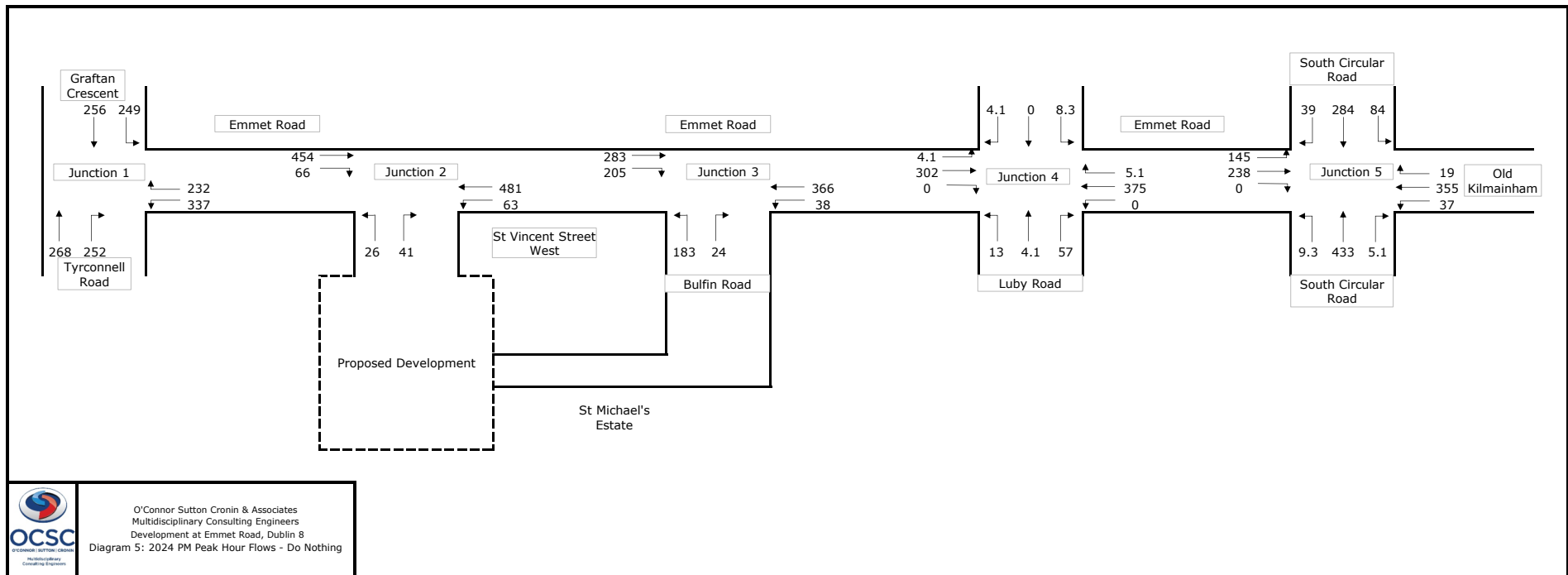




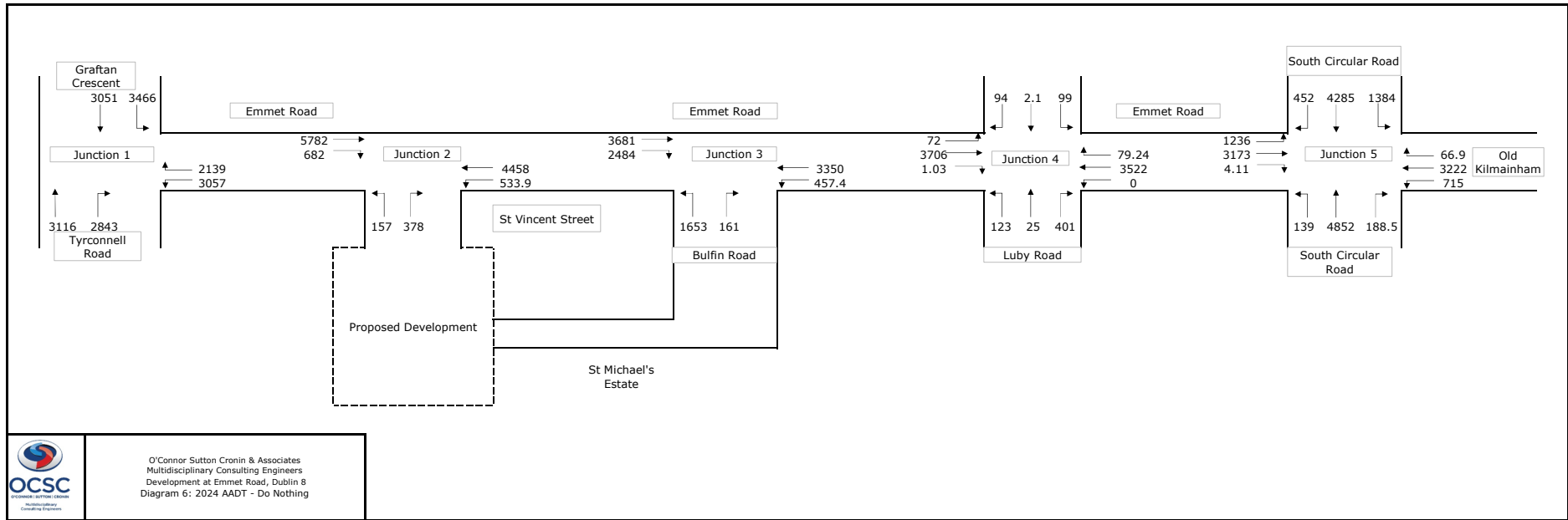


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 Multidisciplinary Consulting Engineers  
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 Diagram 3: 2022 Annual Average Daily Traffic Base Flows



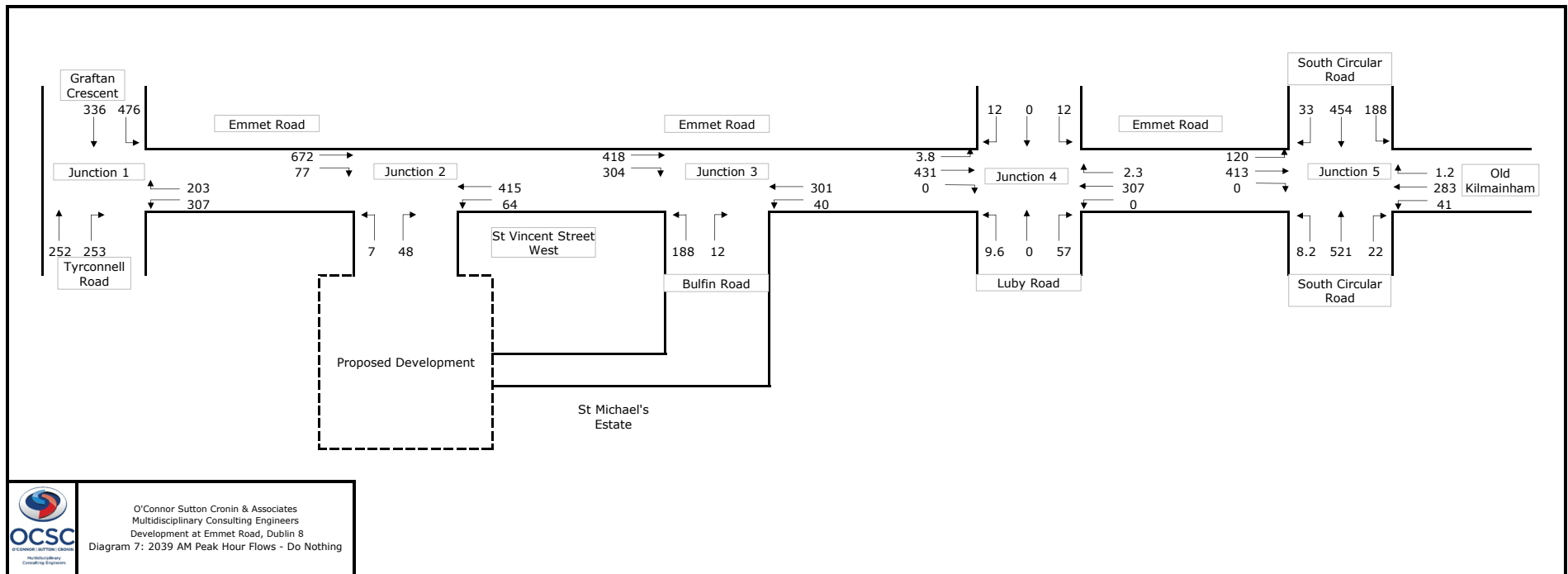


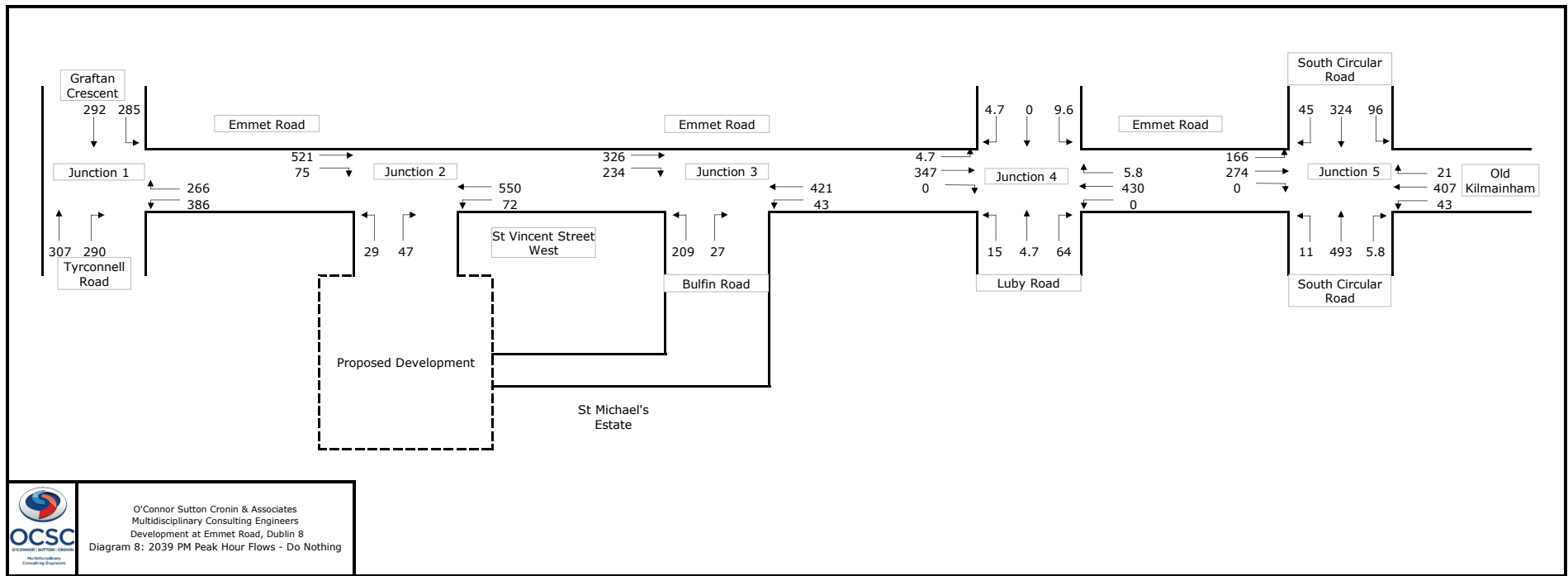
O'Connor Sutton Cronin & Associates  
 Multidisciplinary Consulting Engineers  
 Development at Emmet Road, Dublin 8  
 Diagram 5: 2024 PM Peak Hour Flows - Do Nothing

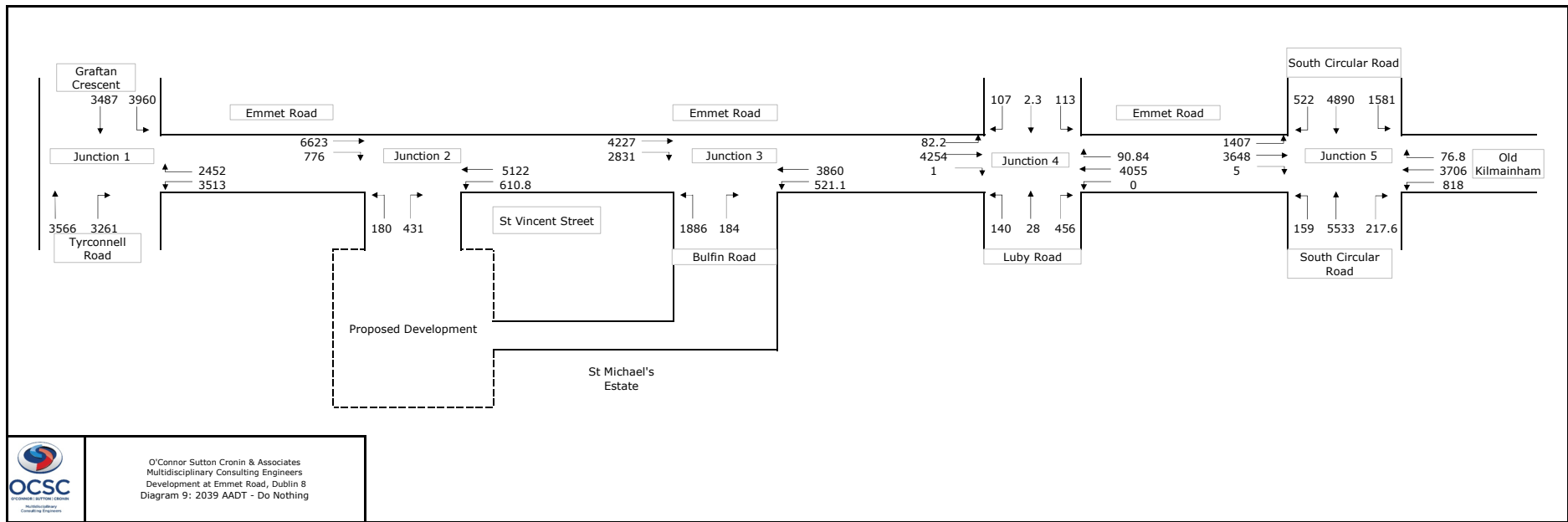


O'Connor Sutton Cronin & Associates  
 Multidisciplinary Consulting Engineers  
 Development at Emmet Road, Dublin 6  
 Diagram 6: 2024 AADT - Do Nothing

