



## **Traffic and Transport Assessment**

**for Proposed Development at Rosshill,  
Galway City**

**On behalf of Alber Developments Ltd.**

**Prepared by:**

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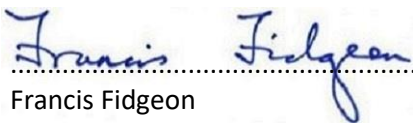
**Civil**  
**Structural**  
**Traffic**

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## Revision History

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## **1 Non-Technical Summary**

Planning permission is being sought for a residential development consisting of 102 no. units comprising 67 no. houses and 35 no. apartments, including a crèche and 188.5 sqm of retail/commercial space.

Manual classified traffic counts and capacity analysis was carried out at the following junctions:

- Junction 1: R338 Dublin Rd.-Rosshill Rd. Junction
- Junction 2: R338 Dublin Road-R338 Coast Road Junction
- Junction 3: R921 Old Dublin Road-Doughiska Road
- Junction 4: R338 Coast Road-Rosshill Road Junction
- Junction 5: Rosshill Road-Rosshill Farm Stud Junction

Predicted development traffic and committed development traffic was added to the existing flows at the junctions as well as traffic growth figures up to a design year of 2039 for the proposed 102 units and 2042 for analysis of a junction upgrade to include for potential future development of adjacent zoned lands.

Traffic generation has been included on the road network assuming full occupation of permitted adjacent development. Some junctions will be above capacity before the design year. These junctions are predicted to be above capacity in any case without the development, but one will occur earlier.

The proposed Galway Bypass would ultimately reduce traffic flow at these junctions.



## 2 Introduction

### 2.1 Background

CST Group Chartered Consulting Engineers were commissioned by Tobin Consulting Engineers to carry out a TTA for a Residential Development at Rosshill, approximately 5km from Galway City Centre. The assessment has been carried out in accordance with TII's Traffic and Transport Assessment Guidelines PE-PDV-02045 (May 2014) and refers to the Design Manual for Urban Roads & Streets (DMURS) 2019, Smarter Travel – A Sustainable Transport Future (2009-2020). Sections from the Galway City Council Development Plan 2017-2023 have been used to help describe the development location and its local context.

The purpose of the TTA report is to assess the potential impact of the proposed development on the existing local transport network and to ensure that the proposed site access and the existing junctions which fall within the scope of the study will have adequate capacity to carry the development traffic and the future growth in existing road traffic to the design year and beyond. An assessment of the accessibility of the site for cyclists, pedestrians and public transport users has also been made.

The development is estimated to be completed and occupied by 2024. It is envisaged that potential future development on adjacent zoned lands might be completed and ready for occupation in 2027.

### 2.2 Scoping

The proposed development was discussed with Galway City Council's Transportation Dept and the traffic assessment requirements were agreed. Galway City Council requested that analysis be carried out at the following junctions (as shown on Figure 3.4):

- Junction 1: R338 Dublin Rd.-Rosshill Rd. Junction
- Junction 2: R338 Dublin Road-R338 Coast Road Junction
- Junction 3: R921 Old Dublin Road-Doughiska Road
- Junction 4: R338 Coast Road-Rosshill Road Junction
- Junction 5: Rosshill Road-Rosshill Farm Stud Junction

### 3 Existing Conditions

#### 3.1 Site Location

The development site is located 5km to the East of Galway City Centre. The proposed development site is an existing greenfield site located immediately to the south of the Galway-Dublin Rail Line. The site location in relation to the wider road network is detailed in Figure 3.1 & Figure 3.2 below. The area of the proposed development, Rosshill, falls within the boundary of the Galway City Development Plan (2017-2023), in which it has been zoned low density residential.

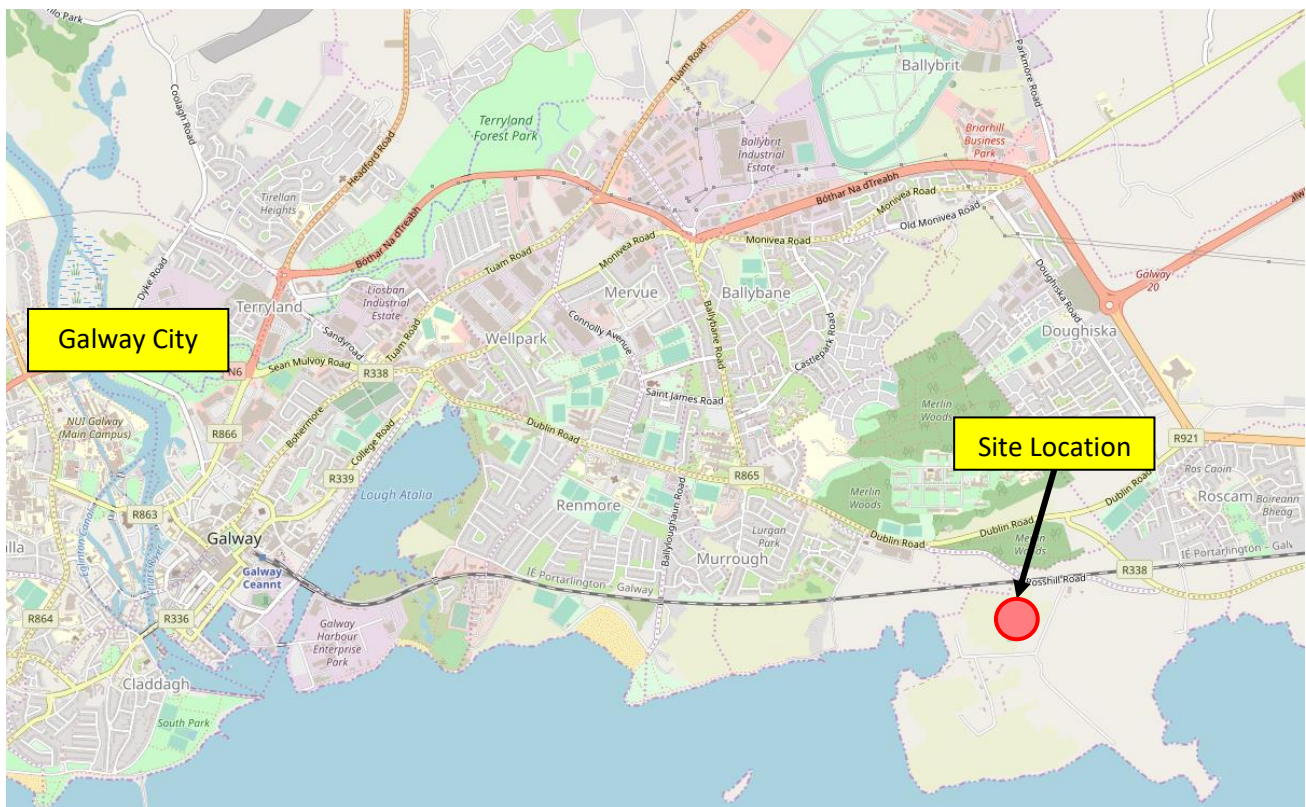


Figure 3.1: Location map of Proposed Development and surrounding road network ©OpenStreetMap contributors

#### 3.2 Existing Road Network

The layout of the local road network is presented in Figures 3.1 and 3.2. The proposed development is bounded to the north by the Rosshill Road and the Galway Dublin Rail Line, and to the East by the Rosshill Farm Stud Road. A brief description of the local road network and associated junctions is provided below:

##### 3.2.1 Rosshill Road

The Rosshill road is a single carriageway road with one lane in each direction. The Rosshill Road connects to the R338 Coast Road at its eastern end and the R338 Dublin Road at its western ends. Both junctions are priority-controlled T-Junctions that include right turning lanes on the regional road. There is a footway along the majority of the Northern Side of the Rosshill Road. It is constructed from an unbound material and is in a state of disrepair.

### 3.2.2 R338 Coast Road

The R338 Coast Road is a single carriageway road with one lane in each direction. The R338 links to the R338 Dublin Road via a signalised T-Junction at its western end and to the Oranmore region to the East. There are no footways provided on the Coast Road. There is a hard-shoulder along both sides of the R338 Coast Road.

### 3.2.3 R338 Dublin Road

The R338 Dublin Road is a single carriageway road with one lane in each direction and a segregated bus lane on the westbound (citybound) direction. The R338 Dublin Road links to the City Centre to the west and to the R338 Coast Road and R921 Old Dublin Road to the east (via a signalised T-Junction). There is a footway provided along the southern side of this road which connects to pedestrian infrastructure to the west (city centre) and to the east (Roscam and Doughiska residential areas).

### 3.2.4 Rosshill Farm Stud Road

The Rosshill Farm Stud Road is a single carriageway county lane that runs southerly from the Rosshill Road via a Priority-Controlled T-Junction. There are no pedestrian or cyclist facilities provided on this road. The existing road meets Rosshill Road at an angle more than 70 degrees and is not ideal for the increased usage as motorists are required to undertake a sharp turn at this junction. Also, elderly users can experience difficulty when attempting to look over their shoulder to observe oncoming traffic when exiting at such a sharp junction. As a result of this, it has been agreed with the Roads section that the existing Rosshill Farm Stud/Rosshill Road Junction is to be realigned as part of the proposed development. This will involve construction of new carriageway from the proposed entrance to the development to the intersection with the Rosshill Road. A footway and cycleway will be provided along this new section of roadway as shown on Figure 3.3.



Figure 3.2: Site location and surrounding road network ©OpenStreetMap contributors



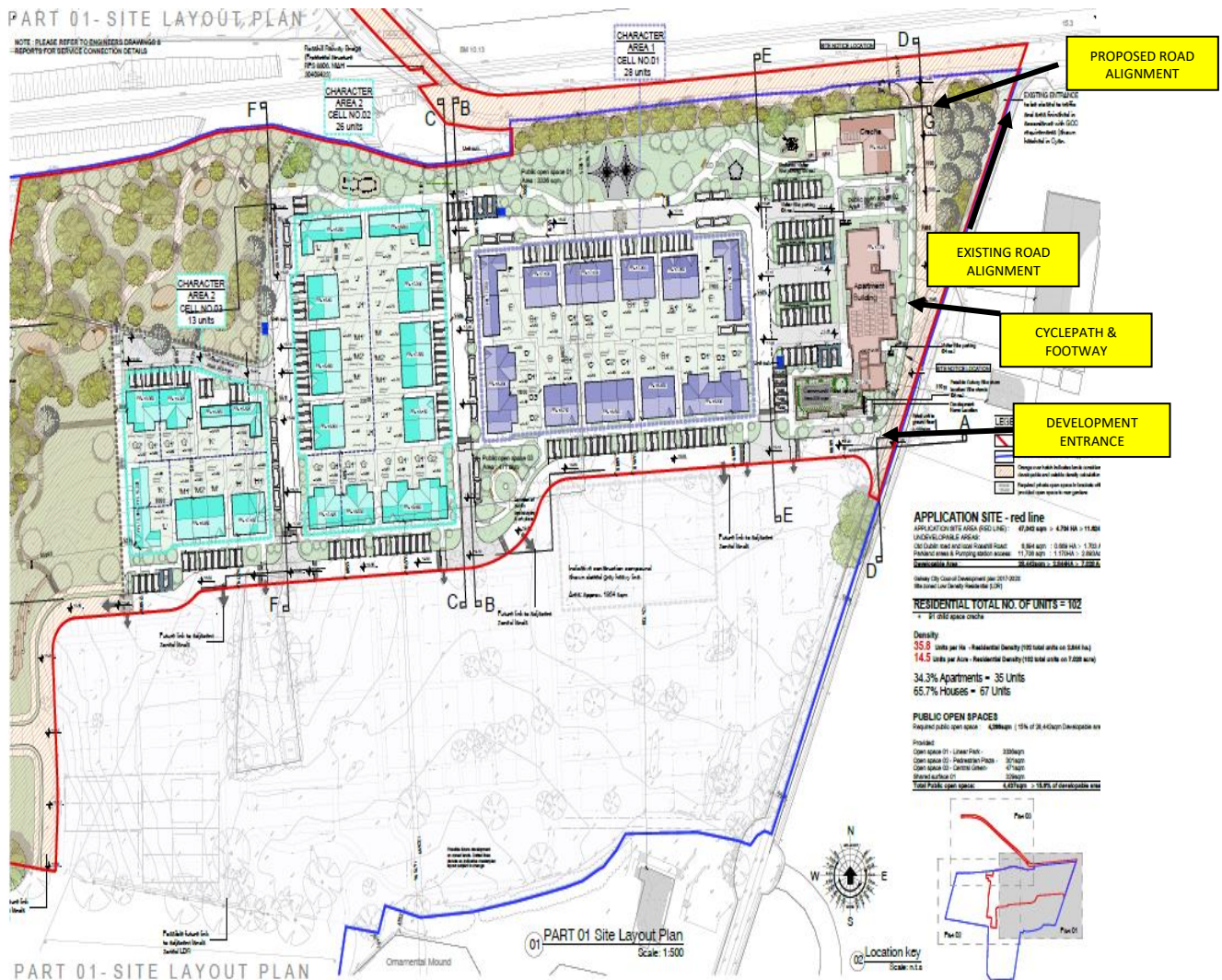


Figure 3.3: Realignment of Rosshill Farm Stud Road

### 3.3 Existing Traffic Flows

As mentioned in Section 2.2, the TTA was scoped with Galway City Council Roads and Transportation Dept. The junctions to be analysed are:

- Junction 1: R338 Dublin Rd.-Rosshill Rd. Junction
- Junction 2: R338 Dublin Road-R338 Coast Road Junction
- Junction 3: R921 Old Dublin Road-Doughiska Road
- Junction 4: R338 Coast Road-Rosshill Road Junction
- Junction 5: Rosshill Road-Rosshill Farm Stud Junction

The location of these Junctions is shown on Figure 3.4. To determine the existing traffic volumes on the road network in the vicinity of the proposed development a manual classified traffic turning count survey was carried out at these junctions.

These counts were undertaken by IDASO on 20<sup>th</sup> September 2018 for a 12-hour period from 7.00am to 7.00pm, and on the 15<sup>th</sup> of November 2018 for a 24-hour period from 00:00 to 24:00. The surveys found that the mean morning peak hour traffic flow at Junction 1 occurred between 07:30am and 08:30am and the evening peak hour occurred between 5:15pm and 6:15pm. The surveys found that the mean morning peak hour traffic flow at Junction 2 occurred between 07:45am and 08:45am and the evening peak hour occurred between 4:45 and 5:45pm. The surveys found that the mean morning peak hour traffic flow at Junction 3 occurred between 08:15am and 09:15am and the evening peak hour occurred between 5:15pm and 6:15pm. The surveys found that the mean morning peak hour traffic flow at Junction 4 occurred between 07:30am and 08:30am and the evening peak hour occurred between 5:00pm and 6:00pm. Junction 5 occurred between 07:30am and 08:30am and the evening peak hour occurred between 5:00pm and 6:00pm.

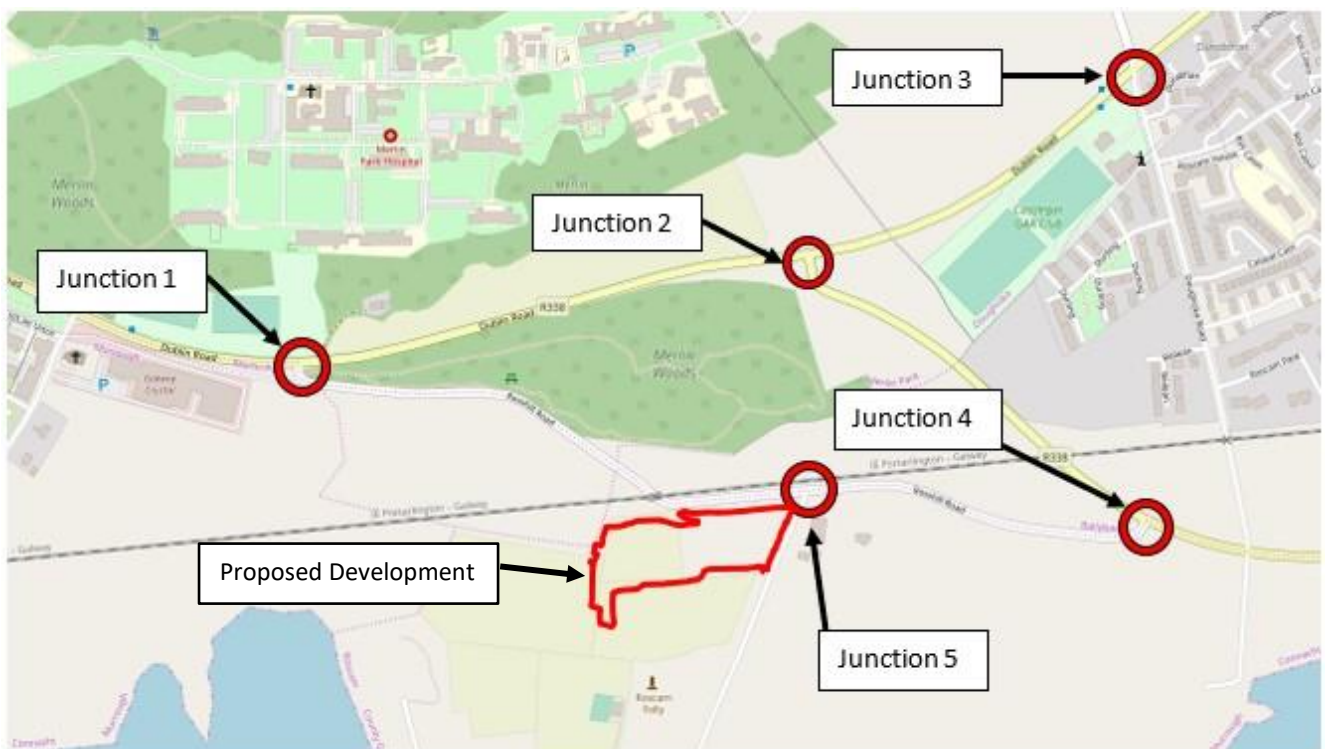


Figure 3.4: Identified Junctions for Analysis (© OpenStreetMap contributor)

The results of the surveys have been reproduced in full as **Appendix A** to this report. The calculated morning and evening peak hour turning count flows at the development are detailed in the traffic flow diagrams presented in **Appendix C**.

### 3.4 Transport Proposals

As part of the traffic and transport assessment for the proposed development, a study of the transport proposals that could impact on the development was undertaken. These are outlined below.

#### 3.4.1 N6 Galway City Ring Road

The N6 Galway City Ring Road (GCRR) comprises the construction of approximately 6km of a single carriageway from the western side of Barna Village as far as Ballymoneen Road and approximately 12km of dual carriageway from Ballymoneen Road to the eastern tie-in with the existing N6 at Coolagh, Briarhill, and associated link roads, side roads, junctions and structures. The Application for the N6 Galway City Ring Road (GCRR) was lodged with An Bord Pleanála (ABP) in October 2018. Following that, approximately 300 submissions/objections were received by ABP. Oral hearings are now completed and An Bord Pleanála has approved the project.

It is expected that this scheme will have significant beneficial impact on the traffic distribution throughout the Galway City and Environs. It should reduce through traffic on the roads in the vicinity of the proposed development.

A schematic of the scheme is shown in Figure 3.5 below.

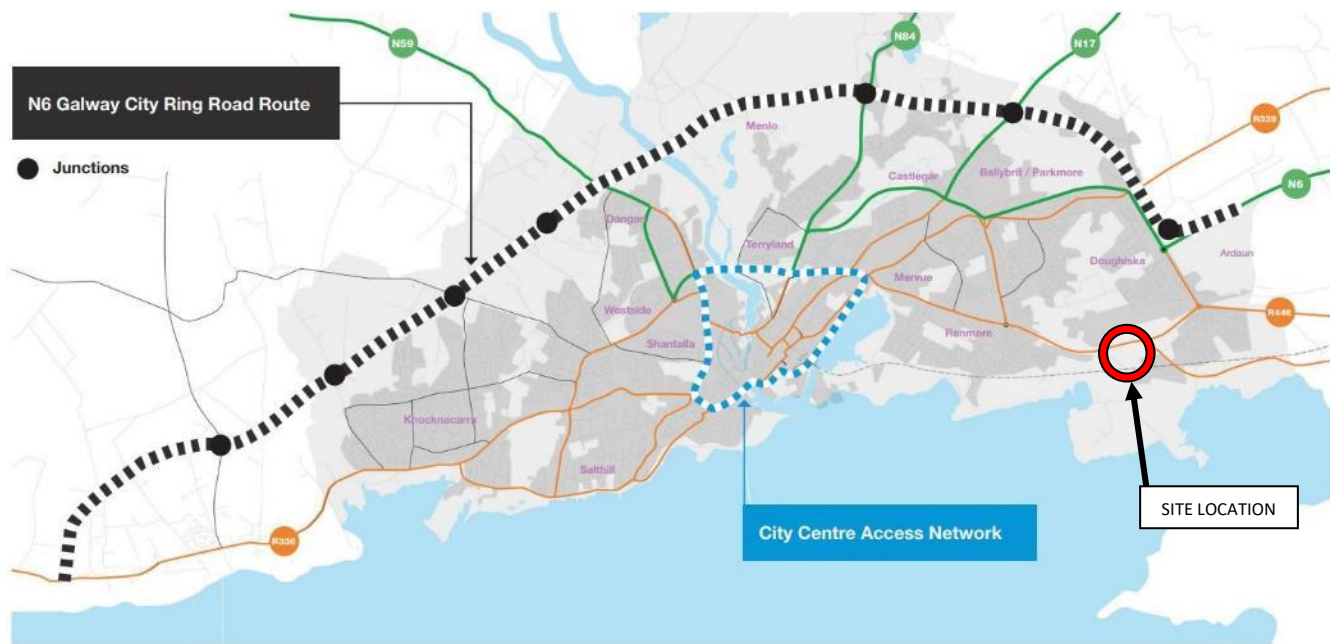


Figure 3.5: Proposed N6 Galway Ring Road Route (© Galway Transport Strategy)



### 3.4.2 BusConnects Galway - Dublin Road

The R338 Dublin Road, Galway is one of the primary artery routes into Galway City Centre. It runs from the Martin Roundabout to Moneenageisha Junction and includes significant landmarks and trip attractors along the route. BusConnects Galway - Dublin Road is a sustainable, multi-modal corridor which will deliver 4km of high-quality pedestrian, cyclist and public transport facilities while balancing the transport needs with the unique sensitivities of the local environment. The project seeks to implement one of the elements of the Galway Transport Strategy by providing the infrastructure to reduce reliance on private motorised transport, promote walking and cycling and support improved frequency and journey time reliability of local bus and regional coach services.

The scheme will be built using existing infrastructure and introduces new areas of off-road cycling and footpath improvements. It incorporates a range of landscapes from the more built-up streets approaching the city to the sensitive and ecologically important woodlands and meadows at Roscam and Merlin Park.

From Doughiska junction to Skerritt Roundabout, a segregated two-way cycle path runs 'off-line' and was designed to protect the existing natural boundaries and to provide safe and attractive cycling for all ages. The road will be upgraded to provide bus lanes and footpaths in both directions, with car lanes in each direction retained. This section of the route serves Merlin Park Hospital and adjacent residential areas and presents an opportunity to connect with Merlin Woods, Roscam Woods, the Meadows and the Dublin to Galway Greenway. These improvements will enhance the current levels of connectivity at the application site.



Figure 3.6: Proposed Busconnects Galway - Dublin Road (© Galway Transport Strategy)

## 4 Proposed Development

### 4.1 Description

The application is for a residential development consisting of 102 no. residential units comprising 67 no. houses and 35 no. apartments, including a ground-floor retail/commercial unit (188.5sqm). The residential dwelling units are a combination of 3-bed and 4-bed terraced, semi and detached houses. The apartment units consist of a combination of 1-bed and 2-bed apartments. A two-storey 399sqm childcare facility is also included. Furthermore, the proposal includes:

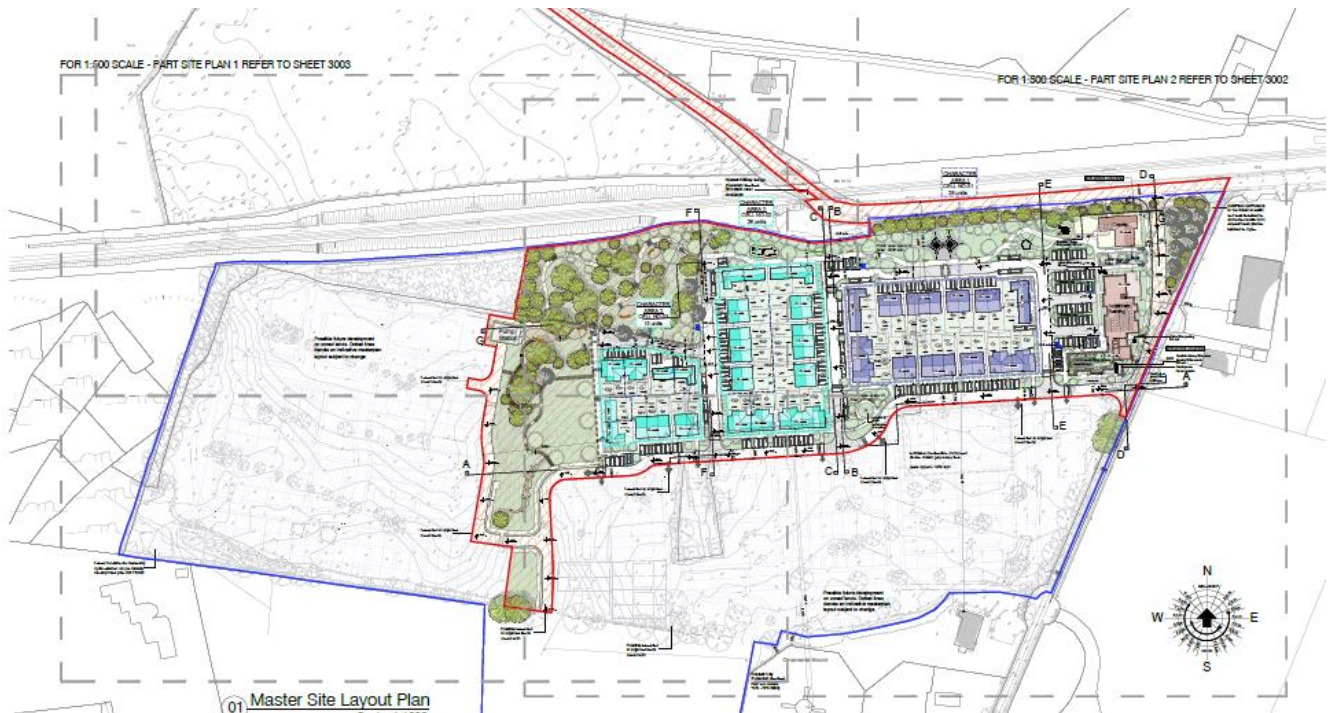
- 1) Provision of shared communal and private open space, including play and fitness equipment
- 2) Car and cycle parking, including electric vehicle charging points
- 3) Provision of all associated surface water and foul drainage services and connections including pumping station
- 4) Landscaping, access routes and public art
- 5) Lighting and associated works
- 6) Access and junction improvements at Rosshill Road and Rosshill Stud Farm Road
- 7) Provision of a footpath connectivity link along Rosshill Road and Rosshill Stud Farm Road
- 8) All associated site works and ancillary services.

A Natura Impact Statement ('NIS') and Environmental Impact Assessment Report ('EIAR') have been prepared and accompany the application. The application is also accompanied by a Statement of Material Contravention of the Development Plan.

The land surrounding the immediate site is mixed low-density residential, consisting primarily of one-off housing. Rosshill Farm Stud is located to the south of the proposed development site, with the Galway-Dublin Rail line bounding the north of the site.

The proposed layout for the development has been reproduced in sketch format in Figure 4.1 and is detailed in the series of drawings as submitted with this application.





**Figure 4.1: Proposed Site Layout**

## 4.2 Internal Layout

The site is a relatively level site. It is immediately south of the Dublin-Galway railway line which has a railway bridge over the Rosshill Road. The site is 4.704ha. The existing access point is off Rosshill Farm Stud Road. The proposed access point is also off Rosshill Farm Stud Road, which is to be realigned and upgraded from Rosshill Road to the proposed access. DMURS principles and best practice has been used for the layout design and a dedicated statement of compliance with DMURS has been lodged with the application pack.

The scheme has a spine road running east-west for a large part from the site access. However, this road has been designed not to form a long straight but rather is deviated slightly through sharp curves at various intervals to provide traffic calming and so that it does not appear as a long road – see Figure 4.1 above.

Some homezone areas are provided where pedestrians and motorists share the carriageway to slow speeds.

Secondary roads either loop with each other so no turning/reversing is required or are provided with turning areas. Figure 4.1 shows the connections hierarchy. A central vehicular & pedestrian route meanders its way through the scheme. This is connected to secondary routes with clear views to the sylvan setting and the wider context enabling place finding which is appropriate to a site of this type. These secondary routes are connected to a 3m public walkway running the length of the site through green and tree lined settings joining the ends of each vehicular route. Thus, promoting the importance of reduced vehicular movements to the greener picturesque areas of the site.

### **4.3 Service and Delivery Trips**

Service and delivery trips to and from the development will be via the site entrance at the east of the development. It is envisaged that most delivery and service trips for the commercial element will occur during off-peak times.

An AutoTrack swept path analysis for the largest delivery vehicle type (16.5m articulated vehicle) accessing the development from the entrance junction and the realigned junction with the Rosshill Road has been carried out. The swept path of the maximum legal vehicle should not cross any proposed parking spaces. Swept Path drawing references 10690-2117, 2118, 2119, 2120, 2121 and 2122 by Tobin Consulting Engineers are included in the planning application.

## 5 Cumulative Impacts

Pre-planning discussions were held with Galway City Council in relation to the proposed development in November 2020. There is one proposed development to the northwest of the site that was highlighted – Ross Alta on Rosshill Road.

### 5.1 Development at Ross Alta

#### 5.1.1 Housing Development

The proposed Ross Alta development, planning reference 16228, consists of 16 No. 2-storey, 5-bedroom, detached houses, together with individual garages. This development was granted planning permission in 2017. The Ross Alta development will be accessed via a new priority junction along the Rosshill Road to the northwest of the site. Work has commenced on this development. A new footway is also being constructed along the road frontage of the site.

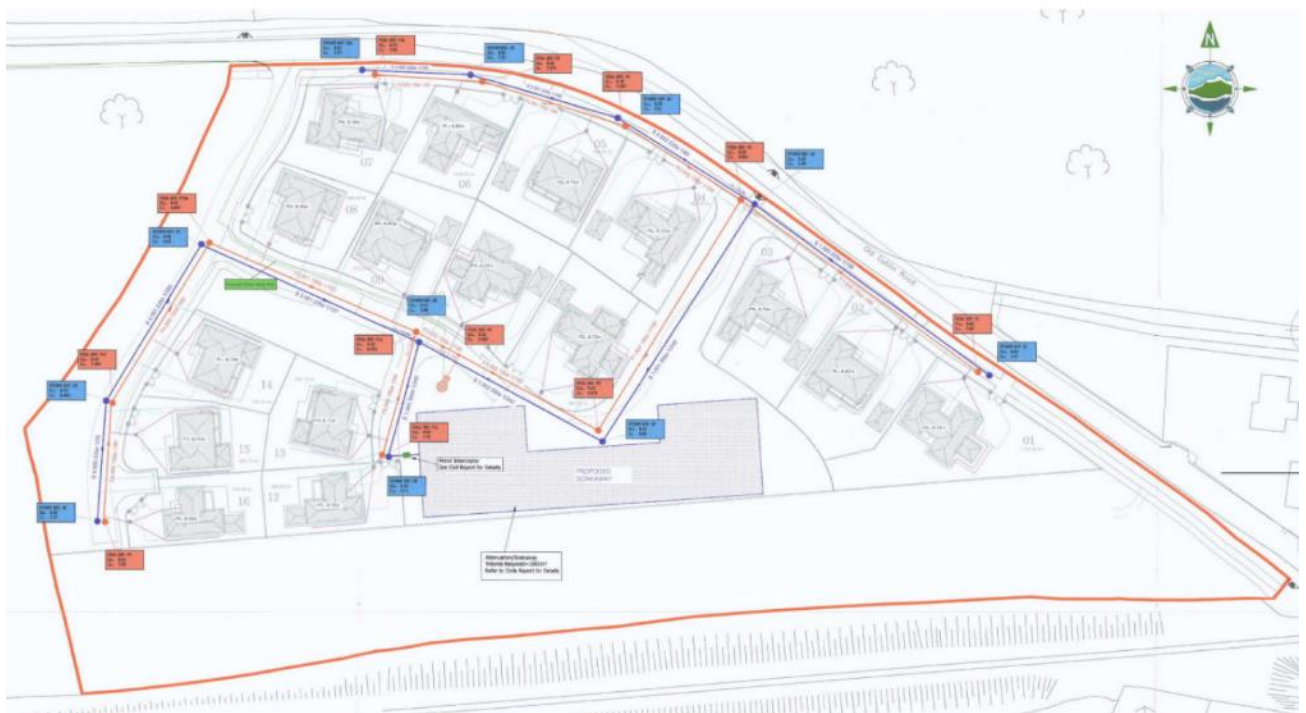


Figure 5.1: Proposed Ross Alta Layout

## 6 Trip Generation

### 6.1 General

The purpose of this section is to determine the overall number of trips that will be generated by the proposed development and adjacent committed developments. Following the quantification of the trip generation, these trips will be distributed onto the adjoining roads in order to provide the necessary traffic flows to allow an assessment of the traffic impact by the proposed development to be undertaken.

In order to estimate the likely volumes of traffic that will be generated by the proposed development, Galway City Council indicated that trip rates recommended by TRICS (Trip Rate Computer Information System) were not acceptable for the proposed development. Therefore, a traffic count was undertaken at a similar development (An Réileán Development) to calculate the turn-in rates at the proposed development. This approach was agreed with Galway City Council Roads Section. The similar development consists of 82 housing units and 2 apartment blocks (24 apartments). These figures were applied pro-rata to the relevant number of housing and apartment units within the proposed development. The estimated total number of vehicular trips generated by the proposed development is shown in **Table 6.1**.

TRICS was used to estimate the volume of traffic that will be generated by the recently commenced housing nearby (Ross Alta) and is also included in Table 6.1.

Landuse	Residential Units	Number of Trips			
		AM Arrivals	AM Departures	PM Arrivals	PM Departures
Proposed Mixed Residential (Apartments & Houses)	102	15	54	40	15
Proposed Mixed Residential (Apartments & Houses) Remainder of Adjacent zoned lands	240	36	127	95	36
<i>Adjacent Development Houses Privately Owned (TRICS)</i>	16	4	9	8	5
<b>TOTAL</b>		<b>56</b>	<b>190</b>	<b>143</b>	<b>56</b>

**Table 6.1: Predicted Traffic Generated by Proposed Development , Adjacent Zoned Lands & Ross Alta**

## 7 Traffic Forecasting

### 7.1 Future Baseline Traffic Growth

In the absence of any specific local traffic growth information it was assumed that baseline traffic will continue to grow at the levels recommended by TII in the Project Appraisal Guidelines (PAG) – Unit 5.3 ‘Travel Demand Projections’ publication (PE-PAG-02017). The Project Appraisal Guidelines describe three levels of transport model functionality. The simple model, which reflects traffic volumes on the basis of link flows, is best suited to the proposed development. Such models do not attempt any route assignment, and hence are applicable for networks where no change in traffic flows will result from a proposed scheme. Growth rates recommended in PAG – Unit 5.3 have been used to determine future traffic flows on the road network within the vicinity of the development. We have used figures from it for the Mid-West area which includes Galway City.

The year of opening of Phase 1 of the scheme was assumed to be 2024 and of the completed development to be 2027. The central growth factors from the Project Appraisal Guidelines – Unit 5.3 publication were used and are detailed below: -

- TII Link Based Growth Rates: Annual Growth Factor for 2013-2030 = 1.0099 (LVs) and 1.0237 (HVs);
- TII Link Based Growth Rates: Annual Growth Factor for 2030-2050 = 1.0000 (LVs) and 1.0176 (HVs).

The annual growth factors for Light Vehicles (LVs) and Heavy Vehicles (HV) were applied to surveyed values of vehicles counted.

With regards to the volume of traffic using the road, the passenger car is adopted as the standard unit and other vehicles are assessed in terms of PCU’s. Cars and Light Goods Vehicles are grouped together as Light Vehicles (LV). All other Goods Vehicles, Buses and Coaches are defined as Heavy Vehicles (HV).

The classification of vehicles in PCU’s is shown below:

Vehicle	PCU
Car	1
Light Goods Vehicle	1
Other Goods Vehicle (2 – 3 axle)	1.5
Other Goods Vehicle (4 – 5 axle)	2.3
Bus	2
Cycle	0.4

**Table 7.1: Classification of Passenger Car Units**

Estimated future baseline traffic flows on the road network in the vicinity of the proposed development were calculated by applying these factors to the surveyed flows. The resulting projected flows are detailed in the traffic flow diagrams in **Appendix C**.

## **8 Construction Stage Traffic**

### **8.1 Introduction**

As with any construction project, the contractor will be obliged to prepare a comprehensive traffic management plan for the construction phase. The purpose of such a plan is to outline the measures to manage the expected construction traffic activity during the construction period. In the interim, however, this section will provide an overview of the likely volume and routing of construction vehicles, based on a most likely scenario of construction.

### **8.2 Likely Construction Programme**

The site as proposed would be expected to require approximately 5 years to complete from occupation of the site. It is planned that the development will be complete over 3 Phases as shown on the phasing drawings accompanying this application. Activities would include:

- Site Clearance;
- Excavation and Spoil Removal;
- Construction of Substructure;
- Construction of Superstructure; and
- Fitting and finishing.

The site will exhibit distinct characteristics during each stage of the construction programme, with varying demands for site deliveries, spoil removal, and car parking by site operatives. A phasing plan for the development has been prepared by the architect and accompanies this application. An indicative construction compound arrangement has been included as part of the phasing plan accompanying this application.

### **8.3 Parking and Construction Staff**

Parking for site operatives will be a requirement throughout the contract. It would be expected that a site of this size would generate a requirement for in the region of 40-50 site operatives during the peak period of construction, and which would lead to a parking requirement for about 30 vehicles.

During the early stages parking will be available on the areas of site where construction of blocks has yet to begin. Due to the large area of the site the parking demand will be accommodated wholly within the site.

A Traffic Management Plan for the construction stage would include parking arrangements and be agreed with Galway City Council prior to commencement of the works on site.

### **8.4 Deliveries to Site**

The Traffic Management Plan for the construction stage would identify haulage routes and restrictions as appropriate in discussion with the Local Authority. There is a height restriction where the railway line goes over Rosshill Road.

## **8.5 Spoil Removal**

It is anticipated that spoil removal from the site will be minimal.

## **8.6 Mitigation Measures**

Construction debris (particularly site clearance, spoil removal and dirty water runoff such as dewatering or 'wash' from concreting activities) can have a significant impact on footpaths and roads adjoining a construction site, if not adequately dealt with. There will, therefore, be a requirement for comprehensive measures as part of the construction management, such as:

- Routine sweeping/cleaning of the road and footpaths in front of the site; and
- No uncontrolled runoff to the public road from dewatering/pumping carried out during construction activity.

The mitigation measures will therefore ensure that the presence of construction traffic will not lead to any significant safety concerns in the vicinity of the proposed works.



## 9 Modal Split

Government policy stated in the document published by the Department of Transport entitled, ‘Smarter Travel, A Sustainable Transport Future 2009-2020’ sets targets for modal split. The first goal is to achieve a mode split of 45% trips by car drivers (maximum) and 55% trips by walking, cycling and public transport and other sustainable modes (minimum targets) for persons in the proposed development who are travelling to work.

The Central Statistics Office (CSO) has previously established a modal split in the Galway City Area as shown below.

### Galway City Modal Split (CSO 2016) for Travelling to Work

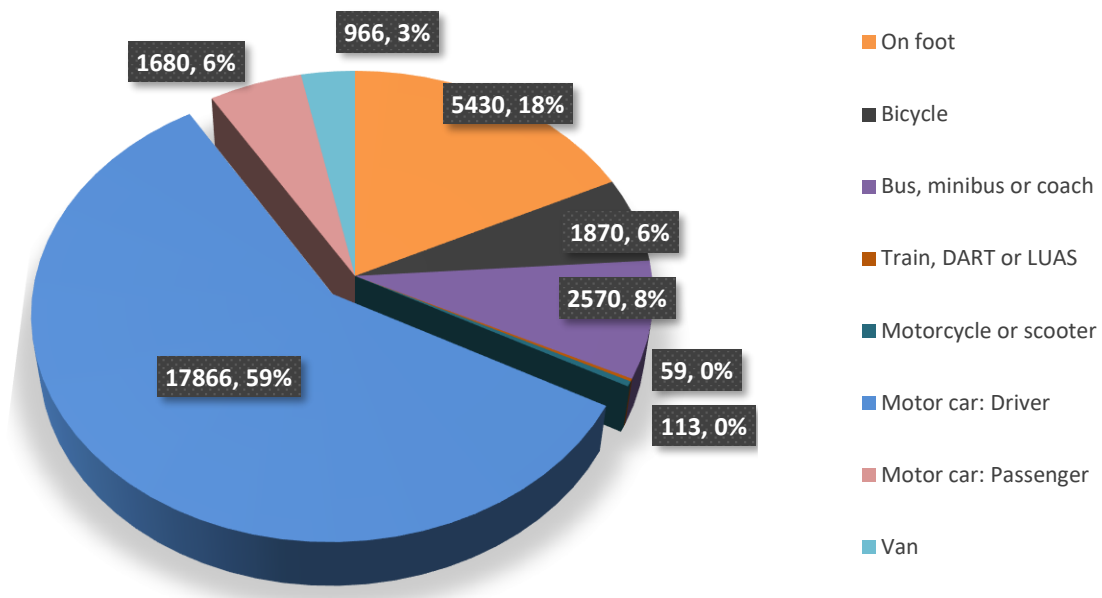


Figure 9.1: 2016 Modal Split

As shown in the above chart, car is the dominant mode of transport in Galway City, accounting for 65% of all trips. Walking provides for a high proportion of trips, amounting to nearly 18% overall mode share. It should be noted that the proposed development is located 5km from Galway City Centre, so the numbers of walking commuters could be expected to be less than shown on the CSO data due to the distance of the development from the City Centre. However, the aim should be to provide adequate cycling and public transport commuting through the provision of appropriate infrastructure.



## 9.1 Existing Site Infrastructure Audit

A site audit was carried out on the existing infrastructure in the vicinity of the development and established the following:

- **Existing Sustainable Transport Infrastructure:** There is an existing bus stop located at the junction of the development access and the Rosshill Road. However, there are no public bus routes servicing this stop at present. The nearest bus stop to the proposed development that is currently in use is the Dublin Road Coast Road Bus Stop which is serviced by the 404 & 409 bus routes which service the City Centre. This stop is a 1.2km walk from the proposed development and as discussed above, the route is not serviced with footways. There is another stop located 1.3km to the west of the development, on the R338 Dublin road, which is also serviced by the 404 & 409 routes. There is a footway along the majority of the route from the proposed development to this bus stop, along the northern side of the Rosshill Road, however it is unbound, and sections of the footway are missing.  
The existing Oranmore train station on the Galway-Dublin line is 2.8km away from the site and is accessed via the R338 Coast Road. There are no pedestrian facilities from the development to this train station. See Chapter 14 for further details on Public Transport.
- **Existing Cycling facilities:** There are no existing cycle lanes on the Rosshill Road. Cyclists are required to share the carriageway with vehicular traffic. There are no existing cycling facilities along the R338 Dublin Road. However, there is a bus lane along the westbound carriageway which cyclists are permitted to use. There are no existing cycling facilities along the R338 Coast Road, however there is a hard shoulder in both directions which cyclists are permitted to use.
- **Existing Pedestrian facilities:** There is an existing footway along the northern boundary of the Rosshill Road at the junction of the development. However, it is unbound and in a poor condition. From the junction between the Rosshill Farm Stud-Rosshill Road junction this footway runs easterly along the Rosshill Road towards the R338 Coast Road. It terminates before the junction with the R338 Coast Road. In a westerly direction, the footway runs until terminating at the railway underbridge on the Rosshill Road. A footway then re-emerges 260m west of the Railway underbridge and continues to the intersection with the R338 Dublin Road, before terminating around 40m from the junction. A footway is provided along the southern boundary of the R338 Dublin Road which connects in a westerly direction with the city centre and in an easterly direction where it links with Doughiska/Roscam.

## 9.2 Proposed Development

As part of the proposed development, it is proposed to implement the following changes to encourage a modal split in line with the Smarter travel objectives.

- **Proposed Sustainable Infrastructure:** Preliminary discussions have been held by the applicant with local Bus Operators to ascertain the feasibility of the commencement of an active route servicing the development via the existing bus stop. Discussions with Citibus are ongoing.
- **Proposed Cycling facilities:** It is proposed to provide an off-road cycle track from the proposed development to the realigned junction with the Rosshill Road. From this intersection, cyclists travelling along the Rosshill Road will then share the carriageway with vehicular traffic to the intersection of the R338 Dublin Road, where a bus lane is available for cyclists, or the R338 Coast Road, where a hard shoulder is provided. Furthermore, bike rental stands are being provided within the development.
- **Proposed Pedestrian Facilities:** It is proposed to provide a pedestrian footway from the development to the junction with the Rosshill Road. Pedestrians can then cross this roadway to use the existing Pedestrian Footway along the Northern Boundary of the Rosshill Road. This footway is under the control of Galway City Council. As noted above, sections of this footway are in a state of disrepair and some key linkages are missing. It is proposed to improve these pedestrian facilities as part of the development by providing a full continuous footpath and repairing existing paths. This would provide access to the existing pedestrian facilities provided on the R338 Dublin Road.
- **GoCar Scheme:** The development management company will include a GoCar scheme on the apartment blocks.
- **Electric Vehicles:** Charging points for electric vehicles are being provided for the apartments.

## 9.3 Neighbouring Development

Existing local shops are located to the east and north of the proposed development, some 12 minutes walking (approx. 1km). A café/restaurant/homewares area is located a 10-minute walk away (800m). Roscam residential estate is 1km to the east and Murrough residential estate 1.2km west. Merlin Park University Hospital is just over 2km from the site. The existing Oranmore train station on the Galway-Dublin line is 2.8km away. Figure 9.2 overleaf provides contextual analysis of the site in relation to surrounding developments.



01 AERIAL IMAGE & CONTEXT USES  
Scale: 1:10,000



- Legend**
- Public park, public woods, playing pitches
  - Existing mainline & train stations
  - Hospital, Hospices
  - Neighbouring existing residential developments
  - Retail centres, local shops, cafes
  - Industrial centres
  - Schools - Primary & Secondary
  - Schools - Third level
  - Low density residential development
  - Stop (Stop / Foot) with Walking route from centre of site (dotted blue)

REVISIONS

No.	Date	Description

REVISIONS

No.	Date	Description

Scale: 1:10,000  
 Drawing Purpose: SHD Application  
 Project: Proposed Development at Rosaleil, Galway City  
 Client: Aber Developments Ltd.  
 Date: May 2021  
 Drawn by: JOM  
 Checked by: JOM

File Ref: 3.09  
 Subject: AERIAL CONTEXT ANALYSIS - From Site  
 Project No.: 20175  
 Drawing No.: 3030  
 Date: 2021

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 ARCHITECTURE & PROJECT MANAGEMENT

Figure 9.2: Contextual Analysis From Site





01 AERIAL IMAGE & CONTEXT USES  
approximate scale: 1:10,000



Legend	
Public park, public woods, playing pitches	
Existing train line & Train stations	
Hospital, Hoopos	
Neighbouring existing residential developments	
Petal centres, local shops, cafes	
Industrial centres	
Schools - Primary & Secondary	
Schools - Third level	
Low density residential development	
Bus Stop (Red) with walking route from centre of site (dotted line)	

REVISIONS	
No.	Comments

REVISIONS	
No.	Comments

Scale:	1:10,000	Drawing Purpose:	SHD Application
Project:	Proposed Development at Rosehill, Galway City	Client:	Alize Developments Ltd
Date:	May 2021	Drawn by:	SEF
Author:		Checked by:	JOM

File Ref:	3.00	Subject:	AERIAL CONTEXT ANALYSIS - From City Centre	Project No.:	20175	Drawing No.:	3029	Rev.:	-
		O'Neill   O'Malley Ltd. 2020020101 - Project Management		Issued for Information Issued for Approval Issued for Construction		Issued for Information Issued for Approval Issued for Construction		Issued for Information Issued for Approval Issued for Construction	

Figure 9.3: Contextual Analysis From Galway

## 10 Trip Assignment and Distribution

The trips generated by the proposed development were distributed on the study area road network typically using existing turning proportions observed from the traffic surveys at the junctions in the area. One exception is that all traffic arriving at the Dublin Road from the Coast Road is assumed to turn right and vice versa all traffic arriving at this junction is expected to turn left off the Dublin Road.

The assumed percentage distributions at the existing junctions and proposed junction in the vicinity of the development site and the resulting AM and PM peak hour traffic turning flows generated by the proposed development are detailed in the diagrams presented in **Appendix C**.

## 11 Assessment and Road Impact

### 11.1 Description

The impact on the local road network has been assessed by examining the projected traffic flows on the local road network both 'with' and 'without' the proposed development in place. The morning peak period and the evening peak period have been examined in order to assess the busiest case in terms of local traffic on the road network and traffic generated by the proposed development.

### 11.2 Junction Analysis

Capacity analysis was carried out using the JCT Consultancy Traffic Signal Design & Analysis Software package LinSig and also with the TRL software package PICADY.

LinSig was used to carry out an analysis of traffic signal controls at the existing junctions:

- Junction 2: R338 Dublin Road-R338 Coast Road Junction
- Junction 3: R921 Old Dublin Road-Doughiska Road

PICADY was used for the following existing priority-controlled T-Junctions:

- Junction 1: R338 Dublin Rd.-Rosshill Rd. Junction
- Junction 4: R338 Coast Road-Rosshill Road Junction
- Junction 5: Rosshill Road-Rosshill Farm Stud Junction

These 5 No. junctions are shown in Figure 11.1.

Junctions 1,2, 3 and 4 were analysed for the following traffic flow scenarios:

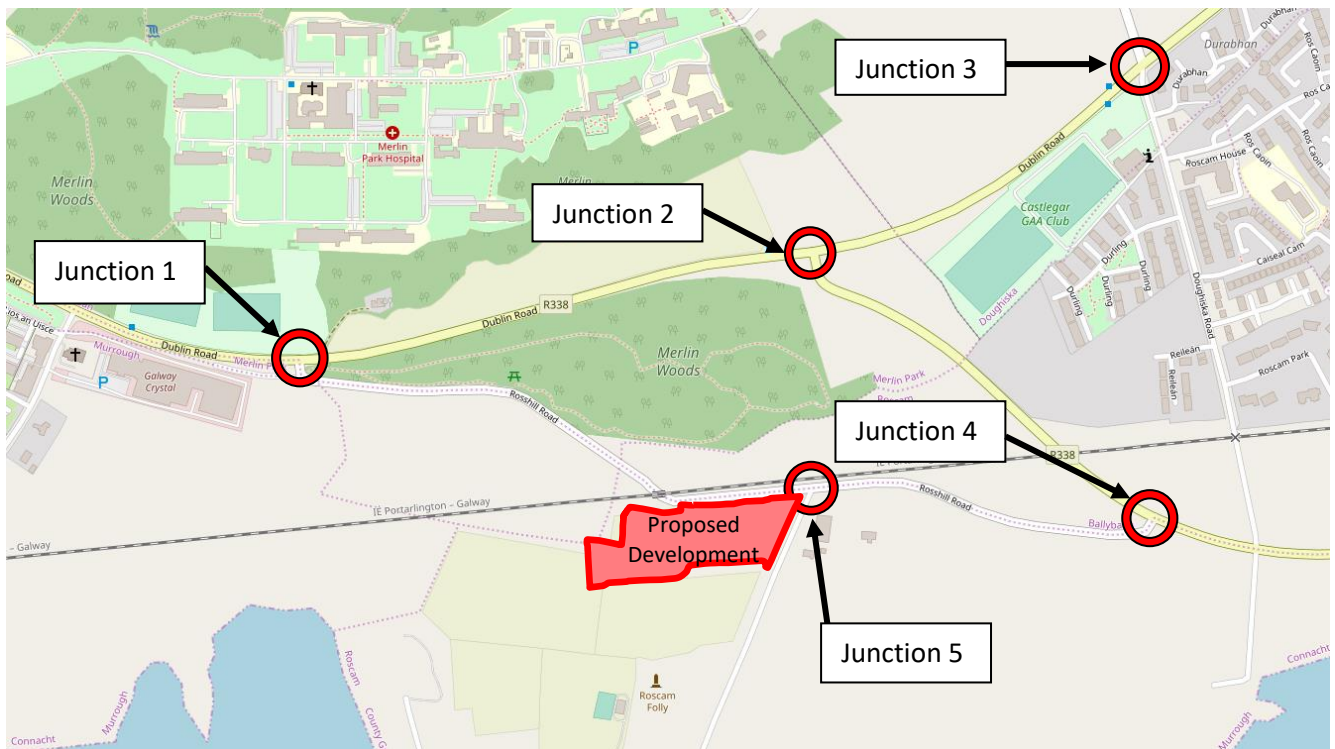
- 2024 Opening Year AM and PM peak hour flows without proposed development in place;
- 2024 Opening Year AM and PM peak hour flows with proposed Phase 1 development in place;
- 2029 Opening Year + 5 Years AM and PM peak hour flows without proposed development in place;
- 2029 Opening Year + 5 Years AM and PM peak hour flows with proposed Phase 1 development in place;
- 2039 Opening Year + 15 Years AM and PM peak hour flows without proposed development in place;
- 2039 Opening Year + 15 Years AM and PM peak hour flows with proposed Phase 1 development in place.

Junction 5 is being upgraded and to ensure it can cater for further potential development on adjacent zoned lands it was analysed for later years for the following traffic flow scenarios:

- 2027 Opening Year AM and PM peak hour flows without proposed development in place;
- 2027 Opening Year AM and PM peak hour flows with masterplan development in place;
- 2032 Opening Year + 5 Years AM and PM peak hour flows without proposed development in place;
- 2032 Opening Year + 5 Years AM and PM peak hour flows with masterplan development in place.
- 2042 Opening Year + 15 Years AM and PM peak hour flows without proposed development in place;
- 2042 Opening Year + 15 Years AM and PM peak hour flows with masterplan development in place.

The existing junctions were also analysed in the base year, without the development in place.

Estimated turning movements for each of the above scenarios were calculated by summing the predicted generated flows and the expanded baseflows. Total traffic turning flow diagrams for each analysis scenario have been reproduced in the traffic flow diagrams in Appendix B. The following sections summarise the findings of the junction capacity modelling for each of the junctions within the study area.



**Figure 11.1: Identified Junctions for Analysis** (© OpenStreetMap contributor)

**PICADY Note:**

The ratio of flow to capacity (RFC) is an indicator of the likely performance of a junction under design year loading. Due to site-to-site variation, there may be a standard error of prediction of the entry capacity by the formulae of + or - 15% for any site. Thus, queuing should not occur in the various turning movements in the chosen design year peak hour in 5 out of 6 peak hour periods or sites if a maximum RFC of about 85% is used.

Only where the full masterplan development will result in RFC's above 85% are the results of Phase 1 only reproduced in the following sections.

**LinSig Analysis Note:**

The Degree of Saturation (DOS) is defined as the ratio of demand flow to the maximum flow which can be passed through the intersection from a particular approach.

Practical Capacity is the level of capacity above which the junction is assumed to work inefficiently (90% saturated).

Practical Reserve Capacity (PRC) is the amount by which traffic demand can grow before Practical Capacity is reached.



### 11.2.1 Junction between Old Dublin Road R338-Rosshill Rd. (Junction 1)

This Junction is the first junction accessing the development that is encountered by traffic travelling from Galway City Centre along the R338 (in an easterly direction) and takes the form of a priority-controlled T-Junction. The main road through the junction is the R338 which runs in an east-west direction linking Galway City Centre to the N67.

There is a right turn lane on the eastbound carriageway of the R338 which provides a safe dwell area for right turners into Rosshill Rd. from the R338. There is a bus lane on the westbound carriageway of the R338 from which a dedicated left turn lane onto the Rosshill Rd. is developed 40m from the junction. There is one exit lane from the Rosshill Rd.



**Figure 11.2:** Existing Junction (Looking Eastward)

The results of the PICADY analysis for the junction have been summarised in the tables overleaf and are reproduced in full in **Appendix D1**.



Approach Arm/Turning Movement	RFC (%)	Delay (s)	Max. Queue (PCU)
	Without Dev.	Without Dev.	Without Dev.
Rosshill Road	90	62	7.6
Old Dublin Road West	5	9	0.1

**Table 11.1: Base Year AM Peak Period – Junction between Old Dublin Road R338-Rosshill Rd**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Road	89	95	57	82	6.9	10.7
Old Dublin Road West	5	7.0	9	9	0.1	0.1

**Table 11.2: 2024 AM Peak Period with Proposed Development – Junction between Old Dublin Road R338-Rosshill Rd**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Road	100	106	122	178	16.9	27.3
Old Dublin Road West	6	7	9	9	0.1	0.1

**Table 11.3: 2029 AM Peak Period with Proposed Development – Junction between Old Dublin Road R338-Rosshill Rd**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Road	118	125	123	437	51	67.7
Old Dublin Road West	7	9	9	10	0.1	0.1

**Table 11.4: 2039 AM Peak Period with Proposed Development – Junction between Old Dublin Road R338-Rosshill Rd**

Approach Arm/Turning Movement	RFC (%)	Delay (s)	Max. Queue (PCU)
	Without Dev.	Without Dev.	Without Dev.
Rosshill Road	10	10	0.1
Old Dublin Road West	34	13	0.6

**Table 11.5: Base Year PM Peak Period – Junction between Old Dublin Road R338-Rosshill Rd**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Road	10	11	10	10	0.1	0.1
Old Dublin Road West	33	38	13	14	0.5	0.7

**Table 11.6: 2024 PM Peak Period with Proposed Development – Junction between Old Dublin Road R338-Rosshill Rd**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Road	12	13	11	11	0.1	0.2
Old Dublin Road West	38	43	15	16	0.7	0.8

**Table 11.7: 2029 PM Peak Period with Proposed Development – Junction between Old Dublin Road R338-Rosshill Rd**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Road	18	24	16	20	0.2	0.3
Old Dublin Road West	45	51	18	20	0.9	1.1

**Table 11.8: 2039 PM Peak Period with Proposed Development – Junction between Old Dublin Road R338-Rosshill Rd**

This analysis demonstrates that the existing priority-controlled junction in its current format is predicted to operate at 125% RFC in the AM peak hour in the design year 2039 with a delay of 437 seconds and queues of approximately 68 vehicles on the Rosshill Road. The junction is predicted to operate within capacity in the PM peak hour. It is noteworthy that the junction would fail without the development in the AM, but the development traffic will mean this failure occurs earlier.

It is noteworthy that we have used an existing housing estate for traffic generation, as per the local authority request, which we understand does not implement a Mobility Management Plan (MMP). A MMP will be operational for this development and hence the traffic results above are a worst-case scenario. Also, the number of residential units in the estate counted is smaller than the proposed development and larger developments generate a smaller percentage of traffic. Finally, the Galway Bypass will reduce flows on this and other junctions in the area.

The development access will be off Rosshill Farm Stud Road from where all traffic must use the Rosshill Road/Rosshill Farm Stud Road junction (proposed to be upgraded as part of this development) before splitting to use the Dublin Road/Rosshill Road or R338/Rosshill Road junctions. These latter junctions are at a remove from the development and outside the development planning application redline and improvements are not proposed as part of this application.

### 11.2.2 Signal-controlled Junction between R338 Dublin Road-R338 Coast Road (Junction 2)

The junction is a signalised T-Junction. This is the second access to the development that is encountered by traffic travelling from Galway City Centre along the R338 (in an easterly direction).

The R338 Approach (Eastbound) is a single lane approach which flares into two lanes on approach to the junction, a straight ahead and right turn lane. The 'Old Dublin Road' Approach (Westbound) is a single lane approach with a dedicated bus lane. A left turn lane is developed from this bus lane approximately 40m from the junction. The R338 Coast Road, to the south of the junction, is a single lane approach flaring into two lanes, a segregated right turn and left turn.

There is a signalised pedestrian crossing on the southern arm of the junction. There are no signalised pedestrian facilities on the eastern or western arms of the junction. There are advanced stop lines for cyclists on all arms of the junction.



**Figure 11.3:** Existing Junction (Looking Eastward)

The cycle time used during the analysis of this junction is 120 seconds which includes the pedestrian stage which has been set to run every cycle (120s).

The results of the LINSIG analysis for the Signal-controlled Junction between R338 Dublin Road-R338 Coast Road (Junction 2) have been summarised in the tables below and are reproduced in full in **Appendix D2**.

