ATKINS

Member of the SNC-Lavalin Group

Charlestown Place SHD

Traffic and Transport Assessment
Stage 3 Planning Application

Puddenhill Property LTD

May 2021

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Document history

Revision	Purpose description	Origin-ated	Check-ed	Review-ed	Authorise d	Date
Rev 0.0	Working Draft	BH	CF	KB	KB	March 2019
Rev 1.0	Working Draft for Client Review	BH	CF	KB	KB	September 2019
Rev 2.0	Draft for s247 Pre-Planning	NVDB	CF	KB	KB	27th Feb 2020
Rev 3.0	Draft for Stage 2 Pre-Application	NVDB	CF	KB	KB	14th May 2020
Rev 4.0	Final Draft for Stage 2 Pre-Application	NVDB	CF	KB	KB	21st May 2020
Rev 5.0	Draft for Stage 3 Full Application	OC	CF	KB	KB	26th February 2021
Rev 6.0	Draft for Stage 3 Full Application	NVDB	CF	KB	KB	10th March 2021
Rev 7.0	Final for Stage 3 Full Application	NVDB	CF	KB	KB	13th May 2021

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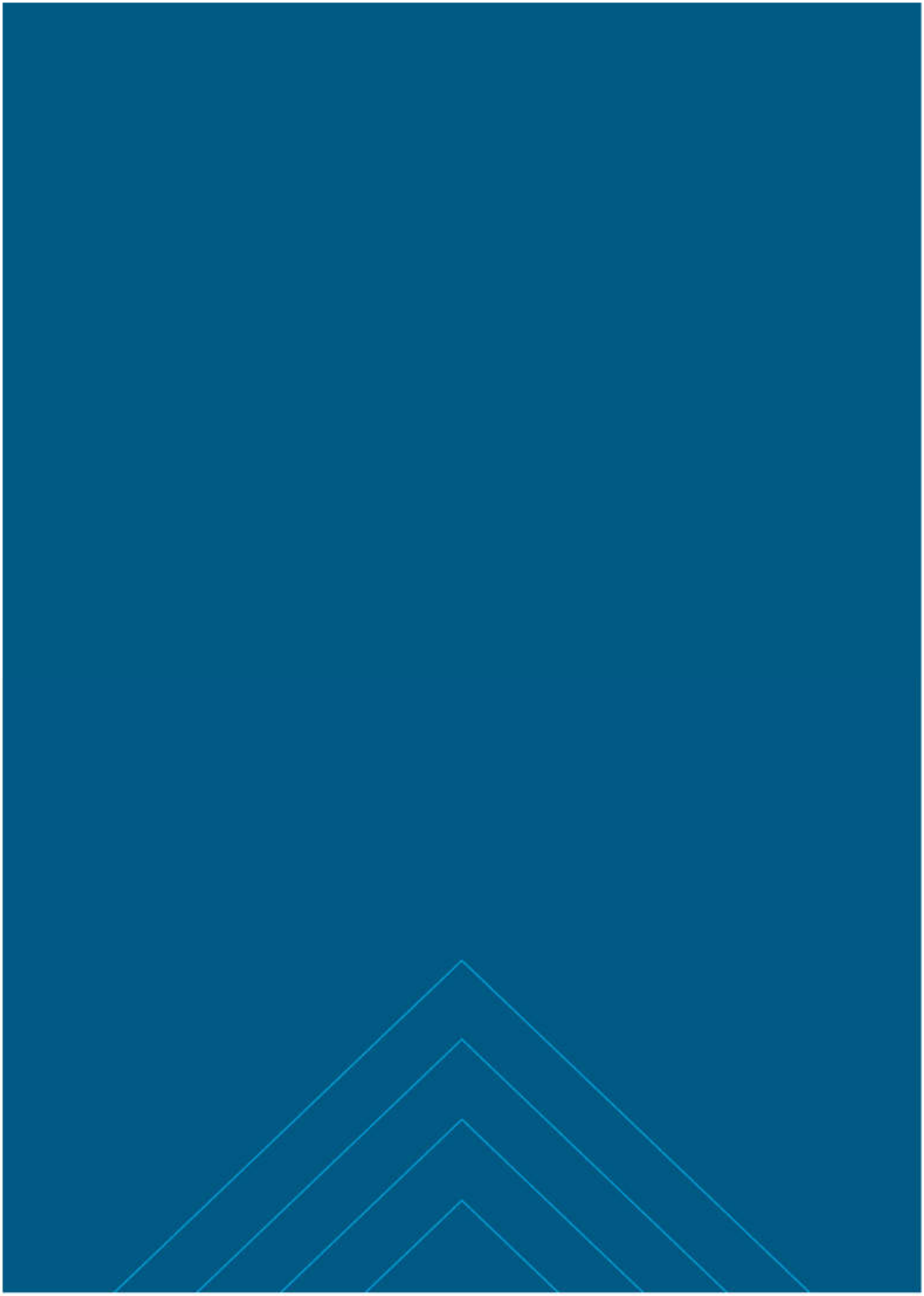


1. Introduction

1.1. Overview

Atkins have been appointed by Puddenhill Property Limited to prepare a Traffic and Transport Assessment (TTA) for the proposed Strategic Housing Development at Charlestown Place, St Margaret's Road, Charlestown, Dublin 11.

The proposed development is predominantly residential in nature, consisting of 590 no. units, but also incorporates small scale retail and commercial land uses including a creche.

A full description of the development is included in the Planning Report and full details of road layouts are contained within the Engineering Design Report and associated Engineering and Architectural Drawings, all of which accompany the application.

This TTA report forms part of the application and contains a review of the overall transport sustainability of the development proposal and its impact on the adjacent local and strategic road network.

1.2. Previous Relevant Planning Permissions

The majority of the subject site is currently operating as a temporary surface car park facility for the adjacent Charlestown Centre Development. Details of the planning permission for this are provided below.

- The temporary surface car park (567 spaces) was originally permitted by **Reg. Ref. F07A/0121** in May 2007 for a period of 3 years. The surface carpark was built to allow for early phases of the overall Charlestown Centre Development to proceed in advance of basement car parking being constructed. Given the slower than expected build out of the remaining development there have been a number of planning permissions extending the use of the surface car park. Reg. Ref. F09A/0542 extended the period of use for a further 5 years to 2015. A further application in 2014, Reg. Ref. F14A/0304, extended permission until July 2019.

In terms of key planning approvals in the vicinity of the proposed development site, there have been numerous approvals associated with the Charlestown Centre site to the immediate north of subject site. The key approvals are as follows.

- **Reg. Ref. F05A/1223** – The Existing Phase 1 Development provided for a total of 285no. apartments comprising of 45no. 1 bed units, 205no. 2 bed units and 35no. 3 bed units. The development also approximately accommodated a 7700m^2 anchor unit, a 3000m^2 standalone unit and 19 separate retail units with an overall floor area of 6600m^2. Approximately 2100m^2 of office space is also accommodated.
- **Reg. Ref. F08A/0431 & F09A/0403** – The Permitted Phase 2 Development at Charlestown Centre was originally approved under Reg Ref: F08A/0431 and included 118 apartments. These apartments were subsequently omitted from the scheme and replaced with a 10,000m^2 Cinema and Leisure Building under Reg. Ref. F09A/0403. The remainder of the permitted development approximately consists of over 10,000m^2 of retail space, a medical centre of over 3000m^2 a 500m^2 health and fitness unit and over 6000m^2 of science and Technology space.
- **Reg. Ref. F18A/0718 -** The modified Phase 2B comprises a total of 34,363 m^2 gross floor area incorporating 319 no. apartments (29,492 m^2), retail floorspace (4,544 m^2) and ancillary areas (327 m^2) in 6 no. blocks ranging in height from two to six storeys with seven storey elements.
- **Reg. Ref. F19A/0146 –** The development consists of modifications to the permitted Phase 2B development (Reg. Ref. F18A/0718) to provide an additional 58 no. apartments within a new building, known as Building 600, in lieu of the previously permitted Building 550 and will result in an increase in the overall number of apartment units on the Phase 2B site from 319 units to 377 no. units and a decrease in retail floorspace provision from 4,544sq.m. to 194sq.m. gross floor area.

1.3. Transport Planning Context

A summary of the key policy documents which have informed the preparation of this TTA for the proposed development are as follows.

1.3.1. Smarter Travel

The Smarter Travel Policy, published in February 2009, outlined the Governments vision for achieving a sustainable transport system for Ireland by 2020. The document outlines a number of key policies to encourage a modal shift away from private car use and promote alternative travel modes such as public transport, walking and cycling.

In April 2009 the National Cycle Policy Framework (NCPF) was published. The policy outlined the vision to develop the appropriate infrastructure to make all cities, towns, villages and rural areas bicycle friendly and to promote cycling as the normal way to get about, in particular for short trips. The aim of this framework is to encourage a culture of cycling to the extent that by 2020, some 10% of all trips will be completed by bicycle.

The proposed development incorporates the appropriate measures to enable the vision of both documents by ensuring the development is fully accessible for all modes, providing good connections to the existing and planned pedestrian, cycling and public transport links.

1.3.2. Spatial Planning and National Roads

The Spatial Planning and National Roads Guidelines set out Government planning policy considerations relating to development affecting national primary and secondary roads, including motorways and associated junctions.

The Guidelines outline that National Roads play a key role within Ireland's overall transport system and in the country's economic, social and physical development. Their primary purpose is to provide strategic transport links between the main centres of population and employment, including key international gateways such as the main ports and airports, and to provide access between all regions. The planning system is required to ensure that the strategic traffic function of national roads is maintained by limiting the extent of development that would give rise to the generation of short trip traffic on national roads or alternatively by ensuring that the trip demand from future development will primarily be catered for on the Non-National Road Network.

1.3.3. Transport Strategy for the Greater Dublin Area 2016 -2035

The Transport Strategy for the Greater Dublin Area (GDA) 2016-2035 has been prepared to be consistent with the Regional Planning Guidelines for the GDA (2010-2022). The role of the Strategy is to establish the framework for transport provision necessary to achieve the land use vision set out in the Regional Planning Guidelines. As such the purpose of the Strategy is

"To contribute to the economic, social and cultural progress of the Greater Dublin Area by providing for the efficient, effective and sustainable movement of people and goods."

In particular the Strategy aims to achieve a work commuting modal share target of 55% for sustainable travel modes, reducing the single occupancy private car modal share to a maximum 45%, as set out in Smarter Travel Policy.

The Strategy presents infrastructure proposals by mode of transport. Those that will particularly benefit the proposed development are as follows;

- Extension of Luas Cross City to the Finglas area.
- Core radial bus network route from Finglas to Phibsborough.
- Core orbital bus network route from Finglas to Dundrum.
- Implementation of the Greater Dublin Area Cycle Network Plan to deliver high quality cycle facilities in accordance with the National Cycle Manual.

The above infrastructure improvements are discussed further in Chapter 3: Future Transport Proposals.

1.3.4. Greater Dublin Area Cycle Network Plan

This Greater Dublin Area Cycle Network Plan (CNP) was published in 2013 and sets out the network of cycle routes to be developed throughout the GDA. Routes are classified in accordance to their strategic importance within the GDA. The Plan identifies the following cycle networks within the GDA:

- The Urban Cycle Network at the Primary, Secondary and Feeder level.
- The Inter-Urban Cycle Network linking the relevant sections of the Urban Network and including the elements of the National Roads Authorities (NRA) National Cycle Network (NCN) within the GDA. It shall also include linkages to key transport locations outside of urban areas such as airports and ports.
- The Green Route Network being cycle routes developed predominately for tourist, recreational and leisure purposes.

Unlike area-based plans prepared previously by individual Local Authorities, this CNP is to be consistent across county boundaries such that there is continuity of route networks across these administrative boundaries in line with the guidance set out in the National Cycle Manual (NCM). As part of the proposed cycle network within the Dublin North Central area, the following routes in directly in the vicinity of Charlestown are as follows;

- Secondary Route NO5 – Ballycoolin Industrial Estate (ultimately to Clonsilla) via Charlestown to Santry.
- Secondary / Primary Route 3B – Charlestown to Phibsborough.

It should be noted that since 2013 there has been significant investment in developing the routes within the Cycle Network Plan and this has included for upgrades, if necessary, of existing cycle facilities along the identified routes. The above cycle infrastructure improvements are discussed further in Chapter 3: Future Transport Proposals.

1.3.5. Fingal County Development Plan

The Fingal County Development Plan 2017 – 2023 has become effective since the 16th of March 2017. In terms of transportation, the County Development Plan outlines the following Statement of Policy:

- Promote and facilitate movement to, from, and within the County of Fingal, by integrating land use with a high quality, sustainable transport system that prioritises walking, cycling and public transport.
- Provide an appropriate level of road infrastructure and traffic management, in particular to support commercial and industrial activity and new development.

The above Statement of Policy is supported by Objectives set out in the Plan such as:

- **Objective MT02** – Support the recommendations of the National Transport Authority's Transport Strategy for the Greater Dublin Area 2016-2035 to facilitate the future sustainable growth of Fingal.
- **Objective MT03** - Implement Smarter Travel – A Sustainable Travel Future policy and work to achieve the Key Goals set out in this policy.
- **Objective MT05** - Integrate land use with transportation by allowing higher density development along higher capacity public transport corridors.
- **Objective MT06** - Integrate the County's transport and tourism strategies to promote increasingly sustainable travel patterns and improved linkages between the City Centre, Villages and the Coast among visitors to the County.
- **Objective MT13** - Promote walking and cycling as efficient, healthy, and environmentally friendly modes of transport by securing the development of a network of direct, comfortable, convenient and safe cycle routes and footpaths, particularly in urban areas.

1.3.6. Best Practice Guidance Documents

The following best practice and planning guidance documents have fundamentally underpinned the development of the site layout and form the basis of this TTA:

- Transport Infrastructure Ireland: Traffic and Transport Assessments Guidelines.
- Transport Infrastructure Ireland: Project Appraisal Guidelines.
- Department of Transport Tourism and Sport: Design Manual for Urban Roads and Streets.
- National Transport Authority: National Cycle Manual.
- National Transport Authority: Permeability Best Practice Guidance.
- Department of Housing, Planning and Local Government: Design Standards for New Apartments.

1.3.7. Scoping with Local Authority

A TTA Scoping Document was prepared by Atkins and issued to the Transport Planning Section of Fingal County council (FCC) on the 21st August 2019. The Transport Panning Section acknowledged receipt of the scoping document.

An informal consultation meeting with the Local Authority was held on 11th November 2019. Atkins attended this meeting and engaged with the Roads and Traffic representatives of the Local Authority on a number of key considerations to be included within the TTA.

A formal Section 247 pre-planning submission was issued in late February 2020. Comments, including traffic and transport items, were received from FCC on the 8th April 2020. A response to these comments was issued in late April 2020.

In June 2020 a formal Stage 2 pre-planning submission was issued to An Bord Pleanála. A tripartite meeting was held in November 2020, with the An Board Pleanála Opinion issued in December 2020. A report by Fingal County Council in preparation for this tripartite meeting identified a number of items that Fingal County Council requested to be addressed. These items are outlined in Chapter 3 of this report with a response to how they are being addressed.

1.3.8. Methodology

The methodology for the traffic and transport impact is consistent with the 2014 Transport Infrastructure Ireland (TII) Traffic and Transport Assessments Guidelines. The methodology is summarised as follows:

- **Receiving Environment Review:** Undertaking of a desktop review of current planning policies and objectives, existing public transport services, walking and cycling network and existing and roads infrastructure. This also included a review of relevant committed developments adjacent the proposed development site. Undertaking of site visits to review current traffic conditions and to make observations on same. Identification of key junctions where traffic count survey information is required.
- **Future Transport Infrastructure Review:** Undertaking of a review of current transport policies, plans and strategy to identify future transport proposals which may have a material impact on the travel behaviour associated with the proposed development.
- **Existing and Permitted Development Review:** Review of the existing and operational development and of the unbuilt permitted development in terms of provision for access by walking, cycling, public transport and car.
- **Proposed Development Review:** Review of the proposed development in terms of provision for access by walking, cycling, public transport and car.
- **Parking Arrangements Review:** Review of the existing and proposed parking arrangements at the site, inclusive of car parking and bicycle parking.
- **Transport Characteristics Review:** Procurement of car park survey to determine trip attraction and generation rates, parking occupancy rates and duration. Undertaking of an assessment of the trip generation associated with uses that are not currently on site i.e. crèche and gym facilities and assess likely traffic assignment and distribution having regard to existing traffic patterns on the local road network.
- **Assessment of Traffic Impact:** Undertaking of an assessment of the key junctions during the base year, opening year, opening year plus five and opening year plus fifteen assessment years for both without and with development scenarios in order to determine future operation and any necessary mitigation measures required.

2. SHD Stage 2 – Transport Report

The following outlines a list of items that are a requirement by the Transport Planning Section of Fingal County Council to be addressed on foot of the Draft Traffic and Transport Assessment and other documentation issued for the Stage 2 pre-planning submission. A response is provided to each item with a reference provided for further detail to the relevant section of this TTA or other relevant documentation.

2.1. Car Parking

Car parking is fully addressed in Chapter 5 of this Traffic and Transport Assessment

- ***FCC Comment*** *- The Development Plan Standards for residential development are norms. The parking is well below Development Plan Standards and below what the Transportation Planning Section would consider to be the minimum parking requirements. Parking for the apartments has been provided at a rate of 0.85 spaces per unit. There is a deficit of 401 parking spaces with regard to the Development Plan Standards and a deficit of 122 spaces with regard to what the Transportation Planning Section would consider the minimum practical parking requirements.*

  Response – Whist it is acknowledged that parking remains a concern for the Transport Planning Section, the location of the development, its characteristics and its proximity to existing and future public transport facilities demonstrate that the proposed level of parking is fully in line with the national standards outlined in the Design Standards for New Apartments and furthermore is aligned with National Policy aimed to reduce the reliance on private vehicle ownership in favour of more sustainable methods of travel. Refer to Section 6.1 to 6.4 for further information.

- ***FCC Comment*** *- Club cars are separate to the car parking provision for the development and should not be included as part of the calculation of designated car parking spaces*

  Response – It is proposed to provide 4 no. car club spaces located at surface level. These four spaces have not been utilised in the calculation of the overall level of car parking. Please refer to section 6.5.2 for further information.

- ***FCC Comment*** *- The creche is a sizable unit and the exact staff parking requirement will require information on the anticipated level of staffing required for the facility. This information has not been provided.*

  Response – It is proposed to provide 3 no. staff parking spaces and 3 no. set down spaces. Details on this is provided in Section 6.5.5. These spaces are provided at surface level and are identified on Architects Drawing pack.

- ***FCC Comment*** *– The location of non-residential parking is unclear. Residential parking and non-residential parking should be segregated to ensure residential parking is available to all residents 24/7. This usually means the provision of control measures such as barriers. This is something that needs to be clarified.*

  Response – It is proposed to provide 10 no. spaces for retail and 10 no. spaces for office and 14 no. spaces for the medical facility. This is in line with the Fingal Development Plan standards and is further discussed in Section 6.5.6. These spaces are provided at basement level and are identified on Architects Drawing pack.

- ***FCC Comment*** *- The Details of the creche set-down facility have not been provided. A suitable set-down facility that avoids all reverse manoeuvres should be provided*

  Response – It is proposed to provide 3 no. staff parking spaces and 3 no. set down spaces. Details on this is provided in Section 6.5.5. These spaces are provided at surface level and are identified on Architects Drawing pack. The set-down spaces provided are perpendicular spaces. These spaces are located on a 'homezone' type street at the end of a cul-de-sac. There will be no through traffic or traffic related to any other land use of the development located in this area. Traffic speeds and volumes will be therefore be of an extremely low order. Thus, reversing manoeuvres are considered acceptable and the tighter layout resulting from the perpendicular spaces will ensure that the set-down facility does not dominate the streetscape.

- ***FCC Comment -*** *The provision of EV charging points for each residential parking space is a requirement for all new residential developments. This can be achieved by the provision of 10% of the spaces being ready to use from the completion of development with all the necessary services in place to facilitate the retrofitting of the remainder of the spaces as demand dictates.*

Response – A provision of 1 in 100 EV charging points is to be provided as in line with the Fingal Development Plan. All other spaces will be ducted to facilitate conversion to EV spaces as the demand necessitates in the future.

2.2. Bicycle Parking

- ***FCC Comment*** *- 1005 bicycle parking spaces have been provided in the proposed development. Consequently, there is a deficit of 271 bicycle parking spaces. There are 107 street level parking spaces that includes the provision of 13 visitor bicycle parking spaces. The proposed street level bicycle parking spaces are covered, however, the suitability of the parking with regard to passive supervision could be improved. There are 885 residential bicycle parking spaces within the basement area. The applicant has indicated that bicycle parking has been provided at a rate of 1.5 spaces per unit. The development proposes to have a reduced parking demand in accordance with National Policy but proposes to provide Development Plan Standards for bicycle parking. In line with the reduced parking bicycle parking should be in line with National Policy at a rate of 1 space per bedroom and 1 visitor parking space per every two units. Cherry picking of standards is not appropriate. Consequently, the provision of bicycle parking should be increased accordingly. Bicycle parking should be of a high standard with parking for each unit provided in a separate secure compartment. Stacking of bicycle parking can be provided as long as it is practicably accessible.*

  Response – An increase in the number of cycle parking spaces has been provided as requested. It is now proposed to provide a total of 1068 no. bicycle parking spaces. 886 no. of these are allocated to residents, whilst 169 no. spaces are allocated to visitors. Whilst the proposed amount falls slightly short of that recommended in the Design Standards for New Apartments, it is significantly higher than that of the Fingal Development Plan standard. This level of cycle parking is of the highest order that can be practically accommodated on the site without locating such secure and accessible cycle parking in inappropriate locations that would not best serve users nor the visual attractiveness of the development. It is also considered that this level of cycle parking is of an order that will facilitate and encourage future residents to significantly uptake cycling for utility and recreational purposes. Full details regarding the proposed cycle parking are provided in Section 7.2.

- ***FCC Comment*** *- The Cycleways provided with the proposed development should all be compliant with the design requirements of the Cycle Manual published by the NTA*

  Response – There are no cycleways proposed within the development. However, cyclists are catered for by the central boulevard which leads from the proposed crossing on Charlestown Place through the development towards the main open space provision. Furthermore, the design of the internal streets, i.e. narrow streets, compact junctions, appropriate vertical and horizontal deflections etc, is such that a low speed environment is encouraged so as to facilitate cyclist to cycle in lane with traffic. This is all in line with the National Cycle Manual and the Design Manual for Urban Roads and Streets. In addition, the works associated with the proposed pedestrian and cycle crossing across Charlestown Place incorporate tie ins with the existing cycle infrastructure on Charlestown Place and these have been designed in accordance with the National Cycle Manual. Refer to Section 5.5 for details. The area is well served by pedestrian and cyclist routes which link directly with the subject site.

2.3. Traffic and Transport Assessment

- ***FCC Comment*** *- A Traffic & Transport Assessment has been provided. The traffic survey information is almost 4 years old. The Traffic & Transport Assessment states that this is the industry norm. This is not acceptable to the Transportation Planning Section. The Transportation Planning Section requires traffic surveys to be taken within two years of the application at most. Surveys should be as up to date as possible preferably. There has been significant increase in the background traffic in the intervening period since the survey provided was undertaken. A new traffic survey is required for a relevant and robust Traffic and Transport Assessment. This was highlighted to the applicant during pre-planning discussions. It is acknowledged by the Transportation Planning Section that current traffic volumes are not representative of those prevalent prior to March of this year. The survey results of recent development in the area may have to be used in lieu of a new survey in the current climate. The applicant should liaise with the Transportation Planning Section in identifying a suitable source of information in this regard*

Response – Consultation on this matter was undertaken with the Transport Planning Section in December 2020. It was agreed that ideally the undertaking of up to date traffic surveys was desirable. However, it was also mutually agreed that this was not appropriate nor possible due to the restrictions associated with the Covic-19 Pandemic, which has significantly altered traffic patterns and behaviours globally. As a compromise it was agreed that the 2016 traffic counts would be grown to the 2021 Opening Year using high growth rates to account for the potential that traffic in the intervening years, prior to Covid-19, had grown. Further detail is provided in Section 3.7 and Section 9.2 of this TTA.

- ***FCC Comment*** *- It was highlighted during pre-planning discussions that the use of the CSO statistics is not appropriate for the Transport and Traffic Assessment (Traffic Impact Assessment). The report provided still uses this information as its basis for assessment. TRICS is a large database, complied over a significant period of time for all categories of development within Ireland and the UK. Through the selection of appropriate data for developments similar to the proposed development the trip rates for the development can be forecast with a high degree of confidence. The applicant proposes to further reduce the trips generated by the proposed development through use of the CSO 2016 Census data. This would distort the data used from the TRICS modelling and would likely underestimate the trips generated by the proposed development. If the CSO Census data is to be used, then an assessment from first principals should be taken using the census data independently of the TRICS data should be carried out. However, given the wealth of appropriate data contained within the TRICS database the Transportation Planning Section feels a standard assessment unaltered by the CSO survey would be more relevant and robust.*

  Response - Consultation on this matter was undertaken with the Transport Planning Section in December 2020. It was clarified to the Transport Planning Section that CSO data has not been utilised in the estimated of trip rates associated with the proposed development. CSO data has been used in terms of identifying car ownerships rates of the existing Charlestown Centre site in order to determine a benchmark for a car parking standard. This may have led to some confusion regarding the trip rates. The trip rates have actually been estimated based on empirical data collected from a parking survey undertaken at the existing Charlestown Centre development on the 6th February 2019. The Transport Planning Section accepted this. Further details are provided in Section 3.8 and Section 9.3.1 of this TTA.

- ***FCC Comment*** *- The report refers to a sensitivity test whereby there is no growth in the background traffic. This is considered unrealistic as it assumes that background traffic volumes will remain at current levels and that consequently the capacity of the junctions assessed will be more favourable. Given the significance of the junctions in question, the levels of saturation indicated for the future year scenarios and the likely underestimation of generated trips for the proposed development the Transportation Planning Section has serious concerns with the Traffic & Transport Assessment provided. A revised Traffic & Transport Assessment should be provided in consultation with the Transportation Planning Section.*

  Response – In acknowledging the Transport Planning Sections stance on the sensitivity assessment put forward, it should also be acknowledged that assuming that traffic will grow relentlessly for the next 15 years plus also represents an unrealistic scenario. The traditional approach to dealing with increased demand of providing additional road spaces is unstainable. A new approach is required wherein there needs to be a focus on avoiding trips and reducing trip lengths, along with the progress that has been made regarding the shifting of trips to more sustainable modes of transport. On this basis a revised sensitivity assessment has been prepared and is detailed in Section 10.8.3.

2.4. Layout

- ***FCC Comment*** *- The layout of the surface level parking for the proposed development is poor. The parking dominates the streetscape in the form of long lines of vehicle parking that resemble a commercial car park. The location of the parking spaces relative to the units they serve is also unclear. Some of the parking in the current layout is likely to be removed from the units the parking serves in some areas of the proposed development and some of spaces are poorly passively supervised.*

  Response – Residential units are predominantly served by the basement car parking provision. Significant design collaboration has been undertaking in developing the site layout incorporating a number of disciplines to ensure that all the elements of the site layout work together in order to provide a development with a strong urban place context. Further development of this has taken

place of the last number of months and it is considered hat this has been achieved. Refer to the Architect's Drawings and Design Statement for further details.

- ***FCC Comment*** *- There are a significant number of on-street parking spaces that incorporate permeable paving. This is an issue with respect to taking in charge. Generally, there are a number of issues with regard to taking in charge not least of which is the parking spaces themselves which would have to remain as islands of private ownership surrounded by public space.*

  Response – It is not proposed that parking spaces are taken in charge. It is only proposed that roads and streets are taken in charge. Refer to the Architects Drawing pack for further information.

- ***FCC Comment*** *- Details of the main pedestrian crossing should be provided that include the impact of the proposed crossing on the existing right turning lane*

  Response – Details regarding the pedestrian crossing on Charlestown Place is provided in Section 5.6 of this TTA and Traffic Engineers Drawing 152288/SK/009 Rev C.

- ***FCC Comment*** *- The basement car park should be designed in accordance with the requirements of the latest edition of the Design recommendations for multi-storey and underground car parks published by the Instructed. The dimensions of the car parking spaces and the internal circulation lanes could not be checked accurately as a scanned image had to be used in the absence of a hard copy due to the tight time line and the current working circumstances resulting from the Covid restrictions. There are no dimensions marked on the drawing to verify any of these dimensions. There are a number of parking spaces that are not viable or practically accessed. Some spaces cannot be accessed if the adjoining parking spaces are occupied. There is no cross-section of the access ramp that indicates the necessary clearance heights nor the gradient of the ramp including the provision of any transition ramps where necessary. The access ramp should facilitate the design requirements for cyclists accessing the bicycle parking in the basement or a separate access should be provided. Details of the bicycle parking areas is unclear and access to the areas that appear to be the only logical location for bicycle parking looks to be quite restricted by the proximity of vehicular car parking.*

  Response – Details regarding the basement car park and access ramp design have been provided in the Architects Drawing pack.

- ***FCC Comment*** *- The swept path analysis for refuse vehicles and emergency vehicles appears to be satisfactory. However, the swept path analysis for the basement car park is of concern. The design vehicle is substandard. The vehicle modelled is only c.4.2m long, the standard design vehicle should be at least 4.8m long and a 5m long vehicle should also be checked as saloon cars in particular are getting closer to the 5m length in more recent models for the last number of years. The analysis indicates that the design of the basement may well be substandard.*

  Response – Updated swept path analysis is provided in the Engineers Drawing pack.

2.5. Conclusion

- ***FCC Comment*** *- The Transportation Planning Section is generally in favour of the proposed development however the issues raised above should be addressed. Parking remains a concern although the Transportation Planning Section acknowledges National Policy aims to reduce the reliance on private vehicle ownership in favour of more sustainable methods of travel such as public transport and cycling.*

  Response – The above comments have been fully addressed and the foregoing sections provide brief details of how they have been addressed and provide references to where to find further detail on each item raised.

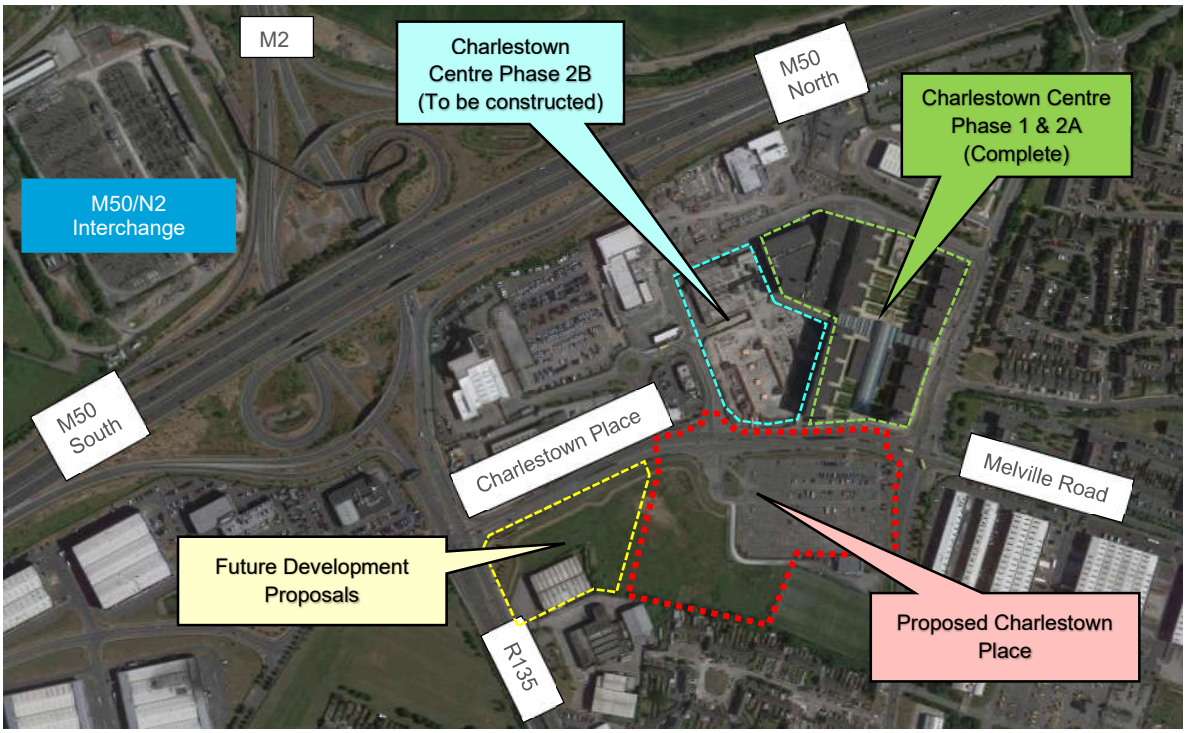
3. Receiving Environment

3.1. Site Location

The proposed development site is located to the south east of the existing M50 / N2 interchange also known as M50 Junction 5. The site lies south of the Charlestown Centre which has completed Phases 1 & 2A, and Phase 2B (see Figure 3-1 for the location of each site) is currently under construction.

This development constitutes development of part of the lands south of Charlestown Place. The remaining lands to the west are zoned 'GE – General Enterprise & Employment' and will be the subject of future development proposals. (see Figure 3-1 for the location of each site).

Figure 3-1 - Site Location



3.2. Local Road Network

The proposed development is bounded to the north by Charlestown Place, to the east by St. Margaret's Road, to the south by McKelvey Avenue and to the west by the R135. Additional roads of relevance are the M50, which runs in a south/west to north/east direction just north of the subject site, the N2 / M2 which approaches the site from the north and Melville Road which approaches the site from the east. A summary description of these routes is as follows:

- **M50:** The M50 is an orbital bypass route for strategic traffic around Dublin, whilst also acting as the hub of the National Roads network and providing direct access to Dublin Port and Dublin Airport. In doing so, the M50 facilitates local, inter-urban, business and freight trips. The road has an Annual Average Daily Traffic (AADT) in excess of 120,000 vehicles per day on the section between the N2 and M1 and operates with a posted speed limit of 100km/h.
- **R104 St Margaret's Road:** St Margaret's Road is a single carriageway regional road which runs in an east west direction from its intersection with the R108 Ballymun Road to its intersection with the R135 Finglas Road directly south of Charlestown. It provides local access to multiple housing estates. The road has adequate footpath, cycling, bus and crossing facilities along its length, particularly as it passes by the Charlestown Centre and the Mayston and Hampton Woods developments on approach to Ikea.
- **Charlestown Place:** Charlestown Place is a local road of approximately 500m length generally consisting of two lanes in both directions. The road facilitates access to the Charlestown Centre. It's intersections with the R135 Finglas Road and R104 St. Margaret's Road are accommodated

through traffic signalisation, generally consisting of a straight through lane, right turn lane and left slip lane. The road accommodates adequate pedestrian, cycling, bus and crossing facilities.

- **R135 Finglas Road:** The Finglas Road extends from M50 Junction 5 at Charlestown for approximately 5km to its intersection with the R108 Botanic Road / Ballymun Road at Phibsborough. The road is generally a dual carriageway with one traffic lane and one bus lane in both directions. The road accommodates adequate pedestrian, cycling, bus and crossing facilities.
- **N2 / M2:** The N2 / M2 is a National Road / Motorway which provides national strategic linkage to Derry, whilst also providing access to towns due north of Dublin such as Ratoath and Ashbourne.
- **Melville Road:** Melville Road is a single carriageway local road which provides access for multiple industrial business and residential housing estates. It extends from its traffic signal junction with St Margaret's Road to its roundabout junction with Jamestown Road. The road accommodates adequate pedestrian, cycling, bus and crossing facilities.

3.3. Pedestrian and Cycle Network

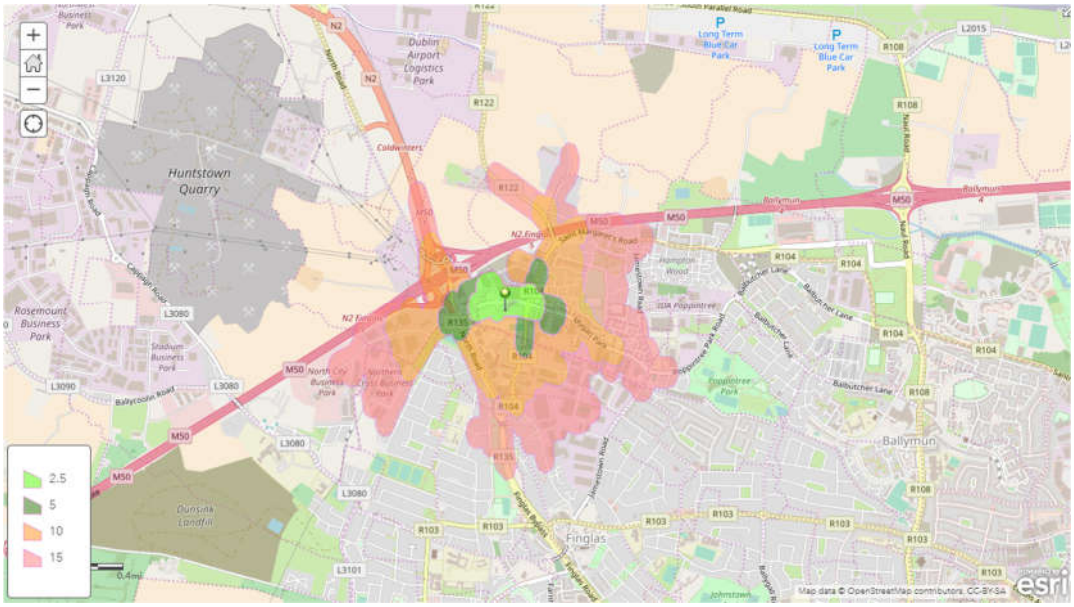
In general, all roads in vicinity of the subject site consist of adequate pedestrian facilities with well-maintained footpaths on both sides of the road and formal crossing facilities on approach roads to junctions. In terms of existing cycling facilities, the current provisions are as follows:

- R104 St Margaret's Road: There are no cycle track or lane facilities south of the Charlestown Place junction. There is a 400m section of raised one-way cycle track from the Charlestown Place junction to the Lanesborough Road junction along the western roadside. In addition, there is a raised one-way cycle track on both sides of the road from the Seagrave residential development to the junction with the R108 Ballymun Road.
- Charlestown Place: Consists of one-way raised cycle track on both sides of the road over its extents from St Margaret's Road to the R135. Also consists of some minor sections of shared use pedestrian and cycle path. Toucan crossings provided at its junction with the R135.
- Melville Road: Consists of one-way raised cycle track on both sides of the road over its extents from Charlestown to the Jamestown Road.

3.4. Walking Distances

In terms of walking distances, a desirable walking distance is 200m, the acceptable walking distance is 400m, whilst the preferred maximum walking distance is 800m. These distances correspond to approximately 2.5 minutes, 5 minutes and 10 minutes respectively. These are shown in the below figure. These distances equate to a walking speed of 1.4m/s.

Figure 3-2 - Walking Isochrones (Commuter Distances)



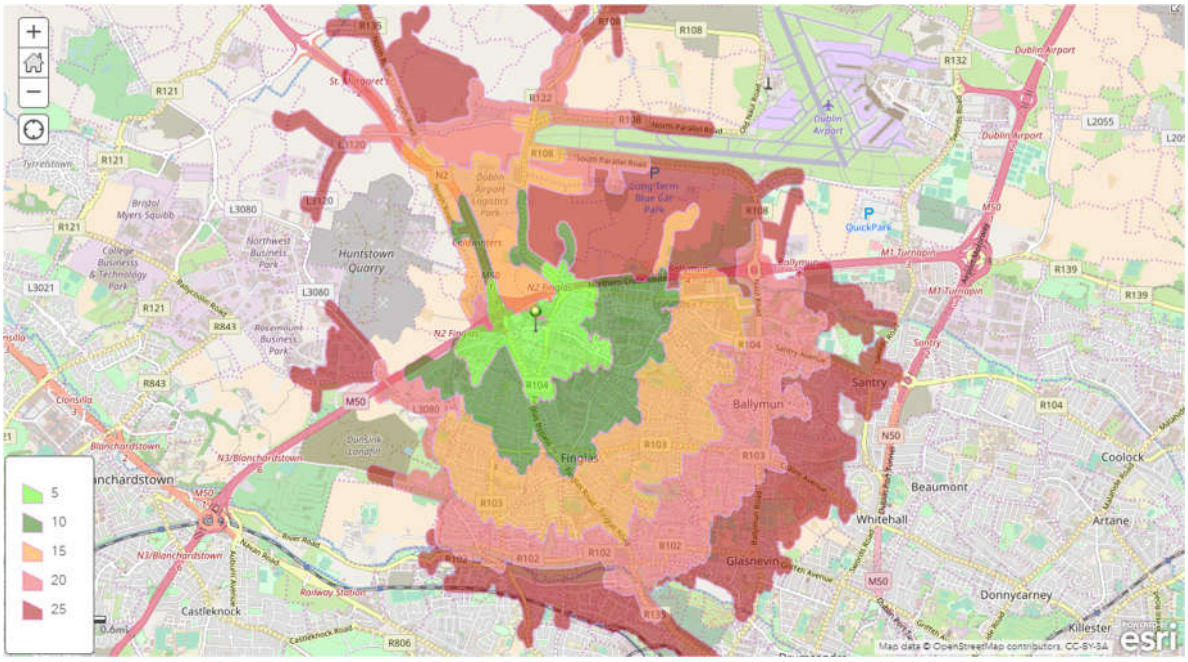
In terms of employment opportunities for residents of the development, the proposed development is suitable located close to industrial, commercial and office developments to the south west and south east of the site such as Jamestown Business Park, Northern City Business Park and Century Business Park.

There are also a number of bus stops within desirable walking distance that are served by several key bus routes.

3.5. Cycling Distances

In terms of cycling distances, the figure below displays varying distances achievable over a 5 to 25 minute period. These distances are based on a cycling speed of 3.3m/s. As such a distance of approximately 1km can be covered in 5 minutes and a distance of approximately 5km can be covered in 25 minutes.

Figure 3-3 - Cycling Isochrones

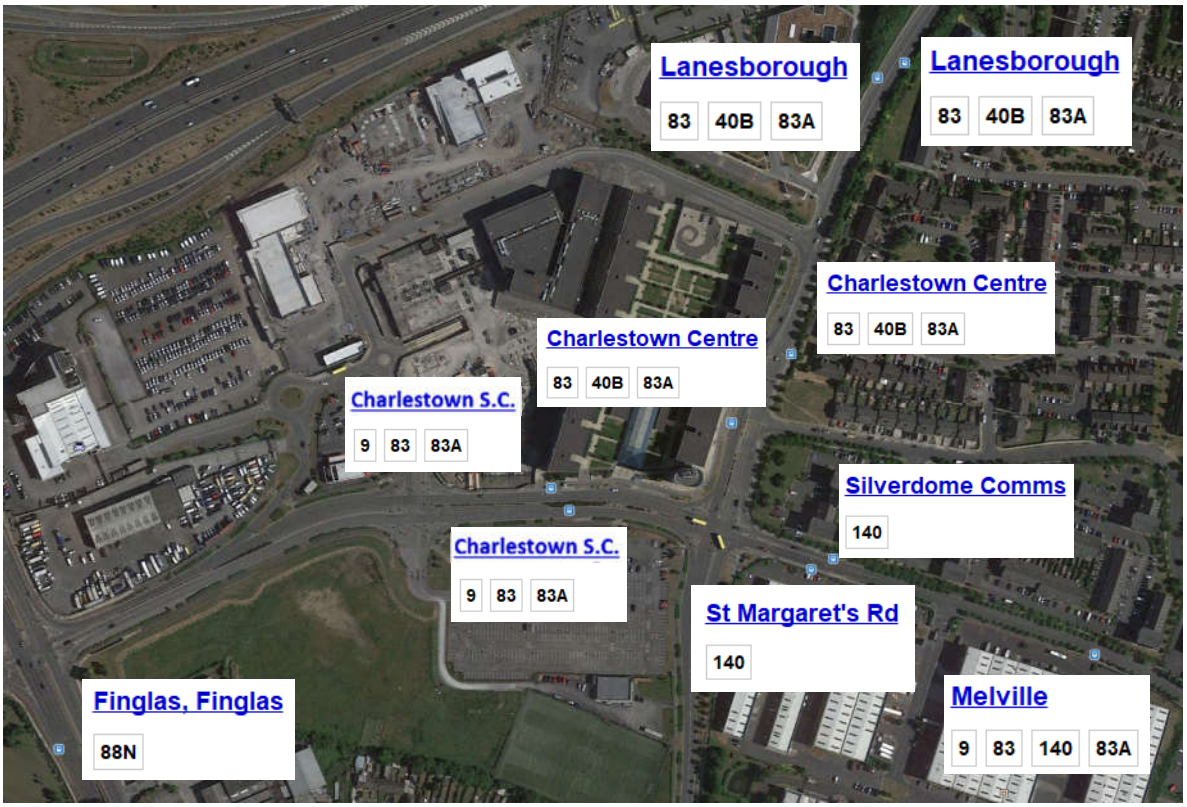


The above assessment indicates that there is a wide catchment area that residents of the proposed development can avail of cycling as a preferred mode of transport for employment opportunities within the City Centre and its immediate northern metropolitan area.

3.6. Public Transport Network

The subject site is currently well served by both bus stop facilities and routes. There are 6 no. bus stops located directly beside the site on Charlestown Place, St Margaret's Road and Melville Road. These are illustrated in Figure 3-4 below.

Figure 3-4 - Existing Bus Stops



The existing Dublin Bus routes servicing the site are Route 9, Route 40, Route 40B, Route 83 and Route 140. The frequency and number of services during weekdays, Saturday and Sunday are detailed in the below table.