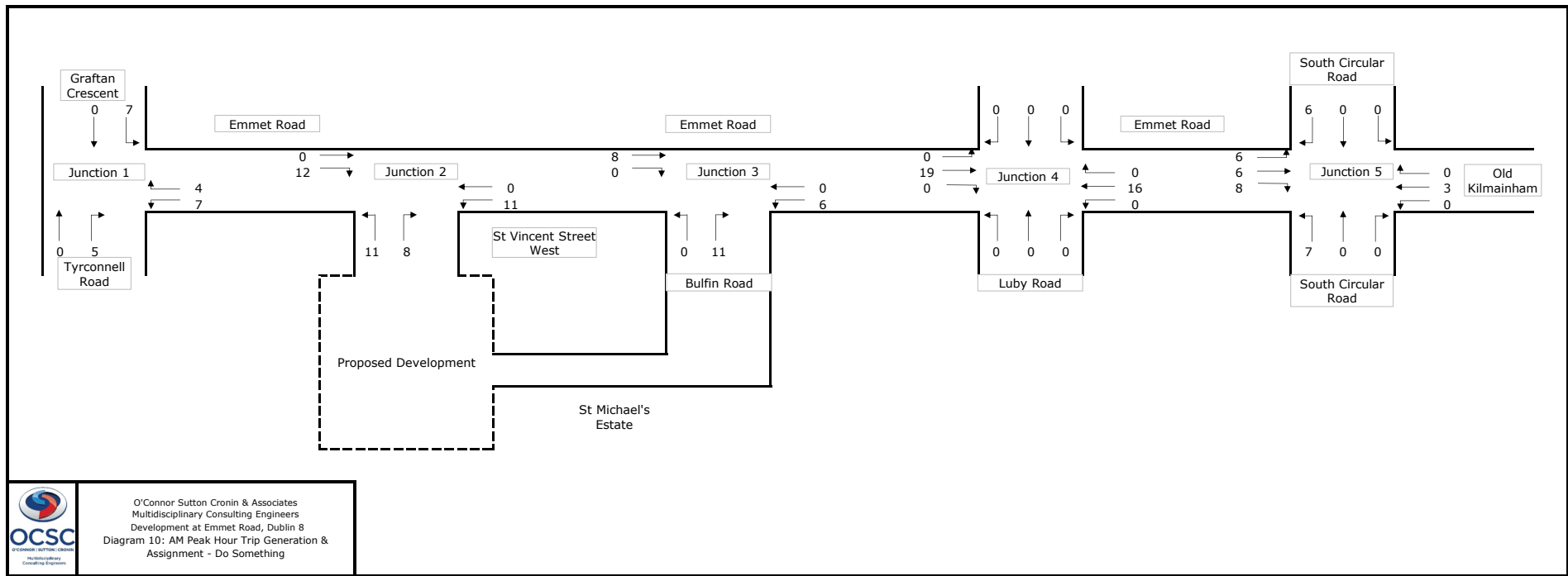




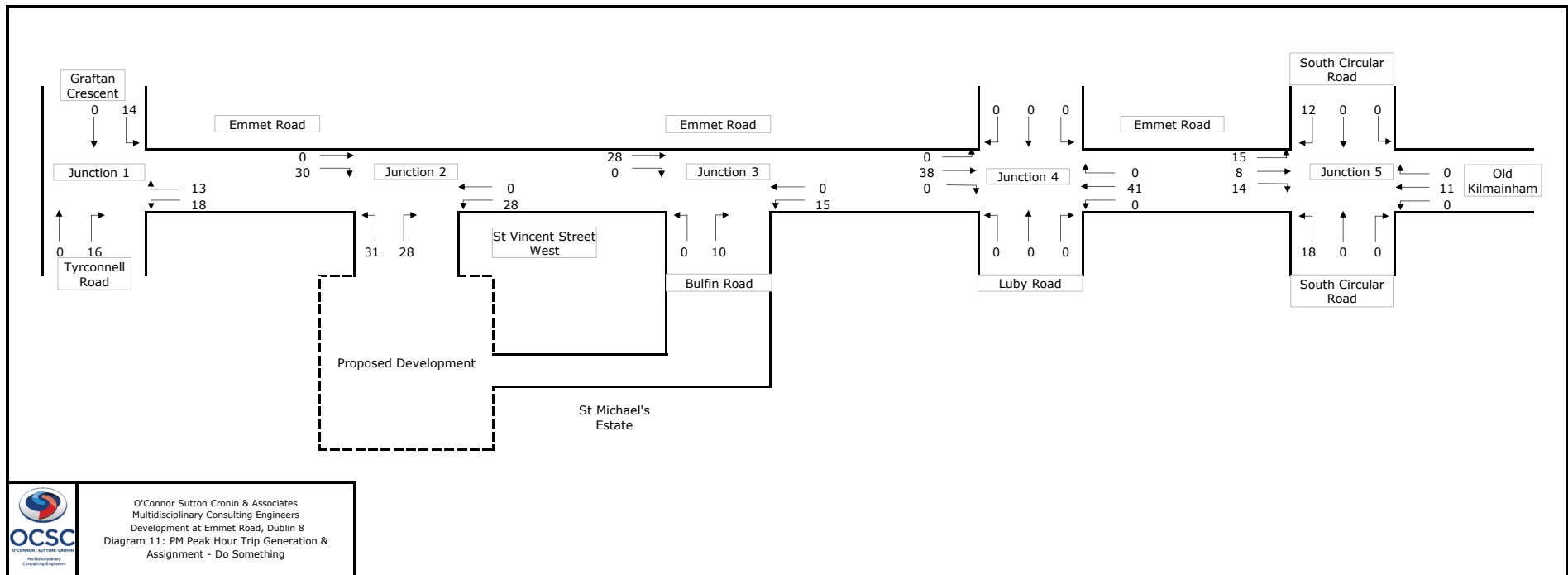





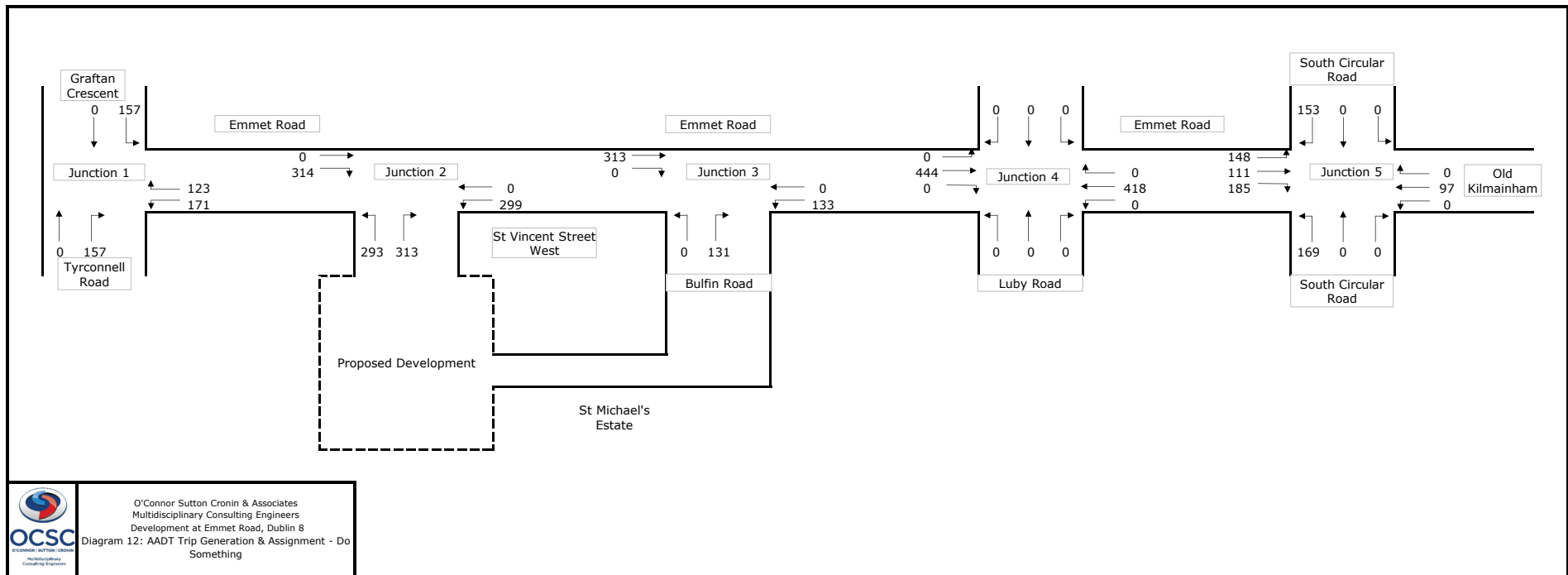
O'Connor Sutton Cronin & Associates  
 Multidisciplinary Consulting Engineers  
 Development at Emmet Road, Dublin 8  
 Diagram 9: 2039 AADT - Do Nothing

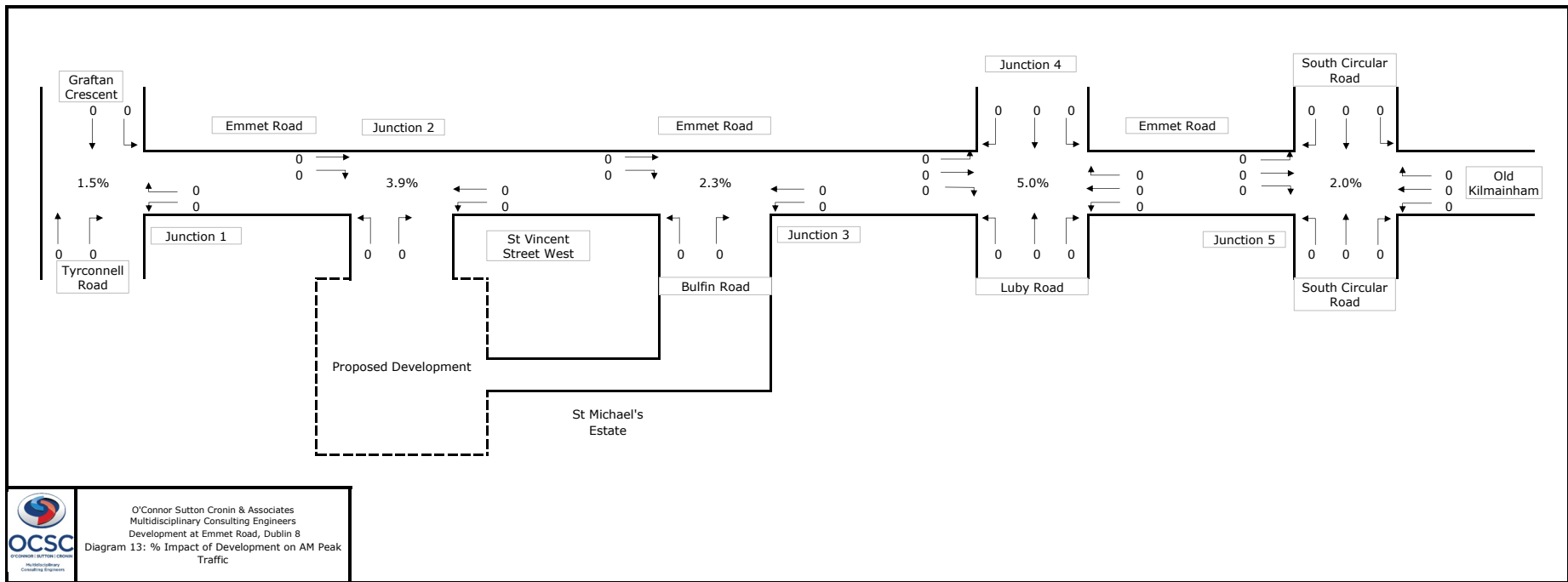


O'Connor Sutton Cronin & Associates  
 Multidisciplinary Consulting Engineers  
 Development at Emmet Road, Dublin 8  
 Diagram 10: AM Peak Hour Trip Generation &  
 Assignment - Do Something

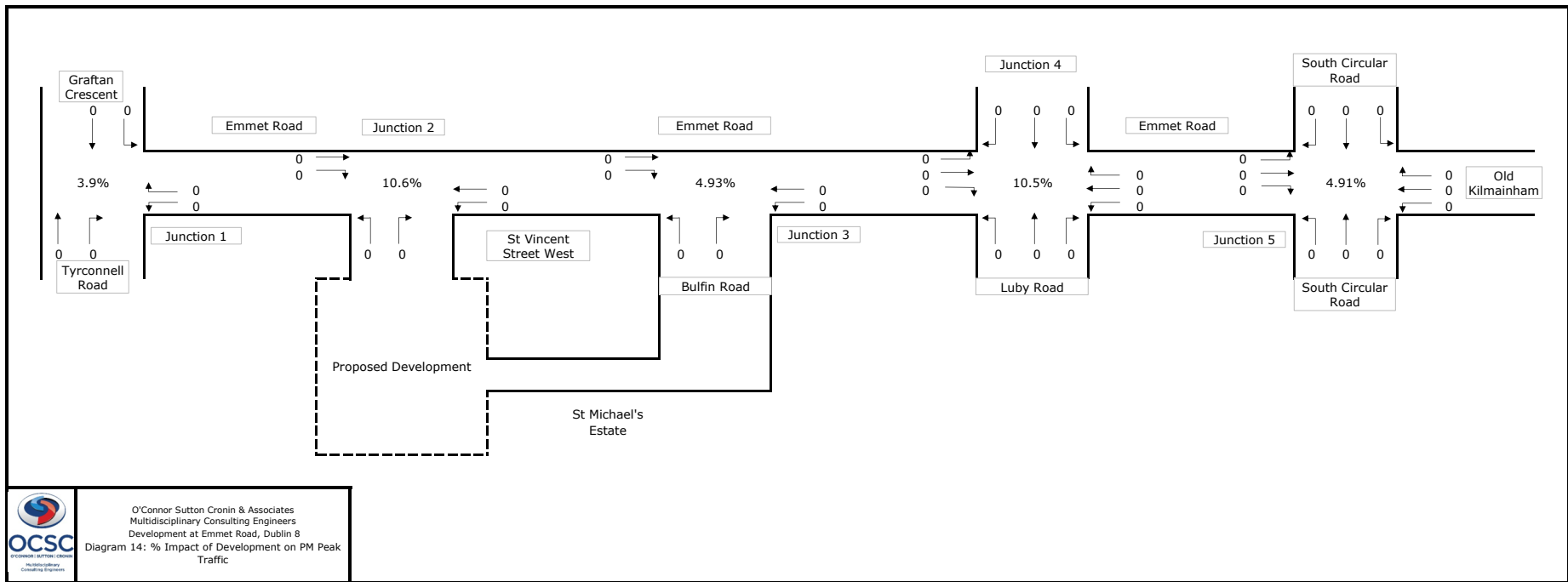



**O'Connor Sutton Cronin & Associates**  
 Multidisciplinary Consulting Engineers  
 Development at Emmet Road, Dublin 8  
 Diagram 11: PM Peak Hour Trip Generation & Assignment - Do Something