Approach Arm/Turning Movement	Degree of Saturation (%)	Average Delay per Vehicle (s/pcu)	Queue (pcu)
	Without Dev.	Without Dev.	Without Dev.
Dublin Rd East/Left/Ahead	60.0	41.3	10.9
R338 Coast Road Right/Left	60.7	38.5	8.1
Dublin Rd West Ahead/Right	60.9	23.3	6.4

**Table 11.9: Base Year AM Peak Period – Signal-controlled Junction between R338 Dublin Road-R338 Coast Rd (Junction 2)**

Approach Arm	Degree of Saturation (%)		Average Delay per Vehicle (s/pcu)		Queue (pcu)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Dublin Rd East/Left/Ahead	65.6	65.6	43.2	43.2	12.4	12.4
R338 Coast Road Right/Left	65.9	66.5	39.8	40	9.1	9.1
Dublin Rd West Ahead/Right	65.9	66.1	24.2	24.2	7.1	7.1

**Table 11.10: 2024 AM Peak with Proposed Dev – Signal-controlled Junction between R338 Dublin Rd-R338 Coast Road**

Approach Arm	Degree of Saturation (%)		Average Delay per Vehicle (s/pcu)		Queue (pcu)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Dublin Rd East/Left/Ahead	71.7	71.7	45.8	45.8	14.0	14
R338 Coast Road Right/Left	71.7	72.3	41.6	41.9	10.3	10.3
Dublin Rd West Ahead/Right	71.5	71.5	25.4	25.4	8.0	8.0

**Table 11.11: 2029 AM Peak with Proposed Dev – Signal-controlled Junction between R338 Dublin Road-R338 Coast Road**

Approach Arm	Degree of Saturation (%)		Average Delay per Vehicle (s/pcu)		Queue (pcu)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Dublin Rd East/Left/Ahead	80.6	80.6	51.5	51.5	17.0	17.0
R338 Coast Road Right/Left	79.6	80.2	45.2	45.6	13.0	13.1
Dublin Rd West Ahead/Right	79.0	79.0	27.9	27.9	9.5	9.5

**Table 11.12: 2039 AM Peak with Proposed Dev – Signal-controlled Junction between R338 Dublin Road-R338 Coast Road**

Approach Arm/Turning Movement	Degree of Saturation (%)	Average Delay per Vehicle (s/pcu)	Queue (pcu)
	Without Dev.	Without Dev.	Without Dev.
Dublin Rd East/Left/Ahead	80.7	41.8	21.2
R338 Coast Road Right/Left	37.0	39.9	5.1
Dublin Rd West Ahead/Right	81.6	24.1	11.2

**Table 11.13: Base Year PM Peak Period – Signal-controlled Junction between R338 Dublin Road-R338 Coast Rd (Junction 2)**

Approach Arm	Degree of Saturation (%)		Average Delay per Vehicle (s/pcu)		Queue (pcu)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Dublin Rd East/Left/Ahead	87.9	88.2	49.2	49.6	25.3	25.4
R338 Coast Road Right/Left	40.2	40.2	40.5	40.5	5.6	5.6
Dublin Rd West Ahead/Right	89.0	89.0	29.8	29.8	13.8	13.8

**Table 11.14: 2024 PM Peak with Proposed Dev – Signal-controlled Junction between R338 Dublin Road-R338 Coast Road**

Approach Arm	Degree of Saturation (%)		Average Delay per Vehicle (s/pcu)		Queue (pcu)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Dublin Rd East/Left/Ahead	95.9	96.2	70.3	71.7	33.1	33.5
R338 Coast Road Right/Left	43.7	43.7	41.2	41.2	6.2	6.2
Dublin Rd West Ahead/Right	96.8	96.8	48.9	48.9	20.9	20.9

**Table 11.15: 2029 PM Peak with Proposed Dev – Signal-controlled Junction between R338 Dublin Road-R338 Coast Road**

Approach Arm	Degree of Saturation (%)		Average Delay per Vehicle (s/pcu)		Queue (pcu)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Dublin Rd East/Left/Ahead	107.2	107.5	193.5	198	67.7	69
R338 Coast Road Right/Left	48.5	48.5	42.3	42.3	7.0	7.0
Dublin Rd West Ahead/Right	107.7	107.7	166.9	166.9	62.1	62.1

**Table 11.16: 2039 PM Peak with Proposed Dev – Signal-controlled Junction between R338 Dublin Road-R338 Coast Road**



The LinSig analysis predicts that by 2039 the junction could be operating at 80.6% capacity (cycle time = 120s) during the morning peak hour and 107.7% capacity (cycle time = 120s) during the evening peak hour. For the purposes of our analysis a full pedestrian stage has been called every cycle. This may not happen in practice which will increase the capacity of the junction.

### 11.2.3 Junction between R921 Old Dublin Road-Doughiska Road (Junction 3)

This Junction is a signalised crossroads. This Junction is encountered by traffic travelling from the development to access Oranmore and the Oranmore Business Park and the M6/M18 intersection. The eastbound approach is a single lane which flares into three lanes on approach to the junction, a left turn, straight ahead and right turn lane. The Westbound approach is a single lane carriageway which glares into three lanes on approach to the junction, a left turn, straight ahead and right turn lane.

The northbound approach is a single lane carriageway which flares into two lanes on approach to the junction, a left turn and a straight ahead/right turn lane. The Southbound approach is a single carriageway which flares into two lanes on approach to the junction, a left turn and straight ahead/right turn lane.

There are advanced stop lines for cyclists provided at three arms of the junction, the northern, eastern and western arms.

Signal Controlled pedestrian crossings are provided on the northern, southern and eastern arms of the junction. There are no pedestrian crossing signals on the eastern arm of the junction.

The Old Dublin Road continues eastwards to the 'Martin Roundabout' located 190m to the east of the development.



Figure 11.4: Existing Junction (Looking Northwards)

The cycle time used during the analysis of this junction is 120 seconds which includes pedestrians.

The results of the LinSig analysis for the junction have been summarised in the tables overleaf and are reproduced in full in **Appendix D3**.

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Old Dublin Rd East Left	11.6	12.8	22.9	23.0	1.1	1.3
Old Dublin Rd East Ahead/Right	91.7	100.0	59.9	103.6	17.7	29.1
Doughiska Rd South Right/Left/Ahead	92.0	100.2	99.5	150.6	13.5	19.4
Old Dublin Rd West Ahead/Left	66.0	72.3	39.4	41.7	8.7	10.5
Old Dublin Rd West Right	31.2	33.7	67.2	67.9	1.8	1.9
Doughiska Rd North Left/Ahead/Right	90.0	98.2	85.3	127.6	7.5	12.0

**Table 11.17: Base Year AM Peak Period – Junction between R921 Old Dublin Road-Doughiska Road**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Old Dublin Rd East Left	12.8	12.8	23.0	23.0	1.3	1.3
Old Dublin Rd East Ahead/Right	100.0	100.0	103.6	103.6	29.1	29.1
Doughiska Rd South Right/Left/Ahead	100.2	100.2	150.6	150.6	19.4	19.4
Old Dublin Rd West Ahead/Left	72.0	72.3	41.5	41.7	10.4	10.5
Old Dublin Rd West Right	33.7	33.7	67.9	67.9	1.9	1.9
Doughiska Rd North Left/Ahead/Right	98.2	98.2	127.6	127.6	12.0	12.0

**Table 11.18: 2024 AM Peak Period with Proposed Development – Junction between R921 Old Dublin Rd-Doughiska Road**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Old Dublin Rd East Left	13.9	13.9	23.1	23.1	1.4	1.4
Old Dublin Rd East Ahead/Right	108.9	108.9	222.5	222.5	57.1	57.1
Doughiska Rd South Right/Left/Ahead	109.0	109.0	261.0	261.0	31.8	31.8
Old Dublin Rd West Ahead/Left	78.4	78.7	44.9	45.1	12.5	12.6
Old Dublin Rd West Right	36.8	36.8	68.9	68.9	2.1	2.1
Doughiska Rd North Left/Ahead/Right	107.2	107.2	224.7	224.7	22.2	22.2

**Table 11.19: 2029 AM Peak Period with Proposed Development – Junction between R921 Old Dublin Rd-Doughiska Road**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Old Dublin Rd East Left	15.9	15.9	23.3	23.3	1.6	1.6
Old Dublin Rd East Ahead/Right	121.6	121.6	398.6	398.6	104.0	104.0
Doughiska Rd South Right/Left/Ahead	121.2	121.2	427.2	427.2	53.8	53.8
Old Dublin Rd West Ahead/Left	87.9	88.2	54.5	55	16.7	16.8
Old Dublin Rd West Right	41.1	41.1	70.4	70.4	2.4	2.4
Doughiska Rd North Left/Ahead/Right	119.9	119.9	389.4	389.4	42.3	42.3

**Table 11.20: 2039 AM Peak Period with Proposed Development – Junction between R921 Old Dublin Rd-Doughiska Road**

Approach Arm/Turning Movement	RFC (%)	Delay (s)	Max. Queue (PCU)
	Without Dev.	Without Dev.	Without Dev.
Old Dublin Rd East Left	40.5	23.4	4.7
Old Dublin Rd East Ahead/Right	79.5	48.8	17.4
Doughiska Rd South Right/Left/Ahead	77.4	72.9	6.7
Old Dublin Rd West Ahead/Left	75.2	41.6	16.3
Old Dublin Rd West Right	65.5	84.1	4.3
Doughiska Rd North Left/Ahead/Right	77.7	50.7	10.0

**Table 11.21: Base Year PM Peak Period – Junction between R921 Old Dublin Road-Doughiska Road**



Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Old Dublin Rd East Left	44.0	44	24.0	24	5.3	5.3
Old Dublin Rd East Ahead/Right	86.6	87	55.5	56.1	20.8	21
Doughiska Rd South Right/Left/Ahead	84.2	84.2	82.9	82.9	8.1	8.1
Old Dublin Rd West Ahead/Left	81.8	81.8	46.3	46.3	19.0	19
Old Dublin Rd West Right	71.1	71.1	89.9	89.9	4.8	4.8
Doughiska Rd North Left/Ahead/Right	84.6	84.6	58.1	58.1	12.2	12.2

**Table 11.22: 2024 PM Peak Period with Proposed Development – Junction between R921 Old Dublin Rd-Doughiska Road**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Old Dublin Rd East Left	48.0	46.8	24.7	23.9	5.8	5.7
Old Dublin Rd East Ahead/Right	94.4	92.9	73.1	66.9	26.9	25.8
Doughiska Rd South Right/Left/Ahead	91.6	91.6	103.3	103.3	10.6	10.6
Old Dublin Rd West Ahead/Left	89.3	87.3	55.8	51.6	22.9	22.1
Old Dublin Rd West Right	77.3	77.3	98.8	98.8	5.6	5.6
Doughiska Rd North Left/Ahead/Right	92.1	94.8	74.2	86.4	16.0	17.6

**Table 11.23: 2029 PM Peak Period with Proposed Development – Junction between R921 Old Dublin Rd-Doughiska Road**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Old Dublin Rd East Left	53.3	52.0	25.8	24.9	6.7	6.6
Old Dublin Rd East Ahead/Right	105.5	103.7	178.0	151.8	53.9	48.6
Doughiska Rd South Right/Left/Ahead	101.5	101.5	170.0	170	17.3	17.3
Old Dublin Rd West Ahead/Left	99.6	97.4	100.3	83.0	35.2	31.8
Old Dublin Rd West Right	85.4	85.4	117.4	117.4	6.9	6.9
Doughiska Rd North Left/Ahead/Right	102.6	105.7	148.7	189.4	29.5	35.5

**Table 11.24: 2039 PM Peak Period with Proposed Development – Junction between R921 Old Dublin Rd-Doughiska Road**

The LinSig analysis predicts that by 2039 the junction could be operating at 121.6% capacity (cycle time = 120s) during the morning peak hour and 105.7% PRC (cycle time = 120s) during the evening peak hour. For the purposes of our analysis a full pedestrian stage has been called every cycle. This may not happen in practice which will increase the capacity of the junction.

This junction has been modelled with the actual flows currently going through the junction. Any suppressed demand within the morning peak hour has not been added. Furthermore, the analysis results are for the average peak hour and peaks within the peak hour will result in less capacity than depicted.

In any case, the primary focus is to determine the impact of the development traffic on the junction, even though the junction is already operating above acceptable limits. As this is a residential development most of the AM generated traffic will route towards the city and the existing traffic distribution shows likewise. The model shows that the only morning peak hour traffic generated by Phase 1 at this junction is 2 trips and these are heading away from the city against the tidal traffic flow. The model results show that the overall capacity of the junction is not impacted by the development as there is some spare capacity away from the city.

As stated earlier a MMP will be operational for this development and hence the traffic results above are a worst-case scenario. The Galway Bypass will also reduce flows at this junction. As per earlier this junction is also at a remove from the development and outside the development planning application redline and improvements are not proposed as part of this application.

#### **11.2.4 Junction between R338 Coast Road-Rosshill Road (Junction 4)**

This Junction takes the form of a priority-controlled T-Junction. The main road through the junction is the R338 Coast Road which runs in a northwest-southeast direction linking the Old Dublin road to Oranmore.

The eastbound carriageway of the R338 Coast Road is a single lane with a right turning pocket provided at the junction with the Rosshill Road.

The westbound carriageway of the R338 Coast Road is a single lane. The southern approach to the junction consists of a single exit.



**Figure 11.5:** Existing Junction (Facing Eastwards)

The results of the PICADY analysis for the junction have been summarised in the tables overleaf and are reproduced in full in **Appendix D4**.

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Road Left	1	2	11	11	0.0	0.0
Rosshill Road Right	10	21	13	15	0.1	0.3
Coast Road R338	1	1	9	9	0.0	0.0

**Table 11.25:** Base Year AM Peak Period –Junction between R338-Rosshill Rd. (Junction 1)

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Road Left	1	2	11	11	0.0	0.0
Rosshill Road Right	10	21	13	15	0.1	0.3
Coast Road R338	1	1	9	9	0.0	0.0

**Table 11.26:** 2024 AM Peak with Proposed Development – Junction between Coast Road R338 and Rosshill Road

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Road Left	1	2	11	12	0.0	0.0
Rosshill Road Right	11	23	14	17	0.1	0.3
Coast Road R338	1	1	10	10	0.0	0.0

**Table 11.27: 2029 AM Peak with Proposed Development – Junction between Coast Road R338 and Rosshill Road**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Road Left	1	2	12	13	0	0.0
Rosshill Road Right	14	27	16	19	0.2	0.4
Coast Road R338	1	1	11	11	0.0	0.0

**Table 11.28: 2039 AM Peak with Proposed Development – Junction between Coast Road R338 and Rosshill Road**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.		Without Dev.		Without Dev.	
Rosshill Road Left	0		9		0.0	
Rosshill Road Right	39		15		0.7	
Coast Road R338	1		6		0.0	

**Table 11.29: Base Year PM Peak Period –Junction between R338-Rosshill Rd. (Junction 1)**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Road Left	0	0	9	10	0.0	0.0
Rosshill Road Right	39	43	14	16	0.7	0.8
Coast Road R338	1	2	6	6	0.0	0.0

**Table 11.30: 2024 PM Peak with Proposed Development – Junction between Coast Road R338 and Rosshill Road**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Road Left	0	0	10	10	0.0	0.0
Rosshill Road Right	43	47	16	17	0.8	1.0
Coast Road R338	1	2	6	6	0.0	0.0

**Table 11.31: 2029 PM Peak with Proposed Development – Junction between Coast Road R338 and Rosshill Road**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Road Left	0	0	11	11	0.0	0.0
Rosshill Road Right	49	54	18	20	1.0	1.2
Coast Road R338	1	2	6	6	0.0	0.0

**Table 11.32: 2039 PM Peak with Proposed Development – Junction between Coast Road R338 and Rosshill Road**

This analysis demonstrates that the existing priority-controlled junction in its current format with the proposed development is predicted to operate at 27% RFC in the AM peak hour in the design year 2039 with a delay of 19 seconds and queues no greater than 1 vehicle occurring on the Rosshill Road. The junction is predicted to operate at 54% RFC in the PM peak hour with a 20 second delay and queuing no greater than 2 vehicles on the Rosshill Road in 2039 with the proposed development operational.

#### **11.2.5 Development Junction (Junction between Rosshill Rd.-Rosshill Farm Stud Junction (Junction 5))**

This is the main access road to the development. The existing junction is a priority-controlled T-Junction. The main road through the junction is the Rosshill Road which runs in a northwest-southeast direction and links the R338 old Dublin Road with the R338 Coast Road.

There are no pedestrian facilities provided at the junction.

As part of the proposed development this junction is to be realigned and pedestrian/cycling facilities are to be provided. The revised layout is shown on the drawings accompanying this application.





**Figure 11.6: Existing Access Junction to Development (Facing Eastwards)**

The results of the PICADY analysis for the junction have been summarised in the tables overleaf and are reproduced in full in **Appendix D5**.

Approach Arm/Turning Movement	RFC (%)	Delay (s)	Max. Queue (PCU)
	Without Dev.	Without Dev.	Without Dev.
Rosshill Farm Stud Road	7.8	10	0.1
Rosshill Road	1.9	8	0.0

**Table 11.33: Base Year AM Peak Period – Development Junction (Junction between Rosshill Rd.-Rosshill Farm Stud Junction**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Farm Stud Road	8.3	56.7	10	21	0.1	1.4
Rosshill Road	2	7.0	8	9	0.0	0.1

**Table 11.34: 2027 AM Peak Period with Proposed Development & Potential Future Development – Development Junction (Junction between Rosshill Rd.-Rosshill Farm Stud Junction**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Farm Stud Road	9.2	58.5	10	22	0.1	1.5
Rosshill Road	2.3	7.4	8	9	0.0	0.1

**Table 11.35: 2032 AM Peak Period with Proposed Development & Potential Future Development – Development Junction (Junction between Rosshill Rd.-Rosshill Farm Stud Junction**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Farm Stud Road	10.5	61.6	11	25	0.1	1.7
Rosshill Road	2.6	7.9	9	9	0.0	0.1

**Table 11.36: 2042 AM Peak Period with Proposed Development & Potential Future Development – Development Junction (Junction between Rosshill Rd.-Rosshill Farm Stud Junction**

Approach Arm/Turning Movement	RFC (%)	Delay (s)	Max. Queue (PCU)
	Without Dev.	Without Dev.	Without Dev.
Rosshill Farm Stud Road	6.8	8	0.1
Rosshill Road	3.4	7	0.0

**Table 11.37: Base Year PM Peak Period – Development Junction (Junction between Rosshill Rd.-Rosshill Farm Stud Junction**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Farm Stud Road	7.0	20.3	8	10	0.1	0.3
Rosshill Road	3.4	14.8	7	8	0.0	0.2

**Table 11.38: 2027 PM Peak Period with Proposed Development & Potential Future Development – Development Junction (Junction between Rosshill Rd.-Rosshill Farm Stud Junction**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Farm Stud Road	7.7	20.9	8	10	0.1	0.3
Rosshill Road	3.8	15.0	7	8	0.0	0.2

**Table 11.39: 2032 PM Peak Period with Proposed Development & Potential Future Development – Development Junction (Junction between Rosshill Rd.-Rosshill Farm Stud Junction**

Approach Arm/Turning Movement	RFC (%)		Delay (s)		Max. Queue (PCU)	
	Without Dev.	With Dev.	Without Dev.	With Dev.	Without Dev.	With Dev.
Rosshill Farm Stud Road	8.5	22.0	8	11	0.1	0.3
Rosshill Road	4.2	15.4	7	8	0.0	0.2

**Table 11.40: 2042 PM Peak Period with Proposed Development & Potential Future Development – Development Junction (Junction between Rosshill Rd.-Rosshill Farm Stud Junction**

This analysis demonstrates that the proposed realigned priority-controlled T-junction with full potential future development is predicted to operate at 61.6% RFC in the AM peak hour in the design year 2042 with a delay of 25 seconds and queues no greater than 2 vehicles. The junction is predicted to operate at 22% RFC in the PM peak hour with minimal queuing and delays on all arms in 2042 with the proposed development and full potential future development operational.

### **11.3 Analysis Summary**

#### Junction 1: R338 Dublin Rd.-Rosshill Rd. Junction

This junction will fail where traffic from the minor arm (Rosshill Road) will find it very difficult to join the Dublin Road. The junction is predicted to fail without the development but will fail earlier due to it.

#### Junction 2: R338 Dublin Road-R338 Coast Road Junction

This signalised junction is predicted to operate satisfactorily in the AM in the design year with the development operational. However, it is predicted to operate above capacity in the PM. For the purposes of our analysis a full pedestrian stage has been called every cycle. This may not happen in practice which will increase the capacity of the junction.

#### Junction 3: R921 Old Dublin Road-Doughiska Road

This junction currently experiences some congestion in the morning. The analysis is based on the observed flows through the junction in the morning peak hour and thus does not represent peak traffic within that hour and any suppressed demand. Even though the junction will fail our analysis shows that the 2 vehicles arriving in the AM peak hour will not decrease it further as they are opposing the predominant flow.

#### Junction 4: R338 Coast Road-Rosshill Road Junction

This junction will operate satisfactorily in the design year with the development operational.

#### Junction 5: Rosshill Road-Rosshill Farm Stud Junction

This re-aligned junction will operate satisfactorily in the design year with the development and potential future development on adjacent zoned lands operational.

The proposed Galway Bypass will ultimately reduce traffic flow at these junctions. The overall development is being phased and this will allow some additional time towards implementation of the bypass.

## **12 Road Safety**

The only change to the network proposed is the provision of a realigned junction between the Rosshill Road and Rosshill Stud Farm Road. An element of the existing road will thus become redundant. This realignment has been agreed with Galway City Council.

Two major elements of road safety are visibility and provision for all users. The design team have ensured adequate sightlines are achieved and pedestrian and vulnerable users are adequately catered for.

A Road Safety Audit was carried out by CST Group Chartered Consulting Engineers as part of this planning application. Recommendations made as part of this Road Safety Audit have been included within the design submitted with this application.



## 13 Parking

### 13.1 Car Parking

Car parking serving the subject development is provided in front of the residential dwelling units and in the immediate vicinity of the apartment blocks.

The Galway City Development Plan outlines that the car parking provision for houses is 2. The Design Standards for New Apartments, published by the Department of Housing, Planning and Local Government is 1 space per apartment plus 1 visitor space per 4 apartments. For commercial development, the Galway City Development Plan requires 1 space per 15m<sup>2</sup>. For Childcare/Creche facilities, the Galway City Development Plan requires 1 space every 20m<sup>2</sup>.

Typically, it is proposed that 30 houses are provided with 2 no. on curtilage car parking spaces at the front of the property and 37 houses are provided with grouped parking. For the apartments, 1 space per apartment plus 1 visitor space per 4 apartments has been provided. 7 no. Spaces are being provided for the Crèche. These are dedicated staff spaces. 14 are required and the remaining 7 is made up of Apartment spaces. 3 no. spaces are being provided for the commercial premises. The Galway City Development Plan requires 14 no. spaces for a commercial development of this size. Note the shortfall to commercial spaces is to be covered by some apartment visitor spaces which will typically be vacated during business hours. Further note that 2 Go Car (car share) spaces and 2 no. electric vehicle spaces are placed close to the retail.

Type of Development	Car Parking Standard	GFA (m <sup>2</sup> ) of Dev. / No. of Res. Units within Dev.	Parking Required	Provision
Houses – on curtilage	2 on curtilage spaces per dwelling 1 per 3 dwellings for visitors	30 houses on curtilage	60+22	60
Houses – Grouped	1.5 spaces per dwelling + 1 space per 3 units for visitors	37 houses – grouped parking	55.5 + 12.3	70
Apartments	1 space per unit plus 1 visitor space per 4 units	35 units	44	43
Crèche	1 space per 20m <sup>2</sup>	399m <sup>2</sup>	14.	7
Commercial Retail	1 space per 15m <sup>2</sup>	188.5m <sup>2</sup>	12.6	3
<b>TOTAL</b>			<b>220.4</b>	<b>183</b>

**Table 13.1: Galway City Car Parking Standards for Residential/Commercial Development**

It is noted that a percentage of these spaces will be allocated for wheelchair accessible use in accordance with the Development Plan.

A GoCar scheme and Galway Coca-Cola Zero® bike share scheme are proposed, and this should reduce the standard requirement for parking provision in any case.

The carparking strategy is designed in accordance with the aims of the Galway Transport Strategy (GTS), which aims to reduce car dependency and promote more sustainable travel modes. The proposed development will

include a creche and local shops which will serve the people of the proposed community. It is envisaged that the provision of these services within the site will further reduce car trips to and from the proposed development as these are two of the main reasons for car trips within residential developments and this will aid in the reduction of car dependency for the site.

### 13.2 Bicycle Parking

It is proposed that bicycle spaces are provided to the apartment and commercial blocks with houses storing in rear gardens. The Design Standards for New Apartments (March 2018) sets out the following Cycle Parking Standards:

Type of Development	Bicycle Parking Standard	GFA (m <sup>2</sup> ) of Dev / No. of Res. Units within Dev	Parking Standard	Provision
Apartments	1 cycle storage space per bedroom and 1 visitor space per every 2 apartments	35 units	76.5	77
Commercial	1 cycle stand (5 spaces) per 20 carpark spaces	50 no. Car Park Spaces (close to apartments)	12.5	20
Creche	No stated requirement in Galway City Council Development Plan 2017-2023		0	9
Houses	At least 2 spaces provided in rear gardens	67 units	134	134
<b>TOTAL</b>			<b>223</b>	<b>240</b>

**Table 13.2: Bicycle Parking Standards**

The Design Standards for New Apartments (March 2018) and the Development Plan require that 223 no. spaces be provided for cyclists as shown in Table 13.2 above. It is proposed that 240 no. spaces shall be provided. Bike parking shall be of a type that complies with the standard dictated in Section 4.17 of the Design Standards for New Apartments (March 2018). Cycle parking facilities are illustrated on the architect’s site plans, submitted with this application.

A possible Bike Share location, as part of the Galway bike share scheme is shown adjacent to the commercial development at the entrance to the site and would consist of 8 no. spaces. The location is shown on the drawings accompanying this application.

## 14 Mobility Management

To ensure future transport sustainability and to endeavour to make new developments as accessible as possible to travel by other modes of transport, an assessment has been made of the proposed and existing pedestrian, cyclist and public transport facilities.

### 14.1 Public Transport-Bus

Bus transport forms an important means of transport within the Galway region. The closest operating bus stop to the development is the Rosshill Cross Bus Stop, at the R338 Coast Rd/Rosshill Rd junction, which is served by the 434 bus route between the City Centre and Gort on weekdays by a morning bus to the city and an evening bus out. The next nearest bus stop is the Dublin Road Coast Road Bus Stop which is serviced by the 404 and 409 bus routes which service the City Centre (Newcastle-Eyre Square-Oranmore & Eyre Square-GMIT-Parkmore respectively). The 404 is a half hourly service. The 409 service runs every 10 minutes Monday to Saturday and quarter hourly on a Sunday. This stop is a 1.2km walk from the proposed development and as discussed above, the route is not serviced with footways. There is another stop located 1.3km to the west of the development, on the R338 Dublin Road, which is also serviced by the 404 and 409 routes. The footway from the proposed development to this bus stop, along the northern side of the Rosshill Road is unbound and sections are missing at present. The existing bus network in the Galway area is shown in Figure 14.1. Preliminary discussions have been held by the applicant with local Bus Operators to ascertain the feasibility of the commencement of an active route servicing the development via the bus stop on the Rosshill Road, which is immediately outside the development.



Figure 14.1: Galway City Bus Services ©TFI Transport for Ireland



The roads within the development benefit from adjacent footpaths. In addition a network of footpaths remote from the carriageways is to be provided, all interlinked and accessible, giving pedestrians a choice of how they move around the site. The proposed development will provide easy pedestrian access to the commercial provision near the entrance and onwards to local facilities beyond the development via the proposed new path along Rosshill Road and the exiting public paths to be upgraded. The inclusion of these paths will encourage pedestrians to access the local facilities on foot as opposed to taking their personal vehicles.

The development is adjacent an old bus stop which is located on Rosshill Road. As stated earlier the developer is working with the local bus provider to get this reinstated. Irrespective, there are regular bus services that are accessible within the wider area.

It is proposed to provide a network of footpaths that will permeate through the residential area and provide a high degree of accessibility to the local facilities including bus transport.

#### **14.4 Cycling**

Cycling is to be encouraged as part of the development. The city centre has cycle lanes and designated routes for the use of cyclists in line with DMURS. Galway City Council propose that these will be extended to include combined bus/cycle lanes on the R338 Dublin Rd which is very close to the proposed development. Cyclists travelling along the Rosshill Road will share the carriageway with vehicular traffic to the intersection of the R338 Dublin Road, where a bus lane is available for cyclists travelling to the City Centre or the R338 Coast Road, where a hard shoulder is provided in both directions. Within the development cyclists share the carriageway with vehicles and this is in line with the National Cycle Manual.

Oranmore rail station is approximately 2.8km from the site. It is likely that a number of commuters to Galway City will use a combination of rail and cycling as a means of travelling. Cycling enthusiasts and regular cyclists will likely cycle rather than use vehicle transport.

The development will provide bike parking to the relevant standards as outlined in Section 13.2. A possible Bike Share location, as part of the Galway bikeshare scheme is shown adjacent to the commercial development at the entrance to the site and would consist of approximately 8 no. spaces. The location is shown on the drawings accompanying this application (see O'Neill O'Malley Part 02 Site Layout Plan for possible location).



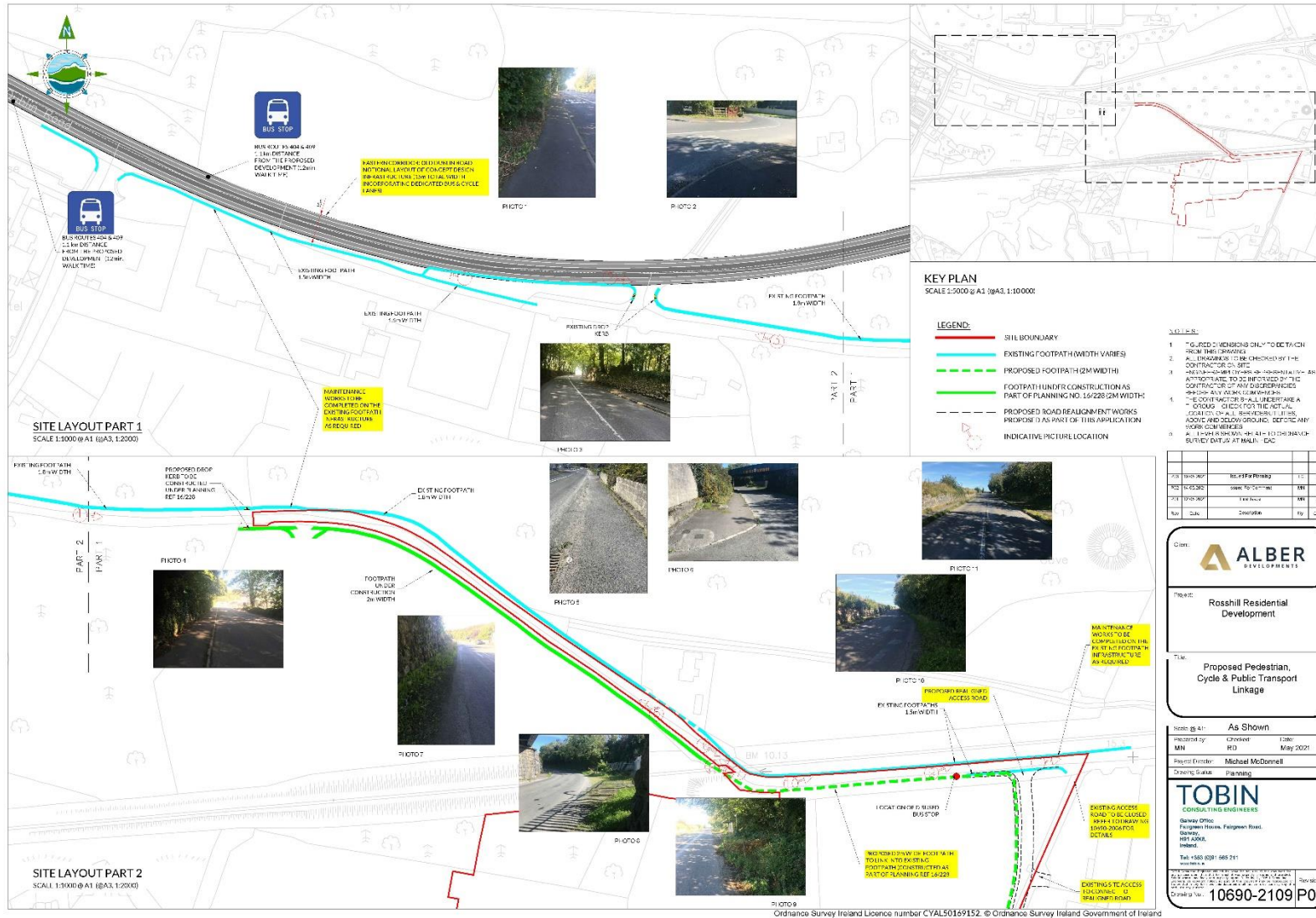
## **15 Access for People with Disabilities**

Parking facilities for disabled users is provided in line with the Galway City Development Plan. Disabled friendly accesses to the proposed development are designed to the Technical Guidance Document M of the Building Regulations.

## **16 Mitigation**

- 16.1 As stated earlier the existing T-junction of Rosshill Farm Stud Road and Rosshill Road is not ideal for the proposed increased in usage. It is proposed to realign this junction.
- 16.2 Further to the above it is proposed to widen Rosshill Farm Stud Road from the realigned junction to the proposed development access.
- 16.3 A 2m wide footpath is proposed to connect from the proposed access to the footpath being constructed as part of the planning reference 16/228 on Rosshill Road.
- 16.4 The existing footpaths on the Rosshill Road are in poor condition with some damaged kerbs and areas of damaged surfacing. It is proposed to refurbish these footpaths as part of the development works to ensure that the pedestrian link to the Dublin Road is maintained in good order. Details of the existing layout and proposed refurbishment works are identified on Drawings 10690-2108 and 2109 submitted as part of the Planning Application.
- 16.5 See Figure 16.1 “Proposed Pedestrian, Cycle & Public Transport Linkage” which shows all of the mitigation measures.

**Figure 16.1:**  
Proposed Pedestrian, Cycle  
& Public Transport Linkage



## 17 Summary and Conclusion

Planning permission is being sought for a residential development consisting of 102 no. units comprising 67 no. houses and 35 no. apartments, including a creche and ground-floor retail unit.

Manual classified traffic counts were carried out at the following junctions:

- Junction 1: R338 Dublin Rd.-Rosshill Rd. Junction
- Junction 2: R338 Dublin Road-R338 Coast Road Junction
- Junction 3: R921 Old Dublin Road-Doughiska Road
- Junction 4: R338 Coast Road-Rosshill Road Junction
- Junction 5: Rosshill Road-Rosshill Farm Stud Junction

The survey found that the peak hour traffic flow occurred between 7.30 and 9.15 in the AM and between 4.45 and 6.15 in the PM.

In order to estimate the likely volumes of traffic that will be generated by the proposed development, Galway City Council indicated that trip rates recommended by TRICS (Trip Rate Computer Information System) were not acceptable for the proposed development. Therefore, a traffic count was undertaken at a similar development (An Réileán Development) to calculate the turn-in rates at the proposed development. The similar development consists of 82 housing units and 2 apartment blocks (24 apartments). These figures were applied pro-rata to the relevant number of housing and apartment units within the proposed development.

The traffic generated by nearby permitted development was added to the existing flows as well as traffic growth figures for the opening year of 2024 as well as 2029 and 2039. The potential future development of adjacent zoned lands was analysed for a completion year of 2027 as well as 2032 and 2042 to check adequacy of a junction upgrade.

Some junctions will be above capacity before the design year. These junctions are predicted to be above capacity in any case without the development, but one will occur earlier. Whilst the Dublin Road/Doughiska Road traffic signals is over capacity in the AM only 7 trips are added to it from the development and those are all away from the city. As they are going against the traffic entering the city they do not decrease the capacity. The Dublin Road/Rosshill Road priority junction will be above capacity earlier due to the development.

The proposed Galway Bypass will ultimately reduce traffic flow at these junctions. The development is being phased and this will allow some additional time towards implementation of the bypass.

Mitigation measures in relation to roads and footpaths are proposed including realignment of the Rosshill Farm Stud Road junction with Rosshill Road and footpath provision and repair on Rosshill Road.





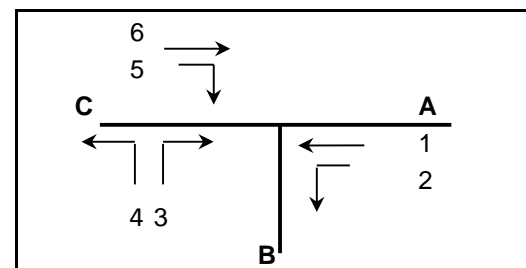
# **APPENDIX A**

## Traffic Survey Results



# SUMMARY SHEET

PROJECT TITLE Roshill Housing Development A: \_\_\_\_\_  
 DATE OF SURVEY 14/5/19 WEATHER Dry B: \_\_\_\_\_  
 JUNCTION REF/LOCATION 1 - Roshill Rd C: \_\_\_\_\_  
 NAME S Fahy CHECKED BY MG



Priority junction [3P]

TIME	1		2		3		4		5		6		Totals
	Cars	HGV	Cars	HGV	Cars	HGV	Cars	HGV	Cars	HGV	Cars	HGV	
7.30-7.45	0	0	1	0	3	0	4	0	0	0	0	0	8
7.45-8.00	0	0	5	0	4	0	3	0	0	0	0	0	12
8.00-8.15	0	0	3	0	3	0	4	0	1	0	0	0	11
8.15-8.30	0	0	5	0	6	0	2	0	2	0	0	0	15
8.30-8.45	0	0	0	0	3	0	5	0	1	0	0	0	9
8.45-9.00	0	0	4	0	4	0	2	0	4	0	0	0	14
9.00-9.15	0	0	1	0	0	0	0	0	0	0	0	0	1
9.15-9.30	0	0	3	0	1	0	0	0	1	0	0	0	5
<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>0</b>	<b>24</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>75</b>

TIME	1		2		3		4		5		6		Totals
	Cars	HGV	Cars	HGV	Cars	HGV	Cars	HGV	Cars	HGV	Cars	HGV	
16.30-16.45	0	0	4	0	5	0	2	0	3	0	0	0	14
16.45-17.00	0	0	1	0	2	0	2	0	3	0	0	0	8
17.00-17.15	0	0	5	0	3	0	1	0	6	0	0	0	15
17.15-17.30	0	0	4	0	6	0	3	0	3	0	0	0	16
17.30-17.45	0	0	9	0	9	0	2	0	5	0	0	0	25
17.45-18.00	0	0	6	0	4	0	1	0	3	0	0	0	14
18.00-18.15	0	0	0	0	0	0	2	0	3	0	0	0	5
18.15-18.30	0	0	2	0	0	0	1	0	2	0	0	0	5
<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>31</b>	<b>0</b>	<b>29</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>28</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>102</b>

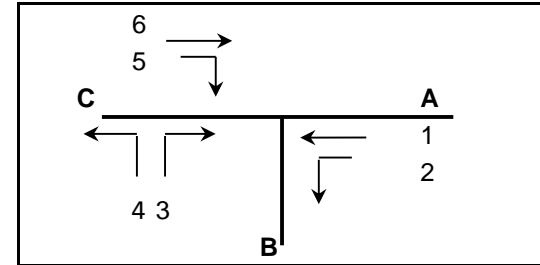
# SUMMARY SHEET

PROJECT TITLE Roshill Housing Development A: \_\_\_\_\_

DATE OF SURVEY 29/5/19 WEATHER Wet B: \_\_\_\_\_

JUNCTION REF/LOCATION 2 - Réileán Estate C: \_\_\_\_\_

NAME S Fahy CHECKED BY MG



Priority junction [3P]

TIME	1		2		3		4		5		6		Totals
	Cars	HGV	Cars	HGV	Cars	HGV	Cars	HGV	Cars	HGV	Cars	HGV	
7.30-7.45	0	0	0	0	6	0	7	0	4	0	0	0	17
7.45-8.00	0	0	0	0	3	0	9	0	3	0	0	0	15
8.00-8.15	0	0	0	0	2	0	8	0	6	0	0	0	16
8.15-8.30	0	0	0	0	11	0	9	0	4	0	0	0	24
8.30-8.45	0	0	1	0	8	0	6	0	2	0	0	0	17
8.45-9.00	0	0	0	0	1	0	5	0	1	0	0	0	7
9.00-9.15	0	0	1	0	1	0	4	0	7	0	0	0	13
9.15-9.30	0	0	0	0	4	0	5	0	3	0	0	0	12
<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>36</b>	<b>0</b>	<b>53</b>	<b>0</b>	<b>30</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>121</b>

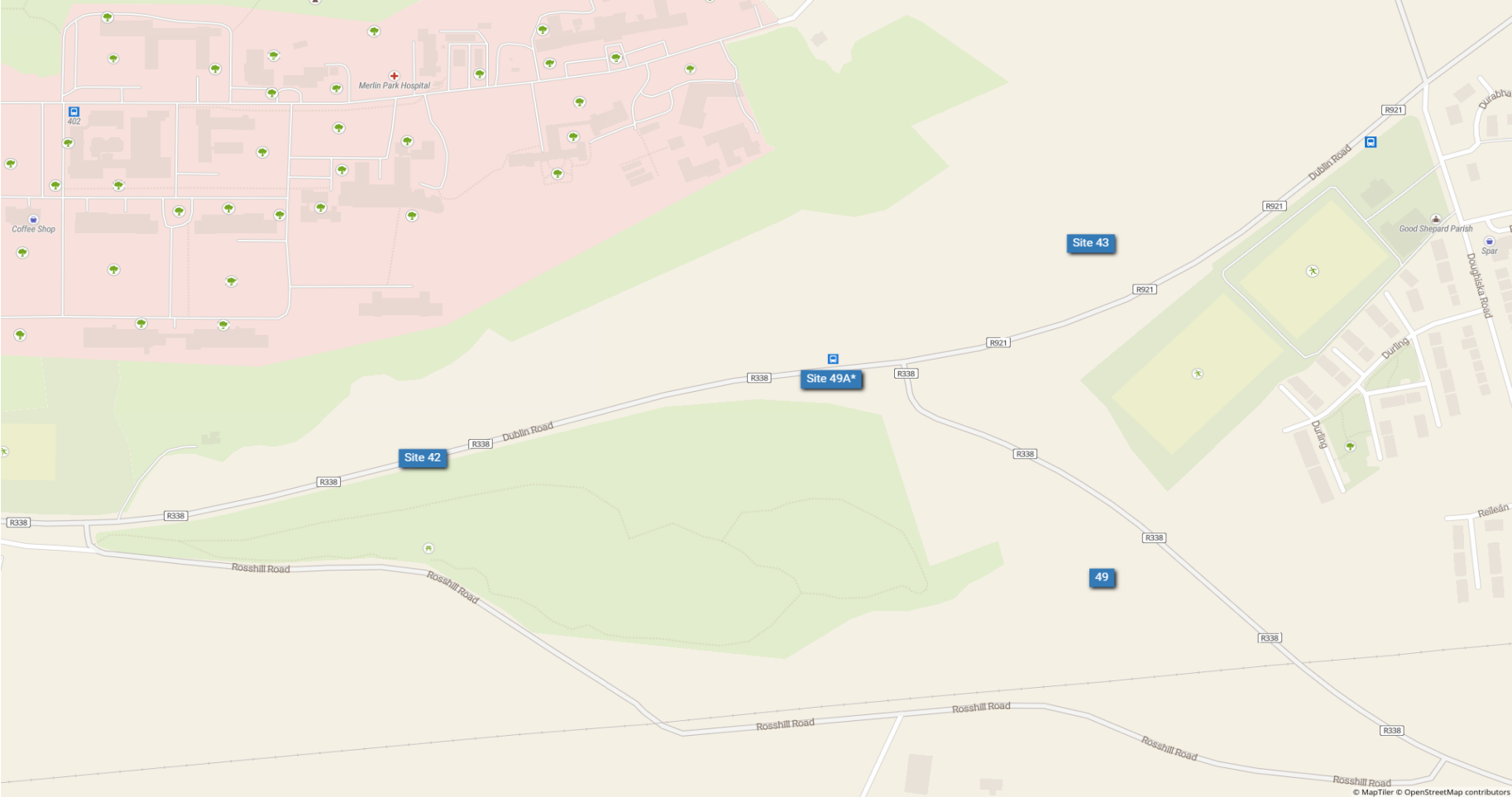
TIME	1		2		3		4		5		6		Totals
	Cars	HGV	Cars	HGV	Cars	HGV	Cars	HGV	Cars	HGV	Cars	HGV	
16.30-16.45	0	0	0	0	0	0	5	0	7	0	0	0	12
16.45-17.00	0	0	3	0	2	0	5	0	3	0	0	0	13
17.00-17.15	0	0	0	0	0	0	5	0	4	0	0	0	9
17.15-17.30	0	0	2	0	2	0	3	0	9	0	0	0	16
17.30-17.45	0	0	3	0	2	0	2	0	6	0	0	0	13
17.45-18.00	0	0	3	0	1	0	3	0	9	0	0	0	16
18.00-18.15	0	0	1	0	1	0	2	0	9	0	0	0	13
18.15-18.30	0	0	2	0	0	0	2	0	7	0	0	0	11
<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>27</b>	<b>0</b>	<b>54</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>103</b>

Survey Name:

Dublin Road, Galway Survey 2018 MCC Data

Date:

15 Nov 2018







IDASO

Survey Name: Dublin Road, Galway Survey 2018 MCC Data
Site: Site 42
Location: Old Dublin Rd / Coast Rd
Date: 15-Nov-2018

Table with columns for Time, Direction (A to B, B to A, C to A, C to B), and various vehicle types (BUS, CAR, LGV, MCL, OGV1, OGV2, PCL, TAXI, PCU). The table contains a large volume of data points for each time interval.

Summary row for the entire dataset, providing totals for each direction and vehicle type.



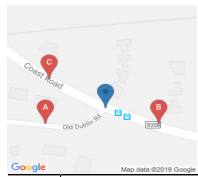
IDASO

Survey Name: Dublin Road, Galway Survey 2018 MCC Data  
Site: Site 43  
Location: Doughiska Road / Old Dublin Rd  
Date: 15-Nov-2018

Table with columns for TIME, BUS, CAR, LGV, MCL, OGV1, OGV2, PCL, TAXI, TOT, PCU, and sub-columns for directions A >> B, A >> C, B >> A, B >> C. Rows represent time intervals from 00:00 to 24:00.

Summary row for 24:00 with totals for each category: BUS, CAR, LGV, MCL, OGV1, OGV2, PCL, TAXI, TOT, PCU, and sub-directions.





IDASO

Survey Name: Dublin Road, Galway Survey 2018 MCC Data  
Site: 49  
Location: Doughiska, Rosshill Cross  
Date: 15-Nov-2018

Table with columns for TIME, mode (BUS, CAR, LGV, MCL, OGV1, OGV2, PCL, TAXI, BEB, OB, TOT), and various vehicle types (PCU, BUS, CAR, LGV, MCL, OGV1, OGV2, PCL, TAXI, BEB, OB, TOT) for directions A=>A, A=>B, A=>C, B=>A, B=>B, B=>C, and C=>A. The table contains 24-hour data with a final summary row at the bottom.





## **APPENDIX B**

### TRICS Analysis



Calculation Reference: AUDIT-363901-190628-0637

## TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL  
 Category : A - HOUSES PRIVATELY OWNED

## VEHICLES

Selected regions and areas:

12	CONNAUGHT	
	CS SLIGO	1 days
	RO ROSCOMMON	3 days
14	LEINSTER	
	CC CARLOW	1 days
	WC WICKLOW	1 days
	WX WEXFORD	1 days
16	ULSTER (REPUBLIC OF IRELAND)	
	CV CAVAN	1 days
	DN DONEGAL	2 days

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

## Secondary 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: Number of dwellings  
 Actual Range: 6 to 50 (units: )  
 Range Selected by User: 4 to 50 (units: )

Parking Spaces Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/11 to 10/10/18

*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
Wednesday	2 days
Thursday	4 days
Friday	1 days

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

Selected survey types:

Manual count	10 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:

Suburban Area (PPS6 Out of Centre)	3
Edge of Town	6
Neighbourhood Centre (PPS6 Local Centre)	1

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

Selected Location Sub Categories:

Residential Zone	5
Village	1
No Sub Category	4

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

Secondary Filtering selection:

Use Class:

C3 10 days

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

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	5 days
5,001 to 10,000	2 days
10,001 to 15,000	1 days
15,001 to 20,000	1 days

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

Population within 5 miles:

5,000 or Less	4 days
5,001 to 25,000	4 days
25,001 to 50,000	2 days

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

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	5 days
1.6 to 2.0	1 days

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

Travel Plan:

No 10 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 10 days

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

LIST OF SITES relevant to selection parameters

1	CC-03-A-01 R417 ANTHY ROAD CARLOW	DETACHED HOUSES	CARLOW
	Edge of Town Residential Zone Total Number of dwellings:	23	
	<i>Survey date: WEDNESDAY</i>	<i>25/05/16</i>	<i>Survey Type: MANUAL</i>
2	CS-03-A-03 TOP ROAD STRANDHILL STRANDHILL	MIXED HOUSES	SLIGO
	Neighbourhood Centre (PPS6 Local Centre) Village Total Number of dwellings:	30	
	<i>Survey date: THURSDAY</i>	<i>27/10/16</i>	<i>Survey Type: MANUAL</i>
3	CV-03-A-03 R212 DUBLIN ROAD CAVAN	DETACHED HOUSES	CAVAN
	PULLAMORE NEAR Edge of Town No Sub Category Total Number of dwellings:	37	
	<i>Survey date: MONDAY</i>	<i>22/05/17</i>	<i>Survey Type: MANUAL</i>
4	DN-03-A-03 THE GRANGE LETTERKENNY GLEN CAR IRISH	DETACHED/SEMI-DETACHED	DONEGAL
	Edge of Town Residential Zone Total Number of dwellings:	50	
	<i>Survey date: MONDAY</i>	<i>01/09/14</i>	<i>Survey Type: MANUAL</i>
5	DN-03-A-06 GLENFIN ROAD BALLYBOFEY	DETACHED HOUSING	DONEGAL
	Edge of Town Residential Zone Total Number of dwellings:	6	
	<i>Survey date: WEDNESDAY</i>	<i>10/10/18</i>	<i>Survey Type: MANUAL</i>
6	RO-03-A-02 SLIGO ROAD BALLAGHADERREEN	SEMI DET. & BUNGALOWS	ROSCOMMON
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings:	31	
	<i>Survey date: THURSDAY</i>	<i>14/07/11</i>	<i>Survey Type: MANUAL</i>
7	RO-03-A-03 N61 BOYLE GREATMEADOW	DETACHED HOUSES	ROSCOMMON
	Edge of Town No Sub Category Total Number of dwellings:	23	
	<i>Survey date: THURSDAY</i>	<i>25/09/14</i>	<i>Survey Type: MANUAL</i>
8	RO-03-A-04 EAGLE COURT ROSCOMMON ARDNANAGH	SEMI DET. & BUNGALOWS	ROSCOMMON
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings:	39	
	<i>Survey date: FRIDAY</i>	<i>26/09/14</i>	<i>Survey Type: MANUAL</i>

LIST OF SITES relevant to selection parameters (Cont.)

9	WC-03-A-01	DETACHED HOUSES	WICKLOW
	STATION ROAD WICKLOW CORPORATION MURRAGH Edge of Town No Sub Category Total Number of dwellings: 50 <i>Survey date: MONDAY 28/05/18</i> <i>Survey Type: MANUAL</i>		
10	WX-03-A-01	SEMI-DETACHED	WEXFORD
	CLONARD ROAD WEXFORD  Suburban Area (PPS6 Out of Centre) No Sub Category Total Number of dwellings: 34 <i>Survey date: THURSDAY 25/09/14</i> <i>Survey Type: MANUAL</i>		

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



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

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

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	10	32	0.043	10	32	0.183	10	32	0.226
08:00 - 09:00	10	32	0.198	10	32	0.560	10	32	0.758
09:00 - 10:00	10	32	0.266	10	32	0.334	10	32	0.600
10:00 - 11:00	10	32	0.223	10	32	0.257	10	32	0.480
11:00 - 12:00	10	32	0.189	10	32	0.223	10	32	0.412
12:00 - 13:00	10	32	0.269	10	32	0.207	10	32	0.476
13:00 - 14:00	10	32	0.347	10	32	0.328	10	32	0.675
14:00 - 15:00	10	32	0.303	10	32	0.378	10	32	0.681
15:00 - 16:00	10	32	0.418	10	32	0.328	10	32	0.746
16:00 - 17:00	10	32	0.406	10	32	0.291	10	32	0.697
17:00 - 18:00	10	32	0.483	10	32	0.316	10	32	0.799
18:00 - 19:00	10	32	0.390	10	32	0.316	10	32	0.706
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
<b>Total Rates:</b>			3.535			3.721			7.256

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.