Table 3-1 - Existing Bus Services

Dublin Bus Route	Route Description	Weekday	Saturday	Sunday
Route 140	From Palmerston Park Towards Ballymun (Ikea)	Every 8-10 minutes during peaks and 15 minutes during off peaks. 74 services daily.	Every 20 minutes until 9am, every 15 minutes until 7pm, thereafter 30 minute services. 58 Services Daily.	30 minute services until 12. 20 minute services until 8pm. 30 minute services thereafter. 37 services daily.
Route 140	From Ballymun (Ikea) Towards Palmerston Park	Every 10 minutes during peaks and 15 minutes during off peaks. 65 services daily.	Every 20 minutes until 9am, every 15 minutes until 7pm, thereafter 30 minute services. 55 Services Daily.	30 minute services until 12. 20 minute services until 8pm. 30 minute services thereafter. 34 services daily.
Route 83	Harristown to Kimmage via Charlestown and City Centre	Every 10mins in the am peak. Every 15 to 20 minutes thereafter. 70 services daily	Every 15 to 20 minutes until 8:20pm and every 30 minutes thereafter. 63 services.	Every 20 minutes until 7:20pm and every 30 minutes thereafter. 55 services

Dublin Bus Route	Route Description	Weekday	Saturday	Sunday
Route 83	Kimmage to Harristown via City Centre and Charlestown	Every 15 minutes until 8pm and every 20 minutes thereafter. 67 services daily.	Every 15 to 20 minutes until 8pm and every 30 minutes thereafter. 62 services.	Every 40 minutes before 11am and then every 20 minutes until 8pm and then every 30 minutes thereafter. 54 services.
Route 40	Charlestown Centre to Liffey Valley Centre via City Centre	4 services before 6:20am, then every 10 to 12 minutes until 6:30pm and then every 15 to 20 minutes thereafter. Approximately 90 services daily.	4 services before 7:10pm, then every 10 to 15 minutes until 7:10pm and then every 15 to 20 minutes thereafter. Approximately 70 services daily.	Every 30 minutes until 10am, and then every 15 to 20 minutes thereafter. 52 services.
Route 40	Liffey Valley Centre to Charlestown Centre via City Centre	4 services before 6:20am, then every 10 to 12 minutes until 6:30pm and then every 15 to 20 minutes thereafter. Approximately 90 services daily.	4 services before 7:05pm, then every 10 to 15 minutes until 7pm and then every 15 to 20 minutes thereafter. Approximately 70 services daily.	Every 30 minutes until 10:10am, and then every 15 to 20 minutes thereafter. 51 services.
Route 40B	Parnell St. to Toberburr	6 services daily	5 services	4 services
Route 40B	Toberburr to Parnell St.	6 services daily	5 services	3 services
Route 9	Charlestown to Limekiln Avenue via City Centre	Every 15 to 20 minutes. 67 services daily	Every 15 to 20 minutes until 9pm and every 30 minutes thereafter. 57 services.	Every 30 minutes. 43 services.
Route 9	Limekiln Avenue to Charlestown via City Centre	Every 15 to 20 minutes. 70 services daily.	Every 15 to 20 minutes until 8:15pm and every 30 minutes thereafter. 56 services.	Every 15 to 20 minutes until 7:30 and then every 30 minutes thereafter. 44services.

It should be noted that Route 40 which previously only ran as far as Finglas Village, was extended in late 2017 to terminate and commence at Charlestown Centre. The route extension includes a revised timetable to improve the service in terms of reliability and punctuality.

The services presented above represent a significant public transport service to Charlestown with a particular emphasis on services to and through the city centre.

3.7. Traffic Surveys

Traffic counts at the key junctions of the R135 Finglas Road / Charlestown Place / temporary car park and R104 St Margaret's Road / Charlestown Place were undertaken by Tracsis on behalf of the Applicant in 2016. The counts were undertaken on Saturday October 15th and Tuesday October 18th over a 12 hour period from 07:00 hours to 19:00 hours. The counts are fully classified and are tabulated at intervals of 15 minutes throughout each recorded hour. The count data can be found within Appendix A.

During the preparation of this TTA a review of the video recordings during the survey periods was supplemented by numerous site visits in order to identify traffic signal phasing and staging data and to observe traffic flow and conditions on the local road network.

It is acknowledged that this 2016 data is approaching its appropriate lifespan for use within the Traffic and Transport Assessment. However, it is not appropriate nor possible to undertake new surveys due to the restrictions associated with the Covid-19 Pandemic, which has significantly altered traffic patterns and behaviours globally. This has been discussed with and mutually agreed with the Transport Planning Section of Fingal County Council.

A validity check has been undertaken of the 2016 traffic surveys to determine what level of increase, if any, has occurred since 2016 to the same survey period in the last normal year of traffic prior to Covid-19 which is 2019.

This validity check has included a review of link flows on adjacent TII traffic counters. There is no permanent counter on the R135 or R104, however there are counters within the surrounding road network on the M50 (east and west of the N2 interchange), N2 (north of the N2 interchange) and the R108 (south of the M50). It is considered that the section of road on the R108 is the most comparable with that of the R135 and R104 St Margret's Road as they are urban regional roads heading inbound to the city centre with similar characterises in terms of carriageways, road-side development and traffic volumes.

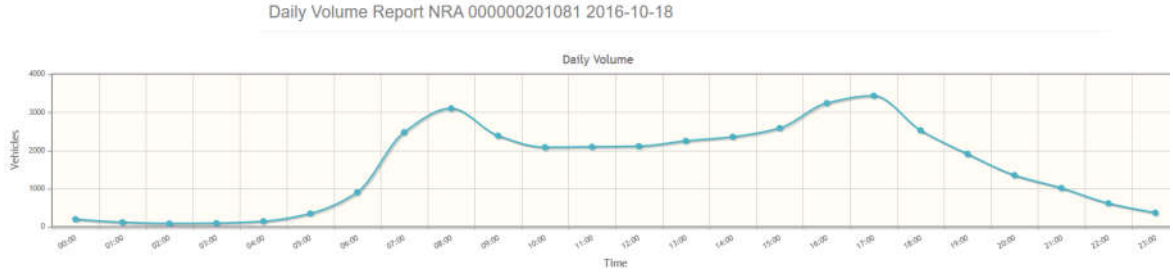
The review of traffic volume data from between 2016 and 2019 indicates there has been little change in the AM and PM peak hour flows occurring in the general area with flows seen to slightly increase either side of the peaks.

This presents an interesting consideration with regards to traffic growth along sections of urban roads where there is an appropriate finite capacity, wherein the potential of a 'no growth scenario' should be considered particularly where there is significant potential for sustainable transport alternatives.

The following graphs illustrates the comparison.

Figure 3-5 – R104 2016 to 2019 Volume Comparison

Traffic Volume Flow Profile 18th October 2016

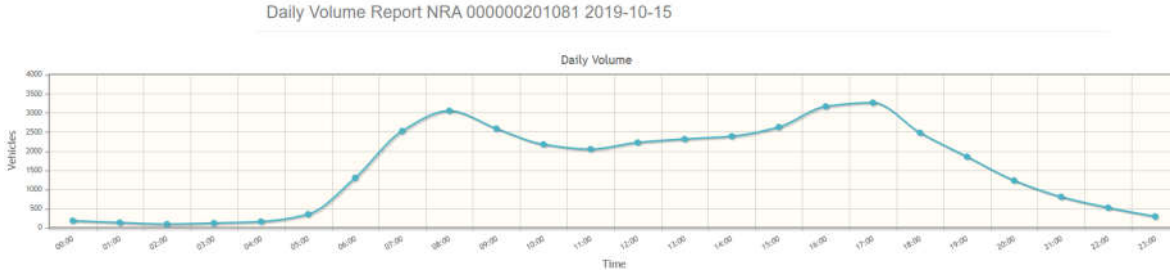


AM Peak Hour 08:00 to 09:00 – 3099 vehicles

PM Peak Hour 17:00 to 18:00 – 3430 vehicles

Source:
https://www.nratrafficdata.ie/c2/tfdayreport.asp?sgid=ZvyVmXU8jBt9PJE$c7UXt6&spid=NRA_00000201081&reportdate=2016-10-18&enddate=2016-10-18

Traffic Volume Flow Profile 15th October 2019



AM Peak Hour 08:00 to 09:00 – 3049 vehicles

PM Peak Hour 17:00 to 18:00 – 3262 vehicles

Source:
https://www.nratrafficdata.ie/c2/tfdayreport.asp?sgid=ZvyVmXU8jBt9PJE$c7UXt6&spid=NRA_00000201081&reportdate=2019-10-15&enddate=2019-10-15

As such it is considered that the 2016 traffic surveys utilised represent the most appropriate and robust set of data available upon which to utilise as the basis for the Traffic and Transport Assessment.

Notwithstanding, it is noted that The Transport Planning Section of Fingal County Council have concern with the use of this data. In consultation held in December 2020 with The Transport Planning Section a compromise has been mutually agreed, wherein the 2016 traffic counts have been grown to the 2021 Opening Year using high growth rates to account for the potential that traffic in the intervening years, prior to Covid-19, may have grown. Whilst the above provides some evidence that this is not the case, in order to provide a robust assessment to the requirements of the Transport Planning Section, this request has been incorporated into the TTA.

3.8. Parking Surveys

Parking accumulation, occupancy and duration surveys were undertaken at all car parking areas associated with the Charlestown Centre Development.

A review of these surveys has been undertaken to determine appropriate localised trip rates for apartments.

The parking surveys were undertaken by Nationwide Data Collection on behalf of the Applicant. The surveys were undertaken over a twelve hour period from 07:00 to 19:00 hours on the 10th of August 2017. These surveys have facilitated the calculation of site specific trip generation rates and parking occupancy rates of the existing development that can be applied to the retail and residential elements of the proposed development.

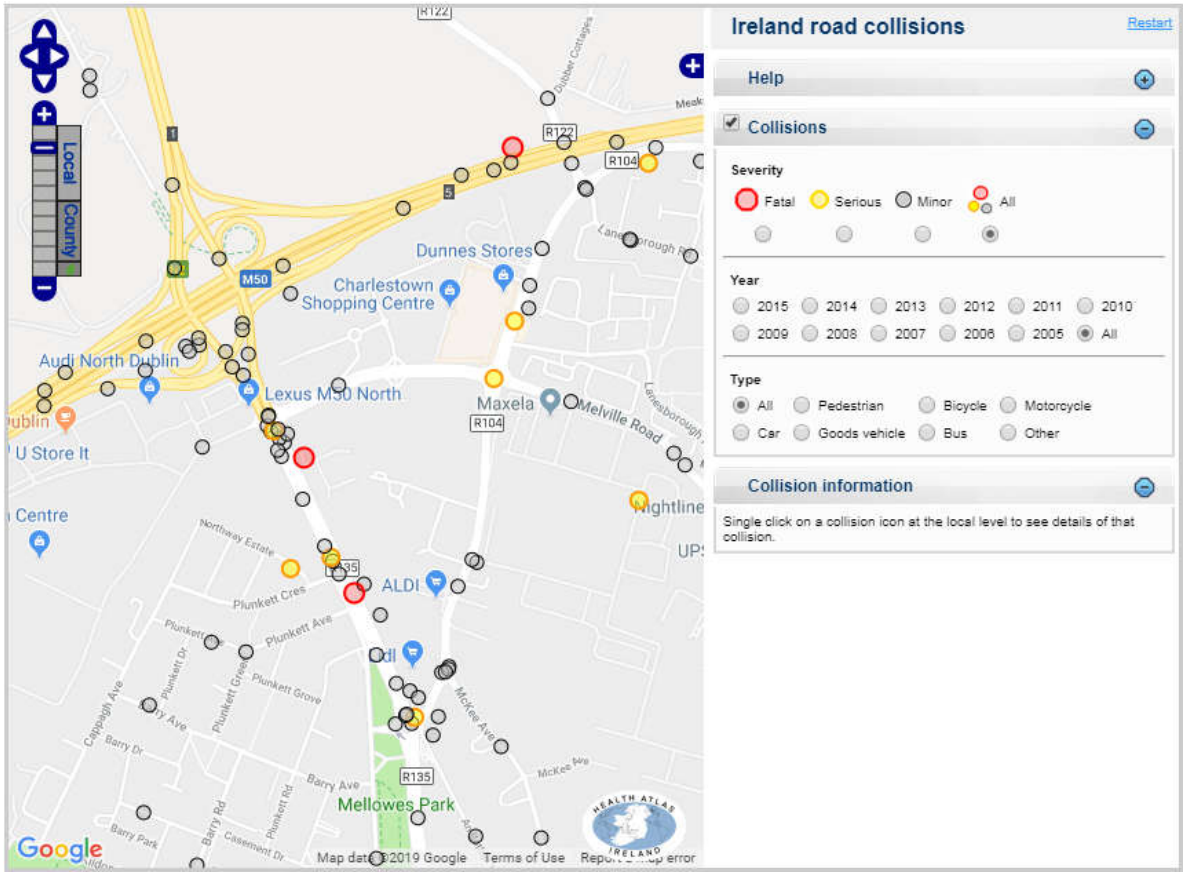
In addition, a further parking survey was undertaken by Atkins on the 6th February 2019 at the entry and exit to the residential car parking areas in the Charlestown Centre basement car parks in order to update and verify the localised trip rates of such residential apartment units.

The count data can be found within Appendix B.

3.9. Collision History

Review of available road collision data from the Road Safety Authorities collision viewer has been carried out with the area reviewed shown in the figure below.

Figure 3-6 - Road Collision Data



The available information from the RSA collision viewer describes the collision history between 2005 – 2015. At this location there have been:

- 25 no. collisions on the R135 between its junction with Charlestown Place and its junction with the R104. Of these 2 no. of these have been serious involving single vehicles and 2 no. fatal involving pedestrians.
- 14 no. collisions on the R104 St Margaret's between its junction with Lanesborough Road and its junction with the R135. Of these, 2 no. of these have been serious involving single vehicles.
- 22 no. collisions in vicinity of M50 Junction 5, all of a minor severity.
- 3 no. minor severity collision on the Melville Road approach.
- 1 no. minor severity collisions on Charlestown Place approach.

The review has shown that the occurrence of collisions is relatively higher at M50 Junction 5 and along the R135 when compared to the local road network specifically Charlestown Place, Melville Road and St. Margaret's Road. This is as would be expected given the high volumes of traffic which are catered for by the M50 and R135. Notwithstanding, the low occurrence of serious and fatal accidents over the 10 year period indicates that the local road network and in particular the junctions of R135 / Charlestown Place and R104 / Charlestown Place are operating satisfactorily in road safety terms.

3.10. Conclusion

Located within a key metropolitan area of Dublin City and zoned for Town and District Centre, Charlestown Place is well placed within an existing high quality public transport service and a planned multimodal transport network. Existing pedestrian, cycling, public transport and road infrastructure forms a firm foundation for sustainable transport travel.

Finglas and Charlestown form a strong focal point for existing and major planned improvements in transport infrastructure in the Greater Dublin Area as set out in the Greater Dublin Area Transport Strategy and Cycle Network Plan and this reflects the substantial existing population and the future development of the Finglas area.

Additionally, the close proximity of the proposed development to the district centre of Charlestown Centre, ensures that a wide range of amenities and services are available to future residents of the proposed development. Coupled with the existing provision of strong pedestrian connections, this will significantly reduce the reliance on the private car.

Therefore, the proposed development is an exemplar of sustainable land use and transportation planning at a site, local and regional scale.

4. Future Transport Proposals

The Transport Strategy for the Greater Dublin Area (GDA) 2016-2035, published by the NTA in 2015, sets out how transport and its associated infrastructure will be developed across the GDA region up to the year 2035. The following key transport proposals are specifically relevant to the proposed development.

4.1. Core Rail Network

The Transport Strategy has identified a number of light and heavy rail routes where demand for travel necessitates significant infrastructural investment. This includes extensions to Luas, a Metro line and expansions of DART through electrification along existing rail routes.

Of relevance to Charlestown is the future Luas Cross City extension to Finglas and Charlestown which is further outlined as an investment action, in terms of planning and design, within the National Development Plan 2018 – 2027. The figure below illustrates the indicative alignment of the future Luas Cross City extension to Finglas within the core rail network.

Figure 4-1 - Core Rail Network

4.1.1. Luas Cross City Finglas Extension

The Luas Cross City opened full service operation in December 2017. The route extends from St Stephens Green to Broombridge and connects the existing red and green lines. The Transport Strategy is to extend the Luas Cross City route from its terminus at Broombridge to the north of Finglas. This will provide a high capacity radial service from the large suburb of Finglas into the city centre. The Transport Strategy also identifies the need to provide a strategic park and ride facility at the terminus of this line on the N2 National Road close to the M50.

This extension will be circa 4.0km long, will incorporate 4 no. stops and will incorporate a new terminus at Charlestown together with the Park and Ride facility.

The proposed Charlestown Luas Terminus facility is shown in

Figure 4-2.

Figure 4-2 - Proposed Luas Terminus in the context of the Proposed Development

Since the SHD Stage 2 submission was submitted in May 2020, the Luas Finglas project has been announced by Transport Infrastructure Ireland (TII). The project announcement in July 2020, included the terminus of the route at Charlestown on St. Margaret's Road opposite the current application site. The preliminary proposals also indicate a potential Park + Ride facility at Charlestown. The initial public consultation closed on the 17th September 2020 and TII and the NTA are currently reviewing submissions and will be undertaking on going amendments.

In the period since the TII Luas Finglas announcement the applicant, Puddenhill Property Limited, has held a number of meetings with TII regarding the Luas Finglas project, which included a detailed financial feasibility appraisal of the subject site. While the applicant is fully supportive of the Luas Finglas project, it is understood that TII have discounted the suitability of the subject site for a Park & Ride on cost grounds and TII are currently considering a number of alternative options for the route of the Luas and the location of the park + ride facility to serve any future Luas project.

The current application does not in any way impact on the outline route or preliminary location of the Luas line or terminus as illustrated in the TII proposals published to date. The applicant will continue to work with TII insofar as they can assist with the delivery of the Luas Finglas project.

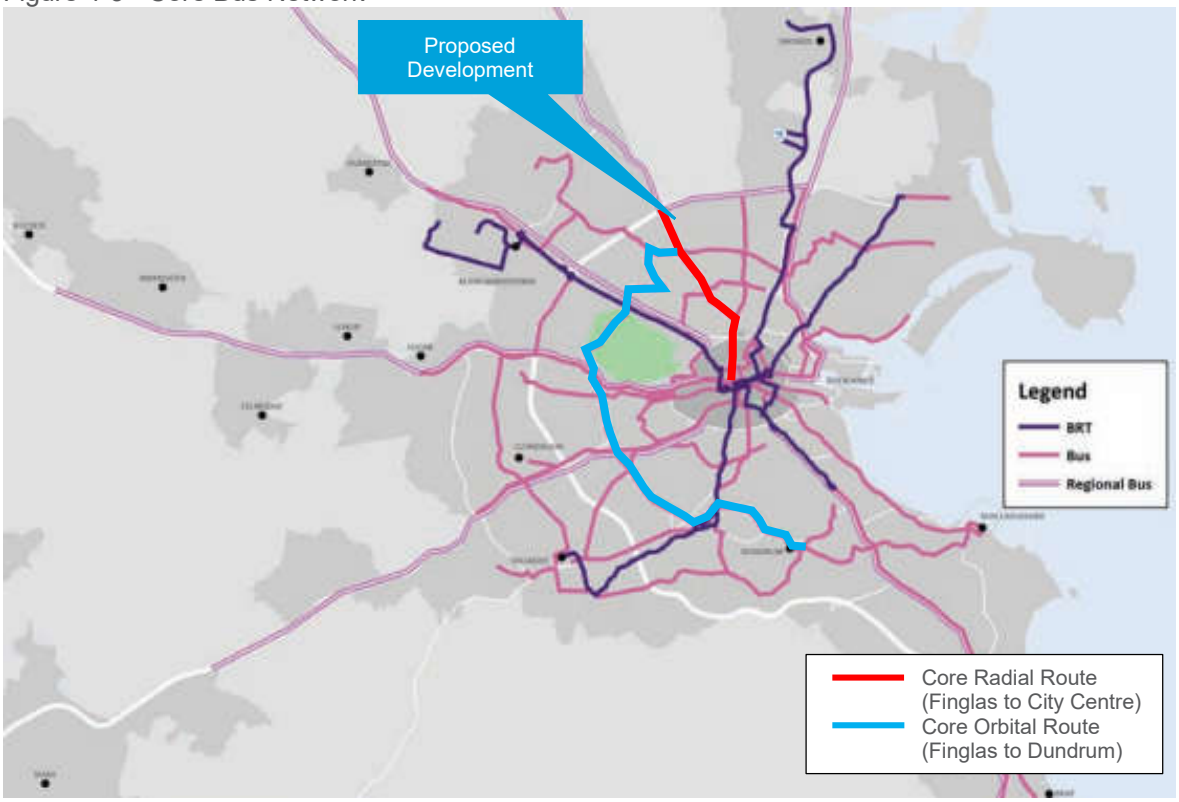
4.2. Core Bus Corridor Network

The Greater Dublin Area Transport Strategy has identified a number of radial and orbital routes where demand for travel necessitates significant infrastructural investment. The routes of relevance to the proposed development are:

- Core radial bus network route from Finglas to Phibsborough; (which connects with the Ballymun to City Centre route).
- Core orbital bus network route from Finglas to Dundrum.

The figure below illustrates the location of these routes within the core bus network.

Figure 4-3 - Core Bus Network



The core bus network as proposed within the Transport Strategy will serve significant origin and destination areas with in the Inner and Outer Metropolitan Areas such as Finglas and Charlestown. It will also provide greater opportunity for reliable and convenient interchange with these services.

4.3. Bus Connects

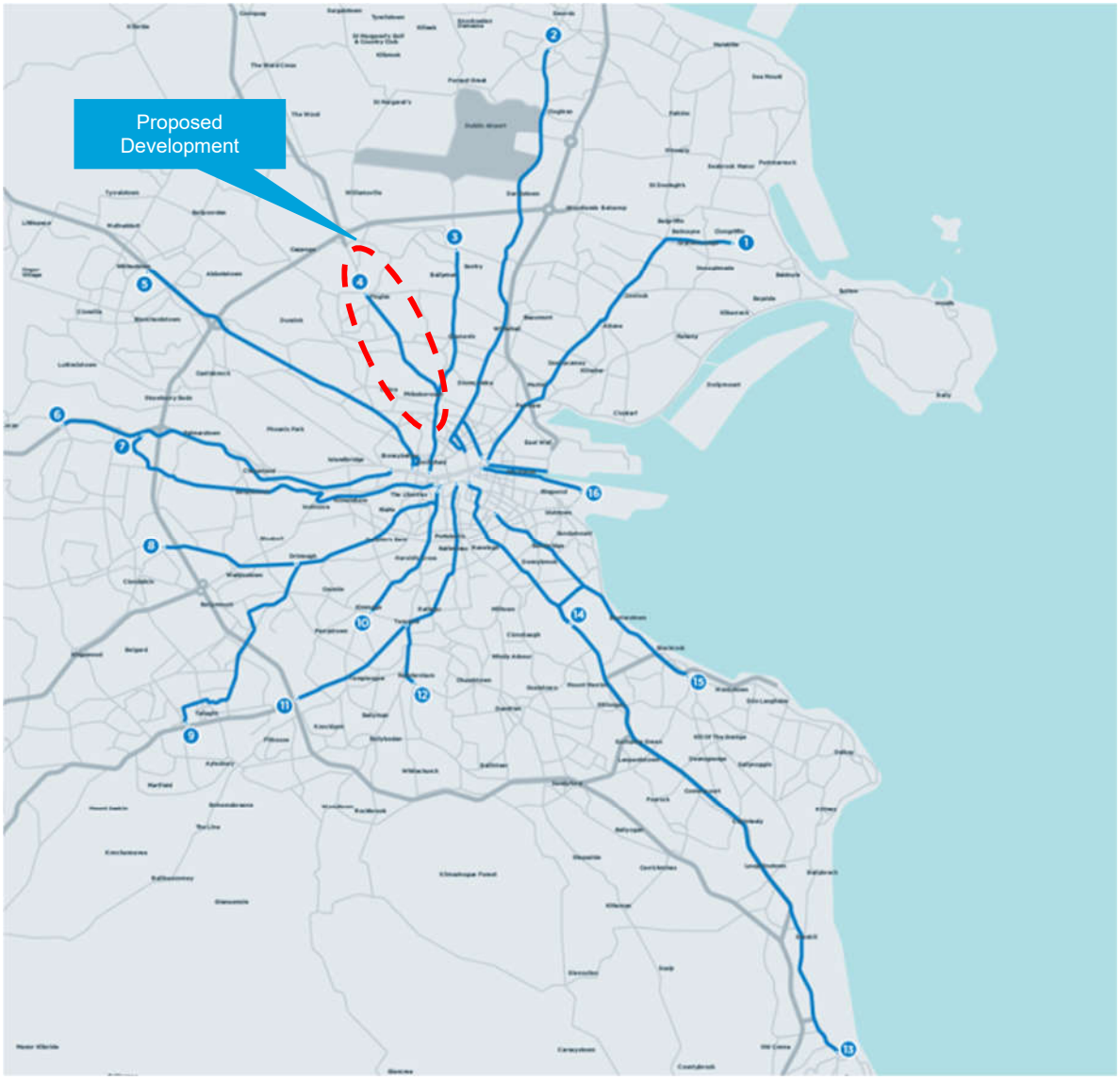
Bus Connects is currently being progressed by the NTA and represents the delivery of the Core Bus Corridor Network outlined in the Transport Strategy. Bus Connects aims to implement a number of initiatives to overhaul the current bus system in Dublin. These initiatives consist of the flowing key elements.

4.3.1. Core Bus Corridor Project

The Core Bus Corridor Project is identified in the Transport Strategy. A first round of public consultation concluded at the end of May 2019. A second round of public consultation closed on Friday the 17th April 2020. However, this round was restricted due to the COVID-19 pandemic, and it was decided that an additional third round of public consultation would take place in the latter part of 2020. This third round of consultation concluded in December 2020. Submissions are being reviewed and considered as part of the design process, in preparation for the planning application to An Bord Pleanála later in 2021.

The figure below illustrates the location of the route most relevant to the proposed development at Charlestown, namely Route 4 Finglas to Phibsborough, which ends /commences at the St. Margaret's Road (R135) / North Road (R104) roundabout junction and to the south at the R108 – R135 junction where it ties in with Route 3 Ballymun to City Centre.

Figure 4-4 - Bus Connects - Core Bus Corridor Project



4.3.2. Bus Network Redesign

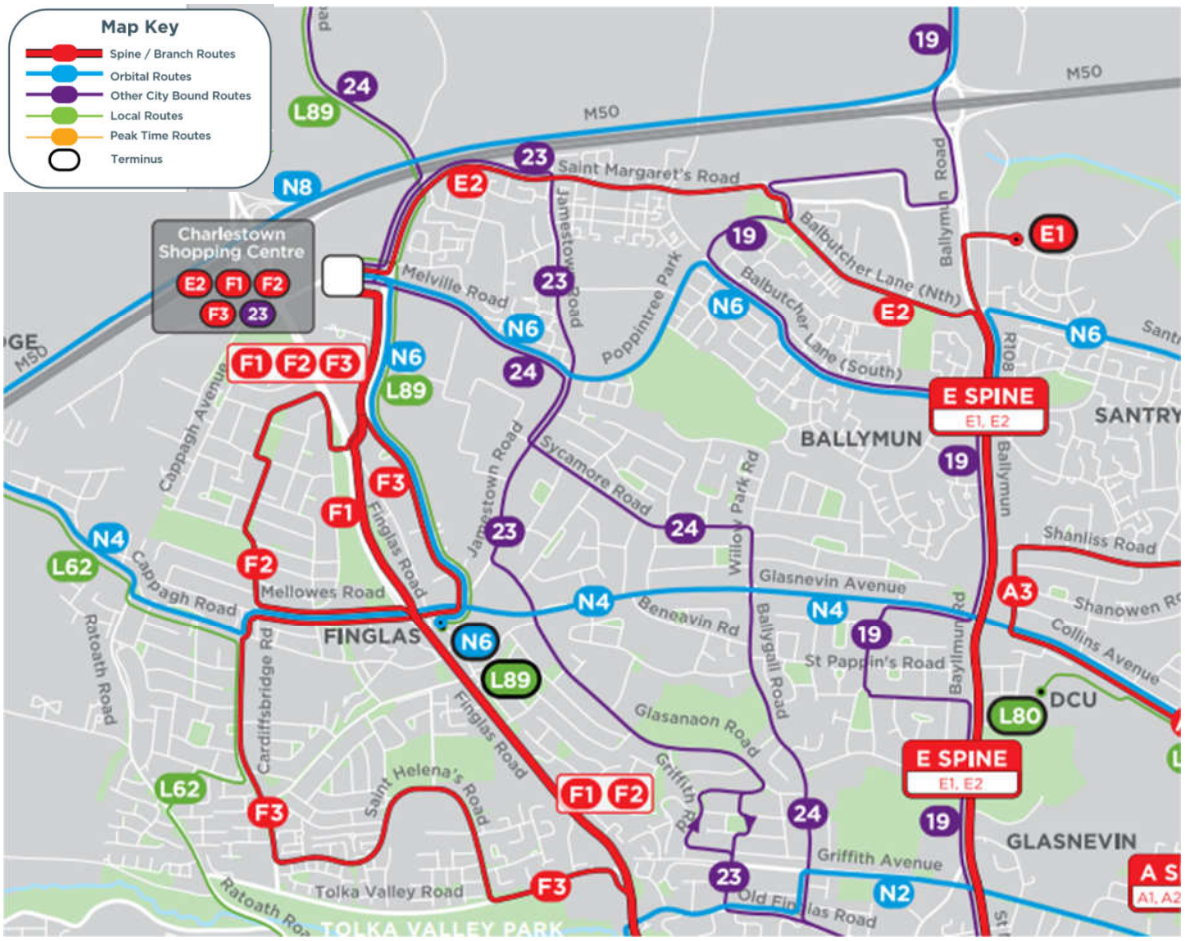
The existing bus network is undergoing a redesign to accommodate the growth of Dublin City. This redesign will also reduce the complexity of the network and provide higher frequency services along the core bus corridors.

The network will be broken into sections with the proposed development falling within the confines of the Inner North Network.

Within the inner network there are 7 routes connecting from Charlestown Shopping Centre directly adjacent the proposed development, leading to the city centre which consist of spine routes, orbitals routes, and secondary radial routes. These are shown in the following figure and described thereafter.

Three rounds of public consultation have taken place between 2017 and 2019. The implementation of the initiative will take place on a phased basis over a number of years commencing in 2021 subject to funding.

Figure 4-4 - Bus Connects – Bus Network Redesign (Charlestown)



- **Spines:** F Spine Charlestown Shopping Centre to Kimmage
  - F1/F2 via Finglas. This branch will provide direct service every 15 minutes (10 minutes at peak) through Finglas South, Finglas West, Finglas Village and along McKee Avenue, similar to existing Route 40.
  - F3 via Finglas bypass directly along Core Bus Corridor 4. This branch would provide direct service to Charlestown Shopping Centre via the Finglas bypass, similar to existing Route 140, however at a higher frequency every 15 minutes off peak and every 10minutes at peak. It would be more frequent than today's Route 140 in the middle of the day.
  - E2 via the R104 St Margaret's Road and Balbutcher Lane to link the Charlestown Terminus with the E Spine along the R108 Ballymun Road which is designated as Corridor 3 as a part of the Core Bus Corridor Project. This route will provide a direct service every 10 to 15 minutes to Charlestown from Dun Laoghaire via the city centre.
- **Orbitals:** In terms of Charlestown there is one orbital route.
  - N6 Charlestown Shopping Centre to Howth Junction which will operate every 10 minutes, passing by Ballymun Civic Centre and along Beaumont Road close to the hospital.
- **Secondary Radials:** In terms of Charlestown there is one secondary radial.
  - Route 23 Charlestown Shopping Centre to Merrion Square which will operate every 20 minutes.

There are also a number of orbital and local routes which service Blanchardstown, Swords and the Airport. The following figure is an extract of the bus network redesign in vicinity of the Public Transport Hub at Charlestown.

4.4. Cycle Network

The Greater Dublin Area Cycle Network Plan proposes to expand the urban cycle network to over 1,485 kilometres in length and will provide over 1,300 kilometres of new connections between towns

in the rural areas of the GDA. The network is intended to provide a quality of service sufficient to attract new cyclists, as well as catering for the increasing numbers of existing cyclists. The proposed routes of relevance to the proposed development are as follows;

- **Secondary Route NO5** – Ballycoolin Industrial Estate (ultimately to Clonsilla) via Charlestown to Santry: The proposed Route NO5 is a secondary route running in a predominantly orbital east to west direction connecting to the Rosemount Business Park and Ballycoolin Industrial Estate west of Finglas
- **Secondary / Primary Route 3B** – Charlestown to Phibsborough. This route commences as a secondary route to the north in vicinity of Charlestown and runs in southerly direction along the R104 St Margaret's Road before proceeding onto the R135 Finglas Road. At this point it becomes a primary route proceeding directly towards the City Centre which will also form part of Corridor 4 of the Core Bus Corridor Project.

The figure below is an extract from Sheet N3 of the Cycle Network Plan highlighting the existing cycling facilities in Dublin North Central area and those as listed above most relevant to the proposed development.

Figure 4-5 - Extract from The National Cycle Plan

Provision of the above routes along with the wider network of routes in the area will greatly assist in encouraging cycling for all trip purposes associated with the proposed development and in achieving a cycling mode share of 10% for the Finglas and Charlestown areas in line with national policy.

4.5. M50 Demand Management

4.5.1. Short to Medium Term Measures

A coherent approach to the management of transport demand on the M50 corridor and connecting national roads, combined with the provision of alternative transport modes, are required to ensure that the M50 is allowed to function for its primary intended purposes, as a national road which caters

for predominantly non-local trips of high economic value. Transport Infrastructure Ireland (TII) have therefore established a package of short to medium term demand management measures as follows:

- Alterations to merge layouts at a number of junctions along the M50 (some of which have already been completed at the N3 SB and N3 NB merges) which will force drivers to stay in their merging lane longer, giving them time to get up to the merging speed creating more efficient merging arrangements at peak times and reducing impact on nearside lane of the M50;
- Completion of permanent signed diversion routes – the first of these completed between junction 5 and junction 6 (N3 to N2).
- Variable speed limits – advance motorway indicators to display speed limits that can be changed to suit traffic conditions.

4.5.2. Medium to Long Term Measures

The Transport Strategy for the GDA identifies that along with consideration of a comprehensive package of further high capacity radial transport network improvements, a reduction in car dependency for orbital trips along the M50 and other orbital routes will also be required. This will incorporate not only the investment and provision of alternative public transport infrastructure, but also the introduction of complementary travel demand measures and in particular multi-point tolling and ramp metering.

This combined approach will discourage the use of the M50 by private car, thereby increasing the attractiveness of public transport alternatives and cementing the economic viability of such public transport investment and also protecting the investment already input to the M50.

4.5.3. Conclusion

As previously noted, Charlestown is already located favourably adjacent to key services, amenities and public transport offerings.

It is however clear that national investment in public transport such as the BusConnects initiatives and the Luas Finglas extension will further improve capacities, frequencies and above all reliability of public transport to the city centre and other key destinations such as Blanchardstown, Swords and the Airport.

It should also be noted that Charlestown will itself be designated as a Public Transport Hub where local routes will interlink with the main spine routes to facilitate interchange. This will be further reinforced through the identification of Charlestown as a terminus for the future Luas Finglas extension.

As such given the location of the site and the existing and future provision of public transport, it is considered that the proposed site is ideally suited for the development of high-density housing with a low parking ratio which will result in a low trip generation intensity on the surrounding road network.

Furthermore, measures intrinsic to the proposed development, such as a reduced car parking provision, a car sharing scheme, high quality bicycle parking facilities and tailored travel information packs, which will promote low car ownership and encourage sustainable and alternative transport choices for the future residents.

5. Proposed Development

5.1. Proposed Development

The proposed development is predominantly residential in nature, consisting of 590 no. residential units, a crèche facility of 542 sqm, office facility of 224 sqm, retail area of 350 sqm and medical facility of 525 sqm. The development also incorporates space for residential support facilities. A complete breakdown of the proposed development land uses is illustrated below in Table 4-1 below.

Table 5-1 - Proposed Development

Apartment	Relative Quantum
1 Bed	234 no.
2 Bed	316 no.
3 Bed	40 no.
Crèche	542 sqm
Office	224 sqm
Retail	350 sqm
Medical Facility	525 sqm

The proposed site layout drawing is shown in Figure 5-1 below.

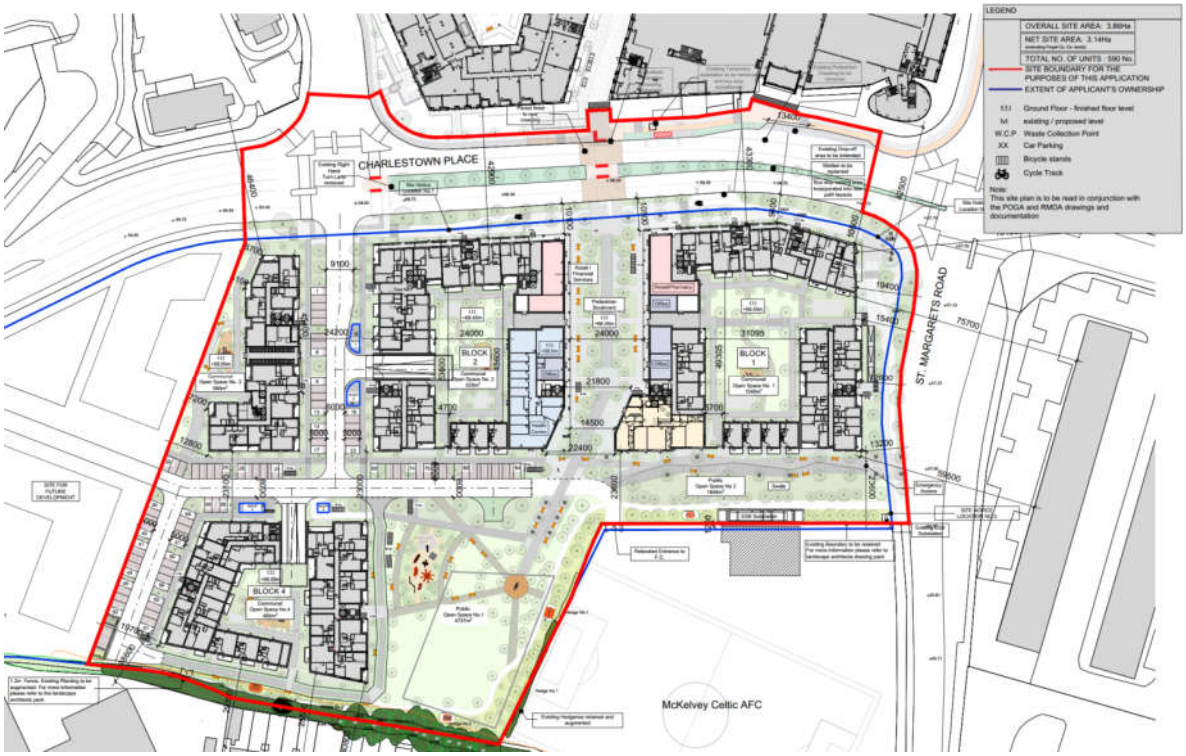


Figure 5-1 - Site Plan

5.2. Access Arrangements

Vehicular access to the proposed development will be provided via the southern arm of the existing junction on Charlestown Place. The junction arm will be reconfigured to incorporate geometry more appropriate to the context of a residential development and in line with DMURS. This will include for a 10m long right turn lane and a combined straight / left turn lane. Existing entry and exit slip lanes on the arm will be removed. Refer to the Engineers Drawing pack for details.

Pedestrian access to the site from Charlestown Place and St Margaret's Road is provided via the pedestrian footpaths toward the block entrances to the north and east of the development and via the permeability of the site boundary. Throughout the development, the comprehensive network of pedestrian footpaths is to be facilitated with crossings.

Further information with regards to the site layout and the development access junction is provided in the Architectural and Engineering reports and drawings.

5.3. Connection to Public Transport

Public Transport connectivity is provided via existing stops adjacent the subject site on Charlestown Place, however there is also strong is connectivity towards the public transport stops located towards the rear of Charlestown Shopping Centre. The internal pedestrian network which supports these public transport facilities and connection to surrounding areas is shown in Figure 5-2 below.

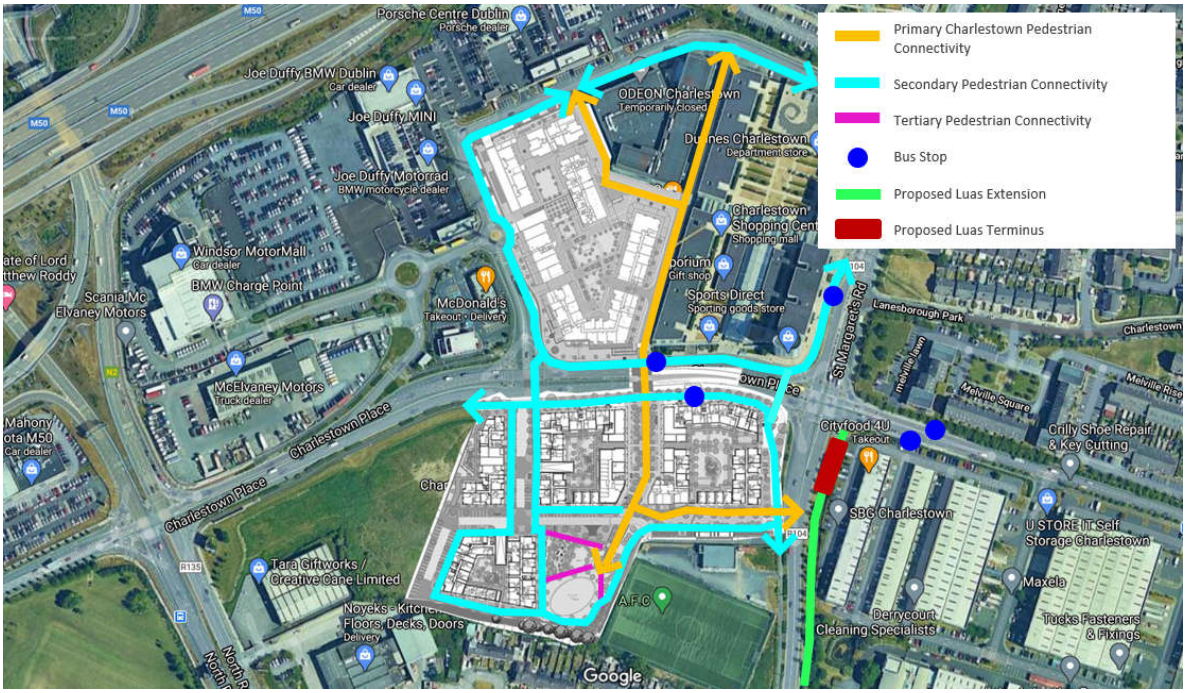


Figure 5-2 - Pedestrian Network in the Context of Public Transport Facilities

5.4. Refuse Collection

Refuse collection will be facilitated through the design of the local routes within the development and the redesign of the Charlestown Place junction arm. Where occurring, cul-de-sacs are short with large turning areas provided where necessary to allow for the vehicular movement.

5.5. Internal Site Pedestrian and Cyclist Facilities

As described within Chapter 2: Receiving Environment, Charlestown is currently well served by the three modes of walking, cycling and public transport. The proposed development will be appropriately connected with the existing local road network through the provision of two. pedestrian / cycle access points onto Charlestown Place and one onto St. Margaret's Road.

A pedestrianised street, i.e the central boulevard, between Blocks 1 and 2 routes directly through the proposed development linking the retail, commercial and community uses with the main open space provision but will also facilitate direct linkage with the Charlestown Centre to the north via a new toucan crossing across Charlestown Place. This crossing will replace the existing crossing located to the east.

These accesses will provide direct linkages to key desire lines towards the Charlestown Centre, adjacent bus stops, as well as access to existing cycle routes.

Cyclists are catered for by the central boulevard which leads from the proposed crossing on Charlestown Place through the development towards the main open space provision.

Furthermore, the design of the internal streets, i.e. narrow streets, compact junctions, appropriate vertical and horizontal deflections etc, is such that a low speed environment is encouraged so as to facilitate cyclist to cycle in lane with traffic. This is all in line with the National Cycle Manual and the Design Manual for Urban Roads and Streets.

These provisions all tie-in with the external pedestrians and cyclist network which are easily accessed via appropriately design dropped kerbs at crossing points adjacent the proposed development access and the works associated with the proposed pedestrian and cycle crossing across Charlestown Place incorporate tie ins with the existing cycle infrastructure on Charlestown Place and these have been designed in accordance with the National Cycle Manual.

5.6. Charlestown Place Pedestrian Crossing

As noted, a new toucan crossing will be provided across Charlestown Place which will replace the existing crossing to the east. In order to further enhance the proposed pedestrian crossing the westbound right turning lane along the eastern arm of the Charlestown Place/Development Access junction is to be removed and reallocated for public realm and landscaping usage. The removal of this lane will provide benefit to the overall public realm by reducing the visual dominance of the road, thereby encouraging lower vehicle speeds, providing greater comfort and safety to pedestrians and improving the overall landscape and attractiveness of the streetscape between the shopping centre and the development site.

The new crossing is located to cater for the strong desire line between Charlestown Centre and the proposed development. The crossing acts as a spine, intrinsically connecting the two development sites. To the north of the crossing, the desire line leads onto the pedestrianised street that leads into the heart of Charlestown Centre facilitating direct linkage to existing and soon to be occupied residential areas, the local leisure centre and to one of the main entrances into the Centre shopping area itself. To the south of the pedestrian crossing facilitates linkage to the pedestrianised street between Blocks 1 and 2 of the proposed development allowing connections with the retail, commercial and community uses whilst linking further south to the main open space provision with the proposed development.

The design of the crossing has been undertaken in line with DMURS so as to provide pedestrians and cyclists with a strong connection between both sites and confirm their priority across Charlestown Place. The crossing is 4m wide and incorporates contrasting pavement so as to reinforce this priority and indicate to drivers approaching the crossing to change their driving behaviour in terms of speed. The active street frontage afforded to the proposed development will also lend to this and influence driver behaviour adjacent the development. In order to enhance the existing active frontage on the northern side of Charlestown Place adjacent Charlestown Centre, the design of the crossing has been increased to extend and tie in with the existing footpath, cycle track and taxi bay areas. Where required such as the interaction with bus stops, cycle tracks have been designed in accordance with the National Cycle Manual. The removal and reinstatement of the existing crossing has been sensitively undertaken so as to ensure that the new desire line is apparent and that errant pedestrians do not try to cross at this location anymore. In addition, appropriate landscape planting has been incorporated to act as a soft edge to prevent this. This will tie in with the planting and landscaping on both sides of Charlestown Place. The proposed layout is shown in Figure 5-3. The crossing and internal street layout has been subject of a Stage 1 Road Safety and Walking/ Cycling Audit. The findings of which have been updated in the planning drawings as per the Road Safety Audit report 515228DG030.