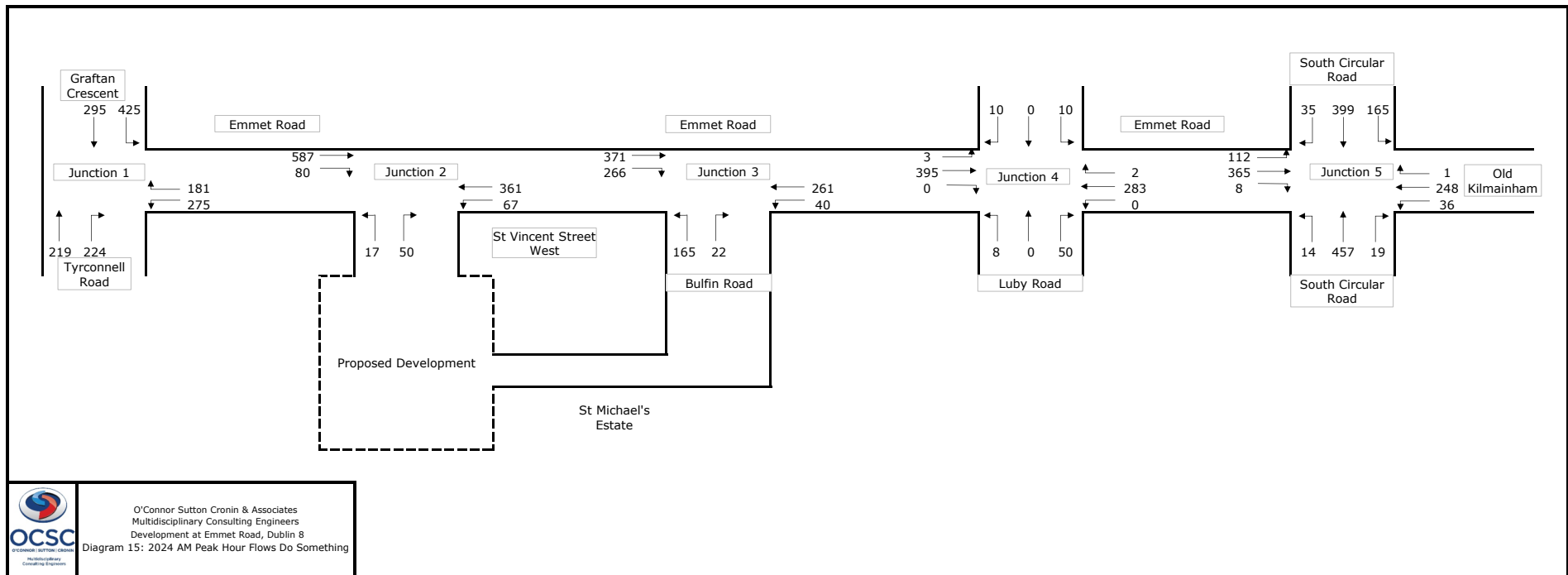


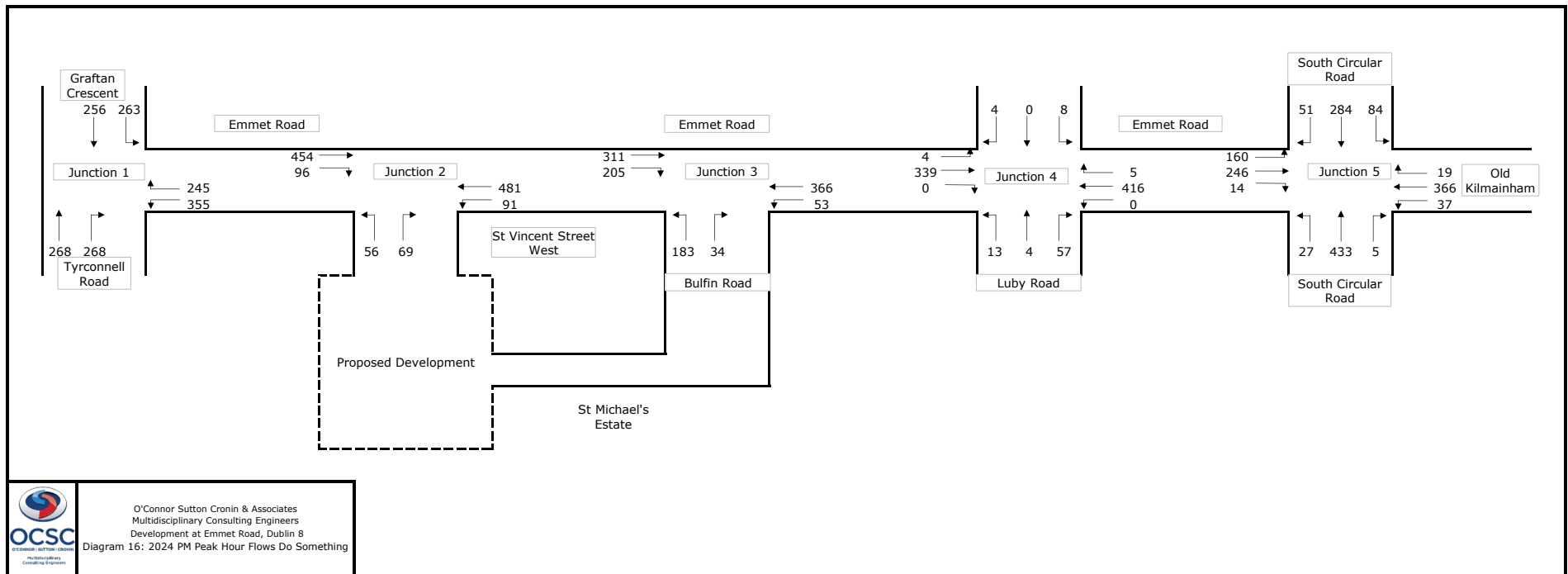
O'Connor Sutton Cronin & Associates  
 Multidisciplinary Consulting Engineers  
 Development at Emmet Road, Dublin 8  
 Diagram 13: % Impact of Development on AM Peak  
 Traffic

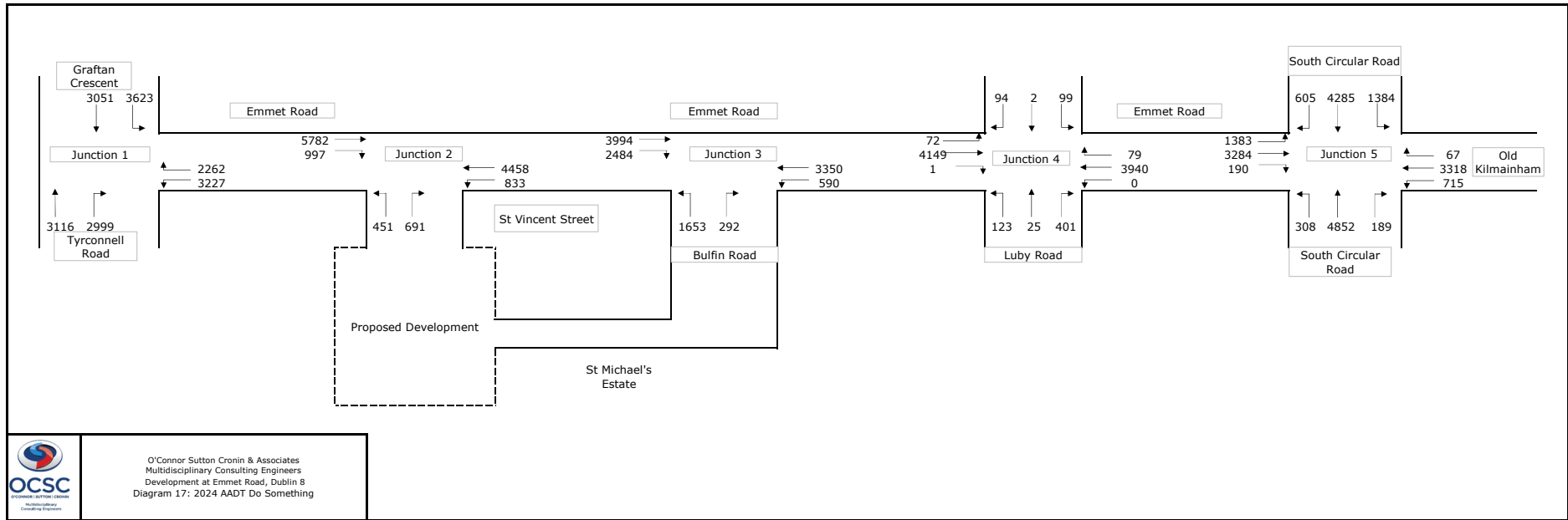


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 Diagram 14: % Impact of Development on PM Peak Traffic

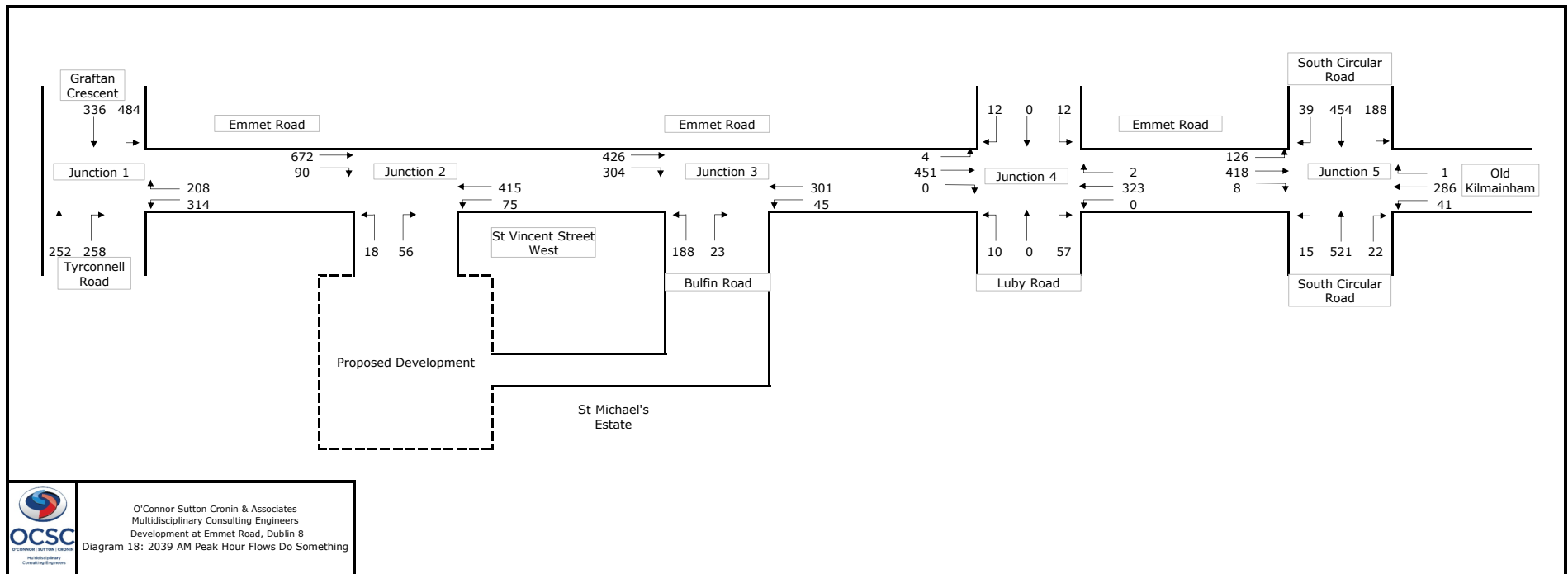


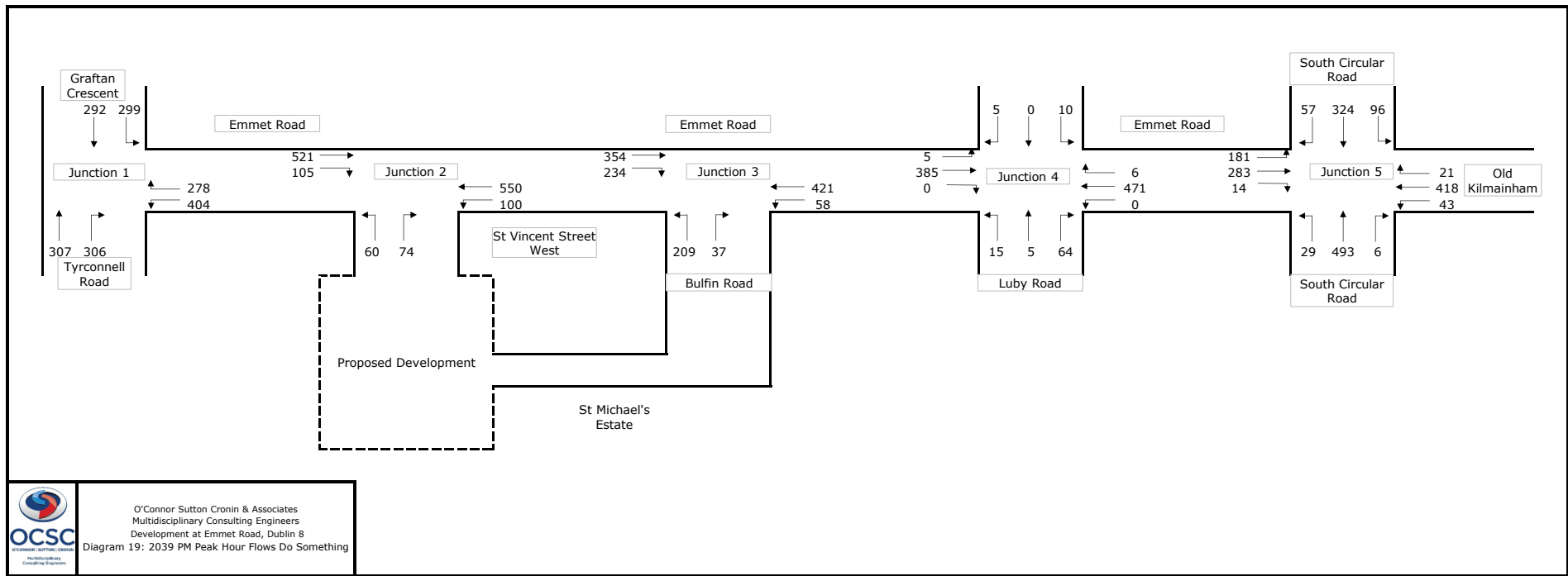


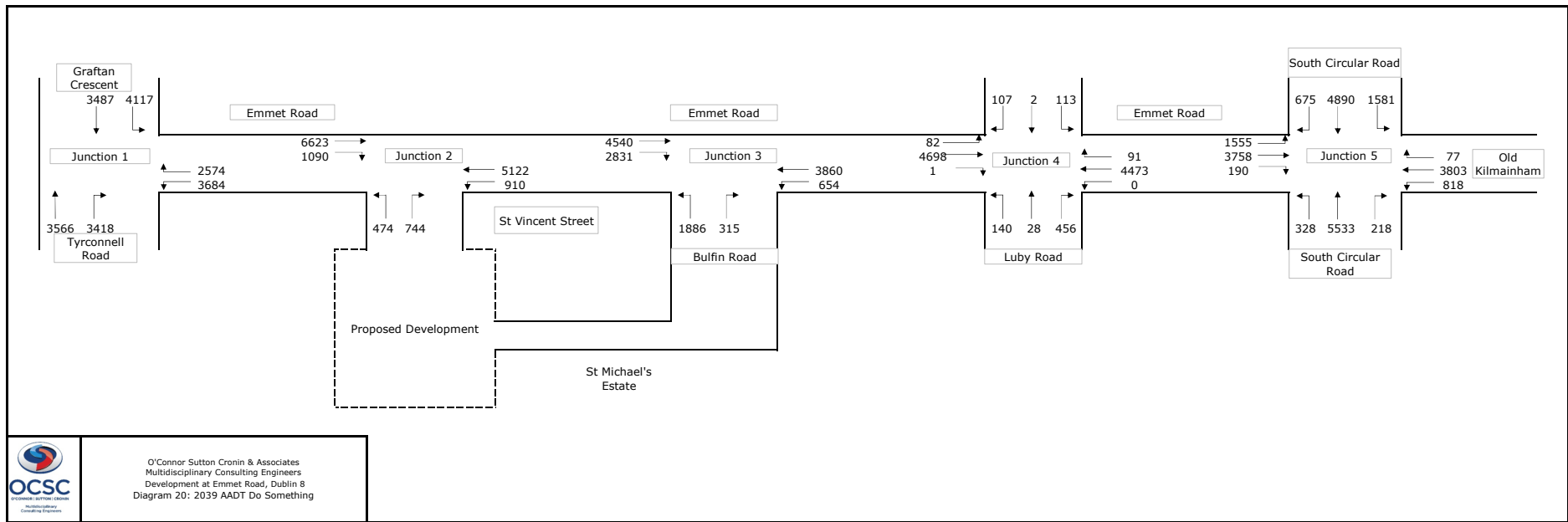




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 Diagram 17: 2024 AADT Do Something







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Diagram 20: 2039 AADT Do Something

## Appendix C **TRICS OUTPUT**

Calculation Reference: AUDIT-322901-220704-0749

## TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL  
 Category : C - FLATS PRIVATELY OWNED  
 TOTAL VEHICLES

Selected regions and areas:

01	GREATER LONDON	
	HM HAMMERSMITH AND FULHAM	1 days
	SK SOUTHWARK	1 days
	WF WALTHAM FOREST	1 days

*This section displays the number of survey days per TRICS® sub-region in the selected set*

## Primary Filtering selection:

*This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.*

Parameter: No of Dwellings  
 Actual Range: 29 to 194 (units: )  
 Range Selected by User: 6 to 493 (units: )

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/14 to 15/10/21

*This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.*

Selected survey days:

Tuesday	2 days
Thursday	1 days

*This data displays the number of selected surveys by day of the week.*

Selected survey types:

Manual count	3 days
Directional ATC Count	0 days

*This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.*

Selected Locations:

Town Centre	1
Edge of Town Centre	2

*This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.*

Selected Location Sub Categories:

Residential Zone	1
Built-Up Zone	2

*This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.*



Secondary Filtering selection:

Use Class:

C3 3 days

*This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.*

Population within 500m Range:

All Surveys Included

Population within 1 mile:

50,001 to 100,000 2 days

100,001 or More 1 days

*This data displays the number of selected surveys within stated 1-mile radii of population.*

Population within 5 miles:

500,001 or More 3 days

*This data displays the number of selected surveys within stated 5-mile radii of population.*

Car ownership within 5 miles:

0.5 or Less 2 days

0.6 to 1.0 1 days

*This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.*

Travel Plan:

Yes 2 days

No 1 days

*This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.*

PTAL Rating:

5 Very Good 1 days

6b (High) Excellent 2 days

*This data displays the number of selected surveys with PTAL Ratings.*

LIST OF SITES relevant to selection parameters

1	HM-03-C-02 GLENTHORNE ROAD HAMMERSMITH	BLOCKS OF FLATS	HAMMERSMITH AND FULHAM
	Town Centre Built-Up Zone Total No of Dwellings:	194	
	Survey date: TUESDAY	30/04/19	Survey Type: MANUAL
2	SK-03-C-02 LAMB WALK BERMONDSEY	BLOCK OF FLATS	SOUTHWARK
	Edge of Town Centre Built-Up Zone Total No of Dwellings:	29	
	Survey date: THURSDAY	23/04/15	Survey Type: MANUAL
3	WF-03-C-01 ERSKINE ROAD WALTHAMSTOW	BLOCKS OF FLATS	WALTHAM FOREST
	Edge of Town Centre Residential Zone Total No of Dwellings:	97	
	Survey date: TUESDAY	05/11/19	Survey Type: MANUAL

*This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.*

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
BD-03-C-01	high parking level
BD-03-C-02	high parking level
BK-03-C-01	high parking level
CB-03-C-01	high parking level
CO-03-C-01	high parking level
DV-03-C-01	high parking level
HF-03-C-03	high parking level
HM-03-C-01	high parking level
HO-03-C-02	high parking level
HO-03-C-03	high parking level
IS-03-C-05	information not clear
IS-03-C-06	information not clear
KI-03-C-03	high parking level
MS-03-C-04	high parking level
NF-03-C-01	high parking level
SA-03-C-01	high parking level
SF-03-C-01	high parking level
SF-03-C-05	high parking level
SK-03-C-01	high parking level
SR-03-C-01	high parking level
SR-03-C-02	high parking level
WF-03-C-02	high parking level
WF-03-C-04	high parking level
WF-03-C-05	high parking level
WM-03-C-04	high parking level

MANUALLY DESELECTED SURVEYS

Site Ref	Survey Date	Reason for Deselection
BM-03-C-01	12/11/18	high parking level
HC-03-C-01	05/06/18	high parking level
IS-03-C-07	06/06/19	high parking level
SY-03-C-01	08/09/20	Covid Restriction

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	107	0.019	3	107	0.031	3	107	0.050
08:00 - 09:00	3	107	0.016	3	107	0.031	3	107	0.047
09:00 - 10:00	3	107	0.034	3	107	0.025	3	107	0.059
10:00 - 11:00	3	107	0.034	3	107	0.022	3	107	0.056
11:00 - 12:00	3	107	0.025	3	107	0.037	3	107	0.062
12:00 - 13:00	3	107	0.016	3	107	0.022	3	107	0.038
13:00 - 14:00	3	107	0.019	3	107	0.019	3	107	0.038
14:00 - 15:00	3	107	0.013	3	107	0.022	3	107	0.035
15:00 - 16:00	3	107	0.028	3	107	0.025	3	107	0.053
16:00 - 17:00	3	107	0.050	3	107	0.034	3	107	0.084
17:00 - 18:00	3	107	0.037	3	107	0.022	3	107	0.059
18:00 - 19:00	3	107	0.047	3	107	0.037	3	107	0.084
19:00 - 20:00	3	107	0.047	3	107	0.037	3	107	0.084
20:00 - 21:00	3	107	0.013	3	107	0.013	3	107	0.026
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.398			0.377			0.775

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.

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#### Parameter summary

Trip rate parameter range selected:	29 - 194 (units: )
Survey date range:	01/01/14 - 15/10/21
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	8
Surveys manually removed from selection:	25

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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-322901-220705-0749

## TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL  
 Category : C - DISCOUNT FOOD STORES  
 TOTAL VEHICLES

Selected regions and areas:

01	GREATER LONDON LW LEWISHAM	1 days
05	EAST MIDLANDS LN LINCOLNSHIRE	1 days
06	WEST MIDLANDS WO WORCESTERSHIRE	2 days
08	NORTH WEST CH CHESHIRE	1 days
09	NORTH NB NORTHUMBERLAND	1 days
11	SCOTLAND PK PERTH & KINROSS SR STIRLING	1 days 1 days

*This section displays the number of survey days per TRICS® sub-region in the selected set*

## Primary Filtering selection:

*This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.*

Parameter: Parking spaces  
 Actual Range: 53 to 189 (units: )  
 Range Selected by User: 17 to 230 (units: )

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/14 to 23/09/21

*This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.*

Selected survey days:

Monday	3 days
Tuesday	3 days
Thursday	2 days

*This data displays the number of selected surveys by day of the week.*

Selected survey types:

Manual count	8 days
Directional ATC Count	0 days

*This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.*

Selected Locations:

Town Centre	1
Edge of Town Centre	7

*This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.*

Selected Location Sub Categories:

Residential Zone	2
Retail Zone	1
Built-Up Zone	4
No Sub Category	1

*This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.*

Secondary Filtering selection:

Use Class:

E(a) 8 days

*This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.*

Population within 500m Range:

All Surveys Included

Population within 1 mile:

10,001 to 15,000	3 days
15,001 to 20,000	2 days
20,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 100,000	1 days

*This data displays the number of selected surveys within stated 1-mile radii of population.*

Population within 5 miles:

25,001 to 50,000	1 days
50,001 to 75,000	2 days
75,001 to 100,000	1 days
100,001 to 125,000	1 days
125,001 to 250,000	2 days
500,001 or More	1 days

*This data displays the number of selected surveys within stated 5-mile radii of population.*

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	4 days

*This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.*

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	8 days

*This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.*

Travel Plan:

Yes	1 days
No	7 days

*This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.*

PTAL Rating:

No PTAL Present	7 days
6a Excellent	1 days

*This data displays the number of selected surveys with PTAL Ratings.*

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions
-----------------------	-----	--

LIST OF SITES relevant to selection parameters

1	CH-01-C-03 FENNEL STREET WARRINGTON	LI DL		CHESHIRE
	Edge of Town Centre Retail Zone Total Parking spaces:		92	
	Survey date: THURSDAY		15/04/21	Survey Type: MANUAL
2	LN-01-C-01 RICHMOND DRIVE SKEGNESS	LI DL		LINCOLNSHIRE
	Edge of Town Centre Built-Up Zone Total Parking spaces:		106	
	Survey date: TUESDAY		19/07/16	Survey Type: MANUAL
3	LW-01-C-01 RUSHEY GREEN CATFORD	ALDI		LEWISHAM
	Edge of Town Centre Residential Zone Total Parking spaces:		74	
	Survey date: MONDAY		16/11/15	Survey Type: MANUAL
4	NB-01-C-01 SCHALKSMUHLE ROAD BEDLINGTON	LI DL		NORTHUMBERLAND
	Edge of Town Centre No Sub Category Total Parking spaces:		136	
	Survey date: MONDAY		12/06/17	Survey Type: MANUAL
5	PK-01-C-02 GLASGOW ROAD PERTH	ALDI		PERTH & KINROSS
	Edge of Town Centre Built-Up Zone Total Parking spaces:		71	
	Survey date: TUESDAY		17/06/14	Survey Type: MANUAL
6	SR-01-C-01 PLAYERS ROAD STIRLING	LI DL		STIRLING
	Edge of Town Centre Built-Up Zone Total Parking spaces:		128	
	Survey date: THURSDAY		01/06/17	Survey Type: MANUAL
7	WO-01-C-02 WORCESTER ROAD MALVERN	LI DL		WORCESTERSHIRE
	Edge of Town Centre Residential Zone Total Parking spaces:		53	
	Survey date: TUESDAY		26/06/18	Survey Type: MANUAL
8	WO-01-C-03 GREEN STREET KIDDERMINSTER	ALDI		WORCESTERSHIRE
	Town Centre Built-Up Zone Total Parking spaces:		189	
	Survey date: MONDAY		12/10/20	Survey Type: MANUAL

*This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.*

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
AN-01-C-03	public transport
DN-01-C-01	public transport
IS-01-C-01	public transport
MG-01-C-01	public transport
NR-01-C-02	public transport
TY-01-C-02	public transport

MANUALLY DESELECTED SURVEYS

Site Ref	Survey Date	Reason for Deselection
HI-01-C-02	17/06/14	public transport

TRIP RATE for Land Use 01 - RETAIL/C - DISCOUNT FOOD STORES

TOTAL VEHICLES

Calculation factor: 1 PARKING SPACES

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. PARKING	Trip Rate	No. Days	Ave. PARKING	Trip Rate	No. Days	Ave. PARKING	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	106	0.047	1	106	0.019	1	106	0.066
07:00 - 08:00	8	106	0.099	8	106	0.039	8	106	0.138
08:00 - 09:00	8	106	0.445	8	106	0.300	8	106	0.745
09:00 - 10:00	8	106	0.727	8	106	0.591	8	106	1.318
10:00 - 11:00	8	106	0.815	8	106	0.680	8	106	1.495
11:00 - 12:00	8	106	0.845	8	106	0.834	8	106	1.679
12:00 - 13:00	8	106	0.779	8	106	0.808	8	106	1.587
13:00 - 14:00	8	106	0.808	8	106	0.866	8	106	1.674
14:00 - 15:00	8	106	0.903	8	106	0.845	8	106	1.748
15:00 - 16:00	8	106	0.863	8	106	0.853	8	106	1.716
16:00 - 17:00	8	106	0.886	8	106	0.949	8	106	1.835
17:00 - 18:00	8	106	0.786	8	106	0.890	8	106	1.676
18:00 - 19:00	8	106	0.642	8	106	0.731	8	106	1.373
19:00 - 20:00	8	106	0.470	8	106	0.511	8	106	0.981
20:00 - 21:00	8	106	0.286	8	106	0.402	8	106	0.688
21:00 - 22:00	8	106	0.145	8	106	0.194	8	106	0.339
22:00 - 23:00	5	107	0.017	5	107	0.047	5	107	0.064
23:00 - 24:00	1	74	0.000	1	74	0.068	1	74	0.068
Total Rates:			9.563			9.627			19.190

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.

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#### Parameter summary

Trip rate parameter range selected:	53 - 189 (units: )
Survey date range:	01/01/14 - 23/09/21
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	6

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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.



## Appendix D **MODEL OUTPUT FILE**

Junctions 9
PICADY 9 - Priority Intersection Module
Version: 9.5.1.7462 © Copyright TRL Limited, 2019
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk
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Filename: (new file)  
 Path:  
 Report generation date: 20/07/2022 09:55:59

- »J2 - 2039 DS, AM
- »J2 - 2039 DS, PM
- »J2 - 2039 DN, AM
- »J2 - 2039 DN, PM
- »J2 - 2024 DS, AM
- »J2 - 2024 DS, PM
- »J2 - 2024 DN, AM
- »J2 - 2024 DN, PM

**Summary of junction performance**

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
<b>J2 - 2039 DS</b>										
Stream B-C	D1	0.1	10.56	0.05	B	D2	0.2	12.73	0.18	B
Stream B-A		0.4	20.03	0.25	C		0.7	30.41	0.39	D
Stream C-AB		1.3	5.74	0.35	A		1.4	6.97	0.38	A
<b>J2 - 2039 DN</b>										
Stream B-C	D3	0.0	10.93	0.02	B	D4	0.1	10.64	0.08	B
Stream B-A		0.3	20.14	0.22	C		0.3	21.54	0.23	C
Stream C-AB		1.1	5.30	0.30	A		0.9	5.84	0.27	A
<b>J2 - 2024 DS</b>										
Stream B-C	D5	0.1	9.77	0.05	A	D6	0.2	11.05	0.15	B
Stream B-A		0.3	16.36	0.19	C		0.5	22.77	0.31	C
Stream C-AB		0.9	5.42	0.27	A		0.9	6.54	0.31	A
<b>J2 - 2024 DN</b>										
Stream B-C	D7	0.0	10.29	0.02	B	D8	0.1	9.77	0.07	A
Stream B-A		0.2	16.36	0.17	C		0.2	17.30	0.17	C
Stream C-AB		0.7	5.09	0.23	A		0.6	5.68	0.21	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.

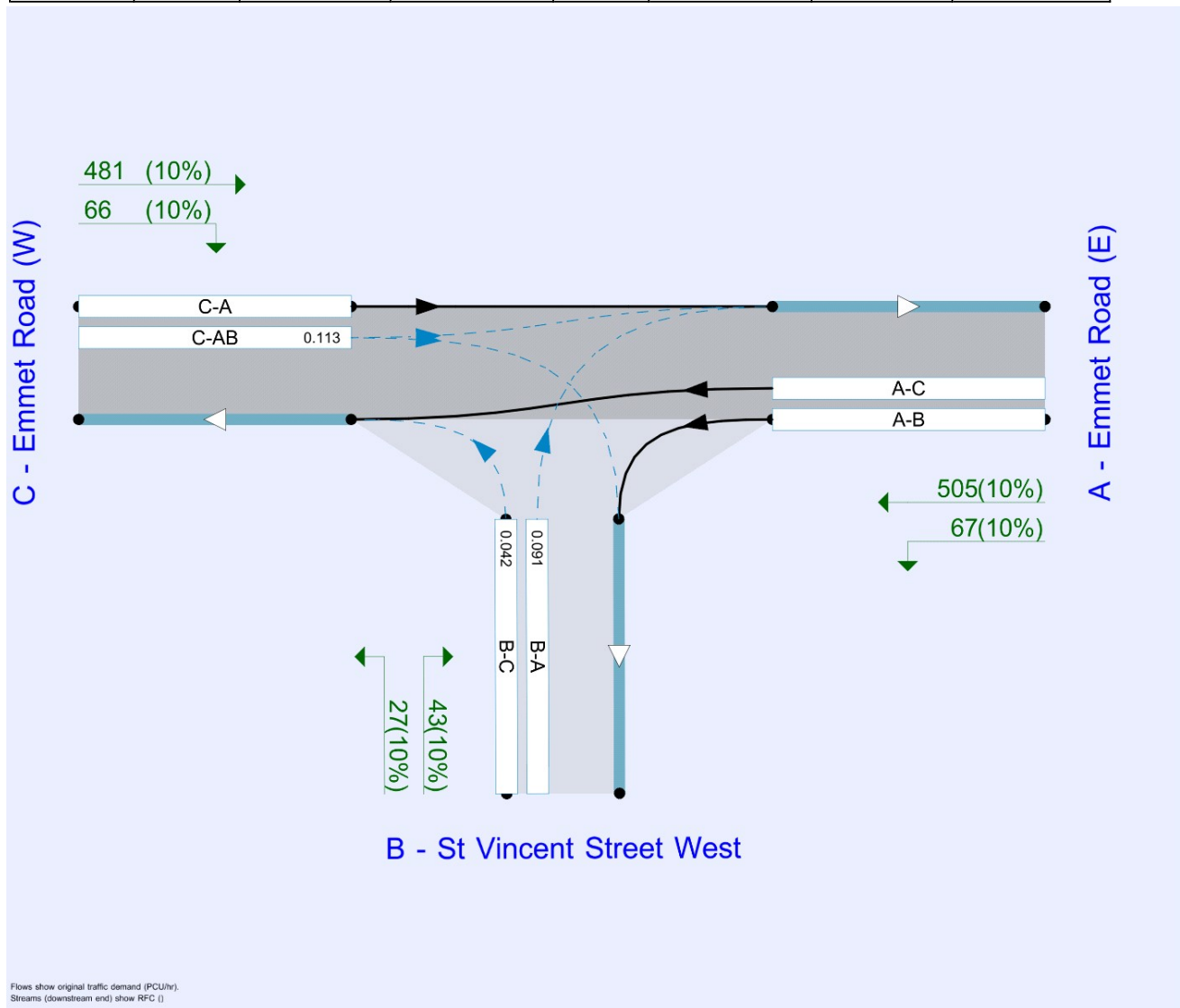
**File summary**

**File Description**

Title	
Location	
Site number	
Date	18/07/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OCSC\joshua.tai
Description	

**Units**

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



### Analysis Options

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

### Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2039 DS	AM	ONE HOUR	08:00	09:30	15
D2	2039 DS	PM	ONE HOUR	08:00	09:30	15
D3	2039 DN	AM	ONE HOUR	08:00	09:30	15
D4	2039 DN	PM	ONE HOUR	08:00	09:30	15
D5	2024 DS	AM	ONE HOUR	08:00	09:30	15
D6	2024 DS	PM	ONE HOUR	08:00	09:30	15
D7	2024 DN	AM	ONE HOUR	08:00	09:30	15
D8	2024 DN	PM	ONE HOUR	08:00	09:30	15

### Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	J2	100.000

# J2 - 2039 DS, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - St Vincent Street West - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.14	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Name	Description	Arm type
A	Emmet Road (E)		Major
B	St Vincent Street West		Minor
C	Emmet Road (W)		Major

### Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Emmet Road (W)	6.00			150.0	✓	0.00

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

### Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - St Vincent Street West	One lane plus flare	5.50	4.30	4.10	2.20	2.20	✓	1.00	20	40

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	565	0.103	0.260	0.164	0.372
B-C	538	0.082	0.208	-	-
C-B	661	0.256	0.256	-	-

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

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

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

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2039 DS	AM	ONE HOUR	08:00	09:30	15

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

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Emmet Road (E)		✓	523	100.000
B - St Vincent Street West		✓	77	100.000
C - Emmet Road (W)		✓	801	100.000

## Origin-Destination Data

### Demand (PCU/hr)

	To			
		A - Emmet Road (E)	B - St Vincent Street West	C - Emmet Road (W)
From	A - Emmet Road (E)	0	80	443
	B - St Vincent Street West	59	0	18
	C - Emmet Road (W)	709	92	0

## Vehicle Mix

### Heavy Vehicle Percentages

	To			
		A - Emmet Road (E)	B - St Vincent Street West	C - Emmet Road (W)
From	A - Emmet Road (E)	10	10	10
	B - St Vincent Street West	10	10	10
	C - Emmet Road (W)	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	10.56	0.1	B
B-A	0.25	20.03	0.4	C
C-AB	0.35	5.74	1.3	A
C-A				
A-B				
A-C				

## Main Results for each time segment

### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	448	0.030	13	0.0	9.109	A
B-A	44	359	0.124	44	0.2	12.545	B
C-AB	163	928	0.176	161	0.5	5.166	A
C-A	440			440			
A-B	60			60			
A-C	334			334			

### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	16	428	0.038	16	0.0	9.625	A
B-A	53	318	0.167	53	0.2	14.893	B
C-AB	235	987	0.238	234	0.7	5.272	A
C-A	485			485			
A-B	72			72			
A-C	398			398			

### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	395	0.050	20	0.1	10.542	B
B-A	65	263	0.247	64	0.4	19.897	C
C-AB	376	1073	0.351	374	1.3	5.695	A
C-A	505			505			
A-B	88			88			
A-C	488			488			

### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	395	0.050	20	0.1	10.563	B
B-A	65	263	0.247	65	0.4	20.032	C
C-AB	378	1074	0.352	378	1.3	5.737	A
C-A	504			504			
A-B	88			88			
A-C	488			488			

### 09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	16	427	0.038	16	0.0	9.648	A
B-A	53	318	0.167	54	0.2	15.006	C
C-AB	237	989	0.239	239	0.8	5.318	A
C-A	483			483			
A-B	72			72			
A-C	398			398			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	447	0.030	14	0.0	9.133	A
B-A	44	358	0.124	45	0.2	12.633	B
C-AB	165	929	0.177	166	0.5	5.209	A
C-A	438			438			
A-B	60			60			
A-C	334			334			



# J2 - 2039 DS, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - St Vincent Street West - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		3.34	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2039 DS	PM	ONE HOUR	08:00	09:30	15

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

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Emmet Road (E)		✓	688	100.000
B - St Vincent Street West		✓	138	100.000
C - Emmet Road (W)		✓	663	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Emmet Road (E)	B - St Vincent Street West	C - Emmet Road (W)
From	A - Emmet Road (E)	0	105	583
	B - St Vincent Street West	76	0	62
	C - Emmet Road (W)	558	105	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Emmet Road (E)	B - St Vincent Street West	C - Emmet Road (W)
From	A - Emmet Road (E)	10	10	10
	B - St Vincent Street West	10	10	10
	C - Emmet Road (W)	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.18	12.73	0.2	B
B-A	0.39	30.41	0.7	D
C-AB	0.38	6.97	1.4	A
C-A				
A-B				
A-C				

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	47	476	0.098	46	0.1	9.203	A
B-A	57	307	0.186	56	0.2	15.704	C
C-AB	161	825	0.195	159	0.5	5.944	A
C-A	338			338			
A-B	79			79			
A-C	439			439			

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	442	0.126	56	0.2	10.252	B
B-A	68	268	0.255	68	0.4	19.700	C
C-AB	226	865	0.262	225	0.7	6.209	A
C-A	370			370			
A-B	94			94			
A-C	524			524			

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	68	381	0.179	68	0.2	12.617	B
B-A	84	214	0.391	82	0.7	29.845	D
C-AB	349	923	0.378	347	1.3	6.906	A
C-A	381			381			
A-B	116			116			
A-C	642			642			

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	68	379	0.180	68	0.2	12.734	B
B-A	84	214	0.392	84	0.7	30.411	D
C-AB	351	925	0.379	351	1.4	6.967	A
C-A	379			379			
A-B	116			116			
A-C	642			642			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	439	0.127	56	0.2	10.344	B
B-A	68	268	0.255	70	0.4	20.044	C
C-AB	228	867	0.263	230	0.8	6.276	A
C-A	368			368			
A-B	94			94			
A-C	524			524			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	47	474	0.098	47	0.1	9.270	A
B-A	57	307	0.186	58	0.3	15.904	C
C-AB	162	826	0.197	164	0.5	6.000	A
C-A	337			337			
A-B	79			79			
A-C	439			439			

# J2 - 2039 DN, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - St Vincent Street West - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.75	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2039 DN	AM	ONE HOUR	08:00	09:30	15

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

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Emmet Road (E)		✓	512	100.000
B - St Vincent Street West		✓	58	100.000
C - Emmet Road (W)		✓	788	100.000

## Origin-Destination Data

### Demand (PCU/hr)

From	To		
	A - Emmet Road (E)	B - St Vincent Street West	C - Emmet Road (W)
A - Emmet Road (E)	0	69	443
B - St Vincent Street West	51	0	7
C - Emmet Road (W)	709	79	0

## Vehicle Mix

### Heavy Vehicle Percentages

From	To		
	A - Emmet Road (E)	B - St Vincent Street West	C - Emmet Road (W)
A - Emmet Road (E)	10	10	10
B - St Vincent Street West	10	10	10
C - Emmet Road (W)	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.02	10.93	0.0	B
B-A	0.22	20.14	0.3	C
C-AB	0.30	5.30	1.1	A
C-A				
A-B				
A-C				

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	5	416	0.013	5	0.0	9.631	A
B-A	38	341	0.113	38	0.1	13.034	B
C-AB	140	929	0.150	138	0.4	5.007	A
C-A	453			453			
A-B	52			52			
A-C	334			334			

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	6	398	0.016	6	0.0	10.101	B
B-A	46	304	0.151	46	0.2	15.313	C
C-AB	201	989	0.204	201	0.6	5.035	A
C-A	507			507			
A-B	62			62			
A-C	398			398			

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	8	370	0.021	8	0.0	10.915	B
B-A	56	253	0.222	56	0.3	20.015	C
C-AB	322	1074	0.300	320	1.1	5.269	A
C-A	546			546			
A-B	76			76			
A-C	488			488			

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	8	370	0.021	8	0.0	10.929	B
B-A	56	253	0.222	56	0.3	20.136	C
C-AB	323	1075	0.300	323	1.1	5.298	A
C-A	545			545			
A-B	76			76			
A-C	488			488			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	6	398	0.016	6	0.0	10.119	B
B-A	46	304	0.151	46	0.2	15.419	C
C-AB	203	990	0.205	204	0.6	5.069	A
C-A	506			506			
A-B	62			62			
A-C	398			398			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	5	416	0.013	5	0.0	9.648	A
B-A	38	341	0.113	39	0.1	13.124	B
C-AB	141	930	0.152	142	0.4	5.040	A
C-A	452			452			
A-B	52			52			
A-C	334			334			

# J2 - 2039 DN, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - St Vincent Street West - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.82	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2039 DN	PM	ONE HOUR	08:00	09:30	15

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

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Emmet Road (E)		✓	660	100.000
B - St Vincent Street West		✓	80	100.000
C - Emmet Road (W)		✓	633	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Emmet Road (E)	B - St Vincent Street West	C - Emmet Road (W)
From	A - Emmet Road (E)	0	77	583
	B - St Vincent Street West	49	0	31
	C - Emmet Road (W)	558	75	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Emmet Road (E)	B - St Vincent Street West	C - Emmet Road (W)
From	A - Emmet Road (E)	10	10	10
	B - St Vincent Street West	10	10	10
	C - Emmet Road (W)	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.08	10.64	0.1	B
B-A	0.23	21.54	0.3	C
C-AB	0.27	5.84	0.9	A
C-A				
A-B				
A-C				

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	23	472	0.049	23	0.1	8.813	A
B-A	37	328	0.112	36	0.1	13.545	B
C-AB	114	829	0.138	113	0.3	5.531	A
C-A	362			362			
A-B	58			58			
A-C	439			439			

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	28	446	0.062	28	0.1	9.466	A
B-A	44	290	0.152	44	0.2	16.053	C
C-AB	161	869	0.185	160	0.5	5.594	A
C-A	409			409			
A-B	69			69			
A-C	524			524			

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	34	407	0.084	34	0.1	10.615	B
B-A	54	238	0.227	53	0.3	21.418	C
C-AB	247	928	0.266	245	0.9	5.818	A
C-A	450			450			
A-B	85			85			
A-C	642			642			

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	34	406	0.084	34	0.1	10.641	B
B-A	54	238	0.227	54	0.3	21.542	C
C-AB	247	929	0.266	247	0.9	5.844	A
C-A	450			450			
A-B	85			85			
A-C	642			642			



09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	28	445	0.063	28	0.1	9.497	A
B-A	44	290	0.152	45	0.2	16.150	C
C-AB	161	870	0.185	163	0.5	5.623	A
C-A	408			408			
A-B	69			69			
A-C	524			524			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	23	471	0.050	23	0.1	8.845	A
B-A	37	328	0.112	37	0.1	13.621	B
C-AB	115	830	0.139	116	0.3	5.561	A
C-A	361			361			
A-B	58			58			
A-C	439			439			

# J2 - 2024 DS, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - St Vincent Street West - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.79	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2024 DS	AM	ONE HOUR	08:00	09:30	15

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

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Emmet Road (E)		✓	452	100.000
B - St Vincent Street West		✓	70	100.000
C - Emmet Road (W)		✓	696	100.000

## Origin-Destination Data

### Demand (PCU/hr)

	From	To		
		A - Emmet Road (E)	B - St Vincent Street West	C - Emmet Road (W)
	A - Emmet Road (E)	0	70	382
	B - St Vincent Street West	52	0	18
	C - Emmet Road (W)	614	82	0

## Vehicle Mix

### Heavy Vehicle Percentages

	From	To		
		A - Emmet Road (E)	B - St Vincent Street West	C - Emmet Road (W)
	A - Emmet Road (E)	10	10	10
	B - St Vincent Street West	10	10	10
	C - Emmet Road (W)	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	9.77	0.1	A
B-A	0.19	16.36	0.3	C
C-AB	0.27	5.42	0.9	A
C-A				
A-B				
A-C				

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	468	0.029	13	0.0	8.711	A
B-A	39	382	0.103	39	0.1	11.529	B
C-AB	129	889	0.145	127	0.4	5.202	A
C-A	395			395			
A-B	53			53			
A-C	288			288			

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	16	451	0.036	16	0.0	9.110	A
B-A	47	347	0.135	47	0.2	13.170	B
C-AB	180	939	0.192	179	0.5	5.226	A
C-A	446			446			
A-B	63			63			
A-C	343			343			

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	425	0.047	20	0.1	9.760	A
B-A	57	299	0.191	57	0.3	16.306	C
C-AB	275	1010	0.273	274	0.9	5.399	A
C-A	491			491			
A-B	77			77			
A-C	421			421			

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	425	0.047	20	0.1	9.772	A
B-A	57	299	0.191	57	0.3	16.364	C
C-AB	276	1011	0.273	276	0.9	5.417	A
C-A	490			490			
A-B	77			77			
A-C	421			421			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	16	450	0.036	16	0.0	9.124	A
B-A	47	347	0.135	47	0.2	13.226	B
C-AB	181	940	0.193	182	0.5	5.254	A
C-A	445			445			
A-B	63			63			
A-C	343			343			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	467	0.029	14	0.0	8.729	A
B-A	39	381	0.103	39	0.1	11.587	B
C-AB	130	889	0.146	130	0.4	5.232	A
C-A	394			394			
A-B	53			53			
A-C	288			288			

# J2 - 2024 DS, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - St Vincent Street West - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.78	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2024 DS	PM	ONE HOUR	08:00	09:30	15

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

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Emmet Road (E)		✓	599	100.000
B - St Vincent Street West		✓	128	100.000
C - Emmet Road (W)		✓	577	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Emmet Road (E)	B - St Vincent Street West	C - Emmet Road (W)
From	A - Emmet Road (E)	0	94	505
	B - St Vincent Street West	70	0	58
	C - Emmet Road (W)	481	96	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Emmet Road (E)	B - St Vincent Street West	C - Emmet Road (W)
From	A - Emmet Road (E)	10	10	10
	B - St Vincent Street West	10	10	10
	C - Emmet Road (W)	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.15	11.05	0.2	B
B-A	0.31	22.77	0.5	C
C-AB	0.31	6.54	0.9	A
C-A				
A-B				
A-C				

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	496	0.088	43	0.1	8.740	A
B-A	53	332	0.159	52	0.2	14.094	B
C-AB	132	798	0.166	131	0.4	5.936	A
C-A	302			302			
A-B	71			71			
A-C	380			380			

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	52	468	0.111	52	0.1	9.520	A
B-A	63	298	0.211	63	0.3	16.784	C
C-AB	181	830	0.218	180	0.5	6.107	A
C-A	338			338			
A-B	85			85			
A-C	454			454			

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	64	423	0.151	64	0.2	11.005	B
B-A	77	251	0.307	76	0.5	22.574	C
C-AB	269	878	0.306	267	0.9	6.509	A
C-A	367			367			
A-B	103			103			
A-C	556			556			

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	64	422	0.151	64	0.2	11.051	B
B-A	77	251	0.307	77	0.5	22.766	C
C-AB	269	878	0.307	269	0.9	6.540	A
C-A	366			366			
A-B	103			103			
A-C	556			556			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	52	466	0.112	52	0.1	9.570	A
B-A	63	298	0.211	64	0.3	16.941	C
C-AB	182	831	0.219	183	0.6	6.146	A
C-A	337			337			
A-B	85			85			
A-C	454			454			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	495	0.088	44	0.1	8.788	A
B-A	53	332	0.159	53	0.2	14.217	B
C-AB	133	799	0.167	134	0.4	5.978	A
C-A	301			301			
A-B	71			71			
A-C	380			380			

# J2 - 2024 DN, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - St Vincent Street West - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.44	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2024 DN	AM	ONE HOUR	08:00	09:30	15

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

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Emmet Road (E)		✓	441	100.000
B - St Vincent Street West		✓	50	100.000
C - Emmet Road (W)		✓	683	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Emmet Road (E)	B - St Vincent Street West	C - Emmet Road (W)
From	A - Emmet Road (E)	0	59	382
	B - St Vincent Street West	44	0	6
	C - Emmet Road (W)	614	69	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Emmet Road (E)	B - St Vincent Street West	C - Emmet Road (W)
From	A - Emmet Road (E)	10	10	10
	B - St Vincent Street West	10	10	10
	C - Emmet Road (W)	10	10	10



## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.02	10.29	0.0	B
B-A	0.17	16.36	0.2	C
C-AB	0.23	5.09	0.7	A
C-A				
A-B				
A-C				

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	5	428	0.011	4	0.0	9.348	A
B-A	33	367	0.090	33	0.1	11.840	B
C-AB	108	890	0.121	107	0.3	5.056	A
C-A	406			406			
A-B	44			44			
A-C	288			288			