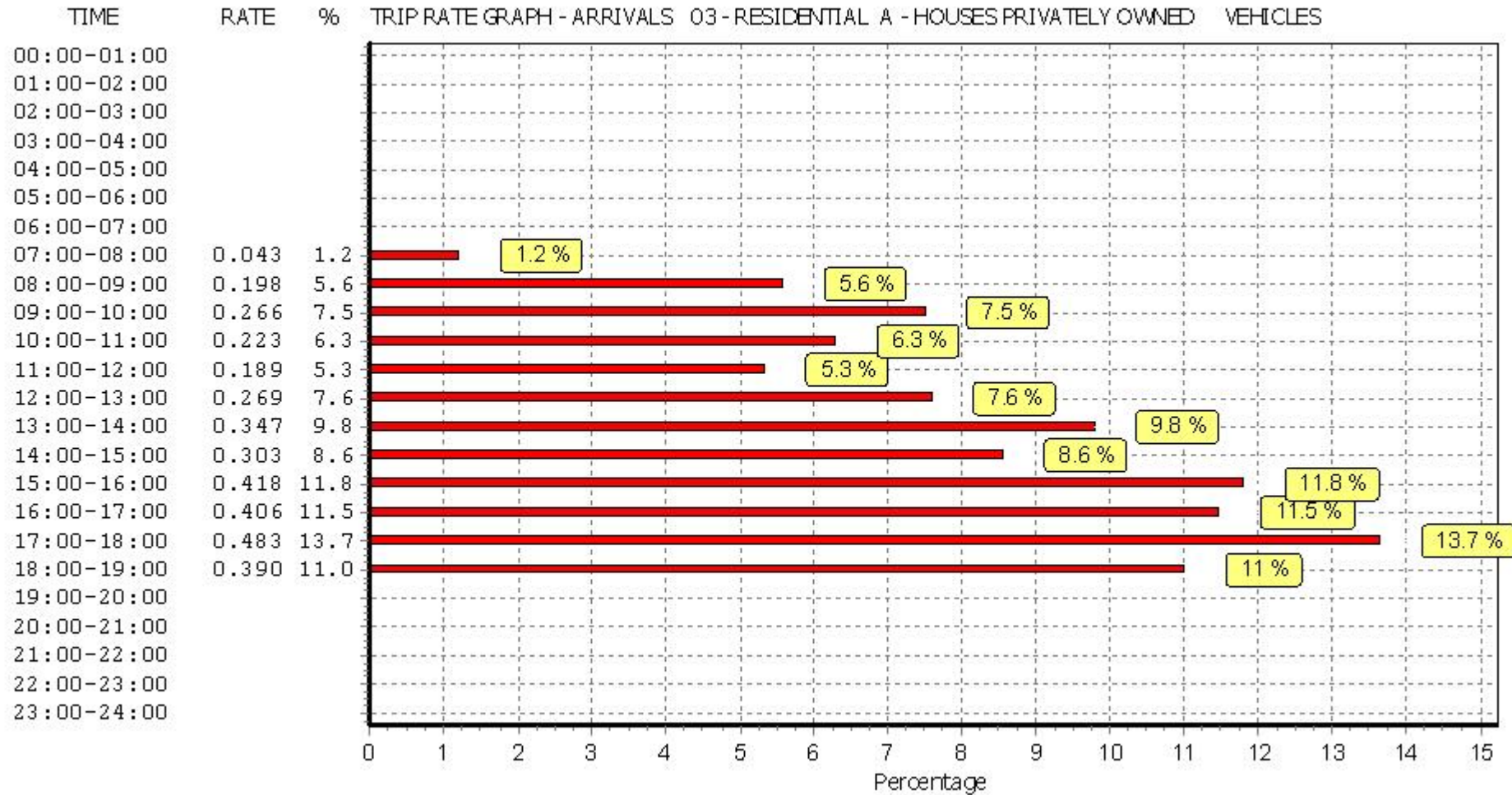
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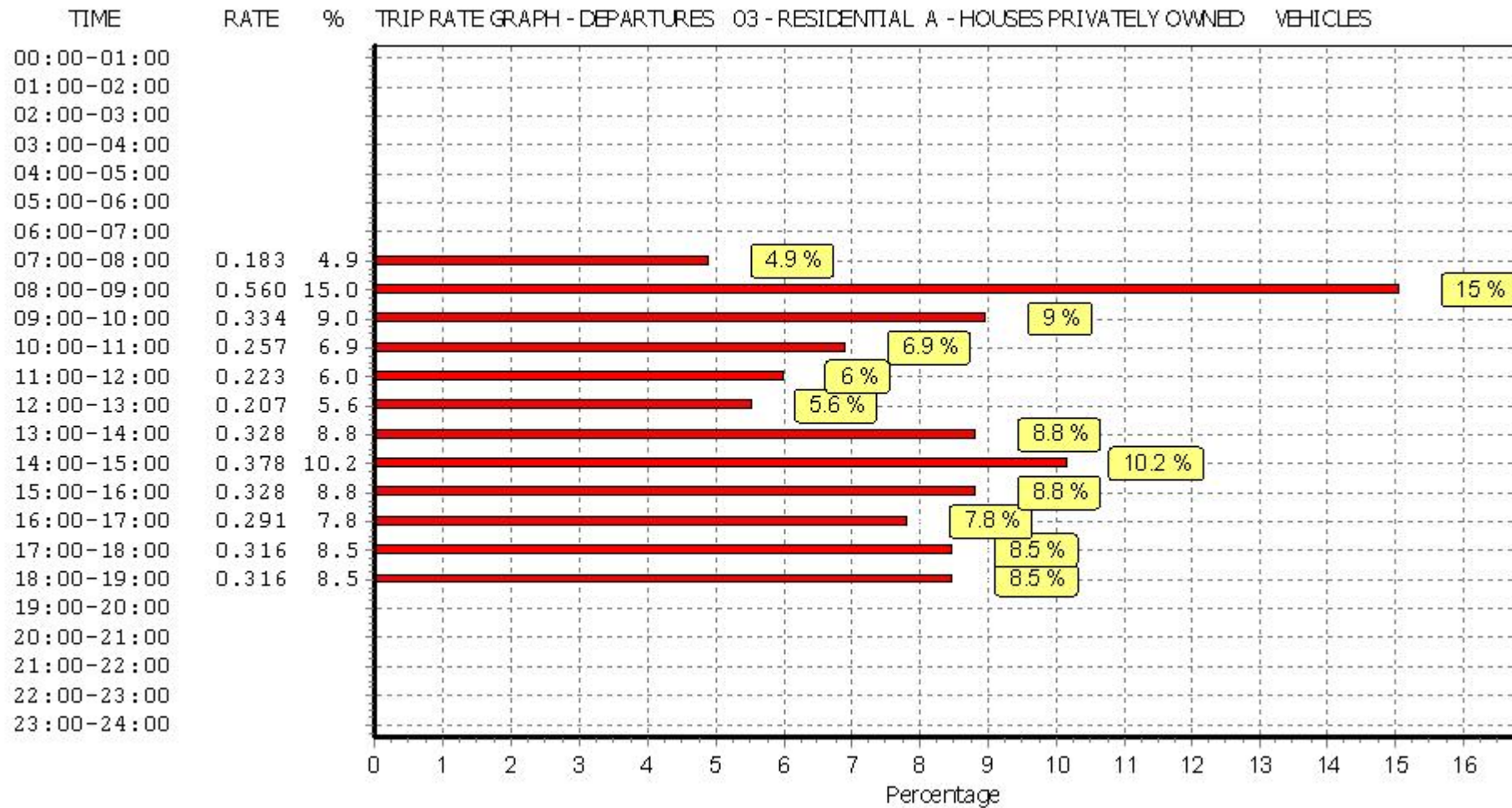
#### Parameter summary

Trip rate parameter range selected:	6 - 50 (units: )
Survey date date range:	01/01/11 - 10/10/18
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

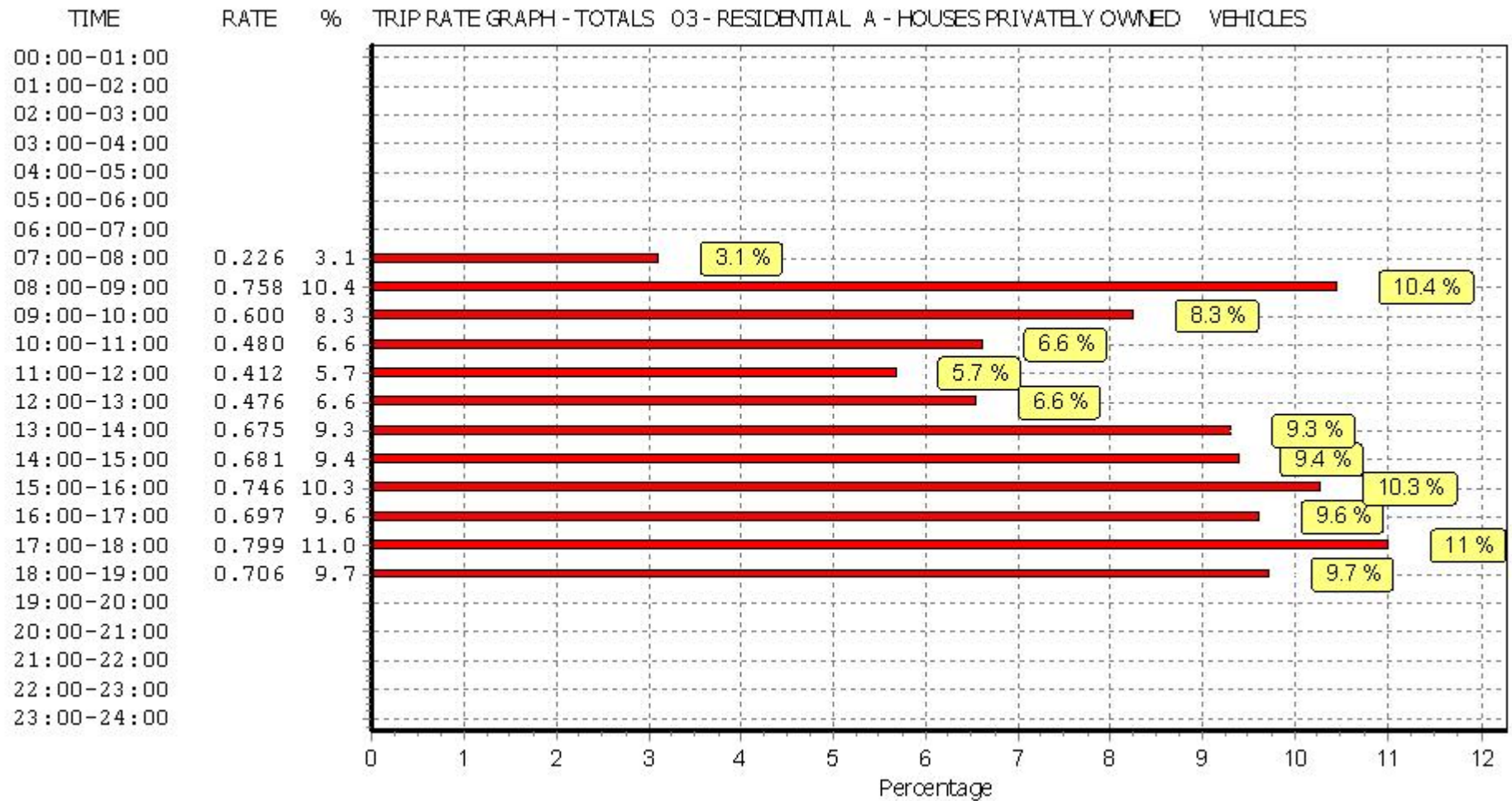
*This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected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



*This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.*



*This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.*



*This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.*

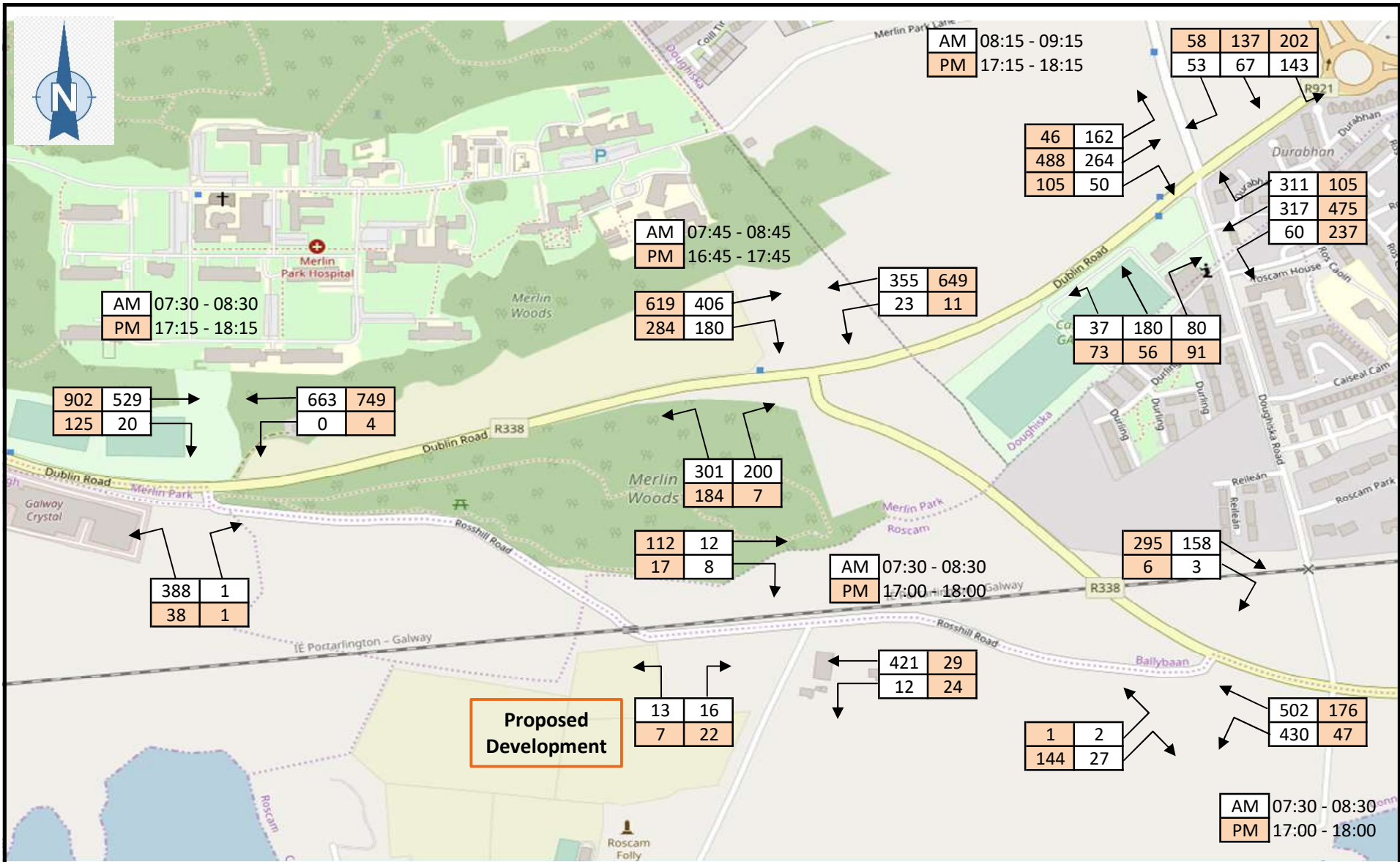




## **APPENDIX C**

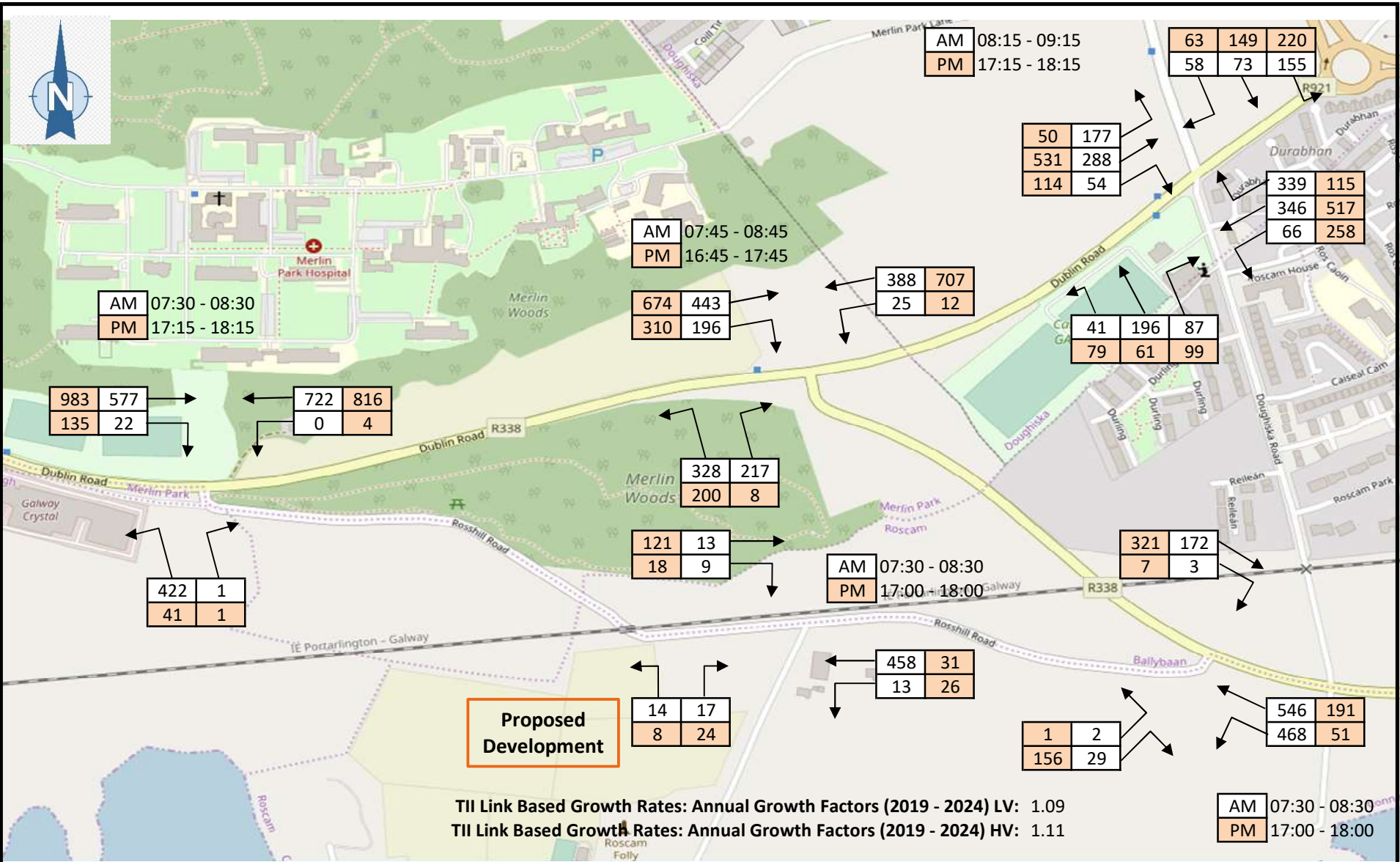
### Traffic Flow Calculations





**Job No:** 119209  
**Job Title:** TTA - Proposed Residential Development, Rosshill, Galway

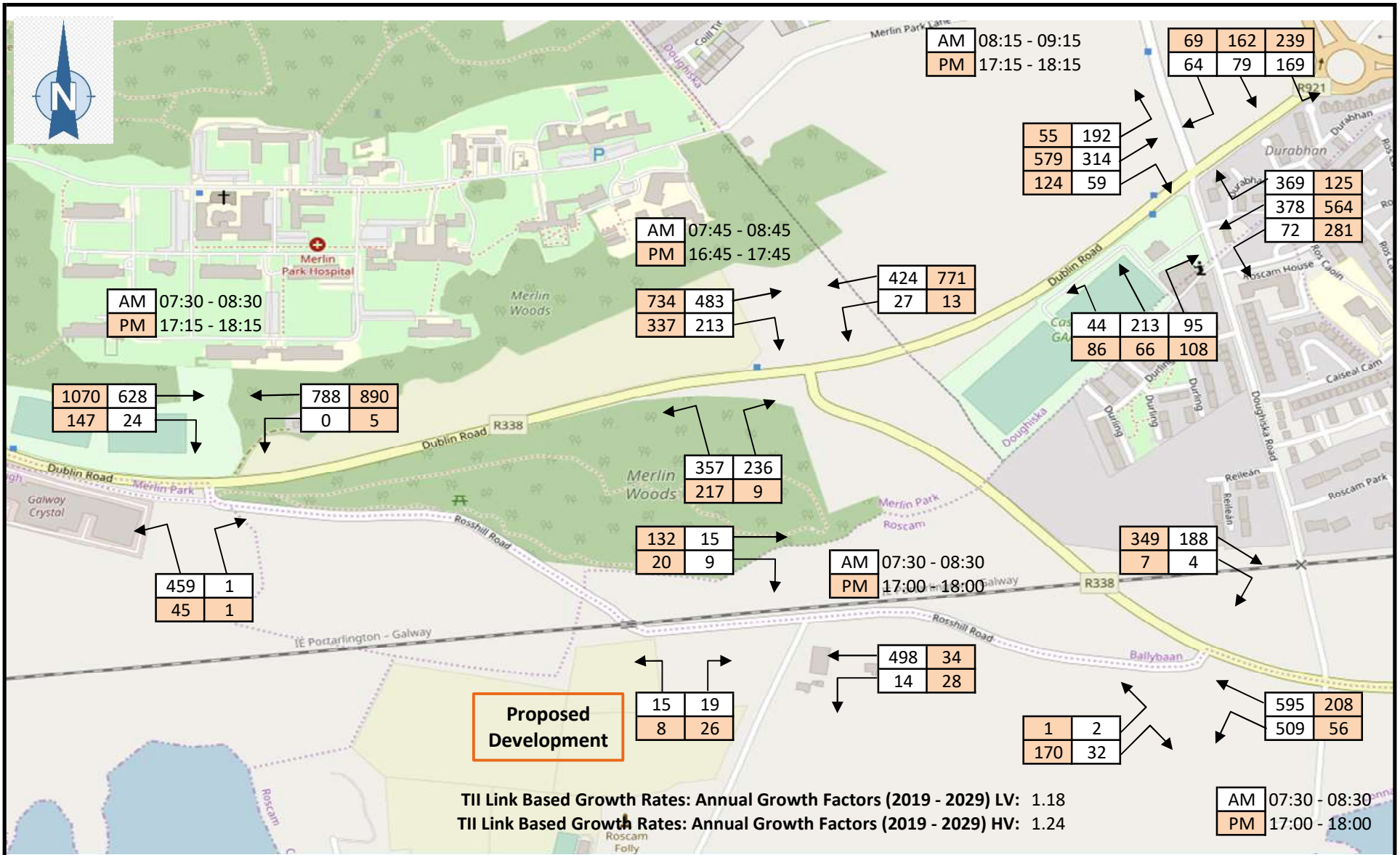
**BASE YEAR PEAK HOUR TRAFFIC FLOWS**



**Job No:** 119209  
**Job Title:** TTA - Proposed Residential Development, Rosshill, Galway

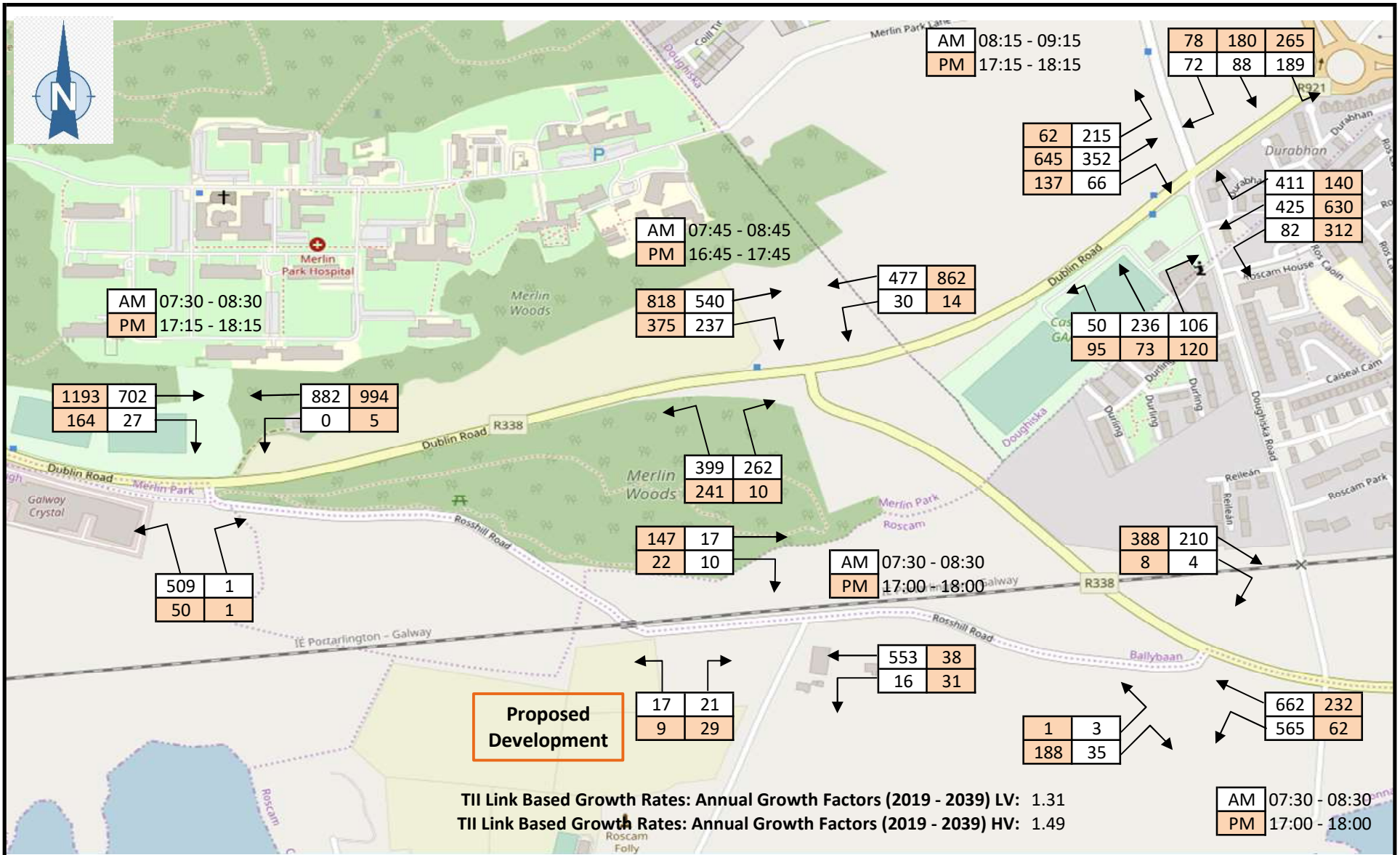
**2024 PROPOSED DEVELOPMENT OPENING YEAR PEAK HOUR TRAFFIC FLOWS WITHOUT DEVELOPMENT**





Job No: 119209  
 Job Title: TTA - Proposed Residential Development, Rosshill, Galway

**2029 PROPOSED DEVELOPMENT OPENING YEAR +5 YEARS PEAK HOUR TRAFFIC FLOWS WITHOUT DEVELOPMENT**



Job No: 119209  
 Job Title: TTA - Proposed Residential Development, Rosshill, Galway

**2039 PROPOSED DEVELOPMENT OPENING YEAR +15 YEARS PEAK HOUR TRAFFIC FLOWS WITHOUT DEVELOPMENT**



	Calculation	Trip Rate per dwelling unit				Number of Trips			
	Factor	AM	AM	PM	PM	AM	AM	PM	PM
Landuse	Residential Units	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
<i>Réileán Estate (24 Apartments &amp; 82 houses)</i>	106	0.1509	0.5283	0.3962	0.1509	16	56	42	16
Mixed Residential (Apartments & House)	102	0.151	0.528	0.396	0.151	15	54	40	15
Houses Privately Owned (TRICS) Adjacent Development	16	0.266	0.560	0.483	0.316	4	9	8	5
<b>TOTAL</b>						<b>20</b>	<b>63</b>	<b>48</b>	<b>20</b>

**Note:**

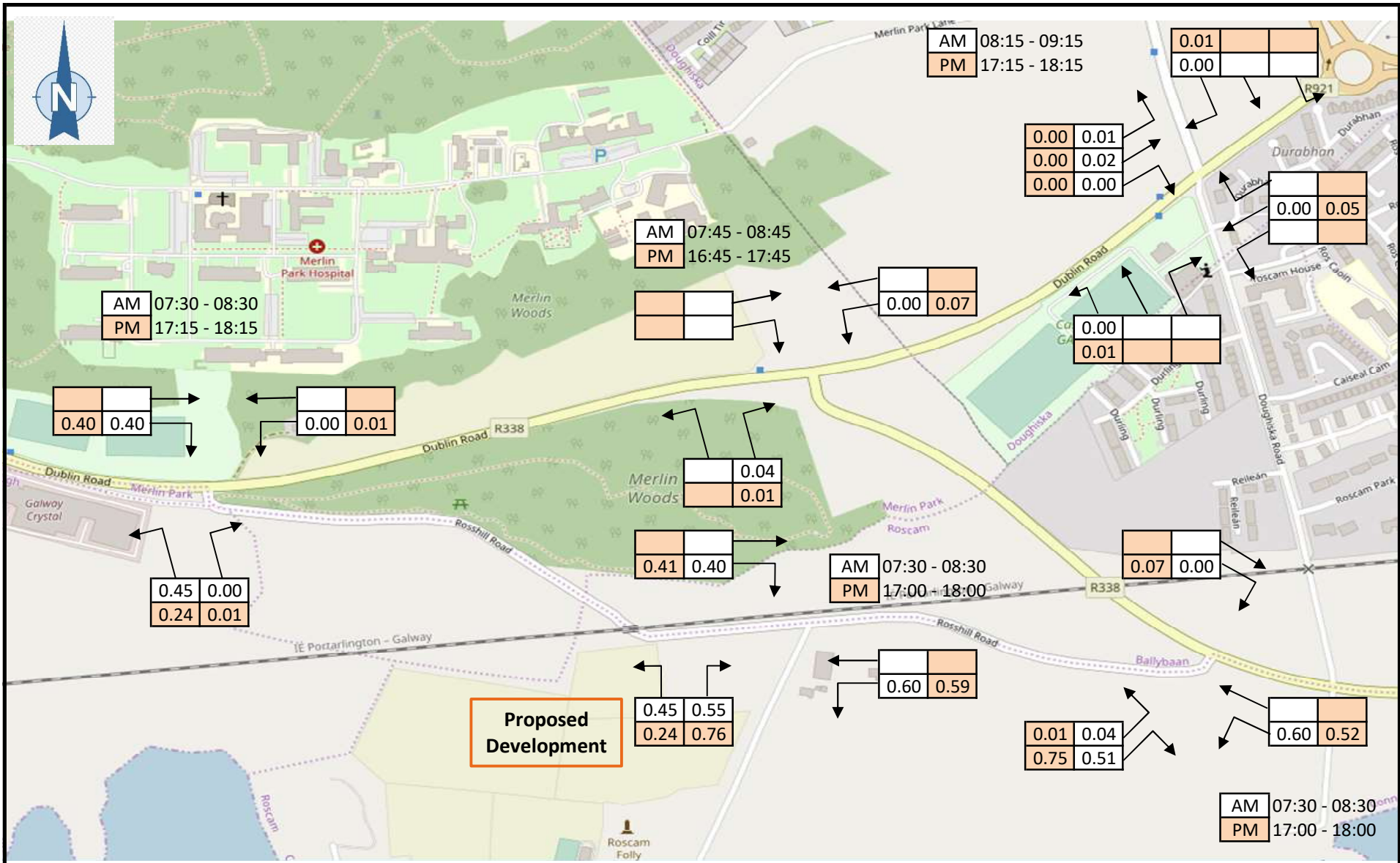
Trip rates for proposed development based on trip rates calculated from traffic count survey at nearby Réileán Estate as per scoping meeting with GCC



**Job No:** 119209

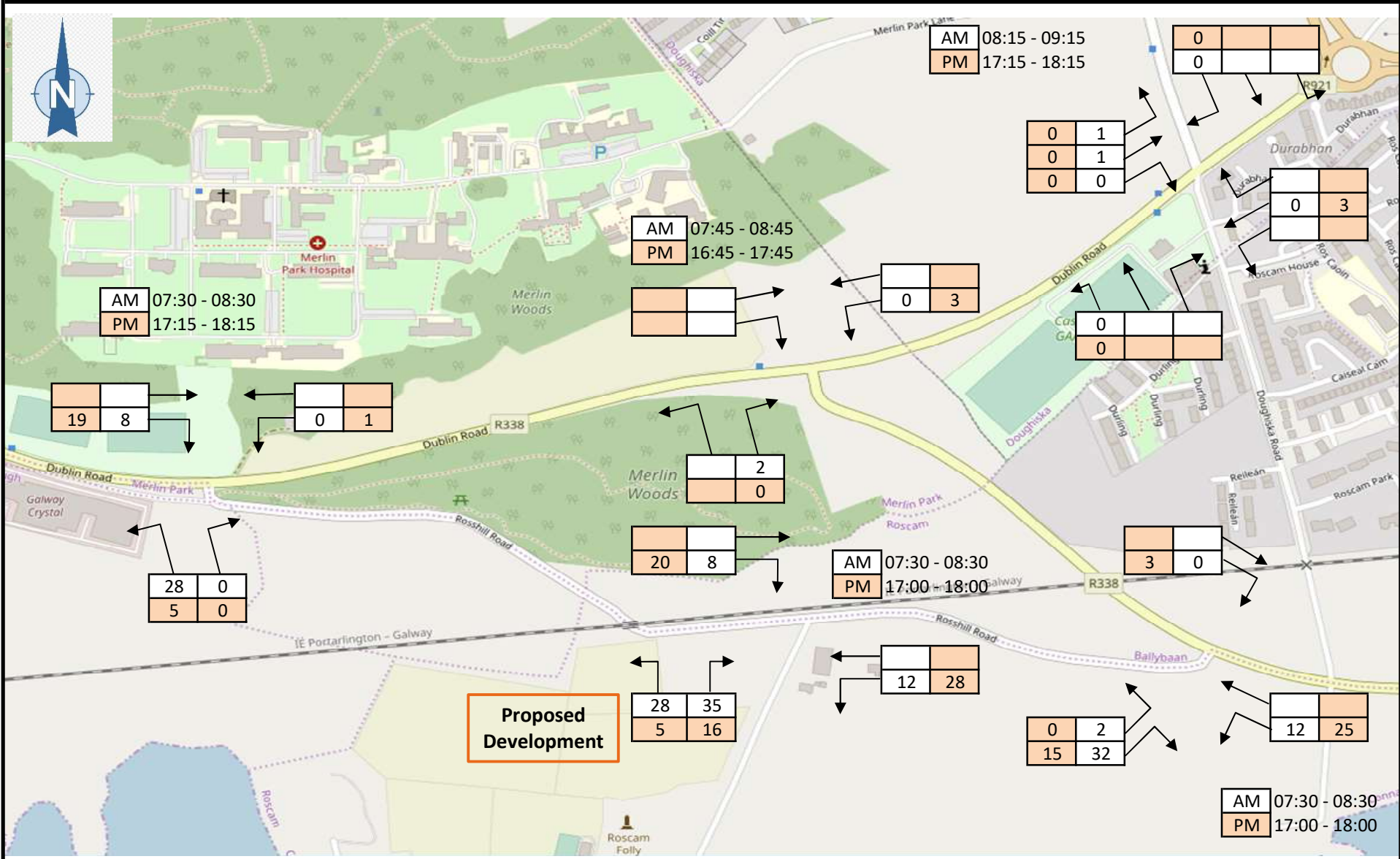
**Job Title:** TTA - Proposed Residential Development, Rosshill, Galway

**PROPOSED DEVELOPMENT TRAFFIC GENERATION**



**Job No:** 119209  
**Job Title:** TTA - Proposed Residential Development, Rosshill, Galway

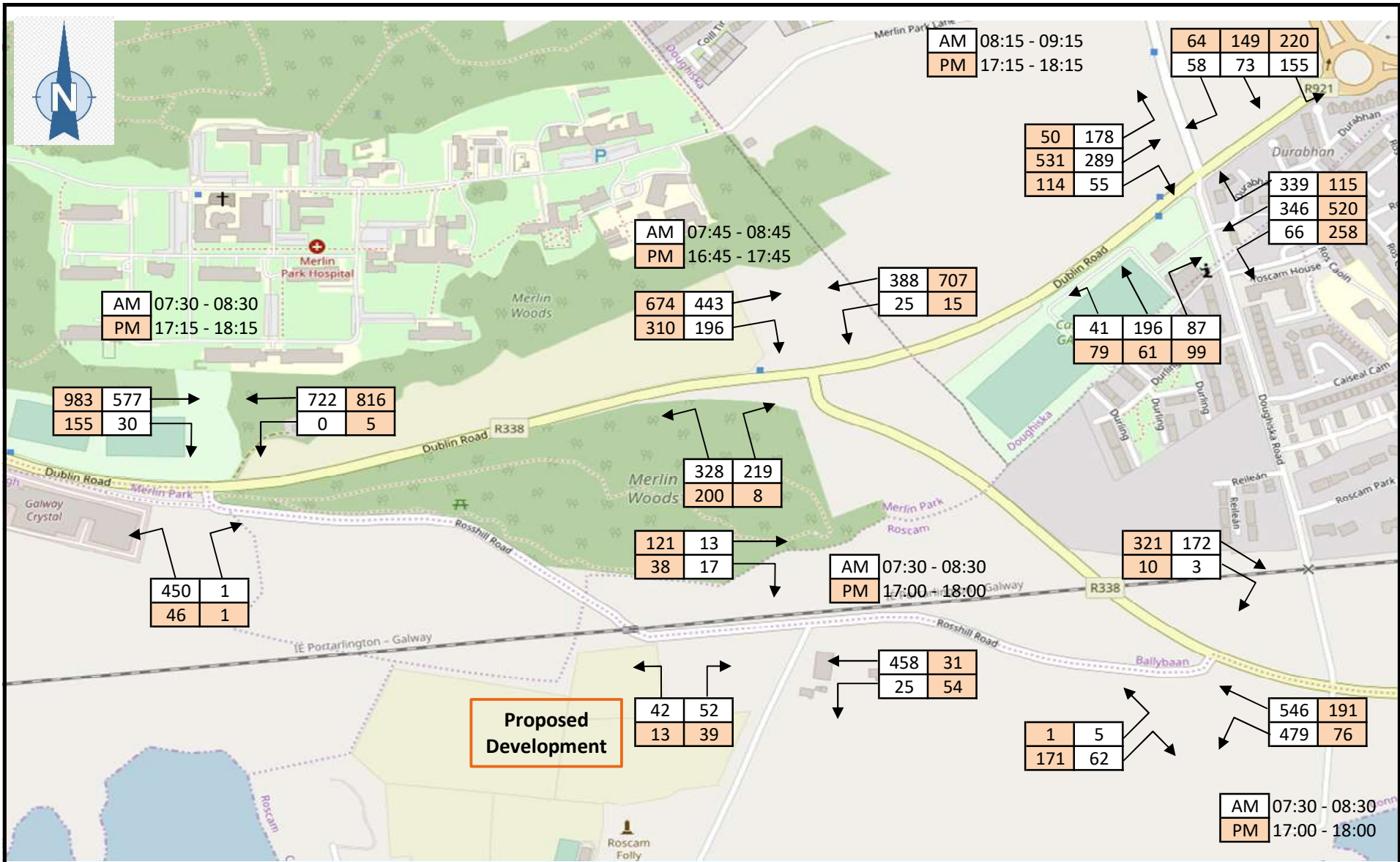
**PROPOSED DEVELOPMENT GENERATED TRAFFIC DISTRIBUTION**



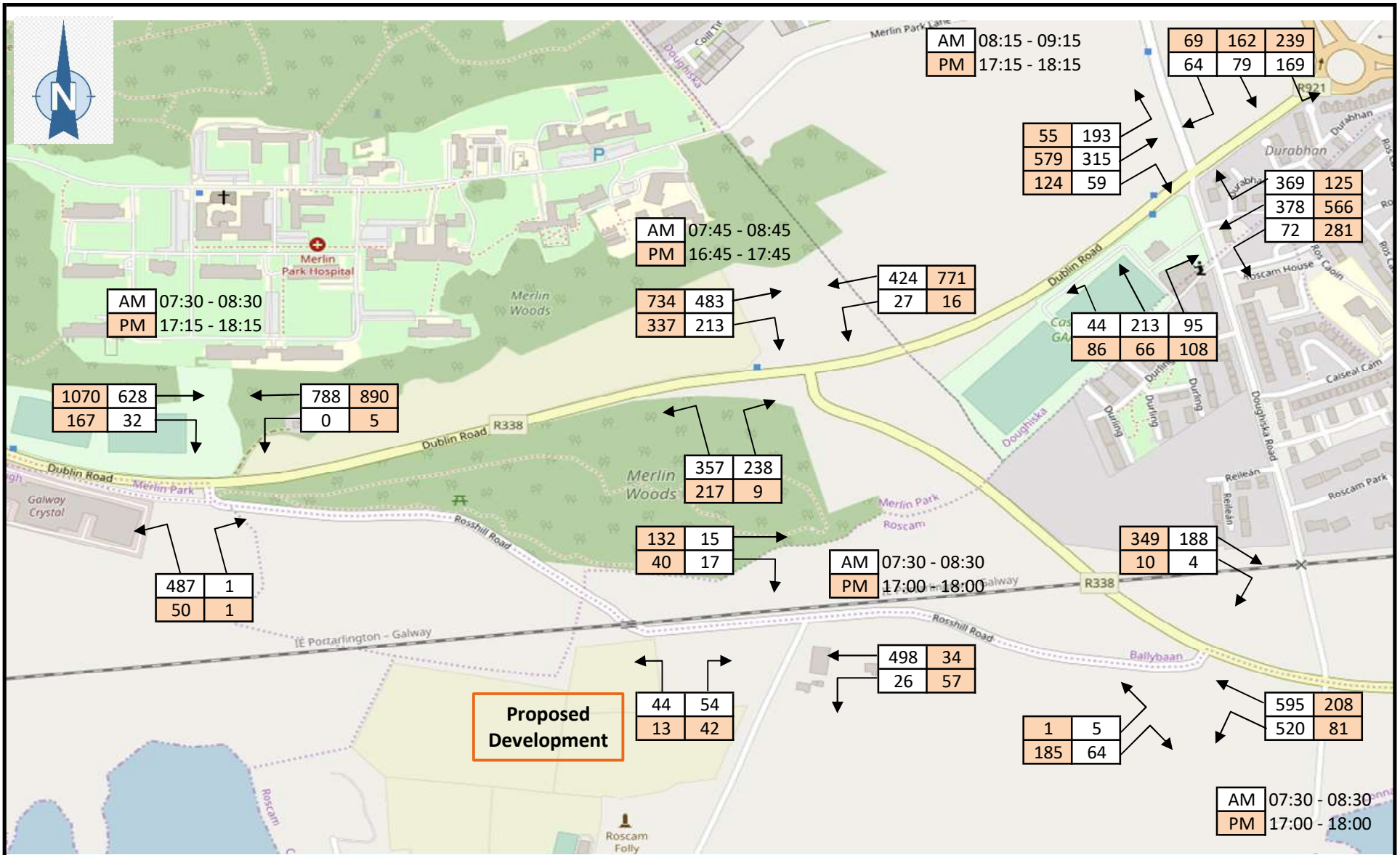
**Job No:** 119209  
**Job Title:** TTA - Proposed Residential Development, Rosshill, Galway

**PROPOSED DEVELOPMENT GENERATED TRAFFIC FLOWS**





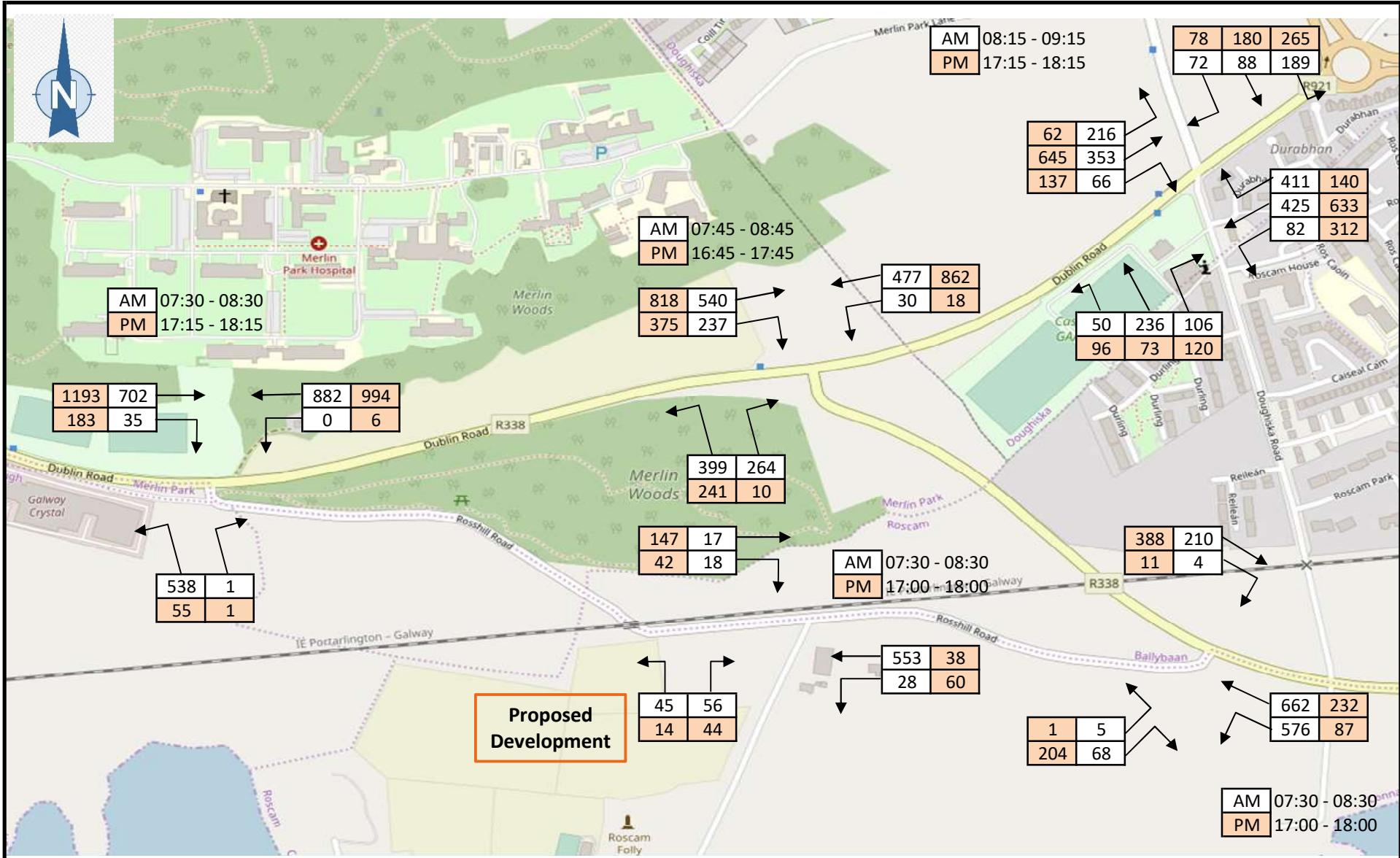
**Job No:** 119209  
**Job Title:** TTA - Proposed Residential Development, Rosshill, Galway  
**2024 PROPOSED DEVELOPMENT OPENING YEAR PEAK HOUR TRAFFIC FLOWS WITH DEVELOPMENT OPERATIONAL**



Job No: 119209  
 Job Title: TTA - Proposed Residential Development, Rosshill, Galway

**2029 PROPOSED DEVELOPMENT OPENING YEAR +5 YEARS PEAK HOUR TRAFFIC FLOWS WITH DEVELOPMENT OPERATIONAL**

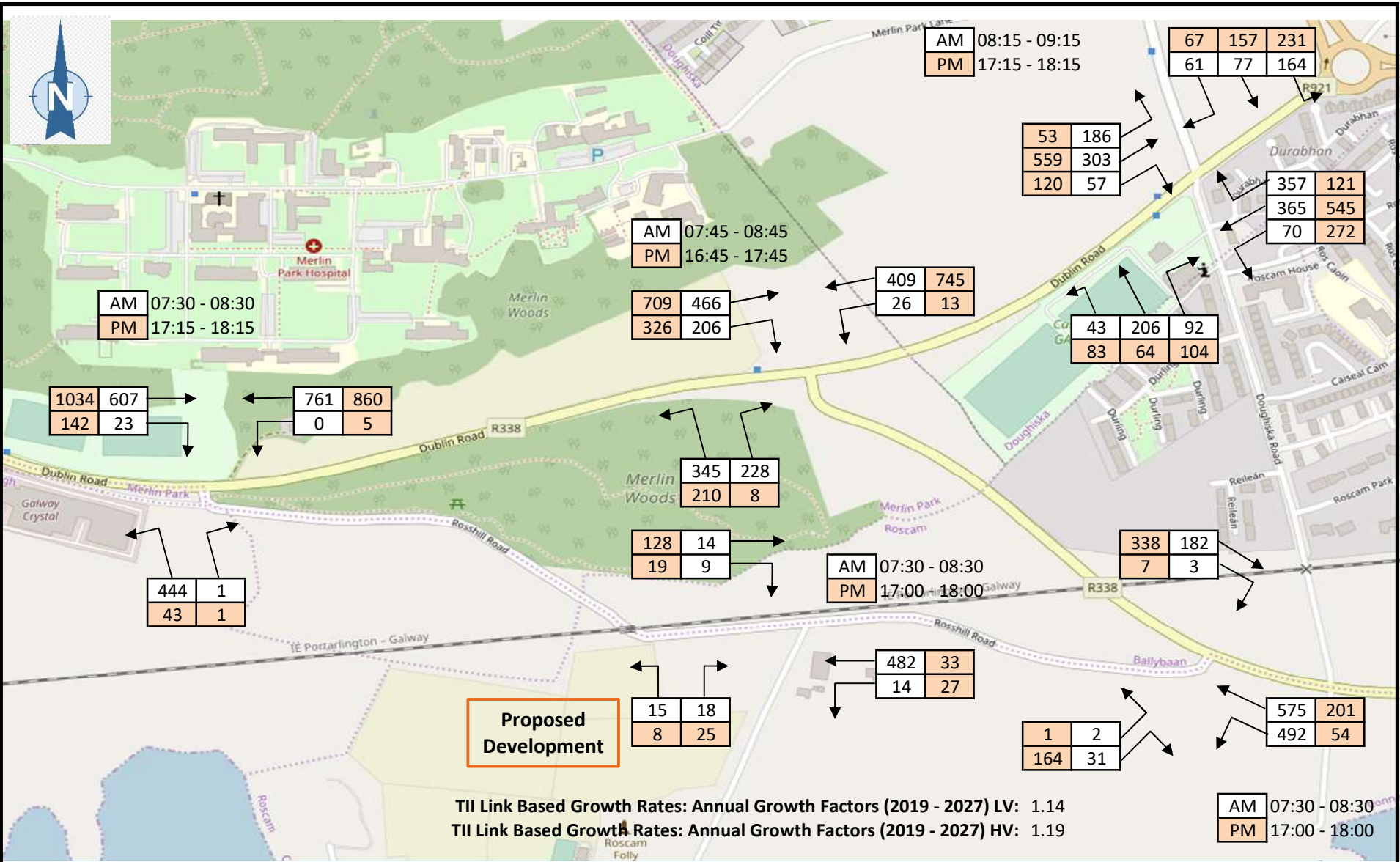




**Job No:** 119209  
**Job Title:** TTA - Proposed Residential Development, Rosshill, Galway

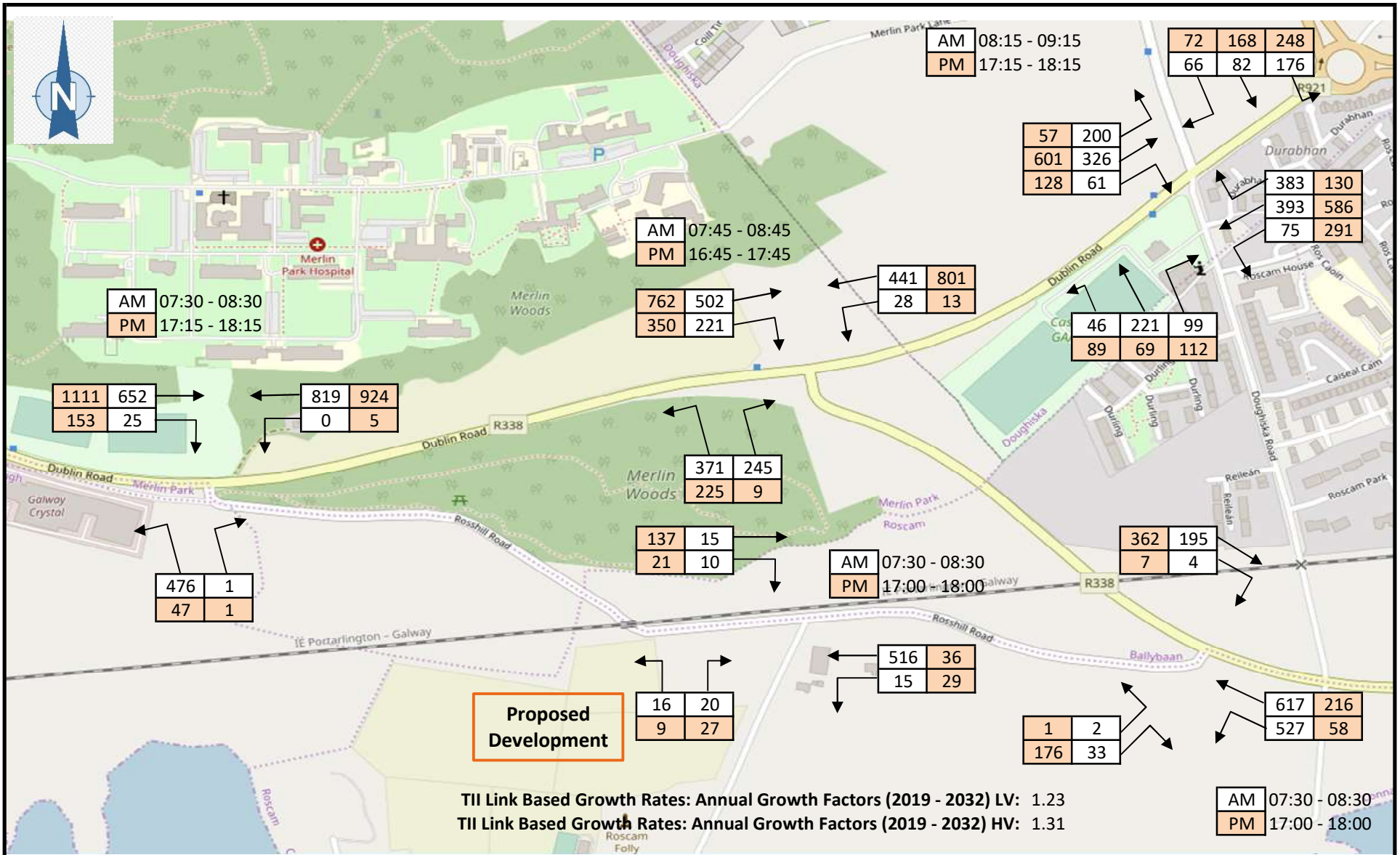
**2039 PROPOSED DEVELOPMENT OPENING YEAR +15 YEARS PEAK HOUR TRAFFIC FLOWS WITH DEVELOPMENT OPERATIONAL**





Job No: 119209  
 Job Title: TTA - Proposed Residential Development, Rosshill, Galway

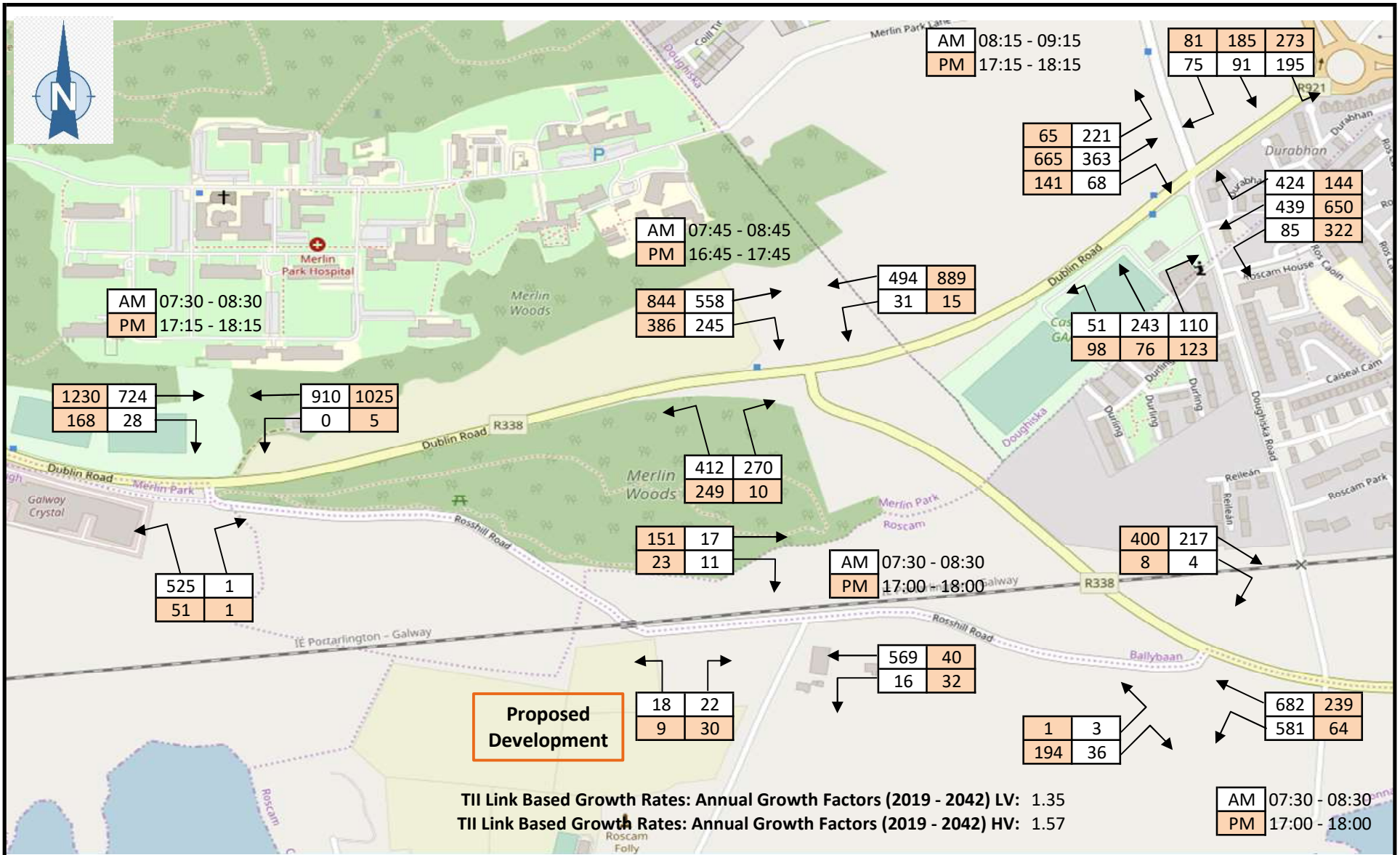
**2027 POTENTIAL DEVELOPMENT OPENING YEAR PEAK HOUR TRAFFIC FLOWS WITHOUT DEVELOPMENT**



Job No: 119209  
 Job Title: TTA - Proposed Residential Development, Rosshill, Galway

**2032 POTENTIAL DEVELOPMENT OPENING YEAR +5 YEARS PEAK HOUR TRAFFIC FLOWS WITHOUT DEVELOPMENT**





Job No: 119209  
 Job Title: TTA - Proposed Residential Development, Rosshill, Galway

**2042 POTENTIAL DEVELOPMENT OPENING YEAR +15 YEARS PEAK HOUR TRAFFIC FLOWS WITHOUT DEVELOPMENT**

Landuse	Calculation Factor	Trip Rate per dwelling unit				Number of Trips			
	Residential Units	AM Arrivals	AM Departures	PM Arrivals	PM Departures	AM Arrivals	AM Departures	PM Arrivals	PM Departures
<i>Réileán Estate (24 Apartments &amp; 82 houses)</i>	106	0.1509	0.5283	0.3962	0.1509	16	56	42	16
Mixed Residential (Apartments & House) Prop dev	102	0.151	0.528	0.396	0.151	15	54	40	15
Mixed Residential (Apartments & House) Future dev	240	0.151	0.528	0.396	0.151	36	127	95	36
Houses Privately Owned (TRICS) Adjacent Development	16	0.266	0.560	0.483	0.316	4	9	8	5
<b>TOTAL</b>						<b>56</b>	<b>190</b>	<b>143</b>	<b>56</b>

**Note:**

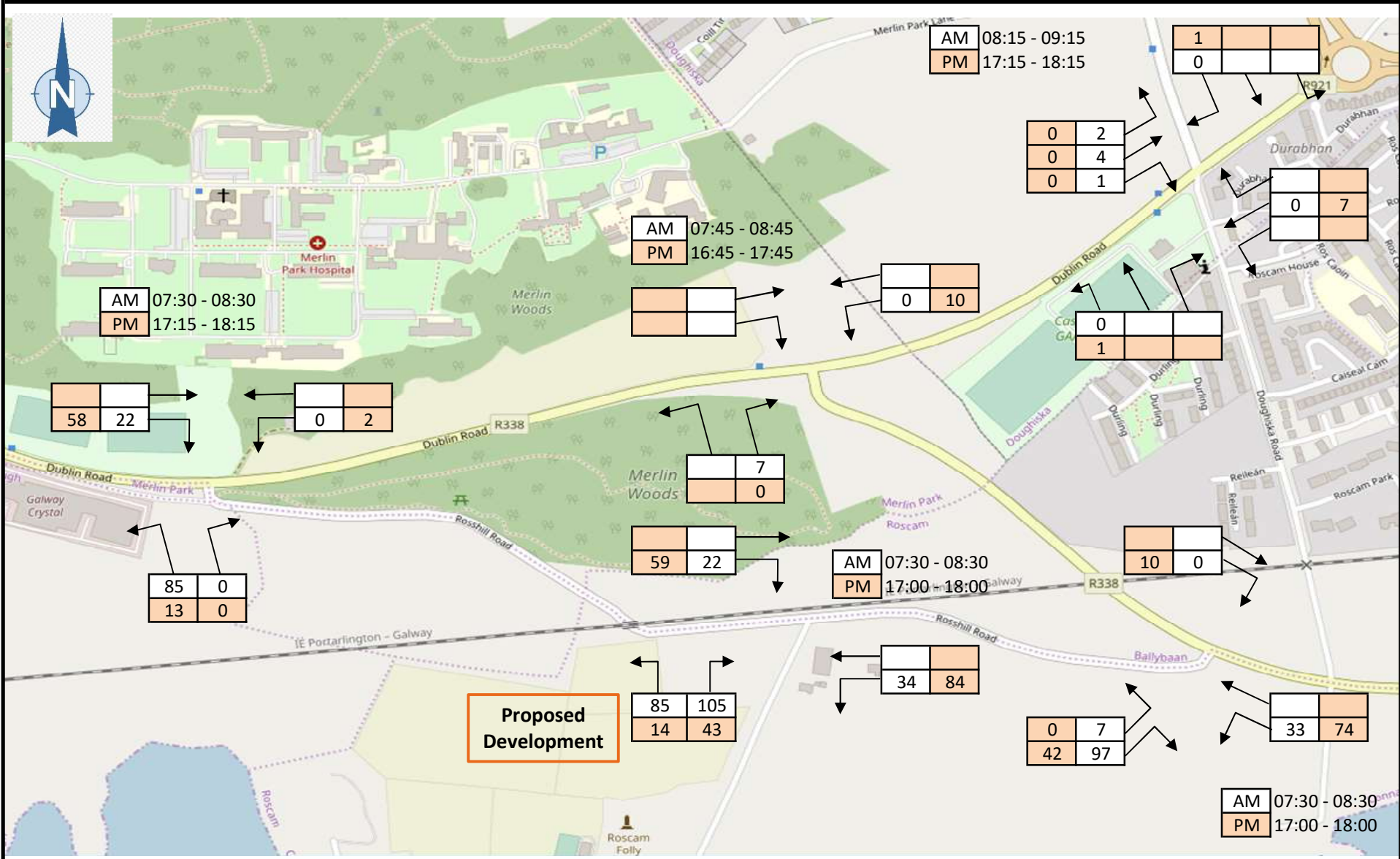
Trip rates for proposed development based on trip rates calculated from traffic count survey at nearby Réileán Estate as per scoping meeting with GCC