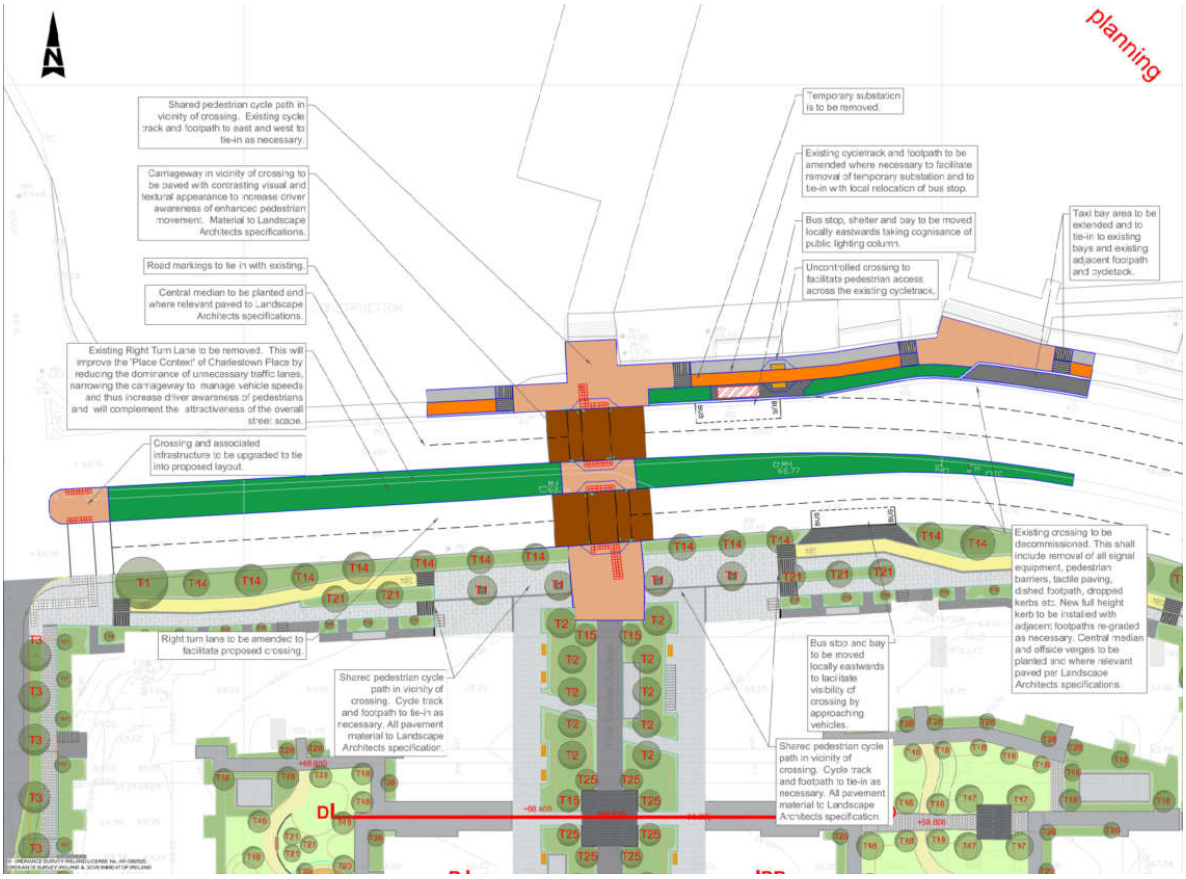


Figure 5-3 - Charlestown Place Pedestrian Crossing Layout

5.7. Adjacent Western Lands

There exist adjacent lands to the immediate west of the proposed development site which is currently zoned for GE General Employment and Enterprise. It is noted that zoning associated with these lands could change in the future.

An exercise has been undertaken in Chapter 11 of this TTA to demonstrate that the proposed development access junction has sufficient capacity to cater for anticipated levels of traffic generation associated with any future development on this site.

As an assumption, a residential development similar in scale to that subject of this TTA has been utilised to demonstrate that the development access junction has sufficient spare capacity.

Based on this assessment it is considered that the proposed development access could accommodate in the rage of 200 to 400 units.

6. Car Parking

6.1. Car Parking Standards for Apartments

The 'Sustainable Urban Housing: Design Standards for New Apartments' guidelines, published in 2018 must be considered in the context of the proposed apartments. The Guidelines apply to all housing developments that include apartments that may be made available for sale, whether for owner occupation or for individual lease. Within Section 2.4 of the Guidelines, a definition of three urban locations is given. These are:

- Central and/or Accessible Urban Locations.
- Intermediate Urban Locations.
- Peripheral and/or Less Accessible Urban Locations.

Section 4 of the Guidelines sets new requirements for the provision of car parking within apartment developments. It sets out these requirements based on the location of the apartments. It notes:

"The quantum of car parking or the requirement for any such provision for apartment developments will vary, having regard to the types of location in cities and towns that may be suitable for apartment development, broadly based on proximity and accessibility criteria."

With regard to the three classifications of urban locations the following guidelines apply:

Peripheral and/or Less Accessible Urban Locations:

As a benchmark guideline for apartments in relatively peripheral or less accessible urban locations, one car parking space per unit, together with an element of visitor parking, such as one space for every 3-4 apartments, should generally be required.

Intermediate Urban Locations:

In suburban/urban locations served by public transport or close to town centres or employment areas and particularly for housing schemes with more than 45 dwellings per hectare net (18 per acre), planning authorities must consider a reduced overall car parking standard and apply an appropriate maximum car parking standard.

Central and/or Accessible Urban Locations:

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

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

Given Charlestown's location to the immediate north of Dublin City and the available district centre services/facilities and good access to public transport, it is considered that Charlestown lies within an Intermediate Urban Location. An Intermediate Urban Location is defined as sites including *"Sites within easy walking distance (i.e. up to 5 minutes or 400- 500m) of reasonably frequent (min 15 minute peak hour frequency) urban bus services".*

Based on the proposed developments intermediate location a reduced car parking standard is proposed.

6.2. Review of Car Ownership Rates

In order to determine an appropriate standard to the benchmark peripheral location standard of 1 residential space per 1 unit, car ownership levels at the adjacent Charlestown Centre were reviewed. This development, given its proximity and similar unit type is seen as a good representation of the proposed development.

The 2016 Census data as provided within the SAPMAP viewer on the Central Statistics Office website was referred to in determining current car ownership levels and the mode share associated with the identified similar residential developments. The locality of the site is shown below:

Table 6-1 – Charlestown Centre Car Ownership

Development	Small Area Map
Charlestown Centre – SA 267066019 247 households, 208 households with car(s) Ownership rate of 0.84 *Note: Small Area data is very specific to the existing Charlestown Centre Development.*	
Average car ownership rate	0.84

As can be seen, the car ownership rate for the site is 0.84.

6.3. Overall Car Parking Provision

Due to the location of the proposed development, it is broadly defined as an intermediate urban location. As a result, Planning Authorities are recommended to consider an appropriate overall car parking standard relevant to the proposed site and development context and apply an appropriate maximum car parking standard.

Based on comparison with the available CSO data, and the promotion of national polices to reduce dependency on the private car, it is deemed appropriate to provide a car parking ratio of an order of 0.80. It is therefore proposed to provide 464 no. residential car parking spaces which equates to an overall ratio of 0.79. In overall terms it is proposed to provide a total of 515 no. car parking spaces on site, satisfying the proposed parking ratio with a number of spaces provided for non-residential uses.

In terms of parking allocation this is presented on the relevant drawing in the Architects Drawing pack.

6.4. Resident Car Parking

As noted, of the 515 no. car parking spaces, 464 no. will be allocated towards residents. A total of 67 no. of these will be provided at surface level, 316 no. in the Block 1/2 basement and 81 no. in the Block 4 basement.

6.5. Other Car Parking Requirements

6.5.1. Shared Visitor / Customer Parking

As the proposed development site is located within an intermediate area, it also proposed to provide a reduced standard in terms of visitor car parking. Given the proposed developments intermediate location, its access to good public transport and the additional measures which are being incorporated into the development to promote sustainable and alternative means of transports, it is considered a provision of 26 no. visitor spaces is sufficient. 19 no. of these spaces are provided within the basement with the remaining 7 no. at surface level.

These visitor spaces will be shared with the non-residential customer usage associated with the medical centre, office, creche and retail units. The non-residential land-uses proposed typically attract the need for parking during the day, whilst the residential visitor related parking typically occurs during the evening period.

As such, it is considered that there is sufficient variation in hourly parking between these two parking requirements. This form of shared parking is considered to be a very flexible and efficient use of car parking spaces. The Go-Car spaces will not be shared as these will be dedicated towards that purpose.

6.5.2. Car Club

Of the total parking provided, 4 no. car parking spaces for car club users will be provided. The Go Car guidance identifies that one Go Car space has the potential to replace approximately 10 – 20 private cars subject to location. On this basis, provision of 4 no. car club spaces has the potential to replace up to 40 - 80 traditional car parking spaces. As such the provision of this service will facilitate future residents who don't want to own a car, the ability to utilise a car on a need's basis thereby allowing the proposed development to accommodate these types of residents whilst aligning with national policy to reduce national car ownership and limit private car usage. In this regard a support letter from GoGar is provided within Appendix C.

6.5.3. Electric Vehicle Charging

Of the total parking provided, 1 in 100 car parking spaces, as per the requirement in the Fingal Development Plan, will be initially equipped with the necessary infrastructure to cater for charging of electric vehicles. All other car parking bays will be fitted with the necessary ducting to facilitate easy retrofitting of the necessary infrastructure to cater for electric car charging. This equates to a total of 5 car parking spaces for electric vehicles to be initially provided.

6.5.4. Mobility Impaired

Of the total parking provided, 1 in 100 car parking spaces, as per the requirement in the Fingal Development Plan, 5 no. car parking spaces for mobility impaired users will be provided.

6.5.5. Crèche Car Parking

The Fingal Development Plan outlines a requirement for staff parking of 0.5 space per classroom. There are 5 no. classrooms proposed which indicates a requirement of 3 no. staff set-down spaces. The Fingal Development Plan does not outline a requirement for set-down spaces. Notwithstanding, the provision of some level of set-down is considered to be warranted. Based on the proposed size of the crèche, the standards relating to crèche parking in other Development Plans within the Greater Dublin Area and experience on other schemes, it is considered that 5 no. set-down spaces would be sufficient to cater for the proposed crèche.

6.5.6. Commercial Units

Commercial units on site are comprised of office facilities of 224 sq.m, a retail space of 350 sq.m and 525 sq.m. (7 no. consultant rooms) medical facility. Provision for these uses have been provided in accordance with the Fingal Development Plan. The Development cites a standard of 1 space per 30 sq.m for both retail and office uses and a standard of 2 no. spaces per consulting room. However, the following should be noted:

- The Development Plan standards for creche, office and retail are all 'Maximums' and a lower standard can be considered having regard to:
  - the Town Centre location;
  - the nature and scale of the proposed uses which will serve primarily the local/ accessible population and
  - the access to public transport for potential users of the non-residential uses.
- The Development Plan notes that the standard for office of 1 per 30sq.m can be reduced by 50% in a Town Centre, on that basis the standard at Charlestown Place is 1 per 15sq.m.

Therefore, the provision of 4 no. spaces for office, 2 no. spaces for retail and 7 no. spaces for the medical facility is proposed. There are also a further 26 spaces available for customers of these units which are shared with residential visitors. The breakdown between staff and customer parking is provided in Table 6.2.

6.6. Sustainable Travel Measures

6.6.1. Car Sharing Scheme

There will be a provision of 4 no. car sharing spaces provided with a view to extending this number in the future. These spaces will be located externally at surface level at a location which is highly visible and accessible to all residents.

6.6.2. High Quality Bicycle Parking Facilities

The Applicant acknowledges that cycling is increasingly becoming the mode of choice for many commuters in urban locations. As such, the proposed development will provided high quality, well located and secure parking provision within the proposed development to make the choice to cycle a more convenient one for residents and visitors alike. In terms of quantity, at a minimum the standards set out within the Fingal Development Plan will be provided and consideration of providing a higher standard as outlined in the DHPLG Design Standards for New Apartments will be provided should this be indicated as requirement through monitoring of demand. Sufficient space to facilitate any bicycle parking expansion will be identified.

6.7. Overall Development Car Parking

A tabular summary of the proposed car parking provision is provided below for convenience.

Table 6-2 - Car Parking Breakdown

Type	Land Use	Quantity	Unit	Car Parking Standard	No. of Car Spaces to be Provided
Residential	Resident Spaces	590	No. Bedrooms	0.79	464
	GoCar	n/a	n/a	n/a	4
Non-Residential	Creche	542 (6 classrooms)	Sq.m	0.5 per classroom	3 staff 5 set down
	Office	224	Sq.m	1 per 30 sqm (Max)	4 staff (+customer shared with resi-visitor)
	Retail	350	Sq.m	1 per 30 sqm (Max)	2 staff (+customer shared with resi-visitor)
	Medical Facility	525 (7 consulting rooms)	Sq.m	2 per consulting room (Max)	7 staff (+customer shared with resi-visitor)
Shared Residential and Retail / Office / Medical Customer Parking					26
TOTAL					**515**

In terms of parking allocation this is presented on the relevant drawing in the Architects Drawing pack.

7. Bicycle Parking

7.1. Bicycle Parking Standard for Apartments

In terms of residential bicycle parking there are two applicable standards as follows:

- Fingal Development Plan

  The Fingal Development Plan outlines its own standards for bicycle parking. The standard outlined is the requirement for 1 no. residential bicycle parking space per residential unit and 1 no. visitor space per 5 no. residential units.

- Design Standards for New Apartments:

  The Design Standards for New Apartments published by the Department of Housing, Planning and Local Government (March 2018) also identifies parking standards for bicycles. This standard outlines a requirement for 1 no. residential bicycle parking space per bedroom and 1 no. visitor space per 2 no. residential units.

7.2. Proposed Provision

The Fingal Development Plan outlines a standard of 1 long stay space per unit and 1 short stay space per 5 units. Conversely the Departments guidance outlines 1 long stay space per bedroom and 1 short stay space per 2 units. The Applicants desire is to provide the highest quantum of cycle parking possible, and as such the design of the proposed development has strived to achieve the level of cycle parking recommended in the Design Standard for New Apartments guidance document. It is acknowledged that the Transport Planning Section of FCC have requested the higher standards to be applied. However, it should be acknowledged that site constraints and the need ensure that the urban design of the proposed development is not compromised will be influencing factors in the achievability of this. The number of spaces recommended by each standard is presented in the below table along with the median level of cycle parking that is being proposed.

Table 7-1 – Cycle Parking Provision

Requirement / Provision	Resident (long stay)	Visitor (short stay)	Non-Residential	Total
FCC Requirement	590	118	13	708
DHPLG Requirement	981	295	N/A	1276
Proposed	886	169	13	1068

It is proposed to provide a total of 1068 no. bicycle parking spaces. In total 886 no. of these are allocated to residents, whilst 169 no. spaces are allocated to visitors. Whilst the proposed amount falls slightly short of that recommended in the Design Standards for New Apartments, it is significantly higher than that of the Fingal Development Plan standard. This level of cycle parking is of the highest order that can be practically accommodated on the site without locating cycle parking in inappropriate locations that would not best serve users nor the visual attractiveness of the development and which may compromise accessibility and security. It is also considered that this level of cycle parking is of an order that will facilitate and encourage future residents to significantly uptake cycling for utility and recreational purposes.

Table 7-2 - Cycle Parking Breakdown

Land Use	No. Unit / GFA	Cycle Standard	No. of Cycle Spaces
Residential Units	590 units	1.5 per unit	886
Visitor Spaces	590 units	1 space per 3.5 units	169
Creche	542 Sq.m (6 classrooms)	0.5 per classroom	3
Office	224 Sq.m	1 per 60 sqm	4
Retail	350 Sq.m	1 per 100 sqm	4
Medical Facility	525 Sq.m (7 consulting rooms)	1 per 4 consulting rooms	2
Total			**1068**

7.3. Location and Access

All resident cycle parking will be provided within the basement car parking areas. The remaining 169 no. visitor cycle parking will be provided externally at surface level in the vicinity of the main building entrances. The 13 ancillary spaces will also be provided at surface level at appropriate locations.

In terms of access, all resident bicycle parking will be easily accessible and appropriate signage where necessary will be provided to assist wayfinding.

The visitor bicycle parking will be provided in the form of Sheffield stands, that can cater for 2 no. bicycles each.

8. Mobility Management

8.1. Outline Mobility Management Plan

A Mobility Management Plan (MMP) is a strategic management tool designed to accommodate a site's specific transportation needs. The MMP aims to educate people regarding how, why and when they need to travel. It provides a forum to promote and support the use of alternative, active and sustainable transport modes such as walking, cycling, shared transport and mass transit such as buses and trains. Consequently, the MMP will also assist in reducing dependency on private car and mitigate against traffic congestion and its inherent environmental, social and economic impacts.

This document, the Mobility Management Plan (MMP) has been developed with specific reference to the site location, site context and proposed site layout and, describes the self-regulating management of travel demand. As such this MMP could help reduce the amount of car travel to and from the proposed development site. Not only will this bring benefits to those employed on site or living within the development but also to the wider local community and environment.

This MMP will form a framework for sustainable travel planning for Charlestown Place, that will change and adapt as this development, the surrounding neighbourhood and infrastructure continues to be developed. As such this MMP should be seen as a dynamic and evolving mechanism for introducing and maintaining a package of measures. These measures focus on promoting access to the site by alternative, active and sustainable modes of transport and reducing single occupancy car travel. In general, the ultimate occupiers will be encouraged to put these measures into practice themselves

8.2. Objectives

The objectives of the Mobility Management Plan are set with the overall aim of keeping the number of single occupancy car trips associated with the employment and residential elements of the development below agreed levels. The objectives set out in this Outline MMP in support of the Charlestown Place SHD are as follows:

- To reduce the use of the private car as a means of travel to and from the development;
- To increase and facilitate the number of people choosing to walk, cycle, car share, car pool, or utilise public transport to the development.
- To promote national policy and to support and encourage resident and staff up take, and
- To integrate the development with the available, existing and future transport network and facilitate it to accommodate future transport infrastructure.

To achieve the above targets, a range of measures for each of the key sustainable modes of travel have been proposed. These measures are based on existing infrastructure and public transport facilities. These measures are outline only and will be further developed subject to ongoing annual surveys and monitoring of resident and staff travel behaviour as the proposed development becomes occupied.

It is recommended that a Mobility Coordinator is appointed, to take responsibility of implementing the measures. The Mobility Coordinator would oversee the following measures:

- Develop a travel information pack for residents and staff.
- Develop a marketing and communications plan to keep residents and staff up to date on progress, developments and achievements made in relation to travel.
- Hold Smarter Travel / Active Commuter events such as coffee mornings.
- Promote the setting up of User Groups for the various modes of sustainable travel and nominate champions to drive uptake of these initiatives.
- Include travel information in residents post and online in an easily accessible location.

8.3. Travel Plan Measures

It will be the responsibility of the Mobility Co-ordinator to liaise with residents and inform them of the elements of the MMP. The Mobility Co-ordinator will encourage residents to use more sustainable methods of transport through the following ways:

Table 8-1 - Travel Plan Measures - Walking

Initiatives	Responsibility/Ownership	Timescale
• Provision of details on how to access the site on foot including safe walking routes and location of the nearest bus stops. • Establish a Staff/Resident Walking User Group. • Promote walking events / lunchtime walks for residents. • Annual Team Walking Events for residents e.g. Pedometer Challenge. • Provide access to umbrellas for residents of the apartment blocks on wet days.	The Mobility Co-ordinator	This will be established within 6 months of occupation

Table 8-2 - Travel Plan Measures - Cycling

Initiatives	Responsibility/Ownership	Timescale
• Launch Cycle to Work scheme for Staff of development. • Establish a Staff/Resident Bicycle User Group. • Provision of on-site Cycle Kiosk making available cyclist equipment i.e. pump, allen keys, lights, puncture repairs • Display maps of local cycle network on notice boards. • Participate in National Cycle Week • Survey and monitor cycle parking occupancy.	The Mobility Co-ordinator	This will be established within 6 months of occupation

Table 8-3 - Travel Plan Measures - Car Sharing and Car Pooling

Initiatives	Responsibility/Ownership	Timescale
• Encouragement of residents, employees and visitors of the development to use other modes of travel other than private car. • Create a Car Pooling Database so residents / staff can share journeys to work. • Hold a coffee morning / launch event for potential car sharers • Promote the on-site Car Sharing Scheme i.e. GoCar	The Mobility Co-ordinator	This will be established within 6 months of occupation

Table 8-4 - Travel Plan Measures - Public Transport

Initiatives	Responsibility/Ownership	Timescale
• Provision of up to date public transport maps and timetables in prominent locations on site and online. • Display a map of the development and proximity to adjacent public transport stops / route numbers marked. • Establish a Staff/Resident Public Transport User Group • Provision of information to residents on the benefits of Leap Cards. • Promote the tax saver monthly and annual commuter tickets for public transport to staff of the development. • Create awareness of real time passenger information apps and websites where relevant. • Create awareness of multi modal journey planner website • Liaise with public transport operators regarding service frequencies to the residential development. • Ensure safe and comfortable access to adjacent bus stops.	The Mobility Co-ordinator	This will be established within 6 months of occupation

Table 8-5 - Travel Plan Measures – E-Working

Initiatives	Responsibility/Ownership	Timescale
Explore the potential of facilitating a remote working hub on-site.	The Mobility Co-ordinator	This will be established within 6 months of occupation

Table 8-6 - Travel Plan Measures - Construction Phase

Initiatives	Responsibility/Ownership	Timescale
Provide a preliminary Construction Traffic Management Plan to provide detailed mitigation of construction traffic associated with the proposed development.	The Contractor / FCC Roads & Traffic Department	This will be established and agreed prior to construction.

9. Transport Characteristics

9.1. Assessment Years

To determine the impact of the proposed development site and to demonstrate that it can operate sustainably within the local road network, the following assessment years have been identified:

- Base Year: 2016
- Opening Year: 2021
- Opening plus five: 2026
- Opening plus fifteen: 2036

9.2. Traffic Growth

Traffic growth has been undertaken using the TII Project Appraisal Guidelines Unit 5.3 'Travel Demand Projections'. As has been agreed with local authority, the recorded traffic data for the baseline 2016 flows has been factored up to the 2021 opening year using 'High' growth factors to account for the age of the survey data and the 2026 opening year plus five and the 2036 opening year plus fifteen data have been grown with 'Low' growth factors as appropriate to the urban area in question.

9.3. Proposed Traffic Generation

The trip rates associated with the residential apartment units of the proposed development have been calculated based on the traffic count data collected at the entry and exit points to residential basement car parks of the adjacent Charlestown Centre. This survey was undertaken on the 6th of February 2019.

This data has been correlated with current total residential units of the Charlestown Centre to determine the trip generation arrival and departure rates during the peak AM and PM periods. In turn these trip rates have be applied to the proposed total residential units to estimate the predicted trip volume for the proposed development. This has enabled the application of very accurate site-specific trip rate data to the proposed development.

In terms of the crèche and retail element, these are considered to be of a small scale that would serve the existing development and attract footfall from patrons of the Charlestown Centre. Thus, they would not attract new trips and thus no traffic generation is assumed.

9.3.1. Trip Rates

A parking survey was undertaken by Atkins on the 6th February 2019 at the entry and exit to the residential car parking areas in the Charlestown Centre Basement parking in order to update and verify the localised trip rates of such residential apartment units. These trip rates are shown in the table below. Please note that the trips rates are based on the more accurate calculation of per bedroom and not per unit.

Table 9-1 - Proposed Development Trip Rates

Land Use	Calc Factor	Area / No	Weekday			
			AM Peak		PM Peak	
			ARR	DEP	ARR	DEP
Phase 2B	Note; Trip volumes taken from permitted Charlestown Phase 2B – Revised Application (377 units)					
Charlestown Place (Phase 1): Residential	Per Bed	590 No. of units (986 no. Bedrooms)	0.009	0.120	0.068	0.027

9.3.2. Traffic Generation

The proposed development will generate the following predicted volumes of traffic:

Table 9-2 - Proposed Development Traffic Generation

Land Use	Area / No	Weekday			
		AM Peak		PM Peak	
		ARR	DEP	ARR	DEP
Phase 2B: Charlestown Centre Note; Generation taken from permitted 377 scheme		78	51	85	74
Charlestown Place (Phase 1): Residential (986 no. Bedrooms)		9	120	68	27
Charlestown Place (Phase 2): Residential (328 no. Bedrooms)		3	39	22	9
Total		**90**	**210**	**175**	**110**

9.4. Trip Distribution and Assignment

It has been assumed that traffic to and from the proposed development will be distributed onto the local road network based on the current traffic patterns as determined from the traffic surveys.

Traffic has been assigned to the network based on traffic movements at each junction as per the traffic surveys.

Table 9-3 - Trip Distribution

Zone	Weekday			
	AM Peak		PM Peak	
	In	Out	In	Out
N2	9%	4%	5%	7%
M50 (N)	12%	14%	6%	18%
R104 (N)	17%	8%	12%	13%
Melville Road	9%	14%	11%	12%
R104 (S)	7%	18%	13%	11%
R135 (S)	22%	30%	35%	20%
M50 (S)	25%	12%	18%	19%
Total:	100%	100%	100%	100%

It should be noted that the movements of traffic entering and exiting the northern arm of the R135 Finglas Road / Charlestown Place junction have been estimated by obtaining data from the TII traffic counters located to the east and west of M50 Junction 5 along the M50 and to the north of this junction along the N2 / M2. This ensures that development traffic can be appropriately distributed to assist in quantifying traffic impact to these strategic roads.

10. Traffic Impact

10.1. General Traffic Impact Overview

10.1.1. Traffic Impact on National Road Network

The proposed development will result in additional movements on the both the M50 and N2 / M2 mainline carriageways.

To assess the proportion of additional development traffic which is likely to use the strategic motorway and national road network relevant to the proposed development, mainline flows for the N2/M2 and the M50 were obtained from the TII Traffic Data Site (https://www.nratrafficdata.ie).

The percentage increase in traffic has been calculated as follows;

Table 10-1 - Percentage Traffic Increase on Strategic Motorway Network

Road	Direction	Weekday AM		Weekday PM	
		Dev Vol / Back-ground Vol	Percentage Increase	Dev Vol / Back-ground Vol	Percentage Increase
M50 North	SB	16/4302	0.37%	14/6189	0.23%
	NB	29/6085	0.48%	33/5919	0.56%
M50 South	SB	24/4140	0.58%	33/5355	0.62%
	NB	32/6053	0.53%	36/5900	0.61%
N2 /M2	SB	12/2243	0.53%	10/1749	0.57%
	NB	8/1519	0.53%	12/2196	0.55%

The increase in movements on the mainline carriageways in both the weekday AM and PM peak hours are minimal and as such are considered to have a negligible impact in terms of traffic safety and operation on the N2 / M2 and M50.

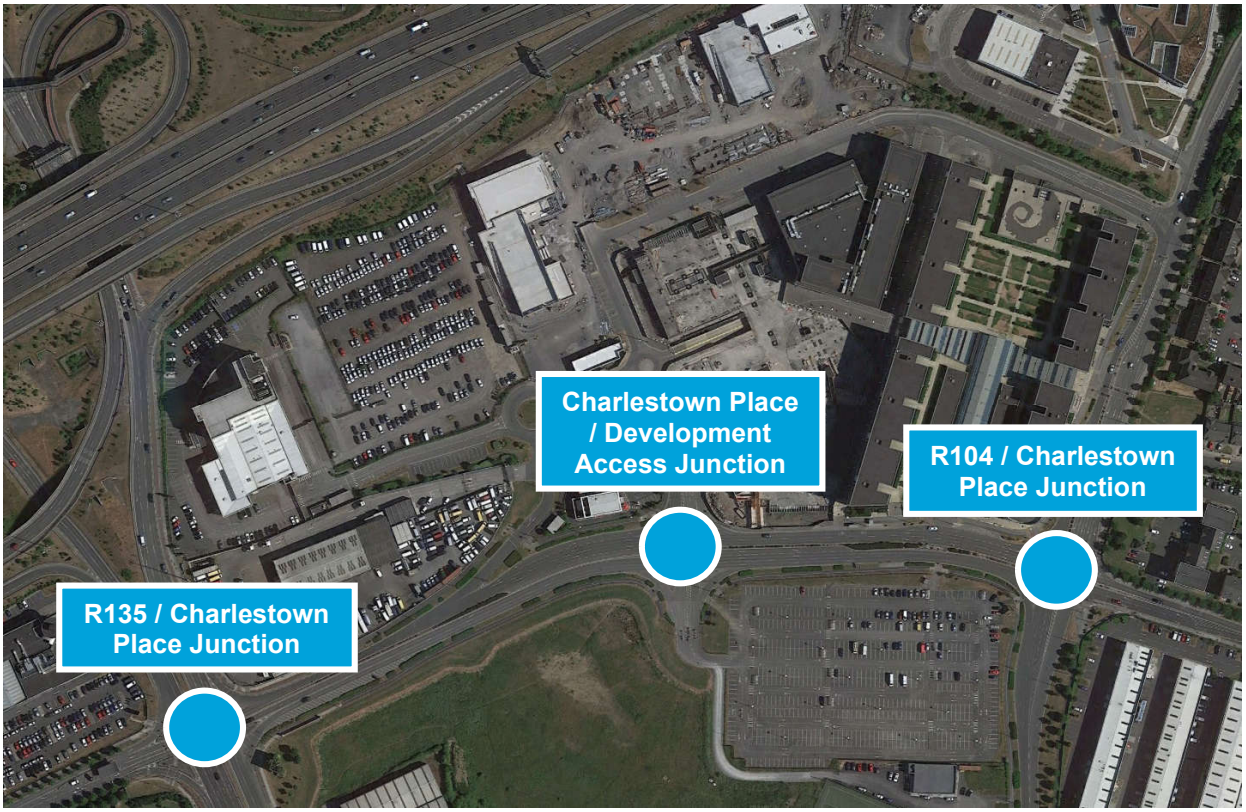
10.2. Traffic Increase at Key Junctions

Based on initial scoping with FCC, the following junctions are identified as being of critical importance in terms of potential impact on the surrounding road network:

- R135 / Charlestown Place Junction
- R104 / Charlestown Place Junction
- Charlestown Place & Access Junction

The junction locations are illustrated in the figure below:

Figure 10-1 - Key Junction Locations



An initial assessment was undertaken to quantify the additional traffic from the proposed development that will be loaded onto the key junctions of the R135 / Charlestown Place junction, the R104 / Charlestown Place junction and the Charlestown Place / Access Junction.

In order to determine what level of increase is considered acceptable, reference has been made to the TII Traffic and Transport Assessment Guidelines (May 2014). This document outlines the following thresholds:

- Traffic to and from the development exceeds 10% of the traffic flow on the adjoining road;
- Traffic to and from the development exceeds 5% of the traffic flow on the adjoining road where congestion exists, or the location is sensitive.

Notwithstanding the above national thresholds, the Transport Planning Section of FCC indicated through the scoping discussions that the threshold used by FCC is 2.5% where congestion exists, or the location is sensitive.

The traffic increase resulting from the proposed development is outlined in the table below.

Table 10-2 - Percentage Traffic Increase on R135 / Charlestown Place Junction

	Weekday AM	Weekday PM
Opening Year	1.5%	1.1%
Opening Year +5	1.4%	1.1%
Opening Year +15	1.4%	1.0%

Table 10-3 - Percentage Traffic Increase on Development Access Junction

	Weekday AM	Weekday PM
Opening Year	8.5%	5.3%
Opening Year +5	8.1%	5.1%
Opening Year +15	7.7%	4.9%

Table 10-4 - Percentage Traffic Increase on R104 / Charlestown Place Junction

	Weekday AM	Weekday PM
Opening Year	1.8%	1.1%
Opening Year +5	1.7%	1.1%
Opening Year +15	1.6%	1.0%

Of the 3 no. critical junctions, it is only the development access junction where the percentage traffic increase is greater than 2.5% in all of the assessed scenarios. As such this junction is to be modelled.

Regarding the R135 / Charlestown Place junction and the R104 / Charlestown Place junction, the above assessment shows that the percentage traffic increase is below the 2.5% stipulated by FCC. However, given that the resulting percentages are close to the 2.5% threshold, and the importance of these junctions, it is considered that an assessment of each of these key junctions should be undertaken to provide a robust review in determining the level of traffic impact on the local road network.

10.3. Junction Modelling Terminology

The R135 / Charlestown Place junction, Development Access Junction and the R104 / Charlestown Place junction are traffic signal junctions and as such has been modelled using JCT's LINSIG V3.2. The following terminology should be referenced when interpreting the assessment results:

10.3.1. Traffic Signal Junctions:

- **DOS:** This is the ratio of demand flow to capacity on a link. The saturation level is normally 90%. A degree of saturation below 90% represents a junction that is operating in an efficient and stable condition. If a link has a degree of saturation of between 90% and 100% it may still be operating to an adequate standard depending on the acceptability of queuing and delay. A degree of saturation of above 100% is considered to be over-capacity;
- **Mean Maximum Queue:** The sum of the maximum queue on a link (including uniform, random and oversaturation queues) averaged over all the cycles in the modelled time period;
- **Average Delay:** The average delay for each passenger car unit (pcu) on the lane averaged over the modelled time period.

All traffic signal junctions were observed to operate under vehicle actuation. In general, this form of control assesses the optimal signal timings for the available stages using information transmitted via detector loops embedded in the road surface. Signal timings can therefore vary notably, depending on traffic conditions. As such, for the purpose of the LinSig assessment, a cycle time of 120 seconds was assumed with the model optimised for practical reserved capacity based on the traffic flows recorded from the surveys and the phases and stages observed on-site.

A summary of the junction assessment results for the base year and design opening years, supported by a short narrative for each junction is presented below.

10.3.2. Junction Modelling

All junction models have been run with the trip generation volumes as determined from the count data collated from the car parking survey at Charlestown Centre. It should also be noted that the model is quite sensitive to minor changes particularly in saturated conditions, such as those currently experienced on the N2 northern approach during the AM peak hour period, and the modelled peak hour base year conditions are consistent with observations on site, particularly on the N2 northern approach.

The full results from the traffic assessment can be found within Appendix D.

10.4. R135 / Charlestown Place Junction Improvements

A condition of the Charlestown Centre Phase 2B development (Reg. Ref. F19A/0146) references the agreement of details associated with the junction improvements to the R135 / Charlestown Place junction as identified within the Traffic and Transport Assessment prepared for that development.

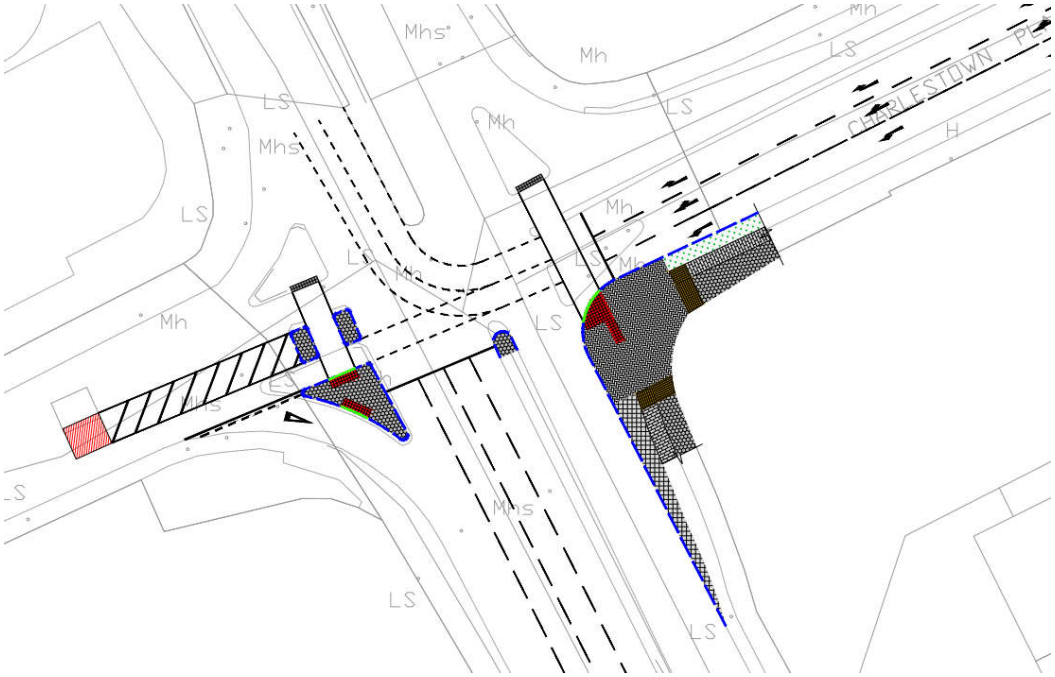
The improvements include the introduction of an additional right turning lane on the Charlestown Place arm. The current lane configuration of this arm consists of a combined straight-ahead right turn lane and a left turn lane. The proposed configuration of this arm is to provide a right turn lane, a straight-ahead right turn lane and a left turn lane. This proposal can be delivered within the footprint of the existing road corridor.

The benefit to be obtained from this configuration is that it will allow a greater throughput of right turn movements on the Charlestown Place arm which in turn will allow extra greentime to be afforded to other arms, particularly the N2 northern arm during the AM peak and the R135 southern arm during the PM peak, thereby improving overall junction operation

All future year assessments undertaken as part of this TTA utilise the proposed layout of those improvements.

The junction improvements have been agreed with Fingal City Council and Dublin City Council. The approved works are due to go to site Q2 2021. The below figure illustrates the agreed design principle. A more detailed drawing is provided within Appendix E.

Figure 10-2 – R135 / Charlestown Place Junction Improvements



As this junction is being upgraded, it is concluded that no further work is required to accommodate the proposed residential scheme at Charlestown Place.

10.5. 2016 Baseline Traffic Conditions

The following scenarios were assessed for the 2016 baseline traffic.

Table 10-5 – Baseline Assessment Scenarios

Intersection	Scenario	Intersection Configuration
Development Access	2016 Base Traffic	Existing
R135 / Charlestown Place	2016 Base Traffic	Existing
R104 / Charlestown Place	2016 Base Traffic	Existing

10.5.1. Development Access Junction

Table 10-6 - Development Access Junction - Base Year (Existing layout)

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
Charlestown Centre	2.2	56.0	33.2%	3.2	46.8	39.4%
Charlestown Place (E)	1.6	69.8	30.7%	2.3	70.5	40.6%
Development Access	0.0	68.2	0.9%	0.7	71.4	17.1%
Charlestown Place (W)	5.7	26.1	33.2%	5.5	33.5	40.0%

The above assessment indicates that all arms are expected to operate well below the 90% saturation level during all assessment periods. All arms are operating under capacity in an efficient and stable condition and all queuing and delay are of an acceptable standard.

In general, the PM peak experiences higher overall junction flows then the AM peak and, as such, the junction is more critical in this period.

The queue length on all arms of the junction are relatively small and is therefore not expected to affect the surrounding network.

10.5.2. R135 / Charlestown Place Junction

The base line junction assessment is based on the existing junction layout.

Table 10-7 - R135 / Charlestown Place Junction – Base year

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
N2 / M50	68.9	119.1	103.8%	16.3	38.6	82.8%
Ch'stown Place	21.4	164.7	101.3%	13.6	66.0	82.1%
R135 (S)	7.7	28.9	48.3%	18.4	43.8	78.6%
N'Park	3.9	44.8	70.9%	12.7	39.4	82.6%

The above assessment indicates that most arms are operating below the 90% saturation level during all assessment periods, with the exception of the N2 and Charlestown Place approach arms of the R135 / Charlestown Place junction during the weekday morning peak period. These arms are operating at a DOS of 103.8% and 101.3% respectively.

In general, the AM peak of the R135 / Charlestown Place junction experiences higher overall junction flows than the PM peak and as such junction capacity is more critical during this period.

During the morning peak hour, the queue on N2 northern approach to the R135 / Charlestown Place junction is estimated to be 68.9 pcu, equating to approximately 414m. This is consistent with onsite observations which indicated that queueing on this approach frequently extends back beyond the signalised M50 Southbound diverge junction, resulting in a knock-on effect of vehicles queuing from the stop line associated with this junction to the N2 mainline. Notwithstanding this, these queues do not impact mainline flows on the M50 or N2.

Capacity on the straight ahead / right turn lane of the Charlestown Place arm results in significant delay being experienced. The queue here is 21.4 pcu equating to a distance of 129m. As such this does not impact on the upstream junction of the R104 / Charlestown Place. A delay of 164.7 seconds is however incurred, which means that there is potential that some vehicles along this lane would not get over the stop line during the one cycle. This would align with observations on site.

Notwithstanding this, the flow crossing the stop line on this approach is in the order of 400 pcu, considerably less than the straight through approach flows on the northern N2 arm and the southern R135 arm which are in the order of 1200 and 900 pcu respectively. Given the sensitivity of the junction location and the volume of traffic throughput, it is considered acceptable that traffic on this approach arm experiences this level of delay during peak hour periods, to ensure that traffic along the R135 / N2 operates to an adequate level in order to mitigate the impact on the adjacent local and strategic road network of the R135, N2/M2 and M50.

During the PM peak hour, whilst approaching the 90% saturation threshold, all arms are operating under capacity in an efficient and stable condition and all queuing and delay are of an acceptable level.

During the Saturday afternoon peak hour, all arms are operating under capacity in an efficient and stable condition and all queuing and delay are of an acceptable level.

10.5.3. R104 / Charlestown Place Junction

Table 10-8 - R104 / Charlestown Place Junction - Base year

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
R104 (N)	9.4	41.9	60.4%	6.4	54.9	61.6%
Melville Rd	11.1	40.6	60.4%	12.8	36.9	64.6%
R104 (S)	6.7	80.2	55%	7.6	52.2	63.1%
Ch'stown Place	7.7	76.8	60.6%	8.8	80.5	51.9%

The above assessment indicates that all arms are operating well below the 90% saturation level during all assessment periods. All arms are operating under capacity in an efficient and stable condition and all queuing and delay are of an acceptable standard.

The queue length on all arms of the junction are relatively small and is therefore not expected to affect the surrounding network.

10.6. 2021 Opening Year Assessment

The following scenarios were assessed for the 2021 opening year.

Table 10-9 – 2021 Assessment Scenarios

Intersection	Scenario	Intersection Configuration
Development Access	2021 Base + 377 Scheme (2B) + Proposed Development	Updated (DMURS)
R135 / Charlestown Place	2021 Base + 377 Scheme (2B)	Updated (according to 377 no. unit Phase 2B Scheme)
	2021 Base + 377 Scheme (2B) + Proposed Development	
R104 / Charlestown Place	2021 Base + 377 Scheme (2B)	Existing
	2021 Base + 377 Scheme (2B) + Proposed Development	

10.6.1. Development Access Junction

The intersection layout used for the analysis of the proposed access is based on the revised layout being proposed in order to make the development arm compliant with DMURS. As such only the with development scenario is analysed. The subsequent analysis is as follows.

Table 10-10 - Development Access Junction – Opening Year

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
Charlestown Centre	1.9	47.4	42.0%	3.3	45.1	55.9%
Charlestown Place (E)	5.1	36.2	50.4%	5.3	37.5	53.8%
Development Access	4.1	54.0	61.4%	2.2	55.2	45.6%
Charlestown Place (W)	6.4	36.7	61.7%	5.2	36.4	59.1%

The above assessment indicates that all arms are expected to operate well below the 90% saturation level during all assessment periods. All arms are operating under capacity in an efficient and stable condition and all queuing and delay are of an acceptable standard.

The queue length on all arms of the junction are relatively small and is therefore not expected to affect the surrounding network.

It should be noted that the maximum queue associated with the Charlestown Place eastern arm is 6.4 pcu which equates to a queue length of 37m. As such this queue length will not be impacted by the proposed siting of a new direct pedestrian crossing located 70m from the junction.

10.6.2. R135 / Charlestown Place Junction

The future year scenarios are based on the new junction layout as per the improvements granted under the Phase 2B 377 no. unit scheme Planning Permission.

The opening year includes the estimated traffic for the Charlestown Phase 2B 377 scheme mentioned above. Two scenarios were analysed for the junction, the no development and with development scenario.

Table 10-11 - R135 / Charlestown Place Junction – Opening Year – No Development

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
N2 / M50	20.7	26.7	85.5%	16.8	34.7	82.2%
Ch'stown Place	7.9	81.0	80.2%	8.7	75.0	80.3%
R135 (S)	9.0	36.7	65.0%	17.9	37.4	77.4%
N'Park	4.4	48.3	76.2%	12.1	35.1	82.3%

Table 10-12 - R135 / Charlestown Place Junction – Opening Year – With Development

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
N2 / M50	22.1	27.8	86.6%	17.7	35.4	84.0%
Ch'stown Place	8.5	79.3	81.1%	9.1	76.9	82.2%
R135 (S)	9.0	36.8	66.7%	18.2	38.7	83.4%
N'Park	4.4	48.4	76.2%	12.1	35.1	82.3%

No Development

The approved junction upgrade has significantly improved the overall capacity and ensured that all arms are expected to operate below the 90% saturation level during all assessment periods.

The morning and evening peak flows are similar, with some arms approach capacity, but the critical scenario is expected to occur in the evening peak with the saturation flows of three of the arms in the order of 77% to 83%.

All arms are operating with acceptable levels of queuing and delay for an urban junction.

With Development

In the 2021 With Development scenario, the R135 / Charlestown Place junction capacity decreases slightly due to the development traffic. Since the development flows are less than 2.5% of the existing intersection flows, the effect on the intersection is minor. The N2 / M50 AM peak arm of the junction is close to the 90% saturation flow at 87%. In the PM peak, all of the arms are acceptable below the maximum 90% saturation flow ranging from 82% to 84%.

All arms are operating with acceptable levels of queuing and delay for an urban junction.

10.6.3. R104 / Charlestown Place Junction

The geometry input for this junctions is taken from it existing layout.