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	5	413	0.013	5	0.0	9.708	A
B-A	40	335	0.118	39	0.1	13.405	B
C-AB	151	940	0.161	151	0.4	5.022	A
C-A	463			463			
A-B	53			53			
A-C	343			343			

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	7	392	0.017	7	0.0	10.285	B
B-A	48	291	0.167	48	0.2	16.313	C
C-AB	231	1012	0.228	230	0.7	5.076	A
C-A	521			521			
A-B	65			65			
A-C	421			421			

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	7	391	0.017	7	0.0	10.291	B
B-A	48	290	0.167	48	0.2	16.364	C
C-AB	231	1012	0.229	231	0.7	5.090	A
C-A	521			521			
A-B	65			65			
A-C	421			421			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	5	413	0.013	5	0.0	9.718	A
B-A	40	334	0.118	40	0.2	13.460	B
C-AB	152	941	0.161	153	0.5	5.042	A
C-A	462			462			
A-B	53			53			
A-C	343			343			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	5	428	0.011	5	0.0	9.360	A
B-A	33	366	0.090	33	0.1	11.898	B
C-AB	109	891	0.122	109	0.3	5.078	A
C-A	405			405			
A-B	44			44			
A-C	288			288			

# J2 - 2024 DN, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - St Vincent Street West - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.54	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2024 DN	PM	ONE HOUR	08:00	09:30	15

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

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Emmet Road (E)		✓	572	100.000
B - St Vincent Street West		✓	70	100.000
C - Emmet Road (W)		✓	547	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Emmet Road (E)	B - St Vincent Street West	C - Emmet Road (W)
From	A - Emmet Road (E)	0	67	505
	B - St Vincent Street West	43	0	27
	C - Emmet Road (W)	481	66	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Emmet Road (E)	B - St Vincent Street West	C - Emmet Road (W)
From	A - Emmet Road (E)	10	10	10
	B - St Vincent Street West	10	10	10
	C - Emmet Road (W)	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.07	9.77	0.1	A
B-A	0.17	17.30	0.2	C
C-AB	0.21	5.68	0.6	A
C-A				
A-B				
A-C				

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	488	0.042	20	0.0	8.450	A
B-A	32	354	0.091	32	0.1	12.261	B
C-AB	91	802	0.113	90	0.3	5.563	A
C-A	321			321			
A-B	50			50			
A-C	380			380			

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	24	467	0.052	24	0.1	8.950	A
B-A	39	322	0.120	39	0.1	13.977	B
C-AB	124	835	0.148	123	0.4	5.572	A
C-A	368			368			
A-B	60			60			
A-C	454			454			

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	435	0.068	30	0.1	9.760	A
B-A	47	276	0.171	47	0.2	17.249	C
C-AB	183	883	0.207	182	0.6	5.665	A
C-A	419			419			
A-B	74			74			
A-C	556			556			

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	435	0.068	30	0.1	9.774	A
B-A	47	276	0.171	47	0.2	17.297	C
C-AB	183	883	0.208	183	0.6	5.678	A
C-A	419			419			
A-B	74			74			
A-C	556			556			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	24	466	0.052	24	0.1	8.969	A
B-A	39	322	0.120	39	0.2	14.021	B
C-AB	124	835	0.149	125	0.4	5.594	A
C-A	368			368			
A-B	60			60			
A-C	454			454			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	488	0.042	20	0.0	8.474	A
B-A	32	354	0.091	33	0.1	12.310	B
C-AB	91	802	0.114	92	0.3	5.583	A
C-A	321			321			
A-B	50			50			
A-C	380			380			

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Filename: (new file)

Path:

Report generation date: 20/07/2022 09:57:58

«A1 - Junction 4 2039 : D1 - AM DS\* :

- »Summary
- »Network Options
- »Arms and Traffic Streams
- »Signal Timings
- »Final Prediction Table

File summary

File description

File title	(untitled)
Location	
Site number	
UTCRegion	
Driving side	Left
Date	18/07/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OCSC\joshua.tai
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

# A1 - Junction 4 2039

## D1 - AM DS\*

### Summary

#### Data Errors and Warnings

No errors or warnings

#### Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst over PR
1	20/07/2022 09:57:45	20/07/2022 09:57:45	08:00	60	37.61	2.20	39.18	1/1	0	0	1/1	8/1	1/1

#### Analysis Set Details

Name	Description	Demand set	Include in report	Locked
Junction 4 2039		D1	✓	

#### Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
AM DS				08:00	

### Network Options

#### Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
60		60	1	60

#### Signals options

Start displacement (s)	End displacement (s)
2	3

#### Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

#### Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

#### Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

### Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

### Normal Traffic Types

Name	PCU Factor
Normal	1.00

### Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms <sup>^-2</sup> )	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

### Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms <sup>^-2</sup> )	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

### Pedestrian parameters

Dispersion type
Default

### Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Extended - Offsets And Green Splits	✓

### Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1, -15, -5, -1, 15, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05		✓	1			Do nothing

### Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

## Arms and Traffic Streams

### Arms

Arm	Name	Description	Traffic node
(ALL)			



### Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Auto-calculate cell saturation flow	Cell saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
1	1				90.00	✓	Sum of lanes	2051			✓		Normal	
2	1				90.00	✓	Sum of lanes	1915			✓		Bus	
3	1			✓	47.78								Normal	
4	1				90.00								Normal	
5	1			✓	151.56								Normal	
6	1				20.00	✓	Sum of lanes	1532				✓	Normal	
7	1				50.00	✓	Sum of lanes	1532				✓	Normal	
8	1				20.00	✓	Sum of lanes	1912	✓	1800		✓	Normal	
9	1				30.00	✓	Sum of lanes	1915			✓		Normal	
10	1				165.00								Bus	
11	1			✓	102.79	✓	Sum of lanes	1800					Normal	

### Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
1	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	1	8.19		2051
2	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	0	99999.00	✓	1915
3	1	1	(untitled)											
4	1	1	(untitled)											
5	1	1	(untitled)											
6	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	100	6.00	✓	1532
7	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	100	6.00	✓	1532
8	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	1	9.83	✓	1912
9	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	0	99999.00	✓	1915
10	1	1	(untitled)											
11	1	1	(untitled)											1800

### Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
(ALL)	1	1	A	

### Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Number of storage spaces	Use connector turning radius	Radius of turn (m)	Visibility restricted
6	1	AllTraffic	✓	0	✓	6.00	
7	1	AllTraffic	✓	0	✓	6.00	
8	1	AllTraffic	✓	0	✓	9.83	

### Give Way Data - All Movements - Conflicts

Traffic Stream	Description	Controlling type	Controlling traffic stream	Controlling from traffic stream	Controlling to traffic stream	Percentage opposing (%)	Upstream signals visible	Conflict shift	Conflict duration
1		TrafficStream	2/1			100		0	0
		TrafficStream	1/1			100		0	0
		TrafficStream	8/1			100		0	0
		TrafficStream	8/1			100		0	0
		TrafficStreamMovement		1/1	5/1	100		0	0
		TrafficStream	1/1			100		0	0
		TrafficStream	2/1			100		0	0

## Signal Timings

Network Default: 60s cycle time; 60 steps

### Interstage Matrix for Controller Stream 1

		To	
		1	2
From	1	0	5
	2	5	0

### Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	52	24	32	1	7
	2	✓	2	B	29	47	18	1	18

## Final Prediction Table

### Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	
				Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	D we i mu
1	1			1	A	442	2051	32	0.00	39	130	19.58	8.78	55.67	4.30	
2	1 B			1	A	43	1915	32	32.00	4	2104	27.97	6.37	44.24	0.32	
3	1					6	Unrestricted	60	60.00	0	Unrestricted	5.73	0.00	0.00	0.00	
4	1					372	Unrestricted	60	21.00	0	Unrestricted	10.80	0.00	0.00	0.00	
5	1					509	Unrestricted	60	0.00	0	Unrestricted	18.19	0.00	0.00	0.00	
6	1					25	617	60	48.00	4	2121	3.64	1.24	17.51	0.08	
7	1					69	619	60	0.00	11	708	7.59	1.59	19.70	0.26	
8	1					351	1337	60	0.00	26	243	3.60	1.20	12.62	1.50	
9	1			1	A	372	1915	32	4.00	35	155	12.02	8.42	51.58	3.27	
10	1 B					43	Unrestricted	60	46.00	0	Unrestricted	39.60	0.00	0.00	0.00	
11	1					351	1800	60	0.00	20	362	12.58	0.24	0.00	0.02	

### Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
<b>Normal traffic</b>	208.90	9.09	22.98	2.13	30.20	6.27	0.00	36.47
<b>Bus</b>	10.97	0.81	13.59	0.08	1.08	0.06	0.00	1.14
<b>Tram</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Pedestrians</b>								
<b>TOTAL</b>	219.87	9.90	22.21	2.20	31.28	6.33	0.00	37.61

- | N = at least one source for this link/traffic stream carries normal traffic
- | B = at least one source for this link/traffic stream carries Bus traffic
- | < = adjusted flow warning (upstream links/traffic streams are over-saturated)
- | \* = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%
- | ^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%
- | + = average link/traffic stream excess queue is greater than 0
- | **P.I. = PERFORMANCE INDEX**



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Filename: (new file)

Path:

Report generation date: 20/07/2022 09:58:34

«A2 - Junction 4 2039 : D2 - PM DS\* :

- »Summary
- »Network Options
- »Arms and Traffic Streams
- »Signal Timings
- »Final Prediction Table

File summary

File description

File title	(untitled)
Location	
Site number	
UTCRegion	
Driving side	Left
Date	18/07/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OCSC\joshua.tai
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

# A2 - Junction 4 2039

## D2 - PM DS\*

### Summary

#### Data Errors and Warnings

No errors or warnings

#### Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst over PR
2	20/07/2022 09:57:45	20/07/2022 09:57:45	08:00	60	44.56	2.64	49.56	9/1	0	0	9/1	8/1	9/1

#### Analysis Set Details

Name	Description	Demand set	Include in report	Locked
Junction 4 2039		D2	✓	

#### Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
PM DS				08:00	

### Network Options

#### Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
60		60	1	60

#### Signals options

Start displacement (s)	End displacement (s)
2	3

#### Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

#### Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

#### Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

### Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

### Normal Traffic Types

Name	PCU Factor
Normal	1.00

### Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms <sup>^-2</sup> )	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

### Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms <sup>^-2</sup> )	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

### Pedestrian parameters

Dispersion type
Default

### Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Extended - Offsets And Green Splits	✓

### Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1, -15, -5, -1, 15, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05		✓	1			Do nothing

### Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

## Arms and Traffic Streams

### Arms

Arm	Name	Description	Traffic node
(ALL)			

### Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Auto-calculate cell saturation flow	Cell saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
1	1				90.00	✓	Sum of lanes	2051			✓		Normal	
2	1				90.00	✓	Sum of lanes	1915			✓		Bus	
3	1			✓	47.78								Normal	
4	1				90.00								Normal	
5	1			✓	151.56								Normal	
6	1				20.00	✓	Sum of lanes	1532				✓	Normal	
7	1				50.00	✓	Sum of lanes	1551				✓	Normal	
8	1				20.00	✓	Sum of lanes	1912	✓	1800		✓	Normal	
9	1				30.00	✓	Sum of lanes	1915			✓		Normal	
10	1				165.00								Bus	
11	1			✓	102.79	✓	Sum of lanes	1800					Normal	

### Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
1	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	1	8.19		2051
2	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	0	99999.00	✓	1915
3	1	1	(untitled)											
4	1	1	(untitled)											
5	1	1	(untitled)											
6	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	100	6.00	✓	1532
7	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	94	6.00	✓	1551
8	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	1	9.83	✓	1912
9	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	0	99999.00	✓	1915
10	1	1	(untitled)											
11	1	1	(untitled)											1800

### Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
(ALL)	1	1	A	

### Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Number of storage spaces	Use connector turning radius	Radius of turn (m)	Visibility restricted
6	1	AllTraffic	✓	0	✓	6.00	
7	1	AllTraffic	✓	0	✓	6.00	
8	1	AllTraffic	✓	0	✓	9.83	

### Give Way Data - All Movements - Conflicts

Traffic Stream	Description	Controlling type	Controlling traffic stream	Controlling from traffic stream	Controlling to traffic stream	Percentage opposing (%)	Upstream signals visible	Conflict shift	Conflict duration	
1		TrafficStream	2/1			100		0	0	
		TrafficStream	1/1			100		0	0	
		TrafficStream	8/1			100		0	0	
		TrafficStream	8/1			100		0	0	
		TrafficStreamMovement			1/1	5/1	100		0	0
		TrafficStream	1/1				100		0	0
		TrafficStream	2/1				100		0	0

## Signal Timings

Network Default: 60s cycle time; 60 steps

### Interstage Matrix for Controller Stream 1

		To	
		1	2
From	1	0	5
	2	5	0

### Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	52	24	32	1	7
	2	✓	2	B	29	47	18	1	18

## Final Prediction Table

### Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	
				Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	D we i mu
1	1			1	A	377	2051	32	0.00	33	169	19.05	8.25	52.88	3.54	
2	1 B			1	A	43	1915	32	32.00	4	2104	27.97	6.37	44.24	0.32	
3	1					16	Unrestricted	60	60.00	0	Unrestricted	5.73	0.00	0.00	0.00	
4	1					522	Unrestricted	60	20.00	0	Unrestricted	10.80	0.00	0.00	0.00	
5	1					446	Unrestricted	60	0.00	0	Unrestricted	18.19	0.00	0.00	0.00	
6	1					15	480	60	48.00	3	2777	3.49	1.09	16.29	0.05	
7	1					84	488	60	0.00	17	423	7.97	1.97	20.46	0.32	
8	1					508	1418	60	0.00	36	151	3.65	1.25	11.18	1.55	
9	1			1	A	522	1915	32	0.00	50	82	13.39	9.79	54.00	4.73	
10	1 B					43	Unrestricted	60	46.00	0	Unrestricted	39.60	0.00	0.00	0.00	
11	1					508	1800	60	0.00	28	219	12.73	0.39	0.00	0.06	



### Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
<b>Normal traffic</b>	231.81	10.29	22.52	2.57	36.42	6.99	0.00	43.42
<b>Bus</b>	10.97	0.81	13.59	0.08	1.08	0.06	0.00	1.14
<b>Tram</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Pedestrians</b>								
<b>TOTAL</b>	242.77	11.10	21.87	2.64	37.50	7.05	0.00	44.56

- | N = at least one source for this link/traffic stream carries normal traffic
- | B = at least one source for this link/traffic stream carries Bus traffic
- | < = adjusted flow warning (upstream links/traffic streams are over-saturated)
- | \* = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%
- | ^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%
- | + = average link/traffic stream excess queue is greater than 0
- | **P.I. = PERFORMANCE INDEX**



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

Filename: (new file)

Path:

Report generation date: 20/07/2022 09:59:00

«A3 - Junction 4 2039 : D3 - AM DN\* :

- »Summary
- »Network Options
- »Arms and Traffic Streams
- »Signal Timings
- »Final Prediction Table

File summary

File description

File title	(untitled)
Location	
Site number	
UTCRegion	
Driving side	Left
Date	18/07/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OCSC\joshua.tai
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

# A3 - Junction 4 2039

## D3 - AM DN\*

### Summary

#### Data Errors and Warnings

No errors or warnings

#### Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst over PR
3	20/07/2022 09:57:45	20/07/2022 09:57:45	08:00	60	35.20	2.06	37.59	1/1	0	0	1/1	8/1	1/

#### Analysis Set Details

Name	Description	Demand set	Include in report	Locked
Junction 4 2039		D3	✓	

#### Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
AM DN				08:00	

### Network Options

#### Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
60		60	1	60

#### Signals options

Start displacement (s)	End displacement (s)
2	3

#### Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

#### Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

#### Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

### Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

### Normal Traffic Types

Name	PCU Factor
Normal	1.00

### Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms <sup>^-2</sup> )	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

### Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms <sup>^-2</sup> )	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

### Pedestrian parameters

Dispersion type
Default

### Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Extended - Offsets And Green Splits	✓

### Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1, -15, -5, -1, 15, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05		✓	1			Do nothing

### Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

## Arms and Traffic Streams

### Arms

Arm	Name	Description	Traffic node
(ALL)			

### Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Auto-calculate cell saturation flow	Cell saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
1	1				90.00	✓	Sum of lanes	2051			✓		Normal	
2	1				90.00	✓	Sum of lanes	1915			✓		Bus	
3	1			✓	47.78								Normal	
4	1				90.00								Normal	
5	1			✓	151.56								Normal	
6	1				20.00	✓	Sum of lanes	1532				✓	Normal	
7	1				50.00	✓	Sum of lanes	1532				✓	Normal	
8	1				20.00	✓	Sum of lanes	1912	✓	1800		✓	Normal	
9	1				30.00	✓	Sum of lanes	1915			✓		Normal	
10	1				165.00								Bus	
11	1			✓	102.79	✓	Sum of lanes	1800					Normal	

### Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
1	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	1	8.19		2051
2	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	0	99999.00	✓	1915
3	1	1	(untitled)											
4	1	1	(untitled)											
5	1	1	(untitled)											
6	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	100	6.00	✓	1532
7	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	100	6.00	✓	1532
8	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	1	9.83	✓	1912
9	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	0	99999.00	✓	1915
10	1	1	(untitled)											
11	1	1	(untitled)											1800

### Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
(ALL)	1	1	A	

### Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Number of storage spaces	Use connector turning radius	Radius of turn (m)	Visibility restricted
6	1	AllTraffic	✓	0	✓	6.00	
7	1	AllTraffic	✓	0	✓	6.00	
8	1	AllTraffic	✓	0	✓	9.83	

### Give Way Data - All Movements - Conflicts

Traffic Stream	Description	Controlling type	Controlling traffic stream	Controlling from traffic stream	Controlling to traffic stream	Percentage opposing (%)	Upstream signals visible	Conflict shift	Conflict duration	
1		TrafficStream	2/1			100		0	0	
		TrafficStream	1/1			100		0	0	
		TrafficStream	8/1			100		0	0	
		TrafficStream	8/1			100		0	0	
		TrafficStreamMovement			1/1	5/1	100		0	0
		TrafficStream	1/1				100		0	0
		TrafficStream	2/1				100		0	0

## Signal Timings

Network Default: 60s cycle time; 60 steps

### Interstage Matrix for Controller Stream 1

		To	
		1	2
From	1	0	5
	2	5	0

### Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	52	24	32	1	7
	2	✓	2	B	29	47	18	1	18

## Final Prediction Table

### Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	
				Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	D we i mu
1	1			1	A	424	2051	32	0.00	38	139	19.42	8.62	54.53	4.12	
2	1 B			1	A	43	1915	32	32.00	4	2104	27.97	6.37	44.24	0.32	
3	1					7	Unrestricted	60	60.00	0	Unrestricted	5.73	0.00	0.00	0.00	
4	1					356	Unrestricted	60	21.00	0	Unrestricted	10.80	0.00	0.00	0.00	
5	1					490	Unrestricted	60	0.00	0	Unrestricted	18.19	0.00	0.00	0.00	
6	1					25	658	60	49.00	4	2268	3.42	1.02	14.88	0.07	
7	1					69	661	60	0.00	10	762	7.25	1.25	16.45	0.22	
8	1					335	1363	60	0.00	25	266	3.42	1.02	12.38	1.49	
9	1			1	A	356	1915	32	4.00	34	166	11.90	8.30	51.42	3.13	
10	1 B					43	Unrestricted	60	46.00	0	Unrestricted	39.60	0.00	0.00	0.00	
11	1					335	1800	60	0.00	19	384	12.56	0.23	0.00	0.02	

### Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
<b>Normal traffic</b>	200.56	8.67	23.14	1.98	28.15	5.90	0.00	34.06
<b>Bus</b>	10.97	0.81	13.59	0.08	1.08	0.06	0.00	1.14
<b>Tram</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Pedestrians</b>								
<b>TOTAL</b>	211.53	9.48	22.32	2.06	29.24	5.96	0.00	35.20

- | N = at least one source for this link/traffic stream carries normal traffic
- | B = at least one source for this link/traffic stream carries Bus traffic
- | < = adjusted flow warning (upstream links/traffic streams are over-saturated)
- | \* = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%
- | ^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%
- | + = average link/traffic stream excess queue is greater than 0
- | P.I. = PERFORMANCE INDEX



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Filename: (new file)

Path:

Report generation date: 20/07/2022 09:59:44

«A4 - Junction 4 2039 : D4 - PM DN\* :

- »Summary
- »Network Options
- »Arms and Traffic Streams
- »Signal Timings
- »Final Prediction Table

File summary

File description

File title	(untitled)
Location	
Site number	
UTCRegion	
Driving side	Left
Date	18/07/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OCSC\joshua.tai
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓



# A4 - Junction 4 2039

## D4 - PM DN\*

### Summary

#### Data Errors and Warnings

No errors or warnings

#### Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst over PR
4	20/07/2022 09:57:45	20/07/2022 09:57:45	08:00	60	38.77	2.29	45.67	9/1	0	0	9/1	8/1	9/1

#### Analysis Set Details

Name	Description	Demand set	Include in report	Locked
Junction 4 2039		D4	✓	

#### Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
PM DN				08:00	

### Network Options

#### Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
60		60	1	60

#### Signals options

Start displacement (s)	End displacement (s)
2	3

#### Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

#### Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

#### Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

### Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

### Normal Traffic Types

Name	PCU Factor
Normal	1.00

### Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms <sup>^-2</sup> )	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

### Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms <sup>^-2</sup> )	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

### Pedestrian parameters

Dispersion type
Default

### Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Extended - Offsets And Green Splits	✓

### Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1, -15, -5, -1, 15, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05		✓	1			Do nothing

### Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

## Arms and Traffic Streams

### Arms

Arm	Name	Description	Traffic node
(ALL)			

### Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Auto-calculate cell saturation flow	Cell saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
1	1				90.00	✓	Sum of lanes	2051			✓		Normal	
2	1				90.00	✓	Sum of lanes	1915			✓		Bus	
3	1			✓	47.78								Normal	
4	1				90.00								Normal	
5	1			✓	151.56								Normal	
6	1				20.00	✓	Sum of lanes	1532				✓	Normal	
7	1				50.00	✓	Sum of lanes	1551				✓	Normal	
8	1				20.00	✓	Sum of lanes	1912	✓	1800		✓	Normal	
9	1				30.00	✓	Sum of lanes	1915			✓		Normal	
10	1				165.00								Bus	
11	1			✓	102.79	✓	Sum of lanes	1800					Normal	

### Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
1	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	1	8.19		2051
2	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	0	99999.00	✓	1915
3	1	1	(untitled)											
4	1	1	(untitled)											
5	1	1	(untitled)											
6	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	100	6.00	✓	1532
7	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	94	6.00	✓	1551
8	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	1	9.83	✓	1912
9	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	0	99999.00	✓	1915
10	1	1	(untitled)											
11	1	1	(untitled)											1800

### Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
(ALL)	1	1	A	

### Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Number of storage spaces	Use connector turning radius	Radius of turn (m)	Visibility restricted
6	1	AllTraffic	✓	0	✓	6.00	
7	1	AllTraffic	✓	0	✓	6.00	
8	1	AllTraffic	✓	0	✓	9.83	

### Give Way Data - All Movements - Conflicts

Traffic Stream	Description	Controlling type	Controlling traffic stream	Controlling from traffic stream	Controlling to traffic stream	Percentage opposing (%)	Upstream signals visible	Conflict shift	Conflict duration
1		TrafficStream	2/1			100		0	0
		TrafficStream	1/1			100		0	0
		TrafficStream	8/1			100		0	0
		TrafficStream	8/1			100		0	0
		TrafficStreamMovement		1/1	5/1	100		0	0
		TrafficStream	1/1			100		0	0
		TrafficStream	2/1			100		0	0

## Signal Timings

Network Default: 60s cycle time; 60 steps

### Interstage Matrix for Controller Stream 1

		To	
		1	2
From	1	0	5
	2	5	0

### Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	52	24	32	1	7
	2	✓	2	B	29	47	18	1	18

## Final Prediction Table

### Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	
				Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	D
1	1			1	A	340	2051	32	0.00	30	199	18.78	7.98	51.95	3.09	
2	1 B			1	A	43	1915	32	32.00	4	2104	27.97	6.37	44.24	0.32	
3	1					16	Unrestricted	60	60.00	0	Unrestricted	5.73	0.00	0.00	0.00	
4	1					481	Unrestricted	60	20.00	0	Unrestricted	10.80	0.00	0.00	0.00	
5	1					409	Unrestricted	60	0.00	0	Unrestricted	18.19	0.00	0.00	0.00	
6	1					15	555	60	50.00	3	3229	3.20	0.80	13.14	0.04	
7	1					84	565	60	0.00	15	505	7.33	1.33	15.23	0.25	
8	1					467	1460	60	0.00	32	181	3.39	0.99	9.43	1.52	
9	1			1	A	481	1915	32	0.00	46	97	12.98	9.38	53.38	4.33	
10	1 B					43	Unrestricted	60	46.00	0	Unrestricted	39.60	0.00	0.00	0.00	
11	1					467	1800	60	0.00	26	247	12.69	0.35	0.00	0.05	

### Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
<b>Normal traffic</b>	212.92	9.31	22.86	2.22	31.45	6.17	0.00	37.63
<b>Bus</b>	10.97	0.81	13.59	0.08	1.08	0.06	0.00	1.14
<b>Tram</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Pedestrians</b>								
<b>TOTAL</b>	223.88	10.12	22.12	2.29	32.54	6.23	0.00	38.77

- | N = at least one source for this link/traffic stream carries normal traffic
- | B = at least one source for this link/traffic stream carries Bus traffic
- | < = adjusted flow warning (upstream links/traffic streams are over-saturated)
- | \* = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%
- | ^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%
- | + = average link/traffic stream excess queue is greater than 0
- | **P.I. = PERFORMANCE INDEX**



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Filename: (new file)

Path:

Report generation date: 20/07/2022 10:00:55

«A1 - Junction 4 2024 : D1 - AM DS\* :

- »Summary
- »Network Options
- »Arms and Traffic Streams
- »Signal Timings
- »Final Prediction Table

File summary

File description

File title	(untitled)
Location	
Site number	
UTCRegion	
Driving side	Left
Date	18/07/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OCSC\joshua.tai
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

# A1 - Junction 4 2024

## D1 - AM DS\*

### Summary

#### Data Errors and Warnings

No errors or warnings

#### Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst over PR
1	20/07/2022 10:00:50	20/07/2022 10:00:50	08:00	60	30.66	1.79	34.57	1/1	0	0	1/1	8/1	1/

#### Analysis Set Details

Name	Description	Demand set	Include in report	Locked
Junction 4 2024		D1	✓	

#### Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
AM DS				08:00	

### Network Options

#### Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
60		60	1	60

#### Signals options

Start displacement (s)	End displacement (s)
2	3

#### Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

#### Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

#### Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

### Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

### Normal Traffic Types

Name	PCU Factor
Normal	1.00

### Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms <sup>^-2</sup> )	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

### Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms <sup>^-2</sup> )	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

### Pedestrian parameters

Dispersion type
Default

### Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Extended - Offsets And Green Splits	✓

### Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1, -15, -5, -1, 15, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05		✓	1			Do nothing

### Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

## Arms and Traffic Streams

### Arms

Arm	Name	Description	Traffic node
(ALL)			



### Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Auto-calculate cell saturation flow	Cell saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
1	1				90.00	✓	Sum of lanes	2051			✓		Normal	
2	1				90.00	✓	Sum of lanes	1915			✓		Bus	
3	1			✓	47.78								Normal	
4	1				90.00								Normal	
5	1			✓	151.56								Normal	
6	1				20.00	✓	Sum of lanes	1532				✓	Normal	
7	1				50.00	✓	Sum of lanes	1532				✓	Normal	
8	1				20.00	✓	Sum of lanes	1912	✓	1800		✓	Normal	
9	1				30.00	✓	Sum of lanes	1915			✓		Normal	
10	1				165.00								Bus	
11	1			✓	102.79	✓	Sum of lanes	1800					Normal	

### Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
1	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	1	8.19		2051
2	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	0	99999.00	✓	1915
3	1	1	(untitled)											
4	1	1	(untitled)											
5	1	1	(untitled)											
6	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	100	6.00	✓	1532
7	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	100	6.00	✓	1532
8	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	1	9.83	✓	1912
9	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	0	99999.00	✓	1915
10	1	1	(untitled)											
11	1	1	(untitled)											1800

### Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
(ALL)	1	1	A	

### Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Number of storage spaces	Use connector turning radius	Radius of turn (m)	Visibility restricted
6	1	AllTraffic	✓	0	✓	6.00	
7	1	AllTraffic	✓	0	✓	6.00	
8	1	AllTraffic	✓	0	✓	9.83	

### Give Way Data - All Movements - Conflicts

Traffic Stream	Description	Controlling type	Controlling traffic stream	Controlling from traffic stream	Controlling to traffic stream	Percentage opposing (%)	Upstream signals visible	Conflict shift	Conflict duration
1		TrafficStream	2/1			100		0	0
		TrafficStream	1/1			100		0	0
		TrafficStream	8/1			100		0	0
		TrafficStream	8/1			100		0	0
		TrafficStreamMovement		1/1	5/1	100		0	0
		TrafficStream	1/1			100		0	0
		TrafficStream	2/1			100		0	0

## Signal Timings

Network Default: 60s cycle time; 60 steps

### Interstage Matrix for Controller Stream 1

		To	
		1	2
From	1	0	5
	2	5	0

### Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	52	24	32	1	7
	2	✓	2	B	29	47	18	1	18

## Final Prediction Table

### Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	
				Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	D we i mu
1	1			1	A	390	2051	32	0.00	35	160	19.15	8.35	53.71	3.67	
2	1 B			1	A	32	1915	32	32.00	3	2862	27.95	6.35	44.21	0.24	
3	1					6	Unrestricted	60	60.00	0	Unrestricted	5.73	0.00	0.00	0.00	
4	1					322	Unrestricted	60	22.00	0	Unrestricted	10.80	0.00	0.00	0.00	
5	1					448	Unrestricted	60	0.00	0	Unrestricted	18.19	0.00	0.00	0.00	
6	1					21	729	60	50.00	3	3025	3.20	0.80	13.13	0.05	
7	1					61	732	60	0.00	8	979	6.93	0.93	13.23	0.16	
8	1					304	1400	60	0.00	22	314	3.24	0.84	10.59	1.48	
9	1			1	A	322	1915	32	3.00	31	194	11.64	8.04	50.88	2.82	
10	1 B					32	Unrestricted	60	51.00	0	Unrestricted	39.60	0.00	0.00	0.00	
11	1					304	1800	60	0.00	17	433	12.54	0.20	0.00	0.02	

### Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
<b>Normal traffic</b>	182.72	7.82	23.36	1.73	24.60	5.22	0.00	29.82
<b>Bus</b>	8.16	0.60	13.59	0.06	0.80	0.04	0.00	0.85
<b>Tram</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Pedestrians</b>								
<b>TOTAL</b>	190.88	8.42	22.66	1.79	25.40	5.26	0.00	30.66

- | N = at least one source for this link/traffic stream carries normal traffic
- | B = at least one source for this link/traffic stream carries Bus traffic
- | < = adjusted flow warning (upstream links/traffic streams are over-saturated)
- | \* = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%
- | ^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%
- | + = average link/traffic stream excess queue is greater than 0
- | **P.I. = PERFORMANCE INDEX**



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Filename: (new file)

Path:

Report generation date: 20/07/2022 10:01:27

«A2 - Junction 4 2024 : D2 - PM DS\* :

- »Summary
- »Network Options
- »Arms and Traffic Streams
- »Signal Timings
- »Final Prediction Table

File summary

File description

File title	(untitled)
Location	
Site number	
UTCRegion	
Driving side	Left
Date	18/07/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OCSC\joshua.tai
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

# A2 - Junction 4 2024

## D2 - PM DS\*

### Summary

#### Data Errors and Warnings

No errors or warnings

#### Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst over PR
2	20/07/2022 10:00:50	20/07/2022 10:00:51	08:00	60	36.35	2.14	43.20	9/1	0	0	9/1	8/1	9/1