**Job No:** 119209

**Job Title:** TTA - Proposed Residential Development, Rosshill, Galway

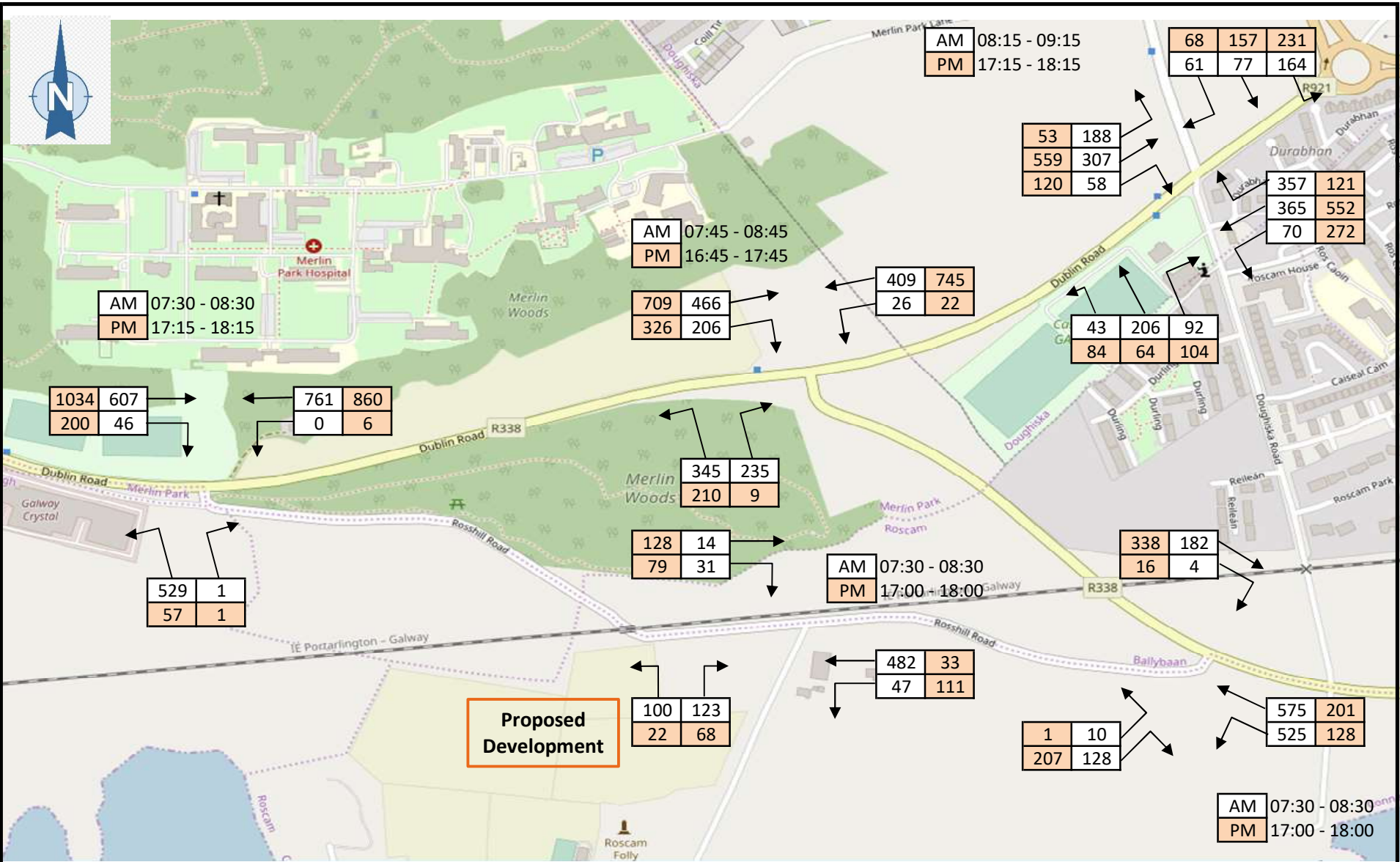
**PROPOSED POTENTIAL DEVELOPMENT TRAFFIC GENERATION**



**Job No:** 119209  
**Job Title:** TTA - Proposed Residential Development, Rosshill, Galway

**PROPOSED POTENTIAL DEVELOPMENT GENERATED TRAFFIC FLOWS**

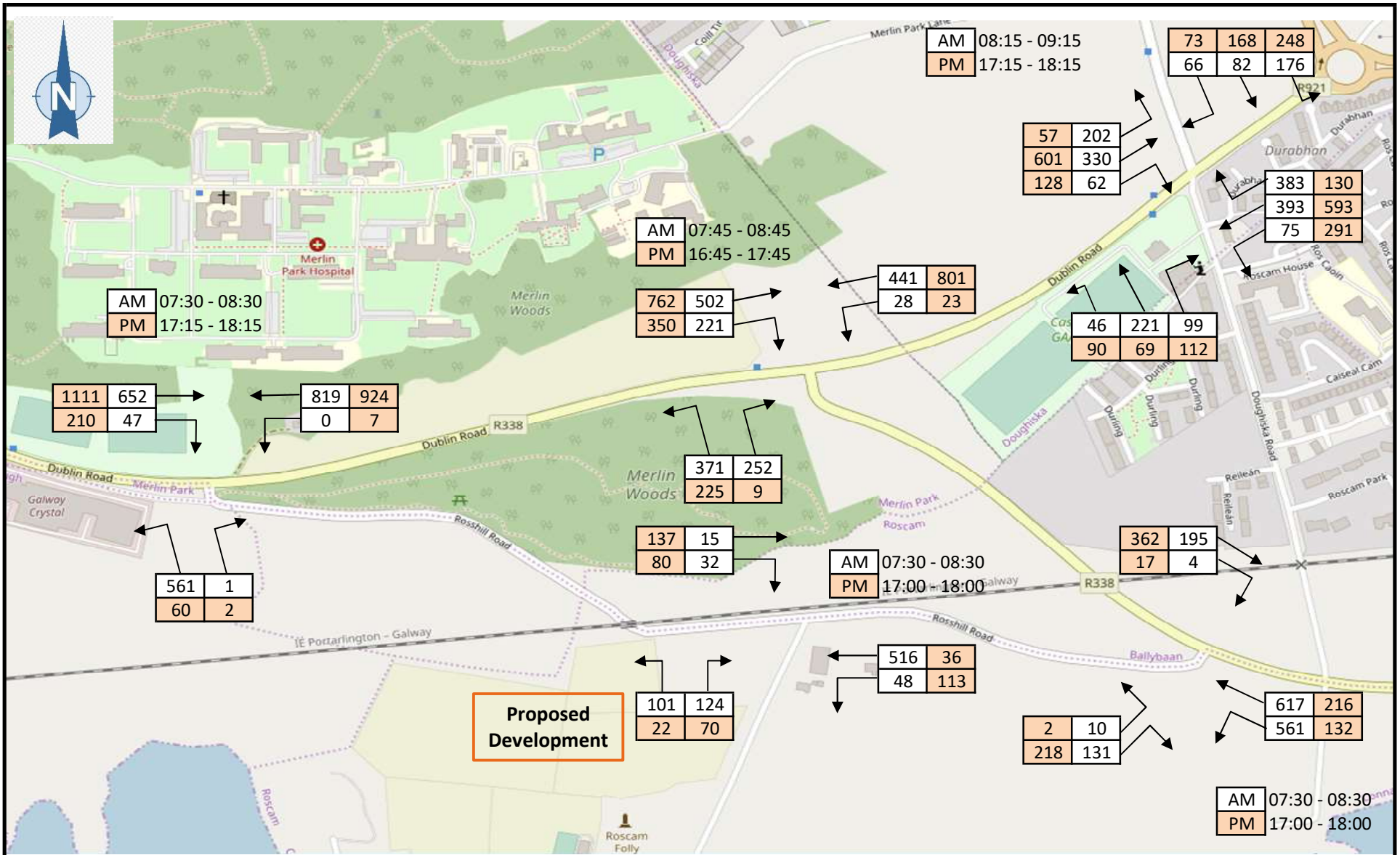




**Job No:** 119209  
**Job Title:** TTA - Proposed Residential Development, Rosshill, Galway

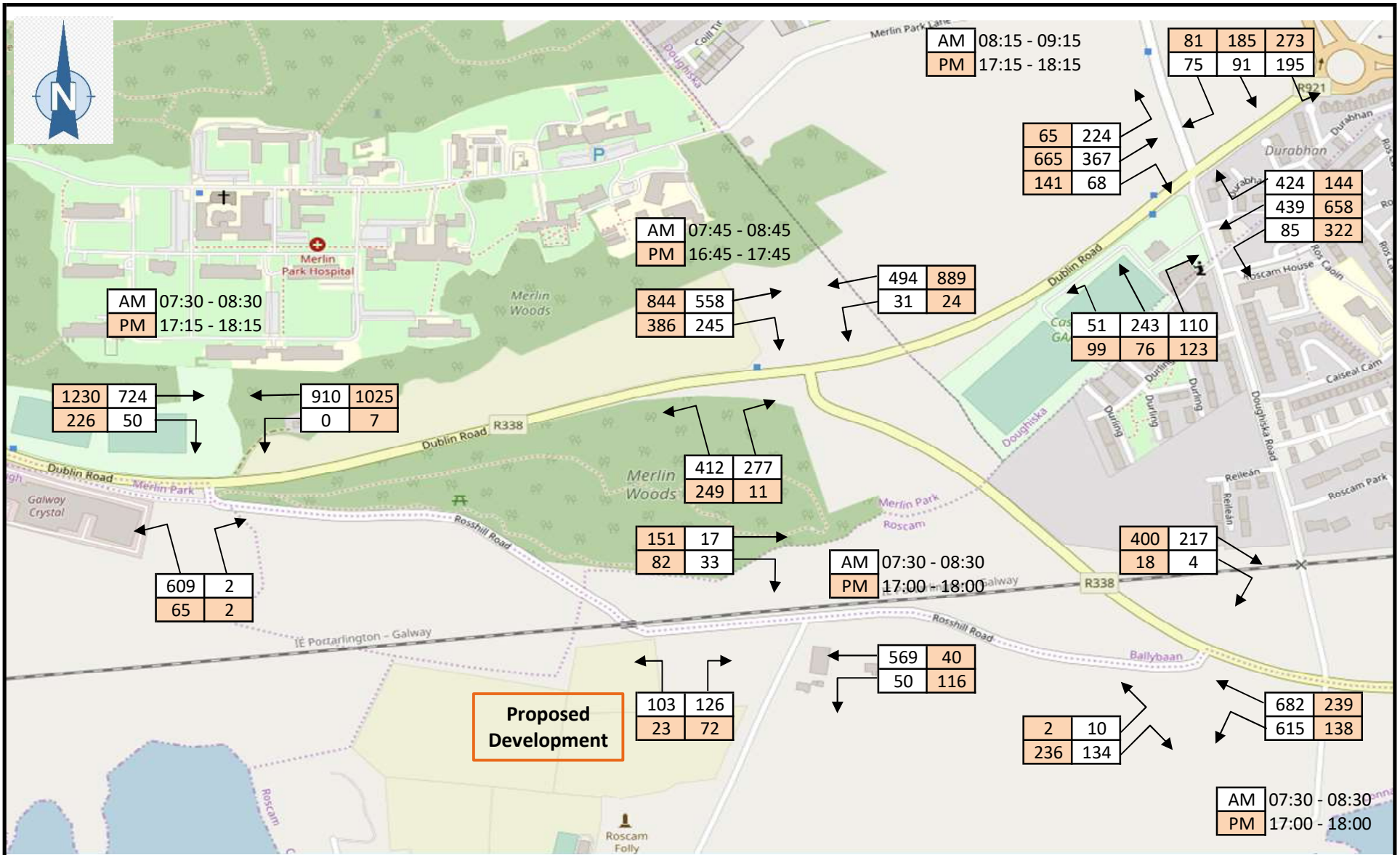
**2027 POTENTIAL DEVELOPMENT OPENING YEAR PEAK HOUR TRAFFIC FLOWS WITH DEVELOPMENT FULLY OPERATIONAL**





**Job No:** 119209  
**Job Title:** TTA - Proposed Residential Development, Rosshill, Galway

**2032 POTENTIAL DEVELOPMENT OPENING YEAR +5 YEARS PEAK HOUR TRAFFIC FLOWS WITH DEVELOPMENT FULLY OPERATIONAL**



**Job No:** 119209  
**Job Title:** TTA - Proposed Residential Development, Rosshill, Galway

**2042 POTENTIAL DEVELOPMENT OPENING YEAR +15 YEARS PEAK HOUR TRAFFIC FLOWS WITH DEVELOPMENT FULLY OPERATIONAL**

## **APPENDIX D1**

PICADY Analysis - Junction between Old Dublin Road R338  
and Rosshill Rd



# Junctions 9

## PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []  
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**Filename:** 119209 Old Dublin Rd\_Rosshill Rd PICADY Ph 1.j9

**Path:** I:\CST\119\201-250\119209\calcs\PICADY\Old Dublin Rd\_Rosshill Rd

**Report generation date:** 12/05/2021 16:12:13

- 
- »Scenario 1, AM
  - »Scenario 1, PM
  - »Scenario 2, AM
  - »Scenario 2, PM
  - »Scenario 3, AM
  - »Scenario 3, PM
  - »Scenario 4, AM
  - »Scenario 4, PM
  - »Scenario 5, AM
  - »Scenario 5, PM
  - »Scenario 6, AM
  - »Scenario 6, PM
  - »Scenario 7, AM
  - »Scenario 7, PM



## Summary of junction performance

	AM						PM					
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
<b>Scenario 1</b>												
Stream B-AC	7.6	38.9	62.45	0.90	F	-8 %	0.1	0.5	9.70	0.10	A	22 %
Stream C-AB	0.1	0.5	8.83	0.05	A	[Stream B-AC]	0.6	2.6	13.47	0.34	B	[Stream B-AC]
<b>Scenario 2</b>												
Stream B-AC	10.7	47.4	82.53	0.95	F	-11 %	0.1	0.5	9.64	0.11	A	22 %
Stream C-AB	0.1	0.5	8.97	0.07	A	[Stream B-AC]	0.7	3.2	14.29	0.38	B	[Stream B-AC]
<b>Scenario 3</b>												
Stream B-AC	27.3	67.4	177.63	1.06	F	-18 %	0.2	0.5	10.73	0.13	B	12 %
Stream C-AB	0.1	0.5	9.41	0.08	A	[Stream B-AC]	0.8	3.8	16.20	0.43	C	[Stream B-AC]
<b>Scenario 4</b>												
Stream B-AC	67.7	109.5	436.75	1.25	F	-26 %	0.3	1.4	19.88	0.24	C	1 %
Stream C-AB	0.1	0.5	10.11	0.09	B	[Stream B-AC]	1.1	5.1	19.70	0.51	C	[Stream B-AC]
<b>Scenario 5</b>												
Stream B-AC	10.7	47.3	82.28	0.95	F	-11 %	0.1	0.5	9.64	0.11	A	22 %
Stream C-AB	0.1	0.5	8.97	0.07	A	[Stream B-AC]	0.7	3.2	14.29	0.38	B	[Stream B-AC]
<b>Scenario 6</b>												
Stream B-AC	27.3	67.4	177.63	1.06	F	-18 %	0.2	0.5	10.73	0.13	B	12 %
Stream C-AB	0.1	0.5	9.41	0.08	A	[Stream B-AC]	0.8	3.8	16.20	0.43	C	[Stream B-AC]
<b>Scenario 7</b>												
Stream B-AC	67.7	109.5	436.75	1.25	F	-26 %	0.3	1.4	19.88	0.24	C	1 %
Stream C-AB	0.1	0.5	10.11	0.09	B	[Stream B-AC]	1.1	5.1	19.70	0.51	C	[Stream B-AC]

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. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

## File summary

### File Description

<b>Title</b>	Old Dublin Road/Rosshill Road T-junction
<b>Location</b>	Rosshill, Galway City
<b>Site number</b>	
<b>Date</b>	18/07/2019
<b>Version</b>	
<b>Status</b>	Preliminary
<b>Identifier</b>	
<b>Client</b>	Alber Homes
<b>Jobnumber</b>	119209
<b>Enumerator</b>	J Noone
<b>Description</b>	

## Units

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

### Analysis Options

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

### Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Scenario 1	AM	2019 AM Survey Year	ONE HOUR	07:15	08:45	15	✓
D2	Scenario 1	PM	2019 PM Survey Year	ONE HOUR	17:00	18:30	15	✓
D3	Scenario 2	AM	2024 AM without Dev	ONE HOUR	07:15	08:45	15	✓
D4	Scenario 2	PM	2024 PM without Dev	ONE HOUR	17:00	18:30	15	✓
D5	Scenario 3	AM	2029 AM without Dev	ONE HOUR	07:15	08:45	15	✓
D6	Scenario 3	PM	2029 PM without Dev	ONE HOUR	17:00	18:30	15	✓
D7	Scenario 4	AM	2039 AM without Dev	ONE HOUR	07:15	08:45	15	✓
D8	Scenario 4	PM	2039 PM without Dev	ONE HOUR	17:00	18:30	15	✓
D9	Scenario 5	AM	2024 AM with Dev	ONE HOUR	07:15	08:45	15	✓
D10	Scenario 5	PM	2024 PM with Dev	ONE HOUR	17:00	18:30	15	✓
D11	Scenario 6	AM	2029 AM with Dev	ONE HOUR	07:15	08:45	15	✓
D12	Scenario 6	PM	2029 PM with Dev	ONE HOUR	17:00	18:30	15	✓
D13	Scenario 7	AM	2039 AM with Dev	ONE HOUR	07:15	08:45	15	✓
D14	Scenario 7	PM	2039 PM with Dev	ONE HOUR	17:00	18:30	15	✓

### Analysis Set Details

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

# Scenario 1, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	15.28	C

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-8	Stream B-AC

## Arms

### Arms

Arm	Name	Description	Arm type
A	Old Dublin Rd East		Major
B	Rosshill Rd		Minor
C	Old Dublin Rd West		Major

### Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.90		✓	2.30	160.0	✓	8.00

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

### Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	4.80	15	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	578	0.101	0.256	0.161	0.365
1	B-C	748	0.110	0.278	-	-
1	C-B	674	0.251	0.251	-	-

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	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Scenario 1	AM	2019 AM Survey Year	ONE HOUR	07:15	08:45	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	729	100.000
B		ONE HOUR	✓	428	100.000
C		ONE HOUR	✓	604	100.000

## Origin-Destination Data

### Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	0	729
	B	1	0	427
	C	582	22	0

## Vehicle Mix

### Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.90	62.45	7.6	38.9	F	393	589
C-AB	0.05	8.83	0.1	0.5	A	20	30
C-A						534	801
A-B						0	0
A-C						669	1004

### Main Results for each time segment

#### 07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	322	81	594	0.543	317	0.0	1.3	14.075	B
C-AB	17	4	536	0.031	16	0.0	0.0	7.617	A
C-A	438	110			438				
A-B	0	0			0				
A-C	549	137			549				

#### 07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	385	96	564	0.682	381	1.3	2.2	21.184	C
C-AB	20	5	509	0.039	20	0.0	0.0	8.087	A
C-A	523	131			523				
A-B	0	0			0				
A-C	656	164			656				

#### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	471	118	523	0.901	454	2.2	6.5	48.566	E
C-AB	24	6	472	0.051	24	0.0	0.1	8.833	A
C-A	641	160			641				
A-B	0	0			0				
A-C	803	201			803				

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	471	118	523	0.901	467	6.5	7.6	62.445	F
C-AB	24	6	472	0.051	24	0.1	0.1	8.834	A
C-A	641	160			641				
A-B	0	0			0				
A-C	803	201			803				

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	385	96	564	0.682	405	7.6	2.5	27.456	D
C-AB	20	5	509	0.039	20	0.1	0.0	8.091	A
C-A	523	131			523				
A-B	0	0			0				
A-C	656	164			656				

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	322	81	594	0.543	327	2.5	1.3	15.090	C
C-AB	17	4	536	0.031	17	0.0	0.0	7.621	A
C-A	438	110			438				
A-B	0	0			0				
A-C	549	137			549				



### Queue Variation Results for each time segment

#### 07:15 - 07:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.26	0.61	1.13	1.26	1.26			N/A	N/A
C-AB	0.03	0.00	0.00	0.03	0.03			N/A	N/A

#### 07:30 - 07:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.21	0.09	1.37	5.03	6.97			N/A	N/A
C-AB	0.04	0.03	0.28	0.50	0.53			N/A	N/A

#### 07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	6.49	0.08	1.27	18.25	28.03			N/A	N/A
C-AB	0.06	0.03	0.28	0.51	0.54			N/A	N/A

#### 08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	7.58	0.05	0.54	21.76	38.88			N/A	N/A
C-AB	0.06	0.00	0.00	0.06	0.06			N/A	N/A

#### 08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.54	0.04	0.44	6.83	12.71			N/A	N/A
C-AB	0.04	0.00	0.00	0.04	0.04			N/A	N/A

#### 08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.35	0.03	0.34	2.34	6.85			N/A	N/A
C-AB	0.04	0.00	0.00	0.04	0.04			N/A	N/A

# Scenario 1, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.13	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	22	Stream B-AC

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	Scenario 1	PM	2019 PM Survey Year	ONE HOUR	17:00	18:30	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	828	100.000
B		ONE HOUR	✓	43	100.000
C		ONE HOUR	✓	1130	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	4	824
	B	1	0	42
	C	992	138	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.10	9.70	0.1	0.5	A	39	59
C-AB	0.34	13.47	0.6	2.6	B	126	189
C-A						910	1366
A-B						4	6
A-C						756	1134

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	32	8	557	0.058	32	0.0	0.1	7.534	A
C-AB	104	26	517	0.200	102	0.0	0.3	9.517	A
C-A	747	187			747				
A-B	3	0.83			3				
A-C	620	155			620				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	39	10	518	0.074	38	0.1	0.1	8.254	A
C-AB	124	31	487	0.254	123	0.3	0.4	10.870	B
C-A	892	223			892				
A-B	4	0.99			4				
A-C	741	185			741				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	47	12	456	0.104	47	0.1	0.1	9.691	A
C-AB	152	38	446	0.340	151	0.4	0.6	13.401	B
C-A	1092	273			1092				
A-B	5	1			5				
A-C	907	227			907				

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	47	12	455	0.104	47	0.1	0.1	9.699	A
C-AB	152	38	446	0.340	152	0.6	0.6	13.466	B
C-A	1092	273			1092				
A-B	5	1			5				
A-C	907	227			907				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	39	10	518	0.074	39	0.1	0.1	8.264	A
C-AB	124	31	487	0.254	124	0.6	0.4	10.937	B
C-A	892	223			892				
A-B	4	0.99			4				
A-C	741	185			741				

**18:15 - 18:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	32	8	557	0.058	32	0.1	0.1	7.543	A
C-AB	104	26	517	0.200	104	0.4	0.3	9.585	A
C-A	747	187			747				
A-B	3	0.83			3				
A-C	620	155			620				

**Queue Variation Results for each time segment**
**17:00 - 17:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.07	0.00	0.00	0.07	0.07			N/A	N/A
C-AB	0.27	0.00	0.00	0.27	0.27			N/A	N/A

**17:15 - 17:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.09	0.03	0.29	0.52	0.55			N/A	N/A
C-AB	0.37	0.00	0.00	0.37	0.37			N/A	N/A

**17:30 - 17:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.13	0.03	0.29	0.52	0.54			N/A	N/A
C-AB	0.56	0.03	0.28	0.56	0.56			N/A	N/A

**17:45 - 18:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.13	0.03	0.28	0.50	0.52			N/A	N/A
C-AB	0.56	0.03	0.33	1.54	2.56			N/A	N/A

**18:00 - 18:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.09	0.00	0.00	0.09	0.09			N/A	N/A
C-AB	0.38	0.00	0.00	0.38	0.38			N/A	N/A

**18:15 - 18:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.07	0.00	0.00	0.07	0.07			N/A	N/A
C-AB	0.28	0.00	0.00	0.28	0.28			N/A	N/A

# Scenario 2, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	21.06	C

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-11	Stream B-AC

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	Scenario 2	AM	2024 AM without Dev	ONE HOUR	07:15	08:45	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	722	100.000
B		ONE HOUR	✓	451	100.000
C		ONE HOUR	✓	607	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	722
	B	1	0	450
	C	577	30	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.95	82.53	10.7	47.4	F	414	621
C-AB	0.07	8.97	0.1	0.5	A	28	41
C-A						529	794
A-B						0	0
A-C						663	994

### Main Results for each time segment

#### 07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	340	85	595	0.570	334	0.0	1.4	14.857	B
C-AB	23	6	538	0.042	22	0.0	0.0	7.685	A
C-A	434	109			434				
A-B	0	0			0				
A-C	544	136			544				

#### 07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	406	101	566	0.717	401	1.4	2.6	23.348	C
C-AB	27	7	511	0.053	27	0.0	0.1	8.178	A
C-A	519	130			519				
A-B	0	0			0				
A-C	649	162			649				

#### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	497	124	525	0.946	473	2.6	8.5	58.681	F
C-AB	33	8	474	0.070	33	0.1	0.1	8.969	A
C-A	635	159			635				
A-B	0	0			0				
A-C	795	199			795				

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	497	124	525	0.946	488	8.5	10.7	82.525	F
C-AB	33	8	474	0.070	33	0.1	0.1	8.970	A
C-A	635	159			635				
A-B	0	0			0				
A-C	795	199			795				



**08:15 - 08:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	406	101	566	0.717	436	10.7	3.1	35.744	E
C-AB	27	7	511	0.053	27	0.1	0.1	8.182	A
C-A	519	130			519				
A-B	0	0			0				
A-C	649	162			649				

**08:30 - 08:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	340	85	595	0.570	346	3.1	1.5	16.238	C
C-AB	23	6	538	0.042	23	0.1	0.0	7.691	A
C-A	434	109			434				
A-B	0	0			0				
A-C	544	136			544				

**Queue Variation Results for each time segment**
**07:15 - 07:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.41	0.62	1.27	1.74	1.97			N/A	N/A
C-AB	0.05	0.00	0.00	0.05	0.05			N/A	N/A

**07:30 - 07:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.56	0.09	1.47	6.04	8.45			N/A	N/A
C-AB	0.06	0.03	0.28	0.50	0.53			N/A	N/A

**07:45 - 08:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	8.53	0.14	3.40	22.43	31.96			N/A	N/A
C-AB	0.08	0.03	0.29	0.51	0.54			N/A	N/A

**08:00 - 08:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	10.71	0.09	2.18	30.66	47.39			N/A	N/A
C-AB	0.08	0.00	0.00	0.08	0.08			N/A	N/A

**08:15 - 08:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.06	0.04	0.44	8.25	15.57			N/A	N/A
C-AB	0.06	0.00	0.00	0.06	0.06			N/A	N/A

**08:30 - 08:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.52	0.03	0.34	2.22	7.52			N/A	N/A
C-AB	0.05	0.00	0.00	0.05	0.05			N/A	N/A

# Scenario 2, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.33	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	22	Stream B-AC

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	Scenario 2	PM	2024 PM without Dev	ONE HOUR	17:00	18:30	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	821	100.000
B		ONE HOUR	✓	47	100.000
C		ONE HOUR	✓	1138	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	5	816
	B	1	0	46
	C	983	155	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.11	9.64	0.1	0.5	A	43	65
C-AB	0.38	14.29	0.7	3.2	B	142	214
C-A						902	1353
A-B						5	7
A-C						749	1123

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	35	9	562	0.063	35	0.0	0.1	7.519	A
C-AB	117	29	519	0.225	115	0.0	0.3	9.787	A
C-A	740	185			740				
A-B	4	0.94			4				
A-C	614	154			614				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	42	11	523	0.081	42	0.1	0.1	8.231	A
C-AB	139	35	489	0.285	139	0.3	0.4	11.299	B
C-A	884	221			884				
A-B	4	1			4				
A-C	734	183			734				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	52	13	463	0.112	52	0.1	0.1	9.631	A
C-AB	171	43	448	0.382	170	0.4	0.7	14.197	B
C-A	1082	270			1082				
A-B	6	1			6				
A-C	898	225			898				

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	52	13	462	0.112	52	0.1	0.1	9.641	A
C-AB	171	43	448	0.382	171	0.7	0.7	14.286	B
C-A	1082	270			1082				
A-B	6	1			6				
A-C	898	225			898				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	42	11	523	0.081	42	0.1	0.1	8.240	A
C-AB	139	35	489	0.285	140	0.7	0.4	11.392	B
C-A	884	221			884				
A-B	4	1			4				
A-C	734	183			734				

**18:15 - 18:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	35	9	561	0.063	35	0.1	0.1	7.529	A
C-AB	117	29	519	0.225	117	0.4	0.3	9.873	A
C-A	740	185			740				
A-B	4	0.94			4				
A-C	614	154			614				

**Queue Variation Results for each time segment**
**17:00 - 17:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.07	0.00	0.00	0.07	0.07			N/A	N/A
C-AB	0.31	0.00	0.00	0.31	0.31			N/A	N/A

**17:15 - 17:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.10	0.03	0.28	0.50	0.52			N/A	N/A
C-AB	0.43	0.00	0.00	0.43	0.43			N/A	N/A

**17:30 - 17:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.14	0.03	0.29	0.51	0.54			N/A	N/A
C-AB	0.66	0.03	0.28	0.66	0.66			N/A	N/A

**17:45 - 18:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.14	0.03	0.28	0.50	0.52			N/A	N/A
C-AB	0.67	0.03	0.33	1.53	3.16			N/A	N/A

**18:00 - 18:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.10	0.00	0.00	0.10	0.10			N/A	N/A
C-AB	0.45	0.03	0.32	0.81	1.23			N/A	N/A

**18:15 - 18:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.07	0.00	0.00	0.07	0.07			N/A	N/A
C-AB	0.32	0.03	0.28	0.50	0.53			N/A	N/A

# Scenario 3, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	44.93	E

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-18	Stream B-AC

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	Scenario 3	AM	2029 AM without Dev	ONE HOUR	07:15	08:45	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	788	100.000
B		ONE HOUR	✓	488	100.000
C		ONE HOUR	✓	660	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	788
	B	1	0	487
	C	628	32	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	1.06	177.63	27.3	67.4	F	448	672
C-AB	0.08	9.41	0.1	0.5	A	29	44
C-A						576	864
A-B						0	0
A-C						723	1085

### Main Results for each time segment

#### 07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	367	92	582	0.632	360	0.0	1.8	17.381	C
C-AB	24	6	525	0.046	24	0.0	0.1	7.898	A
C-A	473	118			473				
A-B	0	0			0				
A-C	593	148			593				

#### 07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	439	110	549	0.798	431	1.8	3.7	31.437	D
C-AB	29	7	496	0.058	29	0.1	0.1	8.470	A
C-A	565	141			565				
A-B	0	0			0				
A-C	708	177			708				

#### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	537	134	505	1.064	483	3.7	17.3	99.100	F
C-AB	35	9	456	0.077	35	0.1	0.1	9.402	A
C-A	691	173			691				
A-B	0	0			0				
A-C	868	217			868				

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	537	134	505	1.064	497	17.3	27.3	177.635	F
C-AB	35	9	456	0.077	35	0.1	0.1	9.406	A
C-A	691	173			691				
A-B	0	0			0				
A-C	868	217			868				



**08:15 - 08:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	439	110	549	0.798	523	27.3	6.3	121.993	F
C-AB	29	7	496	0.058	29	0.1	0.1	8.475	A
C-A	565	141			565				
A-B	0	0			0				
A-C	708	177			708				

**08:30 - 08:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	367	92	582	0.632	384	6.2	2.0	21.601	C
C-AB	24	6	525	0.046	24	0.1	0.1	7.908	A
C-A	473	118			473				
A-B	0	0			0				
A-C	593	148			593				

**Queue Variation Results for each time segment**
**07:15 - 07:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.79	0.56	1.63	2.66	3.14			N/A	N/A
C-AB	0.05	0.00	0.00	0.05	0.05			N/A	N/A

**07:30 - 07:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.75	0.11	1.52	9.14	12.78			N/A	N/A
C-AB	0.07	0.03	0.28	0.50	0.53			N/A	N/A

**07:45 - 08:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	17.27	1.84	13.45	34.50	42.84			N/A	N/A
C-AB	0.09	0.03	0.29	0.51	0.54			N/A	N/A

**08:00 - 08:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	27.32	3.44	21.74	54.47	67.39			N/A	N/A
C-AB	0.09	0.00	0.00	0.09	0.09			N/A	N/A

**08:15 - 08:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	6.25	0.06	1.17	17.94	29.13			N/A	N/A
C-AB	0.07	0.00	0.00	0.07	0.07			N/A	N/A

**08:30 - 08:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.99	0.03	0.33	1.99	8.95			N/A	N/A
C-AB	0.05	0.00	0.00	0.05	0.05			N/A	N/A

# Scenario 3, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.49	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	12	Stream B-AC

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	Scenario 3	PM	2029 PM without Dev	ONE HOUR	17:00	18:30	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	895	100.000
B		ONE HOUR	✓	51	100.000
C		ONE HOUR	✓	1237	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	5	890
	B	1	0	50
	C	1070	167	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.13	10.73	0.2	0.5	B	47	70
C-AB	0.43	16.20	0.8	3.8	C	154	230
C-A						981	1472
A-B						5	7
A-C						817	1225

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	38	10	545	0.070	38	0.0	0.1	7.801	A
C-AB	126	31	505	0.249	124	0.0	0.4	10.369	B
C-A	806	201			806				
A-B	4	0.94			4				
A-C	670	168			670				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	46	11	503	0.091	46	0.1	0.1	8.667	A
C-AB	150	38	472	0.318	150	0.4	0.5	12.252	B
C-A	962	240			962				
A-B	4	1			4				
A-C	800	200			800				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	56	14	426	0.132	56	0.1	0.2	10.704	B
C-AB	185	46	429	0.431	184	0.5	0.8	16.050	C
C-A	1177	294			1177				
A-B	6	1			6				
A-C	980	245			980				

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	56	14	425	0.132	56	0.2	0.2	10.726	B
C-AB	185	46	429	0.431	185	0.8	0.8	16.202	C
C-A	1177	294			1177				
A-B	6	1			6				
A-C	980	245			980				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	46	11	502	0.091	46	0.2	0.1	8.683	A
C-AB	150	38	472	0.318	151	0.8	0.5	12.389	B
C-A	962	240			962				
A-B	4	1			4				
A-C	800	200			800				

**18:15 - 18:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	38	10	545	0.070	39	0.1	0.1	7.817	A
C-AB	126	31	505	0.249	126	0.5	0.4	10.480	B
C-A	806	201			806				
A-B	4	0.94			4				
A-C	670	168			670				

**Queue Variation Results for each time segment**
**17:00 - 17:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.08	0.00	0.00	0.08	0.08			N/A	N/A
C-AB	0.36	0.00	0.00	0.36	0.36			N/A	N/A

**17:15 - 17:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.11	0.00	0.00	0.11	0.11			N/A	N/A
C-AB	0.50	0.00	0.00	0.50	0.50			N/A	N/A

**17:30 - 17:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.16	0.03	0.29	0.51	0.54			N/A	N/A
C-AB	0.81	0.03	0.29	0.81	0.81			N/A	N/A

**17:45 - 18:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.17	0.03	0.28	0.50	0.52			N/A	N/A
C-AB	0.82	0.03	0.32	1.52	3.82			N/A	N/A

**18:00 - 18:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.11	0.00	0.00	0.11	0.11			N/A	N/A
C-AB	0.52	0.05	0.46	1.37	1.51			N/A	N/A

**18:15 - 18:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.08	0.00	0.00	0.08	0.08			N/A	N/A
C-AB	0.37	0.03	0.31	0.72	1.19			N/A	N/A

# Scenario 4, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	109.25	F

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-26	Stream B-AC

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	Scenario 4	AM	2039 AM without Dev	ONE HOUR	07:15	08:45	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	882	100.000
B		ONE HOUR	✓	539	100.000
C		ONE HOUR	✓	737	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	882
	B	1	0	538
	C	702	35	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	1.25	436.75	67.7	109.5	F	495	742
C-AB	0.09	10.11	0.1	0.5	B	32	48
C-A						644	966
A-B						0	0
A-C						809	1214

### Main Results for each time segment

#### 07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	406	101	562	0.722	395	0.0	2.6	22.565	C
C-AB	26	7	507	0.052	26	0.0	0.1	8.225	A
C-A	529	132			529				
A-B	0	0			0				
A-C	664	166			664				

#### 07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	485	121	526	0.921	466	2.6	7.4	53.442	F
C-AB	31	8	475	0.066	31	0.1	0.1	8.926	A
C-A	631	158			631				
A-B	0	0			0				
A-C	793	198			793				

#### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	593	148	476	1.247	471	7.4	38.1	194.381	F
C-AB	39	10	430	0.090	38	0.1	0.1	10.102	B
C-A	773	193			773				
A-B	0	0			0				
A-C	971	243			971				

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	593	148	476	1.247	475	38.1	67.7	404.742	F
C-AB	39	10	430	0.090	39	0.1	0.1	10.108	B
C-A	773	193			773				
A-B	0	0			0				
A-C	971	243			971				



**08:15 - 08:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	485	121	526	0.921	517	67.7	59.5	436.753	F
C-AB	31	8	475	0.066	32	0.1	0.1	8.935	A
C-A	631	158			631				
A-B	0	0			0				
A-C	793	198			793				

**08:30 - 08:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	406	101	562	0.722	552	59.5	23.0	274.522	F
C-AB	26	7	507	0.052	26	0.1	0.1	8.236	A
C-A	529	132			529				
A-B	0	0			0				
A-C	664	166			664				

**Queue Variation Results for each time segment**
**07:15 - 07:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.61	0.08	1.39	6.35	9.05			N/A	N/A
C-AB	0.06	0.00	0.00	0.06	0.06			N/A	N/A

**07:30 - 07:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	7.37	0.22	3.88	17.76	24.14			N/A	N/A
C-AB	0.08	0.03	0.28	0.50	0.53			N/A	N/A

**07:45 - 08:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	38.09	15.31	35.27	59.27	67.60			N/A	N/A
C-AB	0.11	0.03	0.29	0.52	0.54			N/A	N/A

**08:00 - 08:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	67.69	33.92	64.50	98.19	109.47			N/A	N/A
C-AB	0.11	0.03	0.28	0.50	0.52			N/A	N/A

**08:15 - 08:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	59.46	24.39	55.41	92.59	105.46			N/A	N/A
C-AB	0.08	0.00	0.00	0.08	0.08			N/A	N/A

**08:30 - 08:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	22.98	3.63	18.82	43.94	53.63			N/A	N/A
C-AB	0.06	0.00	0.00	0.06	0.06			N/A	N/A

# Scenario 4, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.96	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	1	Stream B-AC

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	Scenario 4	PM	2039 PM without Dev	ONE HOUR	17:00	18:30	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1000	100.000
B		ONE HOUR	✓	56	100.000
C		ONE HOUR	✓	1376	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	6	994
	B	1	0	55
	C	1193	183	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.24	19.88	0.3	1.4	C	51	77
C-AB	0.51	19.70	1.1	5.1	C	170	254
C-A						1093	1640
A-B						6	8
A-C						912	1368

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	42	11	522	0.081	42	0.0	0.1	8.236	A
C-AB	138	34	485	0.284	136	0.0	0.4	11.292	B
C-A	898	225			898				
A-B	5	1			5				
A-C	748	187			748				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	50	13	471	0.107	50	0.1	0.1	9.419	A
C-AB	165	41	449	0.367	164	0.4	0.6	13.852	B
C-A	1072	268			1072				
A-B	5	1			5				
A-C	894	223			894				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	62	15	267	0.231	61	0.1	0.3	19.124	C
C-AB	206	52	407	0.507	204	0.6	1.1	19.363	C
C-A	1309	327			1309				
A-B	7	2			7				
A-C	1094	274			1094				

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	62	15	261	0.237	62	0.3	0.3	19.882	C
C-AB	206	52	407	0.507	206	1.1	1.1	19.704	C
C-A	1309	327			1309				
A-B	7	2			7				
A-C	1094	274			1094				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	50	13	470	0.107	51	0.3	0.1	9.466	A
C-AB	165	41	449	0.367	167	1.1	0.7	14.116	B
C-A	1072	268			1072				
A-B	5	1			5				
A-C	894	223			894				

**18:15 - 18:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	42	11	522	0.081	42	0.1	0.1	8.263	A
C-AB	138	34	485	0.284	139	0.7	0.4	11.456	B
C-A	898	225			898				
A-B	5	1			5				
A-C	748	187			748				

**Queue Variation Results for each time segment**
**17:00 - 17:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.10	0.00	0.00	0.10	0.10			N/A	N/A
C-AB	0.43	0.00	0.00	0.43	0.43			N/A	N/A

**17:15 - 17:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.13	0.00	0.00	0.13	0.13			N/A	N/A
C-AB	0.62	0.61	1.10	1.54	1.60			N/A	N/A

**17:30 - 17:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.32	0.03	0.29	0.52	0.55			N/A	N/A
C-AB	1.10	0.03	0.30	1.10	2.11			N/A	N/A

**17:45 - 18:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.33	0.03	0.34	1.07	1.37			N/A	N/A
C-AB	1.13	0.03	0.32	1.60	5.05			N/A	N/A

**18:00 - 18:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.13	0.00	0.00	0.13	0.13			N/A	N/A
C-AB	0.65	0.06	0.63	1.48	1.59			N/A	N/A

**18:15 - 18:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.10	0.00	0.00	0.10	0.10			N/A	N/A
C-AB	0.44	0.04	0.39	1.29	1.48			N/A	N/A

# Scenario 5, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	21.00	C

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-11	Stream B-AC

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	Scenario 5	AM	2024 AM with Dev	ONE HOUR	07:15	08:45	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	722	100.000
B		ONE HOUR	✓	451	100.000
C		ONE HOUR	✓	607	100.000

## Origin-Destination Data

### Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	0	722
	B	1	0	450
	C	577	30	0

## Vehicle Mix

### Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.95	82.28	10.7	47.3	F	414	621
C-AB	0.07	8.97	0.1	0.5	A	28	41
C-A						529	794
A-B						0	0
A-C						663	994

### Main Results for each time segment

#### 07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	340	85	595	0.570	334	0.0	1.4	14.848	B
C-AB	23	6	538	0.042	22	0.0	0.0	7.685	A
C-A	434	109			434				
A-B	0	0			0				
A-C	544	136			544				

#### 07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	405	101	566	0.716	401	1.4	2.6	23.326	C
C-AB	27	7	511	0.053	27	0.0	0.1	8.178	A
C-A	519	130			519				
A-B	0	0			0				
A-C	649	162			649				

#### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	497	124	525	0.946	473	2.6	8.5	58.565	F
C-AB	33	8	474	0.070	33	0.1	0.1	8.969	A
C-A	635	159			635				
A-B	0	0			0				
A-C	795	199			795				

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	497	124	525	0.946	488	8.5	10.7	82.284	F
C-AB	33	8	474	0.070	33	0.1	0.1	8.970	A
C-A	635	159			635				
A-B	0	0			0				
A-C	795	199			795				



**08:15 - 08:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	405	101	566	0.716	436	10.7	3.1	35.634	E
C-AB	27	7	511	0.053	27	0.1	0.1	8.182	A
C-A	519	130			519				
A-B	0	0			0				
A-C	649	162			649				

**08:30 - 08:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	340	85	595	0.570	346	3.1	1.5	16.225	C
C-AB	23	6	538	0.042	23	0.1	0.0	7.691	A
C-A	434	109			434				
A-B	0	0			0				
A-C	544	136			544				

**Queue Variation Results for each time segment**
**07:15 - 07:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.40	0.62	1.27	1.74	1.97			N/A	N/A
C-AB	0.05	0.00	0.00	0.05	0.05			N/A	N/A

**07:30 - 07:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.56	0.09	1.47	6.03	8.44			N/A	N/A
C-AB	0.06	0.03	0.28	0.50	0.53			N/A	N/A

**07:45 - 08:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	8.51	0.14	3.37	22.39	31.91			N/A	N/A
C-AB	0.08	0.03	0.29	0.51	0.54			N/A	N/A

**08:00 - 08:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	10.67	0.09	2.15	30.57	47.30			N/A	N/A
C-AB	0.08	0.00	0.00	0.08	0.08			N/A	N/A

**08:15 - 08:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.06	0.04	0.44	8.24	15.54			N/A	N/A
C-AB	0.06	0.00	0.00	0.06	0.06			N/A	N/A

**08:30 - 08:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.52	0.03	0.34	2.22	7.52			N/A	N/A
C-AB	0.05	0.00	0.00	0.05	0.05			N/A	N/A

# Scenario 5, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.33	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	22	Stream B-AC

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	Scenario 5	PM	2024 PM with Dev	ONE HOUR	17:00	18:30	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	821	100.000
B		ONE HOUR	✓	47	100.000
C		ONE HOUR	✓	1138	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	5	816
	B	1	0	46
	C	983	155	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.11	9.64	0.1	0.5	A	43	65
C-AB	0.38	14.29	0.7	3.2	B	142	214
C-A						902	1353
A-B						5	7
A-C						749	1123

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	35	9	562	0.063	35	0.0	0.1	7.519	A
C-AB	117	29	519	0.225	115	0.0	0.3	9.787	A
C-A	740	185			740				
A-B	4	0.94			4				
A-C	614	154			614				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	42	11	523	0.081	42	0.1	0.1	8.231	A
C-AB	139	35	489	0.285	139	0.3	0.4	11.299	B
C-A	884	221			884				
A-B	4	1			4				
A-C	734	183			734				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	52	13	463	0.112	52	0.1	0.1	9.631	A
C-AB	171	43	448	0.382	170	0.4	0.7	14.197	B
C-A	1082	270			1082				
A-B	6	1			6				
A-C	898	225			898				

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	52	13	462	0.112	52	0.1	0.1	9.641	A
C-AB	171	43	448	0.382	171	0.7	0.7	14.286	B
C-A	1082	270			1082				
A-B	6	1			6				
A-C	898	225			898				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	42	11	523	0.081	42	0.1	0.1	8.240	A
C-AB	139	35	489	0.285	140	0.7	0.4	11.392	B
C-A	884	221			884				
A-B	4	1			4				
A-C	734	183			734				

**18:15 - 18:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	35	9	561	0.063	35	0.1	0.1	7.529	A
C-AB	117	29	519	0.225	117	0.4	0.3	9.873	A
C-A	740	185			740				
A-B	4	0.94			4				
A-C	614	154			614				

**Queue Variation Results for each time segment**
**17:00 - 17:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.07	0.00	0.00	0.07	0.07			N/A	N/A
C-AB	0.31	0.00	0.00	0.31	0.31			N/A	N/A

**17:15 - 17:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.10	0.03	0.28	0.50	0.52			N/A	N/A
C-AB	0.43	0.00	0.00	0.43	0.43			N/A	N/A

**17:30 - 17:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.14	0.03	0.29	0.51	0.54			N/A	N/A
C-AB	0.66	0.03	0.28	0.66	0.66			N/A	N/A

**17:45 - 18:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.14	0.03	0.28	0.50	0.52			N/A	N/A
C-AB	0.67	0.03	0.33	1.53	3.16			N/A	N/A

**18:00 - 18:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.10	0.00	0.00	0.10	0.10			N/A	N/A
C-AB	0.45	0.03	0.32	0.81	1.23			N/A	N/A

**18:15 - 18:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.07	0.00	0.00	0.07	0.07			N/A	N/A
C-AB	0.32	0.03	0.28	0.50	0.53			N/A	N/A

# Scenario 6, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	44.93	E

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-18	Stream B-AC

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	Scenario 6	AM	2029 AM with Dev	ONE HOUR	07:15	08:45	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	788	100.000
B		ONE HOUR	✓	488	100.000
C		ONE HOUR	✓	660	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	788
	B	1	0	487
	C	628	32	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	1.06	177.63	27.3	67.4	F	448	672
C-AB	0.08	9.41	0.1	0.5	A	29	44
C-A						576	864
A-B						0	0
A-C						723	1085

### Main Results for each time segment

#### 07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	367	92	582	0.632	360	0.0	1.8	17.381	C
C-AB	24	6	525	0.046	24	0.0	0.1	7.898	A
C-A	473	118			473				
A-B	0	0			0				
A-C	593	148			593				

#### 07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	439	110	549	0.798	431	1.8	3.7	31.437	D
C-AB	29	7	496	0.058	29	0.1	0.1	8.470	A
C-A	565	141			565				
A-B	0	0			0				
A-C	708	177			708				

#### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	537	134	505	1.064	483	3.7	17.3	99.100	F
C-AB	35	9	456	0.077	35	0.1	0.1	9.402	A
C-A	691	173			691				
A-B	0	0			0				
A-C	868	217			868				

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	537	134	505	1.064	497	17.3	27.3	177.635	F
C-AB	35	9	456	0.077	35	0.1	0.1	9.406	A
C-A	691	173			691				
A-B	0	0			0				
A-C	868	217			868				



**08:15 - 08:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	439	110	549	0.798	523	27.3	6.3	121.993	F
C-AB	29	7	496	0.058	29	0.1	0.1	8.475	A
C-A	565	141			565				
A-B	0	0			0				
A-C	708	177			708				

**08:30 - 08:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	367	92	582	0.632	384	6.2	2.0	21.601	C
C-AB	24	6	525	0.046	24	0.1	0.1	7.908	A
C-A	473	118			473				
A-B	0	0			0				
A-C	593	148			593				

**Queue Variation Results for each time segment**
**07:15 - 07:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.79	0.56	1.63	2.66	3.14			N/A	N/A
C-AB	0.05	0.00	0.00	0.05	0.05			N/A	N/A

**07:30 - 07:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	3.75	0.11	1.52	9.14	12.78			N/A	N/A
C-AB	0.07	0.03	0.28	0.50	0.53			N/A	N/A

**07:45 - 08:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	17.27	1.84	13.45	34.50	42.84			N/A	N/A
C-AB	0.09	0.03	0.29	0.51	0.54			N/A	N/A

**08:00 - 08:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	27.32	3.44	21.74	54.47	67.39			N/A	N/A
C-AB	0.09	0.00	0.00	0.09	0.09			N/A	N/A

**08:15 - 08:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	6.25	0.06	1.17	17.94	29.13			N/A	N/A
C-AB	0.07	0.00	0.00	0.07	0.07			N/A	N/A

**08:30 - 08:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	1.99	0.03	0.33	1.99	8.95			N/A	N/A
C-AB	0.05	0.00	0.00	0.05	0.05			N/A	N/A

# Scenario 6, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.49	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	12	Stream B-AC

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	Scenario 6	PM	2029 PM with Dev	ONE HOUR	17:00	18:30	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	895	100.000
B		ONE HOUR	✓	51	100.000
C		ONE HOUR	✓	1237	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	5	890
	B	1	0	50
	C	1070	167	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.13	10.73	0.2	0.5	B	47	70
C-AB	0.43	16.20	0.8	3.8	C	154	230
C-A						981	1472
A-B						5	7
A-C						817	1225

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	38	10	545	0.070	38	0.0	0.1	7.801	A
C-AB	126	31	505	0.249	124	0.0	0.4	10.369	B
C-A	806	201			806				
A-B	4	0.94			4				
A-C	670	168			670				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	46	11	503	0.091	46	0.1	0.1	8.667	A
C-AB	150	38	472	0.318	150	0.4	0.5	12.252	B
C-A	962	240			962				
A-B	4	1			4				
A-C	800	200			800				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	56	14	426	0.132	56	0.1	0.2	10.704	B
C-AB	185	46	429	0.431	184	0.5	0.8	16.050	C
C-A	1177	294			1177				
A-B	6	1			6				
A-C	980	245			980				

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	56	14	425	0.132	56	0.2	0.2	10.726	B
C-AB	185	46	429	0.431	185	0.8	0.8	16.202	C
C-A	1177	294			1177				
A-B	6	1			6				
A-C	980	245			980				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	46	11	502	0.091	46	0.2	0.1	8.683	A
C-AB	150	38	472	0.318	151	0.8	0.5	12.389	B
C-A	962	240			962				
A-B	4	1			4				
A-C	800	200			800				

**18:15 - 18:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	38	10	545	0.070	39	0.1	0.1	7.817	A
C-AB	126	31	505	0.249	126	0.5	0.4	10.480	B
C-A	806	201			806				
A-B	4	0.94			4				
A-C	670	168			670				

**Queue Variation Results for each time segment**
**17:00 - 17:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.08	0.00	0.00	0.08	0.08			N/A	N/A
C-AB	0.36	0.00	0.00	0.36	0.36			N/A	N/A

**17:15 - 17:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.11	0.00	0.00	0.11	0.11			N/A	N/A
C-AB	0.50	0.00	0.00	0.50	0.50			N/A	N/A

**17:30 - 17:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.16	0.03	0.29	0.51	0.54			N/A	N/A
C-AB	0.81	0.03	0.29	0.81	0.81			N/A	N/A

**17:45 - 18:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.17	0.03	0.28	0.50	0.52			N/A	N/A
C-AB	0.82	0.03	0.32	1.52	3.82			N/A	N/A

**18:00 - 18:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.11	0.00	0.00	0.11	0.11			N/A	N/A
C-AB	0.52	0.05	0.46	1.37	1.51			N/A	N/A

**18:15 - 18:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.08	0.00	0.00	0.08	0.08			N/A	N/A
C-AB	0.37	0.03	0.31	0.72	1.19			N/A	N/A

# Scenario 7, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	109.25	F

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-26	Stream B-AC

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	Scenario 7	AM	2039 AM with Dev	ONE HOUR	07:15	08:45	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	882	100.000
B		ONE HOUR	✓	539	100.000
C		ONE HOUR	✓	737	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	882
	B	1	0	538
	C	702	35	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	1.25	436.75	67.7	109.5	F	495	742
C-AB	0.09	10.11	0.1	0.5	B	32	48
C-A						644	966
A-B						0	0
A-C						809	1214

### Main Results for each time segment

#### 07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	406	101	562	0.722	395	0.0	2.6	22.565	C
C-AB	26	7	507	0.052	26	0.0	0.1	8.225	A
C-A	529	132			529				
A-B	0	0			0				
A-C	664	166			664				

#### 07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	485	121	526	0.921	466	2.6	7.4	53.442	F
C-AB	31	8	475	0.066	31	0.1	0.1	8.926	A
C-A	631	158			631				
A-B	0	0			0				
A-C	793	198			793				

#### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	593	148	476	1.247	471	7.4	38.1	194.381	F
C-AB	39	10	430	0.090	38	0.1	0.1	10.102	B
C-A	773	193			773				
A-B	0	0			0				
A-C	971	243			971				

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	593	148	476	1.247	475	38.1	67.7	404.742	F
C-AB	39	10	430	0.090	39	0.1	0.1	10.108	B
C-A	773	193			773				
A-B	0	0			0				
A-C	971	243			971				



**08:15 - 08:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	485	121	526	0.921	517	67.7	59.5	436.753	F
C-AB	31	8	475	0.066	32	0.1	0.1	8.935	A
C-A	631	158			631				
A-B	0	0			0				
A-C	793	198			793				

**08:30 - 08:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	406	101	562	0.722	552	59.5	23.0	274.522	F
C-AB	26	7	507	0.052	26	0.1	0.1	8.236	A
C-A	529	132			529				
A-B	0	0			0				
A-C	664	166			664				

**Queue Variation Results for each time segment**
**07:15 - 07:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	2.61	0.08	1.39	6.35	9.05			N/A	N/A
C-AB	0.06	0.00	0.00	0.06	0.06			N/A	N/A

**07:30 - 07:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	7.37	0.22	3.88	17.76	24.14			N/A	N/A
C-AB	0.08	0.03	0.28	0.50	0.53			N/A	N/A

**07:45 - 08:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	38.09	15.31	35.27	59.27	67.60			N/A	N/A
C-AB	0.11	0.03	0.29	0.52	0.54			N/A	N/A

**08:00 - 08:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	67.69	33.92	64.50	98.19	109.47			N/A	N/A
C-AB	0.11	0.03	0.28	0.50	0.52			N/A	N/A

**08:15 - 08:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	59.46	24.39	55.41	92.59	105.46			N/A	N/A
C-AB	0.08	0.00	0.00	0.08	0.08			N/A	N/A

**08:30 - 08:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	22.98	3.63	18.82	43.94	53.63			N/A	N/A
C-AB	0.06	0.00	0.00	0.06	0.06			N/A	N/A

# Scenario 7, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.96	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	1	Stream B-AC

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	Scenario 7	PM	2039 PM with Dev	ONE HOUR	17:00	18:30	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1000	100.000
B		ONE HOUR	✓	56	100.000
C		ONE HOUR	✓	1376	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	6	994
	B	1	0	55
	C	1193	183	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.24	19.88	0.3	1.4	C	51	77
C-AB	0.51	19.70	1.1	5.1	C	170	254
C-A						1093	1640
A-B						6	8
A-C						912	1368

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	42	11	522	0.081	42	0.0	0.1	8.236	A
C-AB	138	34	485	0.284	136	0.0	0.4	11.292	B
C-A	898	225			898				
A-B	5	1			5				
A-C	748	187			748				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	50	13	471	0.107	50	0.1	0.1	9.419	A
C-AB	165	41	449	0.367	164	0.4	0.6	13.852	B
C-A	1072	268			1072				
A-B	5	1			5				
A-C	894	223			894				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	62	15	267	0.231	61	0.1	0.3	19.124	C
C-AB	206	52	407	0.507	204	0.6	1.1	19.363	C
C-A	1309	327			1309				
A-B	7	2			7				
A-C	1094	274			1094				

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	62	15	261	0.237	62	0.3	0.3	19.882	C
C-AB	206	52	407	0.507	206	1.1	1.1	19.704	C
C-A	1309	327			1309				
A-B	7	2			7				
A-C	1094	274			1094				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	50	13	470	0.107	51	0.3	0.1	9.466	A
C-AB	165	41	449	0.367	167	1.1	0.7	14.116	B
C-A	1072	268			1072				
A-B	5	1			5				
A-C	894	223			894				

**18:15 - 18:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	42	11	522	0.081	42	0.1	0.1	8.263	A
C-AB	138	34	485	0.284	139	0.7	0.4	11.456	B
C-A	898	225			898				
A-B	5	1			5				
A-C	748	187			748				

**Queue Variation Results for each time segment**
**17:00 - 17:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.10	0.00	0.00	0.10	0.10			N/A	N/A
C-AB	0.43	0.00	0.00	0.43	0.43			N/A	N/A

**17:15 - 17:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.13	0.00	0.00	0.13	0.13			N/A	N/A
C-AB	0.62	0.61	1.10	1.54	1.60			N/A	N/A

**17:30 - 17:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.32	0.03	0.29	0.52	0.55			N/A	N/A
C-AB	1.10	0.03	0.30	1.10	2.11			N/A	N/A

**17:45 - 18:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.33	0.03	0.34	1.07	1.37			N/A	N/A
C-AB	1.13	0.03	0.32	1.60	5.05			N/A	N/A

**18:00 - 18:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.13	0.00	0.00	0.13	0.13			N/A	N/A
C-AB	0.65	0.06	0.63	1.48	1.59			N/A	N/A

**18:15 - 18:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.10	0.00	0.00	0.10	0.10			N/A	N/A
C-AB	0.44	0.04	0.39	1.29	1.48			N/A	N/A

## **APPENDIX D2**

LinSig Analysis – Signal-controlled Junction between  
R338 Dublin Rd and R338 Coast Road

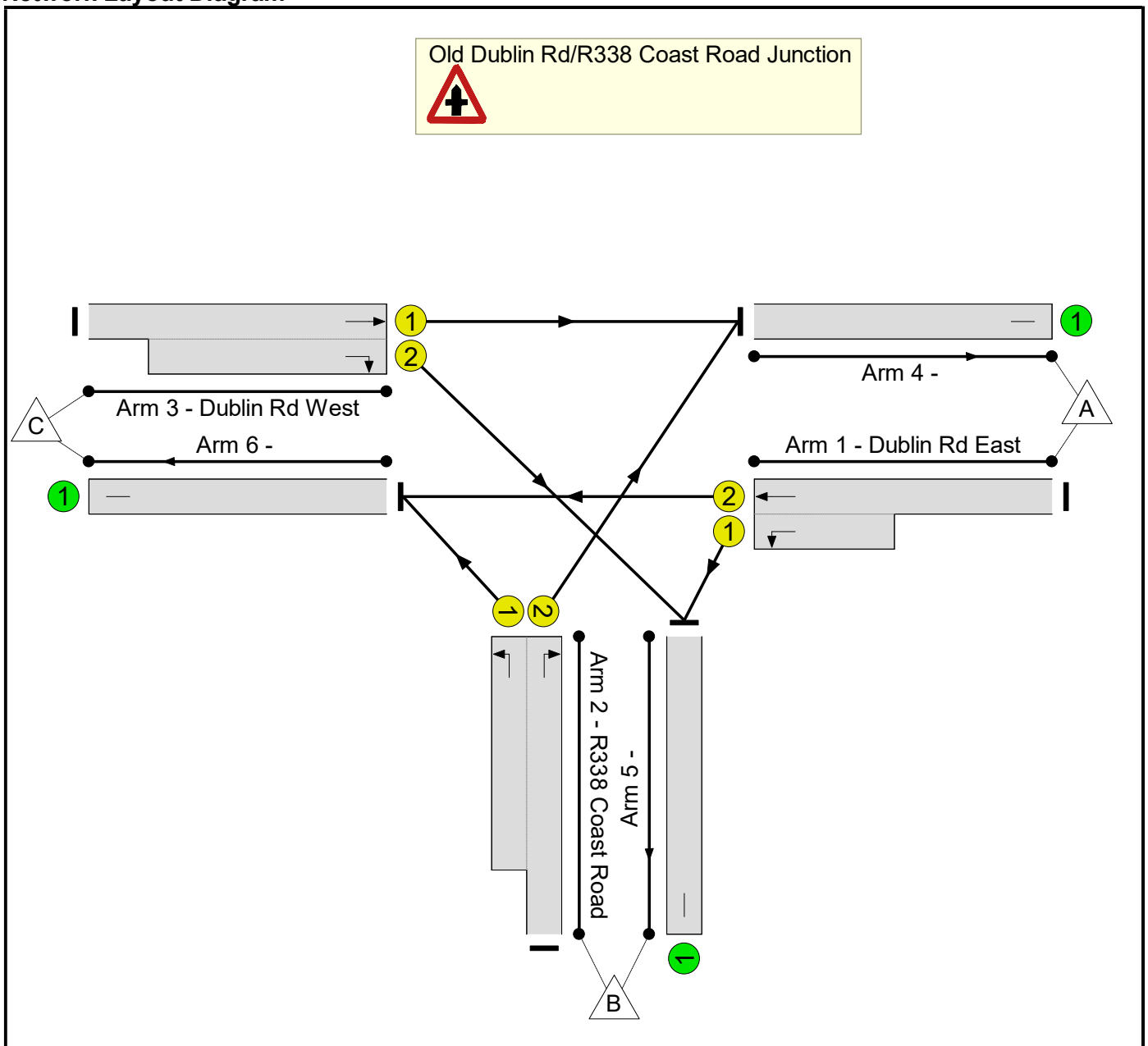


Full Input Data And Results  
**Full Input Data And Results**

**User and Project Details**

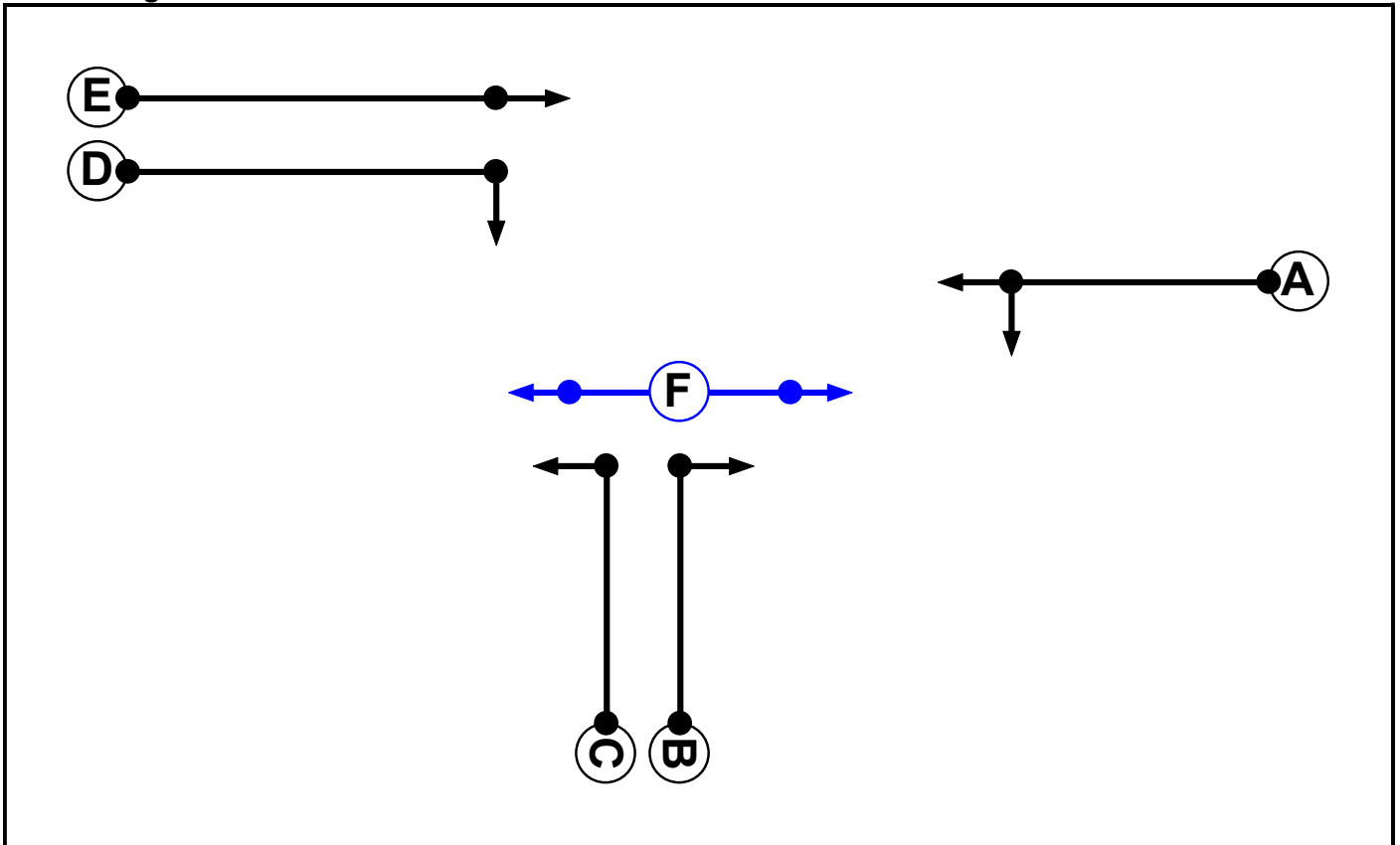
Project:	Proposed Residential Development at Rosshill, Galway City
Title:	Dublin Rd_R338 Junction
Location:	Rosshill, Galway City
File name:	119209 Dublin Rd_R338 Signalised Junction 2021 02 04 Ph 1.lsg3x
Author:	J Noone
Company:	CST Group
Address:	1 O'Connell Street, Sligo
Notes:	

**Network Layout Diagram**





Phase Diagram



Phase Input Data

Phase Name	Phase type	Assoc Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Pedestrian		8	8