Table 10-13 - R104 / Charlestown Place Junction – Opening Year – No Development

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
R104 (N)	10.1	39.1	68.2%	6.8	54.8	70.1%
Melville Rd	13.3	44.9	69.1%	15.0	39.1	70.4%
R104 (S)	4.2	65.9	65.8%	9.1	54.1	70.1%
Ch'stown Place	8.8	76.7	64.2%	10.1	86.4	58.6%

Table 10-14 - R104 / Charlestown Place Junction – Opening Year – With Development

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
R104 (N)	10.4	40.1	69.5%	6.6	53.3	68.8%
Melville Rd	13.3	44.9	69.1%	15.5	39.6	72.1%
R104 (S)	4.2	65.9	65.8%	9.3	56.3	72.4%
Ch'stown Place	9.1	77.3	68.3%	10.0	87.6	58.1%

No Development

The above assessment indicates that all arms are operating well below the 90% saturation level during all assessment periods. All arms are operating under capacity in an efficient and stable condition and are therefore of an acceptable level.

The queue length on all arms of the junction are relatively small and is therefore not expected to affect the surrounding network.

With Development

In the 2021 Development scenario, the R104 / Charlestown Place junction capacity decreases slightly due to the background growth in traffic. Since the development flows are less than 2.5% of the existing intersection flows, the effect on the intersection is minor. All arms of the junction are well below the 90% saturation level during all assessment periods.

The queue lengths are also only slightly increased and, as such, remain at an acceptable level.

10.7. 2026 Opening Year Plus 5 Assessment

The following scenarios were assessed for the 2021 opening year plus five.

Table 10-15 – 2026 Assessment Scenarios

Intersection	Scenario	Intersection Configuration
Development Access	2026 Base + 377 Scheme (2B) + Proposed Development	Updated (DMURS)
R135 / Charlestown Place	2026 Base + 377 Scheme (2B)	Updated (according to 377 no. unit Phase 2B Scheme)
	2026 Base + 377 Scheme (2B) + Proposed Development	
R104 / Charlestown Place	2026 Base + 377 Scheme (2B)	Existing
	2026 Base + 377 Scheme (2B) + Proposed Development	

10.7.1. Development Access Junction

Table 10-16 - Development Access Junction – Opening Year Plus 5

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
Charlestown Centre	2.0	48.0	45.0%	3.7	46.1	59.9%
Charlestown Place (E)	5.7	37.4	55.0%	5.9	38.7	58.1%
Development Access	4.1	54.2	61.7%	2.4	56.3	48.5%
Charlestown Place (W)	7.3	38.4	66.9%	5.8	37.4	64.3%

The above assessment indicates that all arms are expected to operate well below the 90% saturation level during all assessment periods. All arms are operating under capacity in an efficient and stable condition and all queuing and delay are of an acceptable standard.

The queue length on all arms of the junction are relatively small and is therefore not expected to affect the surrounding network.

It should be noted that the maximum queue associated with the Charlestown Place eastern arm is 7.3 pcu which equates to a queue length of 42m. As such this queue length will not be impacted by the proposed siting of a new direct pedestrian crossing located 70m from the junction.

10.7.2. R135 / Charlestown Place Junction

Table 10-17 - R135 / Charlestown Place Junction – Opening Year Plus 5 – No Development

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
N2 / M50	27.1	26.9	89.8%	20.1	35.4	86.2%
Ch'stown Place	8.9	86.0	84.6%	9.6	79.0	84.1%
R135 (S)	9.8	37.9	67.6%	19.4	38.8	80.1%
N'Park	5.0	53.2	80.6%	13.6	39.9	86.3%

Table 10-18 - R135 / Charlestown Place Junction – Opening Year Plus 5 -With Development

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
N2 / M50	29.2	28.1	90.9%	21.3	36.2	88.1%
Ch'stown Place	9.5	84.5	85.1%	10.2	81.4	86.1%
R135 (S)	9.8	38.0	69.3%	20.0	40.2	85.9%
N'Park	5.0	53.2	80.6%	13.6	39.9	86.3%

No Development

All arms are expected to operate below the 90% saturation level during all assessment periods.

The morning and evening peak flows are similar, with some arms approaching maximum capacity, but the critical scenario is expected to occur in the morning peak with the peak saturation flows of 89.8%.

All arms are operating with acceptable levels of queuing and delay for an urban junction.

With Development

In the 2021 Development + 5 scenario, the R135 / Charlestown Place junction capacity decreases slightly due to the development traffic. Since the development flows are less than 2.5% of the existing intersection flows, the effect on the intersection is minor. The N2 / M50 arm of the junction is operating at the 90% saturation flow during the AM peak. In the PM peak, all arms are relatively close to the maximum 90% saturation flow.

All arms are operating with acceptable levels of queuing and delay for an urban junction.

10.7.3. R104 / Charlestown Place Junction

Table 10-19 - R104 / Charlestown Place Junction – Opening Year Plus 5 – No Development

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
R104 (N)	11.4	39.5	71.6%	7.2	55.6	73.9%
Melville Rd	14.2	45.2	71.5%	16.6	40.5	73.9%
R104 (S)	4.6	68.4	69.8%	10.0	55.9	73.6%
Ch'stown Place	9.4	87.8	72.9%	10.8	88.2	61.8%

Table 10-20 - R104 / Charlestown Place Junction – Opening Year Plus 5 – With Development

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
R104 (N)	11.7	40.6	73.0%	7.1	54.0	71.9%
Melville Rd	14.6	46.7	73.2%	16.9	41.1	75.7%
R104 (S)	4.6	68.4	69.8%	10.3	58.4	76.0%
Ch'stown Place	9.7	79.9	71.1%	10.7	89.5	61.3%

No Development

The above assessment indicates that all arms are operating well below the 90% saturation level during all assessment periods. All arms are operating under capacity in an efficient and stable condition and are therefore of an acceptable level.

The queue length on all arms of the junction are relatively small and is therefore not expected to affect the surrounding network.

With Development

In the 2026 Development scenario, the R104 / Charlestown Place junction capacity decreases slightly due to the background growth in traffic. Since the development flows are less than 2.5% of the existing intersection flows, the effect on the intersection is almost negligible. All arms of the junction are well below the 90% saturation level during all assessment periods.

The queue lengths are also only slightly increased and, as such, remain at an acceptable level.

10.8. 2036 Opening Plus 15 Year Assessment

The following scenarios were assessed for the 2021 opening year plus fifteen.

Table 10-21 – 2036 Assessment Scenarios

Intersection	Scenario	Intersection Configuration
Development Access	2036 Base + 377 Scheme (2B)	Updated (DMURS)
R135 / Charlestown Place	2036 Base + 377 Scheme (2B)	Updated (according to 377 no. unit Phase 2B Scheme)
	2036 Base + 377 Scheme (2B) + Phase 1	
R104 / Charlestown Place	2036 Base + 377 Scheme (2B)	Existing
	2036 Base + 377 Scheme (2B) + Phase 1	

10.8.1. Development Access Junction

Table 10-22 - Development Access Junction – Opening Year Plus 15

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
Charlestown Centre	2.1	48.2	46.3%	3.8	46.6	61.7%
Charlestown Place (E)	5.9	36.2	54.7%	6.2	39.4	60.4%
Development Access	4.4	60.8	67.9%	2.4	56.8	49.6%
Charlestown Place (W)	7.5	37.3	66.8%	6.3	37.9	67.0%

The above assessment indicates that all arms are expected to operate well below the 90% saturation level during all assessment periods. All arms are operating under capacity in an efficient and stable condition and all queuing and delay are of an acceptable standard.

The queue length on all arms of the junction are relatively small and is therefore not expected to affect the surrounding network.

It should be noted that the maximum queue associated with the Charlestown Place eastern arm is 7.5 pcu which equates to a queue length of 43m. As such this queue length will not be impacted by the proposed siting of a new direct pedestrian crossing located 70m from the junction.

10.8.2. R135 / Charlestown Place Junction

Table 10-23 - R135 / Charlestown Place Junction – Opening Year Plus 15 – No Development

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
N2 / M50	37.3	28.4	94.4%	24.9	36.3	90.6%
Ch'stown Place	10.4	95.2	89.4%	10.8	84.8	87.9%
R135 (S)	10.5	38.5	71.0%	21.2	40.4	82.8%
N'Park	6.1	63.6	86.7%	16.1	47.9	90.7%

Table 10-24 - R135 / Charlestown Place Junction – Phase 1 Opening Year Plus 15 - With Development

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
N2 / M50	52.1	47.8	98.7%	27.0	37.1	92.5%
Ch'stown Place	20.4	104.2	99.4%	11.7	88.1	90.2%
R135 (S)	11.1	41.2	72.7%	22.0	42.1	88.4%
N'Park	6.1	64.1	86.7%	16.1	47.9	90.7%

No Development

The majority of the arms are expected to operate slightly below the 90% saturation level during all assessment periods. In the morning peak period and the afternoon peak period, the degree of saturation is expected to exceed N2 / M50 approach with an expected value of 94.4% and 90.6% respectively. This indicates that junction capacity is initially impacted by the background traffic growth. The delays and queues are however of a relatively acceptable level given the volume of traffic throughout at this urban junction.

With Development

In the 2036 Development scenario, the R135 / Charlestown Place junction capacity decreases slightly due to the development traffic.

This results in the Charlestown Place and N2 / M50 arms exceeding the 90% saturation level in the morning peak. Both of these arms were however approaching capacity or over capacity in the no development scenario.

During the morning peak hour, the queue on the N2 northern approach to the R135 / Charlestown Place junction is estimated to be 52 pcu, equating to approximately 299m. This queue distance is deemed acceptable as it will not impact on the upstream strategic road network.

10.8.3. R135 / Charlestown Place Junction - Sensitivity Analysis

Notwithstanding the above analysis it is considered that the estimated level of traffic flows at this junction in 2036 is overestimated. The R135 / Charlestown Place junction at its peak in 2016 accommodated in the order of 4,000 vehicles during its peak hours. The relentless application of traffic growth to the local area network for the next 15 years is an unrealistic scenario.

The R135 / Charlestown Place junction is an urban junction with a finite level of capacity. There is no scope to further increase the capacity of what is already a large junction. It should in fact be acknowledged that DCC and FCC have made a conscious decision, through the DMURS design requirements requested for the layout of the upgrade works to this junction (per condition associated with Reg. Ref. F19A/0146), to prioritise pedestrians and cyclist movements at this junction.

The traditional approach to dealing with increased demand of providing additional road space is unstainable. Therefore, as evident in existing and future National Policy, there is huge focus on prioritising sustainable travel behaviours. Initially this has been focused on shifting people to alternative modes such walking cycling and public transport. Charlestown over the next five to ten years will see the benefit of this as being a transport hub major schemes including BusConnects. The characteristics of the proposed development are set out to take advantage of both the existing sustainable transport options and the improvements in those that will come in the short to medium term.

However, the current pandemic has brought to the fore the principle of avoiding travel or reducing the trip length. The impact of people working from home due to the pandemic, as referenced in the CSO series of Transport Bulletins, has seen traffic in Dublin fall by up to 70% (compared to the previous year) at the height of the restrictions (April 2020) to a minimum fall of 17% (August 2020). In January 2021 the decrease was 53%.

The Governments Strategy on Remote Working will be issued in December 2020 where it will give employees the right to work from home. With the agenda being set by Government, Planning Authorities will follow suit with policy to promote this form of working in their next Development Plan reviews, and indeed some are already incorporating this in their forthcoming updates. It is therefore considered that a significant proportion of employees in both the public and private, who can, will avail of working from home and that this will become the new normal. This will fundamentally transform the efficiently of our transport network both nationally and locally adjacent to Charlestown.

To establish the impact of the above on the 2036 assessment year scenario, a sensitivity analysis was undertaken for the intersection of the R135 & Charlestown Place. This intersection was identified as the critical intersection and, as such, was the only intersection considered for the sensitivity analysis. The analysis considers a scenario wherein background traffic is reduced to take account of a reduction in people travelling long distances to work and instead choosing to work from home or in local e-working hubs.

The CSO COVID19 Survey April 2020 shows that working from home has increased to 34%, up from a level of 5% based on the 2016 Census data. The Remote Working National Survey Report May 2020 showed that 30% of respondents indicated there are no challenges for them to continue working remotely after the pandemic is over. As such, this sensitivity analysis assumes that 10% of people will work remotely as the new normal post COVID19.

It should be noted that this is a very conservative assumption, particularly given that the Governments Strategy outlines a target of 20% for Public Sector Workers which would be a level anticipated to be exceeded in the private sector.

The results of this analysis are shown in the tables below for the base traffic with and without the proposed development.

Table 10-25 - R135 / Charlestown Place Junction – 2036 Sensitivity – No Development

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
N2 / M50	16.4	24.5	87.5%	10.9	29.0	78.0%
Ch'stown Place	7.1	75.2	84.7%	6.3	55.2	73.4%
R135 (S)	7.2	29.6	54.8%	14.5	34.7	78.6%
N'Park	2.8	27.4	58.5%	6.3	25.0	76.4%

Table 10-26 - R135 / Charlestown Place Junction – 2036 Sensitivity – With Development

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
N2 / M50	17.9	25.6	88.9%	10.9	29.0	78.4%
Ch'stown Place	7.1	69.1	82.9%	6.5	56.3	75.2%
R135 (S)	7.2	29.7	54.7%	14.2	33.7	76.6%
N'Park	2.8	27.4	58.5%	6.6	26.8	78.6%

In this Post COVID Scenario, it is demonstrated that the Charlestown Place / R135 junction will perform below capacity during both the with and without development scenario.

It is considered that this is the most likely sustainable scenario that will occur. The remote working patterns that have developed from the Covid19 restrictions will be continued to a substantial degree in the post Covid19 scenario. Indeed, it can be reasonably assumed that this will be the case regardless of any legislative provisions given the ability of organisations, both public and private, to adapt to remote working and the clear benefits that maintaining a remote working capability will bring to both employees and employers. In overall terms this longer-term change in working patterns will help achieve a longer-term fundamental change in travel behaviour by reducing the need travel to work on a daily basis.

10.8.4. R104 / Charlestown Place Junction

Table 10-27 - R104 / Charlestown Place Junction – Opening Year Plus 15 – No Development

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
R104 (N)	12.9	41.0	76.1%	7.6	56.4	77.2%
Melville Rd	15.6	45.9	74.6%	18.4	42.5	77.0%
R104 (S)	5.0	71.5	73.7%	10.9	58.0	77.0%
Ch'stown Place	9.8	92.4	76.3%	12.0	90.2	65.6%

Table 10-28 - R104 / Charlestown Place Junction – Phase 1 Opening Year Plus 15 - With Development

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
R104 (N)	13.4	41.6	77.6%	7.6	55.8	75.4%
Melville Rd	16.0	47.7	76.4%	18.8	42.9	78.8%
R104 (S)	5.0	72.0	73.7%	11.3	60.6	79.4%
Ch'stown Place	10.2	83.0	74.0%	12.0	92.5	66.1%

No Development

The above assessment indicates that all arms are operating well below the 90% saturation level during all assessment periods. All arms are operating under capacity in an efficient and stable condition and are therefore of an acceptable level.

The queue length on all arms of the junction are relatively small and is therefore not expected to affect the surrounding network.

Development

In the 2036 Development scenario, the R104 / Charlestown Place junction capacity decreases slightly due to the background growth in traffic. Since the development flows are less than 2.5% of the existing intersection flows, the effect on the intersection is almost negligible. All arms of the junction are well below the 90% saturation level during all assessment periods.

The queue lengths are also only slightly increased and, as such, remain at an acceptable level.

10.9. Conclusion

The **Development Access / Charlestown Place** junction is expected to operate sufficiently during all periods while queuing and delay are acceptable and do not impact adjacent junctions.

The maximum queue associated with the Charlestown Place eastern arm will not be impacted by nor impact on the proposed siting of a new direct pedestrian crossing located 70m from the junction.

The **R104 / Charlestown Place** junction continues to operate sufficiently during all peak periods and queueing and delay are acceptable and do not impact of adjacent junctions.

The **R135 / Charlestown Place** is a large signalised junction that experiences a high volume of vehicle throughput in an urban location, and thus it is normally considered acceptable for junctions of this nature to operate at or somewhat above saturation levels for short periods of time such as during morning and evening peak hours.

The upgraded intersection layout proposed for the Charlestown Centre (Ref. F19A/0146) development is shown to provide significant additional capacity.

The assessment has shown that junction capacity is generally operating satisfactorily in most assessment scenarios except for the N2 northern approach arm and Charlestown Place approach arm which are operating above saturation levels during the weekday morning peak during the 2036 with development scenario only. The evening peak is expected to generally operate within or around saturation levels.

A sensitivity analysis of the 2036 assessment year wherein the impact of remote working patterns that have developed from the Covid19 restrictions will be continued to a substantial degree in the post Covid19 scenario has been undertaken.

The analysis considers a scenario wherein background traffic is reduced to take account of a reduction in people travelling long distances to work and instead choosing to work from home or in local e-working hubs.

The CSO COVID19 Survey April 2020 shows that working from home has increased to 34%, up from a level of 5% based on the 2016 Census data. The Remote Working National Survey Report May 2020 showed that 30% of respondents indicated there are no challenges for them to continue working remotely after the pandemic is over. As such, this sensitivity analysis assumes that 10% of people will work remotely as the new normal post COVID19.

It should be noted that this is a very conservative assumption, particularly given that the Governments Strategy outlines a target of 20% for Public Sector Workers which would be a level anticipated to be exceeded in the private sector.

In this Post COVID Scenario, it is demonstrated that the Charlestown Place / R135 junction will perform below capacity during both the with and without development scenario.

It is considered that this is the most likely sustainable scenario that will occur. In overall terms this longer-term change in working patterns will help achieve a longer-term fundamental change in travel behaviour by reducing the need travel to work on a daily basis.

The full results from the traffic assessment can be found within Appendix D.

11. Cumulative Impact – Adjacent Western Lands

11.1. Introduction

In order to ensure that the proposed development access junction is appropriately designed to accommodate the potential development of the Adjacent Lands to the west, a cumulative impact analysis has been undertaken. This analysis takes into consideration the buildout of these lands as an assumed residential development consisting of 200 no. units, similar in density to the proposed development. However, it is considered that the proposed development access junction has sufficient spare capacity to cater for a larger scale of development, in the region of 200 to 400 units. This will be subject to future assessments.

The full results from the cumulative traffic assessment can be found within Appendix D.

11.2. Junction Capacity Assessment

The proposed development access junction has been analysed during the 2021 Opening Year, 2021 Opening Year + 5 and 2021 Opening Year + 15 scenarios again using LinSig.

11.3. 2021 Opening Year Assessment

11.3.1. Development Access Junction

Table 11-1 - Development Access Junction – Adjacent Western Lands Opening Year

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
Charlestown Centre	1.8	47.2	41.3%	3.4	47.9	59.5%
Charlestown Place (E)	4.9	35.3	51.5%	5.1	37.1	56.3%
Development Access	3.0	56.2	55.2%	1.9	53.4	40.5%
Charlestown Place (W)	5.8	33.3	55.8%	5.0	35.7	57.9%

The above assessment indicates that all arms are expected to operate well below the 90% saturation level during all assessment periods. All arms are operating under capacity in an efficient and stable condition and are therefore of an acceptable level.

The queue length on all arms of the junction are relatively small and is therefore not expected to affect the surrounding network.

11.4. Opening Year Plus 5 Assessment

11.4.1. Development Access Junction

Table 11-2 - Development Access Junction – Adjacent Western Lands Opening Year Plus 5

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
Charlestown Centre	1.9	47.5	43.2%	3.6	48.4	62.5%
Charlestown Place (E)	5.2	35.8	54.2%	5.4	37.7	59.0%
Development Access	3.0	56.2	55.2%	2.0	54.0	42.2%
Charlestown Place (W)	6.4	33.8	58.5%	5.4	36.3	60.8%

The above assessment indicates that all arms are expected to operate well below the 90% saturation level during all assessment periods. All arms are operating under capacity in an efficient and stable condition and are therefore of an acceptable level.

The queue length on all arms of the junction are relatively small and is therefore not expected to affect the surrounding network.

11.5. 2035 Opening Plus 15 Year Assessment

11.5.1. Development Access Junction

Table 11-3 - Development Access Junction – Adjacent Western Lands Opening Year Plus 15

Arm	Weekday AM			Weekday PM		
	Queue (PCU)	Delay (s)	DOS	Queue (PCU)	Delay (s)	DOS
Charlestown Centre	3.6	48.4	62.5%	3.9	49.1	64.9%
Charlestown Place (E)	5.4	37.7	59.0%	5.7	38.4	61.8%
Development Access	2.0	54.0	42.2%	2.0	54.2	42.8%
Charlestown Place (W)	5.4	36.3	60.8%	5.8	36.8	64.2%

The above assessment indicates that all arms are expected to operate well below the 90% saturation level during all assessment periods. All arms are operating under capacity in an efficient and stable condition and are therefore of an acceptable level.

The queue length on all arms of the junction are relatively small and is therefore not expected to affect the surrounding network.

11.6. Conclusion

It is concluded that the proposed development access is expected to sufficiently accommodate this level and type of development and that there is sufficient spare capacity to cater for a larger scale of development, in the region of 200 to 400 units. This will be subject to future assessments.

12. Construction Traffic

12.1. Outline Construction Traffic Management Plan

This section of the report deals with the traffic impacts of construction of the proposed development. As such this section will provide an overview of the construction duration, the likely routing of construction vehicles, details regarding construction access and parking, the anticipated construction traffic generation and a non-exhaustive list of some key construction traffic management measures.

It will be the responsibility of the contractor to prepare a traffic management plan for the construction phase. That plane will build upon the details provided in this section and its main aim will be to outline measures to manage the construction activity during the construction phase. The Construction Traffic Management Plan (CTMP), prepared by the contractor, will need to be presented to the Planning Authority for approval in advance of any works.

12.2. Construction Duration

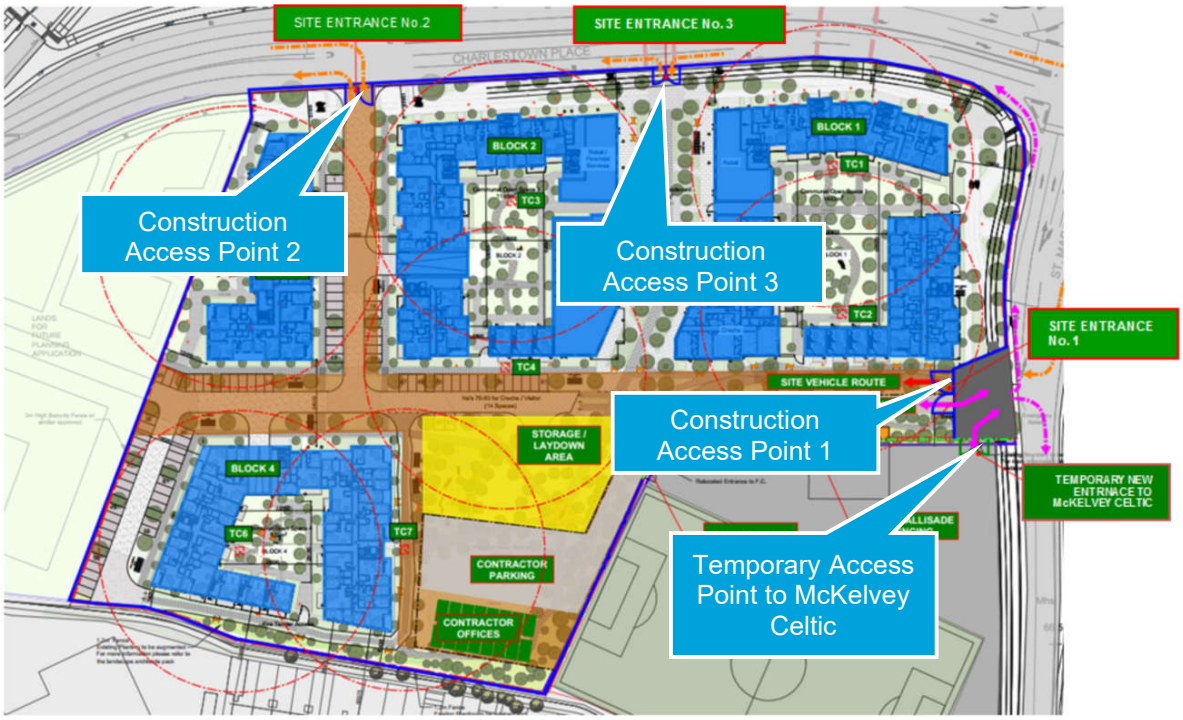
The overall construction period is currently envisaged to be undertaken over a duration of 3 years. In terms of construction sequencing, the development will be built in an east to west direction primarily due to the need to facilitate early stage bulk excavation and construction of a large basement located under Blocks 1 and 2 in the eastern portion of the site. Figure 12-1 below outlines the currently proposed development layout with Block numbering identified.

Figure 12-1 - Proposed Development Layout

12.3. Proposed Construction Access Points

In terms construction access there are 3 no. access points proposed. A separate access to McKelvey Celtic is also proposed. A drawing illustrating the locations of these proposed Construction Access Points is provided below in Figure 12-2.

Figure 12-2 - Proposed Construction Access Layout



A description of each proposed construction access in terms of its location and requirement is provided following

12.3.1. Construction Access No. 1

Access No. 1 is located on the eastern perimeter of the site accessing off St Margaret's Road. This access will facilitate HGV construction vehicles to access the site in a way that enables a one way system to be implemented through the site to cater for deliveries and removals which can then route towards the other access points on the northern perimeter of the site onto Charlestown Place. In particular, this will significantly streamline the access and egress of HGV vehicles being loaded with bulk excavations from the proposed basement which will then conveniently exit the site at Access No. 3. This will assist in removing and reducing any occurrences of opposing HGV conflict within this compact site between large HGV construction vehicles and will remove the need for these HGV vehicles to undertake hazardous reversing manoeuvres. It should be noted that Access No. 1 will not facilitate egress for HGV construction vehicles onto St Margaret's Road.

By providing an access at this location away from the R135 / Charlestown place junction, this will ensure that construction vehicles are not concentrated at any one particular point and thus reducing the potential for congestion that could occur at Access No. 2 due to the potential for right turning HGV traffic into the site to back up along the lane and potentially impact on the R135 / Charlestown Place junction.

Access Point 1 will also facilitate access and egress to the Contractor Parking and Offices area for construction personnel and their LGV's. This area is located adjacent the southern perimeter of the site. This access will separate into dual parallel routes. The route to the north will provide access to the construction site for HGV traffic. The route to the south will provide access to the Contractors Area for LGV traffic. The point at which these routes intersect will be sufficiently set back from the access point to St Margaret's Road to cater for two LGV's wishing to exit onto St Margaret's Road. At the intersection of these two routes, the route to the Contractors Area will be aligned, lined and signed to give way to the route to the main Construction Site. A left in / left out policy will apply to all construction traffic utilising this access.

It is envisaged that this access will not be required for the full duration of the construction works and will only be required for a duration of approximately 2 years. The reasoning for this is that its requirement will become less pertinent as construction activities and construction completion moves westwards towards Blocks 3 and 4.

In terms of its location, Access No. 1 is ideally located onto the St Margaret's Road, some 80m south of the Charlestown Place / St Margaret's Road junction and just in advance of where the developing flare of the multilane approach to that junction commences. There are no other junctions in close proximity on either side of the road. Visibility of the junction is appropriate in terms of both forward sight visibility along St Margaret's Road and sight lines upon exit from the proposed access.

12.3.2. Construction Access No 2

Access No. 2 will be the primary access point to the construction site and will be required throughout the duration of the construction works, a period currently envisaged to be in the order of 3 years. This access is the current access to the existing temporary car park and operates under traffic signal control facilitating all movements and incorporating left turn slips in and out of the access. As such all movements, as they currently are, will be facilitated at this access point during construction. The current arrangement and lane widths are suitable for all types of construction vehicles and their movements.

Appropriate traffic management signage will be installed at this junction during the construction period to ensure that lanes facilitating turning movements into the site are clear and unambiguous to both construction vehicles and public road vehicles.

This access will become the main entry for general vehicles to the proposed development, however alterations are proposed to this junction for the proposed development to ensure it provides sufficient capacity and complies with DMURS. These works will not commence until later in the construction period.

12.3.3. Construction Access No 3

Access No. 3 is primarily required to facilitate the bulk excavations associated with the proposed large basement which will accommodate the car parking under Blocks 1 and 2. Upon entry from Access No. 1, Access No. 3 will allow for construction vehicles to route towards the loading area and exit the site immediately, thereby allowing the construction vehicles to take the shortest route through the site and minimising the interaction between these vehicles and the rest of the site. This access will cater for left turn exits only.

It is envisaged that once the bulk excavations are complete the requirement for this access will be reduced and therefore it is envisaged that this access will only be required for a period of 8-12 months.

In terms of its location, it will be positioned halfway between the Charlestown Place / St Margaret's Road junction and the existing Temporary Car Park Access / Charlestown Place junction (which will become Construction Access No. 2). The opposing traffic lanes of Charlestown Place are separated by means of a central median, thus in terms of visibility and external traffic movement, a left turn exit onto Charlestown Place at this location is appropriate.

12.3.4. McKelvey Celtic Temporary Access

Currently the grounds of McKelvey Celtic are accessed from the existing access to the temporary car park off Charlestown Place. From this access point a separate access route is provided to the grounds that hugs the boundary of the existing temporary car park. This current access arrangement, including access through what will become Construction Access No 2, cannot be maintained through the construction period as it will lead to road safety, traffic management and security issues.

Therefore, a temporary access off St Margaret's Road is proposed in order to facilitate access to the grounds of McKelvey Celtic. This access will remove this public traffic from any interaction with internal construction site traffic, thereby reducing conflict, increasing road safety and enabling the contractor to implement best practice traffic management to the full extent of their control.

A new access to McKelvey Celtic will therefore be provided in vicinity of Construction Access Point 1. A shared hardstanding area will be provided with the main gates associated with this access point will be set back from St Margarete's Road to ensure that the security of the site can be appropriately managed.

In terms of its location, this is ideally located as described for Access No. 1.

12.4. Construction Routes

In terms of Construction traffic routes, all vehicles will utilise the adjacent strategic motor way network to gain access to the R135 Regional Road. HGV will utilise the following routes when accessing specific Construction Access:

- **Construction Access No. 1:**

  Upon travelling to the subject site, HGVs will route onto the R135 and straight through the R135 / Charlestown Place traffic signal junction. They will keep travelling along the R135 down to the St Margaret's Roundabout turning left at this junction to head north along St Margaret's Road. On approach to the site they will then turn left into Access 1. No HGV will exit at this Access Point.
  Construction Operatives and their LGVs will also access via Access Point 1 via the same route as HGVs. However, they will use this access to exit. The route they will take will be to turn left onto the R108 St Margarete's Road and approach the Charlestown Place / St Margarete's Road traffic signal junction. They will avail of a route at this junction to suit their desired destination.

- **Construction Access No. 2:**

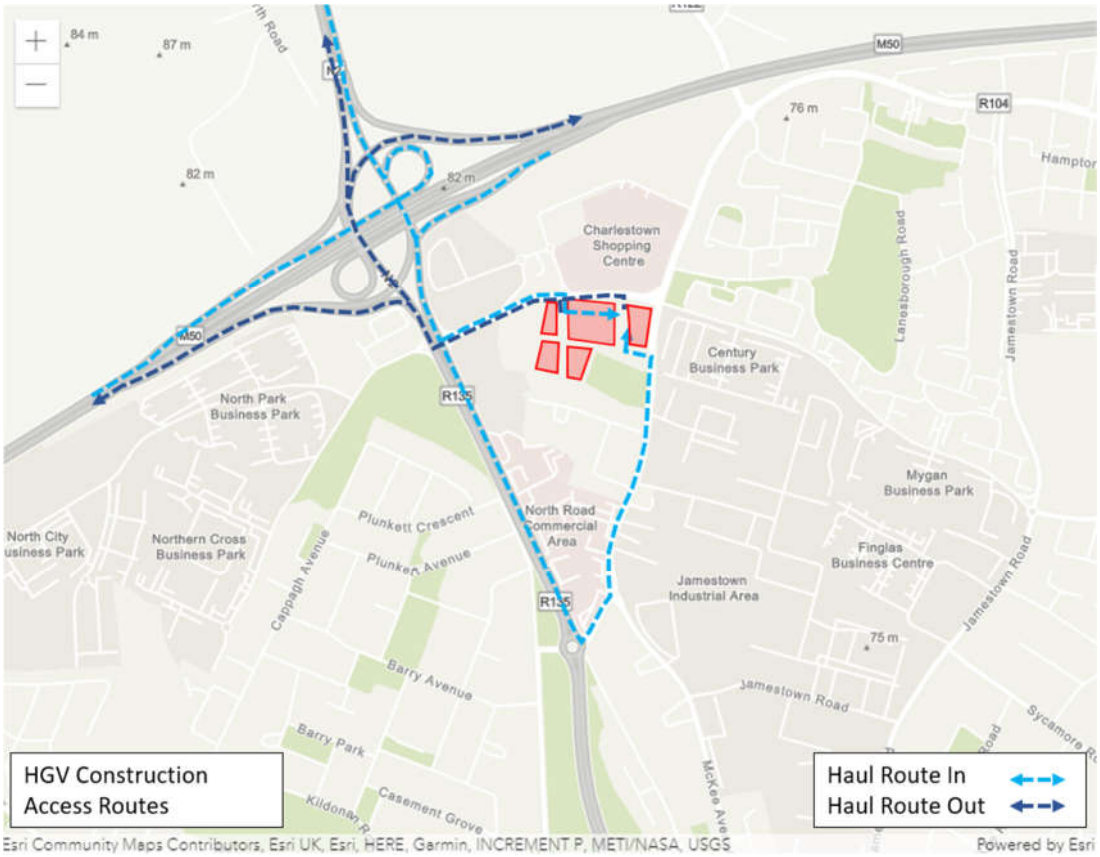
  Upon travelling to the subject site, HGV will route onto the R135 and approach the R135 / Charlestown Place traffic signal junction. HGVs will then turn left onto Charlestown Place before using the existing right turn lane at the existing Charlestown Place / Development Site Access junction to gain entry to the site. Exiting vehicles will take the same route back to the strategic motorway network.

- **Construction Access No. 3:**

  This Access Point will be for exit only. HGV will turn left out of the access onto Charlestown Place and will route towards the route the R135 / Charlestown Place traffic signal junction. They will then turn right at this junction and progress north along the R135 to gain access to the Strategic Motorway Network.

The figure below details the HGV Construction Access Routes.

Figure 12-3 - HGV Construction Access Routes



The figure below details the Contractor Construction Access Routes.

Figure 12-4 - Contractor Construction Access Routes

12.5. Construction Parking

All contractors' vehicles will park within the development site area in a designated parking area on a hard standing surfacing. There will be no contractor parking on the public roads.

12.6. Construction Traffic Generation

The overall traffic generation for the construction phase of the proposed development has been devised with the anticipated volumes of excavation of the site from the prospective Contractor. For the purpose of this assessment, the following assumptions have been applied:

- The primary construction activities (i.e. demolition, excavation and construction) will take place over approximately 36 months during which the majority of truck movements will occur.
- The greatest number of HGV movement will occur during the enabling and excavation works stage.
- The anticipated volume of material to be removed during the enabling and excavation works is approximately 83,000 m^3.
- A bulking factor of 10% has been applied to the excavation volume.
- The enabling and excavation works stage is assumed to take place over a period of time in the range of 6 – 8 months. A period of 6 months has been utilised to represent a worst case scenario from a traffic perspective.
- An average peak level of site operatives has been assumed to be in the order of 350.
- An average occupancy level of 3 operatives pre vehicle is assumed.
- It is assumed that 25% of site operatives will utilise public transport.

It is assumed that the average peak level of site operatives will coincide with the peak level of HGV movements during the enabling and excavation works. In reality this will not occur as the enabling and excavation works will occur during the first year of the 3 year construction period, whilst the peak level of site operatives will occur during the third year. However, for the purpose of assessment this scenario has been considered so as to represent a robust assessment of the potential construction impacts.

It should be noted that all assumptions are based on the experience of the prospective Contractor in construction the adjacent Phase 2B Development at Charlestown Centre.

12.6.1. Hours of Operation

It is envisaged that the works required to implement the development shall only be carried out between the hours of:

- Monday to Friday – 07:00 to 18:00;
- Saturday – 08:00 to 14:00;
- Sunday and Public Holidays – No activity on site.

Any deviation from these times will only be allowed under exceptional circumstances where prior written approval has been received from Fingal County Council.

12.6.2. Daily Traffic Flows during Excavation Stage

It is assumed that a Rigid HGV carries up to 20 tonnes in terms of payload and a articulated HGV can carry a payload of up to 30 tonnes. A combination of both is envisaged to be utilised by the contactor. Therefore, an average payload of 25 tonnes is assumed. It is also assumed that there will be 20 working days in each month, as such the average two way HGV movements per day will be 60 HGV.

12.6.3. Daily Traffic Flows during Construction Stage

It is envisaged that construction phase activities will require 350 site operatives. It has been assumed that 25% of staff will access the site via public transport. The remainder will be comprised of site operatives travelling via LGVs. It has been assumed that vehicle occupancy for the construction staff is typically 3 persons per vehicle. As such the average two way HGV movements per day will be 175 LGV.

12.6.4. Hourly Profile of Arrivals and Departures

In order to quantify the volume of traffic flow accessing the site during the peak traffic periods, typical construction site arrival and departure profiles have been applied for HGV and the site operative traffic.

It is assumed that the 60 no. 2 way movements associated with HGVs will arrive and depart the site evenly throughout the day.

In terms of the site operative traffic movements it is assumed that in the order of 80% of these will arrive to the site between the hours of 07:00 and 08:00, with the remaining 20% arriving during the period 08:00 to 09:00. In terms of departures it is assumed that 30% will depart during 16:00 and 17:00, 20% between 17:00 – 18:00hrs and 50% between18:00 – 19:00hrs.

The profiles have been quantified against the peak daily number of site operative and HGV traffic and are presented in the table below.

Table 12-1 - Anticipated Hourly Profile of Movements during the Day

Peak Hour	HGV Movements	Site Operative Movements	Total Movements
07:00 - 08:00	5	70	75
08:00 - 09:00	5	17	22
09:00 - 10:00	5	-	5
10:00 - 11:00	5	-	5
11:00 - 12:00	5	-	5
12:00 - 13:00	5	-	5

Peak Hour	HGV Movements	Site Operative Movements	Total Movements
13:00 - 14:00	5	-	5
14:00 - 15:00	5	-	5
15:00 - 16:00	5	-	5
16:00 - 17:00	5	26	31
17:00 - 18:00	5	17	22
18:00 - 19:00	5	44	49
Total	60	175	235

12.6.5. Percentage Impact of Peak Construction Traffic

The above construction traffic volumes have been reviewed with the baseline flows on the adjacent road network and the resulting percentage impact is shown in the table below.

Table 12-2 - Percentage Impact during the Construction Phase of Development

Junction	Peak Period	Opening Year	Site Operative Traffic During Peak Hour	HGV Traffic During Peak Hour	Total Construction Two Way Flow	Percentage Impact
Development Access Junction	AM (08:00 – 09:00)	1318	17	5	22	1.7%
	PM (17:00 – 18:00)	1539	17	5	22	1.4%

Table 12-2 demonstrates that the increase in traffic volumes at the main site access (Access No. 2) is below 5% during the AM peak hour and PM peak hours of the adjacent road network. it is therefore considered theta the level of traffic impact during the construction stage is of an acceptable level in the short term.

12.7. Traffic Management Measures

Below is a list of proposed traffic management measures to be adopted during the construction works. Note that this is not an exhaustive list, and it will be the appointed contractor's responsibility to prepare a detailed Construction Management Plan to be approved with the Planning Authority prior to commencement of construction.

- Warning signs / Advanced warning signs will be installed at appropriate locations in advance of the construction access.
- Construction and delivery vehicles will be instructed to use only the approved and agrees means of access and movement of construction vehicles will be restricted to these designated routes.
- Appropriate vehicles will be used to minimise environmental impacts from transporting construction material, for example the use of dust covers on trucks carrying dust producing material.
- Speed limits of construction vehicles to be managed by appropriate signage, to promote low vehicular speeds within the site.
- Parking of site vehicles will be managed, and will not be permitted on public roads, unless proposed within that designated area that is subject to traffic management measures.
- A road sweeper will be employed to clean the public roads adjacent to the site of any residual debris that may be deposited on the public road leading away from the construction site.
- On site wheel washing will be undertaken for construction trucks and vehicles to remove any debris prior to leaving the site, to remove any potential debris on the local roads.

- All vehicles will be suitably serviced and maintained to avoid leaks or spillage of oil, petrol or diesel. Spill kits will be available on site. All scheduled maintenance carried out off site will not be carried out on the public highway.
- Safe and secure pedestrian facilities are to be provided where construction works obscure any existing pedestrian footway. Alternative pedestrian facilities will be provided in these instances, supported by physical barriers to segregate traffic and pedestrian movements, and to be identified by appropriate signage. Pedestrian facilities will cater for vulnerable users and mobility impaired persons.

The above mitigation measures will minimise any significant environmental degradation or safety concerns in the vicinity of the proposed works, due to the presence of construction traffic. Furthermore, it is in the interest of the construction programme that deliveries, particularly concrete deliveries are not unduly hampered by traffic congestion, and as a result continuous review of haulage routes, delivery timings and access arrangements will be undertaken as construction progresses to ensure smooth operation.

12.8. Construction Traffic Conclusion

The proposed access arrangements will streamline the movement of construction vehicles within this compact site, significantly improving site safety through the reduction of high risk manoeuvres such as HGV reversing movements and removing the need for unnecessary conflict between HGV vehicles. The location and siting of all proposed access points are appropriate with adequate forward sight visibility and junction sight lines.

Through the provision of a separate temporary access point for McKelvey Celtic, the proposed access arrangements remove any interaction, outside of the public road network, with public vehicles and construction vehicles. This provides significant improvement to both site safety and road safety and also improves traffic management and site security.

Construction routes will route from and to the adjacent Strategic Motorway Network. A left in / left out policy will operate all Accesses with the exception of Access No. 2 given it is facilitated with signal controlled right urn movements and additional turning lanes, minimising risks of conflicts.

In terms of traffic generation for the construction phase of the proposed development, this has been devised with the anticipated volumes of excavation of the site from the prospective Contractor. It is assumed that peak levels of HGV movements will occur during the enabling and bulk excavations works occurring in year one of a 3-year construction programme. The peak site operative levels will occur during year 3. The combination of these peaks has been utilised to ensure a robust assessment. It is demonstrated that the increase in traffic volumes at the main site access (Access No. 2) is below 5% during the AM peak hour and PM peak hours of the adjacent road network. It is therefore considered theta the level of traffic impact during the construction stage is of an acceptable level in the short term.

A non-exhaustive list of construction traffic management measures is outlined. It will be the appointed contractor's responsibility to prepare a detailed Construction Management Plan to be approved with the Planning Authority prior to commencement of construction.

13. Summary and Conclusion

13.1. Summary

13.1.1. Overview

This Traffic and Transport Assessment (TTA) report forms part of a planning application for the proposed Strategic Housing Development at Charlestown Place, St Margaret's Road, Charlestown, Dublin 11.

The TTA contains a review of the overall transport sustainability of the development proposal and its impact on the relevant local and strategic road network.

The proposed development will consist of 590 no. residential units, with a creche and small amount of local retail and a health centre.

The assessment considers the committed Charlestown Centre Phase 2B (Reg. Ref. F19A/0146) development located to the north of the subject site which is under construction and all associated road network upgrades that were approved and conditioned for that development.

A cumulative impact to demonstrate the future capacity of the development access junction has been undertaken considering the assumed buildout of the adjacent lands to the west as residential.

13.1.2. Car Parking

Given Charlestown's location to the immediate north of Dublin City and the available district centre services/facilities and good access to public transport, it is considered that Charlestown lies within an Intermediate Urban Location. An Intermediate Urban Location is defined as sites including *"Sites within easy walking distance (i.e. up to 5 minutes or 400- 500m) of reasonably frequent (min 15 minute peak hour frequency) urban bus services".*

Based on the proposed developments intermediate location an appropriate car parking standard is proposed which is considered to align with the development and site context.

It is proposed to provide a total of 515 no. car parking spaces at a car parking ratio of 0.79. Of the total provision, 464 no. spaces will be allocated towards residents, 4 no. spaces to the car club, 3 no. staff parking and 5 no. set-down spaces to the crèche, 4 no. staff spaces to the office, 2 no. staff spaces to the retail and 7 no. staff spaces to the medical facility. A total 26 no. spaces are allocated to the residential visitor and non-residential customer car parking. These are shared on the basis that there is enough variation in hourly parking between these two parking requirements.

This proposed level of car parking provision is considered to be appropriate as it will facilitate parking as a demand management tool to encourage use of other sustainable and alternative transport modes whilst being at a level that will mitigate any adverse effects such as errant parking practices within or adjacent the proposed development.

Of the parking provided, provision has been made for several sustainable travel measures. These include Car Club, Electric Vehicle Charging, Mobility Impaired and Creche parking.

13.1.3. Bicycle Parking

The Applicant acknowledges that cycling is increasingly becoming the mode of choice for many commuters in urban locations. As such the proposed development will provided high quality, accessible, well located and secure parking provision within the proposed development to make the choice to cycle a more convenient one for residents and visitors alike.

In terms of quantity, it is It is proposed to provide a total of 1068 no. bicycle parking spaces. In total 886 no. of these are allocated to residents, whilst 169 no. spaces are allocated to visitors. Whilst the proposed amount falls slightly short of that recommended in the Design Standards for New Apartments, it is significantly higher than that of the Fingal Development Plan standard.

This level of cycle parking is of the highest order that can be practically accommodated on the site without locating cycle parking in inappropriate locations that would not best serve users nor the visual attractiveness of the development and which may compromise accessibility and security. It is also considered that this level of cycle parking is of an order that will facilitate and encourage future residents to significantly uptake cycling for utility and recreational purposes.

13 no. additional spaces will be provided to cater for the creche and commercial uses as in line with the Fingal Development Plan Bicycle Parking Standards.

13.1.4. Mobility Management

An Outline Mobility Management Plan is set out within the report. This MMP will form a framework for sustainable travel planning for Charlestown Place, that will change and adapt as this development, the surrounding neighbourhood and infrastructure continues to be developed. The measures proposed focus on promoting access to the site by alternative, active and sustainable modes of transport and reducing single occupancy car travel.