#### Analysis Set Details

Name	Description	Demand set	Include in report	Locked
Junction 4 2024		D2	✓	

#### Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
PM DS				08:00	

### Network Options

#### Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
60		60	1	60

#### Signals options

Start displacement (s)	End displacement (s)
2	3

#### Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

#### Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

#### Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

### Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

### Normal Traffic Types

Name	PCU Factor
Normal	1.00

### Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms <sup>^-2</sup> )	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

### Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms <sup>^-2</sup> )	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

### Pedestrian parameters

Dispersion type
Default

### Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Extended - Offsets And Green Splits	✓

### Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1, -15, -5, -1, 15, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05		✓	1			Do nothing

### Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

## Arms and Traffic Streams

### Arms

Arm	Name	Description	Traffic node
(ALL)			

### Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Auto-calculate cell saturation flow	Cell saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
1	1				90.00	✓	Sum of lanes	2051			✓		Normal	
2	1				90.00	✓	Sum of lanes	1915			✓		Bus	
3	1			✓	47.78								Normal	
4	1				90.00								Normal	
5	1			✓	151.56								Normal	
6	1				20.00	✓	Sum of lanes	1532				✓	Normal	
7	1				50.00	✓	Sum of lanes	1547				✓	Normal	
8	1				20.00	✓	Sum of lanes	1912	✓	1800		✓	Normal	
9	1				30.00	✓	Sum of lanes	1915			✓		Normal	
10	1				165.00								Bus	
11	1			✓	102.79	✓	Sum of lanes	1800					Normal	

### Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
1	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	1	8.19		2051
2	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	0	99999.00	✓	1915
3	1	1	(untitled)											
4	1	1	(untitled)											
5	1	1	(untitled)											
6	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	100	6.00	✓	1532
7	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	95	6.00	✓	1547
8	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	1	9.83	✓	1912
9	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	0	99999.00	✓	1915
10	1	1	(untitled)											
11	1	1	(untitled)											1800

### Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
(ALL)	1	1	A	

### Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Number of storage spaces	Use connector turning radius	Radius of turn (m)	Visibility restricted
6	1	AllTraffic	✓	0	✓	6.00	
7	1	AllTraffic	✓	0	✓	6.00	
8	1	AllTraffic	✓	0	✓	9.83	

### Give Way Data - All Movements - Conflicts

Traffic Stream	Description	Controlling type	Controlling traffic stream	Controlling from traffic stream	Controlling to traffic stream	Percentage opposing (%)	Upstream signals visible	Conflict shift	Conflict duration
1		TrafficStream	2/1			100		0	0
		TrafficStream	1/1			100		0	0
		TrafficStream	8/1			100		0	0
		TrafficStream	8/1			100		0	0
		TrafficStreamMovement		1/1	5/1	100		0	0
		TrafficStream	1/1			100		0	0
		TrafficStream	2/1			100		0	0

## Signal Timings

Network Default: 60s cycle time; 60 steps

### Interstage Matrix for Controller Stream 1

		To	
		1	2
From	1	0	5
	2	5	0

### Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	52	24	32	1	7
	2	✓	2	B	29	47	18	1	18

## Final Prediction Table

### Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	
				Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	D we i mu
1	1			1	A	334	2051	32	0.00	30	204	18.74	7.94	51.75	3.03	
2	1 B			1	A	43	1915	32	32.00	4	2104	27.97	6.37	44.24	0.32	
3	1					13	Unrestricted	60	60.00	0	Unrestricted	5.73	0.00	0.00	0.00	
4	1					455	Unrestricted	60	20.00	0	Unrestricted	10.80	0.00	0.00	0.00	
5	1					396	Unrestricted	60	0.00	0	Unrestricted	18.19	0.00	0.00	0.00	
6	1					13	590	60	51.00	2	3981	3.07	0.67	11.48	0.03	
7	1					74	598	60	0.00	12	628	7.10	1.10	13.49	0.19	
8	1					443	1468	60	0.00	30	198	3.31	0.91	9.21	1.51	
9	1			1	A	455	1915	32	0.00	43	108	12.73	9.13	53.05	4.08	
10	1 B					43	Unrestricted	60	46.00	0	Unrestricted	39.60	0.00	0.00	0.00	
11	1					443	1800	60	0.00	25	266	12.66	0.33	0.00	0.04	



### Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
<b>Normal traffic</b>	203.66	8.86	23.00	2.07	29.36	5.85	0.00	35.21
<b>Bus</b>	10.97	0.81	13.59	0.08	1.08	0.06	0.00	1.14
<b>Tram</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Pedestrians</b>								
<b>TOTAL</b>	214.62	9.66	22.21	2.14	30.44	5.91	0.00	36.35

- | N = at least one source for this link/traffic stream carries normal traffic
- | B = at least one source for this link/traffic stream carries Bus traffic
- | < = adjusted flow warning (upstream links/traffic streams are over-saturated)
- | \* = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%
- | ^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%
- | + = average link/traffic stream excess queue is greater than 0
- | **P.I. = PERFORMANCE INDEX**



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Filename: (new file)

Path:

Report generation date: 20/07/2022 10:01:54

«A3 - Junction 4 2024 : D3 - AM DN\* :

- »Summary
- »Network Options
- »Arms and Traffic Streams
- »Signal Timings
- »Final Prediction Table

File summary

File description

File title	(untitled)
Location	
Site number	
UTCRegion	
Driving side	Left
Date	18/07/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OCSC\joshua.tai
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

# A3 - Junction 4 2024

## D3 - AM DN\*

### Summary

#### Data Errors and Warnings

No errors or warnings

#### Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst over PR
3	20/07/2022 10:00:51	20/07/2022 10:00:51	08:00	60	28.18	1.64	31.82	1/1	0	0	1/1	8/1	1/

#### Analysis Set Details

Name	Description	Demand set	Include in report	Locked
Junction 4 2024		D3	✓	

#### Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
AM DN				08:00	

### Network Options

#### Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
60		60	1	60

#### Signals options

Start displacement (s)	End displacement (s)
2	3

#### Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

#### Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

#### Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

### Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

### Normal Traffic Types

Name	PCU Factor
Normal	1.00

### Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms <sup>^-2</sup> )	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

### Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms <sup>^-2</sup> )	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

### Pedestrian parameters

Dispersion type
Default

### Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Extended - Offsets And Green Splits	✓

### Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1, -15, -5, -1, 15, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05		✓	1			Do nothing

### Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

## Arms and Traffic Streams

### Arms

Arm	Name	Description	Traffic node
(ALL)			

### Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Auto-calculate cell saturation flow	Cell saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
1	1				90.00	✓	Sum of lanes	2051			✓		Normal	
2	1				90.00	✓	Sum of lanes	1915			✓		Bus	
3	1			✓	47.78								Normal	
4	1				90.00								Normal	
5	1			✓	151.56								Normal	
6	1				20.00	✓	Sum of lanes	1532				✓	Normal	
7	1				50.00	✓	Sum of lanes	1532				✓	Normal	
8	1				20.00	✓	Sum of lanes	1912	✓	1800		✓	Normal	
9	1				30.00	✓	Sum of lanes	1915			✓		Normal	
10	1				165.00								Bus	
11	1			✓	102.79	✓	Sum of lanes	1800					Normal	

### Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
1	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	1	8.19		2051
2	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	0	99999.00	✓	1915
3	1	1	(untitled)											
4	1	1	(untitled)											
5	1	1	(untitled)											
6	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	100	6.00	✓	1532
7	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	100	6.00	✓	1532
8	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	1	9.83	✓	1912
9	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	0	99999.00	✓	1915
10	1	1	(untitled)											
11	1	1	(untitled)											1800

### Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
(ALL)	1	1	A	

### Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Number of storage spaces	Use connector turning radius	Radius of turn (m)	Visibility restricted
6	1	AllTraffic	✓	0	✓	6.00	
7	1	AllTraffic	✓	0	✓	6.00	
8	1	AllTraffic	✓	0	✓	9.83	

### Give Way Data - All Movements - Conflicts

Traffic Stream	Description	Controlling type	Controlling traffic stream	Controlling from traffic stream	Controlling to traffic stream	Percentage opposing (%)	Upstream signals visible	Conflict shift	Conflict duration
1		TrafficStream	2/1			100		0	0
		TrafficStream	1/1			100		0	0
		TrafficStream	8/1			100		0	0
		TrafficStream	8/1			100		0	0
		TrafficStreamMovement		1/1	5/1	100		0	0
		TrafficStream	1/1			100		0	0
		TrafficStream	2/1			100		0	0

## Signal Timings

Network Default: 60s cycle time; 60 steps

### Interstage Matrix for Controller Stream 1

		To	
		1	2
From	1	0	5
	2	5	0

### Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	52	24	32	1	7
	2	✓	2	B	29	47	18	1	18

## Final Prediction Table

### Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	
				Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	D we i mu
1	1			1	A	359	2051	32	0.00	32	183	18.92	8.12	52.33	3.27	
2	1 B			1	A	43	1915	32	32.00	4	2104	27.97	6.37	44.24	0.32	
3	1					6	Unrestricted	60	60.00	0	Unrestricted	5.73	0.00	0.00	0.00	
4	1					306	Unrestricted	60	22.00	0	Unrestricted	10.80	0.00	0.00	0.00	
5	1					417	Unrestricted	60	0.00	0	Unrestricted	18.19	0.00	0.00	0.00	
6	1					21	781	60	51.00	3	3249	2.99	0.59	11.24	0.05	
7	1					61	785	60	0.00	8	1058	6.74	0.74	11.47	0.14	
8	1					288	1439	60	0.00	20	350	3.09	0.69	9.93	1.47	
9	1			1	A	306	1915	32	4.00	29	210	11.51	7.91	50.34	2.65	
10	1 B					43	Unrestricted	60	46.00	0	Unrestricted	39.60	0.00	0.00	0.00	
11	1					288	1800	60	0.00	16	463	12.53	0.19	0.00	0.02	

### Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
<b>Normal traffic</b>	171.35	7.28	23.54	1.57	22.28	4.76	0.00	27.04
<b>Bus</b>	10.97	0.81	13.59	0.08	1.08	0.06	0.00	1.14
<b>Tram</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Pedestrians</b>								
<b>TOTAL</b>	182.32	8.09	22.54	1.64	23.36	4.82	0.00	28.18

- | N = at least one source for this link/traffic stream carries normal traffic
- | B = at least one source for this link/traffic stream carries Bus traffic
- | < = adjusted flow warning (upstream links/traffic streams are over-saturated)
- | \* = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%
- | ^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%
- | + = average link/traffic stream excess queue is greater than 0
- | **P.I. = PERFORMANCE INDEX**



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Filename: (new file)

Path:

Report generation date: 20/07/2022 10:02:14

«A4 - Junction 4 2024 : D4 - PM DN\* :

- »Summary
- »Network Options
- »Arms and Traffic Streams
- »Signal Timings
- »Final Prediction Table

File summary

File description

File title	(untitled)
Location	
Site number	
UTCRegion	
Driving side	Left
Date	18/07/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OCSC\joshua.tai
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓



# A4 - Junction 4 2024

## D4 - PM DN\*

### Summary

#### Data Errors and Warnings

No errors or warnings

#### Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst over PR
4	20/07/2022 10:00:51	20/07/2022 10:00:51	08:00	60	31.53	1.85	39.50	9/1	0	0	9/1	8/1	9/1

#### Analysis Set Details

Name	Description	Demand set	Include in report	Locked
Junction 4 2024		D4	✓	

#### Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
PM DN				08:00	

### Network Options

#### Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
60		60	1	60

#### Signals options

Start displacement (s)	End displacement (s)
2	3

#### Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

#### Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

#### Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

### Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

### Normal Traffic Types

Name	PCU Factor
Normal	1.00

### Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms <sup>^-2</sup> )	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

### Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms <sup>^-2</sup> )	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

### Pedestrian parameters

Dispersion type
Default

### Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Extended - Offsets And Green Splits	✓

### Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1, -15, -5, -1, 15, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05, 0.05		✓	1			Do nothing

### Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

## Arms and Traffic Streams

### Arms

Arm	Name	Description	Traffic node
(ALL)			

### Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Auto-calculate cell saturation flow	Cell saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
1	1				90.00	✓	Sum of lanes	2048			✓		Normal	
2	1				90.00	✓	Sum of lanes	1915			✓		Bus	
3	1			✓	47.78								Normal	
4	1				90.00								Normal	
5	1			✓	151.56								Normal	
6	1				20.00	✓	Sum of lanes	1532				✓	Normal	
7	1				50.00	✓	Sum of lanes	1547				✓	Normal	
8	1				20.00	✓	Sum of lanes	1912	✓	1800		✓	Normal	
9	1				30.00	✓	Sum of lanes	1915			✓		Normal	
10	1				165.00								Bus	
11	1			✓	102.79	✓	Sum of lanes	1800					Normal	

### Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
1	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	2	8.19		2048
2	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	0	99999.00	✓	1915
3	1	1	(untitled)											
4	1	1	(untitled)											
5	1	1	(untitled)											
6	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	100	6.00	✓	1532
7	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	95	6.00	✓	1547
8	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	1	9.83	✓	1912
9	1	1	(untitled)		✓	N/A	N/A	0	3.00	✓	0	99999.00	✓	1915
10	1	1	(untitled)											
11	1	1	(untitled)											1800

### Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
(ALL)	1	1	A	

### Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Number of storage spaces	Use connector turning radius	Radius of turn (m)	Visibility restricted
6	1	AllTraffic	✓	0	✓	6.00	
7	1	AllTraffic	✓	0	✓	6.00	
8	1	AllTraffic	✓	0	✓	9.83	

### Give Way Data - All Movements - Conflicts

Traffic Stream	Description	Controlling type	Controlling traffic stream	Controlling from traffic stream	Controlling to traffic stream	Percentage opposing (%)	Upstream signals visible	Conflict shift	Conflict duration
1		TrafficStream	2/1			100		0	0
		TrafficStream	1/1			100		0	0
		TrafficStream	8/1			100		0	0
		TrafficStream	8/1			100		0	0
		TrafficStreamMovement		1/1	5/1	100		0	0
		TrafficStream	1/1			100		0	0
		TrafficStream	2/1			100		0	0

## Signal Timings

Network Default: 60s cycle time; 60 steps

### Interstage Matrix for Controller Stream 1

		To	
		1	2
From	1	0	5
	2	5	0

### Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	52	24	32	1	7
	2	✓	2	B	29	47	18	1	18

## Final Prediction Table

### Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	
				Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	D we i mu
1	1			1	A	297	2048	32	0.00	26	241	18.49	7.69	50.38	2.60	
2	1 B			1	A	43	1915	32	32.00	4	2104	27.97	6.37	44.24	0.32	
3	1					14	Unrestricted	60	60.00	0	Unrestricted	5.73	0.00	0.00	0.00	
4	1					416	Unrestricted	60	21.00	0	Unrestricted	10.80	0.00	0.00	0.00	
5	1					359	Unrestricted	60	0.00	0	Unrestricted	18.19	0.00	0.00	0.00	
6	1					15	677	60	52.00	2	3959	2.89	0.49	9.70	0.03	
7	1					74	687	60	0.00	11	736	6.75	0.75	10.01	0.15	
8	1					403	1514	60	0.00	27	238	3.11	0.71	8.20	1.50	
9	1			1	A	416	1915	32	0.00	39	128	12.39	8.79	52.42	3.70	
10	1 B					43	Unrestricted	60	46.00	0	Unrestricted	39.60	0.00	0.00	0.00	
11	1					403	1800	60	0.00	22	302	12.62	0.29	0.00	0.03	

### Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
<b>Normal traffic</b>	185.21	7.95	23.29	1.78	25.26	5.14	0.00	30.39
<b>Bus</b>	10.97	0.81	13.59	0.08	1.08	0.06	0.00	1.14
<b>Tram</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Pedestrians</b>								
<b>TOTAL</b>	196.18	8.76	22.40	1.85	26.34	5.20	0.00	31.53

- | N = at least one source for this link/traffic stream carries normal traffic
- | B = at least one source for this link/traffic stream carries Bus traffic
- | < = adjusted flow warning (upstream links/traffic streams are over-saturated)
- | \* = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%
- | ^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%
- | + = average link/traffic stream excess queue is greater than 0
- | **P.I. = PERFORMANCE INDEX**







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