## Full Input Data And Results

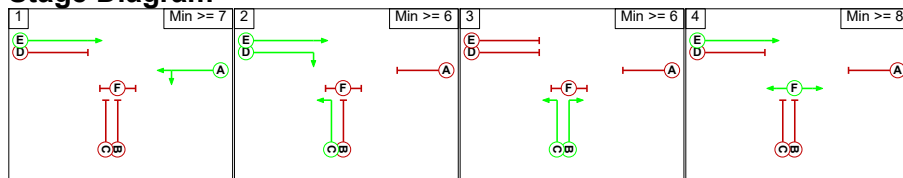
### Phase Intergrens Matrix

		Starting Phase					
		A	B	C	D	E	F
Terminating Phase	A		5	6	5	-	7
	B	5		-	5	5	5
	C	5	-		-	-	5
	D	6	5	-		-	8
	E	-	5	-	-		-
	F	18	18	18	18	-	

### Phases in Stage

Stage No.	Phases in Stage
1	A E
2	C D E
3	B C
4	E F

### Stage Diagram



**Lane Input Data**

Junction: Old Dublin Rd/R338 Coast Road Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Dublin Rd East)	U	A	2	3	6.0	Geom	-	3.40	0.00	Y	Arm 5 Left	20.00
1/2 (Dublin Rd East)	U	A	2	3	60.0	Geom	-	3.40	0.00	Y	Arm 6 Ahead	Inf
2/1 (R338 Coast Road)	U	C	2	3	10.0	Geom	-	3.60	0.00	Y	Arm 6 Left	12.00
2/2 (R338 Coast Road)	U	B	2	3	60.0	Geom	-	3.40	0.00	Y	Arm 4 Right	15.00
3/1 (Dublin Rd West)	U	E	2	3	60.0	Geom	-	3.40	0.00	Y	Arm 4 Ahead	Inf
3/2 (Dublin Rd West)	U	D	2	3	19.0	Geom	-	3.00	0.00	Y	Arm 5 Right	15.00
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: '2019 AM Survey Year'	07:45	08:45	01:00	
2: '2019 PM Survey Year'	16:45	17:45	01:00	
3: '2024 AM without Dev'	07:45	08:45	01:00	
4: '2024 PM without Dev'	16:45	17:45	01:00	
5: '2029 AM without Dev'	07:45	08:45	01:00	
6: '2029 PM without Dev'	16:45	17:45	01:00	
7: '2039 AM without Dev'	07:45	08:45	01:00	
8: '2039 PM without Dev'	16:45	17:45	01:00	
9: '2024 AM with Dev'	07:45	08:45	01:00	F3+F15
10: '2024 PM with Dev'	16:45	17:45	01:00	F4+F16
11: '2029 AM with Dev'	07:45	08:45	01:00	F5+F15
12: '2029 PM with Dev'	16:45	17:45	01:00	F6+F16
13: '2039 AM with Dev'	07:45	08:45	01:00	F7+F15
14: '2039 PM with Dev'	16:45	17:45	01:00	F8+F16

Full Input Data And Results

**Traffic Flows, Desired**

**Scenario 1: '2019 AM Survey Year'** (FG1: '2019 AM Survey Year', Plan 1: 'with Peds')

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	23	355	378
	B	200	0	301	501
	C	406	180	0	586
	Tot.	606	203	656	1465

**Scenario 2: '2019 PM Survey Year'** (FG2: '2019 PM Survey Year', Plan 1: 'with Peds')

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	11	649	660
	B	7	0	184	191
	C	619	284	0	903
	Tot.	626	295	833	1754

**Scenario 3: '2024 AM without Dev'** (FG3: '2024 AM without Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	25	388	413
	B	217	0	328	545
	C	443	196	0	639
	Tot.	660	221	716	1597

**Scenario 4: '2024 PM without Dev'** (FG4: '2024 PM without Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	12	707	719
	B	8	0	200	208
	C	674	310	0	984
	Tot.	682	322	907	1911

Full Input Data And Results

**Scenario 5: '2029 AM without Dev'** (FG5: '2029 AM without Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	27	424	451
	B	236	0	357	593
	C	483	213	0	696
	Tot.	719	240	781	1740

**Scenario 6: '2029 PM without Dev'** (FG6: '2029 PM without Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	13	771	784
	B	9	0	217	226
	C	734	337	0	1071
	Tot.	743	350	988	2081

**Scenario 7: '2039 AM without Dev'** (FG7: '2039 AM without Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	30	477	507
	B	262	0	399	661
	C	540	237	0	777
	Tot.	802	267	876	1945

**Scenario 8: '2039 PM without Dev'** (FG8: '2039 PM without Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	14	862	876
	B	10	0	241	251
	C	818	375	0	1193
	Tot.	828	389	1103	2320

**Scenario 9: '2024 AM with Dev'** (FG9: '2024 AM with Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	25	388	413
	B	219	0	328	547
	C	443	196	0	639
	Tot.	662	221	716	1599

Full Input Data And Results

**Scenario 10: '2024 PM with Dev'** (FG10: '2024 PM with Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	15	707	722
	B	8	0	200	208
	C	674	310	0	984
	Tot.	682	325	907	1914

**Scenario 11: '2029 AM with Dev'** (FG11: '2029 AM with Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	27	424	451
	B	238	0	357	595
	C	483	213	0	696
	Tot.	721	240	781	1742

**Scenario 12: '2029 PM with Dev'** (FG12: '2029 PM with Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	16	771	787
	B	9	0	217	226
	C	734	337	0	1071
	Tot.	743	353	988	2084

**Scenario 13: '2039 AM with Dev'** (FG13: '2039 AM with Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	30	477	507
	B	264	0	399	663
	C	540	237	0	777
	Tot.	804	267	876	1947

**Scenario 14: '2039 PM with Dev'** (FG14: '2039 PM with Dev', Plan 1: 'with Peds')

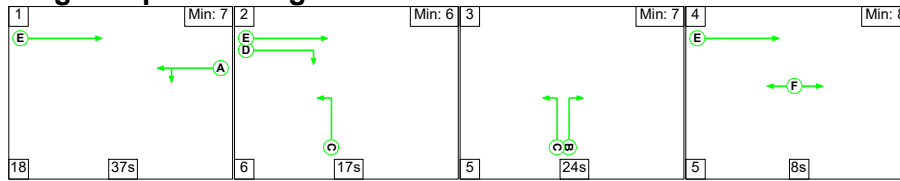
**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	17	862	879
	B	10	0	241	251
	C	818	375	0	1193
	Tot.	828	392	1103	2323

Full Input Data And Results

Scenario 1: '2019 AM Survey Year' (FG1: '2019 AM Survey Year', Plan 1: 'with Peds')

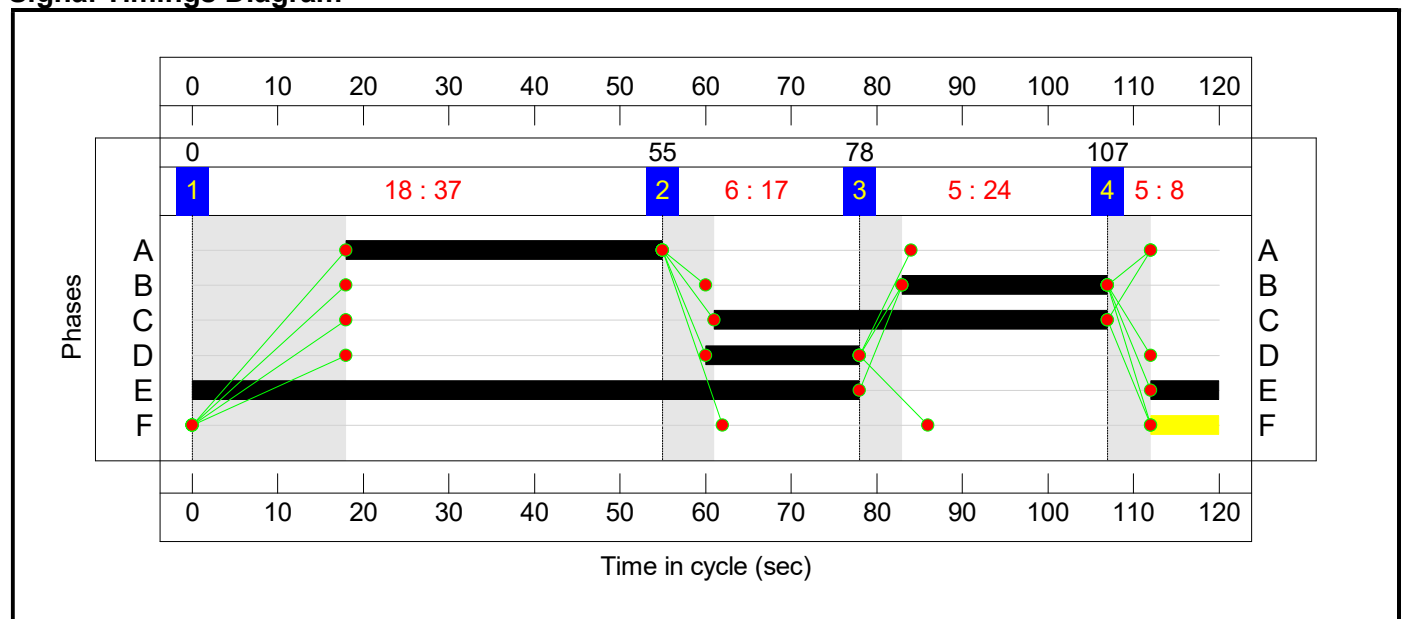
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	37	17	24	8
Change Point	0	55	78	107

Signal Timings Diagram





Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>60.9%</b>
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>60.9%</b>
1/2+1/1	Dublin Rd East Left Ahead	U	N/A	N/A	A		1	37		378	1955:1819	630	60.0%
2/2+2/1	R338 Coast Road Right Left	U	N/A	N/A	B C		1	24:46		501	1777:1756	825	60.7%
3/1+3/2	Dublin Rd West Ahead Right	U	N/A	N/A	E D		1	86:18		586	1955:1741	962	60.9%
4/1		U	N/A	N/A	-		-	-	-	606	1	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	203	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	656	1	Inf	0.0%
Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>11.2</b>	<b>2.3</b>	<b>0.0</b>	<b>13.5</b>	-	-	-	-
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>11.2</b>	<b>2.3</b>	<b>0.0</b>	<b>13.5</b>	-	-	-	-
1/2+1/1	378	378	-	-	-	3.6	0.7	-	4.3	41.3	10.1	0.7	10.9
2/2+2/1	501	501	-	-	-	4.6	0.8	-	5.4	38.5	7.4	0.8	8.1
3/1+3/2	586	586	-	-	-	3.0	0.8	-	3.8	23.3	5.6	0.8	6.4
4/1	606	606	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	203	203	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	656	656	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

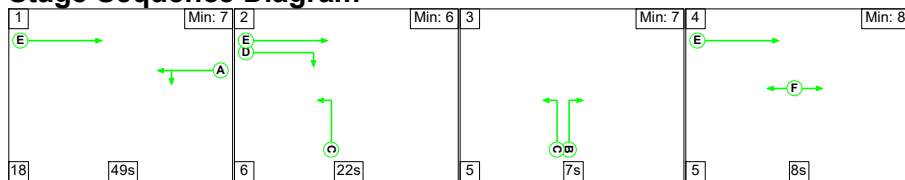
## Full Input Data And Results

C1	PRC for Signalled Lanes (%):	47.8	Total Delay for Signalled Lanes (pcuHr):	13.49	Cycle Time (s): 120
	PRC Over All Lanes (%):	47.8	Total Delay Over All Lanes(pcuHr):	13.49	

Full Input Data And Results

Scenario 2: '2019 PM Survey Year' (FG2: '2019 PM Survey Year', Plan 1: 'with Peds')

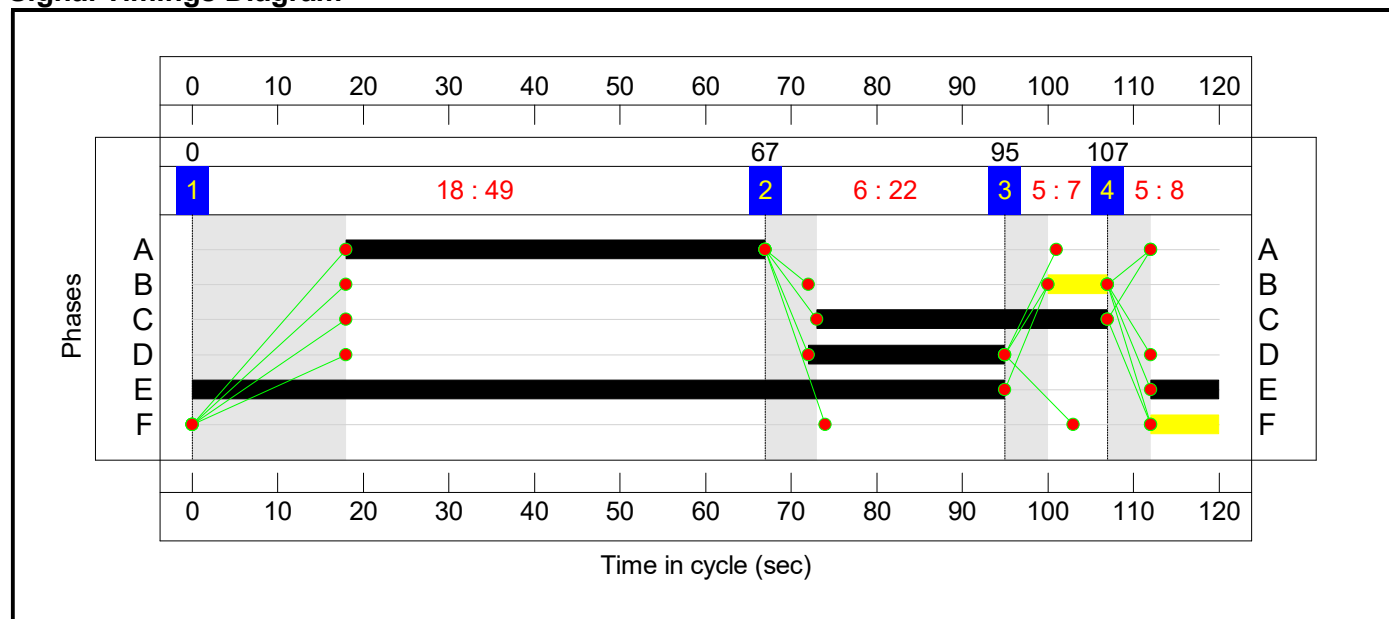
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	49	22	7	8
Change Point	0	67	95	107

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>81.6%</b>
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>81.6%</b>
1/2+1/1	Dublin Rd East Left Ahead	U	N/A	N/A	A		1	49		660	1955:1819	818	80.7%
2/2+2/1	R338 Coast Road Right Left	U	N/A	N/A	B C		1	7:34		191	1777:1756	516	37.0%
3/1+3/2	Dublin Rd West Ahead Right	U	N/A	N/A	E D		1	103:23		903	1955:1741	1107	81.6%
4/1		U	N/A	N/A	-		-	-	-	626	1	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	295	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	833	1	Inf	0.0%
Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>11.3</b>	<b>4.5</b>	<b>0.0</b>	<b>15.8</b>	-	-	-	-
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>11.3</b>	<b>4.5</b>	<b>0.0</b>	<b>15.8</b>	-	-	-	-
1/2+1/1	660	660	-	-	-	5.6	2.0	-	7.7	41.8	19.1	2.0	21.2
2/2+2/1	191	191	-	-	-	1.8	0.3	-	2.1	39.9	4.8	0.3	5.1
3/1+3/2	903	903	-	-	-	3.9	2.2	-	6.1	24.1	9.0	2.2	11.2
4/1	626	626	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	295	295	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	833	833	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

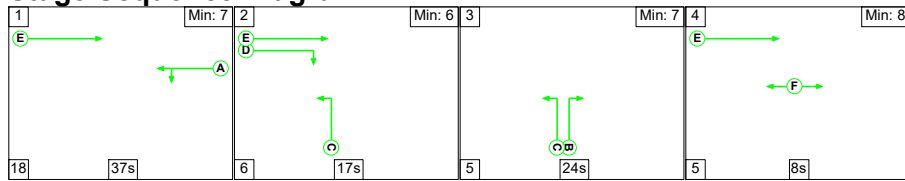
## Full Input Data And Results

C1	PRC for Signalled Lanes (%):	10.3	Total Delay for Signalled Lanes (pcuHr):	15.83	Cycle Time (s): 120
	PRC Over All Lanes (%):	10.3	Total Delay Over All Lanes(pcuHr):	15.83	

Full Input Data And Results

Scenario 3: '2024 AM without Dev' (FG3: '2024 AM without Dev', Plan 1: 'with Peds')

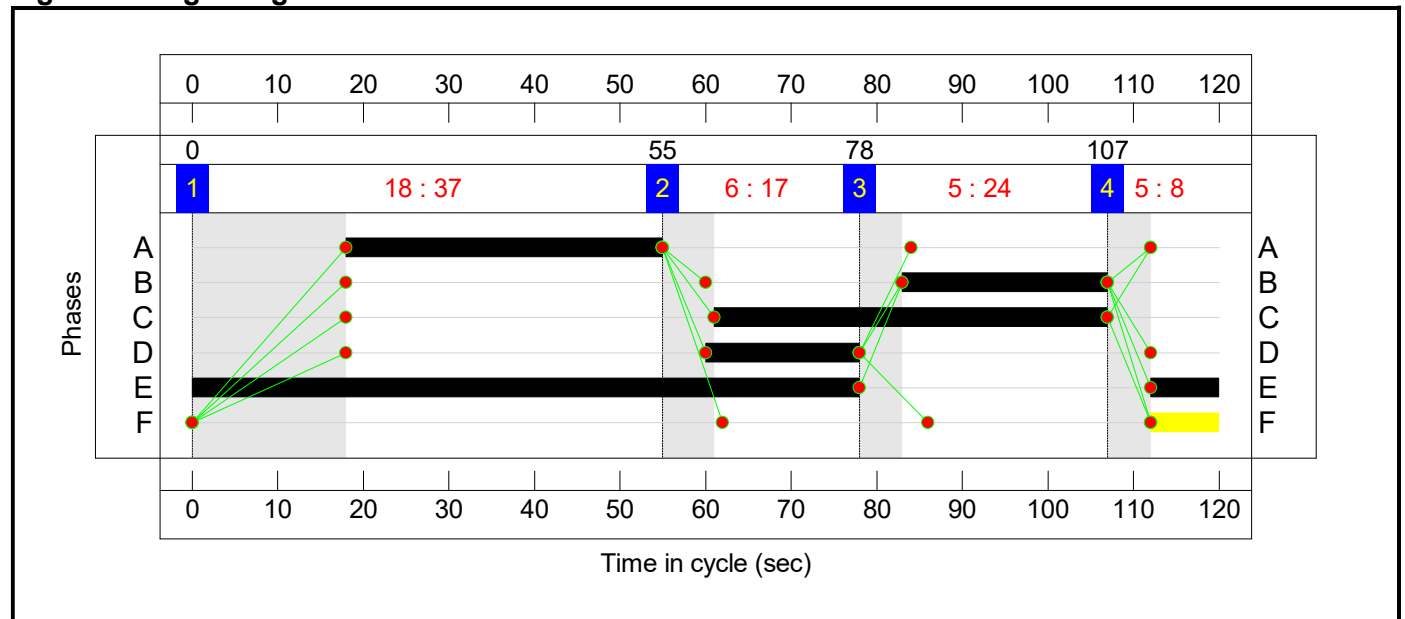
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	37	17	24	8
Change Point	0	55	78	107

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>66.1%</b>
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>66.1%</b>
1/2+1/1	Dublin Rd East Left Ahead	U	N/A	N/A	A		1	37		413	1955:1819	629	65.6%
2/2+2/1	R338 Coast Road Right Left	U	N/A	N/A	B C		1	24:46		545	1777:1756	827	65.9%
3/1+3/2	Dublin Rd West Ahead Right	U	N/A	N/A	E D		1	86:18		639	1955:1741	967	66.1%
4/1		U	N/A	N/A	-		-	-	-	660	1	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	221	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	716	1	Inf	0.0%
Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>12.4</b>	<b>2.9</b>	<b>0.0</b>	<b>15.3</b>	-	-	-	-
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>12.4</b>	<b>2.9</b>	<b>0.0</b>	<b>15.3</b>	-	-	-	-
1/2+1/1	413	413	-	-	-	4.0	0.9	-	5.0	43.2	11.4	0.9	12.4
2/2+2/1	545	545	-	-	-	5.1	1.0	-	6.0	39.8	8.1	1.0	9.1
3/1+3/2	639	639	-	-	-	3.3	1.0	-	4.3	24.2	6.2	1.0	7.1
4/1	660	660	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	221	221	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	716	716	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0



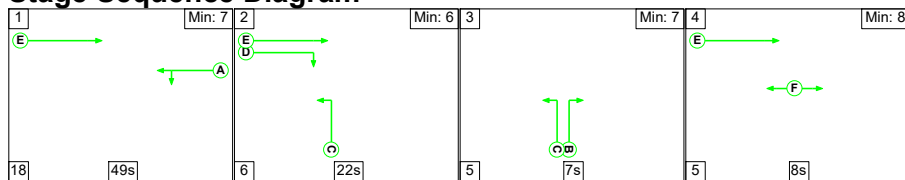
## Full Input Data And Results

C1	PRC for Signalled Lanes (%):	36.1	Total Delay for Signalled Lanes (pcuHr):	15.28	Cycle Time (s): 120
	PRC Over All Lanes (%):	36.1	Total Delay Over All Lanes(pcuHr):	15.28	

Full Input Data And Results

Scenario 4: '2024 PM without Dev' (FG4: '2024 PM without Dev', Plan 1: 'with Peds')

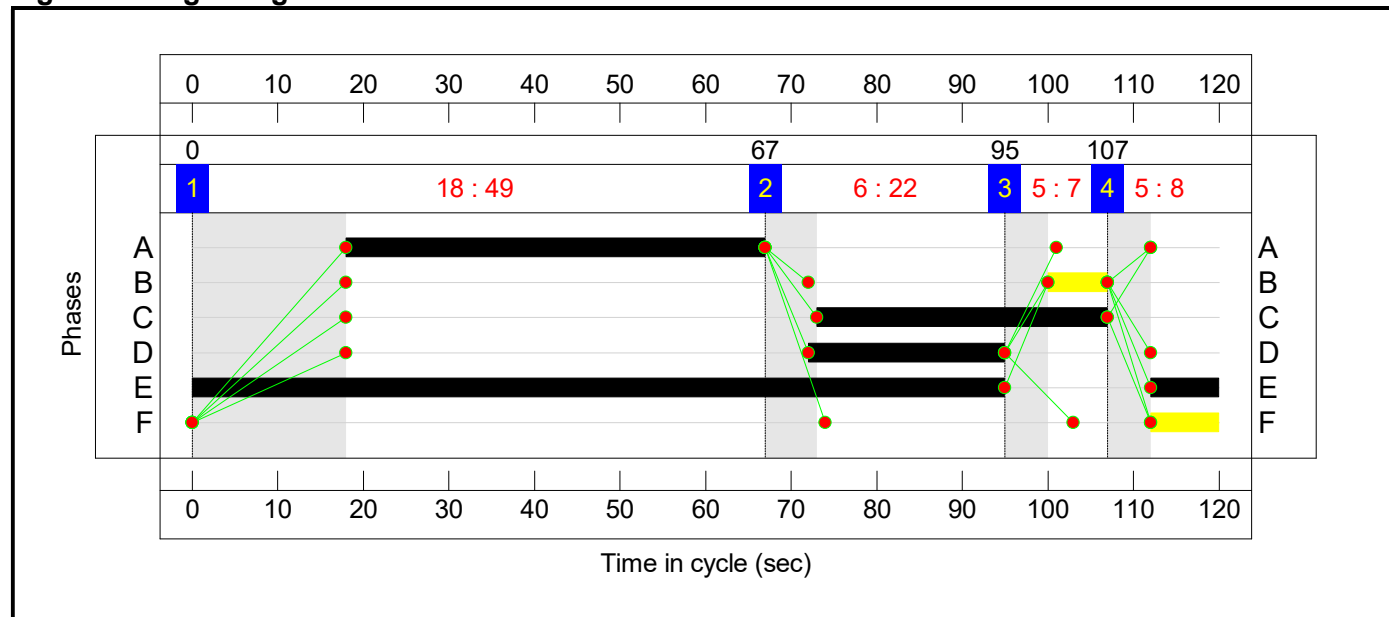
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	49	22	7	8
Change Point	0	67	95	107

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	89.0%
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	89.0%
1/2+1/1	Dublin Rd East Left Ahead	U	N/A	N/A	A		1	49		719	1955:1819	818	87.9%
2/2+2/1	R338 Coast Road Right Left	U	N/A	N/A	B C		1	7:34		208	1777:1756	517	40.2%
3/1+3/2	Dublin Rd West Ahead Right	U	N/A	N/A	E D		1	103:23		984	1955:1741	1105	89.0%
4/1		U	N/A	N/A	-		-	-	-	682	1	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	322	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	907	1	Inf	0.0%
Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	0	0	0	12.7	7.6	0.0	20.3	-	-	-	-
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	0	0	0	12.7	7.6	0.0	20.3	-	-	-	-
1/2+1/1	719	719	-	-	-	6.4	3.4	-	9.8	49.2	21.9	3.4	25.3
2/2+2/1	208	208	-	-	-	2.0	0.3	-	2.3	40.5	5.3	0.3	5.6
3/1+3/2	984	984	-	-	-	4.3	3.8	-	8.1	29.8	10.0	3.8	13.8
4/1	682	682	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	322	322	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	907	907	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

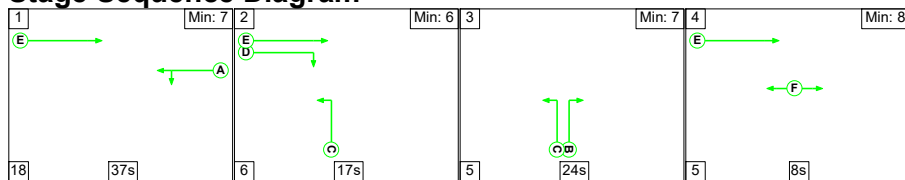
## Full Input Data And Results

C1	PRC for Signalled Lanes (%):	1.1	Total Delay for Signalled Lanes (pcuHr):	20.31	Cycle Time (s): 120
	PRC Over All Lanes (%):	1.1	Total Delay Over All Lanes(pcuHr):	20.31	

Full Input Data And Results

Scenario 5: '2029 AM without Dev' (FG5: '2029 AM without Dev', Plan 1: 'with Peds')

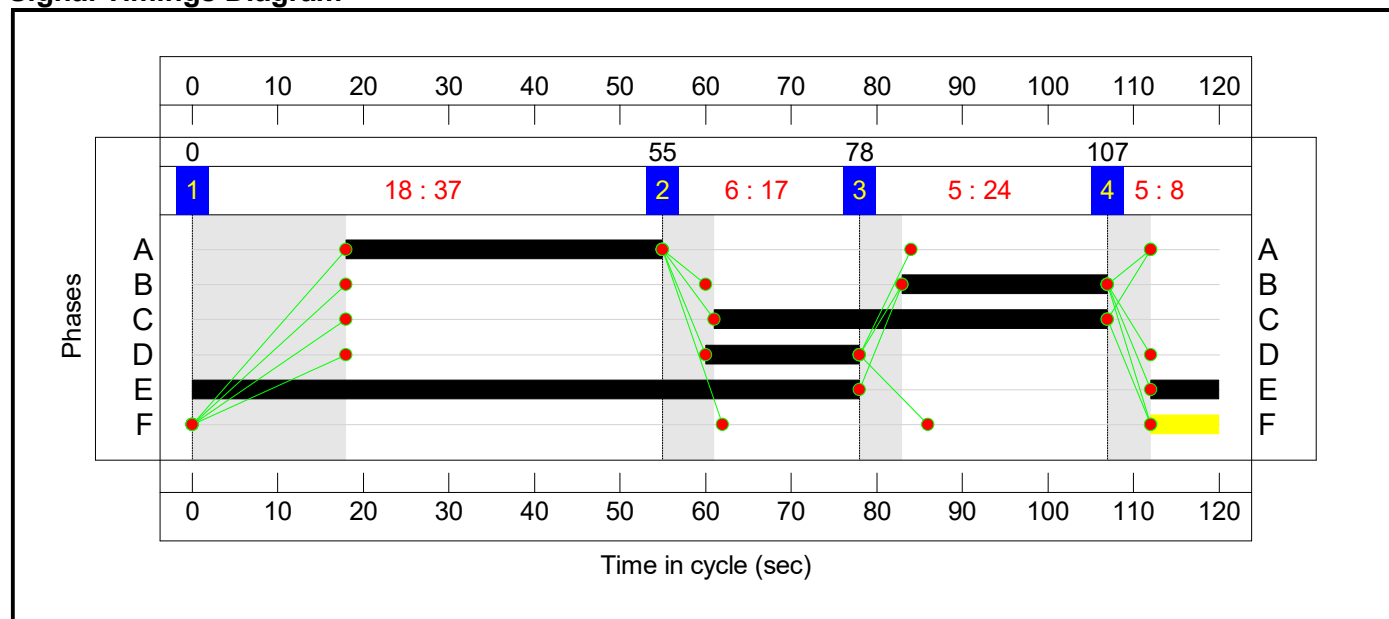
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	37	17	24	8
Change Point	0	55	78	107

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	71.7%
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	71.7%
1/2+1/1	Dublin Rd East Left Ahead	U	N/A	N/A	A		1	37		451	1955:1819	629	71.7%
2/2+2/1	R338 Coast Road Right Left	U	N/A	N/A	B C		1	24:46		593	1777:1756	827	71.7%
3/1+3/2	Dublin Rd West Ahead Right	U	N/A	N/A	E D		1	86:18		696	1955:1741	974	71.5%
4/1		U	N/A	N/A	-		-	-	-	719	1	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	240	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	781	1	Inf	0.0%
Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	0	0	0	13.8	3.7	0.0	17.5	-	-	-	-
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	0	0	0	13.8	3.7	0.0	17.5	-	-	-	-
1/2+1/1	451	451	-	-	-	4.5	1.2	-	5.7	45.8	12.8	1.2	14.0
2/2+2/1	593	593	-	-	-	5.6	1.3	-	6.9	41.6	9.0	1.3	10.3
3/1+3/2	696	696	-	-	-	3.7	1.2	-	4.9	25.4	6.8	1.2	8.0
4/1	719	719	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	240	240	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	781	781	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

## Full Input Data And Results

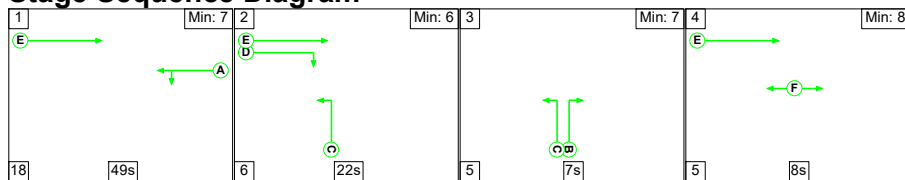
C1	PRC for Signalled Lanes (%):	25.6	Total Delay for Signalled Lanes (pcuHr):	17.51	Cycle Time (s): 120
	PRC Over All Lanes (%):	25.6	Total Delay Over All Lanes(pcuHr):	17.51	



Full Input Data And Results

Scenario 6: '2029 PM without Dev' (FG6: '2029 PM without Dev', Plan 1: 'with Peds')

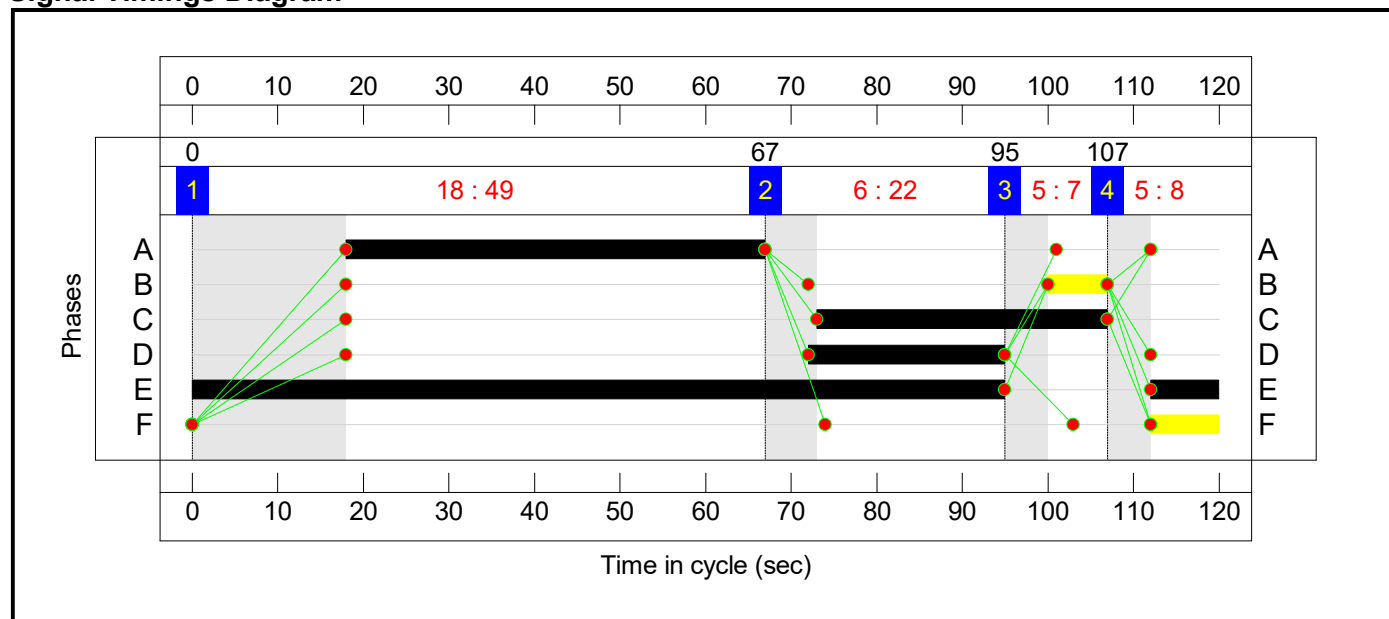
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	49	22	7	8
Change Point	0	67	95	107

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>96.8%</b>
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>96.8%</b>
1/2+1/1	Dublin Rd East Left Ahead	U	N/A	N/A	A		1	49		784	1955:1819	818	<b>95.9%</b>
2/2+2/1	R338 Coast Road Right Left	U	N/A	N/A	B C		1	7:34		226	1777:1756	517	43.7%
3/1+3/2	Dublin Rd West Ahead Right	U	N/A	N/A	E D		1	103:23		1071	1955:1741	1107	<b>96.8%</b>
4/1		U	N/A	N/A	-		-	-	-	743	1	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	350	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	988	1	Inf	0.0%
Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>14.4</b>	<b>18.0</b>	<b>0.0</b>	<b>32.4</b>	-	-	-	-
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>14.4</b>	<b>18.0</b>	<b>0.0</b>	<b>32.4</b>	-	-	-	-
1/2+1/1	784	784	-	-	-	7.4	7.9	-	15.3	70.3	25.2	7.9	33.1
2/2+2/1	226	226	-	-	-	2.2	0.4	-	2.6	41.2	5.8	0.4	6.2
3/1+3/2	1071	1071	-	-	-	4.8	9.7	-	14.5	48.9	11.1	9.7	20.9
4/1	743	743	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	350	350	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	988	988	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

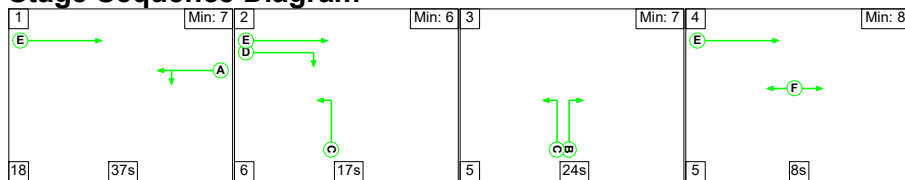
## Full Input Data And Results

C1	PRC for Signalled Lanes (%):	-7.5	Total Delay for Signalled Lanes (pcuHr):	32.43	Cycle Time (s): 120
	PRC Over All Lanes (%):	-7.5	Total Delay Over All Lanes(pcuHr):	32.43	

Full Input Data And Results

Scenario 7: '2039 AM without Dev' (FG7: '2039 AM without Dev', Plan 1: 'with Peds')

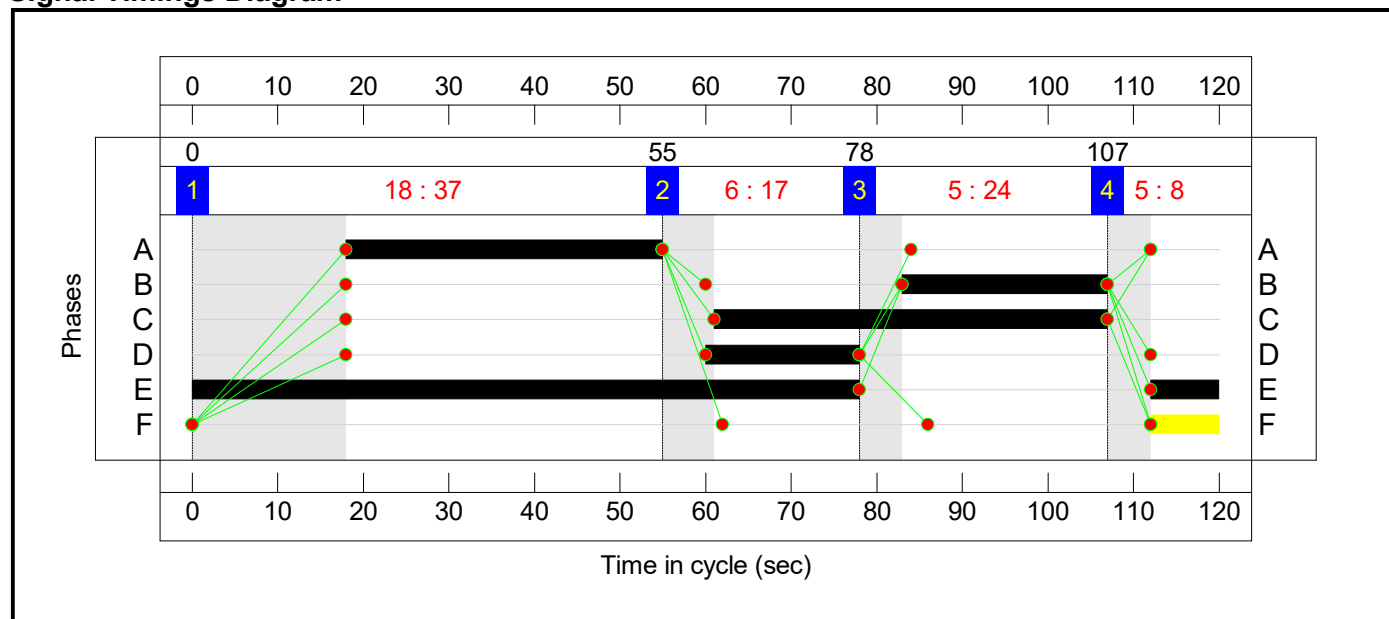
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	37	17	24	8
Change Point	0	55	78	107

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	80.6%
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	80.6%
1/2+1/1	Dublin Rd East Left Ahead	U	N/A	N/A	A		1	37		507	1955:1819	629	80.6%
2/2+2/1	R338 Coast Road Right Left	U	N/A	N/A	B C		1	24:46		661	1777:1756	830	79.6%
3/1+3/2	Dublin Rd West Ahead Right	U	N/A	N/A	E D		1	86:18		777	1955:1741	984	79.0%
4/1		U	N/A	N/A	-		-	-	-	802	1	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	267	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	876	1	Inf	0.0%
Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	0	0	0	15.8	5.8	0.0	21.6	-	-	-	-
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	0	0	0	15.8	5.8	0.0	21.6	-	-	-	-
1/2+1/1	507	507	-	-	-	5.2	2.0	-	7.2	51.5	15.0	2.0	17.0
2/2+2/1	661	661	-	-	-	6.4	1.9	-	8.3	45.2	11.1	1.9	13.0
3/1+3/2	777	777	-	-	-	4.2	1.8	-	6.0	27.9	7.6	1.8	9.5
4/1	802	802	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	267	267	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	876	876	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

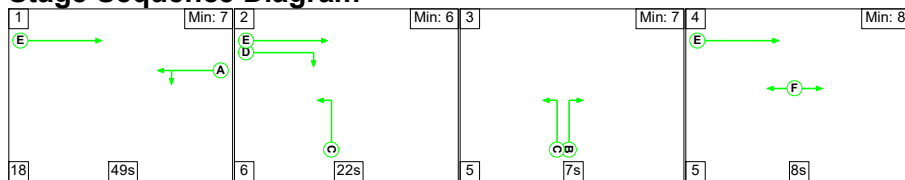
## Full Input Data And Results

C1	PRC for Signalled Lanes (%):	11.7	Total Delay for Signalled Lanes (pcuHr):	21.58	Cycle Time (s): 120
	PRC Over All Lanes (%):	11.7	Total Delay Over All Lanes(pcuHr):	21.58	

Full Input Data And Results

Scenario 8: '2039 PM without Dev' (FG8: '2039 PM without Dev', Plan 1: 'with Peds')

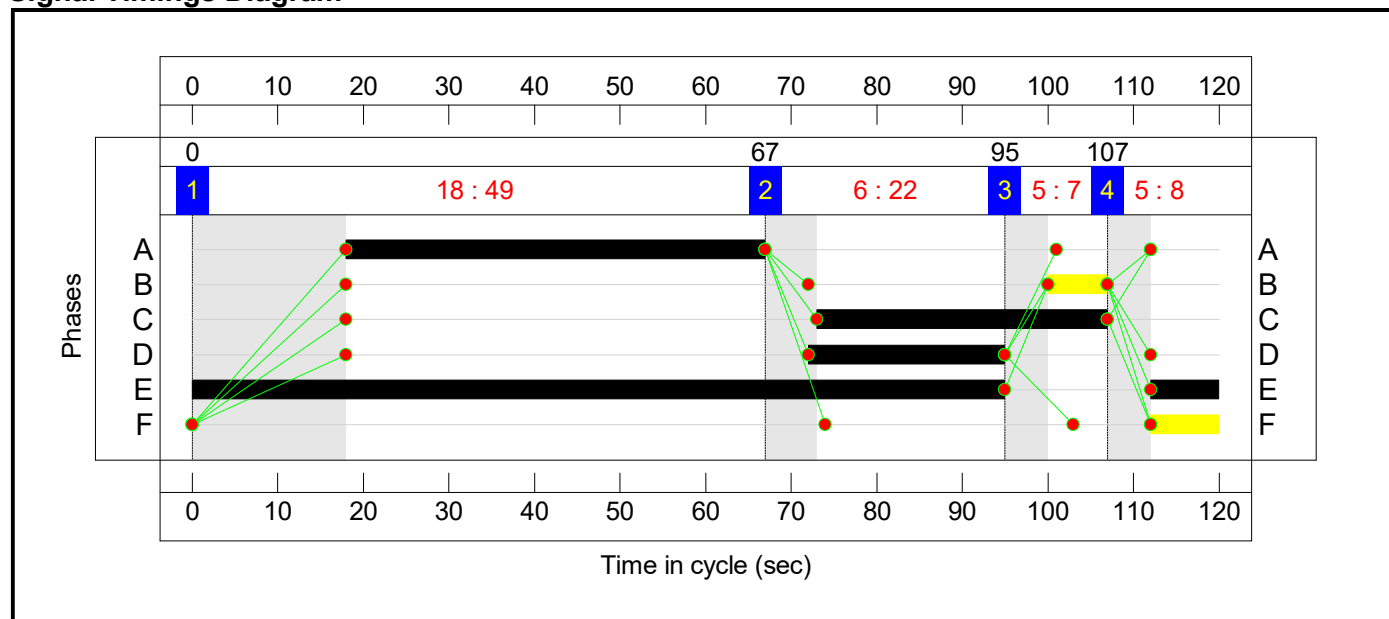
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	49	22	7	8
Change Point	0	67	95	107

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>107.7%</b>
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>107.7%</b>
1/2+1/1	Dublin Rd East Left Ahead	U	N/A	N/A	A		1	49		876	1955:1819	818	<b>107.2%</b>
2/2+2/1	R338 Coast Road Right Left	U	N/A	N/A	B C		1	7:34		251	1777:1756	517	48.5%
3/1+3/2	Dublin Rd West Ahead Right	U	N/A	N/A	E D		1	103:23		1193	1955:1741	1108	<b>107.7%</b>
4/1		U	N/A	N/A	-		-	-	-	828	1	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	389	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1103	1	Inf	0.0%
Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>20.7</b>	<b>84.6</b>	<b>0.0</b>	<b>105.4</b>	-	-	-	-
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>20.7</b>	<b>84.6</b>	<b>0.0</b>	<b>105.4</b>	-	-	-	-
1/2+1/1	876	818	-	-	-	11.7	35.4	-	47.1	193.5	32.3	35.4	<b>67.7</b>
2/2+2/1	251	251	-	-	-	2.5	0.5	-	3.0	42.3	6.6	0.5	7.0
3/1+3/2	1193	1166	-	-	-	6.6	48.7	-	55.3	166.9	13.4	48.7	<b>62.1</b>
4/1	828	828	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	361	361	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1045	1045	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0



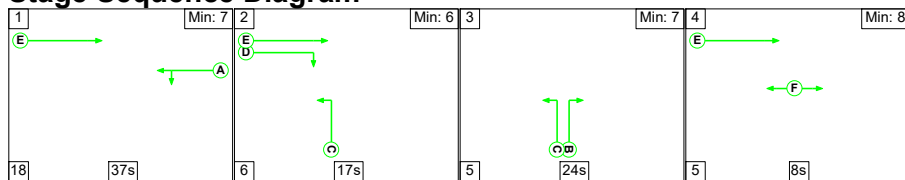
## Full Input Data And Results

C1	PRC for Signalled Lanes (%):	-19.7	Total Delay for Signalled Lanes (pcuHr):	105.35	
	PRC Over All Lanes (%):	-19.7	Total Delay Over All Lanes(pcuHr):	105.35	Cycle Time (s): 120

Full Input Data And Results

Scenario 9: '2024 AM with Dev' (FG9: '2024 AM with Dev', Plan 1: 'with Peds')

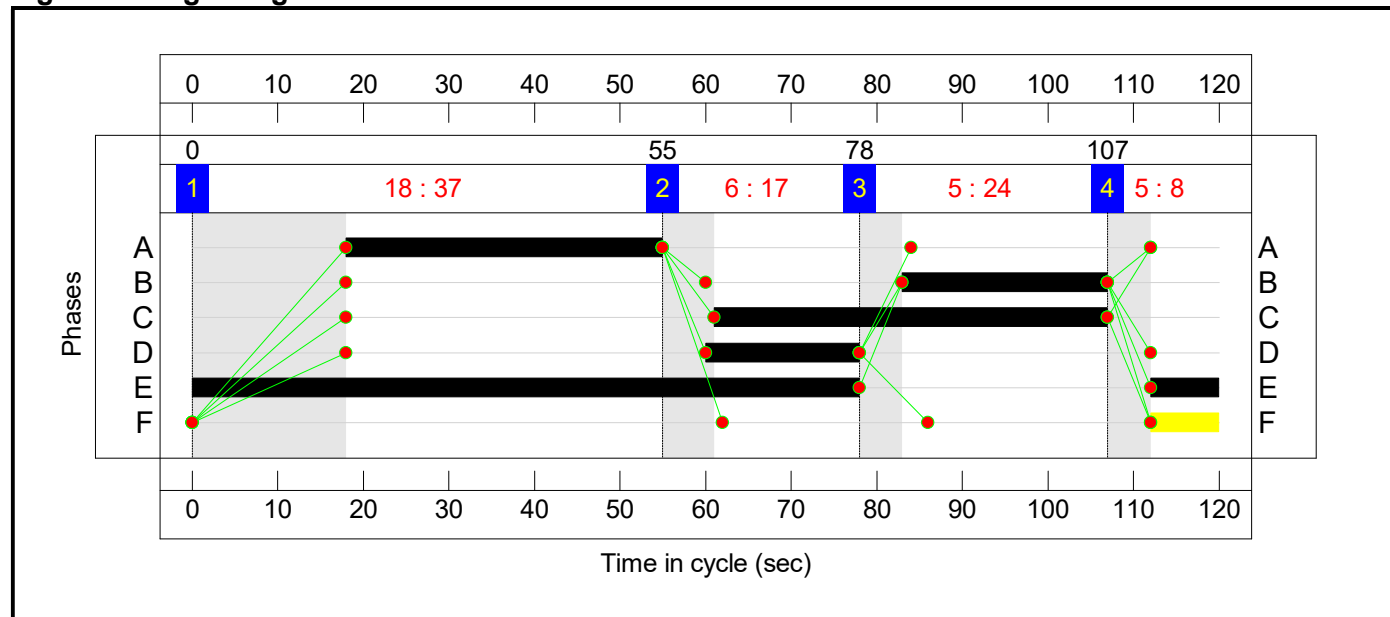
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	37	17	24	8
Change Point	0	55	78	107

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>66.5%</b>
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>66.5%</b>
1/2+1/1	Dublin Rd East Left Ahead	U	N/A	N/A	A		1	37		413	1955:1819	629	65.6%
2/2+2/1	R338 Coast Road Right Left	U	N/A	N/A	B C		1	24:46		547	1777:1756	823	66.5%
3/1+3/2	Dublin Rd West Ahead Right	U	N/A	N/A	E D		1	86:18		639	1955:1741	967	66.1%
4/1		U	N/A	N/A	-		-	-	-	662	1	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	221	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	716	1	Inf	0.0%
Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>12.4</b>	<b>2.9</b>	<b>0.0</b>	<b>15.3</b>	-	-	-	-
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>12.4</b>	<b>2.9</b>	<b>0.0</b>	<b>15.3</b>	-	-	-	-
1/2+1/1	413	413	-	-	-	4.0	0.9	-	5.0	43.2	11.4	0.9	12.4
2/2+2/1	547	547	-	-	-	5.1	1.0	-	6.1	40.0	8.1	1.0	9.1
3/1+3/2	639	639	-	-	-	3.3	1.0	-	4.3	24.2	6.2	1.0	7.1
4/1	662	662	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	221	221	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	716	716	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

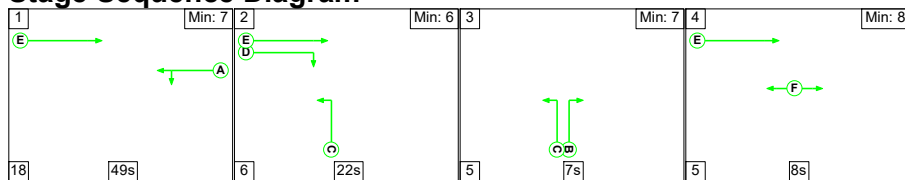
## Full Input Data And Results

C1	PRC for Signalled Lanes (%):	35.4	Total Delay for Signalled Lanes (pcuHr):	15.34	Cycle Time (s): 120
	PRC Over All Lanes (%):	35.4	Total Delay Over All Lanes(pcuHr):	15.34	

Full Input Data And Results

Scenario 10: '2024 PM with Dev' (FG10: '2024 PM with Dev', Plan 1: 'with Peds')

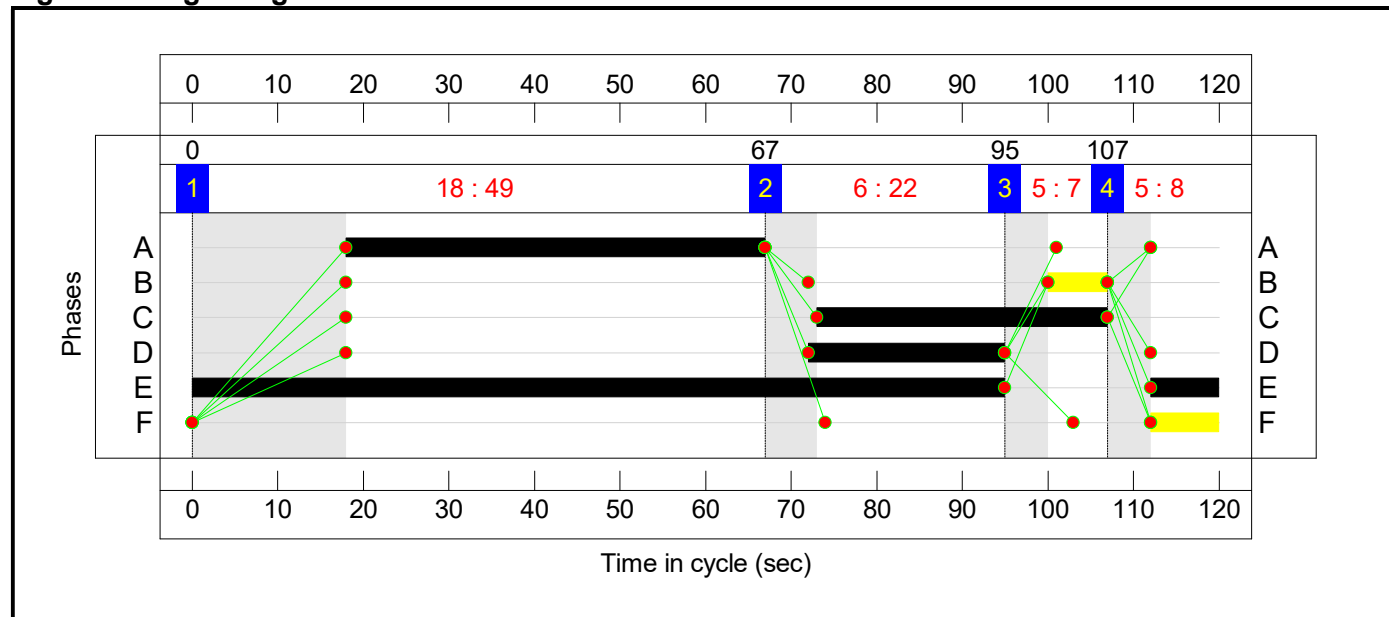
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	49	22	7	8
Change Point	0	67	95	107

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	89.0%
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	89.0%
1/2+1/1	Dublin Rd East Left Ahead	U	N/A	N/A	A		1	49		722	1955:1819	818	88.2%
2/2+2/1	R338 Coast Road Right Left	U	N/A	N/A	B C		1	7:34		208	1777:1756	517	40.2%
3/1+3/2	Dublin Rd West Ahead Right	U	N/A	N/A	E D		1	103:23		984	1955:1741	1105	89.0%
4/1		U	N/A	N/A	-		-	-	-	682	1	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	325	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	907	1	Inf	0.0%
Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	0	0	0	12.8	7.7	0.0	20.4	-	-	-	-
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	0	0	0	12.8	7.7	0.0	20.4	-	-	-	-
1/2+1/1	722	722	-	-	-	6.4	3.5	-	9.9	49.6	21.9	3.5	25.4
2/2+2/1	208	208	-	-	-	2.0	0.3	-	2.3	40.5	5.3	0.3	5.6
3/1+3/2	984	984	-	-	-	4.3	3.8	-	8.1	29.8	10.0	3.8	13.8
4/1	682	682	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	325	325	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	907	907	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

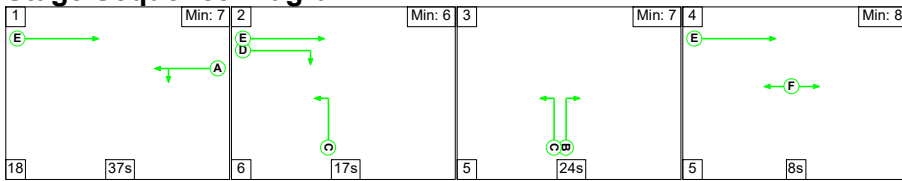
## Full Input Data And Results

C1	PRC for Signalled Lanes (%)	1.1	Total Delay for Signalled Lanes (pcuHr)	20.43	Cycle Time (s): 120
	PRC Over All Lanes (%)	1.1	Total Delay Over All Lanes(pcuHr)	20.43	

Full Input Data And Results

Scenario 11: '2029 AM with Dev' (FG11: '2029 AM with Dev', Plan 1: 'with Peds')

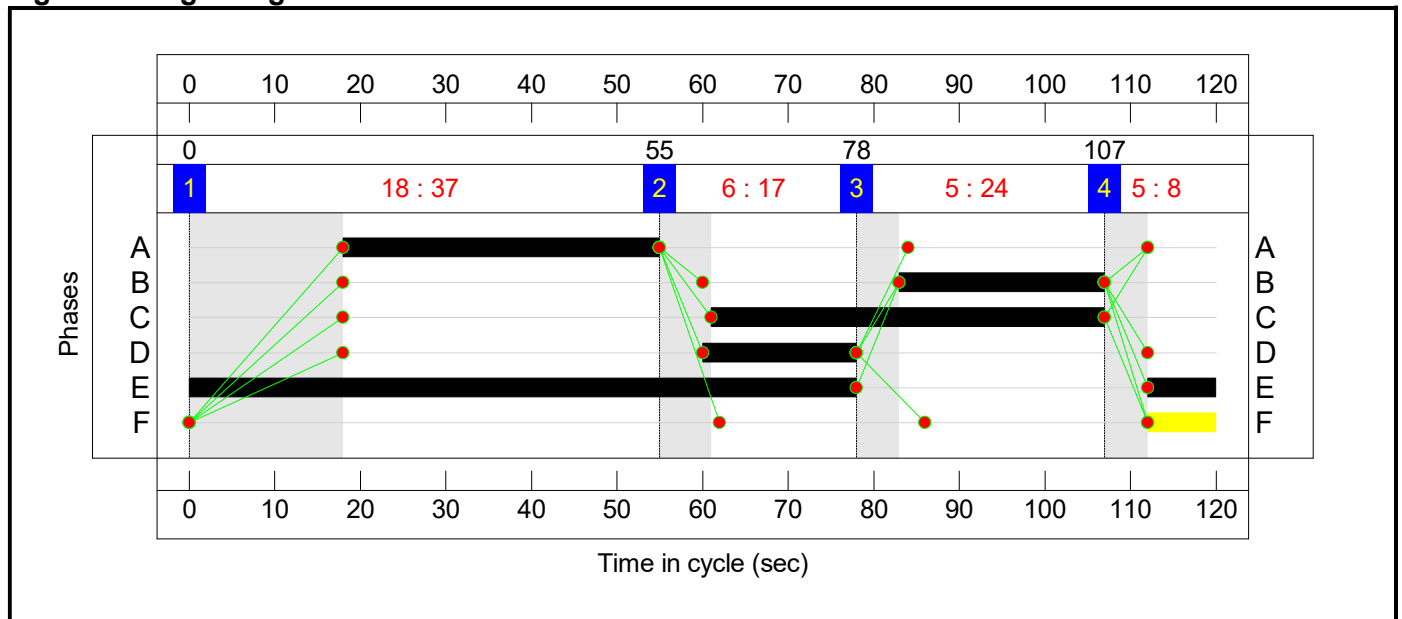
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	37	17	24	8
Change Point	0	55	78	107

Signal Timings Diagram





Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	72.3%
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	72.3%
1/2+1/1	Dublin Rd East Left Ahead	U	N/A	N/A	A		1	37		451	1955:1819	629	71.7%
2/2+2/1	R338 Coast Road Right Left	U	N/A	N/A	B C		1	24:46		595	1777:1756	824	72.3%
3/1+3/2	Dublin Rd West Ahead Right	U	N/A	N/A	E D		1	86:18		696	1955:1741	974	71.5%
4/1		U	N/A	N/A	-		-	-	-	721	1	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	240	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	781	1	Inf	0.0%
Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	0	0	0	13.8	3.8	0.0	17.6	-	-	-	-
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	0	0	0	13.8	3.8	0.0	17.6	-	-	-	-
1/2+1/1	451	451	-	-	-	4.5	1.2	-	5.7	45.8	12.8	1.2	14.0
2/2+2/1	595	595	-	-	-	5.6	1.3	-	6.9	41.9	9.0	1.3	10.3
3/1+3/2	696	696	-	-	-	3.7	1.2	-	4.9	25.4	6.8	1.2	8.0
4/1	721	721	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	240	240	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	781	781	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

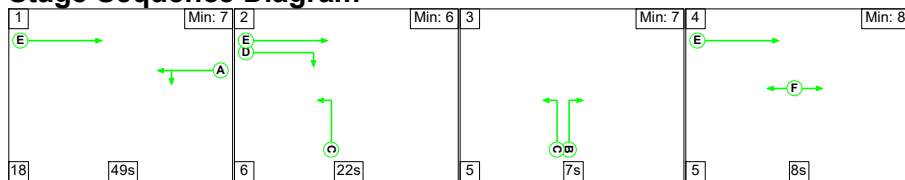
## Full Input Data And Results

C1	PRC for Signalled Lanes (%):	24.6	Total Delay for Signalled Lanes (pcuHr):	17.57	Cycle Time (s): 120
	PRC Over All Lanes (%):	24.6	Total Delay Over All Lanes(pcuHr):	17.57	

Full Input Data And Results

Scenario 12: '2029 PM with Dev' (FG12: '2029 PM with Dev', Plan 1: 'with Peds')