13.1.5. Development Integration with Charlestown Place

A proposed new toucan crossing will be provided across Charlestown Place which will replace the existing crossing to the east. The new crossing is located so as to cater for the strong desire line between Charlestown Centre and the proposed development. The crossing acts as a spine intrinsically connecting the two development sites.

The design of the crossing has been undertaken in line with DMURS so as to provide pedestrians and cyclists with a strong connection between both sites and confirm their priority across Charlestown Place. The crossing is 4m wide and incorporates contrasting pavement so as to reinforce this priority and indicate to drivers approaching the crossing to change their driving behaviour in terms of speed. The active street frontage afforded to the proposed development will also lend to this and influence driver behaviour adjacent the development.

In order to enhance the existing active frontage on the northern side of Charlestown Place adjacent Charlestown Centre, the design of the crossing has been increased to extend and tie in with the existing footpath, cycle track and taxi bay areas.

13.1.6. Traffic Impact

The **Development Access / Charlestown Place** junction is expected to operate sufficiently during all periods while queuing and delay are acceptable and do not impact adjacent junctions.

The maximum queue associated with the Charlestown Place eastern arm will not be impacted by nor impact on the proposed siting of a new direct pedestrian crossing located 70m from the junction.

The **R104 / Charlestown Place** junction continues to operate sufficiently during all peak periods and queueing and delay are acceptable and do not impact of adjacent junctions.

The **R135 / Charlestown Place** is a large signalised junction that experiences a high volume of vehicle throughput in an urban location, and thus it is normally considered acceptable for junctions of this nature to operate at or somewhat above saturation levels for short periods of time such as during morning and evening peak hours.

The upgraded intersection layout proposed for the Charlestown Centre (Reg. Ref. F19A/0146) development is shown to provide significant additional capacity. This upgrade is expected to be undertaken in Q2 of 2021 and be completed by Q3 2021.

The assessment has shown that junction capacity is generally operating satisfactorily in most assessment scenarios except for the N2 northern approach arm and Charlestown Place approach arm which are operating above saturation levels during the weekday morning peak during the 2036 with development scenario only. The evening peak is expected to generally operate within or around saturation levels.

A sensitivity analysis of the 2036 assessment year wherein the impact of remote working patterns that have developed from the Covid19 restrictions will be continued to a substantial degree in the post Covid19 scenario has been undertaken.

The analysis considers a scenario wherein background traffic is reduced to take account of a reduction in people travelling long distances to work and instead choosing to work from home or in local e-working hubs.

The CSO COVID19 Survey April 2020 shows that working from home has increased to 34%, up from a level of 5% based on the 2016 Census data. The Remote Working National Survey Report May 2020 showed that 30% of respondents indicated there are no challenges for them to continue working remotely after the pandemic is over. As such, this sensitivity analysis assumes that 10% of people will work remotely as the new normal post COVID19.

It should be noted that this is a very conservative assumption, particularly given that the Governments Strategy outlines a target of 20% for Public Sector Workers which would be a level anticipated to be exceeded in the private sector.

In this Post COVID Scenario, it is demonstrated that the Charlestown Place / R135 junction will perform below capacity during both the with and without development scenario.

It is considered that this is the most likely sustainable scenario that will occur. In overall terms this longer-term change in working patterns will help achieve a longer-term fundamental change in travel behaviour by reducing the need travel to work on a daily basis.

13.1.7. Adjacent Western Lands

A cumulative impact analysis was undertaken for the proposed access which included the full development of lands to the immediate west. An assumption of 200 no. residential units was utilised.

It was found that the proposed development access is expected to sufficiently accommodate this level and type of development and that there is sufficient spare capacity to cater for a larger scale of development, in the region of 200 to 400 units. This will be subject to future assessments.

13.1.8. Construction Traffic

The proposed access arrangements will streamline the movement of construction vehicles within this compact site, significantly improving site safety through the reduction of high risk manoeuvres such as HGV reversing movements and removing the need for unnecessary conflict between HGV vehicles. The location and siting of all proposed access points are appropriate with adequate forward sight visibility and junction sight lines.

Through the provision of a separate temporary access point for McKelvey Celtic, the proposed access arrangements remove any interaction, outside of the public road network, with public vehicles and construction vehicles. This provides significant improvement to both site safety and road safety and also improves traffic management and site security.

Construction routes will route from and to the adjacent Strategic Motorway Network. A left in / left out policy will operate all Accesses with the exception of Access No. 2 given it is facilitated with signal controlled right urn movements and additional turning lanes, minimising risks of conflicts.

In terms of traffic generation for the construction phase of the proposed development, this has been devised with the anticipated volumes of excavation of the site from the prospective Contractor. It is assumed that peak levels of HGV movements will occur during the enabling and bulk excavations works occurring in year one of a 3-year construction programme. The peak site operative levels will occur during year 3. The combination of these peaks has been utilised to ensure a robust assessment. It is demonstrated that the increase in traffic volumes at the main site access (Access No. 2) is below 5% during the AM peak hour and PM peak hours of the adjacent road network. It is therefore considered theta the level of traffic impact during the construction stage is of an acceptable level in the short term.

A non-exhaustive list of construction traffic management measures is outlined. It will be the appointed contractor's responsibility to prepare a detailed Construction Management Plan to be approved with the Planning Authority prior to commencement of construction.

13.2. Conclusion

Located within a key metropolitan area of Dublin City and zoned for Town and District Centre uses, Charlestown Place is well placed within an existing high quality public transport service and a planned multimodal transport network. Existing pedestrian, cycling, public transport and road infrastructure forms a firm foundation for sustainable transport travel.

Finglas and Charlestown form a strong focal point for existing and major planned improvements in transport infrastructure in the Greater Dublin Area as set out in the Greater Dublin Area Transport Strategy and Cycle Network Plan and this reflects the substantial existing population and the planned future development of the Finglas area.

Additionally, the close proximity of the proposed development to the district centre of Charlestown Centre, ensures that a wide range of amenities and services are available to future residents of the proposed development. Coupled with the existing provision of strong pedestrian connections, this will significantly reduce the reliance on the private car. Therefore, the proposed development is an exemplar of sustainable land use and transportation planning at a site, local and regional scale.

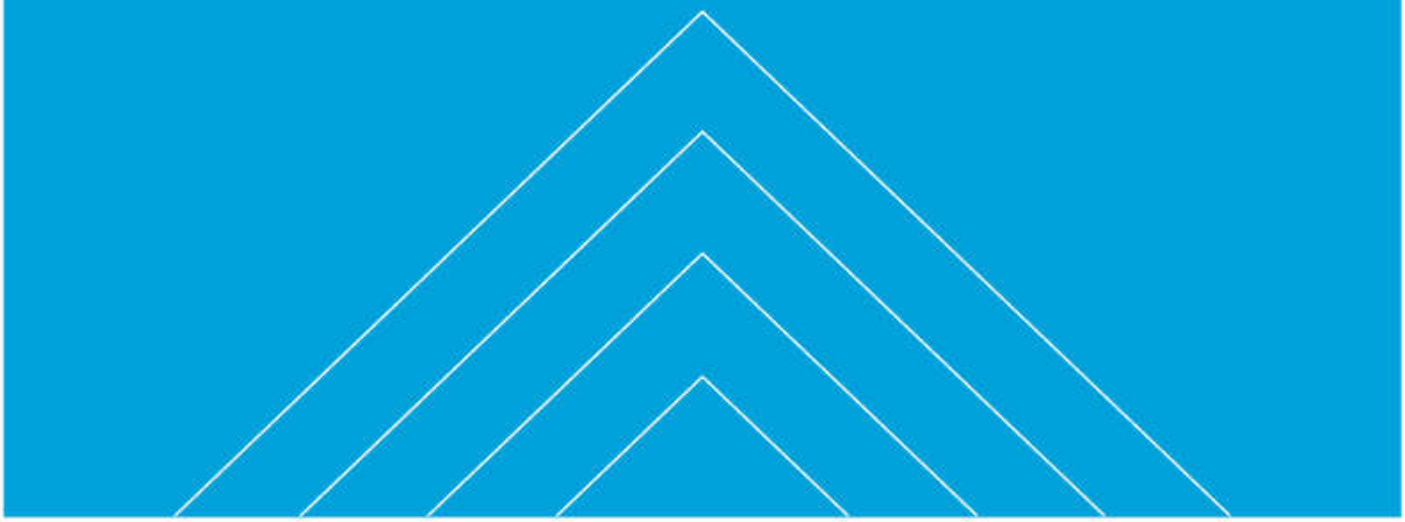
It is clear that national investment in public transport such as the BusConnects initiatives, the Luas extension to Finglas and the identification of Charlestown as a major public transport terminus, will further improve capacities, frequencies and above all reliability of the adjacent bus network to the city centre and other key destinations such as Blanchardstown, Swords and the Airport. These transport infrastructural developments would induce a modal shift from private cars to public transport thereby limiting or precluding the potential for background traffic growth in the area.

As such given the location of the site, existing good level of public transport provision and the future provision of public transport, it is considered that the proposed site is ideally suited for the development of high-density housing.

Furthermore, measures intrinsic to the proposed development, such as a reduced car parking provision, a car sharing scheme, high quality bicycle parking facilities and tailored travel information packs, which will promote low car ownership and encourage sustainable and alternative transport choices to the future inhabitants will be provided.

In overall terms the proposed development will have an acceptable level of vehicular traffic impact on the adjacent local and strategic road network.

Appendices



Appendix A. Traffic Survey

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 1
Date: 15/10/2016

Notes: -

Entry : Arm A - R135 (N)

	Destination : Arm A - R135 (N)								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - R135 (S)								Destination : Arm D - Charlestown Avenue (W)								Arm
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
07:00	0	0	0	0	0	0	0	0	12	2	1	1	0	0	0	16	47	14	1	1	1	0	0	64	0	1	0	0	0	0	0	1	81
07:15	0	0	0	0	0	0	0	0	20	7	3	0	0	0	0	30	61	9	3	0	1	0	0	74	3	2	0	1	0	0	0	6	110
07:30	0	0	0	0	0	0	0	0	16	5	0	2	0	0	0	23	74	28	5	1	2	0	0	110	2	1	1	0	0	0	0	4	137
07:45	0	0	0	0	0	0	0	0	24	7	2	2	0	0	0	35	71	17	2	2	0	0	0	92	7	4	0	0	0	0	0	11	138
1 Hr	0	0	0	0	0	0	0	0	72	21	6	5	0	0	0	104	253	68	11	4	4	0	0	340	12	8	1	1	0	0	0	22	466
08:00	0	0	0	0	0	0	0	0	19	9	2	0	0	0	0	30	75	18	2	1	2	0	0	98	4	4	0	0	0	0	0	8	136
08:15	0	0	0	0	0	0	0	0	20	0	0	1	0	0	0	21	89	18	5	1	1	1	0	115	4	4	0	0	0	0	0	8	144
08:30	0	0	0	0	0	0	0	0	36	7	0	1	0	2	0	46	109	23	1	1	2	2	0	138	12	1	0	0	0	0	0	13	197
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1 Hr	0	0	0	0	0	0	0	0	130	22	3	2	0	3	0	160	408	87	10	4	6	3	0	518	40	10	2	0	0	0	0	52	730
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09:15	0	0	0	0	0	0	0	0	42	7	1	4	0	1	0	55	117	24	2	1	0	0	0	144	16	6	2	0	0	0	0	24	223
09:30	0	0	0	0	0	0	0	0	64	7	1	3	0	0	0	75	150	28	4	1	0	0	0	183	15	6	2	0	0	0	0	23	281
09:45	1	0	0	0	0	0	0	1	78	7	1	4	0	0	0	90	129	30	1	0	1	0	0	161	37	1	1	0	0	0	0	39	291
1 Hr	2	0	0	0	0	0	0	2	226	32	6	11	2	1	0	278	493	97	8	3	3	0	0	604	84	18	8	1	0	0	0	111	995
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10:15	0	0	0	0	0	0	0	0	61	8	1	1	0	1	0	72	141	18	3	2	1	0	0	165	17	2	0	0	0	0	0	19	256
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11:15	1	0	0	0	0	0	0	1	92	14	0	2	0	0	0	108	173	25	5	2	1	0	0	206	20	5	0	0	0	0	0	25	340
11:30	0	0	0	0	0	0	0	0	121	9	2	0	0	1	0	133	160	21	1	0	2	1	0	185	26	4	2	0	0	0	0	32	350
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Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 1
Date: 15/10/2016

Notes: -

Entry : Arm A - R135 (N)

	Destination : Arm A - R135 (N)								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - R135 (S)								Destination : Arm D - Charlestown Avenue (W)								Arm
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
13:00	0	0	0	0	0	0	0	0	109	9	1	1	0	1	0	121	188	31	4	0	1	1	0	225	16	1	0	0	0	0	0	17	363
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13:30	0	0	0	0	0	0	0	0	103	12	2	0	0	0	0	117	197	17	0	0	0	0	0	214	13	1	0	0	0	0	0	14	345
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14:00	1	0	0	0	0	0	0	1	119	14	0	1	0	0	0	134	201	29	1	1	0	0	0	232	13	5	3	0	0	0	0	21	388
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15:30	0	0	0	0	0	0	0	0	129	5	1	0	0	0	0	135	168	20	3	0	0	0	16	207	19	4	0	0	0	0	0	23	365
15:45	0	0	0	0	0	0	0	0	113	6	3	0	0	3	0	125	174	16	1	0	2	0	0	193	13	2	1	0	0	0	0	16	334
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16:15	0	0	0	0	0	0	0	0	99	8	1	0	0	1	0	109	162	4	2	0	1	0	0	169	14	0	0	0	0	0	0	14	292
16:30	0	0	0	0	0	0	0	0	108	1	0	0	0	1	0	110	170	15	0	0	2	1	0	188	9	0	0	0	0	0	0	9	307
16:45	0	0	0	0	0	0	0	0	99	8	1	0	0	0	0	108	144	18	0	0	2	3	0	167	9	1	0	0	0	0	0	10	285
1 Hr	0	1	0	0	0	0	0	1	412	23	2	2	0	3	0	442	639	54	2	0	8	4	37	744	41	6	0	0	0	0	0	47	1234
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17:15	3	0	0	0	0	0	0	3	135	7	4	0	0	0	0	146	170	5	0	0	1	0	0	176	3	2	0	0	0	0	0	5	330
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18:15	0	0	0	0	0	0	0	0	99	6	1	0	0	0	0	106	169	11	0	0	1	0	0	181	2	0	0	0	0	0	0	2	289
18:30	1	0	0	0	0	0	0	1	86	8	0	0	0	0	0	94	191	9	1	0	1	0	0	202	5	0	0	0	0	0	0	5	302
18:45	0	0	0	0	0	0	0	0	98	8	2	0	0	0	0	108	143	7	0	1	0	0	0	151	0	0	0	0	0	0	0	0	259
1 Hr	1	0	0	0	0	0	0	1	371	29	4	0	0	0	0	404	660	31	3	1	3	0	0	698	8	2	0	0	0	0	0	10	1113
6 Hrs	8	2	0	0	0	0	0	10	2655	179	31	11	0	17	0	2893	4229	365	30	8	33	10	54	4729	273	42	8	1	1	1	2	328	7960
Total	11	3	0	0	0	0	0	14	4217	376	66	46	2	28	0	4735	7462	866	93	32	60	18	54	8585	656	126	24	5	1	2	2	816	14150
Check								14								4735								8585								816	14150

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
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	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
07:00	15	3	2	1	0	0	0	21	0	0	0	0	0	0	0	0	4	2	1	0	0	0	0	7	0	0	0	0	0	0	0	0	28
07:15	11	4	2	4	0	0	0	21	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5	0	1	0	0	0	0	0	1	27
07:30	16	9	4	0	0	0	0	29	0	0	0	0	0	0	0	0	11	0	0	2	0	0	0	13	2	1	0	0	0	0	1	4	46
07:45	20	9	3	2	0	1	0	35	0	0	0	0	0	0	0	0	9	2	0	0	0	0	0	11	3	0	0	0	0	0	0	3	49
1 Hr	62	25	11	7	0	1	0	106	0	0	0	0	0	0	0	0	28	5	1	2	0	0	0	36	5	2	0	0	0	0	1	8	150
08:00	14	3	3	0	0	0	0	20	0	0	0	0	0	0	0	0	10	1	0	0	1	0	0	12	3	0	0	0	0	0	0	3	35
08:15	13	14	3	1	0	0	0	31	0	0	0	0	0	0	0	0	7	1	3	0	0	0	0	11	2	1	0	1	0	0	1	5	47
08:30	26	10	1	1	0	0	0	38	0	0	0	0	0	0	0	0	12	3	0	0	0	0	0	15	2	0	0	0	0	0	0	2	55
08:45	32	9	0	1	0	0	0	42	0	0	0	0	0	0	0	0	17	2	0	0	0	0	0	19	5	0	0	0	0	0	0	5	66
1 Hr	85	36	7	3	0	0	0	131	0	0	0	0	0	0	0	0	46	7	3	0	1	0	0	57	12	1	0	1	0	0	1	15	203
09:00	31	8	3	4	0	0	0	46	0	0	0	0	0	0	0	0	19	2	0	0	0	0	0	21	5	2	0	0	0	0	0	7	74
09:15	46	8	2	1	0	2	0	59	0	0	0	0	0	0	0	0	16	1	0	0	0	0	0	17	2	1	0	0	0	0	0	3	79
09:30	52	4	1	0	1	0	0	58	0	0	0	0	0	0	0	0	15	3	0	1	0	0	0	19	5	0	0	0	0	0	0	5	82
09:45	50	11	1	0	0	0	0	62	0	0	0	0	0	0	0	0	16	2	0	0	0	0	0	18	5	2	0	0	0	0	0	7	87
1 Hr	179	31	7	5	1	2	0	225	0	0	0	0	0	0	0	0	66	8	0	1	0	0	0	75	17	5	0	0	0	0	0	22	322
10:00	46	2	2	2	0	0	0	52	0	0	0	0	0	0	0	0	14	2	1	1	0	0	0	18	4	2	0	0	0	0	0	6	76
10:15	54	5	2	1	0	0	0	62	0	0	0	0	0	0	0	0	17	4	0	0	0	0	0	21	10	0	0	0	0	0	0	10	93
10:30	55	10	2	0	1	0	0	68	0	0	0	0	0	0	0	0	20	4	0	1	1	0	0	26	8	3	0	0	0	0	0	11	105
10:45	50	7	3	2	0	0	0	62	0	0	0	0	0	0	0	0	24	2	0	0	0	0	0	26	3	1	0	0	0	0	0	4	92
1 Hr	205	24	9	5	1	0	0	244	0	0	0	0	0	0	0	0	75	12	1	2	1	0	0	91	25	6	0	0	0	0	0	31	366
11:00	63	7	0	2	0	0	0	72	0	0	0	0	0	0	0	0	40	8	0	0	0	1	0	49	3	0	0	0	0	0	0	3	124
11:15	56	7	3	1	0	0	0	67	0	0	0	0	0	0	0	0	26	4	0	0	0	0	0	30	3	0	0	0	0	0	0	3	100
11:30	66	5	0	3	0	0	0	74	0	0	0	0	0	0	0	0	33	1	0	0	0	0	0	34	7	0	0	0	0	0	0	7	115
11:45	76	6	3	0	0	1	0	86	0	0	0	0	0	0	0	0	49	4	1	0	0	0	0	54	6	1	0	0	0	0	0	7	147
1 Hr	261	25	6	6	0	1	0	299	0	0	0	0	0	0	0	0	148	17	1	0	0	1	0	167	19	1	0	0	0	0	0	20	486
12:00	60	3	1	0	0	1	0	65	0	0	0	0	0	0	0	0	49	1	0	0	0	0	0	50	7	1	0	0	0	0	0	8	123
12:15	74	14	0	1	0	0	0	89	0	0	0	0	0	0	0	0	52	3	0	0	0	0	0	55	7	1	0	0	0	0	0	8	152
12:30	72	8	2	2	0	1	0	85	0	0	0	0	0	0	0	0	64	5	0	0	0	0	0	69	4	1	0	0	0	0	0	5	159
12:45	84	5	2	1	0	0	0	92	0	0	0	0	0	0	0	0	68	2	0	0	0	0	0	70	5	0	0	0	0	0	0	5	167
1 Hr	290	30	5	4	0	2	0	331	0	0	0	0	0	0	0	0	233	11	0	0	0	0	0	244	23	3	0	0	0	0	0	26	601
6 Hrs	1082	171	45	30	2	6	0	1336	0	0	0	0	0	0	0	0	596	60	6	5	2	1	0	670	101	18	0	1	0	0	2	122	2128

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 1
Date: 15/10/2016

Notes: -

Entry : Arm B - Charlestown Avenue (E)

	Destination : Arm A - R135 (N)								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - R135 (S)								Destination : Arm D - Charlestown Avenue (W)								Arm
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
13:00	75	11	1	0	0	1	0	88	0	0	0	0	0	0	0	0	71	6	1	0	1	1	0	80	8	0	0	0	0	0	0	8	176
13:15	77	11	1	0	0	0	0	89	0	0	0	0	0	0	0	0	57	4	0	0	2	1	0	64	3	0	0	0	0	0	0	3	156
13:30	91	3	0	0	0	0	0	94	0	0	0	0	0	0	0	0	41	5	0	0	1	0	0	47	3	0	0	0	0	0	0	3	144
13:45	72	4	2	1	0	1	0	80	0	0	0	0	0	0	0	0	81	9	1	0	0	0	0	91	3	1	0	0	0	0	0	4	175
1 Hr	315	29	4	1	0	2	0	351	0	0	0	0	0	0	0	0	250	24	2	0	4	2	0	282	17	1	0	0	0	0	0	18	651
14:00	91	12	1	0	0	1	0	105	0	0	0	0	0	0	0	0	60	6	0	0	0	0	0	66	3	0	1	0	0	0	0	4	175
14:15	70	7	1	0	0	3	0	81	0	0	0	0	0	0	0	0	56	3	1	0	1	0	0	61	6	0	0	0	0	0	0	6	148
14:30	76	9	2	0	0	2	0	89	0	0	0	0	0	0	0	0	55	4	3	0	0	0	0	62	3	0	0	0	0	0	0	3	154
14:45	86	4	0	0	0	0	0	90	0	0	0	0	0	0	0	0	79	6	0	0	3	1	0	89	1	0	1	0	0	0	0	2	181
1 Hr	323	32	4	0	0	6	0	365	0	0	0	0	0	0	0	0	250	19	4	0	4	1	0	278	13	0	2	0	0	0	0	15	658
15:00	86	5	1	0	0	0	0	92	0	0	0	0	0	0	0	0	65	3	0	0	0	0	0	68	4	0	0	0	0	0	0	4	164
15:15	82	7	1	0	0	0	0	90	0	0	0	0	0	0	0	0	59	2	0	0	0	1	0	62	0	0	0	0	0	0	1	1	153
15:30	78	3	1	0	0	2	0	84	0	0	0	0	0	0	0	0	73	3	0	0	0	0	0	76	3	0	0	0	0	0	0	3	163
15:45	95	7	0	0	0	2	0	104	0	0	0	0	0	0	0	0	72	5	0	0	0	1	0	78	0	1	0	0	0	0	0	1	183
1 Hr	341	22	3	0	0	4	0	370	0	0	0	0	0	0	0	0	269	13	0	0	0	2	0	284	7	1	0	0	0	0	1	9	663
16:00	75	6	1	0	0	2	0	84	0	0	0	0	0	0	0	0	66	4	0	0	0	1	0	71	1	0	0	0	0	0	0	1	156
16:15	85	5	0	0	0	0	0	90	0	0	0	0	0	0	0	0	58	2	0	0	0	0	0	60	1	0	0	0	0	0	0	1	151
16:30	73	6	1	1	0	0	0	81	0	0	0	0	0	0	0	0	53	4	0	0	1	0	0	58	0	0	0	0	0	0	0	0	139
16:45	80	4	1	0	0	0	0	85	0	0	0	0	0	0	0	0	52	2	0	0	0	0	0	54	5	0	0	0	0	0	0	5	144
1 Hr	313	21	3	1	0	2	0	340	0	0	0	0	0	0	0	0	229	12	0	0	1	1	0	243	7	0	0	0	0	0	0	7	590
17:00	86	8	0	0	0	2	0	96	1	0	0	0	0	0	0	1	55	1	0	0	0	0	0	56	5	1	0	0	0	0	1	7	160
17:15	72	2	0	0	0	2	0	76	0	0	0	0	0	0	0	0	54	2	0	0	0	0	0	56	1	0	0	0	0	0	0	1	133
17:30	67	1	1	0	0	1	0	70	0	0	0	0	0	0	0	0	48	3	1	0	0	0	0	52	2	0	0	1	0	0	0	3	125
17:45	77	10	0	0	0	2	0	89	0	0	0	0	0	0	0	0	63	0	0	0	0	0	0	63	1	0	0	0	0	0	0	1	153
1 Hr	302	21	1	0	0	7	0	331	1	0	0	0	0	0	0	1	220	6	1	0	0	0	0	227	9	1	0	1	0	0	1	12	571
18:00	102	2	0	1	0	0	0	105	0	0	0	0	0	0	0	0	49	2	0	0	0	0	0	51	1	0	0	0	0	0	0	1	157
18:15	75	3	4	0	0	0	0	82	0	0	0	0	0	0	0	0	45	3	0	0	1	0	0	49	0	1	0	0	0	0	0	1	132
18:30	90	5	0	0	0	0	0	95	0	0	0	0	0	0	0	0	45	1	0	0	0	0	0	46	1	0	0	0	0	0	0	1	142
18:45	72	4	1	0	0	0	0	77	0	0	0	0	0	0	0	0	36	2	0	0	1	0	0	39	0	0	0	0	0	0	0	0	116
1 Hr	339	14	5	1	0	0	0	359	0	0	0	0	0	0	0	0	175	8	0	0	2	0	0	185	2	1	0	0	0	0	0	3	547
6 Hrs	1933	139	20	3	0	21	0	2116	1	0	0	0	0	0	0	1	1393	82	7	0	11	6	0	1499	55	4	2	1	0	0	2	64	3680
Total	3015	310	65	33	2	27	0	3452	1	0	0	0	0	0	0	1	1989	142	13	5	13	7	0	2169	156	22	2	2	0	0	4	186	5808
Check								3452								1								2169								186	5808

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 1
Date: 15/10/2016

Notes: -

Entry : Arm C - R135 (S)

	Destination : Arm A - R135 (N)								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - R135 (S)								Destination : Arm D - Charlestown Avenue (W)								Arm
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
07:00	50	7	3	1	2	0	0	63	3	0	0	0	0	0	0	3	2	0	0	0	0	0	0	2	3	1	0	0	0	0	0	4	72
07:15	48	5	3	1	3	0	0	60	3	1	0	0	2	0	0	6	6	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0	73
07:30	52	6	2	1	2	0	0	63	4	0	0	0	1	0	0	5	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	70
07:45	75	14	5	1	1	0	0	96	5	0	0	1	0	0	1	7	1	1	0	0	0	0	0	2	4	1	1	0	0	0	0	6	111
1 Hr	225	32	13	4	8	0	0	282	15	1	0	1	3	0	1	21	9	2	0	0	0	0	0	11	9	2	1	0	0	0	0	12	326
08:00	57	11	2	0	2	0	0	72	3	0	0	0	0	0	0	3	1	0	0	1	0	0	0	2	4	2	1	0	0	0	0	7	84
08:15	70	17	6	2	1	0	0	96	7	2	1	0	0	1	0	11	3	2	0	0	0	0	0	5	5	1	0	0	0	0	1	7	119
08:30	88	16	3	4	0	0	0	111	3	0	0	0	0	0	0	3	1	0	0	0	0	0	0	1	5	1	0	0	0	0	0	6	121
08:45	105	19	3	2	1	0	0	130	10	2	0	0	0	0	0	12	2	0	0	0	0	0	0	2	6	4	1	0	0	0	0	11	155
1 Hr	320	63	14	8	4	0	0	409	23	4	1	0	0	1	0	29	7	2	0	1	0	0	0	10	20	8	2	0	0	0	1	31	479
09:00	90	17	3	1	1	0	0	112	11	2	0	0	0	0	0	13	2	0	0	0	0	0	0	2	4	4	0	0	0	0	0	8	135
09:15	101	24	2	2	2	0	0	131	7	2	1	0	0	0	0	10	3	1	0	0	0	0	0	4	4	6	1	0	0	0	0	11	156
09:30	143	18	1	1	2	0	0	165	18	2	0	0	0	0	0	20	0	1	1	0	0	0	0	2	4	2	1	0	0	0	0	7	194
09:45	129	25	3	2	2	0	0	161	20	2	0	1	0	0	0	23	5	2	1	0	0	0	0	8	8	1	0	0	0	0	0	9	201
1 Hr	463	84	9	6	7	0	0	569	56	8	1	1	0	0	0	66	10	4	2	0	0	0	0	16	20	13	2	0	0	0	0	35	686
10:00	157	20	1	1	1	0	0	180	19	1	0	0	0	0	0	20	4	2	0	0	0	0	0	6	8	1	0	0	0	0	0	9	215
10:15	119	20	2	3	1	0	0	145	20	3	2	1	0	0	0	26	4	0	0	0	0	0	0	4	8	3	1	0	0	0	0	12	187
10:30	180	23	1	2	0	0	0	206	17	0	0	0	0	0	0	17	4	2	0	0	0	0	0	6	9	3	0	0	0	0	0	12	241
10:45	129	22	7	2	4	0	0	164	27	2	0	0	0	1	0	30	3	1	0	0	0	0	0	4	18	2	0	0	0	0	0	20	218
1 Hr	585	85	11	8	6	0	0	695	83	6	2	1	0	1	0	93	15	5	0	0	0	0	0	20	43	9	1	0	0	0	0	53	861
11:00	147	22	4	3	1	0	0	177	26	2	0	0	1	0	0	29	14	0	0	0	0	0	0	14	6	1	0	1	0	0	0	8	228
11:15	161	25	5	2	3	0	0	196	24	2	0	0	0	0	0	26	8	3	0	0	0	0	0	11	9	3	0	0	0	0	0	12	245
11:30	202	35	5	1	0	0	0	243	35	3	1	0	0	0	0	39	7	2	0	0	0	0	0	9	7	0	0	0	0	0	0	7	298
11:45	214	24	4	1	1	0	0	244	26	3	0	0	0	0	0	29	3	2	0	0	0	0	0	5	5	3	0	0	0	0	1	9	287
1 Hr	724	106	18	7	5	0	0	860	111	10	1	0	1	0	0	123	32	7	0	0	0	0	0	39	27	7	0	1	0	0	1	36	1058
12:00	203	16	8	2	0	0	0	229	28	3	0	0	1	0	0	32	8	2	0	0	0	0	0	10	14	0	0	0	0	0	0	14	285
12:15	226	28	4	1	3	0	0	262	28	2	0	0	0	0	0	30	8	1	0	0	0	0	0	9	8	0	0	0	0	0	0	8	309
12:30	229	27	2	5	1	1	0	265	28	3	0	0	0	0	0	31	2	3	0	0	0	0	0	5	16	1	0	0	0	0	0	17	318
12:45	220	21	2	0	2	2	0	247	35	1	1	0	0	0	0	37	5	1	0	0	0	0	0	6	18	3	1	0	0	0	0	22	312
1 Hr	878	92	16	8	6	3	0	1003	119	9	1	0	1	0	0	130	23	7	0	0	0	0	0	30	56	4	1	0	0	0	0	61	1224
6 Hrs	3195	462	81	41	36	3	0	3818	407	38	6	3	5	2	1	462	96	27	2	1	0	0	0	126	175	43	7	1	0	0	2	228	4634

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 1
Date: 15/10/2016

Notes: -

Entry : Arm C - R135 (S)

	Destination : Arm A - R135 (N)								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - R135 (S)								Destination : Arm D - Charlestown Avenue (W)								Arm
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
13:00	234	15	1	1	0	2	0	253	43	8	0	0	1	0	0	52	7	0	0	0	0	0	0	7	9	0	0	0	0	0	0	9	321
13:15	227	26	1	2	5	0	0	261	26	4	0	0	0	0	0	30	9	0	0	0	0	0	0	9	7	3	0	0	0	0	0	10	310
13:30	222	23	2	0	1	0	0	248	29	2	1	0	0	0	0	32	6	2	0	0	0	0	0	8	13	0	0	0	0	0	1	14	302
13:45	215	33	6	1	4	1	0	260	30	2	0	0	1	0	0	33	9	1	0	0	0	0	0	10	11	0	0	0	0	0	0	11	314
1 Hr	898	97	10	4	10	3	0	1022	128	16	1	0	2	0	0	147	31	3	0	0	0	0	0	34	40	3	0	0	0	0	1	44	1247
14:00	229	16	3	3	0	0	0	251	35	2	1	0	0	0	0	38	5	0	0	0	0	0	0	5	6	2	1	0	0	0	0	9	303
14:15	270	20	1	0	1	2	0	294	29	2	0	0	0	0	0	31	3	2	0	0	0	0	0	5	8	1	0	0	0	0	0	9	339
14:30	213	24	4	0	0	0	0	241	37	6	1	0	1	0	0	45	1	0	0	0	0	0	0	1	7	2	0	0	0	0	0	9	296
14:45	247	17	3	0	1	2	0	270	40	5	0	0	2	0	0	47	5	2	0	0	0	0	0	7	8	0	0	0	0	0	0	8	332
1 Hr	959	77	11	3	2	4	0	1056	141	15	2	0	3	0	0	161	14	4	0	0	0	0	0	18	29	5	1	0	0	0	0	35	1270
15:00	215	33	2	0	3	1	0	254	40	1	0	0	0	1	0	42	6	0	1	0	0	0	0	7	6	1	0	0	0	0	0	7	310
15:15	224	25	4	1	1	1	0	256	28	2	1	0	0	1	0	32	4	1	0	0	0	0	0	5	8	1	0	0	0	0	0	9	302
15:30	254	20	4	0	1	0	0	279	30	1	0	0	0	1	0	32	5	0	0	0	0	0	0	5	7	1	0	0	0	0	1	9	325
15:45	200	27	0	1	1	0	0	229	33	2	0	0	0	0	0	35	3	0	0	0	0	0	0	3	10	1	0	0	0	0	0	11	278
1 Hr	893	105	10	2	6	2	0	1018	131	6	1	0	0	3	0	141	18	1	1	0	0	0	0	20	31	4	0	0	0	0	1	36	1215
16:00	236	21	5	0	4	4	0	270	38	1	0	0	0	0	0	39	3	0	0	0	0	0	0	3	4	2	0	0	0	0	0	6	318
16:15	218	22	2	0	2	0	0	244	28	0	1	0	0	0	0	29	3	0	0	0	0	0	0	3	2	1	0	0	0	0	0	3	279
16:30	198	14	1	0	3	1	0	217	27	1	0	0	1	0	0	29	5	0	0	0	0	0	0	5	2	1	0	0	0	0	0	3	254
16:45	207	21	4	0	1	0	0	233	24	0	0	0	0	0	0	24	7	0	0	0	0	0	0	7	2	1	0	0	0	0	0	3	267
1 Hr	859	78	12	0	10	5	0	964	117	2	1	0	1	0	0	121	18	0	0	0	0	0	0	18	10	5	0	0	0	0	0	15	1118
17:00	220	13	2	0	2	0	0	237	31	3	0	0	0	0	0	34	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	273
17:15	213	17	1	0	1	1	0	233	34	3	0	0	0	0	0	37	6	0	0	0	0	0	0	6	2	0	0	0	0	0	0	2	278
17:30	194	15	0	0	1	0	0	210	41	0	0	0	0	0	0	41	1	0	0	0	0	0	0	1	2	1	0	0	0	0	0	3	255
17:45	210	20	1	0	3	0	0	234	30	2	1	0	0	0	0	33	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	3	271
1 Hr	837	65	4	0	7	1	0	914	136	8	1	0	0	0	0	145	9	0	0	0	0	0	0	9	8	1	0	0	0	0	0	9	1077
18:00	225	16	2	1	3	1	0	248	30	3	0	0	0	0	0	33	3	1	0	0	0	0	0	4	1	0	0	0	0	0	0	1	286
18:15	188	15	1	0	1	0	0	205	31	1	1	0	0	0	0	33	1	1	0	0	0	0	0	2	1	0	0	0	0	0	0	1	241
18:30	177	15	1	1	3	1	0	198	27	0	0	0	0	0	0	27	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2	228
18:45	182	11	0	1	1	1	0	196	29	2	0	0	0	0	0	31	3	0	0	0	0	0	0	3	1	0	0	0	0	0	0	1	231
1 Hr	772	57	4	3	8	3	0	847	117	6	1	0	0	0	0	124	8	2	0	0	0	0	0	10	5	0	0	0	0	0	0	5	986
6 Hrs	5218	479	51	12	43	18	0	5821	770	53	7	0	6	3	0	839	98	10	1	0	0	0	0	109	123	18	1	0	0	0	2	144	6913
Total	8413	941	132	53	79	21	0	9639	1177	91	13	3	11	5	1	1301	194	37	3	1	0	0	0	235	298	61	8	1	0	0	4	372	11547
Check								9639								1301								235								372	11547

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 1
Date: 15/10/2016

Notes: -

Entry : Arm D - Charlestown Avenue (W)

	Destination : Arm A - R135 (N)								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - R135 (S)								Destination : Arm D - Charlestown Avenue (W)								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
07:00	1	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	4
07:15	2	3	2	0	0	0	0	7	0	1	0	0	0	0	0	1	1	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	10
07:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	4
07:45	0	1	3	0	0	0	0	4	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	8
1 Hr	4	4	6	0	0	0	0	14	0	1	0	0	0	0	0	1	6	4	1	0	0	0	0	11	0	0	0	0	0	0	0	0	26
08:00	0	1	0	1	0	0	0	2	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	4
08:15	2	1	1	0	0	0	0	4	1	2	0	0	0	0	0	3	2	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0	11
08:30	2	5	0	0	0	0	0	7	0	1	0	0	0	0	0	1	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	12
08:45	2	6	0	1	0	0	0	9	0	0	0	0	0	0	0	0	3	3	3	0	0	0	0	9	0	0	0	0	0	0	0	0	18
1 Hr	6	13	1	2	0	0	0	22	2	3	0	0	0	0	0	5	8	7	3	0	0	0	0	18	0	0	0	0	0	0	0	0	45
09:00	1	0	3	0	0	0	0	4	6	0	0	0	0	0	0	6	4	3	1	0	0	0	0	8	0	0	0	0	0	0	0	0	18
09:15	11	2	3	0	0	0	0	16	2	1	0	0	0	0	0	3	3	3	0	0	0	0	0	6	0	0	0	0	0	0	0	0	25
09:30	6	4	0	0	0	0	0	10	2	2	0	1	0	0	0	5	3	3	1	0	0	0	0	7	0	0	0	0	0	0	0	0	22
09:45	10	3	1	0	0	0	0	14	2	2	0	0	0	0	0	4	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0	23
1 Hr	28	9	7	0	0	0	0	44	12	5	0	1	0	0	0	18	14	10	2	0	0	0	0	26	0	0	0	0	0	0	0	0	88
10:00	9	3	1	0	0	0	0	13	7	1	0	0	0	0	0	8	4	7	0	0	0	0	0	11	0	0	0	0	0	0	0	0	32
10:15	12	7	1	0	0	0	0	20	6	1	1	0	0	0	0	8	6	4	0	0	0	0	0	10	0	0	0	0	0	0	0	0	38
10:30	11	2	0	1	0	0	0	14	4	1	0	0	0	0	0	5	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	23
10:45	19	2	0	0	0	1	0	22	5	1	0	0	0	0	0	6	7	3	0	0	0	0	0	10	0	0	0	0	0	0	0	0	38
1 Hr	51	14	2	1	0	1	0	69	22	4	1	0	0	0	0	27	21	14	0	0	0	0	0	35	0	0	0	0	0	0	0	0	131
11:00	24	7	0	0	0	0	0	31	4	1	2	0	0	0	0	7	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	39
11:15	16	7	0	0	0	0	0	23	2	1	0	0	0	0	0	3	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	30
11:30	22	4	1	1	0	0	0	28	7	0	0	0	0	0	0	7	5	2	0	0	0	0	0	7	0	0	0	0	0	0	0	0	42
11:45	24	7	0	0	0	0	0	31	11	2	0	0	0	0	0	13	9	2	0	0	0	0	0	11	0	0	0	0	0	0	0	0	55
1 Hr	86	25	1	1	0	0	0	113	24	4	2	0	0	0	0	30	18	5	0	0	0	0	0	23	0	0	0	0	0	0	0	0	166
12:00	33	3	0	1	0	0	0	37	11	1	0	0	0	0	0	12	16	1	0	0	0	0	0	17	0	0	0	0	0	0	0	0	66
12:15	31	2	1	0	0	0	0	34	11	0	0	0	0	0	0	11	13	2	0	0	0	0	0	15	0	0	0	0	0	0	0	0	60
12:30	33	3	2	0	0	0	0	38	4	1	0	0	0	0	0	5	11	1	0	0	0	1	0	13	0	0	0	0	0	0	0	0	56
12:45	20	5	0	0	0	0	0	25	12	0	0	0	0	0	0	12	7	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0	45
1 Hr	117	13	3	1	0	0	0	134	38	2	0	0	0	0	0	40	47	5	0	0	0	1	0	53	0	0	0	0	0	0	0	0	227
6 Hrs	292	78	20	5	0	1	0	396	98	19	3	1	0	0	0	121	114	45	6	0	0	1	0	166	0	0	0	0	0	0	0	0	683

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 1
Date: 15/10/2016

Notes: -

Entry : Arm D - Charlestown Avenue (W)

	Destination : Arm A - R135 (N)								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - R135 (S)								Destination : Arm D - Charlestown Avenue (W)								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
13:00	28	5	0	0	0	0	0	33	11	1	0	1	0	0	0	13	11	2	0	0	0	0	0	13	0	0	0	0	0	0	0	0	59
13:15	20	3	0	0	0	0	0	23	5	0	0	0	0	0	0	5	11	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	39
13:30	13	2	0	0	0	0	1	16	7	0	0	0	0	0	0	7	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	27
13:45	14	0	0	0	0	0	0	14	6	0	0	0	0	0	0	6	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	27
1 Hr	75	10	0	0	0	0	1	86	29	1	0	1	0	0	0	31	32	3	0	0	0	0	0	35	0	0	0	0	0	0	0	0	152
14:00	16	1	0	0	0	0	0	17	2	0	0	0	0	0	0	2	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	27
14:15	16	2	0	2	0	0	0	20	5	4	0	0	0	0	0	9	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	34
14:30	18	2	0	0	0	0	0	20	11	1	0	0	0	0	0	12	12	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	44
14:45	21	4	0	0	0	0	0	25	9	1	0	0	0	0	1	11	8	2	0	0	0	0	0	10	0	0	0	0	0	0	0	0	46
1 Hr	71	9	0	2	0	0	0	82	27	6	0	0	0	0	1	34	33	2	0	0	0	0	0	35	0	0	0	0	0	0	0	0	151
15:00	22	2	0	0	0	0	0	24	9	1	0	0	0	0	0	10	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	42
15:15	14	0	0	0	0	0	0	14	3	0	0	0	0	0	0	3	6	0	1	0	0	0	0	7	0	0	0	0	0	0	0	0	24
15:30	18	1	0	0	0	0	0	19	6	3	0	0	0	0	0	9	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	32
15:45	22	1	0	0	0	0	0	23	5	0	0	0	0	0	0	5	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	31
1 Hr	76	4	0	0	0	0	0	80	23	4	0	0	0	0	0	27	20	1	1	0	0	0	0	22	0	0	0	0	0	0	0	0	129
16:00	16	1	0	0	0	0	0	17	5	0	0	0	0	0	0	5	5	2	0	0	0	0	0	7	0	0	0	0	0	0	0	0	29
16:15	9	0	0	0	0	0	0	9	2	1	0	0	0	0	0	3	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	16
16:30	17	4	0	0	0	0	0	21	2	0	0	0	0	0	0	2	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0	28
16:45	34	1	0	0	0	0	0	35	6	0	0	0	0	0	0	6	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	48
1 Hr	76	6	0	0	0	0	0	82	15	1	0	0	0	0	0	16	20	3	0	0	0	0	0	23	0	0	0	0	0	0	0	0	121
17:00	15	2	0	0	0	0	0	17	1	0	0	0	0	0	0	1	5	3	0	0	0	0	0	8	0	0	0	0	0	0	0	0	26
17:15	11	4	0	0	0	0	0	15	4	1	0	0	0	0	0	5	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	22
17:30	15	2	0	0	0	0	0	17	2	1	0	0	0	0	0	3	5	1	0	0	0	0	0	6	0	0	0	0	0	0	0	0	26
17:45	13	1	1	0	0	0	0	15	0	0	0	0	0	0	1	1	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	19
1 Hr	54	9	1	0	0	0	0	64	7	2	0	0	0	0	1	10	15	4	0	0	0	0	0	19	0	0	0	0	0	0	0	0	93
18:00	10	1	0	1	0	0	0	12	2	0	0	1	0	0	1	4	4	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	21
18:15	13	1	0	0	0	0	0	14	2	0	0	0	0	0	0	2	1	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	18
18:30	3	2	0	0	0	0	0	5	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	7
18:45	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	3
1 Hr	28	4	0	1	0	0	0	33	4	0	0	1	0	0	1	6	6	1	0	0	1	0	1	9	1	0	0	0	0	0	0	1	49
6 Hrs	380	42	1	3	0	0	1	427	105	14	0	2	0	0	3	124	126	14	1	0	1	0	1	143	1	0	0	0	0	0	0	1	695
Total	672	120	21	8	0	1	1	823	203	33	3	3	0	0	3	245	240	59	7	0	1	1	1	309	1	0	0	0	0	0	0	1	1378
Check								823								245								309								1	1378

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 1
Date: 15/10/2016

Notes: -

ORIGIN SUMMARY

	Origin : Arm A - R135 (N)								Origin : Arm B - Charlestown Avenue (E)								Origin : Arm C - R135 (S)								Origin : Arm D - Charlestown Avenue (W)								Origin Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
07:00	59	17	2	2	1	0	0	81	19	5	3	1	0	0	0	28	58	8	3	1	2	0	0	72	3	0	1	0	0	0	0	4	185
07:15	84	18	6	1	1	0	0	110	15	6	2	4	0	0	0	27	57	7	3	1	5	0	0	73	3	4	3	0	0	0	0	10	220
07:30	92	34	6	3	2	0	0	137	29	10	4	2	0	0	1	46	58	6	2	1	3	0	0	70	1	3	0	0	0	0	0	4	257
07:45	102	28	4	4	0	0	0	138	32	11	3	2	0	1	0	49	85	16	6	2	1	0	1	111	3	2	3	0	0	0	0	8	306
1 Hr	337	97	18	10	4	0	0	466	95	32	12	9	0	1	1	150	258	37	14	5	11	0	1	326	10	9	7	0	0	0	0	26	968
08:00	98	31	4	1	2	0	0	136	27	4	3	0	1	0	0	35	65	13	3	1	2	0	0	84	1	2	0	1	0	0	0	4	259
08:15	113	22	5	2	1	1	0	144	22	16	6	2	0	0	1	47	85	22	7	2	1	1	1	119	5	5	1	0	0	0	0	11	321
08:30	157	31	1	2	2	4	0	197	40	13	1	1	0	0	0	55	97	17	3	4	0	0	0	121	5	7	0	0	0	0	0	12	385
08:45	210	35	5	1	1	1	0	253	54	11	0	1	0	0	0	66	123	25	4	2	1	0	0	155	5	9	3	1	0	0	0	18	492
1 Hr	578	119	15	6	6	6	0	730	143	44	10	4	1	0	1	203	370	77	17	9	4	1	1	479	16	23	4	2	0	0	0	45	1457
09:00	156	31	7	2	4	0	0	200	55	12	3	4	0	0	0	74	107	23	3	1	1	0	0	135	11	3	4	0	0	0	0	18	427
09:15	175	37	5	5	0	1	0	223	64	10	2	1	0	2	0	79	115	33	4	2	2	0	0	156	16	6	3	0	0	0	0	25	483
09:30	229	41	7	4	0	0	0	281	72	7	1	1	1	0	0	82	165	23	3	1	2	0	0	194	11	9	1	1	0	0	0	22	579
09:45	245	38	3	4	1	0	0	291	71	15	1	0	0	0	0	87	162	30	4	3	2	0	0	201	16	6	1	0	0	0	0	23	602
1 Hr	805	147	22	15	5	1	0	995	262	44	7	6	1	2	0	322	549	109	14	7	7	0	0	686	54	24	9	1	0	0	0	88	2091
10:00	236	39	5	8	1	0	0	289	64	6	3	3	0	0	0	76	188	24	1	1	1	0	0	215	20	11	1	0	0	0	0	32	612
10:15	219	28	4	3	1	1	0	256	81	9	2	1	0	0	0	93	151	26	5	4	1	0	0	187	24	12	2	0	0	0	0	38	574
10:30	244	37	8	5	4	0	0	298	83	17	2	1	2	0	0	105	210	28	1	2	0	0	0	241	19	3	0	1	0	0	0	23	667
10:45	259	31	3	3	0	2	0	298	77	10	3	2	0	0	0	92	177	27	7	2	4	1	0	218	31	6	0	0	0	1	0	38	646
1 Hr	958	135	20	19	6	3	0	1141	305	42	10	7	2	0	0	366	726	105	14	9	6	1	0	861	94	32	3	1	0	1	0	131	2499
11:00	243	33	6	1	1	0	0	284	106	15	0	2	0	1	0	124	193	25	4	4	2	0	0	228	28	9	2	0	0	0	0	39	675
11:15	286	44	5	4	1	0	0	340	85	11	3	1	0	0	0	100	202	33	5	2	3	0	0	245	22	8	0	0	0	0	0	30	715
11:30	307	34	5	0	2	2	0	350	106	6	0	3	0	0	0	115	251	40	6	1	0	0	0	298	34	6	1	1	0	0	0	42	805
11:45	335	38	7	5	0	1	0	386	131	11	4	0	0	1	0	147	248	32	4	1	1	0	1	287	44	11	0	0	0	0	0	55	875
1 Hr	1171	149	23	10	4	3	0	1360	428	43	7	6	0	2	0	486	894	130	19	8	6	0	1	1058	128	34	3	1	0	0	0	166	3070
12:00	324	33	4	0	1	3	0	365	116	5	1	0	0	1	0	123	253	21	8	2	1	0	0	285	60	5	0	1	0	0	0	66	839
12:15	326	40	2	1	2	1	0	372	133	18	0	1	0	0	0	152	270	31	4	1	3	0	0	309	55	4	1	0	0	0	0	60	893
12:30	331	30	5	1	1	0	0	368	140	14	2	2	0	1	0	159	275	34	2	5	1	1	0	318	48	5	2	0	0	1	0	56	901
12:45	351	33	5	1	0	3	0	393	157	7	2	1	0	0	0	167	278	26	4	0	2	2	0	312	39	6	0	0	0	0	0	45	917
1 Hr	1332	136	16	3	4	7	0	1498	546	44	5	4	0	2	0	601	1076	112	18	8	7	3	0	1224	202	20	3	1	0	1	0	227	3550
6 Hrs	5181	783	114	63	29	20	0	6190	1779	249	51	36	4	7	2	2128	3873	570	96	46	41	5	3	4634	504	142	29	6	0	2	0	683	13635

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 1
Date: 15/10/2016

Notes: -

ORIGIN SUMMARY

	Origin :	Arm A - R135 (N)							Origin :	Arm B - Charlestown Avenue (E)							Origin :	Arm C - R135 (S)							Origin :	Arm D - Charlestown Avenue (W)							Origin
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
13:00	313	41	5	1	1	2	0	363	154	17	2	0	1	2	0	176	293	23	1	1	1	2	0	321	50	8	0	1	0	0	0	59	919
13:15	333	33	2	4	5	3	0	380	137	15	1	0	2	1	0	156	269	33	1	2	5	0	0	310	36	3	0	0	0	0	0	39	885
13:30	313	30	2	0	0	0	0	345	135	8	0	0	1	0	0	144	270	27	3	0	1	0	1	302	23	3	0	0	0	0	1	27	818
13:45	323	24	2	2	3	1	0	355	156	14	3	1	0	1	0	175	265	36	6	1	5	1	0	314	27	0	0	0	0	0	0	27	871
1 Hr	1282	128	11	7	9	6	0	1443	582	54	6	1	4	4	0	651	1097	119	11	4	12	3	1	1247	136	14	0	1	0	0	1	152	3493
14:00	334	48	4	2	0	0	0	388	154	18	2	0	0	1	0	175	275	20	5	3	0	0	0	303	26	1	0	0	0	0	0	27	893
14:15	328	35	5	3	2	0	2	375	132	10	2	0	1	3	0	148	310	25	1	0	1	2	0	339	26	6	0	2	0	0	0	34	896
14:30	332	30	3	1	2	2	0	370	134	13	5	0	0	2	0	154	258	32	5	0	1	0	0	296	41	3	0	0	0	0	0	44	864
14:45	348	29	7	0	0	3	0	387	166	10	1	0	3	1	0	181	300	24	3	0	3	2	0	332	38	7	0	0	0	0	1	46	946
1 Hr	1342	142	19	6	4	5	2	1520	586	51	10	0	4	7	0	658	1143	101	14	3	5	4	0	1270	131	17	0	2	0	0	1	151	3599
15:00	329	19	3	1	1	1	0	354	155	8	1	0	0	0	0	164	267	35	3	0	3	2	0	310	39	3	0	0	0	0	0	42	870
15:15	333	29	6	0	1	2	0	371	141	9	1	0	0	1	1	153	264	29	5	1	1	2	0	302	23	0	1	0	0	0	0	24	850
15:30	316	29	4	0	0	0	16	365	154	6	1	0	0	2	0	163	296	22	4	0	1	1	1	325	27	5	0	0	0	0	0	32	885
15:45	300	24	5	0	2	3	0	334	167	13	0	0	0	3	0	183	246	30	0	1	1	0	0	278	30	1	0	0	0	0	0	31	826
1 Hr	1278	101	18	1	4	6	16	1424	617	36	3	0	0	6	1	663	1073	116	12	2	6	5	1	1215	119	9	1	0	0	0	0	129	3431
16:00	278	29	0	2	3	1	37	350	142	10	1	0	0	3	0	156	281	24	5	0	4	4	0	318	26	3	0	0	0	0	0	29	853
16:15	275	12	3	0	1	1	0	292	144	7	0	0	0	0	0	151	251	23	3	0	2	0	0	279	15	1	0	0	0	0	0	16	738
16:30	287	16	0	0	2	2	0	307	126	10	1	1	1	0	0	139	232	16	1	0	4	1	0	254	23	5	0	0	0	0	0	28	728
16:45	252	27	1	0	2	3	0	285	137	6	1	0	0	0	0	144	240	22	4	0	1	0	0	267	47	1	0	0	0	0	0	48	744
1 Hr	1092	84	4	2	8	7	37	1234	549	33	3	1	1	3	0	590	1004	85	13	0	11	5	0	1118	111	10	0	0	0	0	0	121	3063
17:00	277	19	3	1	1	0	1	302	147	10	0	0	0	2	1	160	253	16	2	0	2	0	0	273	21	5	0	0	0	0	0	26	761
17:15	311	14	4	0	1	0	0	330	127	4	0	0	0	2	0	133	255	20	1	0	1	1	0	278	17	5	0	0	0	0	0	22	763
17:30	274	15	2	0	1	2	0	294	117	4	2	1	0	1	0	125	238	16	0	0	1	0	0	255	22	4	0	0	0	0	0	26	700
17:45	269	23	1	2	3	2	0	300	141	10	0	0	0	2	0	153	244	22	2	0	3	0	0	271	16	1	1	0	0	0	1	19	743
1 Hr	1131	71	10	3	6	4	1	1226	532	28	2	1	0	7	1	571	990	74	5	0	7	1	0	1077	76	15	1	0	0	0	1	93	2967
18:00	246	13	3	0	1	0	0	263	152	4	0	1	0	0	0	157	259	20	2	1	3	1	0	286	16	1	0	2	0	0	2	21	727
18:15	270	17	1	0	1	0	0	289	120	7	4	0	1	0	0	132	221	17	2	0	1	0	0	241	16	1	0	0	1	0	0	18	680
18:30	283	17	1	0	1	0	0	302	136	6	0	0	0	0	0	142	207	15	1	1	3	1	0	228	4	3	0	0	0	0	0	7	679
18:45	241	15	2	1	0	0	0	259	108	6	1	0	1	0	0	116	215	13	0	1	1	1	0	231	3	0	0	0	0	0	0	3	609
1 Hr	1040	62	7	1	3	0	0	1113	516	23	5	1	2	0	0	547	902	65	5	3	8	3	0	986	39	5	0	2	1	0	2	49	2695
6 Hrs	7165	588	69	20	34	28	56	7960	3382	225	29	4	11	27	2	3680	6209	560	60	12	49	21	2	6913	612	70	2	5	1	0	5	695	19248
Total	12346	1371	183	83	63	48	56	14150	5161	474	80	40	15	34	4	5808	10082	1130	156	58	90	26	5	11547	1116	212	31	11	1	2	5	1378	32883
Check								14150								5808								11547								1378	32883

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 1
Date: 15/10/2016

Notes: -

DESTINATION SUMMARY

	Destination : Arm A - R135 (N)								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - R135 (S)								Destination : Arm D - Charlestown Avenue (W)								Dest
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
07:00	66	10	6	2	2	0	0	86	15	2	1	1	0	0	0	19	55	16	2	1	1	0	0	75	3	2	0	0	0	0	0	5	185
07:15	61	12	7	5	3	0	0	88	23	9	3	0	2	0	0	37	72	11	4	0	1	0	0	88	3	3	0	1	0	0	0	7	220
07:30	69	15	6	1	2	0	0	93	20	5	0	2	1	0	0	28	85	31	5	3	2	0	0	126	6	2	1	0	0	0	1	10	257
07:45	95	24	11	3	1	1	0	135	29	7	2	3	0	0	1	42	84	21	2	2	0	0	0	109	14	5	1	0	0	0	0	20	306
1 Hr	291	61	30	11	8	1	0	402	87	23	6	6	3	0	1	126	296	79	13	6	4	0	0	398	26	12	2	1	0	0	1	42	968
08:00	71	15	5	1	2	0	0	94	23	9	2	0	0	0	0	34	86	20	2	2	3	0	0	113	11	6	1	0	0	0	0	18	259
08:15	85	32	10	3	1	0	0	131	28	4	1	1	0	1	0	35	101	23	8	1	1	1	0	135	11	6	0	1	0	0	2	20	321
08:30	116	31	4	5	0	0	0	156	39	8	0	1	0	2	0	50	125	27	1	1	2	2	0	158	19	2	0	0	0	0	0	21	385
08:45	139	34	3	4	1	0	0	181	65	8	1	0	0	1	0	75	157	33	5	1	1	0	0	197	31	5	3	0	0	0	0	39	492
1 Hr	411	112	22	13	4	0	0	562	155	29	4	2	0	4	0	194	469	103	16	5	7	3	0	603	72	19	4	1	0	0	2	98	1457
09:00	123	25	9	5	1	0	0	163	59	13	3	0	2	0	0	77	122	20	2	1	2	0	0	147	25	11	3	1	0	0	0	40	427
09:15	158	34	7	3	2	2	0	206	51	10	2	4	0	1	0	68	139	29	2	1	0	0	0	171	22	13	3	0	0	0	0	38	483
09:30	201	26	2	1	3	0	0	233	84	11	1	4	0	0	0	100	168	35	6	2	0	0	0	211	24	8	3	0	0	0	0	35	579
09:45	190	39	5	2	2	0	0	238	100	11	1	5	0	0	0	117	154	35	2	0	1	0	0	192	50	4	1	0	0	0	0	55	602
1 Hr	672	124	23	11	8	2	0	840	294	45	7	13	2	1	0	362	583	119	12	4	3	0	0	721	121	36	10	1	0	0	0	168	2091
10:00	212	25	4	3	1	0	0	245	94	13	2	5	0	0	0	114	170	35	4	4	1	0	0	214	32	7	0	0	0	0	0	39	612
10:15	185	32	5	4	1	0	0	227	87	12	4	2	0	1	0	106	168	26	3	2	1	0	0	200	35	5	1	0	0	0	0	41	574
10:30	246	36	3	3	1	0	0	289	90	11	3	4	0	0	0	108	182	28	5	2	5	0	0	222	38	10	0	0	0	0	0	48	667
10:45	198	31	10	4	4	1	0	248	109	12	2	2	0	2	0	127	196	23	0	1	0	1	0	221	41	8	1	0	0	0	0	50	646
1 Hr	841	124	22	14	7	1	0	1009	380	48	11	13	0	3	0	455	716	112	12	9	7	1	0	857	146	30	2	0	0	0	0	178	2499
11:00	234	36	4	5	1	0	0	280	104	8	5	1	1	0	0	119	204	33	2	0	1	1	0	241	28	5	1	1	0	0	0	35	675
11:15	234	39	8	3	3	0	0	287	118	17	0	2	0	0	0	137	211	32	5	2	1	0	0	251	32	8	0	0	0	0	0	40	715
11:30	290	44	6	5	0	0	0	345	163	12	3	0	0	1	0	179	205	26	1	0	2	1	0	235	40	4	2	0	0	0	0	46	805
11:45	314	37	7	1	1	1	0	361	133	19	3	1	0	1	0	157	277	28	5	3	0	0	0	313	34	8	0	1	0	0	1	44	875
1 Hr	1072	156	25	14	5	1	0	1273	518	56	11	4	1	2	0	592	897	119	13	5	4	2	0	1040	134	25	3	2	0	0	1	165	3070
12:00	296	22	9	3	0	1	0	331	135	16	0	0	1	1	0	153	275	24	4	0	1	1	0	305	47	2	0	0	0	1	0	50	839
12:15	331	44	5	2	3	0	0	385	181	9	1	0	0	1	0	192	240	32	0	0	2	0	0	274	32	8	1	1	0	0	0	42	893
12:30	334	38	6	7	1	2	0	388	150	16	2	0	0	0	0	168	269	25	3	1	1	1	0	300	41	4	0	0	0	0	0	45	901
12:45	324	31	4	1	2	2	0	364	167	12	2	1	0	1	0	183	294	20	4	0	0	2	0	320	40	9	1	0	0	0	0	50	917
1 Hr	1285	135	24	13	6	5	0	1468	633	53	5	1	1	3	0	696	1078	101	11	1	4	4	0	1199	160	23	2	1	0	1	0	187	3550
6 Hrs	4572	712	146	76	38	10	0	5554	2067	254	44	39	7	13	1	2425	4039	633	77	30	29	10	0	4818	659	145	23	6	0	1	4	838	13635

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 1
Date: 15/10/2016

Notes: -

DESTINATION SUMMARY

	Destination : Arm A - R135 (N)								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - R135 (S)								Destination : Arm D - Charlestown Avenue (W)								Dest Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
13:00	337	31	2	1	0	3	0	374	163	18	1	2	1	1	0	186	277	39	5	0	2	2	0	325	33	1	0	0	0	0	0	34	919
13:15	324	40	2	2	5	0	0	373	150	12	0	2	0	1	0	165	283	26	1	2	7	2	0	321	18	6	1	0	0	1	0	26	885
13:30	326	28	2	0	1	0	1	358	139	14	3	0	0	0	0	156	247	25	0	0	1	0	0	273	29	1	0	0	0	0	1	31	818
13:45	303	37	8	2	4	2	0	356	156	12	0	2	1	1	0	172	276	23	2	0	3	0	0	304	36	2	1	0	0	0	0	39	871
1 Hr	1290	136	14	5	10	5	1	1461	608	56	4	6	2	3	0	679	1083	113	8	2	13	4	0	1223	116	10	2	0	0	1	1	130	3493
14:00	337	29	4	3	0	1	0	374	156	16	1	1	0	0	0	174	274	35	1	1	0	0	0	311	22	7	5	0	0	0	0	34	893
14:15	356	29	2	2	1	5	0	395	148	16	3	1	0	0	0	168	257	24	3	2	3	0	0	289	35	7	0	0	0	0	2	44	896
14:30	307	35	6	0	0	2	0	350	153	14	2	1	1	2	0	173	266	26	5	0	2	0	0	299	39	3	0	0	0	0	0	42	864
14:45	354	25	3	0	1	2	0	385	174	16	3	0	2	2	1	198	303	27	3	0	3	2	0	338	21	2	2	0	0	0	0	25	946
1 Hr	1354	118	15	5	2	10	0	1504	631	62	9	3	3	4	1	713	1100	112	12	3	8	2	0	1237	117	19	7	0	0	0	2	145	3599
15:00	323	40	3	0	3	1	0	370	167	8	2	0	0	2	0	179	273	14	1	1	1	0	0	290	27	3	1	0	0	0	0	31	870
15:15	320	32	5	1	1	1	0	360	151	11	3	0	0	2	0	167	265	22	5	0	1	2	0	295	25	2	0	0	0	0	1	28	850
15:30	350	24	5	0	1	2	0	382	165	9	1	0	0	1	0	176	249	24	3	0	0	0	16	292	29	5	0	0	0	0	1	35	885
15:45	317	35	0	1	1	2	0	356	151	8	3	0	0	3	0	165	252	21	1	0	2	1	0	277	23	4	1	0	0	0	0	28	826
1 Hr	1310	131	13	2	6	6	0	1468	634	36	9	0	0	8	0	687	1039	81	10	1	4	3	16	1154	104	14	2	0	0	0	2	122	3431
16:00	327	29	6	0	4	6	0	372	149	7	0	2	0	1	0	159	237	23	0	0	3	1	37	301	14	7	0	0	0	0	0	21	853
16:15	312	27	2	0	2	0	0	343	129	9	2	0	0	1	0	141	227	6	2	0	1	0	0	236	17	1	0	0	0	0	0	18	738
16:30	288	24	2	1	3	1	0	319	137	2	0	0	1	1	0	141	232	20	0	0	3	1	0	256	11	1	0	0	0	0	0	12	728
16:45	321	26	5	0	1	0	0	353	129	8	1	0	0	0	0	138	210	20	0	0	2	3	0	235	16	2	0	0	0	0	0	18	744
1 Hr	1248	106	15	1	10	7	0	1387	544	26	3	2	1	3	0	579	906	69	2	0	9	5	37	1028	58	11	0	0	0	0	0	69	3063
17:00	322	24	2	0	2	2	0	352	150	7	1	0	0	0	0	158	214	17	2	1	1	0	1	236	12	2	0	0	0	0	1	15	761
17:15	299	23	1	0	1	3	0	327	173	11	4	0	0	0	0	188	232	7	0	0	1	0	0	240	6	2	0	0	0	0	0	8	763
17:30	276	18	1	0	1	1	0	297	158	4	1	0	0	1	0	164	207	15	2	0	1	1	0	226	10	2	0	1	0	0	0	13	700
17:45	300	31	2	0	3	2	0	338	141	9	2	1	0	1	1	155	216	15	0	0	2	1	0	234	13	1	0	1	1	0	0	16	743
1 Hr	1197	96	6	0	7	8	0	1314	622	31	8	1	0	2	1	665	869	54	4	1	5	2	1	936	41	7	0	2	1	0	1	52	2967
18:00	337	19	2	3	3	1	0	365	120	10	1	1	0	0	1	133	213	7	2	0	1	0	1	224	3	2	0	0	0	0	0	5	727
18:15	276	19	5	0	1	0	0	301	132	7	2	0	0	0	0	141	216	15	0	0	3	0	0	234	3	1	0	0	0	0	0	4	680
18:30	271	22	1	1	3	1	0	299	113	8	0	0	0	0	0	121	238	11	1	0	1	0	0	251	8	0	0	0	0	0	0	8	679
18:45	256	15	1	1	1	1	0	275	127	10	2	0	0	0	0	139	182	9	0	1	1	0	0	193	2	0	0	0	0	0	0	2	609
1 Hr	1140	75	9	5	8	3	0	1240	492	35	5	1	0	0	1	534	849	42	3	1	6	0	1	902	16	3	0	0	0	0	0	19	2695
6 Hrs	7539	662	72	18	43	39	1	8374	3531	246	38	13	6	20	3	3857	5846	471	39	8	45	16	55	6480	452	64	11	2	1	1	6	537	19248
Total	12111	1374	218	94	81	49	1	13928	5598	500	82	52	13	33	4	6282	9885	1104	116	38	74	26	55	11298	1111	209	34	8	1	2	10	1375	32883

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 2
Date: 15/10/2016

Notes: -

Entry : Arm A - Development Access

	Destination : Arm A - Development Access								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - Surface Car Park Access								Destination : Arm D - Charlestown Avenue (W)								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	7	2	2	0	0	0	0	11	12
07:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	5	3	0	1	0	0	0	9	10
07:30	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1	4	1	0	0	0	0	0	0	1	6	2	1	0	0	0	0	9	14
07:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	5	1	1	0	0	0	0	7	8
1 Hr	0	0	0	0	0	0	0	0	2	1	0	0	3	0	1	7	1	0	0	0	0	0	0	1	23	8	4	1	0	0	0	36	44
08:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	6	1	1	0	1	0	0	9	11
08:15	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	4	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	6
08:30	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4	0	0	0	0	0	0	0	0	6	3	0	0	0	0	0	9	13
08:45	0	0	0	0	0	0	0	0	4	1	0	0	1	0	0	6	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0	18	24
1 Hr	0	0	0	0	0	0	0	0	11	2	0	0	3	0	0	16	0	0	0	0	0	0	0	0	31	5	1	0	1	0	0	38	54
09:00	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0	7	2	0	0	0	1	0	10	15
09:15	0	0	0	0	0	0	0	0	4	1	0	0	1	0	0	6	0	0	0	0	0	0	0	0	14	2	1	0	0	0	0	17	23
09:30	0	0	0	0	0	0	0	0	5	2	0	0	1	0	0	8	0	0	0	0	0	0	0	0	16	1	0	0	1	0	0	18	26
09:45	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	5	2	0	0	0	0	0	0	2	17	3	1	0	0	0	0	21	28
1 Hr	0	0	0	0	0	0	0	0	17	4	0	0	3	0	0	24	2	0	0	0	0	0	0	2	54	8	2	0	1	1	0	66	92
10:00	0	0	0	0	0	0	0	0	10	0	0	0	1	0	0	11	1	0	0	0	0	0	0	1	13	1	0	1	0	0	0	15	27
10:15	0	0	0	0	0	0	0	0	9	2	0	0	1	0	0	12	1	0	0	0	0	0	0	1	16	3	0	0	0	0	0	19	32
10:30	0	0	0	0	0	0	0	0	6	1	0	0	1	0	0	8	0	0	0	0	0	0	0	0	16	2	0	1	1	0	0	20	28
10:45	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0	18	2	0	0	0	0	0	20	27
1 Hr	0	0	0	0	0	0	0	0	31	4	0	0	3	0	0	38	2	0	0	0	0	0	0	2	63	8	0	2	1	0	0	74	114
11:00	0	0	0	0	0	0	0	0	8	0	0	0	2	0	0	10	0	0	0	0	0	0	0	0	27	4	0	0	0	1	0	32	42
11:15	0	0	0	0	0	0	0	0	8	1	0	0	1	0	0	10	0	0	0	0	0	0	0	0	28	3	0	0	0	0	0	31	41
11:30	0	0	0	0	0	0	0	0	11	2	0	0	2	0	0	15	5	0	0	0	0	0	0	5	20	3	0	2	0	0	0	25	45
11:45	0	0	0	0	0	0	0	0	19	1	0	0	1	0	0	21	3	0	0	0	0	0	0	3	47	7	1	0	0	1	0	56	80
1 Hr	0	0	0	0	0	0	0	0	46	4	0	0	6	0	0	56	8	0	0	0	0	0	0	8	122	17	1	2	0	2	0	144	208
12:00	0	0	0	0	0	0	0	0	18	0	0	0	1	0	0	19	6	0	0	0	0	0	0	6	29	1	0	0	0	1	0	31	56
12:15	0	0	0	0	0	0	0	0	17	0	0	0	1	0	0	18	2	0	0	0	0	0	0	2	38	5	0	0	0	0	0	43	63
12:30	0	0	0	0	0	0	0	0	28	2	0	0	1	0	0	31	2	0	0	0	0	0	0	2	52	2	0	0	0	1	0	55	88
12:45	0	0	0	0	0	0	0	0	23	1	0	0	0	0	0	24	4	0	0	0	0	0	0	4	55	1	0	0	0	0	0	56	84
1 Hr	0	0	0	0	0	0	0	0	86	3	0	0	3	0	0	92	14	0	0	0	0	0	0	14	174	9	0	0	0	2	0	185	291
6 Hrs	0	0	0	0	0	0	0	0	193	18	0	0	21	0	1	233	27	0	0	0	0	0	0	27	467	55	8	5	3	5	0	543	803

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 2
Date: 15/10/2016

Notes: -

Entry : Arm A - Development Access

	Destination : Arm A - Development Access								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - Surface Car Park Access								Destination : Arm D - Charlestown Avenue (W)								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
13:00	0	0	0	0	0	0	0	0	16	2	0	0	1	0	0	19	4	1	0	0	0	0	0	5	55	6	0	0	0	1	0	62	86
13:15	0	0	0	0	0	0	0	0	22	3	0	0	2	0	0	27	4	0	0	0	0	0	0	4	56	4	0	0	0	0	0	60	91
13:30	0	0	0	0	0	0	0	0	23	1	0	0	0	0	0	24	6	0	0	0	0	0	0	6	38	2	0	0	0	0	0	40	70
13:45	0	0	0	0	0	0	0	0	17	1	0	0	1	0	0	19	1	0	0	0	0	0	0	1	59	3	0	0	0	1	0	63	83
1 Hr	0	0	0	0	0	0	0	0	78	7	0	0	4	0	0	89	15	1	0	0	0	0	0	16	208	15	0	0	0	2	0	225	330
14:00	0	0	0	0	0	0	0	0	17	1	0	0	1	0	0	19	5	0	0	0	0	0	0	5	69	6	0	1	0	1	0	77	101
14:15	0	0	0	0	0	0	0	0	27	0	0	0	1	0	0	28	1	0	0	0	0	0	0	1	45	1	0	0	0	0	0	46	75
14:30	0	0	0	0	0	0	0	0	24	1	0	0	0	0	0	25	2	2	0	0	0	0	0	4	47	4	0	0	0	1	0	52	81
14:45	0	0	0	0	0	0	0	0	20	1	0	0	1	0	0	22	8	0	0	0	0	0	0	8	72	3	1	0	0	1	0	77	107
1 Hr	0	0	0	0	0	0	0	0	88	3	0	0	3	0	0	94	16	2	0	0	0	0	0	18	233	14	1	1	0	3	0	252	364
15:00	0	0	0	0	0	0	0	0	34	2	0	0	1	0	0	37	3	0	0	0	0	0	0	3	51	2	0	0	0	0	0	53	93
15:15	0	0	0	0	0	0	0	0	27	1	0	0	1	0	0	29	2	0	0	0	0	0	0	2	56	2	0	0	0	1	0	59	90
15:30	0	0	0	0	0	0	0	0	29	0	0	0	0	0	0	29	0	0	0	0	0	0	0	0	66	1	0	0	0	2	0	69	98
15:45	0	0	0	0	0	0	0	0	24	0	0	0	1	0	0	25	7	0	0	0	0	0	0	7	45	3	0	0	0	1	0	49	81
1 Hr	0	0	0	0	0	0	0	0	114	3	0	0	3	0	0	120	12	0	0	0	0	0	0	12	218	8	0	0	0	4	0	230	362
16:00	0	0	0	0	0	0	0	0	21	2	0	0	2	0	0	25	7	2	0	0	0	0	0	9	49	2	0	0	0	2	0	53	87
16:15	0	0	0	0	0	0	0	0	29	2	0	0	0	0	0	31	1	0	0	0	0	0	0	1	49	1	0	0	0	1	0	51	83
16:30	0	0	0	0	0	0	0	0	29	0	0	0	1	0	0	30	2	1	0	0	0	0	0	3	46	2	1	0	0	0	0	49	82
16:45	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0	22	3	0	0	0	0	0	0	3	54	1	0	0	0	0	0	55	80
1 Hr	0	0	0	0	0	0	0	0	101	4	0	0	3	0	0	108	13	3	0	0	0	0	0	16	198	6	1	0	0	3	0	208	332
17:00	0	0	0	0	0	0	0	0	27	0	0	0	1	0	1	29	2	0	0	0	0	0	0	2	48	1	0	0	0	2	0	51	82
17:15	0	0	0	0	0	0	0	0	22	0	0	0	1	0	0	23	1	0	0	0	0	0	0	1	45	0	0	0	0	1	0	46	70
17:30	0	0	0	0	0	0	0	0	24	2	0	0	1	0	0	27	8	0	0	0	0	0	0	8	45	2	0	0	0	0	0	47	82
17:45	0	0	0	0	0	0	0	0	20	1	0	0	1	0	0	22	1	1	0	0	0	0	0	2	60	2	0	0	0	0	0	62	86
1 Hr	0	0	0	0	0	0	0	0	93	3	0	0	4	0	1	101	12	1	0	0	0	0	0	13	198	5	0	0	0	3	0	206	320
18:00	0	0	0	0	0	0	0	0	23	1	0	0	0	0	0	24	0	0	0	0	0	0	0	0	63	3	0	0	0	0	0	66	90
18:15	0	0	0	0	0	0	0	0	22	0	0	0	1	0	0	23	0	0	0	0	0	0	0	0	58	4	1	0	0	0	0	63	86
18:30	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	57	4	0	0	0	0	0	61	81
18:45	0	0	0	0	0	0	0	0	17	0	0	0	1	0	0	18	0	1	0	0	0	0	0	1	49	2	0	0	0	0	0	51	70
1 Hr	0	0	0	0	0	0	0	0	82	1	0	0	2	0	0	85	0	1	0	0	0	0	0	1	227	13	1	0	0	0	0	241	327
6 Hrs	0	0	0	0	0	0	0	0	556	21	0	0	19	0	1	597	68	8	0	0	0	0	0	76	1282	61	3	1	0	15	0	1362	2035
Total	0	0	0	0	0	0	0	0	749	39	0	0	40	0	2	830	95	8	0	0	0	0	0	103	1749	116	11	6	3	20	0	1905	2838
Check								0								830								103								1905	2838

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 2
Date: 15/10/2016

Notes: -

Entry : Arm B - Charlestown Avenue (E)

	Destination : Arm A - Development Access								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - Surface Car Park Access								Destination : Arm D - Charlestown Avenue (W)								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
07:00	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	3	0	2	0	0	1	14	17
07:15	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	12	2	3	3	0	0	0	20	22
07:30	3	1	1	0	2	0	0	7	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	22	8	2	2	0	0	1	35	44
07:45	2	0	0	0	1	0	0	3	1	1	0	0	0	0	0	2	2	0	0	0	0	0	0	2	26	10	2	2	0	1	0	41	48
1 Hr	9	1	1	0	3	0	0	14	1	1	0	0	0	0	0	2	5	0	0	0	0	0	0	5	68	23	7	9	0	1	2	110	131
08:00	2	2	0	0	1	0	0	5	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	21	5	3	0	0	0	0	29	35
08:15	1	1	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	13	5	2	0	1	0	42	45
08:30	3	1	0	0	1	0	0	5	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	34	8	1	2	0	0	0	45	51
08:45	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	40	10	1	0	0	0	1	52	63
1 Hr	13	4	0	0	3	0	0	20	1	0	0	0	0	0	0	1	5	0	0	0	0	0	0	5	116	36	10	4	0	1	1	168	194
09:00	3	2	0	0	1	0	0	6	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	36	9	1	5	0	0	0	51	60
09:15	7	1	0	0	0	0	0	8	1	0	0	0	0	0	0	1	5	0	0	0	0	0	0	5	44	6	1	1	0	0	0	52	66
09:30	5	0	0	0	1	0	0	6	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	59	7	1	1	0	0	0	68	81
09:45	10	1	0	0	1	0	0	12	2	0	0	0	0	0	0	2	4	1	0	0	0	0	0	5	50	12	2	0	0	0	0	64	83
1 Hr	25	4	0	0	3	0	0	32	3	0	0	0	0	0	0	3	18	2	0	0	0	0	0	20	189	34	5	7	0	0	0	235	290
10:00	15	1	0	0	0	0	0	16	1	0	0	0	0	0	0	1	6	1	0	0	0	0	0	7	54	5	2	2	0	0	0	63	87
10:15	10	1	0	0	1	0	0	12	2	1	0	0	0	0	0	3	7	0	0	0	0	0	0	7	60	8	2	1	0	0	0	71	93
10:30	10	2	0	0	1	0	0	13	2	1	0	0	0	0	0	3	5	0	0	0	0	0	0	5	58	14	2	0	1	0	0	75	96
10:45	12	4	0	0	0	0	0	16	3	0	0	0	0	0	0	3	5	0	0	0	0	0	0	5	64	6	3	2	0	0	0	75	99
1 Hr	47	8	0	0	2	0	0	57	8	2	0	0	0	0	0	10	23	1	0	0	0	0	0	24	236	33	9	5	1	0	0	284	375
11:00	6	0	0	0	1	0	0	7	0	1	0	0	0	0	0	1	10	1	0	0	0	0	0	11	66	11	0	2	0	0	0	79	98
11:15	15	2	0	0	1	0	0	18	2	1	0	0	0	0	0	3	11	1	1	0	0	0	0	13	61	9	3	1	0	0	0	74	108
11:30	16	0	1	0	0	0	0	17	0	0	0	0	0	0	0	0	20	2	0	0	0	0	0	22	75	4	0	1	0	0	0	80	119
11:45	21	0	0	0	1	0	0	22	3	1	0	0	0	0	0	4	26	0	0	0	0	0	0	26	66	7	3	0	0	1	0	77	129
1 Hr	58	2	1	0	3	0	0	64	5	3	0	0	0	0	0	8	67	4	1	0	0	0	0	72	268	31	6	4	0	1	0	310	454
12:00	8	1	0	0	1	0	0	10	4	0	0	0	0	0	0	4	18	1	0	0	0	0	0	19	77	6	2	0	0	0	0	85	118
12:15	22	2	0	0	0	0	0	24	1	0	0	0	0	0	0	1	20	2	0	0	0	0	0	22	79	12	0	0	0	0	0	91	138
12:30	19	2	0	0	1	0	0	22	3	1	0	0	0	0	0	4	13	0	0	0	0	0	0	13	82	7	2	2	0	0	0	93	132
12:45	22	2	0	0	0	0	0	24	2	0	0	0	0	1	0	3	12	3	0	0	0	0	0	15	92	7	2	1	0	0	0	102	144
1 Hr	71	7	0	0	2	0	0	80	10	1	0	0	0	1	0	12	63	6	0	0	0	0	0	69	330	32	6	3	0	0	0	371	532
6 Hrs	223	26	2	0	16	0	0	267	28	7	0	0	0	1	0	36	181	13	1	0	0	0	0	195	1207	189	43	32	1	3	3	1478	1976

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 2
Date: 15/10/2016

Notes: -

Entry : Arm B - Charlestown Avenue (E)

	Destination : Arm A - Development Access								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - Surface Car Park Access								Destination : Arm D - Charlestown Avenue (W)								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
13:00	22	2	0	0	2	0	0	26	3	0	0	0	0	0	0	3	17	3	0	0	0	0	0	20	79	8	2	0	1	1	0	91	140
13:15	16	3	0	0	0	0	0	19	2	0	0	0	0	0	0	2	17	3	0	0	0	0	0	20	68	6	1	0	2	1	0	78	119
13:30	15	1	0	0	0	0	0	16	0	0	0	0	0	0	0	0	21	1	1	0	0	0	0	23	76	4	0	1	1	0	0	82	121
13:45	19	1	0	0	1	0	0	21	3	0	0	0	0	0	0	3	18	1	0	0	0	0	0	19	64	9	3	0	0	0	0	76	119
1 Hr	72	7	0	0	3	0	0	82	8	0	0	0	0	0	0	8	73	8	1	0	0	0	0	82	287	27	6	1	4	2	0	327	499
14:00	16	1	0	0	1	0	0	18	3	0	0	0	0	0	0	3	17	3	0	0	0	0	0	20	78	12	2	0	0	0	0	92	133
14:15	18	0	1	0	0	0	0	19	0	0	0	0	0	0	0	0	19	2	0	0	0	0	0	21	72	6	2	0	1	3	0	84	124
14:30	27	1	0	0	0	0	0	28	3	0	0	0	0	0	0	3	26	3	0	0	0	0	0	29	79	5	3	0	0	1	0	88	148
14:45	22	0	0	0	0	0	0	22	5	0	0	0	0	0	0	5	22	1	0	0	0	0	0	23	75	3	0	0	3	0	0	81	131
1 Hr	83	2	1	0	1	0	0	87	11	0	0	0	0	0	0	11	84	9	0	0	0	0	0	93	304	26	7	0	4	4	0	345	536
15:00	31	1	0	0	1	0	0	33	2	0	0	0	0	0	0	2	32	3	0	0	0	0	0	35	78	6	1	0	0	0	0	85	155
15:15	22	0	0	0	1	0	0	23	3	0	0	0	0	0	0	3	23	2	0	0	0	0	0	25	59	7	1	0	0	0	0	67	118
15:30	28	1	0	0	0	0	0	29	5	1	0	0	0	0	0	6	21	0	0	0	0	0	0	21	92	5	1	0	0	0	0	98	154
15:45	21	2	0	0	2	0	0	25	6	0	0	0	0	0	0	6	19	0	0	0	0	0	0	19	86	8	0	0	0	1	0	95	145
1 Hr	102	4	0	0	4	0	0	110	16	1	0	0	0	0	0	17	95	5	0	0	0	0	0	100	315	26	3	0	0	1	0	345	572
16:00	15	1	0	0	1	0	0	17	3	0	0	0	0	0	0	3	22	1	0	0	0	0	0	23	69	7	1	0	0	0	0	77	120
16:15	27	0	0	0	1	0	0	28	3	0	0	0	0	0	0	3	14	0	0	0	0	0	0	14	73	4	0	0	0	0	0	77	122
16:30	20	0	0	0	0	0	0	20	1	0	0	0	0	0	0	1	14	2	0	0	0	0	0	16	64	8	0	1	1	0	0	74	111
16:45	17	1	0	0	1	0	0	19	3	0	0	0	0	0	0	3	20	0	0	0	0	0	0	20	69	4	1	0	0	0	0	74	116
1 Hr	79	2	0	0	3	0	0	84	10	0	0	0	0	0	0	10	70	3	0	0	0	0	0	73	275	23	2	1	1	0	0	302	469
17:00	17	0	0	0	1	0	0	18	7	0	0	0	0	0	0	7	13	2	0	0	0	0	0	15	73	5	0	0	0	0	1	79	119
17:15	25	1	0	0	0	0	0	26	2	0	0	0	0	0	0	2	15	0	0	0	0	0	0	15	61	4	0	1	0	1	0	67	110
17:30	20	0	0	0	1	0	0	21	3	1	0	0	0	0	0	4	9	0	0	0	0	0	0	9	54	2	2	0	0	1	0	59	93
17:45	27	0	0	0	1	0	0	28	2	0	0	0	0	0	0	2	7	1	0	0	0	0	0	8	80	7	0	0	0	2	0	89	127
1 Hr	89	1	0	0	3	0	0	93	14	1	0	0	0	0	0	15	44	3	0	0	0	0	0	47	268	18	2	1	0	4	1	294	449
18:00	31	2	0	0	1	0	0	34	5	0	0	0	0	0	0	5	9	0	0	0	0	0	0	9	61	1	1	1	0	0	0	64	112
18:15	12	1	0	0	0	0	0	13	5	0	0	0	0	0	0	5	3	0	0	0	0	0	0	3	62	6	2	0	1	0	0	71	92
18:30	24	0	0	0	0	0	0	24	6	0	0	0	0	0	0	6	3	1	0	0	0	0	0	4	60	2	0	0	0	0	0	62	96
18:45	15	0	0	0	1	0	0	16	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	53	3	2	0	1	0	0	59	80
1 Hr	82	3	0	0	2	0	0	87	21	0	0	0	0	0	0	21	15	1	0	0	0	0	0	16	236	12	5	1	2	0	0	256	380
6 Hrs	507	19	1	0	16	0	0	543	80	2	0	0	0	0	0	82	381	29	1	0	0	0	0	411	1685	132	25	4	11	11	1	1869	2905
Total	730	45	3	0	32	0	0	810	108	9	0	0	0	1	0	118	562	42	2	0	0	0	0	606	2892	321	68	36	12	14	4	3347	4881
Check								810								118								606								3347	4881

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 2
Date: 15/10/2016

Notes: -

Entry : Arm C - Surface Car Park Access

	Destination : Arm A - Development Access								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - Surface Car Park Access								Destination : Arm D - Charlestown Avenue (W)								Arm
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
07:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1 Hr	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	2
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	2
09:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6	8
09:30	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	5
09:45	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	3
1 Hr	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0	9	2	0	0	0	0	0	11	18
10:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5	8
10:15	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	3	5
10:30	1	0	0	0	0	0	0	1	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	6	14
10:45	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	4
1 Hr	2	0	0	0	0	0	0	2	12	1	0	0	0	0	0	13	0	0	0	0	0	0	0	0	13	2	0	0	0	1	0	16	31
11:00	0	0	0	0	0	0	0	0	4	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	12
11:15	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	7
11:30	1	0	0	0	0	0	0	1	6	0	0	0	0	0	0	6	0	1	0	0	0	0	0	1	5	0	0	0	0	0	0	5	13
11:45	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	7	2	0	0	0	0	0	9	16
1 Hr	1	0	0	0	0	0	0	1	20	0	0	0	0	0	1	21	0	1	0	0	0	0	0	1	23	2	0	0	0	0	0	25	48
12:00	1	0	0	0	0	0	0	1	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	16	1	0	0	0	0	0	17	25
12:15	2	0	0	0	0	0	0	2	8	0	1	0	0	0	0	9	0	0	0	0	0	0	0	0	11	1	0	0	0	0	0	12	23
12:30	1	0	0	0	0	0	0	1	12	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	12	4	0	0	0	0	0	16	29
12:45	2	0	0	0	0	0	0	2	10	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	16	1	0	0	0	0	0	17	29
1 Hr	6	0	0	0	0	0	0	6	37	0	1	0	0	0	0	38	0	0	0	0	0	0	0	0	55	7	0	0	0	0	0	62	106
6 Hrs	9	0	0	0	0	0	0	9	77	2	1	0	0	0	1	81	0	1	0	0	0	0	0	1	101	14	0	0	0	1	0	116	207