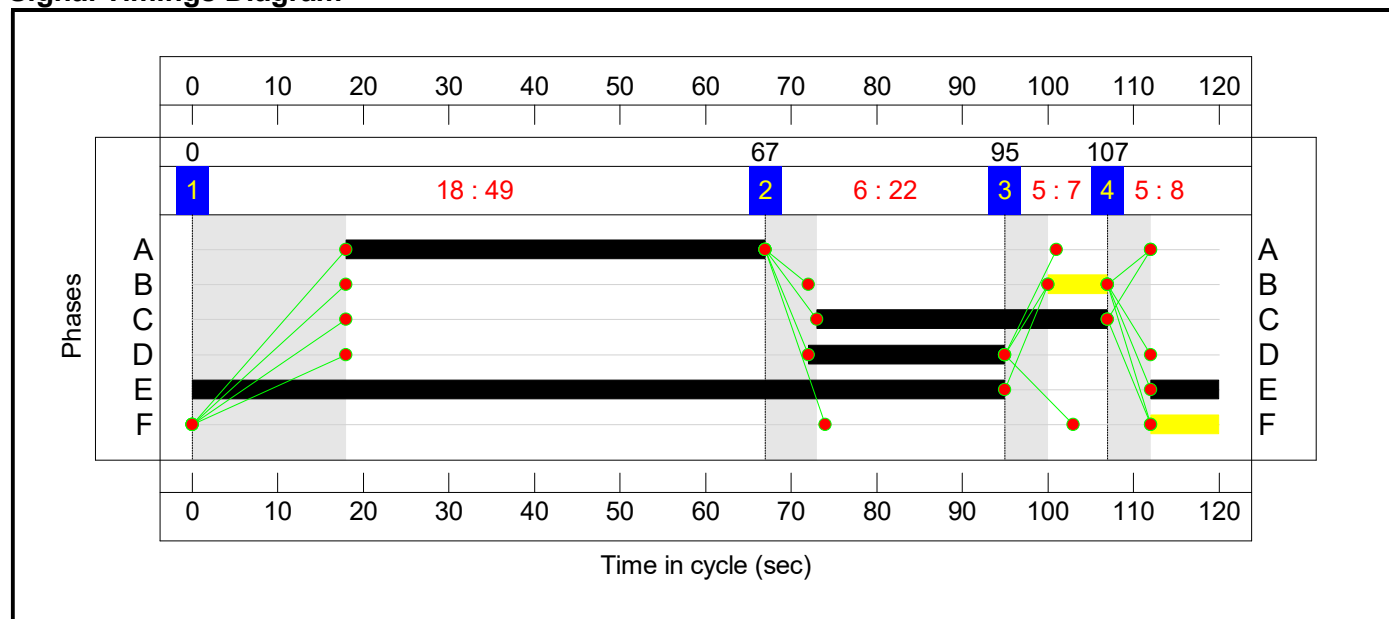
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	49	22	7	8
Change Point	0	67	95	107

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>96.8%</b>
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>96.8%</b>
1/2+1/1	Dublin Rd East Left Ahead	U	N/A	N/A	A		1	49		787	1955:1819	818	<b>96.2%</b>
2/2+2/1	R338 Coast Road Right Left	U	N/A	N/A	B C		1	7:34		226	1777:1756	517	43.7%
3/1+3/2	Dublin Rd West Ahead Right	U	N/A	N/A	E D		1	103:23		1071	1955:1741	1107	<b>96.8%</b>
4/1		U	N/A	N/A	-		-	-	-	743	1	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	353	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	988	1	Inf	0.0%
Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>14.4</b>	<b>18.4</b>	<b>0.0</b>	<b>32.8</b>	-	-	-	-
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>14.4</b>	<b>18.4</b>	<b>0.0</b>	<b>32.8</b>	-	-	-	-
1/2+1/1	787	787	-	-	-	7.4	8.3	-	15.7	71.7	25.2	8.3	33.5
2/2+2/1	226	226	-	-	-	2.2	0.4	-	2.6	41.2	5.8	0.4	6.2
3/1+3/2	1071	1071	-	-	-	4.8	9.7	-	14.5	48.9	11.1	9.7	20.9
4/1	743	743	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	353	353	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	988	988	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

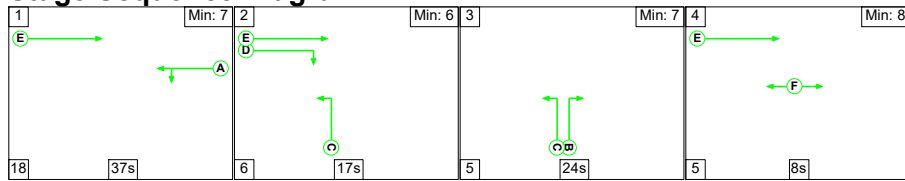
## Full Input Data And Results

C1	PRC for Signalled Lanes (%):	-7.5	Total Delay for Signalled Lanes (pcuHr):	32.80	
	PRC Over All Lanes (%):	-7.5	Total Delay Over All Lanes(pcuHr):	32.80	Cycle Time (s): 120

Full Input Data And Results

Scenario 13: '2039 AM with Dev' (FG13: '2039 AM with Dev', Plan 1: 'with Peds')

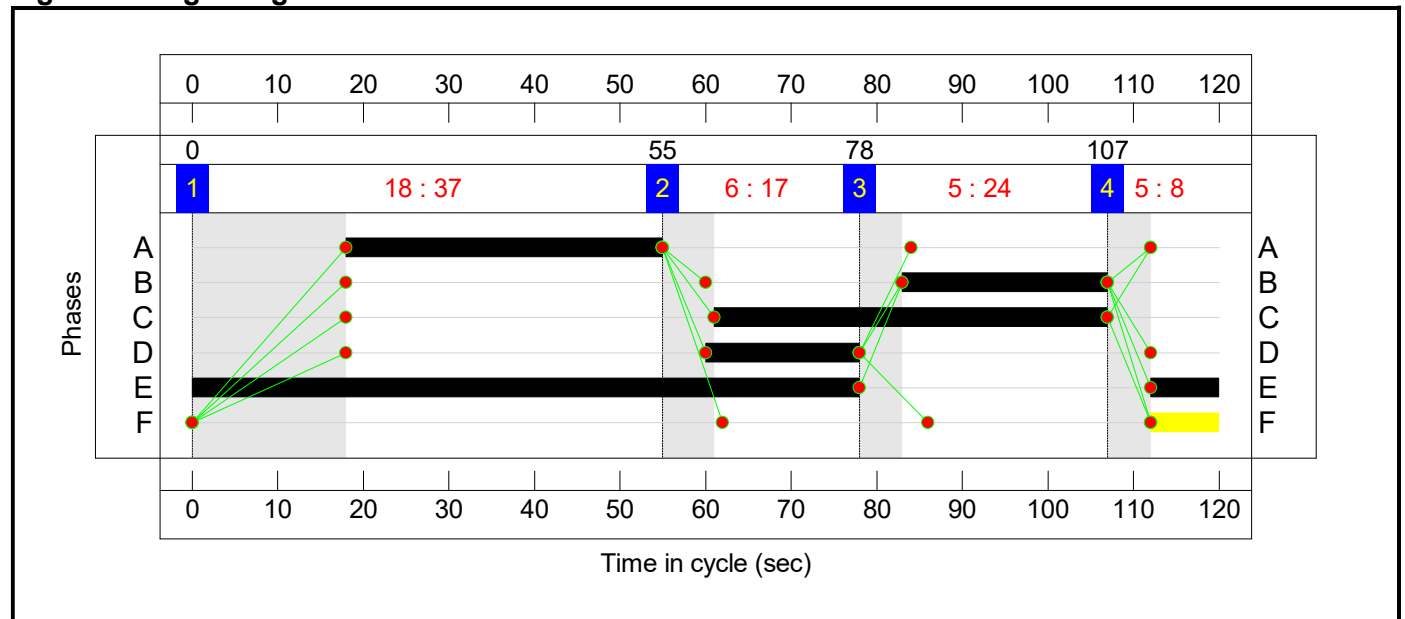
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	37	17	24	8
Change Point	0	55	78	107

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	80.6%
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	80.6%
1/2+1/1	Dublin Rd East Left Ahead	U	N/A	N/A	A		1	37		507	1955:1819	629	80.6%
2/2+2/1	R338 Coast Road Right Left	U	N/A	N/A	B C		1	24:46		663	1777:1756	827	80.2%
3/1+3/2	Dublin Rd West Ahead Right	U	N/A	N/A	E D		1	86:18		777	1955:1741	984	79.0%
4/1		U	N/A	N/A	-		-	-	-	804	1	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	267	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	876	1	Inf	0.0%
Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	0	0	0	15.9	5.8	0.0	21.7	-	-	-	-
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	0	0	0	15.9	5.8	0.0	21.7	-	-	-	-
1/2+1/1	507	507	-	-	-	5.2	2.0	-	7.2	51.5	15.0	2.0	17.0
2/2+2/1	663	663	-	-	-	6.4	2.0	-	8.4	45.6	11.1	2.0	13.1
3/1+3/2	777	777	-	-	-	4.2	1.8	-	6.0	27.9	7.6	1.8	9.5
4/1	804	804	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	267	267	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	876	876	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

## Full Input Data And Results

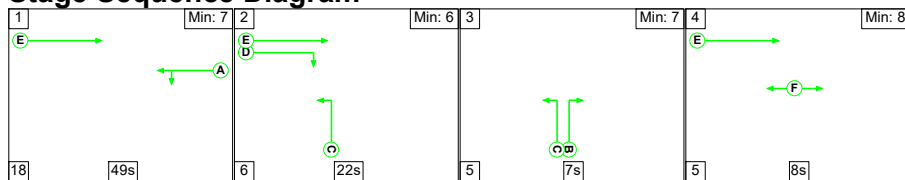
C1	PRC for Signalled Lanes (%):	11.7	Total Delay for Signalled Lanes (pcuHr):	21.68	Cycle Time (s): 120
	PRC Over All Lanes (%):	11.7	Total Delay Over All Lanes(pcuHr):	21.68	



Full Input Data And Results

Scenario 14: '2039 PM with Dev' (FG14: '2039 PM with Dev', Plan 1: 'with Peds')

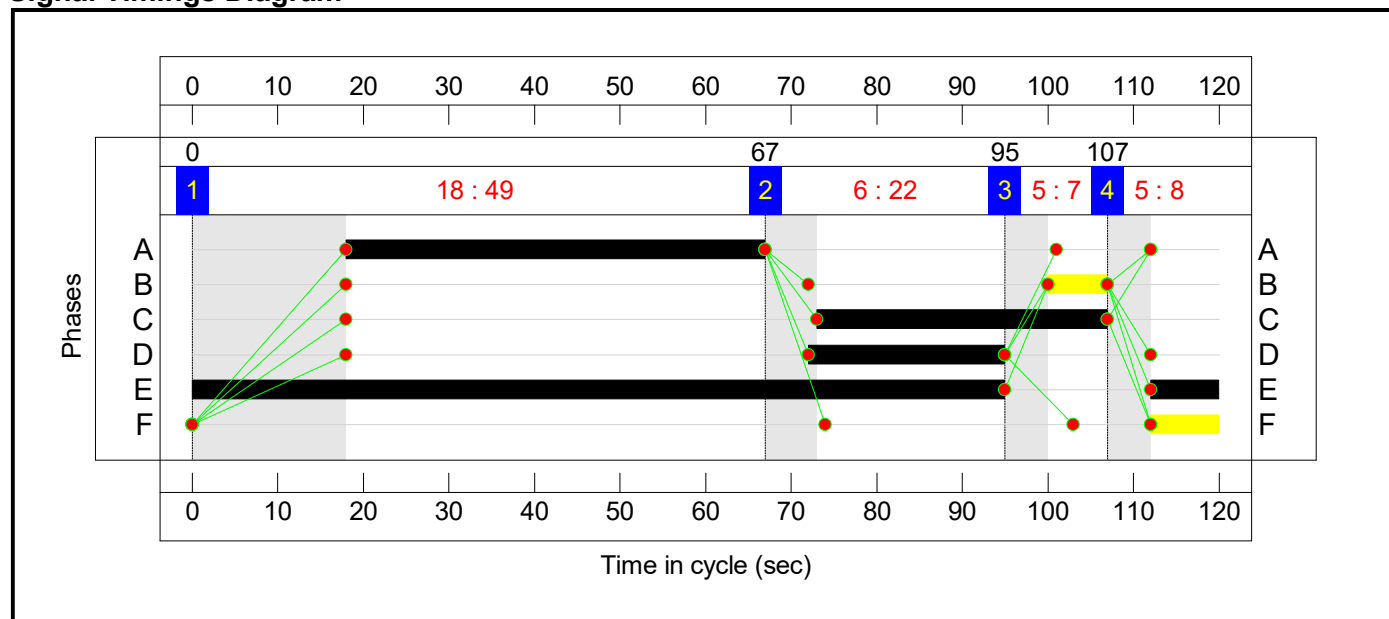
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	49	22	7	8
Change Point	0	67	95	107

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>107.7%</b>
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>107.7%</b>
1/2+1/1	Dublin Rd East Left Ahead	U	N/A	N/A	A		1	49		879	1955:1819	818	<b>107.5%</b>
2/2+2/1	R338 Coast Road Right Left	U	N/A	N/A	B C		1	7:34		251	1777:1756	517	48.5%
3/1+3/2	Dublin Rd West Ahead Right	U	N/A	N/A	E D		1	103:23		1193	1955:1741	1108	<b>107.7%</b>
4/1		U	N/A	N/A	-		-	-	-	828	1	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	392	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1103	1	Inf	0.0%
Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network: Dublin Rd_R338 Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>20.9</b>	<b>85.7</b>	<b>0.0</b>	<b>106.6</b>	-	-	-	-
<b>Old Dublin Rd/R338 Coast Road Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>20.9</b>	<b>85.7</b>	<b>0.0</b>	<b>106.6</b>	-	-	-	-
1/2+1/1	879	818	-	-	-	11.8	36.5	-	48.3	198.0	32.4	36.5	<b>69.0</b>
2/2+2/1	251	251	-	-	-	2.5	0.5	-	3.0	42.3	6.6	0.5	7.0
3/1+3/2	1193	1166	-	-	-	6.6	48.7	-	55.3	166.9	13.4	48.7	<b>62.1</b>
4/1	828	828	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	364	364	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1043	1043	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

## Full Input Data And Results

C1	PRC for Signalled Lanes (%):	-19.7	Total Delay for Signalled Lanes (pcuHr):	106.62	Cycle Time (s): 120
	PRC Over All Lanes (%):	-19.7	Total Delay Over All Lanes(pcuHr):	106.62	



## **APPENDIX D3**

LinSig Analysis – Junction between R921 Old Dublin Road  
and Doughiska Road

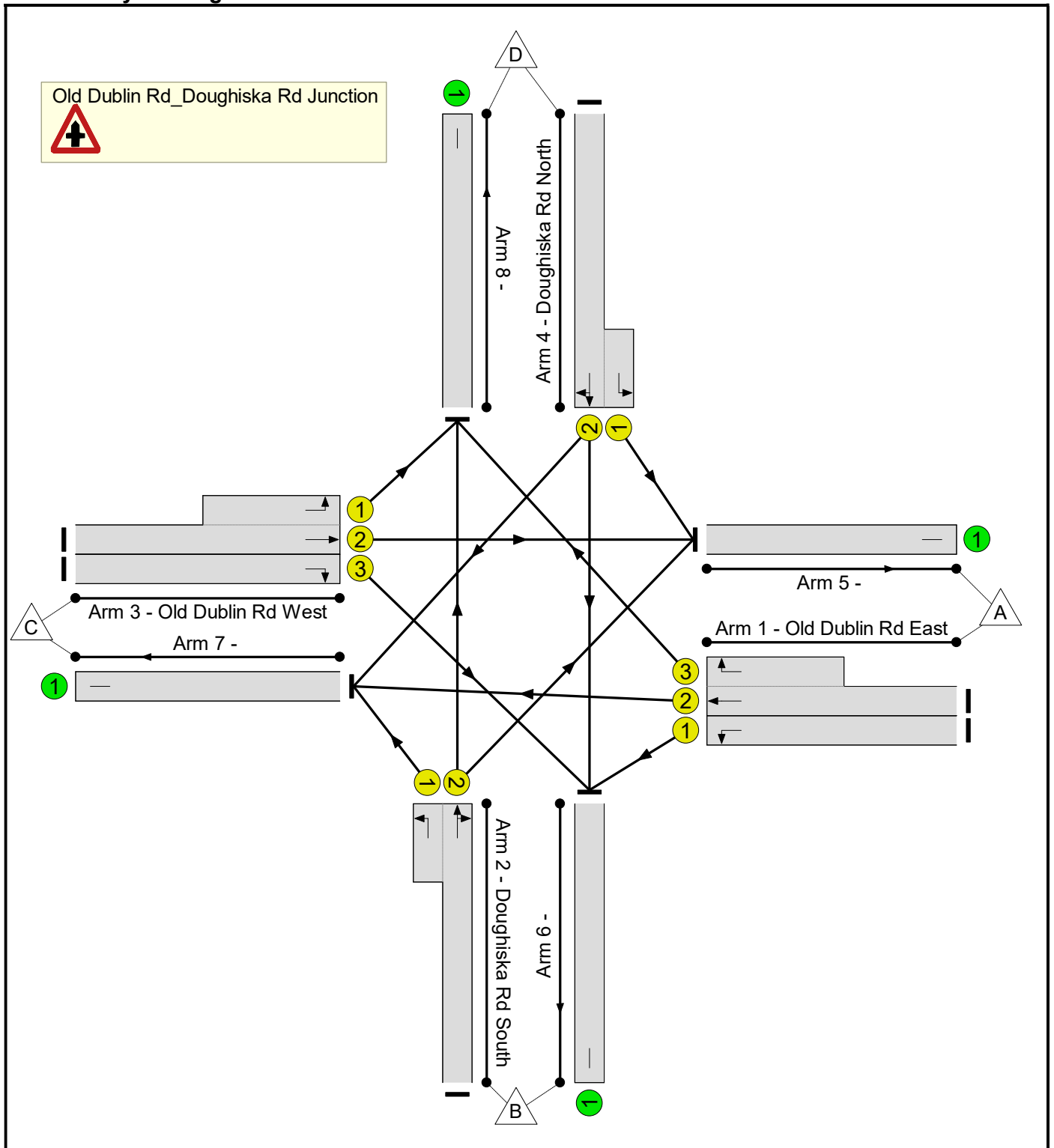


**Full Input Data And Results**

**User and Project Details**

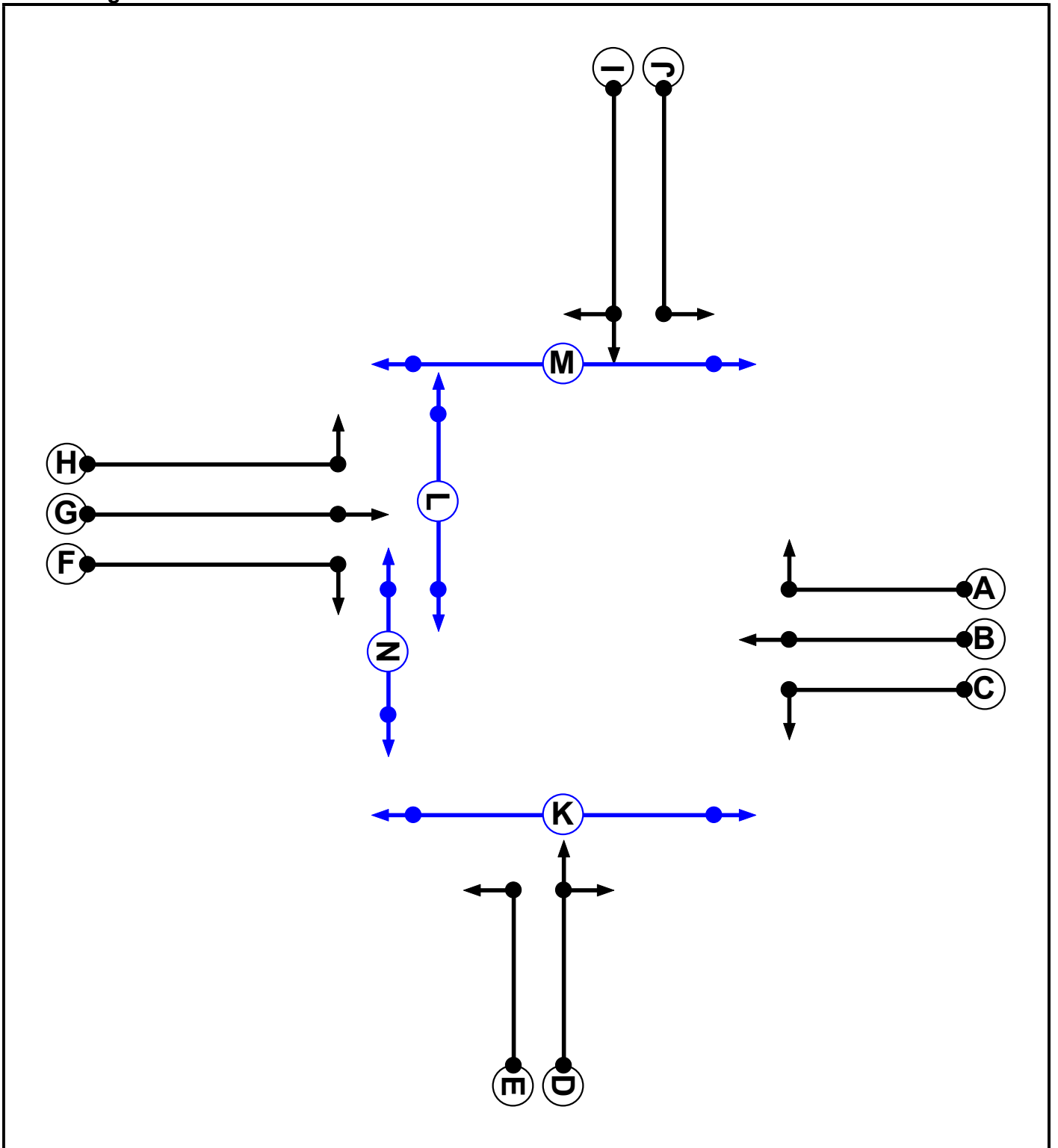
<b>Project:</b>	<b>Proposed Residential Development at Rosshill, Galway City</b>
<b>Title:</b>	<b>Dublin Rd_Doughiska Rd Junction</b>
<b>Location:</b>	Rosshill, Galway City
<b>File name:</b>	119209 Dublin Rd_Doughiska Rd Signalised Junction 2021 02 04 Ph 1.lsg3x
<b>Author:</b>	J Noone
<b>Company:</b>	CST Group
<b>Address:</b>	1 O'Connell Street, Sligo
<b>Notes:</b>	

### Network Layout Diagram





Phase Diagram



Full Input Data And Results

**Phase Input Data**

Phase Name	Phase type	Assoc Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Traffic		7	7
G	Traffic		7	7
H	Traffic		7	7
I	Traffic		7	7
J	Traffic		7	7
K	Pedestrian		6	6
L	Pedestrian		4	4
M	Pedestrian		6	6
N	Pedestrian		3	3

**Phase Intergreens Matrix**

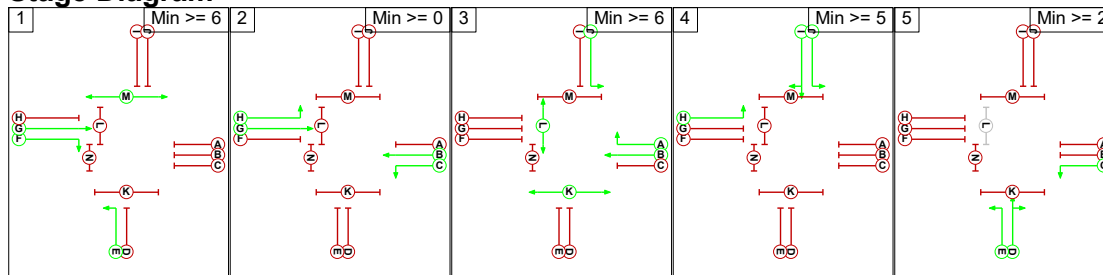
		Starting Phase													
		A	B	C	D	E	F	G	H	I	J	K	L	M	N
Terminating Phase	A	-	-	5	-	-	5	5	5	-	-	-	9	-	
	B	-	-	7	9	7	-	-	5	-	-	-	-	11	
	C	-	-	-	-	6	-	-	5	-	10	-	-	-	
	D	5	5	-	-	5	5	5	5	7	5	-	10	-	
	E	-	5	-	-	-	-	-	5	-	5	-	-	7	
	F	-	5	5	6	-	-	-	5	-	8	5	-	-	
	G	7	-	-	6	-	-	-	6	8	-	5	-	-	
	H	6	-	-	5	-	-	-	-	-	-	5	10	-	
	I	5	5	5	5	10	6	5	-	-	10	-	5	11	
	J	-	-	-	5	-	-	5	-	-	-	-	5	-	
	K	-	-	13	13	13	13	-	-	13	-	-	-	-	
	L	-	-	-	-	-	10	10	10	-	-	-	-	-	
	M	14	-	-	14	-	-	-	14	14	14	-	-	-	
	N	-	8	-	-	8	-	-	-	8	-	-	-	-	

**Phases in Stage**

Stage No.	Phases in Stage
1	E F G M
2	B C G H
3	A B J K L
4	H I J
5	C D E

# Full Input Data And Results

## Stage Diagram



## Lane Input Data

Junction: Old Dublin Rd_Doughiska Rd Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Old Dublin Rd East)	U	C	2	3	60.0	Geom	-	3.10	0.00	Y	Arm 6 Left	10.00
1/2 (Old Dublin Rd East)	U	B	2	3	60.0	Geom	-	3.10	0.00	Y	Arm 7 Ahead	Inf
1/3 (Old Dublin Rd East)	U	A	2	3	7.0	Geom	-	3.20	0.00	Y	Arm 8 Right	15.00
2/1 (Doughiska Rd South)	U	E	2	3	4.0	Geom	-	3.40	0.00	Y	Arm 7 Left	12.00
2/2 (Doughiska Rd South)	U	D	2	3	60.0	Geom	-	3.20	0.00	Y	Arm 5 Right	15.00
											Arm 8 Ahead	Inf
3/1 (Old Dublin Rd West)	U	H	2	3	7.0	Geom	-	2.90	0.00	Y	Arm 8 Left	12.00
3/2 (Old Dublin Rd West)	U	G	2	3	60.0	Geom	-	3.30	0.00	Y	Arm 5 Ahead	Inf
3/3 (Old Dublin Rd West)	U	F	2	3	60.0	Geom	-	3.10	0.00	Y	Arm 6 Right	15.00
4/1 (Doughiska Rd North)	U	J	2	3	4.0	Geom	-	3.00	0.00	Y	Arm 5 Left	12.00
4/2 (Doughiska Rd North)	U	I	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 6 Ahead	Inf
											Arm 7 Right	15.00
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: '2019 AM Survey Year'	08:15	09:15	01:00	
2: '2019 PM Survey Year'	17:15	18:15	01:00	
3: '2024 AM without Dev'	08:15	09:15	01:00	
4: '2024 PM without Dev'	17:15	18:15	01:00	
5: '2029 AM without Dev'	08:15	09:15	01:00	
6: '2029 PM without Dev'	17:15	18:15	01:00	
7: '2039 AM without Dev'	08:15	09:15	01:00	
8: '2039 PM without Dev'	17:15	18:15	01:00	
9: '2024 AM with Dev'	08:15	09:15	01:00	F3+F15
10: '2024 PM with Dev'	17:15	18:15	01:00	F4+F16
11: '2029 AM with Dev'	08:15	09:15	01:00	F5+F15
12: '2029 PM with Dev'	17:15	18:15	01:00	F6+F16
13: '2039 AM with Dev'	08:15	09:15	01:00	F7+F15
14: '2039 PM with Dev'	17:15	18:15	01:00	F8+F16

**Traffic Flows, Desired**

**Scenario 1: '2019 AM Survey Year'** (FG1: '2019 AM Survey Year', Plan 1: 'with Peds')

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	60	317	311	688
	B	80	0	37	180	297
	C	264	50	0	162	476
	D	143	67	53	0	263
	Tot.	487	177	407	653	1724

Full Input Data And Results

**Scenario 2: '2019 PM Survey Year'** (FG2: '2019 PM Survey Year', Plan 1: 'with Peds')

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	237	475	105	817
	B	91	0	73	56	220
	C	488	105	0	46	639
	D	202	137	58	0	397
	Tot.	781	479	606	207	2073

**Scenario 3: '2024 AM without Dev'** (FG3: '2024 AM without Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	66	346	339	751
	B	87	0	41	196	324
	C	288	54	0	177	519
	D	155	73	58	0	286
	Tot.	530	193	445	712	1880

**Scenario 4: '2024 PM without Dev'** (FG4: '2024 PM without Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	258	517	115	890
	B	99	0	79	61	239
	C	531	114	0	50	695
	D	220	149	63	0	432
	Tot.	850	521	659	226	2256

**Scenario 5: '2029 AM without Dev'** (FG5: '2029 AM without Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	72	378	369	819
	B	95	0	44	213	352
	C	314	59	0	192	565
	D	169	79	64	0	312
	Tot.	578	210	486	774	2048

Full Input Data And Results

**Scenario 6: '2029 PM without Dev'** (FG6: '2029 PM without Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	281	564	125	970
	B	108	0	86	66	260
	C	579	124	0	55	758
	D	239	162	69	0	470
	Tot.	926	567	719	246	2458

**Scenario 7: '2039 AM without Dev'** (FG7: '2039 AM without Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	82	425	411	918
	B	106	0	50	236	392
	C	352	66	0	215	633
	D	189	88	72	0	349
	Tot.	647	236	547	862	2292

**Scenario 8: '2039 PM without Dev'** (FG8: '2039 PM without Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	312	630	140	1082
	B	120	0	95	73	288
	C	645	137	0	62	844
	D	265	180	78	0	523
	Tot.	1030	629	803	275	2737

**Scenario 9: '2024 AM with Dev'** (FG9: '2024 AM with Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	66	346	339	751
	B	87	0	41	196	324
	C	289	54	0	178	521
	D	155	73	58	0	286
	Tot.	531	193	445	713	1882

Full Input Data And Results

**Scenario 10: '2024 PM with Dev'** (FG10: '2024 PM with Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	258	520	115	893
	B	99	0	79	61	239
	C	531	114	0	50	695
	D	220	149	63	0	432
	Tot.	850	521	662	226	2259

**Scenario 11: '2029 AM with Dev'** (FG11: '2029 AM with Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	72	378	369	819
	B	95	0	44	213	352
	C	315	59	0	193	567
	D	169	79	64	0	312
	Tot.	579	210	486	775	2050

**Scenario 12: '2029 PM with Dev'** (FG12: '2029 PM with Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	281	567	125	973
	B	108	0	86	66	260
	C	579	124	0	55	758
	D	239	162	69	0	470
	Tot.	926	567	722	246	2461

**Scenario 13: '2039 AM with Dev'** (FG13: '2039 AM with Dev', Plan 1: 'with Peds')

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	82	425	411	918
	B	106	0	50	236	392
	C	353	66	0	216	635
	D	189	88	72	0	349
	Tot.	648	236	547	863	2294

Full Input Data And Results

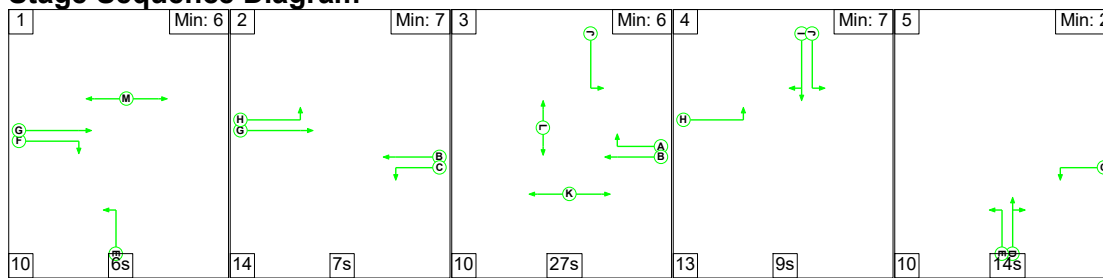
**Scenario 14: '2039 PM with Dev'** (FG14: '2039 PM with Dev', Plan 1: 'with Peds')

**Desired Flow :**

Origin	Destination					
	A	B	C	D	Tot.	
A	0	312	633	140	1085	
B	120	0	95	73	288	
C	645	137	0	62	844	
D	265	180	78	0	523	
Tot.	1030	629	806	275	2740	

**Scenario 1: '2019 AM Survey Year'** (FG1: '2019 AM Survey Year', Plan 1: 'with Peds')

**Stage Sequence Diagram**

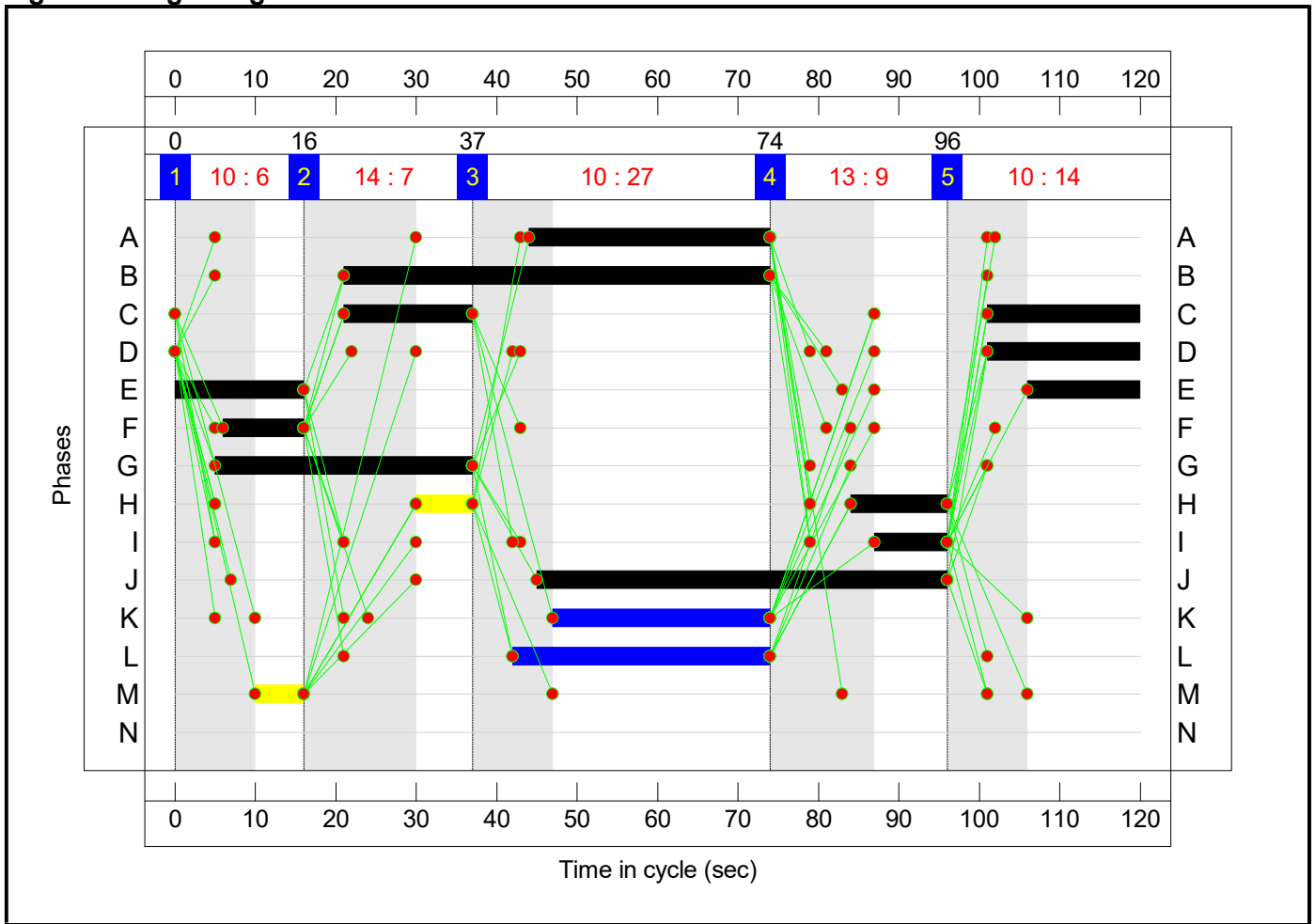


**Stage Timings**

Stage	1	2	3	4	5
Duration	6	7	27	9	14
Change Point	0	16	37	74	96



### Signal Timings Diagram



Full Input Data And Results

**Network Results**

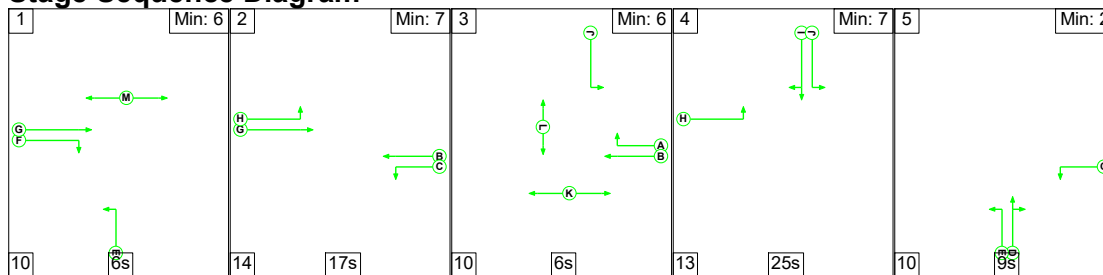
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>92.0%</b>
<b>Old Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>92.0%</b>
1/1	Old Dublin Rd East Left	U	N/A	N/A	C		2	35	-	60	1674	516	11.6%
1/2+1/3	Old Dublin Rd East Ahead Right	U	N/A	N/A	B A		1	53:30		628	1925:1759	685	91.7%
2/2+2/1	Doughiska Rd South Right Left Ahead	U	N/A	N/A	D E		1	19:30		297	1877:1738	323	92.0%
3/2+3/1	Old Dublin Rd West Ahead Left	U	N/A	N/A	G H		1:2	32:19		426	1945:1693	646	66.0%
3/3	Old Dublin Rd West Right	U	N/A	N/A	F		1	10	-	50	1750	160	31.2%
4/2+4/1	Doughiska Rd North Left Ahead Right	U	N/A	N/A	I J		1	9:51		263	1834:1702	292	90.0%
5/1		U	N/A	N/A	-		-	-	-	487	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	177	1	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	407	1	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	653	1	Inf	0.0%



Full Input Data And Results

Scenario 2: '2019 PM Survey Year' (FG2: '2019 PM Survey Year', Plan 1: 'with Peds')

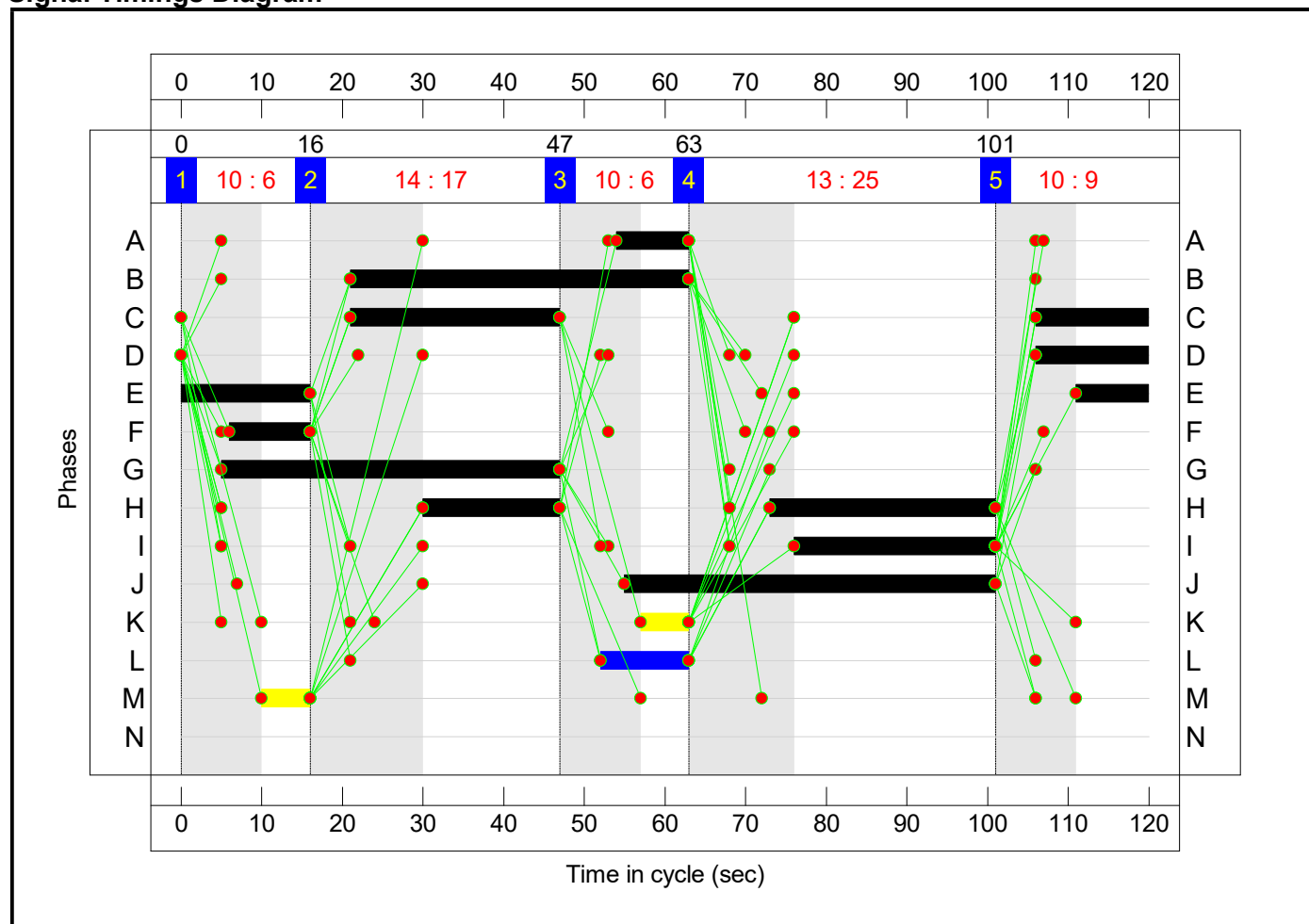
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	6	17	6	25	9
Change Point	0	16	47	63	101

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>79.5%</b>
<b>Old Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>79.5%</b>
1/1	Old Dublin Rd East Left	U	N/A	N/A	C		2	40	-	237	1674	586	40.5%
1/2+1/3	Old Dublin Rd East Ahead Right	U	N/A	N/A	B A		1	42:9		580	1925:1759	730	79.5%
2/2+2/1	Doughiska Rd South Right Left Ahead	U	N/A	N/A	D E		1	14:25		220	1822:1738	284	77.4%
3/2+3/1	Old Dublin Rd West Ahead Left	U	N/A	N/A	G H		1:2	42:45		534	1945:1693	710	75.2%
3/3	Old Dublin Rd West Right	U	N/A	N/A	F		1	10	-	105	1750	160	65.5%
4/2+4/1	Doughiska Rd North Left Ahead Right	U	N/A	N/A	I J		1	25:46		397	1860:1702	511	77.7%
5/1		U	N/A	N/A	-		-	-	-	781	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	479	1	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	606	1	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	207	1	Inf	0.0%

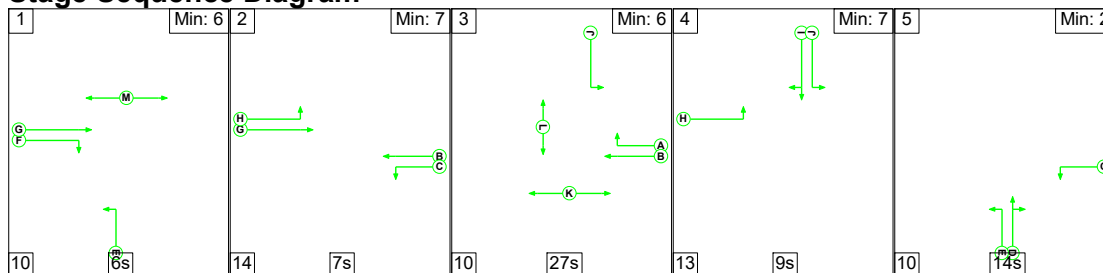
Full Input Data And Results

Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	20.1	8.0	0.0	28.1	-	-	-	-
Old Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	20.1	8.0	0.0	28.1	-	-	-	-
1/1	237	237	-	-	-	1.2	0.3	-	1.5	23.4	4.4	0.3	4.7
1/2+1/3	580	580	-	-	-	6.0	1.9	-	7.9	48.8	15.5	1.9	17.4
2/2+2/1	220	220	-	-	-	2.8	1.6	-	4.5	72.9	5.0	1.6	6.7
3/2+3/1	534	534	-	-	-	4.7	1.5	-	6.2	41.6	14.8	1.5	16.3
3/3	105	105	-	-	-	1.5	0.9	-	2.5	84.1	3.4	0.9	4.3
4/2+4/1	397	397	-	-	-	3.9	1.7	-	5.6	50.7	8.3	1.7	10.0
5/1	781	781	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	479	479	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	606	606	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	207	207	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		13.2	Total Delay for Signalled Lanes (pcuHr):		28.08					
			PRC Over All Lanes (%):		13.2	Total Delay Over All Lanes(pcuHr):		28.08	Cycle Time (s): 120				

Full Input Data And Results

Scenario 3: '2024 AM without Dev' (FG3: '2024 AM without Dev', Plan 1: 'with Peds')

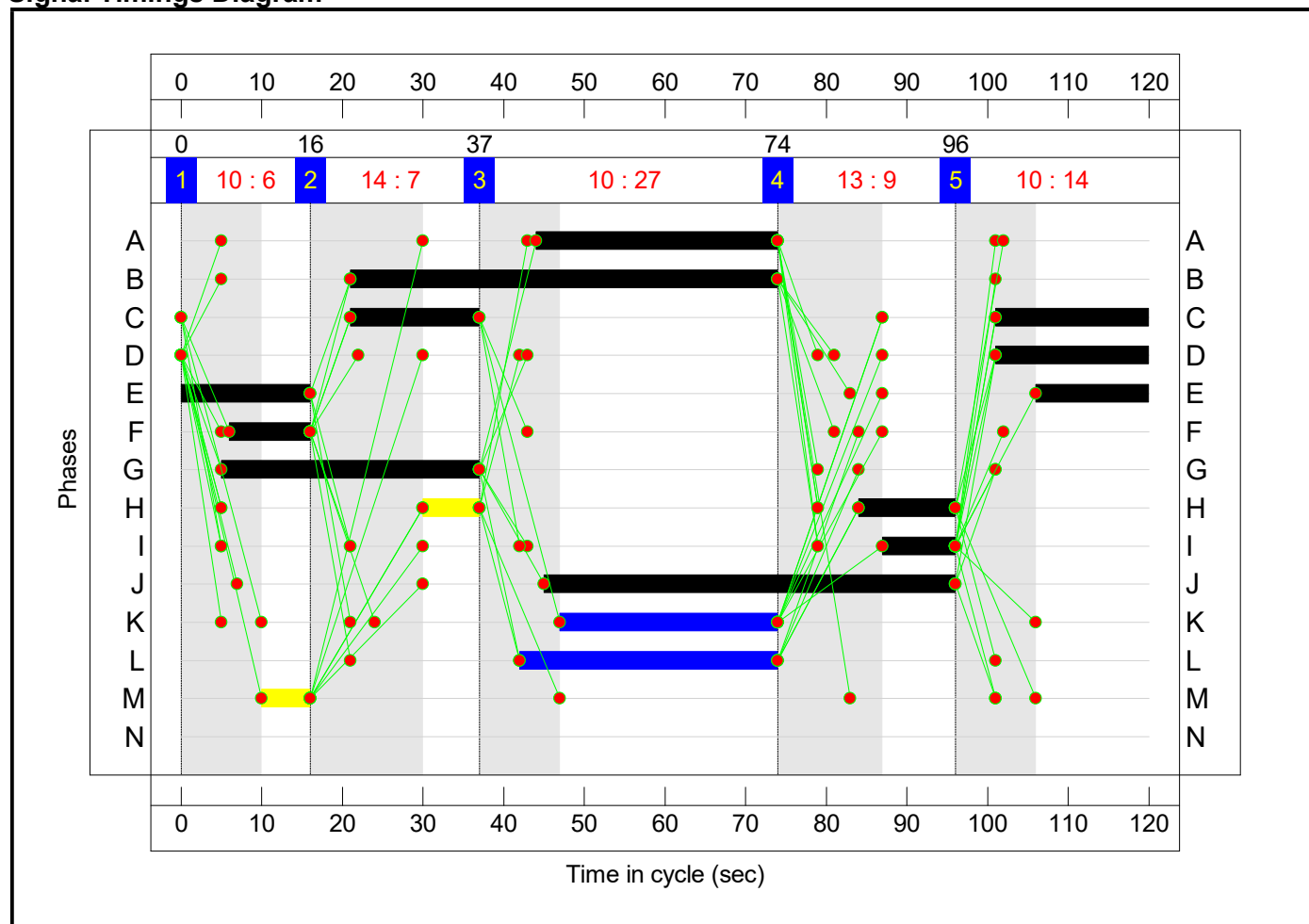
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	6	7	27	9	14
Change Point	0	16	37	74	96

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>100.2%</b>
<b>Old Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>100.2%</b>
1/1	Old Dublin Rd East Left	U	N/A	N/A	C		2	35	-	66	1674	516	12.8%
1/2+1/3	Old Dublin Rd East Ahead Right	U	N/A	N/A	B A		1	53:30		685	1925:1759	685	100.0%
2/2+2/1	Doughiska Rd South Right Left Ahead	U	N/A	N/A	D E		1	19:30		324	1877:1738	323	100.2%
3/2+3/1	Old Dublin Rd West Ahead Left	U	N/A	N/A	G H		1:2	32:19		465	1945:1693	646	72.0%
3/3	Old Dublin Rd West Right	U	N/A	N/A	F		1	10	-	54	1750	160	33.7%
4/2+4/1	Doughiska Rd North Left Ahead Right	U	N/A	N/A	I J		1	9:51		286	1834:1702	291	98.2%
5/1		U	N/A	N/A	-		-	-	-	530	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	193	1	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	445	1	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	712	1	Inf	0.0%



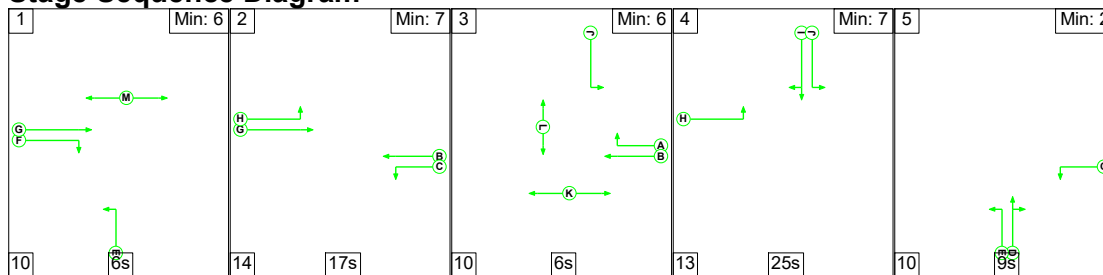
Full Input Data And Results

Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	19.1	31.1	0.0	50.2	-	-	-	-
Old Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	19.1	31.1	0.0	50.2	-	-	-	-
1/1	66	66	-	-	-	0.3	0.1	-	0.4	23.0	1.2	0.1	1.3
1/2+1/3	685	685	-	-	-	6.6	13.1	-	19.7	103.6	15.9	13.1	29.1
2/2+2/1	324	323	-	-	-	4.4	9.2	-	13.6	150.6	10.2	9.2	19.4
3/2+3/1	465	465	-	-	-	4.1	1.3	-	5.4	41.5	9.1	1.3	10.4
3/3	54	54	-	-	-	0.8	0.3	-	1.0	67.9	1.7	0.3	1.9
4/2+4/1	286	286	-	-	-	2.9	7.2	-	10.1	127.6	4.8	7.2	12.0
5/1	530	530	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	193	193	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	445	445	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	711	711	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		-11.4	Total Delay for Signalled Lanes (pcuHr):		50.21					
			PRC Over All Lanes (%):		-11.4	Total Delay Over All Lanes(pcuHr):		50.21	Cycle Time (s): 120				

Full Input Data And Results

Scenario 4: '2024 PM without Dev' (FG4: '2024 PM without Dev', Plan 1: 'with Peds')

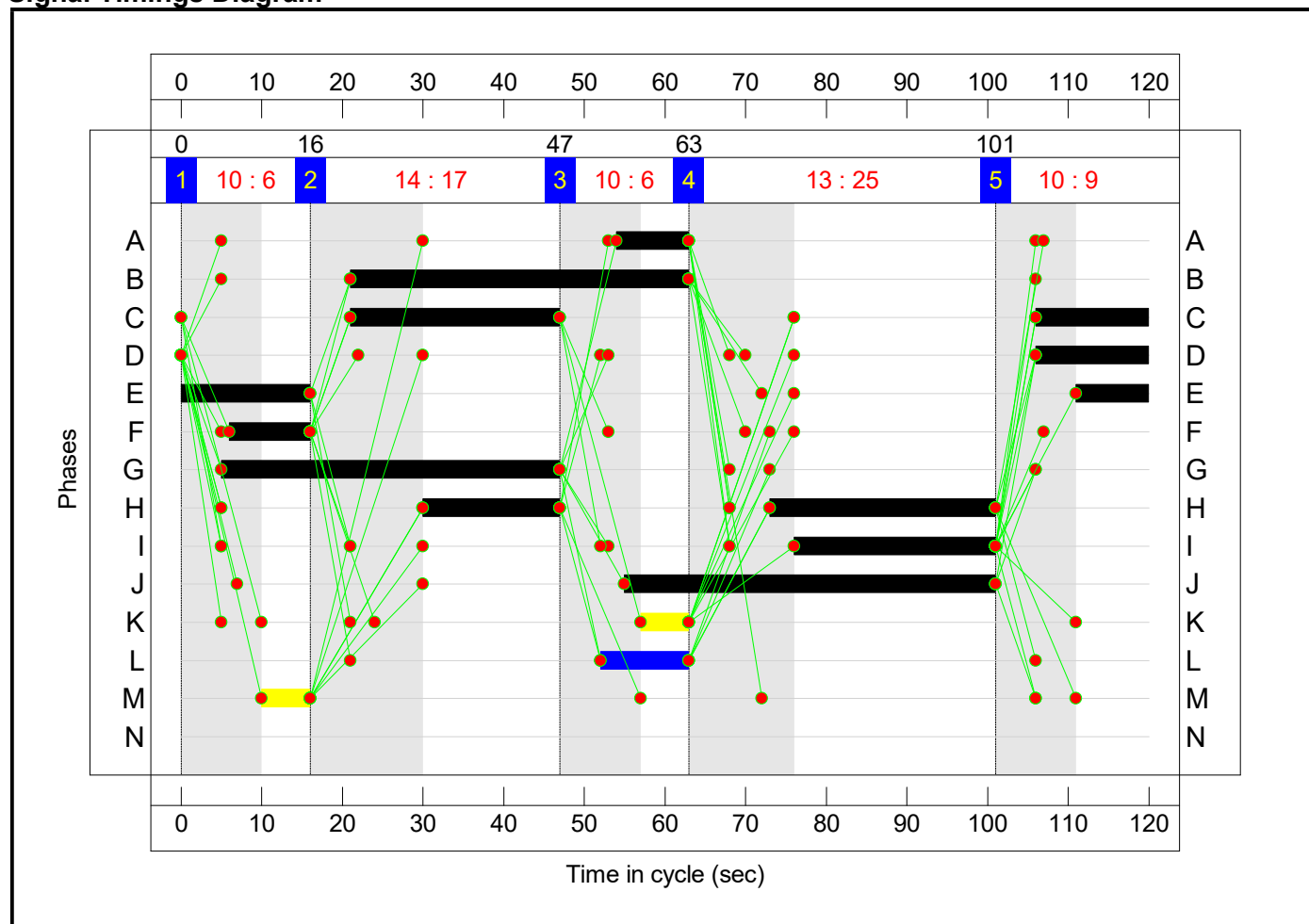
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	6	17	6	25	9
Change Point	0	16	47	63	101

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>86.6%</b>
<b>Old Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>86.6%</b>
1/1	Old Dublin Rd East Left	U	N/A	N/A	C		2	40	-	258	1674	586	44.0%
1/2+1/3	Old Dublin Rd East Ahead Right	U	N/A	N/A	B A		1	42:9		632	1925:1759	730	86.6%
2/2+2/1	Doughiska Rd South Right Left Ahead	U	N/A	N/A	D E		1	14:25		239	1822:1738	284	84.2%
3/2+3/1	Old Dublin Rd West Ahead Left	U	N/A	N/A	G H		1:2	42:45		581	1945:1693	710	81.8%
3/3	Old Dublin Rd West Right	U	N/A	N/A	F		1	10	-	114	1750	160	71.1%
4/2+4/1	Doughiska Rd North Left Ahead Right	U	N/A	N/A	I J		1	25:46		432	1860:1702	511	84.6%
5/1		U	N/A	N/A	-		-	-	-	850	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	521	1	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	659	1	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	226	1	Inf	0.0%

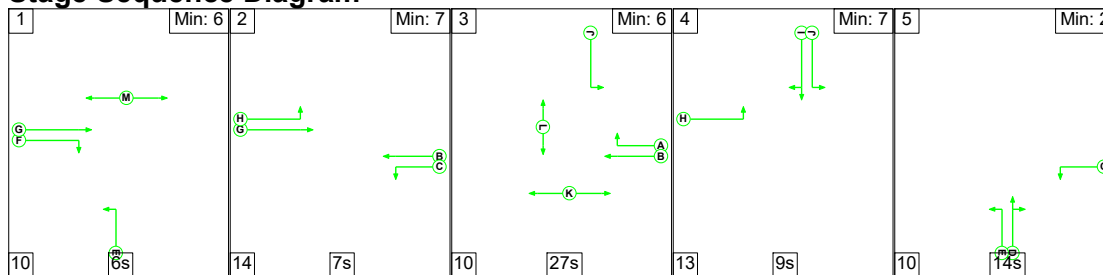
Full Input Data And Results

Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	22.5	11.8	0.0	34.3	-	-	-	-
Old Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	22.5	11.8	0.0	34.3	-	-	-	-
1/1	258	258	-	-	-	1.3	0.4	-	1.7	24.0	4.9	0.4	5.3
1/2+1/3	632	632	-	-	-	6.7	3.0	-	9.7	55.5	17.8	3.0	20.8
2/2+2/1	239	239	-	-	-	3.1	2.4	-	5.5	82.9	5.7	2.4	8.1
3/2+3/1	581	581	-	-	-	5.3	2.2	-	7.5	46.3	16.8	2.2	19.0
3/3	114	114	-	-	-	1.7	1.2	-	2.8	89.9	3.7	1.2	4.8
4/2+4/1	432	432	-	-	-	4.4	2.6	-	7.0	58.1	9.6	2.6	12.2
5/1	850	850	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	521	521	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	659	659	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	226	226	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		3.9	Total Delay for Signalled Lanes (pcuHr):		34.26					
			PRC Over All Lanes (%):		3.9	Total Delay Over All Lanes(pcuHr):		34.26	Cycle Time (s): 120				

Full Input Data And Results

Scenario 5: '2029 AM without Dev' (FG5: '2029 AM without Dev', Plan 1: 'with Peds')

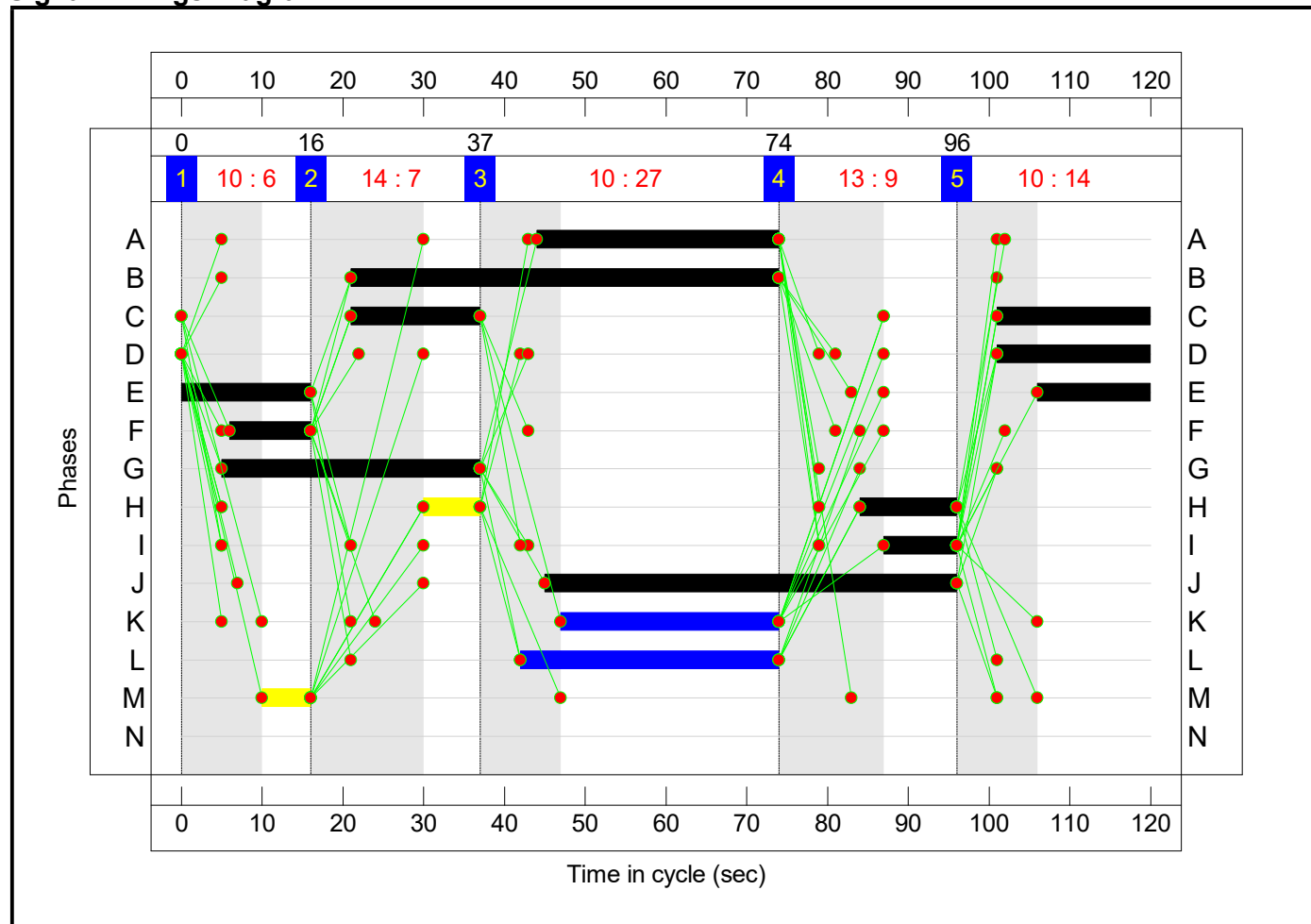
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	6	7	27	9	14
Change Point	0	16	37	74	96

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>109.0%</b>
<b>Old Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>109.0%</b>
1/1	Old Dublin Rd East Left	U	N/A	N/A	C		2	35	-	72	1674	516	13.9%
1/2+1/3	Old Dublin Rd East Ahead Right	U	N/A	N/A	B A		1	53:30		747	1925:1759	686	108.9%
2/2+2/1	Doughiska Rd South Right Left Ahead	U	N/A	N/A	D E		1	19:30		352	1877:1738	323	109.0%
3/2+3/1	Old Dublin Rd West Ahead Left	U	N/A	N/A	G H		1:2	32:19		506	1945:1693	645	78.4%
3/3	Old Dublin Rd West Right	U	N/A	N/A	F		1	10	-	59	1750	160	36.8%
4/2+4/1	Doughiska Rd North Left Ahead Right	U	N/A	N/A	I J		1	9:51		312	1833:1702	291	107.2%
5/1		U	N/A	N/A	-		-	-	-	578	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	210	1	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	486	1	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	774	1	Inf	0.0%

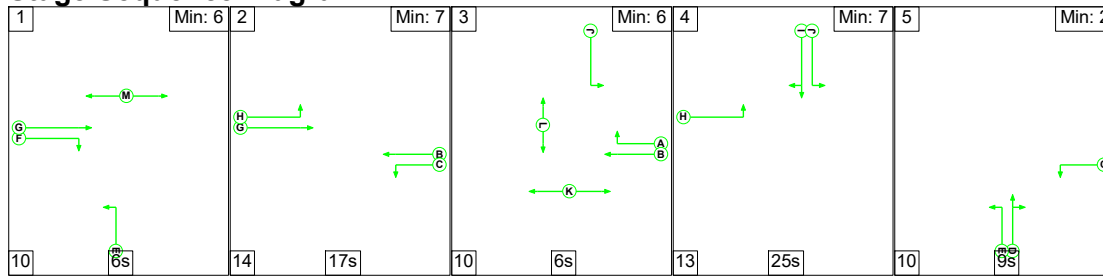
Full Input Data And Results

Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	26.5	72.6	0.0	99.1	-	-	-	-
Old Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	26.5	72.6	0.0	99.1	-	-	-	-
1/1	72	72	-	-	-	0.4	0.1	-	0.5	23.1	1.3	0.1	1.4
1/2+1/3	747	686	-	-	-	10.3	35.9	-	46.2	222.5	21.2	35.9	57.1
2/2+2/1	352	323	-	-	-	6.4	19.1	-	25.5	261.0	12.7	19.1	31.8
3/2+3/1	506	506	-	-	-	4.5	1.8	-	6.3	44.9	10.8	1.8	12.5
3/3	59	59	-	-	-	0.8	0.3	-	1.1	68.9	1.8	0.3	2.1
4/2+4/1	312	291	-	-	-	4.0	15.5	-	19.5	224.7	6.7	15.5	22.2
5/1	559	559	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	205	205	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	447	447	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	726	726	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		-21.1	Total Delay for Signalled Lanes (pcuHr):		99.07					
			PRC Over All Lanes (%):		-21.1	Total Delay Over All Lanes(pcuHr):		99.07	Cycle Time (s): 120				

Full Input Data And Results

Scenario 6: '2029 PM without Dev' (FG6: '2029 PM without Dev', Plan 1: 'with Peds')

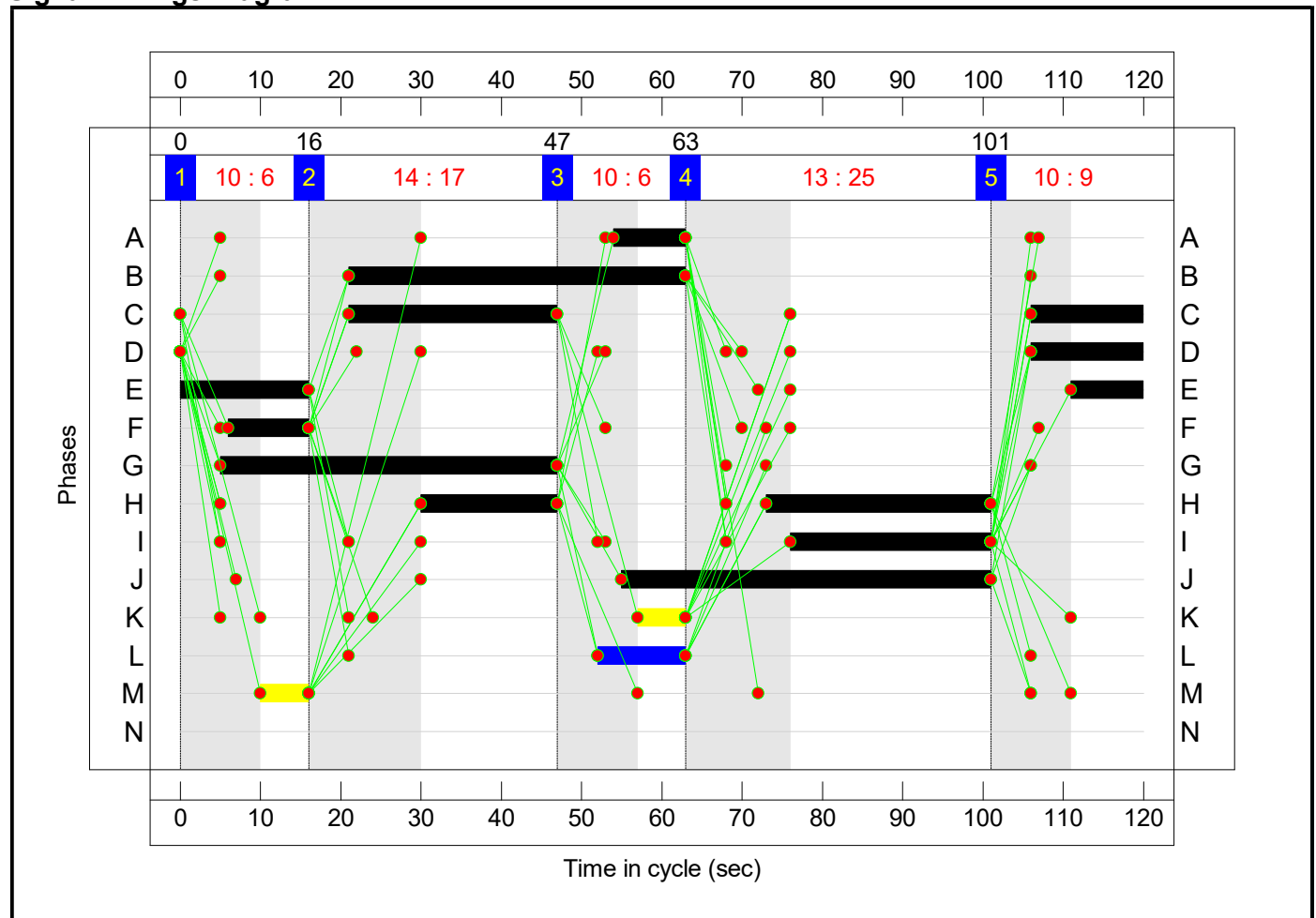
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	6	17	6	25	9
Change Point	0	16	47	63	101

Signal Timings Diagram





Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>94.4%</b>
<b>Old Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>94.4%</b>
1/1	Old Dublin Rd East Left	U	N/A	N/A	C		2	40	-	281	1674	586	48.0%
1/2+1/3	Old Dublin Rd East Ahead Right	U	N/A	N/A	B A		1	42:9		689	1925:1759	730	94.4%
2/2+2/1	Doughiska Rd South Right Left Ahead	U	N/A	N/A	D E		1	14:25		260	1822:1738	284	91.6%
3/2+3/1	Old Dublin Rd West Ahead Left	U	N/A	N/A	G H		1:2	42:45		634	1945:1693	710	89.3%
3/3	Old Dublin Rd West Right	U	N/A	N/A	F		1	10	-	124	1750	160	77.3%
4/2+4/1	Doughiska Rd North Left Ahead Right	U	N/A	N/A	I J		1	25:46		470	1859:1702	511	92.1%
5/1		U	N/A	N/A	-		-	-	-	926	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	567	1	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	719	1	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	246	1	Inf	0.0%

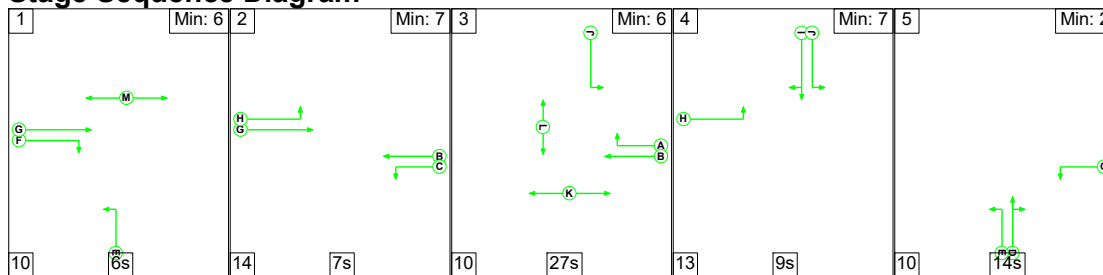
Full Input Data And Results

Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	25.3	21.0	0.0	46.3	-	-	-	-
Old Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	25.3	21.0	0.0	46.3	-	-	-	-
1/1	281	281	-	-	-	1.5	0.5	-	1.9	24.7	5.4	0.5	5.8
1/2+1/3	689	689	-	-	-	7.6	6.4	-	14.0	73.1	20.5	6.4	26.9
2/2+2/1	260	260	-	-	-	3.4	4.1	-	7.5	103.3	6.5	4.1	10.6
3/2+3/1	634	634	-	-	-	6.0	3.8	-	9.8	55.8	19.1	3.8	22.9
3/3	124	124	-	-	-	1.8	1.6	-	3.4	98.8	4.0	1.6	5.6
4/2+4/1	470	470	-	-	-	5.0	4.7	-	9.7	74.2	11.3	4.7	16.0
5/1	926	926	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	567	567	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	719	719	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	246	246	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		-4.9	Total Delay for Signalled Lanes (pcuHr):		46.30					
			PRC Over All Lanes (%):		-4.9	Total Delay Over All Lanes(pcuHr):		46.30	Cycle Time (s): 120				

Full Input Data And Results

Scenario 7: '2039 AM without Dev' (FG7: '2039 AM without Dev', Plan 1: 'with Peds')

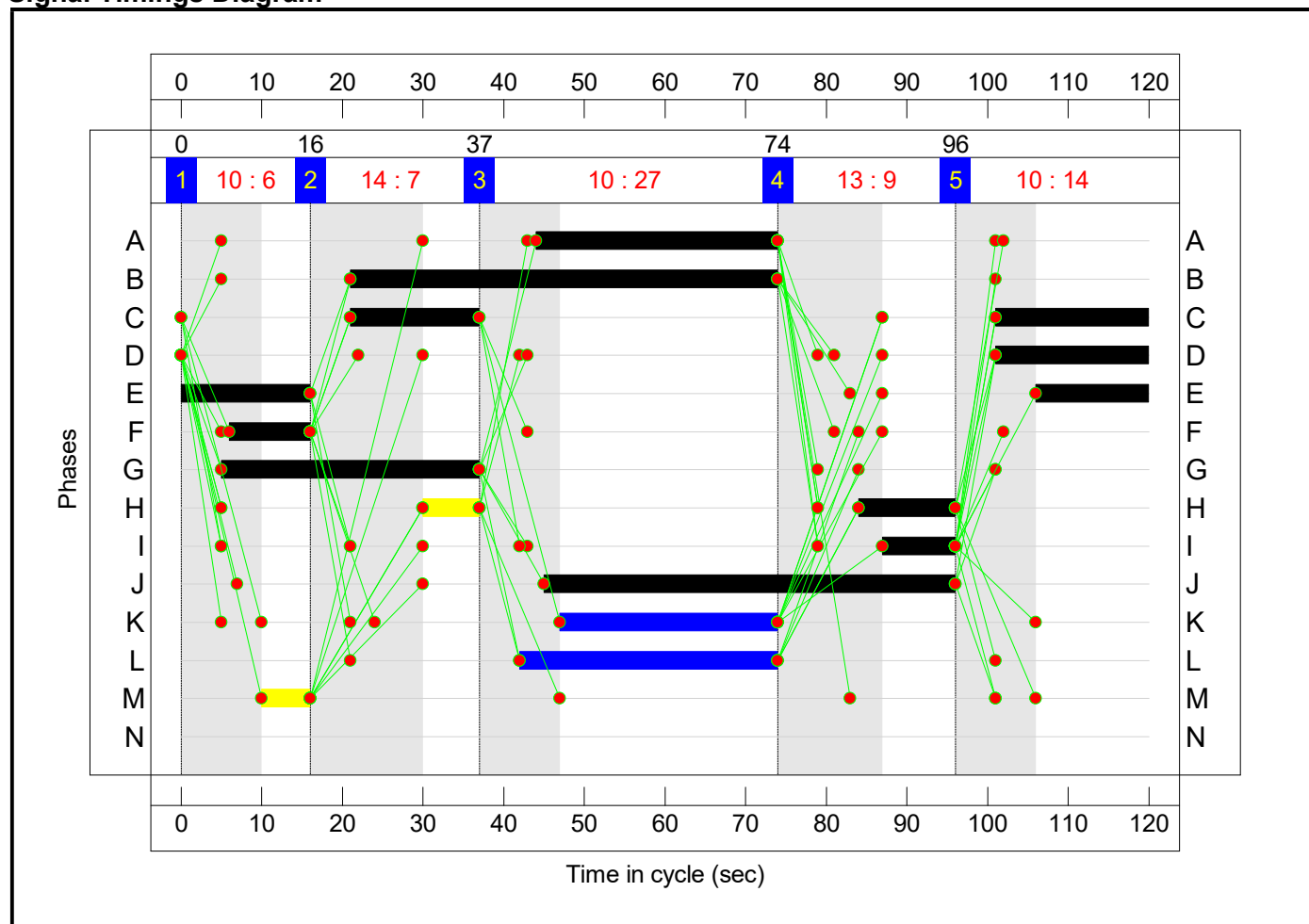
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	6	7	27	9	14
Change Point	0	16	37	74	96

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>121.6%</b>
<b>Old Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>121.6%</b>
1/1	Old Dublin Rd East Left	U	N/A	N/A	C		2	35	-	82	1674	516	15.9%
1/2+1/3	Old Dublin Rd East Ahead Right	U	N/A	N/A	B A		1	53:30		836	1925:1759	688	121.6%
2/2+2/1	Doughiska Rd South Right Left Ahead	U	N/A	N/A	D E		1	19:30		392	1877:1738	323	121.2%
3/2+3/1	Old Dublin Rd West Ahead Left	U	N/A	N/A	G H		1:2	32:19		567	1945:1693	645	87.9%
3/3	Old Dublin Rd West Right	U	N/A	N/A	F		1	10	-	66	1750	160	41.1%
4/2+4/1	Doughiska Rd North Left Ahead Right	U	N/A	N/A	I J		1	9:51		349	1833:1702	291	119.9%
5/1		U	N/A	N/A	-		-	-	-	647	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	236	1	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	547	1	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	862	1	Inf	0.0%

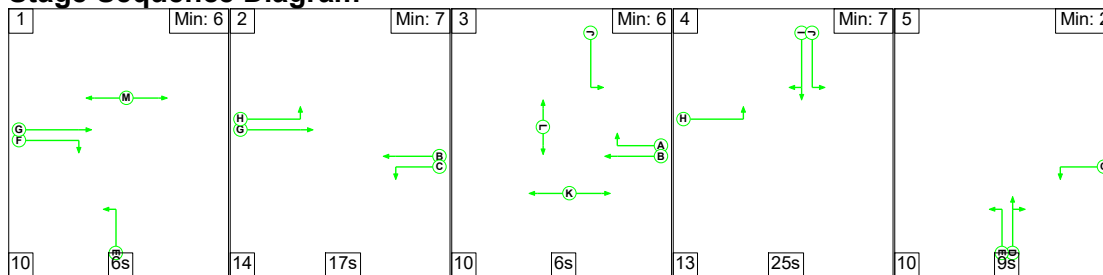
Full Input Data And Results

Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	37.9	149.3	0.0	187.2	-	-	-	-
Old Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	37.9	149.3	0.0	187.2	-	-	-	-
1/1	82	82	-	-	-	0.4	0.1	-	0.5	23.3	1.5	0.1	1.6
1/2+1/3	836	688	-	-	-	15.7	76.8	-	92.6	398.6	27.2	76.8	104.0
2/2+2/1	392	323	-	-	-	9.5	37.0	-	46.5	427.2	16.8	37.0	53.8
3/2+3/1	567	567	-	-	-	5.2	3.3	-	8.6	54.5	13.4	3.3	16.7
3/3	66	66	-	-	-	0.9	0.3	-	1.3	70.4	2.1	0.3	2.4
4/2+4/1	349	291	-	-	-	6.0	31.7	-	37.7	389.4	10.6	31.7	42.3
5/1	597	597	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	221	221	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	451	451	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	748	748	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		-35.1	Total Delay for Signalled Lanes (pcuHr):		187.23					
			PRC Over All Lanes (%):		-35.1	Total Delay Over All Lanes(pcuHr):		187.23	Cycle Time (s): 120				

Full Input Data And Results

Scenario 8: '2039 PM without Dev' (FG8: '2039 PM without Dev', Plan 1: 'with Peds')

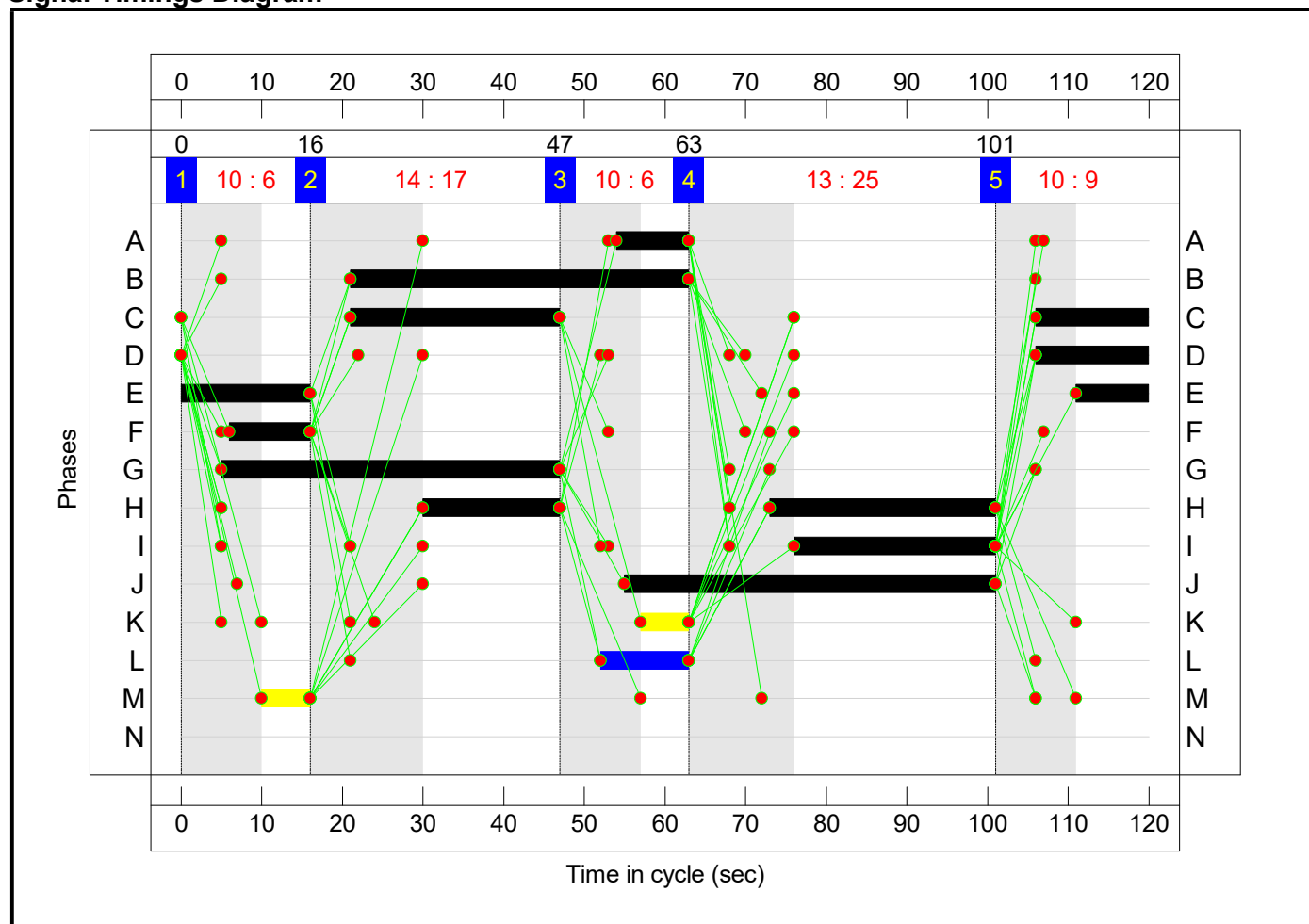
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	6	17	6	25	9
Change Point	0	16	47	63	101

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>105.5%</b>
<b>Old Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>105.5%</b>
1/1	Old Dublin Rd East Left	U	N/A	N/A	C		2	40	-	312	1674	586	53.3%
1/2+1/3	Old Dublin Rd East Ahead Right	U	N/A	N/A	B A		1	42:9		770	1925:1759	730	105.5%
2/2+2/1	Doughiska Rd South Right Left Ahead	U	N/A	N/A	D E		1	14:25		288	1822:1738	284	101.5%
3/2+3/1	Old Dublin Rd West Ahead Left	U	N/A	N/A	G H		1:2	42:45		707	1945:1693	710	99.6%
3/3	Old Dublin Rd West Right	U	N/A	N/A	F		1	10	-	137	1750	160	85.4%
4/2+4/1	Doughiska Rd North Left Ahead Right	U	N/A	N/A	I J		1	25:46		523	1859:1702	510	102.6%
5/1		U	N/A	N/A	-		-	-	-	1030	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	629	1	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	803	1	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	275	1	Inf	0.0%

Full Input Data And Results

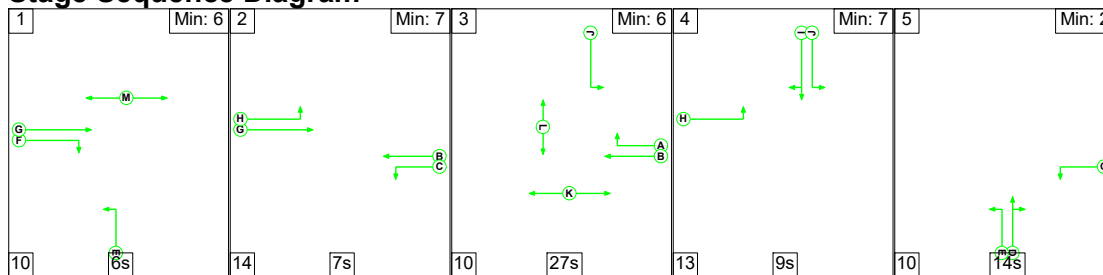
Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	32.1	67.6	0.0	99.7	-	-	-	-
Old Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	32.1	67.6	0.0	99.7	-	-	-	-
1/1	312	312	-	-	-	1.7	0.6	-	2.2	25.8	6.2	0.6	6.7
1/2+1/3	770	730	-	-	-	10.9	27.2	-	38.1	178.0	26.7	27.2	53.9
2/2+2/1	288	284	-	-	-	4.0	9.6	-	13.6	170.0	7.7	9.6	17.3
3/2+3/1	707	707	-	-	-	7.2	12.5	-	19.7	100.3	22.7	12.5	35.2
3/3	137	137	-	-	-	2.0	2.4	-	4.5	117.4	4.5	2.4	6.9
4/2+4/1	523	510	-	-	-	6.4	15.2	-	21.6	148.7	14.3	15.2	29.5
5/1	1021	1021	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	624	624	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	767	767	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	267	267	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		-17.2	Total Delay for Signalled Lanes (pcuHr):		99.69					
			PRC Over All Lanes (%):		-17.2	Total Delay Over All Lanes(pcuHr):		99.69	Cycle Time (s): 120				



Full Input Data And Results

Scenario 9: '2024 AM with Dev' (FG9: '2024 AM with Dev', Plan 1: 'with Peds')

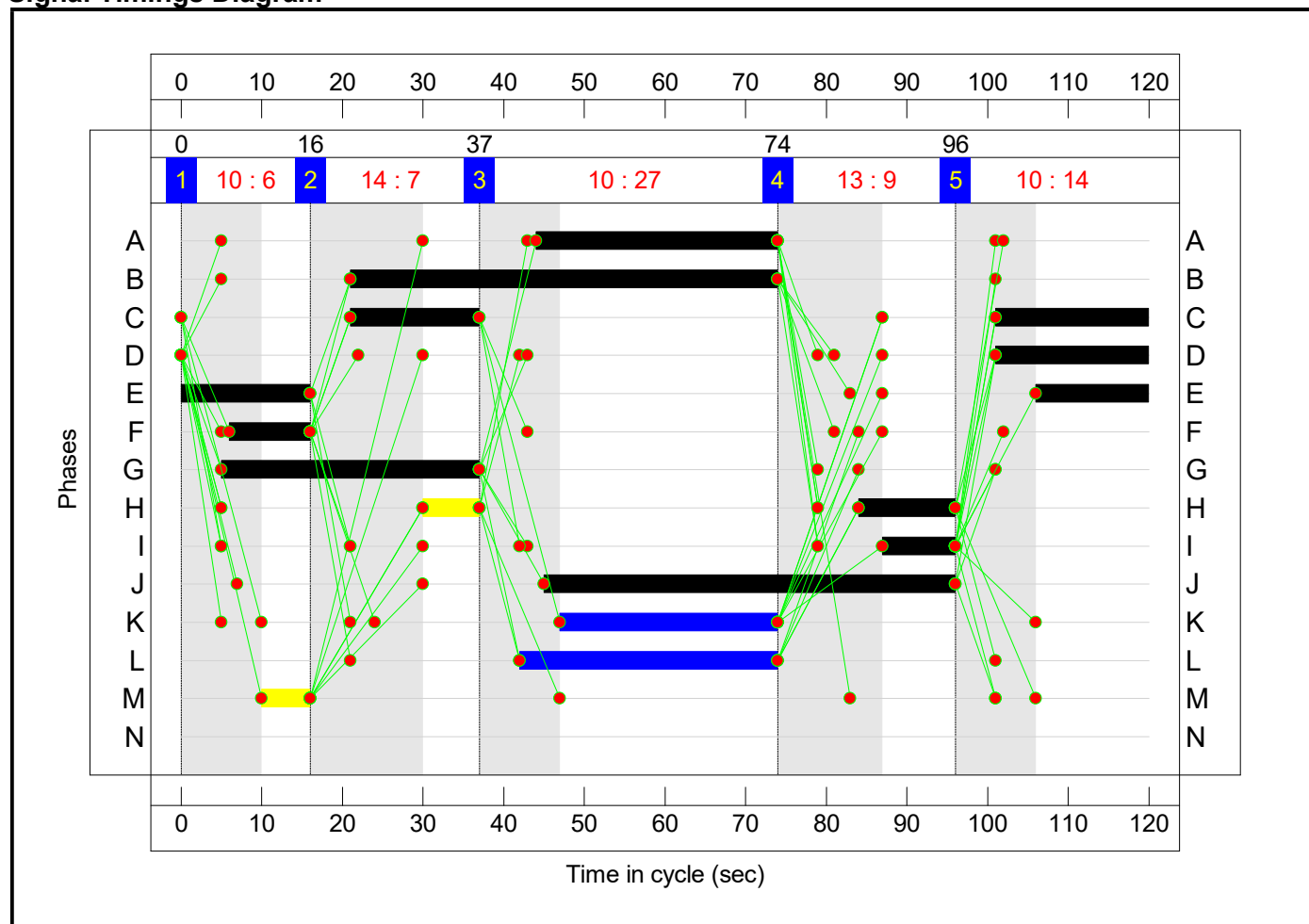
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	6	7	27	9	14
Change Point	0	16	37	74	96

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>100.2%</b>
<b>Old Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>100.2%</b>
1/1	Old Dublin Rd East Left	U	N/A	N/A	C		2	35	-	66	1674	516	12.8%
1/2+1/3	Old Dublin Rd East Ahead Right	U	N/A	N/A	B A		1	53:30		685	1925:1759	685	100.0%
2/2+2/1	Doughiska Rd South Right Left Ahead	U	N/A	N/A	D E		1	19:30		324	1877:1738	323	100.2%
3/2+3/1	Old Dublin Rd West Ahead Left	U	N/A	N/A	G H		1:2	32:19		467	1945:1693	646	72.3%
3/3	Old Dublin Rd West Right	U	N/A	N/A	F		1	10	-	54	1750	160	33.7%
4/2+4/1	Doughiska Rd North Left Ahead Right	U	N/A	N/A	I J		1	9:51		286	1834:1702	291	98.2%
5/1		U	N/A	N/A	-		-	-	-	531	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	193	1	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	445	1	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	713	1	Inf	0.0%

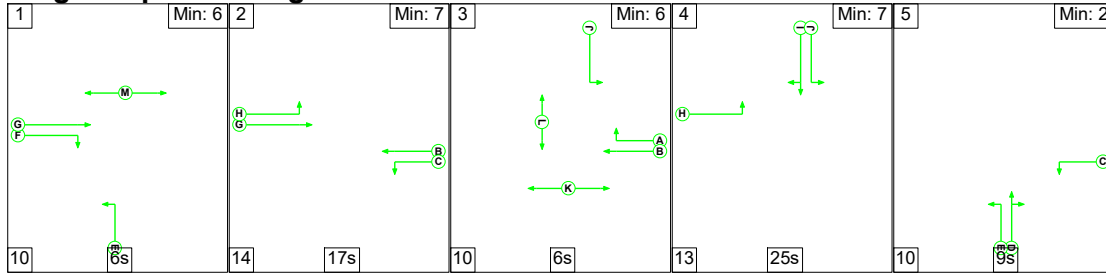
Full Input Data And Results

Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	19.1	31.2	0.0	50.2	-	-	-	-
Old Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	19.1	31.2	0.0	50.2	-	-	-	-
1/1	66	66	-	-	-	0.3	0.1	-	0.4	23.0	1.2	0.1	1.3
1/2+1/3	685	685	-	-	-	6.6	13.1	-	19.7	103.6	15.9	13.1	29.1
2/2+2/1	324	323	-	-	-	4.4	9.2	-	13.6	150.6	10.2	9.2	19.4
3/2+3/1	467	467	-	-	-	4.1	1.3	-	5.4	41.7	9.2	1.3	10.5
3/3	54	54	-	-	-	0.8	0.3	-	1.0	67.9	1.7	0.3	1.9
4/2+4/1	286	286	-	-	-	2.9	7.2	-	10.1	127.6	4.8	7.2	12.0
5/1	531	531	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	193	193	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	445	445	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	712	712	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		-11.4	Total Delay for Signalled Lanes (pcuHr):		50.25					
			PRC Over All Lanes (%):		-11.4	Total Delay Over All Lanes(pcuHr):		50.25	Cycle Time (s): 120				

Full Input Data And Results

Scenario 10: '2024 PM with Dev' (FG10: '2024 PM with Dev', Plan 1: 'with Peds')

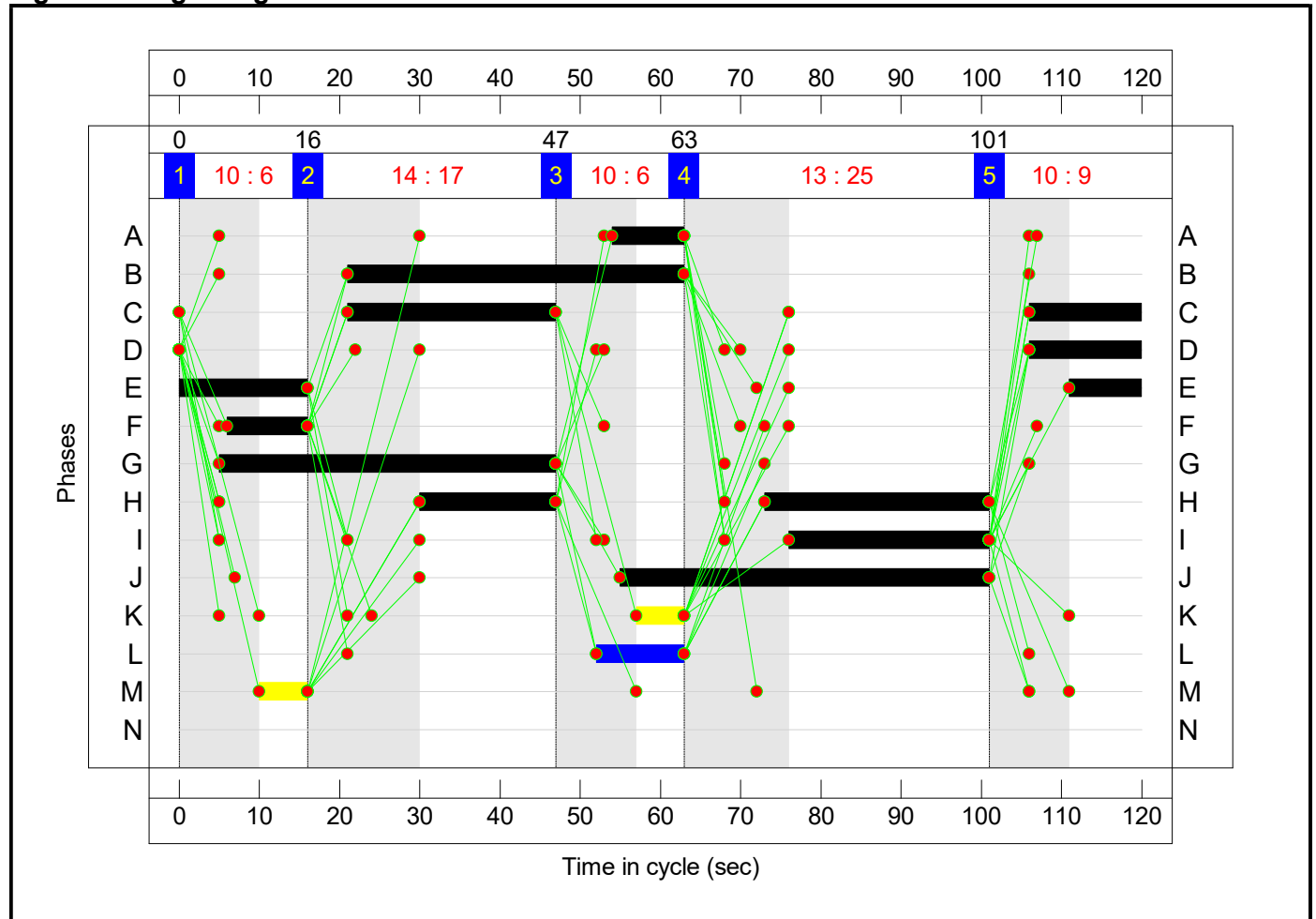
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	6	17	6	25	9
Change Point	0	16	47	63	101

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>87.0%</b>
<b>Old Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>87.0%</b>
1/1	Old Dublin Rd East Left	U	N/A	N/A	C		2	40	-	258	1674	586	44.0%
1/2+1/3	Old Dublin Rd East Ahead Right	U	N/A	N/A	B A		1	42:9		635	1925:1759	730	87.0%
2/2+2/1	Doughiska Rd South Right Left Ahead	U	N/A	N/A	D E		1	14:25		239	1822:1738	284	84.2%
3/2+3/1	Old Dublin Rd West Ahead Left	U	N/A	N/A	G H		1:2	42:45		581	1945:1693	710	81.8%
3/3	Old Dublin Rd West Right	U	N/A	N/A	F		1	10	-	114	1750	160	71.1%
4/2+4/1	Doughiska Rd North Left Ahead Right	U	N/A	N/A	I J		1	25:46		432	1860:1702	511	84.6%
5/1		U	N/A	N/A	-		-	-	-	850	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	521	1	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	662	1	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	226	1	Inf	0.0%

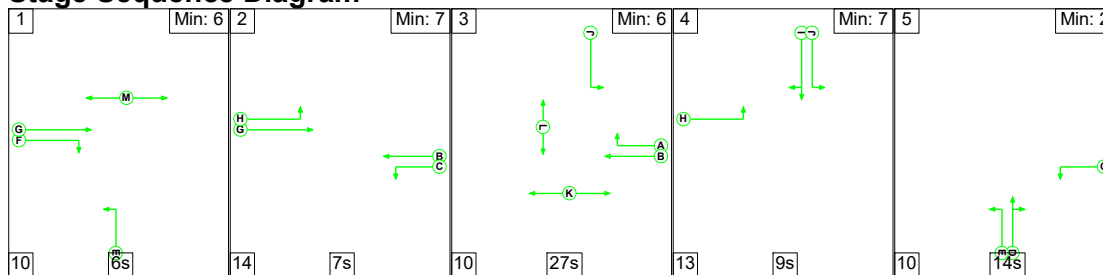
Full Input Data And Results

Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	22.5	11.9	0.0	34.4	-	-	-	-
Old Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	22.5	11.9	0.0	34.4	-	-	-	-
1/1	258	258	-	-	-	1.3	0.4	-	1.7	24.0	4.9	0.4	5.3
1/2+1/3	635	635	-	-	-	6.7	3.1	-	9.9	56.1	17.9	3.1	21.0
2/2+2/1	239	239	-	-	-	3.1	2.4	-	5.5	82.9	5.7	2.4	8.1
3/2+3/1	581	581	-	-	-	5.3	2.2	-	7.5	46.3	16.8	2.2	19.0
3/3	114	114	-	-	-	1.7	1.2	-	2.8	89.9	3.7	1.2	4.8
4/2+4/1	432	432	-	-	-	4.4	2.6	-	7.0	58.1	9.6	2.6	12.2
5/1	850	850	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	521	521	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	662	662	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	226	226	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		3.4	Total Delay for Signalled Lanes (pcuHr):		34.40					
			PRC Over All Lanes (%):		3.4	Total Delay Over All Lanes(pcuHr):		34.40	Cycle Time (s): 120				

Full Input Data And Results

Scenario 11: '2029 AM with Dev' (FG11: '2029 AM with Dev', Plan 1: 'with Peds')

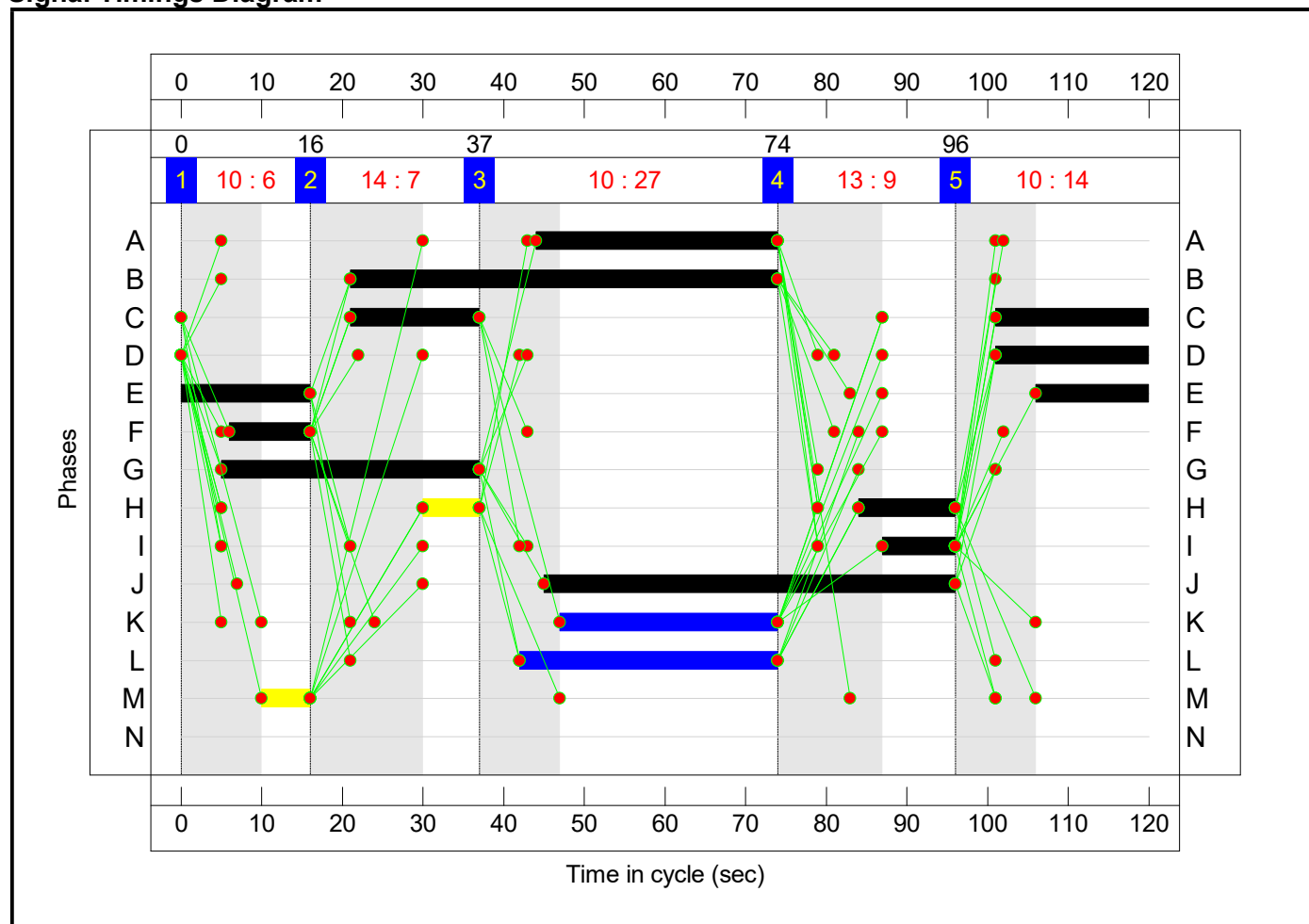
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	6	7	27	9	14
Change Point	0	16	37	74	96

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>109.0%</b>
<b>Old Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>109.0%</b>
1/1	Old Dublin Rd East Left	U	N/A	N/A	C		2	35	-	72	1674	516	13.9%
1/2+1/3	Old Dublin Rd East Ahead Right	U	N/A	N/A	B A		1	53:30		747	1925:1759	686	108.9%
2/2+2/1	Doughiska Rd South Right Left Ahead	U	N/A	N/A	D E		1	19:30		352	1877:1738	323	109.0%
3/2+3/1	Old Dublin Rd West Ahead Left	U	N/A	N/A	G H		1:2	32:19		508	1945:1693	645	78.7%
3/3	Old Dublin Rd West Right	U	N/A	N/A	F		1	10	-	59	1750	160	36.8%
4/2+4/1	Doughiska Rd North Left Ahead Right	U	N/A	N/A	I J		1	9:51		312	1833:1702	291	107.2%
5/1		U	N/A	N/A	-		-	-	-	579	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	210	1	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	486	1	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	775	1	Inf	0.0%



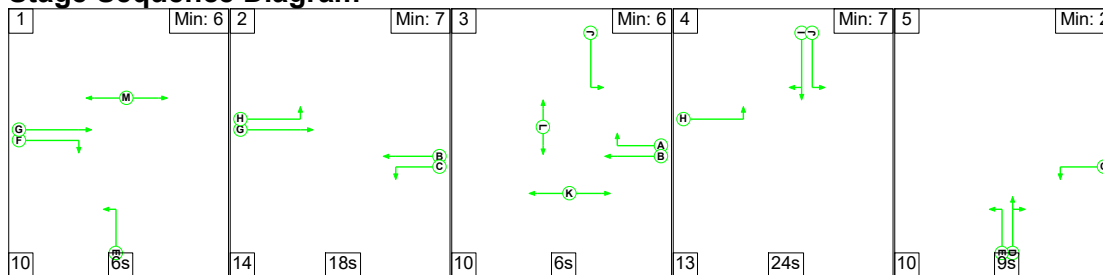
Full Input Data And Results

Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	26.5	72.6	0.0	99.1	-	-	-	-
Old Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	26.5	72.6	0.0	99.1	-	-	-	-
1/1	72	72	-	-	-	0.4	0.1	-	0.5	23.1	1.3	0.1	1.4
1/2+1/3	747	686	-	-	-	10.3	35.9	-	46.2	222.5	21.2	35.9	57.1
2/2+2/1	352	323	-	-	-	6.4	19.1	-	25.5	261.0	12.7	19.1	31.8
3/2+3/1	508	508	-	-	-	4.6	1.8	-	6.4	45.1	10.8	1.8	12.6
3/3	59	59	-	-	-	0.8	0.3	-	1.1	68.9	1.8	0.3	2.1
4/2+4/1	312	291	-	-	-	4.0	15.5	-	19.5	224.7	6.7	15.5	22.2
5/1	560	560	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	205	205	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	447	447	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	727	727	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		-21.1	Total Delay for Signalled Lanes (pcuHr):		99.12					
			PRC Over All Lanes (%):		-21.1	Total Delay Over All Lanes(pcuHr):		99.12	Cycle Time (s): 120				

Full Input Data And Results

Scenario 12: '2029 PM with Dev' (FG12: '2029 PM with Dev', Plan 1: 'with Peds')

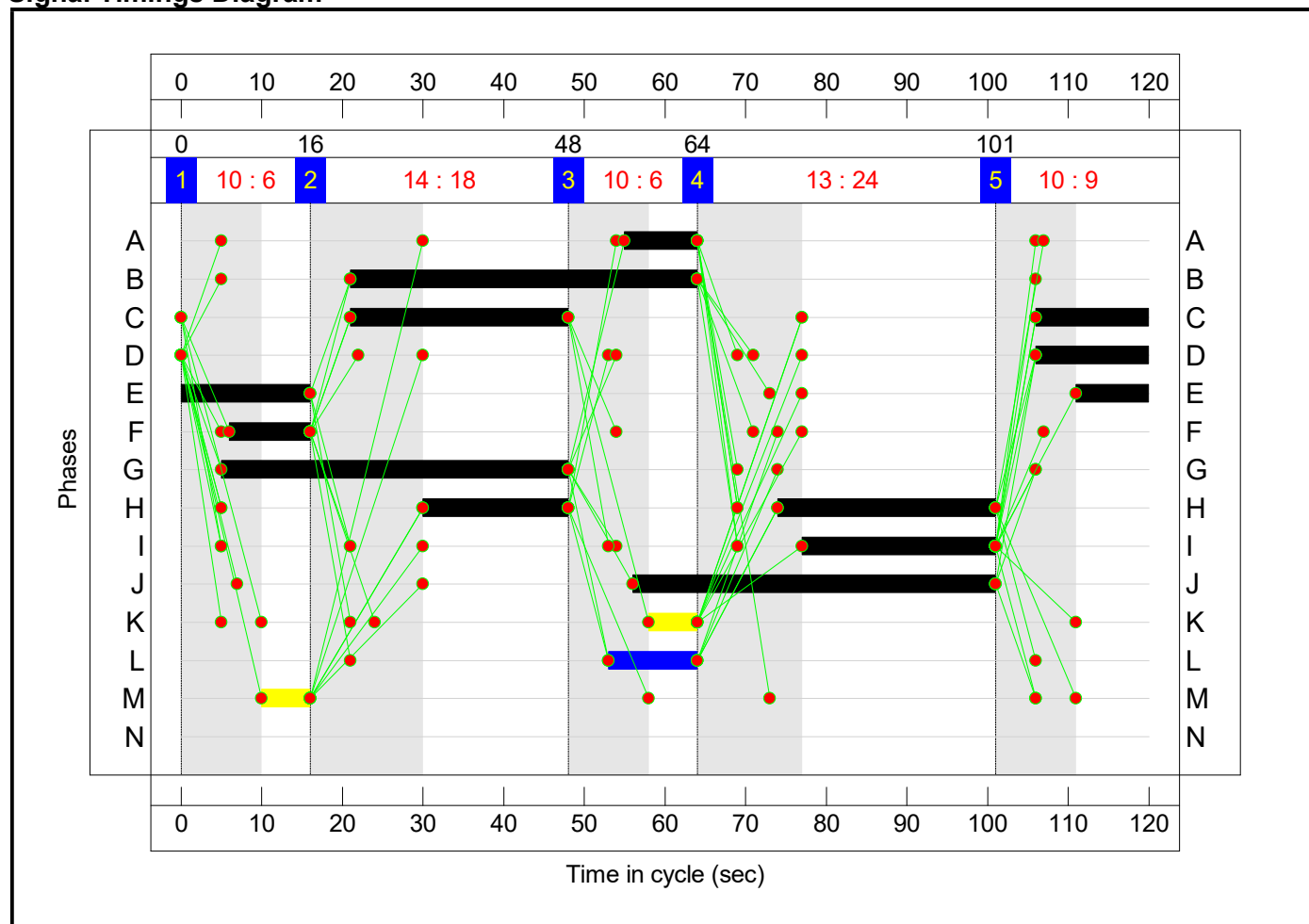
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	6	18	6	24	9
Change Point	0	16	48	64	101

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>94.8%</b>
<b>Old Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>94.8%</b>
1/1	Old Dublin Rd East Left	U	N/A	N/A	C		2	41	-	281	1674	600	46.8%
1/2+1/3	Old Dublin Rd East Ahead Right	U	N/A	N/A	B A		1	43:9		692	1925:1759	745	92.9%
2/2+2/1	Doughiska Rd South Right Left Ahead	U	N/A	N/A	D E		1	14:25		260	1822:1738	284	91.6%
3/2+3/1	Old Dublin Rd West Ahead Left	U	N/A	N/A	G H		1:2	43:45		634	1945:1693	726	87.3%
3/3	Old Dublin Rd West Right	U	N/A	N/A	F		1	10	-	124	1750	160	77.3%
4/2+4/1	Doughiska Rd North Left Ahead Right	U	N/A	N/A	I J		1	24:45		470	1859:1702	496	94.8%
5/1		U	N/A	N/A	-		-	-	-	926	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	567	1	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	722	1	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	246	1	Inf	0.0%

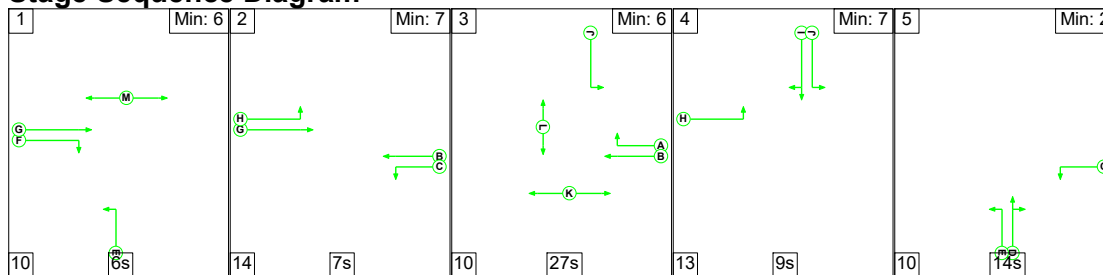
Full Input Data And Results

Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	25.1	20.9	0.0	46.0	-	-	-	-
Old Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	25.1	20.9	0.0	46.0	-	-	-	-
1/1	281	281	-	-	-	1.4	0.4	-	1.9	23.9	5.3	0.4	5.7
1/2+1/3	692	692	-	-	-	7.5	5.4	-	12.9	66.9	20.4	5.4	25.8
2/2+2/1	260	260	-	-	-	3.4	4.1	-	7.5	103.3	6.5	4.1	10.6
3/2+3/1	634	634	-	-	-	5.9	3.2	-	9.1	51.6	18.9	3.2	22.1
3/3	124	124	-	-	-	1.8	1.6	-	3.4	98.8	4.0	1.6	5.6
4/2+4/1	470	470	-	-	-	5.1	6.2	-	11.3	86.4	11.4	6.2	17.6
5/1	926	926	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	567	567	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	722	722	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	246	246	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		-5.3	Total Delay for Signalled Lanes (pcuHr):		45.96					
			PRC Over All Lanes (%):		-5.3	Total Delay Over All Lanes(pcuHr):		45.96	Cycle Time (s): 120				

Full Input Data And Results

Scenario 13: '2039 AM with Dev' (FG13: '2039 AM with Dev', Plan 1: 'with Peds')

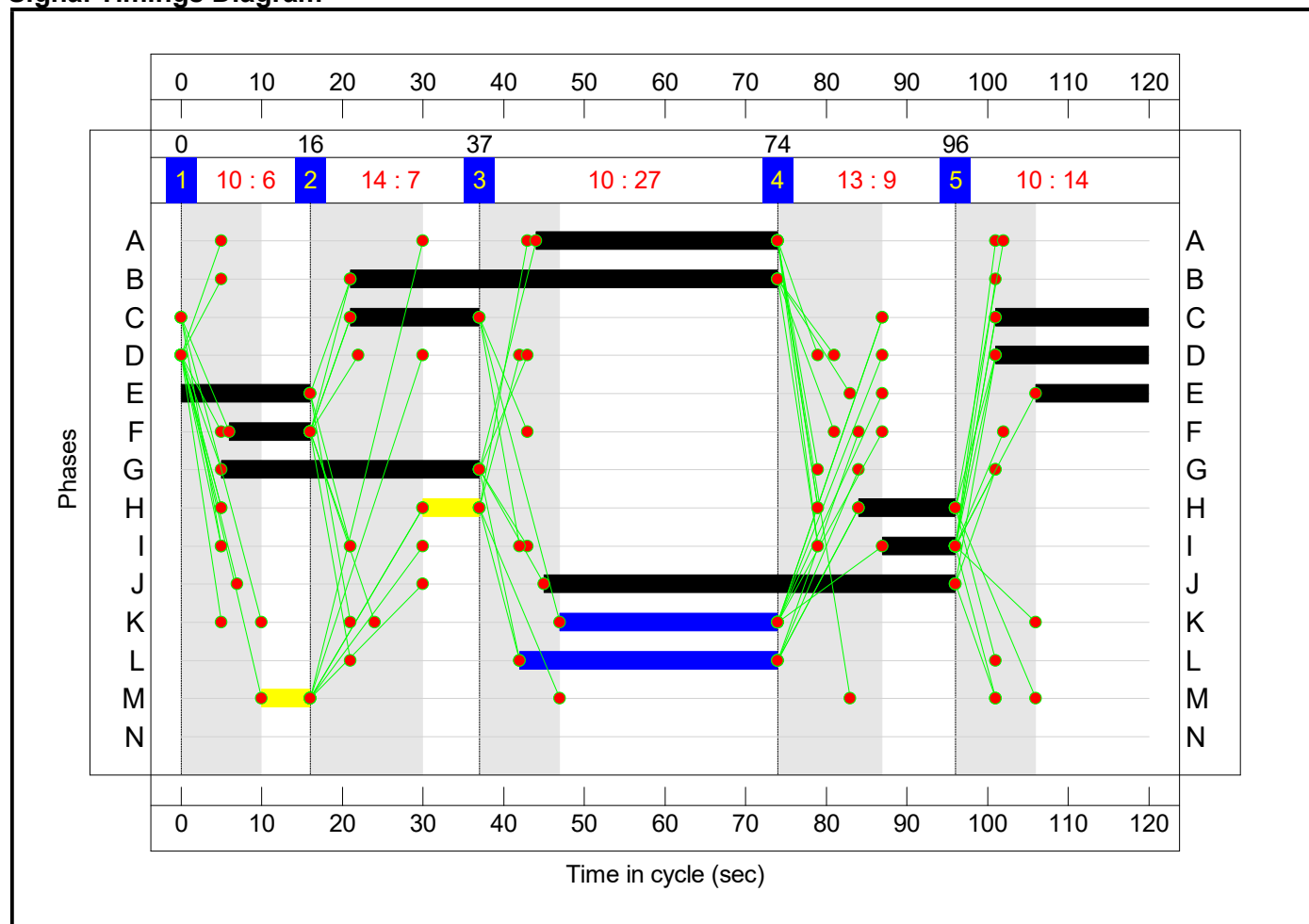
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	6	7	27	9	14
Change Point	0	16	37	74	96

Signal Timings Diagram



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>121.6%</b>
<b>Old Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>121.6%</b>
1/1	Old Dublin Rd East Left	U	N/A	N/A	C		2	35	-	82	1674	516	15.9%
1/2+1/3	Old Dublin Rd East Ahead Right	U	N/A	N/A	B A		1	53:30		836	1925:1759	688	121.6%
2/2+2/1	Doughiska Rd South Right Left Ahead	U	N/A	N/A	D E		1	19:30		392	1877:1738	323	121.2%
3/2+3/1	Old Dublin Rd West Ahead Left	U	N/A	N/A	G H		1:2	32:19		569	1945:1693	645	88.2%
3/3	Old Dublin Rd West Right	U	N/A	N/A	F		1	10	-	66	1750	160	41.1%
4/2+4/1	Doughiska Rd North Left Ahead Right	U	N/A	N/A	I J		1	9:51		349	1833:1702	291	119.9%
5/1		U	N/A	N/A	-		-	-	-	648	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	236	1	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	547	1	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	863	1	Inf	0.0%

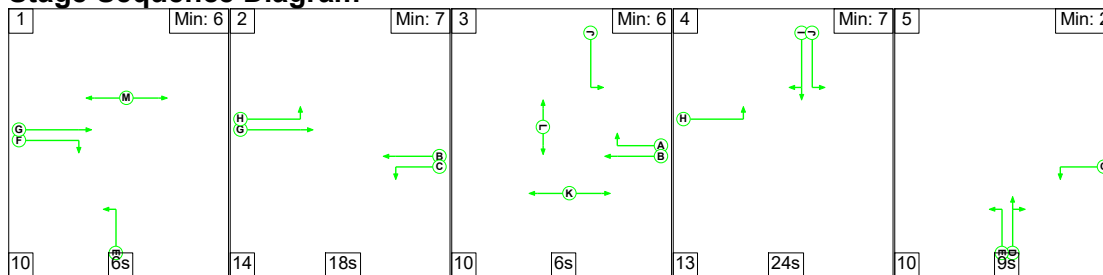
Full Input Data And Results

Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	37.9	149.4	0.0	187.3	-	-	-	-
Old Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	37.9	149.4	0.0	187.3	-	-	-	-
1/1	82	82	-	-	-	0.4	0.1	-	0.5	23.3	1.5	0.1	1.6
1/2+1/3	836	688	-	-	-	15.7	76.8	-	92.6	398.6	27.2	76.8	104.0
2/2+2/1	392	323	-	-	-	9.5	37.0	-	46.5	427.2	16.8	37.0	53.8
3/2+3/1	569	569	-	-	-	5.3	3.4	-	8.7	55.0	13.4	3.4	16.8
3/3	66	66	-	-	-	0.9	0.3	-	1.3	70.4	2.1	0.3	2.4
4/2+4/1	349	291	-	-	-	6.0	31.7	-	37.7	389.4	10.6	31.7	42.3
5/1	598	598	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	221	221	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	451	451	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	749	749	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		-35.1	Total Delay for Signalled Lanes (pcuHr):		187.33					
			PRC Over All Lanes (%):		-35.1	Total Delay Over All Lanes(pcuHr):		187.33	Cycle Time (s): 120				

Full Input Data And Results

Scenario 14: '2039 PM with Dev' (FG14: '2039 PM with Dev', Plan 1: 'with Peds')