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 2
Date: 15/10/2016

Notes: -

Entry : Arm C - Surface Car Park Access

	Destination : Arm A - Development Access								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - Surface Car Park Access								Destination : Arm D - Charlestown Avenue (W)								Arm
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
13:00	1	0	0	0	0	0	0	1	15	1	0	0	0	0	0	16	0	0	0	0	0	0	0	0	13	2	0	0	0	0	0	15	32
13:15	0	1	0	0	0	0	0	1	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	12	4	0	0	0	0	0	16	23
13:30	0	0	0	0	0	0	0	0	11	1	0	0	0	0	0	12	1	0	0	0	0	0	0	1	18	1	0	0	0	0	0	19	32
13:45	0	0	0	0	0	0	0	0	15	1	0	0	0	0	0	16	0	0	0	0	0	0	0	0	15	2	0	0	0	0	0	17	33
1 Hr	1	1	0	0	0	0	0	2	47	3	0	0	0	0	0	50	1	0	0	0	0	0	0	1	58	9	0	0	0	0	0	67	120
14:00	0	0	0	0	0	0	0	0	14	2	0	0	0	0	1	17	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	17	34
14:15	1	0	0	0	0	0	0	1	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	14	1	0	0	0	0	0	15	20
14:30	4	0	0	0	0	0	0	4	15	1	0	0	0	0	0	16	0	0	0	0	0	0	0	0	14	3	1	0	0	0	0	18	38
14:45	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	13	3	0	0	0	0	0	16	28
1 Hr	5	0	0	0	0	0	0	5	44	4	0	0	0	0	1	49	0	0	0	0	0	0	0	0	58	7	1	0	0	0	0	66	120
15:00	2	0	0	0	0	0	0	2	17	0	0	0	0	0	0	17	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	15	34
15:15	3	0	0	0	0	0	0	3	10	2	0	0	0	0	0	12	0	0	0	0	0	0	0	0	22	1	0	0	0	0	0	23	38
15:30	0	0	0	0	0	0	0	0	21	4	0	0	0	0	0	25	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	20	45
15:45	2	0	0	0	0	0	0	2	13	2	0	0	0	0	0	15	0	0	0	0	0	0	0	0	14	1	0	0	0	0	0	15	32
1 Hr	7	0	0	0	0	0	0	7	61	8	0	0	0	0	0	69	0	0	0	0	0	0	0	0	71	2	0	0	0	0	0	73	149
16:00	1	0	0	0	0	0	0	1	19	1	0	0	0	0	0	20	0	0	0	0	0	0	0	0	21	2	0	0	0	0	0	23	44
16:15	2	1	0	0	0	0	0	3	11	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	16	3	0	0	0	0	1	20	34
16:30	2	0	0	0	0	0	0	2	17	0	0	0	0	0	0	17	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	13	32
16:45	4	1	0	0	0	0	0	5	11	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	12	2	0	0	0	0	0	14	30
1 Hr	9	2	0	0	0	0	0	11	58	1	0	0	0	0	0	59	0	0	0	0	0	0	0	0	62	7	0	0	0	0	1	70	140
17:00	4	0	0	0	0	0	0	4	13	1	0	0	0	0	0	14	0	0	0	0	0	0	0	0	15	1	0	0	0	0	0	16	34
17:15	3	0	0	0	0	0	0	3	20	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	17	2	0	0	0	0	0	19	42
17:30	3	0	0	0	0	0	0	3	14	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	16	1	0	0	0	0	0	17	34
17:45	3	0	0	0	0	0	0	3	16	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	11	30
1 Hr	13	0	0	0	0	0	0	13	63	1	0	0	0	0	0	64	0	0	0	0	0	0	0	0	59	4	0	0	0	0	0	63	140
18:00	4	0	0	0	0	0	0	4	7	2	0	0	0	0	0	9	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	13	26
18:15	0	0	0	0	0	0	0	0	7	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	13	21
18:30	1	0	0	0	0	0	0	1	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	14
18:45	1	0	0	0	0	0	0	1	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	12
1 Hr	6	0	0	0	0	0	0	6	28	3	0	0	0	0	0	31	0	0	0	0	0	0	0	0	36	0	0	0	0	0	0	36	73
6 Hrs	41	3	0	0	0	0	0	44	301	20	0	0	0	0	1	322	1	0	0	0	0	0	0	1	344	29	1	0	0	0	1	375	742
Total	50	3	0	0	0	0	0	53	378	22	1	0	0	0	2	403	1	1	0	0	0	0	0	2	445	43	1	0	0	1	1	491	949
Check								53								403								2								491	949

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 2
Date: 15/10/2016

Notes: -

Entry : Arm D - Charlestown Avenue (W)

	Destination : Arm A - Development Access								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - Surface Car Park Access								Destination : Arm D - Charlestown Avenue (W)								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
07:00	1	0	0	0	0	0	0	1	9	2	1	1	0	0	0	13	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	15
07:15	1	0	0	0	0	0	0	1	18	6	2	0	1	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
07:30	0	1	0	0	0	0	0	1	16	3	0	2	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
07:45	1	0	0	0	0	0	0	1	20	7	1	3	0	0	0	31	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	34
1 Hr	3	1	0	0	0	0	0	4	63	18	4	6	1	0	0	92	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	2	99
08:00	2	0	0	0	0	0	0	2	18	9	2	0	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
08:15	1	1	0	0	0	0	0	2	19	3	0	1	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
08:30	4	0	0	0	0	0	0	4	25	6	0	1	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36
08:45	6	1	0	0	0	0	0	7	40	8	1	0	0	0	0	49	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	57
1 Hr	13	2	0	0	0	0	0	15	102	26	3	2	0	0	0	133	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	149
09:00	1	0	0	0	0	0	0	1	41	10	2	0	1	0	0	54	3	0	0	0	0	0	0	3	1	0	0	0	0	0	0	1	59
09:15	5	0	0	0	0	0	0	5	30	7	2	3	0	0	0	42	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	48
09:30	12	0	0	1	0	0	0	13	56	9	1	4	0	0	0	70	1	1	0	0	0	0	0	2	1	0	0	0	0	0	0	1	86
09:45	17	1	0	0	0	0	0	18	55	7	1	5	0	0	0	68	5	0	0	0	0	0	0	5	1	0	0	0	0	0	0	1	92
1 Hr	35	1	0	1	0	0	0	37	182	33	6	12	1	0	0	234	10	1	0	0	0	0	0	11	3	0	0	0	0	0	0	3	285
10:00	17	1	0	1	0	0	0	19	50	7	2	3	0	0	0	62	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	87
10:15	19	1	0	0	0	0	0	20	47	10	4	2	0	1	0	64	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	87
10:30	23	1	0	0	0	0	0	24	52	8	3	3	0	0	0	66	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	92
10:45	14	1	2	0	0	0	0	17	71	9	0	2	0	0	0	82	3	0	0	0	0	0	0	3	1	0	0	0	0	0	0	1	103
1 Hr	73	4	2	1	0	0	0	80	220	34	9	10	0	1	0	274	14	0	0	0	0	0	0	14	1	0	0	0	0	0	0	1	369
11:00	14	1	1	0	0	0	0	16	54	3	3	1	0	0	0	61	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	83
11:15	20	1	0	0	0	0	0	21	70	13	1	2	0	0	0	86	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	113
11:30	33	0	0	0	0	0	0	33	78	10	2	0	0	1	0	91	7	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0	132
11:45	21	2	0	0	0	0	0	23	82	13	4	0	0	1	0	100	5	0	0	0	0	0	0	5	1	0	0	0	0	0	0	1	129
1 Hr	88	4	1	0	0	0	0	93	284	39	10	3	0	2	0	338	24	1	0	0	0	0	0	25	1	0	0	0	0	0	0	1	457
12:00	27	0	0	0	0	0	0	27	65	12	0	1	0	1	0	79	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	113
12:15	38	0	0	0	0	1	0	39	94	8	1	0	0	0	0	103	9	1	0	0	0	0	0	10	0	0	0	0	0	0	0	0	152
12:30	31	1	0	0	0	0	0	32	79	11	1	0	0	0	0	91	9	1	0	0	0	0	0	10	0	0	0	0	0	0	0	0	133
12:45	24	0	0	0	0	0	0	24	103	9	2	1	0	1	0	116	13	0	0	0	0	0	0	13	1	0	0	0	0	0	0	1	154
1 Hr	120	1	0	0	0	1	0	122	341	40	4	2	0	2	0	389	38	2	0	0	0	0	0	40	1	0	0	0	0	0	0	1	552
6 Hrs	332	13	3	2	0	1	0	351	1192	190	36	35	2	5	0	1460	88	4	0	0	0	0	0	92	7	1	0	0	0	0	0	8	1911

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 2
Date: 15/10/2016

Notes: -

Entry : Arm D - Charlestown Avenue (W)

	Destination : Arm A - Development Access								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - Surface Car Park Access								Destination : Arm D - Charlestown Avenue (W)								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
13:00	31	4	0	0	1	0	0	36	67	7	1	2	0	0	0	77	9	1	0	0	0	0	0	10	0	0	0	0	0	0	0	0	123
13:15	28	0	0	0	0	0	0	28	77	8	0	2	0	0	0	87	11	2	0	0	0	0	0	13	0	0	0	0	0	0	0	0	128
13:30	19	1	0	0	0	0	0	20	90	12	2	1	0	0	0	105	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	132
13:45	29	0	0	0	0	0	0	29	87	9	0	2	0	1	1	100	5	1	0	0	0	0	0	6	0	0	0	0	0	0	0	0	135
1 Hr	107	5	0	0	1	0	0	113	321	36	3	7	0	1	1	369	32	4	0	0	0	0	0	36	0	0	0	0	0	0	0	0	518
14:00	31	3	0	0	0	0	0	34	82	14	1	1	0	0	0	98	11	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	143
14:15	29	1	0	1	0	0	0	31	76	12	3	0	0	0	0	91	10	1	0	0	0	0	0	11	0	0	0	0	0	0	0	0	133
14:30	29	2	0	0	0	0	0	31	63	8	2	1	1	0	0	75	5	2	0	0	0	0	0	7	1	0	0	0	0	0	0	1	114
14:45	35	4	0	0	0	0	0	39	76	8	3	0	1	0	1	89	8	2	0	0	0	0	0	10	0	0	0	0	0	0	0	0	138
1 Hr	124	10	0	1	0	0	0	135	297	42	9	2	2	0	1	353	34	5	0	0	0	0	0	39	1	0	0	0	0	0	0	1	528
15:00	42	0	0	0	0	2	0	44	85	6	2	0	0	0	0	93	9	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	146
15:15	29	0	0	0	0	0	0	29	83	6	3	0	0	1	0	93	9	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	131
15:30	26	1	0	0	0	0	0	27	82	5	1	0	0	0	1	89	8	0	0	0	0	0	0	8	1	0	0	0	0	0	0	1	125
15:45	42	1	0	0	0	0	0	43	74	5	2	0	0	0	0	81	14	3	0	0	0	0	0	17	0	0	0	0	0	0	0	0	141
1 Hr	139	2	0	0	0	2	0	143	324	22	8	0	0	1	1	356	40	3	0	0	0	0	0	43	1	0	0	0	0	0	0	1	543
16:00	28	2	0	0	0	0	0	30	73	5	0	1	0	1	0	80	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	114
16:15	21	1	0	0	0	0	0	22	69	6	2	0	0	1	0	78	7	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0	108
16:30	31	1	0	0	0	0	0	32	61	0	0	0	1	1	0	63	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	100
16:45	26	0	0	0	0	0	0	26	73	9	1	0	0	0	0	83	5	1	0	0	0	0	0	6	0	0	0	0	0	0	0	0	115
1 Hr	106	4	0	0	0	0	0	110	276	20	3	1	1	3	0	304	21	2	0	0	0	0	0	23	0	0	0	0	0	0	0	0	437
17:00	25	1	0	0	0	0	0	26	74	6	1	0	0	0	0	81	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	113
17:15	49	0	1	0	0	0	0	50	86	7	2	0	0	0	0	95	7	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0	153
17:30	38	0	0	0	0	0	0	38	71	5	1	0	0	0	0	77	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	119
17:45	41	1	0	0	0	0	0	42	70	6	2	1	0	1	0	80	6	0	0	0	0	0	0	6	1	0	0	0	0	0	0	1	129
1 Hr	153	2	1	0	0	0	0	156	301	24	6	1	0	1	0	333	22	2	0	0	0	0	0	24	1	0	0	0	0	0	0	1	514
18:00	26	0	0	0	0	0	0	26	60	7	1	1	0	0	0	69	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	97
18:15	25	1	0	0	0	0	0	26	75	5	2	0	0	0	0	82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108
18:30	22	3	0	0	0	0	0	25	62	5	0	0	0	0	0	67	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	94
18:45	19	1	0	0	0	0	0	20	74	9	2	0	0	0	0	85	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	107
1 Hr	92	5	0	0	0	0	0	97	271	26	5	1	0	0	0	303	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	406
6 Hrs	721	28	1	1	1	2	0	754	1790	170	34	12	3	6	3	2018	155	16	0	0	0	0	0	171	3	0	0	0	0	0	0	3	2946
Total	1053	41	4	3	1	3	0	1105	2982	360	70	47	5	11	3	3478	243	20	0	0	0	0	0	263	10	1	0	0	0	0	0	11	4857
Check								1105								3478								263								11	4857

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 2
Date: 15/10/2016

Notes: -

ORIGIN SUMMARY

	Origin :	Arm A - Development Access							Origin :	Arm B - Charlestown Avenue (E)							Origin :	Arm C - Surface Car Park Access							Origin :	Arm D - Charlestown Avenue (W)							Origin Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
07:00	7	2	2	0	1	0	0	12	11	3	0	2	0	0	1	17	1	0	0	0	0	0	0	1	10	3	1	1	0	0	0	15	45
07:15	6	3	0	1	0	0	0	10	14	2	3	3	0	0	0	22	0	0	0	0	0	0	0	0	19	6	2	0	1	0	0	28	60
07:30	8	3	1	0	1	0	1	14	27	9	3	2	2	0	1	44	0	0	0	0	0	0	0	0	16	4	0	2	0	0	0	22	80
07:45	5	1	1	0	1	0	0	8	31	11	2	2	1	1	0	48	1	0	0	0	0	0	0	1	23	7	1	3	0	0	0	34	91
1 Hr	26	9	4	1	3	0	1	44	83	25	8	9	3	1	2	131	2	0	0	0	0	0	0	2	68	20	4	6	1	0	0	99	276
08:00	8	1	1	0	1	0	0	11	24	7	3	0	1	0	0	35	0	0	0	0	0	0	0	0	20	9	2	0	0	0	0	31	77
08:15	3	2	0	0	1	0	0	6	22	14	5	2	1	1	0	45	1	0	0	0	0	0	0	1	20	4	0	1	0	0	0	25	77
08:30	9	3	0	0	1	0	0	13	38	9	1	2	1	0	0	51	0	1	0	0	0	0	0	1	29	6	0	1	0	0	0	36	101
08:45	22	1	0	0	1	0	0	24	51	10	1	0	0	0	1	63	0	0	0	0	0	0	0	0	47	9	1	0	0	0	0	57	144
1 Hr	42	7	1	0	4	0	0	54	135	40	10	4	3	1	1	194	1	1	0	0	0	0	0	2	116	28	3	2	0	0	0	149	399
09:00	11	3	0	0	0	1	0	15	41	12	1	5	1	0	0	60	1	1	0	0	0	0	0	2	46	10	2	0	1	0	0	59	136
09:15	18	3	1	0	1	0	0	23	57	7	1	1	0	0	0	66	8	0	0	0	0	0	0	8	36	7	2	3	0	0	0	48	145
09:30	21	3	0	0	2	0	0	26	71	7	1	1	1	0	0	81	4	1	0	0	0	0	0	5	70	10	1	5	0	0	0	86	198
09:45	23	3	1	0	1	0	0	28	66	14	2	0	1	0	0	83	2	1	0	0	0	0	0	3	78	8	1	5	0	0	0	92	206
1 Hr	73	12	2	0	4	1	0	92	235	40	5	7	3	0	0	290	15	3	0	0	0	0	0	18	230	35	6	13	1	0	0	285	685
10:00	24	1	0	1	1	0	0	27	76	7	2	2	0	0	0	87	7	1	0	0	0	0	0	8	73	8	2	4	0	0	0	87	209
10:15	26	5	0	0	1	0	0	32	79	10	2	1	1	0	0	93	4	0	0	0	0	1	0	5	69	11	4	2	0	1	0	87	217
10:30	22	3	0	1	2	0	0	28	75	17	2	0	2	0	0	96	13	1	0	0	0	0	0	14	77	9	3	3	0	0	0	92	230
10:45	24	3	0	0	0	0	0	27	84	10	3	2	0	0	0	99	3	1	0	0	0	0	0	4	89	10	2	2	0	0	0	103	233
1 Hr	96	12	0	2	4	0	0	114	314	44	9	5	3	0	0	375	27	3	0	0	0	1	0	31	308	38	11	11	0	1	0	369	889
11:00	35	4	0	0	2	1	0	42	82	13	0	2	1	0	0	98	11	0	0	0	0	0	1	12	74	4	4	1	0	0	0	83	235
11:15	36	4	0	0	1	0	0	41	89	13	4	1	1	0	0	108	7	0	0	0	0	0	0	7	96	14	1	2	0	0	0	113	269
11:30	36	5	0	2	2	0	0	45	111	6	1	1	0	0	0	119	12	1	0	0	0	0	0	13	118	11	2	0	0	1	0	132	309
11:45	69	8	1	0	1	1	0	80	116	8	3	0	1	1	0	129	14	2	0	0	0	0	0	16	109	15	4	0	0	1	0	129	354
1 Hr	176	21	1	2	6	2	0	208	398	40	8	4	3	1	0	454	44	3	0	0	0	0	1	48	397	44	11	3	0	2	0	457	1167
12:00	53	1	0	0	1	1	0	56	107	8	2	0	1	0	0	118	24	1	0	0	0	0	0	25	99	12	0	1	0	1	0	113	312
12:15	57	5	0	0	1	0	0	63	122	16	0	0	0	0	0	138	21	1	1	0	0	0	0	23	141	9	1	0	0	1	0	152	376
12:30	82	4	0	0	1	1	0	88	117	10	2	2	1	0	0	132	25	4	0	0	0	0	0	29	119	13	1	0	0	0	0	133	382
12:45	82	2	0	0	0	0	0	84	128	12	2	1	0	1	0	144	28	1	0	0	0	0	0	29	141	9	2	1	0	1	0	154	411
1 Hr	274	12	0	0	3	2	0	291	474	46	6	3	2	1	0	532	98	7	1	0	0	0	0	106	500	43	4	2	0	3	0	552	1481
6 Hrs	687	73	8	5	24	5	1	803	1639	235	46	32	17	4	3	1976	187	17	1	0	0	1	1	207	1619	208	39	37	2	6	0	1911	4897

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 2
Date: 15/10/2016

Notes: -

ORIGIN SUMMARY

	Origin :	Arm A - Development Access							Origin :	Arm B - Charlestown Avenue (E)							Origin :	Arm C - Surface Car Park Access							Origin :	Arm D - Charlestown Avenue (W)							Origin
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
13:00	75	9	0	0	1	1	0	86	121	13	2	0	3	1	0	140	29	3	0	0	0	0	0	32	107	12	1	2	1	0	0	123	381
13:15	82	7	0	0	2	0	0	91	103	12	1	0	2	1	0	119	18	5	0	0	0	0	0	23	116	10	0	2	0	0	0	128	361
13:30	67	3	0	0	0	0	0	70	112	6	1	1	1	0	0	121	30	2	0	0	0	0	0	32	116	13	2	1	0	0	0	132	355
13:45	77	4	0	0	1	1	0	83	104	11	3	0	1	0	0	119	30	3	0	0	0	0	0	33	121	10	0	2	0	1	1	135	370
1 Hr	301	23	0	0	4	2	0	330	440	42	7	1	7	2	0	499	107	13	0	0	0	0	0	120	460	45	3	7	1	1	1	518	1467
14:00	91	7	0	1	1	1	0	101	114	16	2	0	1	0	0	133	31	2	0	0	0	0	1	34	124	17	1	1	0	0	0	143	411
14:15	73	1	0	0	1	0	0	75	109	8	3	0	1	3	0	124	18	2	0	0	0	0	0	20	115	14	3	1	0	0	0	133	352
14:30	73	7	0	0	0	1	0	81	135	9	3	0	0	1	0	148	33	4	1	0	0	0	0	38	98	12	2	1	1	0	0	114	381
14:45	100	4	1	0	1	1	0	107	124	4	0	0	3	0	0	131	25	3	0	0	0	0	0	28	119	14	3	0	1	0	1	138	404
1 Hr	337	19	1	1	3	3	0	364	482	37	8	0	5	4	0	536	107	11	1	0	0	0	1	120	456	57	9	3	2	0	1	528	1548
15:00	88	4	0	0	1	0	0	93	143	10	1	0	1	0	0	155	34	0	0	0	0	0	0	34	136	6	2	0	0	2	0	146	428
15:15	85	3	0	0	1	1	0	90	107	9	1	0	1	0	0	118	35	3	0	0	0	0	0	38	121	6	3	0	0	1	0	131	377
15:30	95	1	0	0	0	2	0	98	146	7	1	0	0	0	0	154	41	4	0	0	0	0	0	45	117	6	1	0	0	0	1	125	422
15:45	76	3	0	0	1	1	0	81	132	10	0	0	2	1	0	145	29	3	0	0	0	0	0	32	130	9	2	0	0	0	0	141	399
1 Hr	344	11	0	0	3	4	0	362	528	36	3	0	4	1	0	572	139	10	0	0	0	0	0	149	504	27	8	0	0	3	1	543	1626
16:00	77	6	0	0	2	2	0	87	109	9	1	0	1	0	0	120	41	3	0	0	0	0	0	44	105	7	0	1	0	1	0	114	365
16:15	79	3	0	0	0	1	0	83	117	4	0	0	1	0	0	122	29	4	0	0	0	0	1	34	97	8	2	0	0	1	0	108	347
16:30	77	3	1	0	1	0	0	82	99	10	0	1	1	0	0	111	32	0	0	0	0	0	0	32	97	1	0	0	1	1	0	100	325
16:45	79	1	0	0	0	0	0	80	109	5	1	0	1	0	0	116	27	3	0	0	0	0	0	30	104	10	1	0	0	0	0	115	341
1 Hr	312	13	1	0	3	3	0	332	434	28	2	1	4	0	0	469	129	10	0	0	0	0	1	140	403	26	3	1	1	3	0	437	1378
17:00	77	1	0	0	1	2	1	82	110	7	0	0	1	0	1	119	32	2	0	0	0	0	0	34	105	7	1	0	0	0	0	113	348
17:15	68	0	0	0	1	1	0	70	103	5	0	1	0	1	0	110	40	2	0	0	0	0	0	42	142	8	3	0	0	0	0	153	375
17:30	77	4	0	0	1	0	0	82	86	3	2	0	1	1	0	93	33	1	0	0	0	0	0	34	112	6	1	0	0	0	0	119	328
17:45	81	4	0	0	1	0	0	86	116	8	0	0	1	2	0	127	30	0	0	0	0	0	0	30	118	7	2	1	0	1	0	129	372
1 Hr	303	9	0	0	4	3	1	320	415	23	2	1	3	4	1	449	135	5	0	0	0	0	0	140	477	28	7	1	0	1	0	514	1423
18:00	86	4	0	0	0	0	0	90	106	3	1	1	1	0	0	112	24	2	0	0	0	0	0	26	88	7	1	1	0	0	0	97	325
18:15	80	4	1	0	1	0	0	86	82	7	2	0	1	0	0	92	20	1	0	0	0	0	0	21	100	6	2	0	0	0	0	108	307
18:30	77	4	0	0	0	0	0	81	93	3	0	0	0	0	0	96	14	0	0	0	0	0	0	14	86	8	0	0	0	0	0	94	285
18:45	66	3	0	0	1	0	0	70	73	3	2	0	2	0	0	80	12	0	0	0	0	0	0	12	95	10	2	0	0	0	0	107	269
1 Hr	309	15	1	0	2	0	0	327	354	16	5	1	4	0	0	380	70	3	0	0	0	0	0	73	369	31	5	1	0	0	0	406	1186
6 Hrs	1906	90	3	1	19	15	1	2035	2653	182	27	4	27	11	1	2905	687	52	1	0	0	0	2	742	2669	214	35	13	4	8	3	2946	8628
Total	2593	163	11	6	43	20	2	2838	4292	417	73	36	44	15	4	4881	874	69	2	0	0	1	3	949	4288	422	74	50	6	14	3	4857	13525
Check								2838								4881								949								4857	13525

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 2
Date: 15/10/2016

Notes: -

DESTINATION SUMMARY

	Destination : Arm A - Development Access								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - Surface Car Park Access								Destination : Arm D - Charlestown Avenue (W)								Dest
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
07:00	4	0	0	0	0	0	0	4	10	2	1	1	1	0	0	15	0	0	0	0	0	0	0	0	15	6	2	2	0	0	1	26	45
07:15	2	0	0	0	0	0	0	2	19	6	2	0	1	0	0	28	1	0	0	0	0	0	0	1	17	5	3	4	0	0	0	29	60
07:30	3	2	1	0	2	0	0	8	17	4	0	2	1	0	1	25	3	0	0	0	0	0	0	3	28	10	3	2	0	0	1	44	80
07:45	3	0	0	0	1	0	0	4	22	8	1	3	1	0	0	35	3	0	0	0	0	0	0	3	32	11	3	2	0	1	0	49	91
1 Hr	12	2	1	0	3	0	0	18	68	20	4	6	4	0	1	103	7	0	0	0	0	0	0	7	92	32	11	10	0	1	2	148	276
08:00	4	2	0	0	1	0	0	7	20	9	2	0	0	0	0	31	1	0	0	0	0	0	0	1	27	6	4	0	1	0	0	38	77
08:15	2	2	0	0	1	0	0	5	21	4	0	1	1	0	0	27	0	0	0	0	0	0	0	0	23	14	5	2	0	1	0	45	77
08:30	7	1	0	0	1	0	0	9	29	6	0	1	1	0	0	37	0	0	0	0	0	0	0	0	40	12	1	2	0	0	0	55	101
08:45	13	1	0	0	0	0	0	14	44	9	1	0	1	0	0	55	5	0	0	0	0	0	0	5	58	10	1	0	0	0	1	70	144
1 Hr	26	6	0	0	3	0	0	35	114	28	3	2	3	0	0	150	6	0	0	0	0	0	0	6	148	42	11	4	1	1	1	208	399
09:00	4	2	0	0	1	0	0	7	45	11	2	0	1	0	0	59	5	1	0	0	0	0	0	6	45	12	1	5	0	1	0	64	136
09:15	12	1	0	0	0	0	0	13	37	8	2	3	1	0	0	51	6	0	0	0	0	0	0	6	64	8	2	1	0	0	0	75	145
09:30	17	0	0	1	1	0	0	19	64	11	1	4	1	0	0	81	8	1	0	0	0	0	0	9	77	9	1	1	1	0	0	89	198
09:45	27	2	0	0	1	0	0	30	62	8	1	5	1	0	0	77	11	1	0	0	0	0	0	12	69	15	3	0	0	0	0	87	206
1 Hr	60	5	0	1	3	0	0	69	208	38	6	12	4	0	0	268	30	3	0	0	0	0	0	33	255	44	7	7	1	1	0	315	685
10:00	32	2	0	1	0	0	0	35	64	7	2	3	1	0	0	77	13	1	0	0	0	0	0	14	71	7	2	3	0	0	0	83	209
10:15	30	2	0	0	1	0	0	33	59	13	4	2	1	1	0	80	11	0	0	0	0	0	0	11	78	11	2	1	0	1	0	93	217
10:30	34	3	0	0	1	0	0	38	67	10	3	3	1	0	0	84	7	0	0	0	0	0	0	7	79	17	2	1	2	0	0	101	230
10:45	26	5	2	0	0	0	0	33	81	11	0	2	0	0	0	94	8	0	0	0	0	0	0	8	85	8	3	2	0	0	0	98	233
1 Hr	122	12	2	1	2	0	0	139	271	41	9	10	3	1	0	335	39	1	0	0	0	0	0	40	313	43	9	7	2	1	0	375	889
11:00	20	1	1	0	1	0	0	23	66	4	3	1	2	0	1	77	16	1	0	0	0	0	0	17	100	15	0	2	0	1	0	118	235
11:15	35	3	0	0	1	0	0	39	83	15	1	2	1	0	0	102	17	1	1	0	0	0	0	19	93	12	3	1	0	0	0	109	269
11:30	50	0	1	0	0	0	0	51	95	12	2	0	2	1	0	112	32	4	0	0	0	0	0	36	100	7	0	3	0	0	0	110	309
11:45	42	2	0	0	1	0	0	45	111	15	4	0	1	1	0	132	34	0	0	0	0	0	0	34	121	16	4	0	0	2	0	143	354
1 Hr	147	6	2	0	3	0	0	158	355	46	10	3	6	2	1	423	99	6	1	0	0	0	0	106	414	50	7	6	0	3	0	480	1167
12:00	36	1	0	0	1	0	0	38	94	12	0	1	1	1	0	109	31	1	0	0	0	0	0	32	122	8	2	0	0	1	0	133	312
12:15	62	2	0	0	0	1	0	65	120	8	2	0	1	0	0	131	31	3	0	0	0	0	0	34	128	18	0	0	0	0	0	146	376
12:30	51	3	0	0	1	0	0	55	122	14	1	0	1	0	0	138	24	1	0	0	0	0	0	25	146	13	2	2	0	1	0	164	382
12:45	48	2	0	0	0	0	0	50	138	10	2	1	0	2	0	153	29	3	0	0	0	0	0	32	164	9	2	1	0	0	0	176	411
1 Hr	197	8	0	0	2	1	0	208	474	44	5	2	3	3	0	531	115	8	0	0	0	0	0	123	560	48	6	3	0	2	0	619	1481
6 Hrs	564	39	5	2	16	1	0	627	1490	217	37	35	23	6	2	1810	296	18	1	0	0	0	0	315	1782	259	51	37	4	9	3	2145	4897

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 2
Date: 15/10/2016

Notes: -

DESTINATION SUMMARY

	Destination : Arm A - Development Access								Destination : Arm B - Charlestown Avenue (E)								Destination : Arm C - Surface Car Park Access								Destination : Arm D - Charlestown Avenue (W)								Dest Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
13:00	54	6	0	0	3	0	0	63	101	10	1	2	1	0	0	115	30	5	0	0	0	0	0	35	147	16	2	0	1	2	0	168	381
13:15	44	4	0	0	0	0	0	48	107	11	0	2	2	0	0	122	32	5	0	0	0	0	0	37	136	14	1	0	2	1	0	154	361
13:30	34	2	0	0	0	0	0	36	124	14	2	1	0	0	0	141	35	1	1	0	0	0	0	37	132	7	0	1	1	0	0	141	355
13:45	48	1	0	0	1	0	0	50	122	11	0	2	1	1	1	138	24	2	0	0	0	0	0	26	138	14	3	0	0	1	0	156	370
1 Hr	180	13	0	0	4	0	0	197	454	46	3	7	4	1	1	516	121	13	1	0	0	0	0	135	553	51	6	1	4	4	0	619	1467
14:00	47	4	0	0	1	0	0	52	116	17	1	1	1	0	1	137	33	3	0	0	0	0	0	36	164	18	2	1	0	1	0	186	411
14:15	48	1	1	1	0	0	0	51	106	13	3	0	1	0	0	123	30	3	0	0	0	0	0	33	131	8	2	0	1	3	0	145	352
14:30	60	3	0	0	0	0	0	63	105	10	2	1	1	0	0	119	33	7	0	0	0	0	0	40	141	12	4	0	0	2	0	159	381
14:45	57	4	0	0	0	0	0	61	113	9	3	0	2	0	1	128	38	3	0	0	0	0	0	41	160	9	1	0	3	1	0	174	404
1 Hr	212	12	1	1	1	0	0	227	440	49	9	2	5	0	2	507	134	16	0	0	0	0	0	150	596	47	9	1	4	7	0	664	1548
15:00	75	1	0	0	1	2	0	79	138	8	2	0	1	0	0	149	44	3	0	0	0	0	0	47	144	8	1	0	0	0	0	153	428
15:15	54	0	0	0	1	0	0	55	123	9	3	0	1	1	0	137	34	2	0	0	0	0	0	36	137	10	1	0	0	1	0	149	377
15:30	54	2	0	0	0	0	0	56	137	10	1	0	0	0	1	149	29	0	0	0	0	0	0	29	179	6	1	0	0	2	0	188	422
15:45	65	3	0	0	2	0	0	70	117	7	2	0	1	0	0	127	40	3	0	0	0	0	0	43	145	12	0	0	0	2	0	159	399
1 Hr	248	6	0	0	4	2	0	260	515	34	8	0	3	1	1	562	147	8	0	0	0	0	0	155	605	36	3	0	0	5	0	649	1626
16:00	44	3	0	0	1	0	0	48	116	8	0	1	2	1	0	128	33	3	0	0	0	0	0	36	139	11	1	0	0	2	0	153	365
16:15	50	2	0	0	1	0	0	53	112	8	2	0	0	1	0	123	22	1	0	0	0	0	0	23	138	8	0	0	0	1	1	148	347
16:30	53	1	0	0	0	0	0	54	108	0	0	0	2	1	0	111	21	3	0	0	0	0	0	24	123	10	1	1	1	0	0	136	325
16:45	47	2	0	0	1	0	0	50	109	9	1	0	0	0	0	119	28	1	0	0	0	0	0	29	135	7	1	0	0	0	0	143	341
1 Hr	194	8	0	0	3	0	0	205	445	25	3	1	4	3	0	481	104	8	0	0	0	0	0	112	535	36	3	1	1	3	1	580	1378
17:00	46	1	0	0	1	0	0	48	121	7	1	0	1	0	1	131	21	2	0	0	0	0	0	23	136	7	0	0	0	2	1	146	348
17:15	77	1	1	0	0	0	0	79	130	7	2	0	1	0	0	140	23	1	0	0	0	0	0	24	123	6	0	1	0	2	0	132	375
17:30	61	0	0	0	1	0	0	62	112	8	1	0	1	0	0	122	20	1	0	0	0	0	0	21	115	5	2	0	0	1	0	123	328
17:45	71	1	0	0	1	0	0	73	108	7	2	1	1	1	0	120	14	2	0	0	0	0	0	16	152	9	0	0	0	2	0	163	372
1 Hr	255	3	1	0	3	0	0	262	471	29	6	1	4	1	1	513	78	6	0	0	0	0	0	84	526	27	2	1	0	7	1	564	1423
18:00	61	2	0	0	1	0	0	64	95	10	1	1	0	0	0	107	11	0	0	0	0	0	0	11	137	4	1	1	0	0	0	143	325
18:15	37	2	0	0	0	0	0	39	109	6	2	0	1	0	0	118	3	0	0	0	0	0	0	3	133	10	3	0	1	0	0	147	307
18:30	47	3	0	0	0	0	0	50	96	5	0	0	0	0	0	101	5	1	0	0	0	0	0	6	122	6	0	0	0	0	0	128	285
18:45	35	1	0	0	1	0	0	37	102	9	2	0	1	0	0	114	2	1	0	0	0	0	0	3	107	5	2	0	1	0	0	115	269
1 Hr	180	8	0	0	2	0	0	190	402	30	5	1	2	0	0	440	21	2	0	0	0	0	0	23	499	25	6	1	2	0	0	533	1186
6 Hrs	1269	50	2	1	17	2	0	1341	2727	213	34	12	22	6	5	3019	605	53	1	0	0	0	0	659	3314	222	29	5	11	26	2	3609	8628
Total	1833	89	7	3	33	3	0	1968	4217	430	71	47	45	12	7	4829	901	71	2	0	0	0	0	974	5096	481	80	42	15	35	5	5754	13525

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 3
Date: 15/10/2016

Notes: -

Entry : Arm A - St Margaret's Road (N)

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - Melvilee Road								Destination : Arm C - St Margaret's Road (S)								Destination : Arm D - Charlestown Avenue								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
07:00	0	0	0	0	0	0	0	0	5	0	0	0	1	0	0	6	15	1	0	0	0	0	0	16	2	1	0	1	0	0	0	4	26
07:15	0	0	0	0	0	0	0	0	4	3	0	0	1	0	0	8	21	3	0	0	0	0	0	24	4	2	1	1	0	0	0	8	40
07:30	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	6	18	0	1	0	0	0	0	19	9	4	1	0	0	0	1	15	40
07:45	1	0	0	0	0	0	0	1	8	1	0	0	1	0	0	10	17	2	1	0	1	0	0	21	14	4	0	0	0	0	0	18	50
1 Hr	1	0	0	0	0	0	0	1	22	5	0	0	3	0	0	30	71	6	2	0	1	0	0	80	29	11	2	2	0	0	1	45	156
08:00	1	0	0	0	0	0	0	1	8	5	1	0	1	0	0	15	22	3	2	0	0	0	0	27	10	1	2	0	0	0	0	13	56
08:15	1	0	0	0	0	0	0	1	7	1	0	0	0	0	0	8	21	2	0	0	0	0	0	23	14	2	2	0	0	1	0	19	51
08:30	1	0	0	0	0	0	0	1	10	1	0	0	0	0	0	11	41	2	1	0	0	0	0	44	17	1	0	0	0	0	0	18	74
08:45	2	0	0	0	0	0	0	2	13	1	0	0	1	0	0	15	44	3	0	0	0	0	0	47	15	2	1	0	0	0	0	18	82
1 Hr	5	0	0	0	0	0	0	5	38	8	1	0	2	0	0	49	128	10	3	0	0	0	0	141	56	6	5	0	0	1	0	68	263
09:00	0	0	0	0	0	0	0	0	10	1	0	0	1	0	0	12	28	2	0	1	0	0	1	32	14	5	0	0	0	0	0	19	63
09:15	1	0	0	0	0	0	0	1	17	1	1	0	1	0	0	20	48	6	1	0	0	0	0	55	22	2	0	0	0	0	0	24	100
09:30	2	0	0	0	0	0	0	2	15	3	0	0	1	0	0	19	58	5	0	0	1	0	0	64	31	3	0	1	0	0	1	36	121
09:45	1	0	0	0	0	0	0	1	25	2	0	1	1	0	0	29	45	4	0	2	0	0	0	51	20	1	1	0	0	0	0	22	103
1 Hr	4	0	0	0	0	0	0	4	67	7	1	1	4	0	0	80	179	17	1	3	1	0	1	202	87	11	1	1	0	0	1	101	387
10:00	1	0	0	0	0	0	0	1	17	0	0	0	1	0	0	18	51	6	1	2	0	0	0	60	24	1	1	1	0	0	0	27	106
10:15	1	0	0	0	0	0	0	1	22	3	0	0	1	0	0	26	52	6	0	0	1	1	0	60	35	5	1	1	0	0	0	42	129
10:30	1	0	0	0	0	0	0	1	24	2	0	0	0	0	0	26	68	3	1	0	0	0	0	72	26	6	1	0	1	0	0	34	133
10:45	1	0	0	0	0	0	0	1	38	6	0	0	1	0	0	45	77	1	1	0	0	0	1	80	29	4	1	0	0	0	0	34	160
1 Hr	4	0	0	0	0	0	0	4	101	11	0	0	3	0	0	115	248	16	3	2	1	1	1	272	114	16	4	2	1	0	0	137	528
11:00	3	0	0	0	0	0	0	3	35	8	0	0	1	0	0	44	74	1	0	0	0	0	0	75	31	3	0	0	1	0	0	35	157
11:15	2	0	0	0	0	0	0	2	36	2	0	0	1	0	0	39	76	6	0	2	1	0	1	86	29	5	0	0	0	0	0	34	161
11:30	2	0	0	0	0	0	0	2	45	2	0	0	2	0	0	49	93	6	1	2	0	0	0	102	42	2	0	0	0	0	0	44	197
11:45	0	1	0	0	0	0	0	1	46	2	0	0	1	0	0	49	81	4	0	0	0	0	0	85	34	2	2	0	0	1	0	39	174
1 Hr	7	1	0	0	0	0	0	8	162	14	0	0	5	0	0	181	324	17	1	4	1	0	1	348	136	12	2	0	1	1	0	152	689
12:00	4	0	0	0	0	0	0	4	34	1	4	0	1	0	0	40	79	5	0	0	0	0	0	84	40	5	1	0	0	0	0	46	174
12:15	1	0	0	0	0	0	0	1	34	2	0	0	1	0	0	37	94	9	1	0	1	0	1	106	31	2	0	0	0	0	0	33	177
12:30	1	0	0	0	0	0	0	1	42	0	0	0	2	0	1	45	98	4	0	3	0	2	0	107	44	5	1	1	0	0	0	51	204
12:45	1	0	0	0	0	0	0	1	53	2	0	0	1	0	0	56	84	5	2	1	0	1	1	94	37	3	1	0	0	1	0	42	193
1 Hr	7	0	0	0	0	0	0	7	163	5	4	0	5	0	1	178	355	23	3	4	1	3	2	391	152	15	3	1	0	1	0	172	748
6 Hrs	28	1	0	0	0	0	0	29	553	50	6	1	22	0	1	633	1305	89	13	13	5	4	5	1434	574	71	17	6	2	3	2	675	2771

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 3
Date: 15/10/2016

Notes: -

Entry : Arm A - St Margaret's Road (N)

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - Melvilee Road								Destination : Arm C - St Margaret's Road (S)								Destination : Arm D - Charlestown Avenue								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
13:00	2	0	0	0	0	0	0	2	33	1	1	0	1	0	1	37	76	5	0	1	0	0	0	82	28	1	1	0	1	0	0	31	152
13:15	2	0	0	0	0	0	0	2	53	1	1	0	1	0	1	57	84	3	1	0	0	0	1	89	37	3	0	0	0	0	0	40	188
13:30	2	0	0	0	0	0	0	2	39	2	0	0	1	0	0	42	91	3	0	0	1	1	1	97	47	3	0	0	1	0	0	51	192
13:45	2	0	0	0	0	0	0	2	40	1	0	0	1	0	0	42	93	4	0	0	0	0	0	97	33	2	0	0	0	0	0	35	176
1 Hr	8	0	0	0	0	0	0	8	165	5	2	0	4	0	2	178	344	15	1	1	1	1	2	365	145	9	1	0	2	0	0	157	708
14:00	0	0	0	0	0	0	0	0	47	4	0	0	1	0	0	52	99	5	0	0	1	0	0	105	36	6	0	0	0	0	0	42	199
14:15	3	0	0	0	0	0	0	3	44	2	0	0	2	0	0	48	103	8	0	0	0	1	0	112	43	1	1	0	0	1	0	46	209
14:30	0	0	0	0	0	0	0	0	38	1	0	0	0	0	0	39	69	6	0	0	0	1	0	76	44	0	2	0	0	0	0	46	161
14:45	1	0	0	0	0	0	0	1	57	2	0	0	1	0	0	60	87	7	0	0	0	0	0	94	45	2	0	0	0	0	0	47	202
1 Hr	4	0	0	0	0	0	0	4	186	9	0	0	4	0	0	199	358	26	0	0	1	2	0	387	168	9	3	0	0	1	0	181	771
15:00	4	1	0	0	0	0	0	5	49	5	0	0	1	0	0	55	78	4	0	0	1	0	0	83	42	1	0	0	0	0	0	43	186
15:15	1	1	0	0	0	0	0	2	39	0	0	0	1	0	0	40	83	5	0	0	0	0	1	89	49	4	1	0	0	0	0	54	185
15:30	3	0	0	0	0	0	0	3	42	2	0	0	0	0	0	44	73	4	0	0	0	0	0	77	33	1	0	0	0	0	0	34	158
15:45	1	0	0	0	0	0	0	1	33	1	1	0	2	1	0	38	72	4	0	0	1	0	1	78	53	0	0	0	0	0	0	53	170
1 Hr	9	2	0	0	0	0	0	11	163	8	1	0	4	1	0	177	306	17	0	0	2	0	2	327	177	6	1	0	0	0	0	184	699
16:00	2	0	0	0	0	0	0	2	39	1	2	0	1	1	1	45	88	1	0	0	0	0	0	89	47	6	1	0	0	0	0	54	190
16:15	3	0	0	0	0	0	0	3	40	3	0	0	1	0	0	44	46	2	1	0	1	0	0	50	39	1	0	0	0	0	0	40	137
16:30	0	0	0	0	0	0	0	0	42	3	0	0	1	2	0	48	72	3	0	0	0	0	1	76	34	2	0	0	0	0	0	36	160
16:45	5	0	0	0	0	0	0	5	42	2	0	0	1	0	0	45	90	4	3	0	0	1	0	98	40	3	0	0	0	0	0	43	191
1 Hr	10	0	0	0	0	0	0	10	163	9	2	0	4	3	1	182	296	10	4	0	1	1	1	313	160	12	1	0	0	0	0	173	678
17:00	1	0	0	0	0	0	0	1	34	0	0	0	1	0	0	35	74	5	0	0	0	1	2	82	36	2	0	0	0	0	0	38	156
17:15	0	0	0	0	0	0	0	0	43	5	0	0	1	0	0	49	85	3	1	0	0	0	0	89	35	4	0	0	0	1	0	40	178
17:30	2	0	0	0	0	0	0	2	43	4	0	0	1	0	0	48	70	9	1	0	0	1	1	82	29	1	0	0	0	1	0	31	163
17:45	2	0	0	0	0	0	0	2	51	2	0	0	1	0	0	54	98	2	1	0	0	1	0	102	52	4	0	0	0	0	0	56	214
1 Hr	5	0	0	0	0	0	0	5	171	11	0	0	4	0	0	186	327	19	3	0	0	3	3	355	152	11	0	0	0	2	0	165	711
18:00	1	0	0	0	0	0	0	1	46	3	0	0	1	0	1	51	66	3	2	0	0	0	0	71	34	1	1	0	0	0	0	36	159
18:15	2	0	0	0	0	0	0	2	39	1	0	0	1	0	0	41	89	2	0	0	0	0	1	92	35	1	0	0	0	0	0	36	171
18:30	1	0	0	0	0	0	0	1	43	3	0	0	1	0	0	47	64	4	0	0	0	0	0	68	33	2	0	0	0	0	0	35	151
18:45	0	0	0	0	0	0	0	0	30	2	0	0	1	0	0	33	70	4	0	0	0	1	0	75	25	1	0	0	0	0	0	26	134
1 Hr	4	0	0	0	0	0	0	4	158	9	0	0	4	0	1	172	289	13	2	0	0	1	1	306	127	5	1	0	0	0	0	133	615
6 Hrs	40	2	0	0	0	0	0	42	1006	51	5	0	24	4	4	1094	1920	100	10	1	5	8	9	2053	929	52	7	0	2	3	0	993	4182
Total	68	3	0	0	0	0	0	71	1559	101	11	1	46	4	5	1727	3225	189	23	14	10	12	14	3487	1503	123	24	6	4	6	2	1668	6953
Check								71								1727								3487								1668	6953