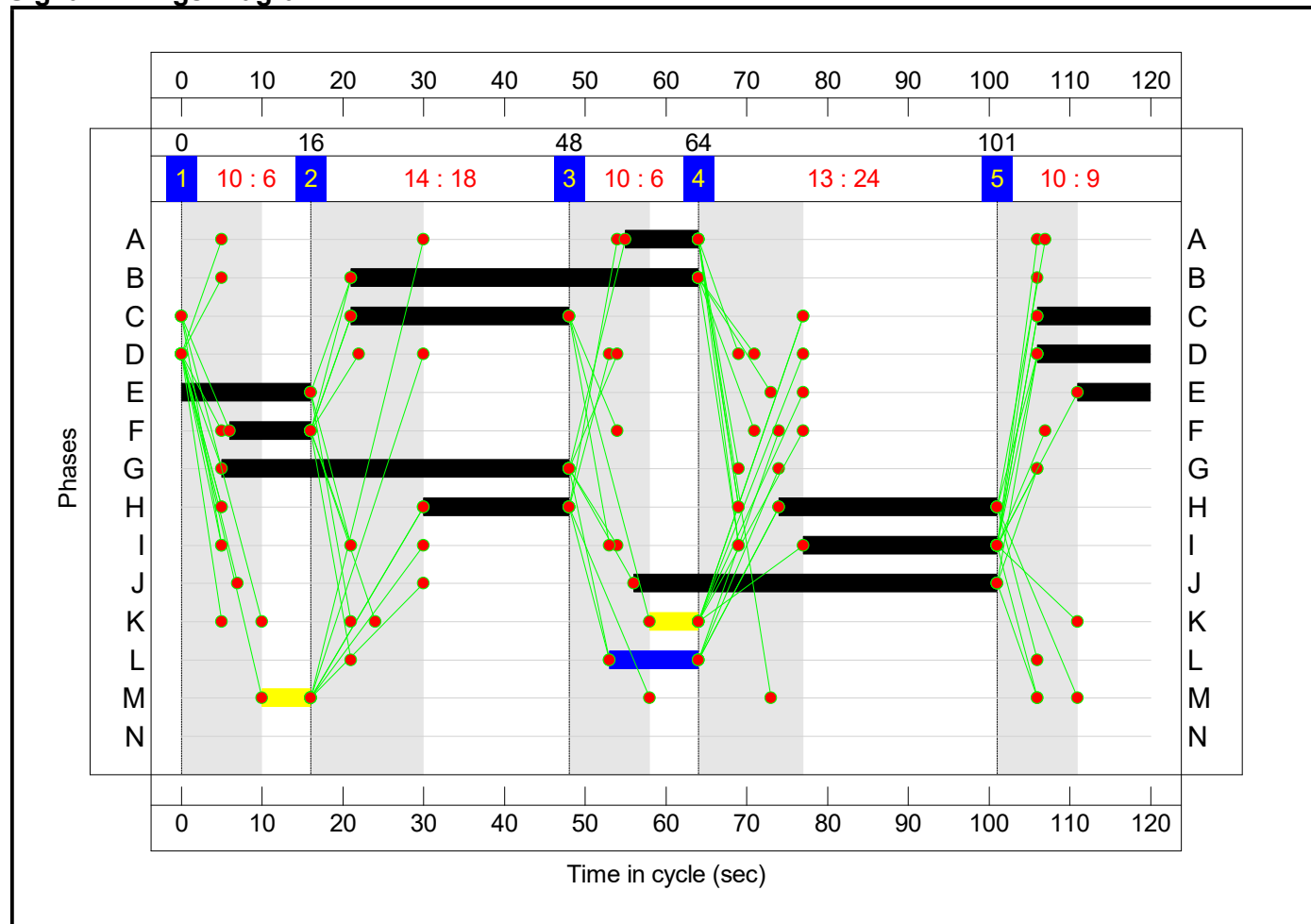
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	6	18	6	24	9
Change Point	0	16	48	64	101

Signal Timings Diagram





Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network: Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>105.7%</b>
<b>Old Dublin Rd_Doughiska Rd Junction</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>105.7%</b>
1/1	Old Dublin Rd East Left	U	N/A	N/A	C		2	41	-	312	1674	600	52.0%
1/2+1/3	Old Dublin Rd East Ahead Right	U	N/A	N/A	B A		1	43:9		773	1925:1759	745	103.7%
2/2+2/1	Doughiska Rd South Right Left Ahead	U	N/A	N/A	D E		1	14:25		288	1822:1738	284	101.5%
3/2+3/1	Old Dublin Rd West Ahead Left	U	N/A	N/A	G H		1:2	43:45		707	1945:1693	726	97.4%
3/3	Old Dublin Rd West Right	U	N/A	N/A	F		1	10	-	137	1750	160	85.4%
4/2+4/1	Doughiska Rd North Left Ahead Right	U	N/A	N/A	I J		1	24:45		523	1859:1702	495	105.7%
5/1		U	N/A	N/A	-		-	-	-	1030	1	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	629	1	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	806	1	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	275	1	Inf	0.0%

Full Input Data And Results

Item	Entering (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per Veh (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	31.8	64.8	0.0	96.6	-	-	-	-
Old Dublin Rd_Doughiska Rd Junction	-	-	0	0	0	31.8	64.8	0.0	96.6	-	-	-	-
1/1	312	312	-	-	-	1.6	0.5	-	2.2	24.9	6.1	0.5	6.6
1/2+1/3	773	745	-	-	-	10.2	22.4	-	32.6	151.8	26.2	22.4	48.6
2/2+2/1	288	284	-	-	-	4.0	9.6	-	13.6	170.0	7.7	9.6	17.3
3/2+3/1	707	707	-	-	-	7.0	9.3	-	16.3	83.0	22.5	9.3	31.8
3/3	137	137	-	-	-	2.0	2.4	-	4.5	117.4	4.5	2.4	6.9
4/2+4/1	523	495	-	-	-	7.1	20.5	-	27.5	189.4	15.1	20.5	35.5
5/1	1014	1014	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	619	619	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	778	778	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	269	269	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		-17.4	Total Delay for Signalled Lanes (pcuHr):		96.65					
			PRC Over All Lanes (%):		-17.4	Total Delay Over All Lanes(pcuHr):		96.65	Cycle Time (s): 120				

## **APPENDIX D4**

PICADY Analysis – Junction between R338 Coast Road  
and Rosshill Road



# Junctions 9

## PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []  
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**Filename:** 119209 Coast Rd\_Rosshill Rd PICADY Analysis 102 units.j9

**Path:** I:\CST\119\201-250\119209\calcs\PICADY\Coast Rd\_Rosshill Rd

**Report generation date:** 21/05/2021 11:27:42

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- »Scenario 1, AM
  - »Scenario 1, PM
  - »Scenario 2, AM
  - »Scenario 2, PM
  - »Scenario 3, AM
  - »Scenario 3, PM
  - »Scenario 4, AM
  - »Scenario 4, PM
  - »Scenario 5, AM
  - »Scenario 5, PM
  - »Scenario 6, AM
  - »Scenario 6, PM
  - »Scenario 7, AM
  - »Scenario 7, PM

## Summary of junction performance

	AM						PM					
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
<b>Scenario 1</b>												
Stream B-C	0.0	0.5	10.64	0.01	B	71 % [Stream B-A]	0.0	220.0	9.54	0.00	A	55 % [Stream B-A]
Stream B-A	0.1	0.5	13.39	0.10	B		0.7	3.2	14.66	0.39	B	
Stream C-AB	0.0	0.5	9.51	0.01	A		0.0	0.5	6.20	0.01	A	
<b>Scenario 2</b>												
Stream B-C	0.0	220.0	10.58	0.01	B	73 % [Stream B-A]	0.0	220.0	9.48	0.00	A	58 % [Stream B-A]
Stream B-A	0.1	0.5	13.24	0.10	B		0.7	3.1	14.46	0.39	B	
Stream C-AB	0.0	0.5	9.43	0.01	A		0.0	0.5	6.19	0.01	A	
<b>Scenario 3</b>												
Stream B-C	0.0	0.5	11.06	0.01	B	58 % [Stream B-A]	0.0	220.0	9.94	0.00	A	45 % [Stream B-A]
Stream B-A	0.1	0.5	14.37	0.11	B		0.8	3.6	15.92	0.43	C	
Stream C-AB	0.0	0.5	10.08	0.01	B		0.0	0.5	6.25	0.01	A	
<b>Scenario 4</b>												
Stream B-C	0.0	0.5	11.77	0.01	B	43 % [Stream B-A]	0.0	220.0	10.76	0.00	B	30 % [Stream B-A]
Stream B-A	0.2	0.5	16.22	0.14	C		1.0	4.3	18.42	0.49	C	
Stream C-AB	0.0	0.5	11.09	0.01	B		0.0	0.5	6.35	0.01	A	
<b>Scenario 5</b>												
Stream B-C	0.0	0.5	11.11	0.02	B	51 % [Stream B-A]	0.0	220.0	9.87	0.00	A	47 % [Stream B-A]
Stream B-A	0.3	1.4	15.15	0.21	C		0.8	3.5	15.61	0.43	C	
Stream C-AB	0.0	0.5	9.50	0.01	A		0.0	0.5	6.29	0.02	A	
<b>Scenario 6</b>												
Stream B-C	0.0	0.5	11.66	0.02	B	40 % [Stream B-A]	0.0	220.0	10.43	0.00	B	36 % [Stream B-A]
Stream B-A	0.3	1.5	16.58	0.23	C		1.0	4.0	17.33	0.47	C	
Stream C-AB	0.0	0.5	10.16	0.01	B		0.0	0.5	6.36	0.02	A	
<b>Scenario 7</b>												
Stream B-C	0.0	0.5	12.57	0.02	B	27 % [Stream B-A]	0.0	220.0	11.51	0.00	B	23 % [Stream B-A]
Stream B-A	0.4	1.3	19.13	0.27	C		1.2	5.0	20.45	0.54	C	
Stream C-AB	0.0	0.5	11.19	0.01	B		0.0	0.5	6.46	0.02	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. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

## File summary

### File Description

Title	Coast Road/Rosshill Road Tjunction
Location	Rosshill, Galway City
Site number	
Date	18/07/2019
Version	
Status	Preliminary
Identifier	
Client	Alber Homes
Jobnumber	119209
Enumerator	J Noone
Description	

### Units

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

### Analysis Options

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

### Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Scenario 1	AM	2019 AM Survey Year	ONE HOUR	07:15	08:45	15	✓
D2	Scenario 1	PM	2019 PM Survey Year	ONE HOUR	16:45	18:15	15	✓
D3	Scenario 2	AM	2024 AM without Dev	ONE HOUR	07:15	08:45	15	✓
D4	Scenario 2	PM	2024 PM without Dev	ONE HOUR	16:45	18:15	15	✓
D5	Scenario 3	AM	2029 AM without Dev	ONE HOUR	07:15	08:45	15	✓
D6	Scenario 3	PM	2029 PM without Dev	ONE HOUR	16:45	18:15	15	✓
D7	Scenario 4	AM	2039 AM without Dev	ONE HOUR	07:15	08:45	15	✓
D8	Scenario 4	PM	2039 PM without Dev	ONE HOUR	16:45	18:15	15	✓
D9	Scenario 5	AM	2024 AM with Dev	ONE HOUR	07:15	08:45	15	✓
D10	Scenario 5	PM	2024 PM with Dev	ONE HOUR	16:45	18:15	15	✓
D11	Scenario 6	AM	2029 AM with Dev	ONE HOUR	07:15	08:45	15	✓
D12	Scenario 6	PM	2029 PM with Dev	ONE HOUR	16:45	18:15	15	✓
D13	Scenario 7	AM	2039 AM with Dev	ONE HOUR	07:15	08:45	15	✓
D14	Scenario 7	PM	2039 PM with Dev	ONE HOUR	16:45	18:15	15	✓

### Analysis Set Details

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

# Scenario 1, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.37	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	71	Stream B-A

## Arms

### Arms

Arm	Name	Description	Arm type
A	Coast Rd East		Major
B	Rosshill Rd		Minor
C	Coast Rd West		Major

### Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.20		✓	2.90	160.0	✓	6.00

*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	One lane plus flare	8.50	6.20	4.40	4.00	3.70	✓	1.00	15	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	557	0.096	0.243	0.153	0.347
1	B-C	549	0.080	0.202	-	-
1	C-B	717	0.263	0.263	-	-

*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	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Scenario 1	AM	2019 AM Survey Year	ONE HOUR	07:15	08:45	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1025	100.000
B		ONE HOUR	✓	32	100.000
C		ONE HOUR	✓	177	100.000

## Origin-Destination Data

### Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	473	552
	B	30	0	2
	C	174	3	0

## Vehicle Mix

### Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.01	10.64	0.0	0.5	B	2	3
B-A	0.10	13.39	0.1	0.5	B	27	41
C-AB	0.01	9.51	0.0	0.5	A	3	5
C-A						159	239
A-B						434	651
A-C						507	760

### Main Results for each time segment

#### 07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.41	431	0.004	2	0.0	0.0	9.233	A
B-A	22	6	401	0.056	22	0.0	0.1	10.458	B
C-AB	2	0.62	514	0.005	2	0.0	0.0	7.740	A
C-A	131	33			131				
A-B	356	89			356				
A-C	416	104			416				

#### 07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.49	407	0.005	2	0.0	0.0	9.772	A
B-A	27	7	370	0.072	27	0.1	0.1	11.521	B
C-AB	3	0.74	475	0.006	3	0.0	0.0	8.395	A
C-A	156	39			156				
A-B	425	106			425				
A-C	496	124			496				

#### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.61	375	0.006	2	0.0	0.0	10.636	B
B-A	33	8	328	0.100	33	0.1	0.1	13.379	B
C-AB	4	0.91	420	0.009	4	0.0	0.0	9.509	A
C-A	191	48			191				
A-B	521	130			521				
A-C	608	152			608				

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.61	375	0.006	2	0.0	0.0	10.638	B
B-A	33	8	328	0.100	33	0.1	0.1	13.392	B
C-AB	4	0.91	420	0.009	4	0.0	0.0	9.509	A
C-A	191	48			191				
A-B	521	130			521				
A-C	608	152			608				

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.49	407	0.005	2	0.0	0.0	9.774	A
B-A	27	7	370	0.072	27	0.1	0.1	11.537	B
C-AB	3	0.74	475	0.006	3	0.0	0.0	8.396	A
C-A	156	39			156				
A-B	425	106			425				
A-C	496	124			496				

**08:30 - 08:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.41	430	0.004	2	0.0	0.0	9.235	A
B-A	22	6	401	0.056	22	0.1	0.1	10.477	B
C-AB	2	0.62	514	0.005	2	0.0	0.0	7.742	A
C-A	131	33			131				
A-B	356	89			356				
A-C	416	104			416				

**Queue Variation Results for each time segment**
**07:15 - 07:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.06	0.00	0.00	0.06	0.06			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**07:30 - 07:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.01	0.28	0.50	0.52			N/A	N/A
B-A	0.08	0.03	0.29	0.51	0.54			N/A	N/A
C-AB	0.01	0.01	0.28	0.50	0.52			N/A	N/A

**07:45 - 08:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.01	0.28	0.51	0.54			N/A	N/A
B-A	0.12	0.03	0.29	0.52	0.55			N/A	N/A
C-AB	0.01	0.01	0.28	0.50	0.52			N/A	N/A

**08:00 - 08:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.12	0.03	0.28	0.50	0.52			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**08:15 - 08:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.09	0.00	0.00	0.09	0.09			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**08:30 - 08:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.07	0.00	0.00	0.07	0.07			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

# Scenario 1, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	3.23	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	55	Stream B-A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	Scenario 1	PM	2019 PM Survey Year	ONE HOUR	16:45	18:15	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	245	100.000
B		ONE HOUR	✓	160	100.000
C		ONE HOUR	✓	331	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	52	194
	B	158	0	1
	C	325	7	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.00	9.54	0.0	220.0	A	1	2
B-A	0.39	14.66	0.7	3.2	B	145	218
C-AB	0.01	6.20	0.0	0.5	A	6	9
C-A						298	447
A-B						47	71
A-C						178	266

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.83	0.21	471	0.002	0.82	0.0	0.0	8.421	A
B-A	119	30	481	0.248	118	0.0	0.4	10.872	B
C-AB	5	1	669	0.007	5	0.0	0.0	5.965	A
C-A	244	61			244				
A-B	39	10			39				
A-C	146	36			146				

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.99	0.25	451	0.002	0.99	0.0	0.0	8.808	A
B-A	142	36	465	0.306	142	0.4	0.5	12.222	B
C-AB	6	1	659	0.009	6	0.0	0.0	6.060	A
C-A	292	73			292				
A-B	46	12			46				
A-C	174	44			174				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	1	0.30	417	0.003	1	0.0	0.0	9.529	A
B-A	174	44	444	0.393	174	0.5	0.7	14.575	B
C-AB	7	2	646	0.011	7	0.0	0.0	6.196	A
C-A	357	89			357				
A-B	57	14			57				
A-C	213	53			213				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	1	0.30	416	0.003	1	0.0	0.0	9.544	A
B-A	174	44	444	0.393	174	0.7	0.7	14.664	B
C-AB	7	2	646	0.011	7	0.0	0.0	6.196	A
C-A	357	89			357				
A-B	57	14			57				
A-C	213	53			213				

**17:45 - 18:00**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.99	0.25	450	0.002	0.99	0.0	0.0	8.825	A
B-A	142	36	465	0.306	143	0.7	0.5	12.325	B
C-AB	6	1	659	0.009	6	0.0	0.0	6.062	A
C-A	292	73			292				
A-B	46	12			46				
A-C	174	44			174				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.83	0.21	470	0.002	0.83	0.0	0.0	8.439	A
B-A	119	30	481	0.248	120	0.5	0.4	10.987	B
C-AB	5	1	669	0.007	5	0.0	0.0	5.967	A
C-A	244	61			244				
A-B	39	10			39				
A-C	146	36			146				

**Queue Variation Results for each time segment**
**16:45 - 17:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.36	0.00	0.00	0.36	0.36			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**17:00 - 17:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.28	0.50	0.52			N/A	N/A
B-A	0.48	0.00	0.00	0.48	0.48			N/A	N/A
C-AB	0.01	0.01	0.28	0.50	0.52			N/A	N/A

**17:15 - 17:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	>199	>199	>199	>199			N/A	N/A
B-A	0.69	0.03	0.29	0.69	0.69			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**17:30 - 17:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.70	0.03	0.32	1.42	3.20			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**17:45 - 18:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.49	0.04	0.39	1.28	1.47			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.37	0.03	0.29	0.52	0.65			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

# Scenario 2, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.36	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	73	Stream B-A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	Scenario 2	AM	2024 AM without Dev	ONE HOUR	07:15	08:45	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1014	100.000
B		ONE HOUR	✓	31	100.000
C		ONE HOUR	✓	175	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	468	546
	B	29	0	2
	C	172	3	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10



## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.01	10.58	0.0	220.0	B	2	3
B-A	0.10	13.24	0.1	0.5	B	27	40
C-AB	0.01	9.43	0.0	0.5	A	3	4
C-A						158	237
A-B						429	644
A-C						501	752

### Main Results for each time segment

#### 07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.38	432	0.003	1	0.0	0.0	9.206	A
B-A	22	5	402	0.054	22	0.0	0.1	10.391	B
C-AB	2	0.56	516	0.004	2	0.0	0.0	7.703	A
C-A	129	32			129				
A-B	352	88			352				
A-C	411	103			411				

#### 07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.45	409	0.004	2	0.0	0.0	9.734	A
B-A	26	7	372	0.070	26	0.1	0.1	11.425	B
C-AB	3	0.67	477	0.006	3	0.0	0.0	8.344	A
C-A	155	39			155				
A-B	421	105			421				
A-C	491	123			491				

#### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.55	377	0.006	2	0.0	0.0	10.578	B
B-A	32	8	331	0.096	32	0.1	0.1	13.225	B
C-AB	3	0.83	423	0.008	3	0.0	0.0	9.428	A
C-A	189	47			189				
A-B	515	129			515				
A-C	601	150			601				

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.55	376	0.006	2	0.0	0.0	10.580	B
B-A	32	8	331	0.096	32	0.1	0.1	13.236	B
C-AB	3	0.83	423	0.008	3	0.0	0.0	9.428	A
C-A	189	47			189				
A-B	515	129			515				
A-C	601	150			601				

**08:15 - 08:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.45	408	0.004	2	0.0	0.0	9.736	A
B-A	26	7	372	0.070	26	0.1	0.1	11.439	B
C-AB	3	0.67	477	0.006	3	0.0	0.0	8.344	A
C-A	155	39			155				
A-B	421	105			421				
A-C	491	123			491				

**08:30 - 08:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.38	431	0.003	2	0.0	0.0	9.211	A
B-A	22	5	402	0.054	22	0.1	0.1	10.408	B
C-AB	2	0.56	516	0.004	2	0.0	0.0	7.703	A
C-A	129	32			129				
A-B	352	88			352				
A-C	411	103			411				

**Queue Variation Results for each time segment**
**07:15 - 07:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.06	0.00	0.00	0.06	0.06			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

**07:30 - 07:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.28	0.50	0.52			N/A	N/A
B-A	0.08	0.03	0.28	0.51	0.53			N/A	N/A
C-AB	0.01	0.01	0.28	0.50	0.52			N/A	N/A

**07:45 - 08:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	>199	>199	>199	>199			N/A	N/A
B-A	0.12	0.03	0.29	0.52	0.55			N/A	N/A
C-AB	0.01	0.01	0.28	0.50	0.53			N/A	N/A

**08:00 - 08:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.12	0.03	0.28	0.50	0.52			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**08:15 - 08:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.08	0.00	0.00	0.08	0.08			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.06	0.00	0.00	0.06	0.06			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

# Scenario 2, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	3.17	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	58	Stream B-A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	Scenario 2	PM	2024 PM without Dev	ONE HOUR	16:45	18:15	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	242	100.000
B		ONE HOUR	✓	157	100.000
C		ONE HOUR	✓	328	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	51	191
	B	156	0	1
	C	321	7	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.00	9.48	0.0	220.0	A	0.92	1
B-A	0.39	14.46	0.7	3.1	B	143	215
C-AB	0.01	6.19	0.0	0.5	A	6	10
C-A						295	442
A-B						47	70
A-C						175	263

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.75	0.19	472	0.002	0.75	0.0	0.0	8.397	A
B-A	117	29	482	0.244	116	0.0	0.3	10.795	B
C-AB	5	1	669	0.008	5	0.0	0.0	5.961	A
C-A	242	60			242				
A-B	38	10			38				
A-C	144	36			144				

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.90	0.22	452	0.002	0.90	0.0	0.0	8.770	A
B-A	140	35	466	0.301	140	0.3	0.5	12.106	B
C-AB	6	2	660	0.010	6	0.0	0.0	6.056	A
C-A	289	72			289				
A-B	46	11			46				
A-C	172	43			172				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	1	0.28	420	0.003	1	0.0	0.0	9.461	A
B-A	172	43	446	0.386	171	0.5	0.7	14.374	B
C-AB	8	2	647	0.012	8	0.0	0.0	6.191	A
C-A	353	88			353				
A-B	56	14			56				
A-C	210	53			210				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	1	0.28	419	0.003	1	0.0	0.0	9.476	A
B-A	172	43	446	0.386	172	0.7	0.7	14.457	B
C-AB	8	2	647	0.012	8	0.0	0.0	6.191	A
C-A	353	88			353				
A-B	56	14			56				
A-C	210	53			210				

**17:45 - 18:00**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.90	0.22	452	0.002	0.90	0.0	0.0	8.787	A
B-A	140	35	466	0.301	141	0.7	0.5	12.200	B
C-AB	6	2	660	0.010	6	0.0	0.0	6.058	A
C-A	289	72			289				
A-B	46	11			46				
A-C	172	43			172				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.75	0.19	471	0.002	0.75	0.0	0.0	8.413	A
B-A	117	29	482	0.244	118	0.5	0.4	10.908	B
C-AB	5	1	669	0.008	5	0.0	0.0	5.962	A
C-A	242	60			242				
A-B	38	10			38				
A-C	144	36			144				

**Queue Variation Results for each time segment**
**16:45 - 17:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.35	0.00	0.00	0.35	0.35			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**17:00 - 17:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.28	0.50	0.52			N/A	N/A
B-A	0.46	0.00	0.00	0.46	0.46			N/A	N/A
C-AB	0.01	0.01	0.28	0.50	0.52			N/A	N/A

**17:15 - 17:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	>199	>199	>199	>199			N/A	N/A
B-A	0.67	0.03	0.28	0.67	0.67			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**17:30 - 17:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.68	0.03	0.32	1.43	3.14			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**17:45 - 18:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.48	0.04	0.37	1.22	1.43			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.36	0.03	0.29	0.51	0.54			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

# Scenario 3, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.39	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	58	Stream B-A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	Scenario 3	AM	2029 AM without Dev	ONE HOUR	07:15	08:45	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1104	100.000
B		ONE HOUR	✓	34	100.000
C		ONE HOUR	✓	192	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	509	595
	B	32	0	2
	C	188	4	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10



## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.01	11.06	0.0	0.5	B	2	3
B-A	0.11	14.37	0.1	0.5	B	29	44
C-AB	0.01	10.08	0.0	0.5	B	4	6
C-A						173	259
A-B						467	701
A-C						546	819

### Main Results for each time segment

#### 07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.38	421	0.004	1	0.0	0.0	9.449	A
B-A	24	6	389	0.062	24	0.0	0.1	10.856	B
C-AB	3	0.75	498	0.006	3	0.0	0.0	7.992	A
C-A	142	35			142				
A-B	383	96			383				
A-C	448	112			448				

#### 07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.45	395	0.005	2	0.0	0.0	10.060	B
B-A	29	7	356	0.081	29	0.1	0.1	12.097	B
C-AB	4	0.90	456	0.008	4	0.0	0.0	8.754	A
C-A	169	42			169				
A-B	458	114			458				
A-C	535	134			535				

#### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.55	360	0.006	2	0.0	0.0	11.059	B
B-A	35	9	311	0.113	35	0.1	0.1	14.357	B
C-AB	4	1	397	0.011	4	0.0	0.0	10.081	B
C-A	207	52			207				
A-B	560	140			560				
A-C	655	164			655				

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.55	360	0.006	2	0.0	0.0	11.061	B
B-A	35	9	311	0.113	35	0.1	0.1	14.374	B
C-AB	4	1	397	0.011	4	0.0	0.0	10.081	B
C-A	207	52			207				
A-B	560	140			560				
A-C	655	164			655				

**08:15 - 08:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.45	395	0.005	2	0.0	0.0	10.065	B
B-A	29	7	356	0.081	29	0.1	0.1	12.119	B
C-AB	4	0.90	456	0.008	4	0.0	0.0	8.756	A
C-A	169	42			169				
A-B	458	114			458				
A-C	535	134			535				

**08:30 - 08:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.38	420	0.004	2	0.0	0.0	9.452	A
B-A	24	6	389	0.062	24	0.1	0.1	10.869	B
C-AB	3	0.75	498	0.006	3	0.0	0.0	7.994	A
C-A	142	35			142				
A-B	383	96			383				
A-C	448	112			448				

**Queue Variation Results for each time segment**
**07:15 - 07:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.07	0.00	0.00	0.07	0.07			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**07:30 - 07:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.28	0.50	0.52			N/A	N/A
B-A	0.10	0.03	0.28	0.50	0.52			N/A	N/A
C-AB	0.01	0.01	0.28	0.50	0.52			N/A	N/A

**07:45 - 08:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.01	0.28	0.51	0.54			N/A	N/A
B-A	0.14	0.03	0.29	0.52	0.55			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**08:00 - 08:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.14	0.03	0.28	0.50	0.52			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**08:15 - 08:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.10	0.00	0.00	0.10	0.10			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.07	0.00	0.00	0.07	0.07			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

# Scenario 3, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	3.49	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	45	Stream B-A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	Scenario 3	PM	2029 PM without Dev	ONE HOUR	16:45	18:15	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	264	100.000
B		ONE HOUR	✓	171	100.000
C		ONE HOUR	✓	356	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	56	208
	B	170	0	1
	C	349	7	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.00	9.94	0.0	220.0	A	0.92	1
B-A	0.43	15.92	0.8	3.6	C	156	234
C-AB	0.01	6.25	0.0	0.5	A	6	10
C-A						320	480
A-B						51	77
A-C						191	286

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.75	0.19	464	0.002	0.75	0.0	0.0	8.551	A
B-A	128	32	475	0.270	126	0.0	0.4	11.317	B
C-AB	5	1	665	0.008	5	0.0	0.0	6.001	A
C-A	263	66			263				
A-B	42	11			42				
A-C	157	39			157				

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.90	0.22	440	0.002	0.90	0.0	0.0	9.013	A
B-A	153	38	458	0.333	152	0.4	0.5	12.910	B
C-AB	6	2	655	0.010	6	0.0	0.0	6.104	A
C-A	314	78			314				
A-B	50	13			50				
A-C	187	47			187				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	1	0.28	400	0.003	1	0.0	0.0	9.917	A
B-A	187	47	436	0.430	186	0.5	0.8	15.792	C
C-AB	8	2	641	0.012	8	0.0	0.0	6.253	A
C-A	384	96			384				
A-B	62	15			62				
A-C	229	57			229				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	1	0.28	399	0.003	1	0.0	0.0	9.940	A
B-A	187	47	436	0.430	187	0.8	0.8	15.920	C
C-AB	8	2	641	0.012	8	0.0	0.0	6.253	A
C-A	384	96			384				
A-B	62	15			62				
A-C	229	57			229				

**17:45 - 18:00**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.90	0.22	439	0.002	0.90	0.0	0.0	9.036	A
B-A	153	38	458	0.333	154	0.8	0.6	13.047	B
C-AB	6	2	655	0.010	6	0.0	0.0	6.105	A
C-A	314	78			314				
A-B	50	13			50				
A-C	187	47			187				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.75	0.19	463	0.002	0.75	0.0	0.0	8.574	A
B-A	128	32	475	0.270	129	0.6	0.4	11.459	B
C-AB	5	1	665	0.008	5	0.0	0.0	6.001	A
C-A	263	66			263				
A-B	42	11			42				
A-C	157	39			157				

**Queue Variation Results for each time segment**
**16:45 - 17:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.40	0.00	0.00	0.40	0.40			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**17:00 - 17:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.28	0.50	0.52			N/A	N/A
B-A	0.54	0.00	0.00	0.54	0.54			N/A	N/A
C-AB	0.01	0.01	0.28	0.50	0.52			N/A	N/A

**17:15 - 17:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	>199	>199	>199	>199			N/A	N/A
B-A	0.80	0.03	0.29	0.80	0.80			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**17:30 - 17:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.82	0.03	0.32	1.34	3.57			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**17:45 - 18:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.56	0.05	0.53	1.42	1.54			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.41	0.03	0.34	1.07	1.36			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

# Scenario 4, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.44	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	43	Stream B-A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	Scenario 4	AM	2039 AM without Dev	ONE HOUR	07:15	08:45	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1227	100.000
B		ONE HOUR	✓	38	100.000
C		ONE HOUR	✓	214	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	565	662
	B	35	0	3
	C	210	4	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10



## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.01	11.77	0.0	0.5	B	3	4
B-A	0.14	16.22	0.2	0.5	C	32	48
C-AB	0.01	11.09	0.0	0.5	B	4	6
C-A						193	289
A-B						518	778
A-C						607	911

### Main Results for each time segment

#### 07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.56	408	0.006	2	0.0	0.0	9.768	A
B-A	26	7	369	0.071	26	0.0	0.1	11.530	B
C-AB	3	0.75	474	0.006	3	0.0	0.0	8.406	A
C-A	158	40			158				
A-B	425	106			425				
A-C	498	125			498				

#### 07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	3	0.67	379	0.007	3	0.0	0.0	10.511	B
B-A	31	8	333	0.095	31	0.1	0.1	13.127	B
C-AB	4	0.90	427	0.008	4	0.0	0.0	9.356	A
C-A	189	47			189				
A-B	508	127			508				
A-C	595	149			595				

#### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	3	0.83	340	0.010	3	0.0	0.0	11.768	B
B-A	39	10	283	0.136	38	0.1	0.2	16.188	C
C-AB	4	1	361	0.012	4	0.0	0.0	11.088	B
C-A	231	58			231				
A-B	622	156			622				
A-C	729	182			729				

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	3	0.83	340	0.010	3	0.0	0.0	11.771	B
B-A	39	10	283	0.136	39	0.2	0.2	16.216	C
C-AB	4	1	361	0.012	4	0.0	0.0	11.088	B
C-A	231	58			231				
A-B	622	156			622				
A-C	729	182			729				

**08:15 - 08:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	3	0.67	379	0.007	3	0.0	0.0	10.515	B
B-A	31	8	333	0.095	32	0.2	0.1	13.156	B
C-AB	4	0.90	427	0.008	4	0.0	0.0	9.357	A
C-A	189	47			189				
A-B	508	127			508				
A-C	595	149			595				

**08:30 - 08:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	2	0.56	407	0.006	2	0.0	0.0	9.772	A
B-A	26	7	369	0.071	26	0.1	0.1	11.561	B
C-AB	3	0.75	474	0.006	3	0.0	0.0	8.408	A
C-A	158	40			158				
A-B	425	106			425				
A-C	498	125			498				

**Queue Variation Results for each time segment**
**07:15 - 07:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.08	0.00	0.00	0.08	0.08			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**07:30 - 07:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.01	0.28	0.50	0.52			N/A	N/A
B-A	0.11	0.00	0.00	0.11	0.11			N/A	N/A
C-AB	0.01	0.01	0.28	0.50	0.52			N/A	N/A

**07:45 - 08:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.17	0.03	0.29	0.52	0.55			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**08:00 - 08:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.17	0.03	0.28	0.50	0.53			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**08:15 - 08:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.12	0.00	0.00	0.12	0.12			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.09	0.00	0.00	0.09	0.09			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

# Scenario 4, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	4.01	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	30	Stream B-A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	Scenario 4	PM	2039 PM without Dev	ONE HOUR	16:45	18:15	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	294	100.000
B		ONE HOUR	✓	189	100.000
C		ONE HOUR	✓	396	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	62	232
	B	188	0	1
	C	388	8	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.00	10.76	0.0	220.0	B	0.92	1
B-A	0.49	18.42	1.0	4.3	C	173	259
C-AB	0.01	6.35	0.0	0.5	A	7	11
C-A						356	534
A-B						57	85
A-C						213	319

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.75	0.19	452	0.002	0.75	0.0	0.0	8.784	A
B-A	142	35	465	0.304	140	0.0	0.5	12.098	B
C-AB	6	2	659	0.009	6	0.0	0.0	6.062	A
C-A	292	73			292				
A-B	47	12			47				
A-C	175	44			175				

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.90	0.22	422	0.002	0.90	0.0	0.0	9.398	A
B-A	169	42	447	0.378	168	0.5	0.7	14.171	B
C-AB	7	2	648	0.011	7	0.0	0.0	6.181	A
C-A	349	87			349				
A-B	56	14			56				
A-C	209	52			209				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	1	0.28	371	0.003	1	0.0	0.0	10.713	B
B-A	207	52	422	0.491	206	0.7	1.0	18.190	C
C-AB	9	2	632	0.014	9	0.0	0.0	6.352	A
C-A	427	107			427				
A-B	68	17			68				
A-C	255	64			255				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	1	0.28	369	0.003	1	0.0	0.0	10.757	B
B-A	207	52	422	0.491	207	1.0	1.0	18.420	C
C-AB	9	2	632	0.014	9	0.0	0.0	6.352	A
C-A	427	107			427				
A-B	68	17			68				
A-C	255	64			255				

**17:45 - 18:00**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.90	0.22	421	0.002	0.90	0.0	0.0	9.436	A
B-A	169	42	447	0.378	170	1.0	0.7	14.396	B
C-AB	7	2	648	0.011	7	0.0	0.0	6.181	A
C-A	349	87			349				
A-B	56	14			56				
A-C	209	52			209				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.75	0.19	450	0.002	0.75	0.0	0.0	8.816	A
B-A	142	35	465	0.304	142	0.7	0.5	12.296	B
C-AB	6	2	659	0.009	6	0.0	0.0	6.063	A
C-A	292	73			292				
A-B	47	12			47				
A-C	175	44			175				

**Queue Variation Results for each time segment**
**16:45 - 17:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.47	0.00	0.00	0.47	0.47			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**17:00 - 17:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.28	0.50	0.52			N/A	N/A
B-A	0.65	0.61	1.10	1.54	1.60			N/A	N/A
C-AB	0.01	0.01	0.28	0.50	0.52			N/A	N/A

**17:15 - 17:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	>199	>199	>199	>199			N/A	N/A
B-A	1.02	0.03	0.30	1.02	1.30			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

**17:30 - 17:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	1.04	0.03	0.31	1.28	4.27			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

**17:45 - 18:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.69	0.06	0.70	1.50	1.59			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.49	0.04	0.42	1.35	1.51			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

# Scenario 5, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.81	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	51	Stream B-A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	Scenario 5	AM	2024 AM with Dev	ONE HOUR	07:15	08:45	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1025	100.000
B		ONE HOUR	✓	67	100.000
C		ONE HOUR	✓	175	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	479	546
	B	62	0	5
	C	172	3	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10



## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.02	11.11	0.0	0.5	B	5	7
B-A	0.21	15.15	0.3	1.4	C	57	85
C-AB	0.01	9.50	0.0	0.5	A	3	4
C-A						158	237
A-B						440	659
A-C						501	752

### Main Results for each time segment

#### 07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	4	0.94	424	0.009	4	0.0	0.0	9.418	A
B-A	47	12	401	0.116	46	0.0	0.1	11.130	B
C-AB	2	0.56	514	0.004	2	0.0	0.0	7.736	A
C-A	129	32			129				
A-B	361	90			361				
A-C	411	103			411				

#### 07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	4	1	399	0.011	4	0.0	0.0	10.045	B
B-A	56	14	371	0.150	56	0.1	0.2	12.535	B
C-AB	3	0.67	475	0.006	3	0.0	0.0	8.390	A
C-A	155	39			155				
A-B	431	108			431				
A-C	491	123			491				

#### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	6	1	362	0.015	5	0.0	0.0	11.102	B
B-A	68	17	330	0.207	68	0.2	0.3	15.107	C
C-AB	3	0.83	420	0.008	3	0.0	0.0	9.500	A
C-A	189	47			189				
A-B	527	132			527				
A-C	601	150			601				

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	6	1	362	0.015	6	0.0	0.0	11.107	B
B-A	68	17	330	0.207	68	0.3	0.3	15.149	C
C-AB	3	0.83	420	0.008	3	0.0	0.0	9.500	A
C-A	189	47			189				
A-B	527	132			527				
A-C	601	150			601				

**08:15 - 08:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	4	1	398	0.011	5	0.0	0.0	10.054	B
B-A	56	14	371	0.150	56	0.3	0.2	12.580	B
C-AB	3	0.67	475	0.006	3	0.0	0.0	8.390	A
C-A	155	39			155				
A-B	431	108			431				
A-C	491	123			491				

**08:30 - 08:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	4	0.94	424	0.009	4	0.0	0.0	9.424	A
B-A	47	12	401	0.116	47	0.2	0.1	11.180	B
C-AB	2	0.56	514	0.004	2	0.0	0.0	7.736	A
C-A	129	32			129				
A-B	361	90			361				
A-C	411	103			411				

**Queue Variation Results for each time segment**
**07:15 - 07:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.14	0.00	0.00	0.14	0.14			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

**07:30 - 07:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.01	0.28	0.50	0.52			N/A	N/A
B-A	0.19	0.00	0.00	0.19	0.19			N/A	N/A
C-AB	0.01	0.01	0.28	0.50	0.52			N/A	N/A

**07:45 - 08:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.02	0.00	0.00	0.02	0.02			N/A	N/A
B-A	0.28	0.03	0.28	0.51	0.54			N/A	N/A
C-AB	0.01	0.01	0.28	0.50	0.53			N/A	N/A

**08:00 - 08:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.02	0.00	0.00	0.02	0.02			N/A	N/A
B-A	0.28	0.03	0.33	0.99	1.36			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**08:15 - 08:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.20	0.00	0.00	0.20	0.20			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.15	0.00	0.00	0.15	0.15			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

# Scenario 5, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	3.56	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	47	Stream B-A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	Scenario 5	PM	2024 PM with Dev	ONE HOUR	16:45	18:15	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	267	100.000
B		ONE HOUR	✓	172	100.000
C		ONE HOUR	✓	331	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	76	191
	B	171	0	1
	C	321	10	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.00	9.87	0.0	220.0	A	0.92	1
B-A	0.43	15.61	0.8	3.5	C	157	235
C-AB	0.02	6.29	0.0	0.5	A	9	14
C-A						295	442
A-B						70	105
A-C						175	263

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.75	0.19	465	0.002	0.75	0.0	0.0	8.525	A
B-A	129	32	479	0.269	127	0.0	0.4	11.207	B
C-AB	8	2	664	0.011	7	0.0	0.0	6.027	A
C-A	242	60			242				
A-B	57	14			57				
A-C	144	36			144				

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.90	0.22	442	0.002	0.90	0.0	0.0	8.974	A
B-A	154	38	463	0.332	153	0.4	0.5	12.745	B
C-AB	9	2	654	0.014	9	0.0	0.0	6.137	A
C-A	289	72			289				
A-B	68	17			68				
A-C	172	43			172				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	1	0.28	403	0.003	1	0.0	0.0	9.845	A
B-A	188	47	442	0.426	187	0.5	0.8	15.492	C
C-AB	11	3	640	0.017	11	0.0	0.0	6.295	A
C-A	353	88			353				
A-B	84	21			84				
A-C	210	53			210				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	1	0.28	402	0.003	1	0.0	0.0	9.867	A
B-A	188	47	442	0.426	188	0.8	0.8	15.613	C
C-AB	11	3	640	0.017	11	0.0	0.0	6.295	A
C-A	353	88			353				
A-B	84	21			84				
A-C	210	53			210				

**17:45 - 18:00**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.90	0.22	441	0.002	0.90	0.0	0.0	8.997	A
B-A	154	38	463	0.332	155	0.8	0.6	12.873	B
C-AB	9	2	654	0.014	9	0.0	0.0	6.139	A
C-A	289	72			289				
A-B	68	17			68				
A-C	172	43			172				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.75	0.19	464	0.002	0.75	0.0	0.0	8.545	A
B-A	129	32	479	0.269	129	0.6	0.4	11.348	B
C-AB	8	2	664	0.011	8	0.0	0.0	6.030	A
C-A	242	60			242				
A-B	57	14			57				
A-C	144	36			144				

**Queue Variation Results for each time segment**
**16:45 - 17:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.40	0.00	0.00	0.40	0.40			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**17:00 - 17:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.28	0.50	0.52			N/A	N/A
B-A	0.54	0.00	0.00	0.54	0.54			N/A	N/A
C-AB	0.02	0.02	0.28	0.50	0.52			N/A	N/A

**17:15 - 17:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	>199	>199	>199	>199			N/A	N/A
B-A	0.79	0.03	0.29	0.79	0.79			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

**17:30 - 17:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.81	0.03	0.32	1.33	3.52			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

**17:45 - 18:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.56	0.05	0.52	1.42	1.53			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.41	0.03	0.34	1.04	1.34			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

# Scenario 6, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.84	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	40	Stream B-A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	Scenario 6	AM	2029 AM with Dev	ONE HOUR	07:15	08:45	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1115	100.000
B		ONE HOUR	✓	69	100.000
C		ONE HOUR	✓	192	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	520	595
	B	64	0	5
	C	188	4	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10



## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.02	11.66	0.0	0.5	B	5	7
B-A	0.23	16.58	0.3	1.5	C	59	88
C-AB	0.01	10.16	0.0	0.5	B	4	6
C-A						173	259
A-B						477	716
A-C						546	819

### Main Results for each time segment

#### 07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	4	0.94	413	0.009	4	0.0	0.0	9.665	A
B-A	48	12	387	0.124	48	0.0	0.2	11.632	B
C-AB	3	0.75	496	0.006	3	0.0	0.0	8.028	A
C-A	142	35			142				
A-B	391	98			391				
A-C	448	112			448				

#### 07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	4	1	386	0.012	4	0.0	0.0	10.391	B
B-A	58	14	355	0.162	57	0.2	0.2	13.313	B
C-AB	4	0.90	453	0.008	4	0.0	0.0	8.804	A
C-A	169	42			169				
A-B	467	117			467				
A-C	535	134			535				

#### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	6	1	345	0.016	5	0.0	0.0	11.651	B
B-A	70	18	309	0.228	70	0.2	0.3	16.527	C
C-AB	4	1	394	0.011	4	0.0	0.0	10.164	B
C-A	207	52			207				
A-B	573	143			573				
A-C	655	164			655				

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	6	1	345	0.016	6	0.0	0.0	11.659	B
B-A	70	18	309	0.228	70	0.3	0.3	16.584	C
C-AB	4	1	394	0.011	4	0.0	0.0	10.164	B
C-A	207	52			207				
A-B	573	143			573				
A-C	655	164			655				

**08:15 - 08:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	4	1	385	0.012	5	0.0	0.0	10.399	B
B-A	58	14	355	0.162	58	0.3	0.2	13.368	B
C-AB	4	0.90	453	0.008	4	0.0	0.0	8.807	A
C-A	169	42			169				
A-B	467	117			467				
A-C	535	134			535				

**08:30 - 08:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	4	0.94	413	0.009	4	0.0	0.0	9.673	A
B-A	48	12	387	0.124	48	0.2	0.2	11.692	B
C-AB	3	0.75	496	0.006	3	0.0	0.0	8.028	A
C-A	142	35			142				
A-B	391	98			391				
A-C	448	112			448				

**Queue Variation Results for each time segment**
**07:15 - 07:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.15	0.00	0.00	0.15	0.15			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**07:30 - 07:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.01	0.28	0.50	0.52			N/A	N/A
B-A	0.21	0.00	0.00	0.21	0.21			N/A	N/A
C-AB	0.01	0.01	0.28	0.50	0.52			N/A	N/A

**07:45 - 08:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.02	0.00	0.00	0.02	0.02			N/A	N/A
B-A	0.32	0.03	0.29	0.51	0.54			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**08:00 - 08:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.02	0.00	0.00	0.02	0.02			N/A	N/A
B-A	0.32	0.03	0.34	1.14	1.48			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**08:15 - 08:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.22	0.00	0.00	0.22	0.22			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.16	0.00	0.00	0.16	0.16			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

# Scenario 6, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	3.93	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	36	Stream B-A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	Scenario 6	PM	2029 PM with Dev	ONE HOUR	16:45	18:15	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	289	100.000
B		ONE HOUR	✓	186	100.000
C		ONE HOUR	✓	359	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	81	208
	B	185	0	1
	C	349	10	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.00	10.43	0.0	220.0	B	0.92	1
B-A	0.47	17.33	1.0	4.0	C	170	255
C-AB	0.02	6.36	0.0	0.5	A	9	14
C-A						320	480
A-B						74	111
A-C						191	286

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.75	0.19	456	0.002	0.75	0.0	0.0	8.694	A
B-A	139	35	472	0.295	137	0.0	0.5	11.766	B
C-AB	8	2	660	0.011	7	0.0	0.0	6.067	A
C-A	263	66			263				
A-B	61	15			61				
A-C	157	39			157				

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.90	0.22	429	0.002	0.90	0.0	0.0	9.251	A
B-A	166	42	455	0.365	166	0.5	0.6	13.637	B
C-AB	9	2	649	0.014	9	0.0	0.0	6.187	A
C-A	314	78			314				
A-B	73	18			73				
A-C	187	47			187				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	1	0.28	382	0.003	1	0.0	0.0	10.400	B
B-A	204	51	432	0.472	202	0.6	0.9	17.153	C
C-AB	11	3	634	0.017	11	0.0	0.0	6.360	A
C-A	384	96			384				
A-B	89	22			89				
A-C	229	57			229				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	1	0.28	381	0.003	1	0.0	0.0	10.435	B
B-A	204	51	432	0.472	204	0.9	1.0	17.332	C
C-AB	11	3	634	0.017	11	0.0	0.0	6.360	A
C-A	384	96			384				
A-B	89	22			89				
A-C	229	57			229				

**17:45 - 18:00**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.90	0.22	427	0.002	0.90	0.0	0.0	9.282	A
B-A	166	42	455	0.365	168	1.0	0.6	13.825	B
C-AB	9	2	649	0.014	9	0.0	0.0	6.189	A
C-A	314	78			314				
A-B	73	18			73				
A-C	187	47			187				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.75	0.19	455	0.002	0.75	0.0	0.0	8.721	A
B-A	139	35	472	0.295	140	0.6	0.5	11.947	B
C-AB	8	2	660	0.011	8	0.0	0.0	6.070	A
C-A	263	66			263				
A-B	61	15			61				
A-C	157	39			157				

**Queue Variation Results for each time segment**
**16:45 - 17:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.45	0.00	0.00	0.45	0.45			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**17:00 - 17:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.28	0.50	0.52			N/A	N/A
B-A	0.62	0.61	1.10	1.54	1.60			N/A	N/A
C-AB	0.02	0.02	0.28	0.50	0.52			N/A	N/A

**17:15 - 17:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	>199	>199	>199	>199			N/A	N/A
B-A	0.95	0.03	0.29	0.95	1.27			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

**17:30 - 17:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.96	0.03	0.31	1.26	4.02			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

**17:45 - 18:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.65	0.06	0.68	1.47	1.57			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.47	0.04	0.40	1.31	1.48			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

# Scenario 7, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.92	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	27	Stream B-A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	Scenario 7	AM	2039 AM with Dev	ONE HOUR	07:15	08:45	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1238	100.000
B		ONE HOUR	✓	73	100.000
C		ONE HOUR	✓	214	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	576	662
	B	68	0	5
	C	210	4	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10



## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.02	12.57	0.0	0.5	B	5	7
B-A	0.27	19.13	0.4	1.3	C	62	94
C-AB	0.01	11.19	0.0	0.5	B	4	6
C-A						193	289
A-B						529	793
A-C						607	911

### Main Results for each time segment

#### 07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	4	0.94	398	0.009	4	0.0	0.0	10.035	B
B-A	51	13	369	0.139	50	0.0	0.2	12.417	B
C-AB	3	0.75	472	0.006	3	0.0	0.0	8.445	A
C-A	158	40			158				
A-B	434	108			434				
A-C	498	125			498				

#### 07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	4	1	367	0.012	4	0.0	0.0	10.925	B
B-A	61	15	332	0.184	61	0.2	0.2	14.580	B
C-AB	4	0.90	424	0.008	4	0.0	0.0	9.414	A
C-A	189	47			189				
A-B	518	129			518				
A-C	595	149			595				

#### 07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	6	1	321	0.017	5	0.0	0.0	12.555	B
B-A	75	19	282	0.266	74	0.2	0.4	19.035	C
C-AB	4	1	358	0.012	4	0.0	0.0	11.188	B
C-A	231	58			231				
A-B	634	159			634				
A-C	729	182			729				

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	6	1	321	0.017	6	0.0	0.0	12.569	B
B-A	75	19	282	0.266	75	0.4	0.4	19.131	C
C-AB	4	1	358	0.012	4	0.0	0.0	11.188	B
C-A	231	58			231				
A-B	634	159			634				
A-C	729	182			729				

**08:15 - 08:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	4	1	367	0.012	5	0.0	0.0	10.938	B
B-A	61	15	332	0.184	62	0.4	0.3	14.668	B
C-AB	4	0.90	424	0.008	4	0.0	0.0	9.417	A
C-A	189	47			189				
A-B	518	129			518				
A-C	595	149			595				

**08:30 - 08:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	4	0.94	398	0.009	4	0.0	0.0	10.050	B
B-A	51	13	369	0.139	51	0.3	0.2	12.498	B
C-AB	3	0.75	472	0.006	3	0.0	0.0	8.446	A
C-A	158	40			158				
A-B	434	108			434				
A-C	498	125			498				

**Queue Variation Results for each time segment**
**07:15 - 07:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.17	0.00	0.00	0.17	0.17			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**07:30 - 07:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.01	0.28	0.50	0.52			N/A	N/A
B-A	0.24	0.00	0.00	0.24	0.24			N/A	N/A
C-AB	0.01	0.01	0.28	0.50	0.52			N/A	N/A

**07:45 - 08:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.02	0.00	0.00	0.02	0.02			N/A	N/A
B-A	0.39	0.03	0.29	0.52	0.54			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**08:00 - 08:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.02	0.00	0.00	0.02	0.02			N/A	N/A
B-A	0.39	0.03	0.35	1.30	1.30			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**08:15 - 08:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.25	0.00	0.00	0.25	0.25			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.18	0.00	0.00	0.18	0.18			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

# Scenario 7, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	4.61	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	23	Stream B-A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	Scenario 7	PM	2039 PM with Dev	ONE HOUR	16:45	18:15	15	✓

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	319	100.000
B		ONE HOUR	✓	205	100.000
C		ONE HOUR	✓	399	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A	B	C
From	A	0	87	232
	B	204	0	1
	C	388	11	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.00	11.51	0.0	220.0	B	0.92	1
B-A	0.54	20.45	1.2	5.0	C	187	281
C-AB	0.02	6.46	0.0	0.5	A	10	15
C-A						356	534
A-B						80	120
A-C						213	319

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.75	0.19	443	0.002	0.75	0.0	0.0	8.961	A
B-A	154	38	463	0.332	151	0.0	0.5	12.642	B
C-AB	8	2	654	0.013	8	0.0	0.0	6.130	A
C-A	292	73			292				
A-B	65	16			65				
A-C	175	44			175				

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.90	0.22	409	0.002	0.90	0.0	0.0	9.713	A
B-A	183	46	444	0.413	183	0.5	0.8	15.099	C
C-AB	10	2	642	0.015	10	0.0	0.0	6.265	A
C-A	349	87			349				
A-B	78	20			78				
A-C	209	52			209				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	1	0.28	347	0.003	1	0.0	0.0	11.436	B
B-A	225	56	418	0.537	223	0.8	1.2	20.091	C
C-AB	12	3	625	0.019	12	0.0	0.0	6.461	A
C-A	427	107			427				
A-B	96	24			96				
A-C	255	64			255				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	1	0.28	345	0.003	1	0.0	0.0	11.508	B
B-A	225	56	418	0.537	225	1.2	1.2	20.446	C
C-AB	12	3	625	0.019	12	0.0	0.0	6.461	A
C-A	427	107			427				
A-B	96	24			96				
A-C	255	64			255				

**17:45 - 18:00**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.90	0.22	406	0.002	0.90	0.0	0.0	9.769	A
B-A	183	46	444	0.413	185	1.2	0.8	15.416	C
C-AB	10	2	642	0.015	10	0.0	0.0	6.265	A
C-A	349	87			349				
A-B	78	20			78				
A-C	209	52			209				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-C	0.75	0.19	441	0.002	0.76	0.0	0.0	9.003	A
B-A	154	38	463	0.332	155	0.8	0.6	12.893	B
C-AB	8	2	654	0.013	8	0.0	0.0	6.130	A
C-A	292	73			292				
A-B	65	16			65				
A-C	175	44			175				

**Queue Variation Results for each time segment**
**16:45 - 17:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.54	0.00	0.00	0.54	0.54			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

**17:00 - 17:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.28	0.50	0.52			N/A	N/A
B-A	0.75	0.28	1.04	1.53	1.59			N/A	N/A
C-AB	0.02	0.02	0.28	0.50	0.52			N/A	N/A

**17:15 - 17:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	>199	>199	>199	>199			N/A	N/A
B-A	1.22	0.03	0.30	1.22	3.32			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

**17:30 - 17:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	1.25	0.03	0.31	1.31	4.99			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

**17:45 - 18:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.80	0.07	0.73	1.63	1.66			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.00	0.00	0.00	0.00	0.00			N/A	N/A
B-A	0.56	0.04	0.45	1.46	1.62			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A





## **APPENDIX D5**

### PICADY Analysis – Development Junction



# Junctions 9

## PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []  
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**Filename:** 119209 Rosshill Rd\_Rosshill Stud Farm Rd PICADY Full dev.j9

**Path:** I:\CST\119\201-250\119209\calcs\PICADY\Rosshill Rd\_Rosshill Stud Farm Rd

**Report generation date:** 12/05/2021 16:32:16

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### «Scenario 7, PM

- »Junction Network
- »Arms
- »Traffic Demand
- »Origin-Destination Data
- »Vehicle Mix
- »Results

## Summary of junction performance

	AM						PM					
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
<b>Scenario 1</b>												
Stream B-AC	0.1	0.5	9.58	0.08	A	178 %	0.1	0.5	8.22	0.07	A	517 %
Stream C-AB	0.0	0.5	8.07	0.02	A	[Stream B-AC]	0.0	0.5	6.64	0.03	A	[Stream B-AC]
<b>Scenario 2</b>												
Stream B-AC	0.1	0.5	9.71	0.08	A	167 %	0.1	0.5	8.25	0.07	A	497 %
Stream C-AB	0.0	0.5	8.16	0.02	A	[Stream B-AC]	0.0	0.5	6.65	0.03	A	[Stream B-AC]
<b>Scenario 3</b>												
Stream B-AC	0.1	0.5	10.08	0.09	B	148 %	0.1	0.5	8.35	0.08	A	452 %
Stream C-AB	0.0	0.5	8.34	0.02	A	[Stream B-AC]	0.0	0.5	6.68	0.04	A	[Stream B-AC]
<b>Scenario 4</b>												
Stream B-AC	0.1	0.5	10.59	0.11	B	125 %	0.1	0.5	8.53	0.08	A	400 %
Stream C-AB	0.0	0.5	8.61	0.03	A	[Stream B-AC]	0.0	0.5	6.70	0.04	A	[Stream B-AC]
<b>Scenario 5</b>												
Stream B-AC	1.4	5.5	21.05	0.57	C	20 %	0.3	1.3	10.19	0.20	B	167 %
Stream C-AB	0.1	0.5	8.74	0.07	A	[Stream B-AC]	0.2	0.5	7.59	0.15	A	[Stream B-AC]
<b>Scenario 6</b>												
Stream B-AC	1.5	6.0	22.47	0.59	C	16 %	0.3	1.4	10.35	0.21	B	159 %
Stream C-AB	0.1	0.5	8.94	0.07	A	[Stream B-AC]	0.2	0.5	7.59	0.15	A	[Stream B-AC]
<b>Scenario 7</b>												
Stream B-AC	1.7	7.6	25.26	0.62	D	11 %	0.3	1.5	10.58	0.22	B	146 %
Stream C-AB	0.1	0.5	9.26	0.08	A	[Stream B-AC]	0.2	0.5	7.61	0.15	A	[Stream B-AC]

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. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

## File summary

### File Description

<b>Title</b>	Rosshill Road/Rosshill Stud Farm T-junction
<b>Location</b>	Rosshill, Galway City
<b>Site number</b>	
<b>Date</b>	18/07/2019
<b>Version</b>	
<b>Status</b>	Preliminary
<b>Identifier</b>	
<b>Client</b>	Alber Homes
<b>Jobnumber</b>	119209
<b>Enumerator</b>	J Noone
<b>Description</b>	

## Units

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

### Analysis Options

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

### Analysis Set Details

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

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	Scenario 7	PM	2042 PM with Dev	ONE HOUR	16:45	18:15	15	✓

# Scenario 7, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

## Junction Network

### Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	3.43	A

### Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	146	Stream B-AC

## Arms

### Arms

Arm	Name	Description	Arm type
A	Rosshill Rd East		Major
B	Rosshill Stud Farm Rd		Minor
C	Rosshill Rd West		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	6.20			90.0	✓	1.00

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

### Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.65	15	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	522	0.094	0.238	0.150	0.340
1	B-C	675	0.103	0.259	-	-
1	C-B	626	0.240	0.240	-	-

*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

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

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	156	100.000
B		ONE HOUR	✓	96	100.000
C		ONE HOUR	✓	233	100.000

### Origin-Destination Data

#### Demand (PCU/hr)

From	To		
	A	B	C
A	0	116	40
B	73	0	23
C	151	82	0

### Vehicle Mix

#### Heavy Vehicle Percentages

From	To		
	A	B	C
A	10	10	10
B	10	10	10
C	10	10	10

### Results

#### Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.22	10.58	0.3	1.5	B	88	132
C-AB	0.15	7.61	0.2	0.5	A	78	117
C-A						136	203
A-B						106	160
A-C						37	55

#### Main Results for each time segment

##### 16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	72	18	503	0.144	72	0.0	0.2	9.161	A
C-AB	63	16	612	0.103	63	0.0	0.1	7.200	A
C-A	112	28			112				
A-B	87	22			87				
A-C	30	8			30				

**17:00 - 17:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	86	22	493	0.175	86	0.2	0.2	9.721	A
C-AB	76	19	613	0.124	76	0.1	0.2	7.377	A
C-A	133	33			133				
A-B	104	26			104				
A-C	36	9			36				

**17:15 - 17:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	106	26	480	0.220	105	0.2	0.3	10.563	B
C-AB	95	24	615	0.154	95	0.2	0.2	7.608	A
C-A	162	40			162				
A-B	128	32			128				
A-C	44	11			44				

**17:30 - 17:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	106	26	480	0.220	106	0.3	0.3	10.581	B
C-AB	95	24	615	0.154	95	0.2	0.2	7.612	A
C-A	162	40			162				
A-B	128	32			128				
A-C	44	11			44				

**17:45 - 18:00**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	86	22	493	0.175	87	0.3	0.2	9.744	A
C-AB	76	19	613	0.124	76	0.2	0.2	7.388	A
C-A	133	33			133				
A-B	104	26			104				
A-C	36	9			36				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	72	18	503	0.144	72	0.2	0.2	9.206	A
C-AB	63	16	612	0.103	63	0.2	0.1	7.215	A
C-A	112	28			112				
A-B	87	22			87				
A-C	30	8			30				

**Queue Variation Results for each time segment**
**16:45 - 17:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.18	0.00	0.00	0.18	0.18			N/A	N/A
C-AB	0.13	0.00	0.00	0.13	0.13			N/A	N/A

**17:00 - 17:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.23	0.00	0.00	0.23	0.23			N/A	N/A
C-AB	0.16	0.00	0.00	0.16	0.16			N/A	N/A



**17:15 - 17:30**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.31	0.03	0.28	0.51	0.54			N/A	N/A
C-AB	0.21	0.03	0.28	0.51	0.54			N/A	N/A

**17:30 - 17:45**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.31	0.03	0.33	1.10	1.46			N/A	N/A
C-AB	0.21	0.03	0.28	0.51	0.53			N/A	N/A

**17:45 - 18:00**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.24	0.00	0.00	0.24	0.24			N/A	N/A
C-AB	0.16	0.00	0.00	0.16	0.16			N/A	N/A

**18:00 - 18:15**

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.19	0.00	0.00	0.19	0.19			N/A	N/A
C-AB	0.13	0.00	0.00	0.13	0.13			N/A	N/A