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 3
Date: 15/10/2016

Notes: -

Entry : Arm B - Melvilee Road

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - Melvilee Road								Destination : Arm C - St Margaret's Road (S)								Destination : Arm D - Charlestown Avenue								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
07:00	3	2	0	0	0	0	0	5	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	4	8	2	0	1	0	0	1	12	21
07:15	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	5	1	0	0	1	0	0	7	7	0	2	2	0	0	0	11	20
07:30	4	1	0	0	1	0	0	6	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	5	13	6	2	2	1	0	0	24	35
07:45	1	0	0	0	2	0	0	3	0	0	0	0	0	0	0	0	7	1	0	0	1	0	0	9	11	7	1	2	1	1	0	23	35
1 Hr	10	3	0	0	3	0	0	16	0	0	0	0	0	0	0	0	17	5	0	0	3	0	0	25	39	15	5	7	2	1	1	70	111
08:00	7	1	1	0	0	0	0	9	0	0	0	0	0	0	0	0	8	1	0	0	1	0	0	10	15	6	0	0	1	0	0	22	41
08:15	6	1	0	0	1	0	0	8	0	0	0	0	0	0	0	0	10	0	0	0	1	0	0	11	5	12	3	2	1	0	0	23	42
08:30	4	0	1	0	0	0	0	5	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6	19	8	1	2	1	0	0	31	42
08:45	12	1	0	0	1	0	0	14	0	0	0	0	0	0	0	0	16	0	0	0	1	0	0	17	23	7	0	0	0	0	0	30	61
1 Hr	29	3	2	0	2	0	0	36	0	0	0	0	0	0	0	0	40	1	0	0	3	0	0	44	62	33	4	4	3	0	0	106	186
09:00	8	2	0	0	0	0	0	10	0	0	0	0	0	0	0	0	13	4	0	0	1	0	0	18	24	6	1	4	1	0	0	36	64
09:15	15	0	0	0	2	0	0	17	0	0	0	0	0	0	0	0	8	2	1	0	1	0	0	12	25	5	0	1	0	0	0	31	60
09:30	20	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	18	2	0	0	0	0	0	20	33	4	1	0	1	0	0	39	79
09:45	21	3	0	0	1	0	0	25	0	0	0	0	0	0	0	0	16	1	0	0	1	0	0	18	43	12	1	0	1	0	0	57	100
1 Hr	64	5	0	0	3	0	0	72	0	0	0	0	0	0	0	0	55	9	1	0	3	0	0	68	125	27	3	5	3	0	0	163	303
10:00	25	0	1	0	0	0	0	26	0	0	0	0	0	0	0	0	21	0	0	0	2	0	0	23	40	4	1	1	0	0	0	46	95
10:15	32	0	0	1	1	0	0	34	0	0	0	0	0	0	0	0	21	3	0	0	1	0	0	25	33	5	2	0	1	0	0	41	100
10:30	30	0	3	0	1	0	0	34	0	0	0	0	0	0	0	0	17	6	1	0	0	0	0	24	33	8	3	1	1	0	0	46	104
10:45	32	3	0	0	1	0	0	36	0	0	0	0	0	0	0	0	18	5	1	0	1	0	0	25	40	5	1	1	0	0	0	47	108
1 Hr	119	3	4	1	3	0	0	130	0	0	0	0	0	0	0	0	77	14	2	0	4	0	0	97	146	22	7	3	2	0	0	180	407
11:00	24	2	0	0	0	0	0	26	0	0	0	0	0	0	0	0	26	4	0	0	1	0	0	31	39	7	0	2	2	0	0	50	107
11:15	31	1	1	0	1	0	0	34	0	0	0	0	0	0	0	0	24	0	0	0	1	0	0	25	42	8	4	1	0	0	0	55	114
11:30	37	0	0	0	1	0	1	39	0	0	0	0	0	0	0	0	22	1	0	0	0	0	0	23	42	3	0	1	0	0	0	46	108
11:45	41	1	1	0	0	0	0	43	0	0	0	0	0	0	0	0	21	2	0	1	1	0	0	25	47	4	1	0	1	0	0	53	121
1 Hr	133	4	2	0	2	0	1	142	0	0	0	0	0	0	0	0	93	7	0	1	3	0	0	104	170	22	5	4	3	0	0	204	450
12:00	29	2	0	0	2	0	0	33	0	0	0	0	0	0	0	0	34	1	1	0	1	0	0	37	43	5	0	0	1	0	0	49	119
12:15	35	1	2	0	1	0	0	39	0	0	0	0	0	0	0	0	23	1	2	0	2	0	0	28	60	8	0	0	1	0	0	69	136
12:30	36	2	2	0	0	0	0	40	0	0	0	0	0	0	0	0	28	4	0	0	0	0	0	32	51	4	1	1	0	0	0	57	129
12:45	36	3	0	0	2	0	0	41	0	0	0	0	0	0	0	0	22	2	1	0	1	1	0	27	55	3	1	1	0	0	0	60	128
1 Hr	136	8	4	0	5	0	0	153	0	0	0	0	0	0	0	0	107	8	4	0	4	1	0	124	209	20	2	2	2	0	0	235	512
6 Hrs	491	26	12	1	18	0	1	549	0	0	0	0	0	0	0	0	389	44	7	1	20	1	0	462	751	139	26	25	15	1	1	958	1969

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 3
Date: 15/10/2016

Notes: -

Entry : Arm B - Melvilee Road

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - Melvilee Road								Destination : Arm C - St Margaret's Road (S)								Destination : Arm D - Charlestown Avenue								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
13:00	36	0	0	0	1	0	1	38	0	0	0	0	0	0	0	0	35	1	0	0	1	2	1	40	61	8	1	0	1	1	0	72	150
13:15	30	2	0	0	1	0	0	33	0	0	0	0	0	0	0	0	22	1	0	1	0	0	0	24	39	6	1	0	2	0	0	48	105
13:30	33	1	0	0	2	0	0	36	0	0	0	0	0	0	0	0	32	1	1	0	1	1	0	36	46	2	0	1	1	0	0	50	122
13:45	32	2	0	0	0	0	0	34	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	25	39	7	3	0	0	0	0	49	108
1 Hr	131	5	0	0	4	0	1	141	0	0	0	0	0	0	0	0	114	3	1	1	2	3	1	125	185	23	5	1	4	1	0	219	485
14:00	49	1	0	0	1	0	0	51	0	0	0	0	0	0	0	0	29	2	1	0	0	0	0	32	54	7	1	0	1	0	0	63	146
14:15	39	1	0	0	0	0	0	40	0	0	0	0	0	0	0	0	27	1	0	0	2	0	0	30	48	5	1	0	1	2	0	57	127
14:30	42	2	0	0	2	1	1	48	0	0	0	0	0	0	0	0	18	2	0	0	0	0	0	20	65	5	1	0	0	1	0	72	140
14:45	40	1	0	0	1	0	0	42	0	0	0	0	0	0	0	0	26	1	1	0	0	0	0	28	57	2	0	0	3	0	0	62	132
1 Hr	170	5	0	0	4	1	1	181	0	0	0	0	0	0	0	0	100	6	2	0	2	0	0	110	224	19	3	0	5	3	0	254	545
15:00	47	0	0	0	1	0	1	49	0	0	0	0	0	0	0	0	48	1	0	0	2	0	0	51	52	8	1	0	1	0	0	62	162
15:15	26	0	0	0	1	0	0	27	0	0	0	0	0	0	0	0	27	1	0	0	1	1	0	30	45	3	0	0	1	0	0	49	106
15:30	44	1	1	0	1	0	0	47	0	0	0	0	0	0	0	0	27	5	0	0	0	0	0	32	72	8	1	0	0	0	0	81	160
15:45	50	2	0	0	1	0	0	53	0	0	0	0	0	0	0	0	26	1	0	0	1	0	0	28	52	9	0	0	3	0	0	64	145
1 Hr	167	3	1	0	4	0	1	176	0	0	0	0	0	0	0	0	128	8	0	0	4	1	0	141	221	28	2	0	5	0	0	256	573
16:00	27	1	1	0	1	0	0	30	0	0	0	0	0	0	0	0	25	1	1	0	1	0	0	28	40	2	0	0	3	0	0	45	103
16:15	31	0	0	0	2	0	0	33	0	0	0	0	0	0	0	0	20	0	1	0	1	0	0	22	49	2	0	0	1	0	0	52	107
16:30	33	1	0	0	0	0	0	34	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	26	52	7	0	0	1	0	1	61	121
16:45	36	0	0	0	0	0	0	36	0	0	0	0	0	0	0	0	19	0	0	0	1	1	0	21	50	1	1	0	1	0	0	53	110
1 Hr	127	2	1	0	3	0	0	133	0	0	0	0	0	0	0	0	90	1	2	0	3	1	0	97	191	12	1	0	6	0	1	211	441
17:00	26	1	0	0	1	0	0	28	0	0	0	0	0	0	0	0	30	1	1	0	1	0	0	33	41	3	0	0	1	0	1	46	107
17:15	37	1	0	0	2	0	0	40	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	25	39	1	0	1	0	0	0	41	106
17:30	38	2	0	0	2	0	0	42	0	0	0	0	0	0	0	0	24	1	0	0	1	0	0	26	38	2	2	0	1	0	0	43	111
17:45	24	2	0	0	0	0	1	27	0	0	0	0	0	0	0	0	28	1	0	0	1	0	0	30	39	3	0	0	1	2	0	45	102
1 Hr	125	6	0	0	5	0	1	137	0	0	0	0	0	0	0	0	107	3	1	0	3	0	0	114	157	9	2	1	3	2	1	175	426
18:00	24	0	0	0	1	0	0	25	0	0	0	0	0	0	0	0	20	1	0	0	0	0	2	23	43	1	0	1	1	0	0	46	94
18:15	26	4	0	0	2	0	0	32	0	0	0	0	0	0	0	0	19	1	0	0	0	0	0	20	35	5	2	0	1	0	0	43	95
18:30	17	2	1	0	0	0	0	20	0	0	0	0	0	0	0	0	18	2	0	0	1	0	0	21	37	5	0	0	0	0	0	42	83
18:45	18	1	0	0	0	0	0	19	0	0	0	0	0	0	0	0	17	0	0	0	1	0	0	18	30	2	2	0	2	0	0	36	73
1 Hr	85	7	1	0	3	0	0	96	0	0	0	0	0	0	0	0	74	4	0	0	2	0	2	82	145	13	4	1	4	0	0	167	345
6 Hrs	805	28	3	0	23	1	4	864	0	0	0	0	0	0	0	0	613	25	6	1	16	5	3	669	1123	104	17	3	27	6	2	1282	2815
Total	1296	54	15	1	41	1	5	1413	0	0	0	0	0	0	0	0	1002	69	13	2	36	6	3	1131	1874	243	43	28	42	7	3	2240	4784
Check								1413								0								1131								2240	4784

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 3
Date: 15/10/2016

Notes: -

Entry : Arm C - St Margaret's Road (S)

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - Melvilee Road								Destination : Arm C - St Margaret's Road (S)								Destination : Arm D - Charlestown Avenue								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
07:00	11	0	0	0	1	0	0	12	3	4	0	0	0	0	0	7	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	20
07:15	9	2	0	0	0	0	0	11	4	1	1	0	0	0	0	6	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	20
07:30	17	1	0	0	0	0	0	18	2	3	0	0	0	0	0	5	0	0	0	0	0	0	0	0	7	0	0	0	1	0	0	8	31
07:45	21	0	1	0	0	0	0	22	3	5	0	0	1	0	0	9	0	0	0	0	0	0	0	0	4	0	1	0	0	0	0	5	36
1 Hr	58	3	1	0	1	0	0	63	12	13	1	0	1	0	0	27	0	0	0	0	0	0	0	0	14	1	1	0	1	0	0	17	107
08:00	19	2	0	0	0	0	0	21	5	1	0	0	1	0	0	7	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	29
08:15	20	1	1	2	0	0	0	24	2	2	1	0	0	0	0	5	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	32
08:30	12	0	0	3	0	0	0	15	5	0	0	0	1	0	0	6	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5	26
08:45	25	2	0	0	0	0	0	27	11	3	0	0	1	0	0	15	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	47
1 Hr	76	5	1	5	0	0	0	87	23	6	1	0	3	0	0	33	0	0	0	0	0	0	0	0	11	2	1	0	0	0	0	14	134
09:00	25	0	0	0	0	0	0	25	9	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	5	2	0	1	0	0	0	8	42
09:15	53	2	0	0	0	0	0	55	13	0	0	0	1	0	0	14	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	11	80
09:30	61	2	0	2	0	0	0	65	14	2	0	0	1	0	0	17	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	87
09:45	49	3	1	0	0	0	0	53	11	1	0	0	0	0	0	12	0	0	0	0	0	0	0	0	7	1	0	0	0	0	0	8	73
1 Hr	188	7	1	2	0	0	0	198	47	3	0	0	2	0	0	52	0	0	0	0	0	0	0	0	28	3	0	1	0	0	0	32	282
10:00	49	5	1	0	0	0	0	55	12	0	0	0	1	0	0	13	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	13	81
10:15	66	5	0	1	0	0	0	72	11	1	0	0	1	0	0	13	0	0	0	0	0	0	0	0	15	1	0	0	0	0	0	16	101
10:30	68	6	0	0	0	0	1	75	21	2	0	0	1	0	0	24	0	0	0	0	0	0	0	0	14	1	0	0	0	0	0	15	114
10:45	81	4	1	1	0	1	0	88	13	3	0	0	0	0	0	16	0	0	0	0	0	0	0	0	7	1	0	0	0	0	0	8	112
1 Hr	264	20	2	2	0	1	1	290	57	6	0	0	3	0	0	66	0	0	0	0	0	0	0	0	49	3	0	0	0	0	0	52	408
11:00	63	7	0	2	1	0	0	73	25	4	0	1	1	0	0	31	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5	109
11:15	79	6	1	1	0	0	0	87	27	2	0	1	0	0	0	30	0	0	0	0	0	0	0	0	15	1	0	0	0	0	0	16	133
11:30	82	4	0	1	0	0	0	87	18	3	0	1	2	0	0	24	0	0	0	0	0	0	0	0	30	0	1	0	0	0	0	31	142
11:45	73	6	0	1	0	0	0	80	22	1	1	0	0	0	0	24	0	0	0	0	0	0	0	0	34	0	1	0	0	0	0	35	139
1 Hr	297	23	1	5	1	0	0	327	92	10	1	3	3	0	0	109	0	0	0	0	0	0	0	0	83	2	2	0	0	0	0	87	523
12:00	86	6	0	3	1	0	0	96	25	2	1	0	1	0	0	29	0	0	0	0	0	0	0	0	24	0	0	0	0	0	0	24	149
12:15	82	7	1	1	0	0	0	91	36	3	0	0	0	0	0	39	0	0	0	0	0	0	0	0	29	4	0	0	0	0	0	33	163
12:30	84	6	1	0	0	1	5	97	22	3	0	0	1	0	0	26	0	0	0	0	0	0	0	0	24	0	0	0	0	0	0	24	147
12:45	102	12	0	1	0	0	1	116	28	4	0	1	1	0	0	34	0	0	0	0	0	0	0	0	36	5	0	0	0	0	0	41	191
1 Hr	354	31	2	5	1	1	6	400	111	12	1	1	3	0	0	128	0	0	0	0	0	0	0	0	113	9	0	0	0	0	0	122	650
6 Hrs	1237	89	8	19	3	2	7	1365	342	50	4	4	15	0	0	415	0	0	0	0	0	0	0	0	298	20	4	1	1	0	0	324	2104

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 3
Date: 15/10/2016

Notes: -

Entry : Arm C - St Margaret's Road (S)

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - Melvilee Road								Destination : Arm C - St Margaret's Road (S)								Destination : Arm D - Charlestown Avenue								Arm
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
13:00	84	7	1	2	2	0	0	96	25	2	0	0	0	0	0	27	0	0	0	0	0	0	0	0	25	3	0	0	0	0	0	28	151
13:15	85	10	1	2	0	0	0	98	25	2	0	1	1	0	1	30	0	0	0	0	0	0	0	0	28	4	0	0	0	0	0	32	160
13:30	85	8	0	1	0	1	0	95	25	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0	20	1	1	0	0	0	0	22	142
13:45	109	5	0	1	0	0	1	116	37	6	1	0	2	0	0	46	0	0	0	0	0	0	0	0	32	2	1	0	0	0	0	35	197
1 Hr	363	30	2	6	2	1	1	405	112	10	1	1	3	0	1	128	0	0	0	0	0	0	0	0	105	10	2	0	0	0	0	117	650
14:00	79	6	0	0	0	0	0	85	34	4	0	0	2	0	0	40	1	0	0	0	0	0	0	1	26	3	1	0	0	0	0	30	156
14:15	91	8	0	0	0	0	0	99	22	0	1	0	2	0	0	25	0	0	0	0	0	0	0	0	21	3	1	0	0	0	0	25	149
14:30	84	6	1	0	0	1	0	92	33	2	0	0	1	1	0	37	1	0	0	0	0	0	0	1	28	4	0	0	0	0	0	32	162
14:45	90	3	0	0	1	0	0	94	37	2	1	0	2	1	0	43	0	0	0	0	0	0	0	0	29	0	0	0	0	0	0	29	166
1 Hr	344	23	1	0	1	1	0	370	126	8	2	0	7	2	0	145	2	0	0	0	0	0	0	2	104	10	2	0	0	0	0	116	633
15:00	80	1	1	0	0	0	0	82	28	5	0	0	0	0	1	34	0	0	0	0	0	0	0	0	45	2	0	0	0	0	0	47	163
15:15	108	4	0	0	0	1	1	114	30	2	1	0	0	0	0	33	0	0	0	0	0	0	0	0	26	2	0	0	0	0	0	28	175
15:30	95	4	0	0	0	0	1	100	26	2	0	0	1	2	0	31	0	0	0	0	0	0	0	0	37	0	0	0	0	0	0	37	168
15:45	67	1	0	0	2	0	0	70	21	1	0	0	0	0	0	22	1	0	0	0	0	0	0	1	30	0	0	0	0	0	0	30	123
1 Hr	350	10	1	0	2	1	2	366	105	10	1	0	1	2	1	120	1	0	0	0	0	0	0	1	138	4	0	0	0	0	0	142	629
16:00	76	6	1	0	1	0	1	85	24	0	0	0	0	0	0	24	0	0	0	0	0	0	0	0	28	1	0	0	0	0	0	29	138
16:15	81	5	2	0	0	1	0	89	34	5	0	0	0	2	0	41	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0	22	152
16:30	78	0	0	0	0	0	0	78	27	1	0	0	2	0	0	30	0	0	0	0	0	0	0	0	15	2	0	1	0	0	0	18	126
16:45	89	2	0	0	0	1	0	92	31	2	0	0	0	1	0	34	0	0	0	0	0	0	0	0	24	0	0	0	0	0	0	24	150
1 Hr	324	13	3	0	1	2	1	344	116	8	0	0	2	3	0	129	0	0	0	0	0	0	0	0	89	3	0	1	0	0	0	93	566
17:00	81	4	0	0	0	0	0	85	33	2	1	0	1	1	0	38	0	0	0	0	0	0	0	0	34	2	0	0	0	0	0	36	159
17:15	88	5	0	0	0	1	0	94	22	0	0	0	1	0	0	23	0	0	0	0	0	0	0	0	17	1	0	0	0	0	0	18	135
17:30	90	4	2	0	0	0	0	96	22	2	0	0	1	0	0	25	0	0	0	0	0	0	0	0	24	0	0	0	0	0	0	24	145
17:45	92	5	1	0	0	0	0	98	19	3	0	0	0	0	0	22	0	0	0	0	0	0	0	0	26	2	0	0	0	0	0	28	148
1 Hr	351	18	3	0	0	1	0	373	96	7	1	0	3	1	0	108	0	0	0	0	0	0	0	0	101	5	0	0	0	0	0	106	587
18:00	71	7	0	0	1	0	0	79	25	1	0	0	1	0	0	27	0	0	0	0	0	0	0	0	24	1	0	0	0	0	0	25	131
18:15	83	2	0	0	0	0	1	86	26	1	0	0	0	0	0	27	0	0	0	0	0	0	0	0	17	1	0	0	0	0	0	18	131
18:30	66	4	1	0	0	1	0	72	20	1	0	0	2	0	0	23	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	19	114
18:45	65	2	0	0	0	0	1	68	19	1	0	0	0	0	0	20	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	16	104
1 Hr	285	15	1	0	1	1	2	305	90	4	0	0	3	0	0	97	0	0	0	0	0	0	0	0	76	2	0	0	0	0	0	78	480
6 Hrs	2017	109	11	6	7	7	6	2163	645	47	5	1	19	8	2	727	3	0	0	0	0	0	0	3	613	34	4	1	0	0	0	652	3545
Total	3254	198	19	25	10	9	13	3528	987	97	9	5	34	8	2	1142	3	0	0	0	0	0	0	3	911	54	8	2	1	0	0	976	5649
Check								3528								1142								3								976	5649

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 3
Date: 15/10/2016

Notes: -

Entry : Arm D - Charlestown Avenue

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - Melvilee Road								Destination : Arm C - St Margaret's Road (S)								Destination : Arm D - Charlestown Avenue								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
07:00	6	0	0	0	0	0	0	6	2	3	1	1	1	0	0	8	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	16
07:15	3	0	0	0	0	0	0	3	13	7	2	0	1	0	0	23	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	28
07:30	4	1	0	0	0	0	0	5	10	3	0	2	1	0	0	16	1	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	23
07:45	10	3	1	1	0	0	0	15	12	4	0	2	0	0	0	18	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	34
1 Hr	23	4	1	1	0	0	0	29	37	17	3	5	3	0	0	65	4	2	0	0	0	0	1	7	0	0	0	0	0	0	0	0	101
08:00	3	0	1	0	0	0	0	4	17	8	1	0	1	0	0	27	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	32
08:15	7	1	0	0	0	0	0	8	8	2	0	1	1	0	0	12	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	27
08:30	7	0	0	0	0	0	0	7	19	5	0	1	1	0	0	26	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	36
08:45	10	1	0	0	0	0	0	11	28	6	0	0	0	0	0	34	6	2	0	0	0	0	0	8	0	0	0	0	0	0	0	0	53
1 Hr	27	2	1	0	0	0	0	30	72	21	1	2	3	0	0	99	16	3	0	0	0	0	0	19	0	0	0	0	0	0	0	0	148
09:00	15	2	1	0	1	0	0	19	24	8	1	0	1	0	0	34	5	2	0	0	0	0	0	7	0	0	0	0	0	0	0	0	60
09:15	11	5	2	0	0	0	0	18	20	3	0	3	1	0	0	27	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	50
09:30	23	2	2	0	0	0	0	27	29	7	0	4	1	0	0	41	6	1	0	0	0	0	0	7	2	0	0	0	0	0	0	2	77
09:45	34	2	1	1	0	0	0	38	28	7	0	3	1	0	0	39	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	80
1 Hr	83	11	6	1	1	0	0	102	101	25	1	10	4	0	0	141	18	3	0	0	0	0	0	21	3	0	0	0	0	0	0	3	267
10:00	25	1	0	0	0	0	0	26	28	3	2	4	1	0	0	38	11	1	0	0	0	0	0	12	0	0	0	0	0	0	0	0	76
10:15	26	3	0	1	0	0	0	30	23	11	4	1	0	0	0	39	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	76
10:30	32	6	0	1	0	0	0	39	25	4	3	2	1	0	0	35	11	1	0	0	0	0	0	12	1	0	0	0	0	0	0	1	87
10:45	36	5	0	0	0	0	0	41	31	5	0	1	1	1	0	39	11	1	0	1	0	0	0	13	0	0	0	0	0	0	0	0	93
1 Hr	119	15	0	2	0	0	0	136	107	23	9	8	3	1	0	151	40	3	0	1	0	0	0	44	1	0	0	0	0	0	0	1	332
11:00	27	2	1	0	0	0	0	30	29	1	2	1	1	0	0	34	8	1	0	0	0	0	0	9	1	0	0	0	0	0	0	1	74
11:15	27	11	0	0	0	0	0	38	37	2	0	2	1	0	0	42	13	2	1	0	0	0	0	16	0	0	0	0	0	0	0	0	96
11:30	35	1	0	0	0	1	0	37	45	11	2	0	3	0	1	62	16	1	0	0	0	0	0	17	0	0	0	0	0	0	0	0	116
11:45	45	2	0	0	0	1	0	48	39	9	4	0	1	0	0	53	16	2	0	0	0	0	0	18	2	0	0	0	0	0	0	2	121
1 Hr	134	16	1	0	0	2	0	153	150	23	8	3	6	0	1	191	53	6	1	0	0	0	0	60	3	0	0	0	0	0	0	3	407
12:00	37	4	0	0	0	0	0	41	45	9	1	0	1	1	0	57	16	0	0	0	0	0	0	16	1	0	0	0	0	0	0	1	115
12:15	48	1	2	0	0	0	0	51	58	6	0	0	0	0	0	64	12	1	0	0	0	0	0	13	2	1	0	0	0	0	0	3	131
12:30	43	5	0	0	0	0	0	48	47	9	1	0	1	1	0	59	28	1	0	0	0	0	0	29	1	0	0	0	0	0	0	1	137
12:45	63	4	0	1	0	0	0	68	53	3	1	0	1	1	0	59	23	3	1	0	0	0	0	27	0	0	0	0	0	0	0	0	154
1 Hr	191	14	2	1	0	0	0	208	203	27	3	0	3	3	0	239	79	5	1	0	0	0	0	85	4	1	0	0	0	0	0	5	537
6 Hrs	577	62	11	5	1	2	0	658	670	136	25	28	22	4	1	886	210	22	2	1	0	0	1	236	11	1	0	0	0	0	0	12	1792

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 3
Date: 15/10/2016

Notes: -

Entry : Arm D - Charlestown Avenue

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - Melvilee Road								Destination : Arm C - St Margaret's Road (S)								Destination : Arm D - Charlestown Avenue								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
13:00	43	4	0	0	0	0	0	47	44	7	1	2	1	0	0	55	20	0	0	0	0	0	0	20	2	0	0	0	0	0	0	2	124
13:15	35	3	0	0	0	0	0	38	49	5	0	1	1	0	0	56	16	1	0	0	0	0	0	17	0	0	0	0	0	0	0	0	111
13:30	41	3	0	0	0	0	0	44	57	9	1	0	1	0	0	68	20	3	1	1	0	0	0	25	1	0	0	0	0	0	0	1	138
13:45	52	3	0	0	0	0	0	55	47	4	0	1	1	1	0	54	22	3	1	1	0	0	0	27	1	0	0	0	0	0	0	1	137
1 Hr	171	13	0	0	0	0	0	184	197	25	2	4	4	1	0	233	78	7	2	2	0	0	0	89	4	0	0	0	0	0	0	4	510
14:00	28	7	1	0	0	0	1	37	65	10	0	1	0	0	0	76	26	2	0	0	0	0	0	28	0	0	0	0	0	0	0	0	141
14:15	36	9	0	0	0	0	0	45	44	5	2	0	1	0	0	52	18	1	1	0	0	0	0	20	2	0	0	0	0	0	0	2	119
14:30	40	2	2	0	1	0	0	45	42	6	0	1	1	0	0	50	22	1	0	0	0	0	0	23	1	0	0	0	0	0	0	1	119
14:45	45	2	1	0	1	0	1	50	48	5	1	0	0	0	1	55	13	1	1	0	0	0	0	15	2	0	0	0	0	0	0	2	122
1 Hr	149	20	4	0	2	0	2	177	199	26	3	2	2	0	1	233	79	5	2	0	0	0	0	86	5	0	0	0	0	0	0	5	501
15:00	56	1	1	0	0	0	0	58	54	7	1	0	1	0	0	63	32	2	0	0	0	0	0	34	0	0	0	0	0	0	0	0	155
15:15	49	2	0	1	0	0	0	52	48	3	0	0	1	0	0	52	13	0	1	0	0	1	0	15	0	0	0	0	0	0	0	0	119
15:30	55	3	0	0	0	0	0	58	63	6	2	0	1	0	0	72	23	1	0	0	0	0	0	24	1	0	0	0	0	0	0	1	155
15:45	51	3	1	0	0	0	0	55	57	4	1	0	1	0	0	63	15	3	0	0	0	0	0	18	1	0	0	0	0	0	0	1	137
1 Hr	211	9	2	1	0	0	0	223	222	20	4	0	4	0	0	250	83	6	1	0	0	1	0	91	2	0	0	0	0	0	0	2	566
16:00	46	3	0	1	0	1	0	51	40	3	0	0	1	0	0	44	21	1	0	0	0	0	0	22	0	0	0	0	0	0	0	0	117
16:15	41	5	1	0	0	0	0	47	53	3	1	0	1	1	1	60	21	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	128
16:30	39	0	0	0	1	0	0	40	55	0	0	0	1	0	0	56	23	0	0	0	0	0	0	23	0	0	0	0	0	0	0	0	119
16:45	41	3	0	0	0	0	0	44	45	4	1	0	0	0	0	50	20	0	0	0	0	0	0	20	1	0	0	0	0	0	0	1	115
1 Hr	167	11	1	1	1	1	0	182	193	10	2	0	3	1	1	210	85	1	0	0	0	0	0	86	1	0	0	0	0	0	0	1	479
17:00	52	1	0	0	0	0	0	53	45	7	0	0	1	0	0	53	25	1	1	0	0	0	0	27	0	0	0	0	0	0	0	0	133
17:15	40	3	2	0	0	0	0	45	63	3	0	0	1	0	0	67	16	0	0	0	0	0	0	16	3	0	0	0	0	0	0	3	131
17:30	36	1	0	0	0	1	0	38	66	7	1	0	0	0	0	74	16	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	128
17:45	36	4	1	0	0	0	0	41	47	3	1	1	1	1	0	54	21	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	116
1 Hr	164	9	3	0	0	1	0	177	221	20	2	1	3	1	0	248	78	1	1	0	0	0	0	80	3	0	0	0	0	0	0	3	508
18:00	37	5	1	0	0	0	0	43	38	3	0	1	1	0	1	44	26	1	0	0	0	0	1	28	2	0	0	0	0	0	0	2	117
18:15	40	3	0	0	0	0	0	43	39	1	1	0	1	0	0	42	23	2	1	0	0	0	0	26	0	0	0	0	0	0	0	0	111
18:30	36	4	0	0	0	0	0	40	40	1	0	0	0	0	0	41	28	0	0	0	0	0	0	28	0	0	0	0	0	0	0	0	109
18:45	32	4	0	0	0	0	0	36	48	5	2	0	1	0	0	56	15	0	0	0	0	0	0	15	2	0	0	0	0	0	0	2	109
1 Hr	145	16	1	0	0	0	0	162	165	10	3	1	3	0	1	183	92	3	1	0	0	0	1	97	4	0	0	0	0	0	0	4	446
6 Hrs	1007	78	11	2	3	2	2	1105	1197	111	16	8	19	3	3	1357	495	23	7	2	0	1	1	529	19	0	0	0	0	0	0	19	3010
Total	1584	140	22	7	4	4	2	1763	1867	247	41	36	41	7	4	2243	705	45	9	3	0	1	2	765	30	1	0	0	0	0	0	31	4802
Check								1763								2243								765								31	4802

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 3
Date: 15/10/2016

Notes: -

ORIGIN SUMMARY

	Origin : Arm A - St Margaret's Road (N)								Origin : Arm B - Melvilee Road								Origin : Arm C - St Margaret's Road (S)								Origin : Arm D - Charlestown Avenue								Origin Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
07:00	22	2	0	1	1	0	0	26	13	5	0	1	1	0	1	21	15	4	0	0	1	0	0	20	10	3	1	1	1	0	0	16	83
07:15	29	8	1	1	1	0	0	40	14	1	2	2	1	0	0	20	15	4	1	0	0	0	0	20	17	8	2	0	1	0	0	28	108
07:30	32	5	2	0	0	0	1	40	20	9	2	2	2	0	0	35	26	4	0	0	1	0	0	31	15	4	0	2	1	0	1	23	129
07:45	40	7	1	0	2	0	0	50	19	8	1	2	4	1	0	35	28	5	2	0	1	0	0	36	22	8	1	3	0	0	0	34	155
1 Hr	123	22	4	2	4	0	1	156	66	23	5	7	8	1	1	111	84	17	3	0	3	0	0	107	64	23	4	6	3	0	1	101	475
08:00	41	9	5	0	1	0	0	56	30	8	1	0	2	0	0	41	24	3	1	0	1	0	0	29	21	8	2	0	1	0	0	32	158
08:15	43	5	2	0	0	1	0	51	21	13	3	2	3	0	0	42	24	4	2	2	0	0	0	32	22	3	0	1	1	0	0	27	152
08:30	69	4	1	0	0	0	0	74	29	8	2	2	1	0	0	42	21	1	0	3	1	0	0	26	28	6	0	1	1	0	0	36	178
08:45	74	6	1	0	1	0	0	82	51	8	0	0	2	0	0	61	41	5	0	0	1	0	0	47	44	9	0	0	0	0	0	53	243
1 Hr	227	24	9	0	2	1	0	263	131	37	6	4	8	0	0	186	110	13	3	5	3	0	0	134	115	26	2	2	3	0	0	148	731
09:00	52	8	0	1	1	0	1	63	45	12	1	4	2	0	0	64	39	2	0	1	0	0	0	42	44	12	2	0	2	0	0	60	229
09:15	88	9	2	0	1	0	0	100	48	7	1	1	3	0	0	60	77	2	0	0	1	0	0	80	36	8	2	3	1	0	0	50	290
09:30	106	11	0	1	2	0	1	121	71	6	1	0	1	0	0	79	80	4	0	2	1	0	0	87	60	10	2	4	1	0	0	77	364
09:45	91	7	1	3	1	0	0	103	80	16	1	0	3	0	0	100	67	5	1	0	0	0	0	73	65	9	1	4	1	0	0	80	356
1 Hr	337	35	3	5	5	0	2	387	244	41	4	5	9	0	0	303	263	13	1	3	2	0	0	282	205	39	7	11	5	0	0	267	1239
10:00	93	7	2	3	1	0	0	106	86	4	2	1	2	0	0	95	74	5	1	0	1	0	0	81	64	5	2	4	1	0	0	76	358
10:15	110	14	1	1	2	1	0	129	86	8	2	1	3	0	0	100	92	7	0	1	1	0	0	101	56	14	4	2	0	0	0	76	406
10:30	119	11	2	0	1	0	0	133	80	14	7	1	2	0	0	104	103	9	0	0	1	0	1	114	69	11	3	3	1	0	0	87	438
10:45	145	11	2	0	1	0	1	160	90	13	2	1	2	0	0	108	101	8	1	1	0	1	0	112	78	11	0	2	1	1	0	93	473
1 Hr	467	43	7	4	5	1	1	528	342	39	13	4	9	0	0	407	370	29	2	2	3	1	1	408	267	41	9	11	3	1	0	332	1675
11:00	143	12	0	0	2	0	0	157	89	13	0	2	3	0	0	107	92	12	0	3	2	0	0	109	65	4	3	1	1	0	0	74	447
11:15	143	13	0	2	2	0	1	161	97	9	5	1	2	0	0	114	121	9	1	2	0	0	0	133	77	15	1	2	1	0	0	96	504
11:30	182	10	1	2	2	0	0	197	101	4	0	1	1	0	1	108	130	7	1	2	2	0	0	142	96	13	2	0	3	1	1	116	563
11:45	161	9	2	0	1	1	0	174	109	7	2	1	2	0	0	121	129	7	2	1	0	0	0	139	102	13	4	0	1	1	0	121	555
1 Hr	629	44	3	4	7	1	1	689	396	33	7	5	8	0	1	450	472	35	4	8	4	0	0	523	340	45	10	3	6	2	1	407	2069
12:00	157	11	5	0	1	0	0	174	106	8	1	0	4	0	0	119	135	8	1	3	2	0	0	149	99	13	1	0	1	1	0	115	557
12:15	160	13	1	0	2	0	1	177	118	10	4	0	4	0	0	136	147	14	1	1	0	0	0	163	120	9	2	0	0	0	0	131	607
12:30	185	9	1	4	2	2	1	204	115	10	3	1	0	0	0	129	130	9	1	0	1	1	5	147	119	15	1	0	1	1	0	137	617
12:45	175	10	3	1	1	2	1	193	113	8	2	1	3	1	0	128	166	21	0	2	1	0	1	191	139	10	2	1	1	1	0	154	666
1 Hr	677	43	10	5	6	4	3	748	452	36	10	2	11	1	0	512	578	52	3	6	4	1	6	650	477	47	6	1	3	3	0	537	2447
6 Hrs	2460	211	36	20	29	7	8	2771	1631	209	45	27	53	2	2	1969	1877	159	16	24	19	2	7	2104	1468	221	38	34	23	6	2	1792	8636

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 3
Date: 15/10/2016

Notes: -

ORIGIN SUMMARY

	Origin : Arm A - St Margaret's Road (N)								Origin : Arm B - Melvilee Road								Origin : Arm C - St Margaret's Road (S)								Origin : Arm D - Charlestown Avenue								Origin Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
13:00	139	7	2	1	2	0	1	152	132	9	1	0	3	3	2	150	134	12	1	2	2	0	0	151	109	11	1	2	1	0	0	124	577
13:15	176	7	2	0	1	0	2	188	91	9	1	1	3	0	0	105	138	16	1	3	1	0	1	160	100	9	0	1	1	0	0	111	564
13:30	179	8	0	0	3	1	1	192	111	4	1	1	4	1	0	122	130	9	1	1	0	1	0	142	119	15	2	1	1	0	0	138	594
13:45	168	7	0	0	1	0	0	176	96	9	3	0	0	0	0	108	178	13	2	1	2	0	1	197	122	10	1	2	1	1	0	137	618
1 Hr	662	29	4	1	7	1	4	708	430	31	6	2	10	4	2	485	580	50	5	7	5	1	2	650	450	45	4	6	4	1	0	510	2353
14:00	182	15	0	0	2	0	0	199	132	10	2	0	2	0	0	146	140	13	1	0	2	0	0	156	119	19	1	1	0	0	1	141	642
14:15	193	11	1	0	2	2	0	209	114	7	1	0	3	2	0	127	134	11	2	0	2	0	0	149	100	15	3	0	1	0	0	119	604
14:30	151	7	2	0	0	1	0	161	125	9	1	0	2	2	1	140	146	12	1	0	1	2	0	162	105	9	2	1	2	0	0	119	582
14:45	190	11	0	0	1	0	0	202	123	4	1	0	4	0	0	132	156	5	1	0	3	1	0	166	108	8	3	0	1	0	2	122	622
1 Hr	716	44	3	0	5	3	0	771	494	30	5	0	11	4	1	545	576	41	5	0	8	3	0	633	432	51	9	2	4	0	3	501	2450
15:00	173	11	0	0	2	0	0	186	147	9	1	0	4	0	1	162	153	8	1	0	0	0	1	163	142	10	2	0	1	0	0	155	666
15:15	172	10	1	0	1	0	1	185	98	4	0	0	3	1	0	106	164	8	1	0	0	1	1	175	110	5	1	1	1	1	0	119	585
15:30	151	7	0	0	0	0	0	158	143	14	2	0	1	0	0	160	158	6	0	0	1	2	1	168	142	10	2	0	1	0	0	155	641
15:45	159	5	1	0	3	1	1	170	128	12	0	0	5	0	0	145	119	2	0	0	2	0	0	123	124	10	2	0	1	0	0	137	575
1 Hr	655	33	2	0	6	1	2	699	516	39	3	0	13	1	1	573	594	24	2	0	3	3	3	629	518	35	7	1	4	1	0	566	2467
16:00	176	8	3	0	1	1	1	190	92	4	2	0	5	0	0	103	128	7	1	0	1	0	1	138	107	7	0	1	1	1	0	117	548
16:15	128	6	1	0	2	0	0	137	100	2	1	0	4	0	0	107	137	10	2	0	0	3	0	152	115	8	2	0	1	1	1	128	524
16:30	148	8	0	0	1	2	1	160	111	8	0	0	1	0	1	121	120	3	0	1	2	0	0	126	117	0	0	0	2	0	0	119	526
16:45	177	9	3	0	1	1	0	191	105	1	1	0	2	1	0	110	144	4	0	0	0	2	0	150	107	7	1	0	0	0	0	115	566
1 Hr	629	31	7	0	5	4	2	678	408	15	4	0	12	1	1	441	529	24	3	1	3	5	1	566	446	22	3	1	4	2	1	479	2164
17:00	145	7	0	0	1	1	2	156	97	5	1	0	3	0	1	107	148	8	1	0	1	1	0	159	122	9	1	0	1	0	0	133	555
17:15	163	12	1	0	1	1	0	178	101	2	0	1	2	0	0	106	127	6	0	0	1	1	0	135	122	6	2	0	1	0	0	131	550
17:30	144	14	1	0	1	2	1	163	100	5	2	0	4	0	0	111	136	6	2	0	1	0	0	145	118	8	1	0	0	1	0	128	547
17:45	203	8	1	0	1	1	0	214	91	6	0	0	2	2	1	102	137	10	1	0	0	0	0	148	104	7	2	1	1	1	0	116	580
1 Hr	655	41	3	0	4	5	3	711	389	18	3	1	11	2	2	426	548	30	4	0	3	2	0	587	466	30	6	1	3	2	0	508	2232
18:00	147	7	3	0	1	0	1	159	87	2	0	1	2	0	2	94	120	9	0	0	2	0	0	131	103	9	1	1	1	0	2	117	501
18:15	165	4	0	0	1	0	1	171	80	10	2	0	3	0	0	95	126	4	0	0	0	0	1	131	102	6	2	0	1	0	0	111	508
18:30	141	9	0	0	1	0	0	151	72	9	1	0	1	0	0	83	105	5	1	0	2	1	0	114	104	5	0	0	0	0	0	109	457
18:45	125	7	0	0	1	1	0	134	65	3	2	0	3	0	0	73	100	3	0	0	0	0	1	104	97	9	2	0	1	0	0	109	420
1 Hr	578	27	3	0	4	1	2	615	304	24	5	1	9	0	2	345	451	21	1	0	4	1	2	480	406	29	5	1	3	0	2	446	1886
6 Hrs	3895	205	22	1	31	15	13	4182	2541	157	26	4	66	12	9	2815	3278	190	20	8	26	15	8	3545	2718	212	34	12	22	6	6	3010	13552
Total	6355	416	58	21	60	22	21	6953	4172	366	71	31	119	14	11	4784	5155	349	36	32	45	17	15	5649	4186	433	72	46	45	12	8	4802	22188
Check								6953								4784								5649								4802	22188

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 3
Date: 15/10/2016

Notes: -

DESTINATION SUMMARY

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - Melvilee Road								Destination : Arm C - St Margaret's Road (S)								Destination : Arm D - Charlestown Avenue								Dest
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
07:00	20	2	0	0	1	0	0	23	10	7	1	1	2	0	0	21	19	2	0	0	1	0	0	22	11	3	0	2	0	0	1	17	83
07:15	14	2	0	0	0	0	0	16	21	11	3	0	2	0	0	37	27	5	0	0	1	0	0	33	13	3	3	3	0	0	0	22	108
07:30	25	3	0	0	1	0	0	29	17	7	0	2	1	0	0	27	22	2	1	0	0	0	1	26	29	10	3	2	2	0	1	47	129
07:45	33	3	2	1	2	0	0	41	23	10	0	2	2	0	0	37	24	4	1	0	2	0	0	31	29	11	2	2	1	1	0	46	155
1 Hr	92	10	2	1	4	0	0	109	71	35	4	5	7	0	0	122	92	13	2	0	4	0	1	112	82	27	8	9	3	1	2	132	475
08:00	30	3	2	0	0	0	0	35	30	14	2	0	3	0	0	49	31	4	2	0	1	0	0	38	25	7	3	0	1	0	0	36	158
08:15	34	3	1	2	1	0	0	41	17	5	1	1	1	0	0	25	38	2	0	0	1	0	0	41	21	15	5	2	1	1	0	45	152
08:30	24	0	1	3	0	0	0	28	34	6	0	1	2	0	0	43	49	3	1	0	0	0	0	53	40	10	1	2	1	0	0	54	178
08:45	49	4	0	0	1	0	0	54	52	10	0	0	2	0	0	64	66	5	0	0	1	0	0	72	43	9	1	0	0	0	0	53	243
1 Hr	137	10	4	5	2	0	0	158	133	35	3	2	8	0	0	181	184	14	3	0	3	0	0	204	129	41	10	4	3	1	0	188	731
09:00	48	4	1	0	1	0	0	54	43	9	1	0	2	0	0	55	46	8	0	1	1	0	1	57	43	13	1	5	1	0	0	63	229
09:15	80	7	2	0	2	0	0	91	50	4	1	3	3	0	0	61	61	8	2	0	1	0	0	72	58	7	0	1	0	0	0	66	290
09:30	106	4	2	2	0	0	0	114	58	12	0	4	3	0	0	77	82	8	0	0	1	0	0	91	71	7	1	1	1	0	1	82	364
09:45	105	8	2	1	1	0	0	117	64	10	0	4	2	0	0	80	63	5	0	2	1	0	0	71	71	14	2	0	1	0	0	88	356
1 Hr	339	23	7	3	4	0	0	376	215	35	2	11	10	0	0	273	252	29	2	3	4	0	1	291	243	41	4	7	3	0	1	299	1239
10:00	100	6	2	0	0	0	0	108	57	3	2	4	3	0	0	69	83	7	1	2	2	0	0	95	77	5	2	2	0	0	0	86	358
10:15	125	8	0	3	1	0	0	137	56	15	4	1	2	0	0	78	80	9	0	0	2	1	0	92	83	11	3	1	1	0	0	99	406
10:30	131	12	3	1	1	0	1	149	70	8	3	2	2	0	0	85	96	10	2	0	0	0	0	108	74	15	4	1	2	0	0	96	438
10:45	150	12	1	1	1	1	0	166	82	14	0	1	2	1	0	100	106	7	2	1	1	0	1	118	76	10	2	1	0	0	0	89	473
1 Hr	506	38	6	5	3	1	1	560	265	40	9	8	9	1	0	332	365	33	5	3	5	1	1	413	310	41	11	5	3	0	0	370	1675
11:00	117	11	1	2	1	0	0	132	89	13	2	2	3	0	0	109	108	6	0	0	1	0	0	115	75	11	0	2	3	0	0	91	447
11:15	139	18	2	1	1	0	0	161	100	6	0	3	2	0	0	111	113	8	1	2	2	0	1	127	86	14	4	1	0	0	0	105	504
11:30	156	5	0	1	1	1	1	165	108	16	2	1	7	0	1	135	131	8	1	2	0	0	0	142	114	5	1	1	0	0	0	121	563
11:45	159	10	1	1	0	1	0	172	107	12	5	0	2	0	0	126	118	8	0	1	1	0	0	128	117	6	4	0	1	1	0	129	555
1 Hr	571	44	4	5	3	2	1	630	404	47	9	6	14	0	1	481	470	30	2	5	4	0	1	512	392	36	9	4	4	1	0	446	2069
12:00	156	12	0	3	3	0	0	174	104	12	6	0	3	1	0	126	129	6	1	0	1	0	0	137	108	10	1	0	1	0	0	120	557
12:15	166	9	5	1	1	0	0	182	128	11	0	0	1	0	0	140	129	11	3	0	3	0	1	147	122	15	0	0	1	0	0	138	607
12:30	164	13	3	0	0	1	5	186	111	12	1	0	4	1	1	130	154	9	0	3	0	2	0	168	120	9	2	2	0	0	0	133	617
12:45	202	19	0	2	2	0	1	226	134	9	1	1	3	1	0	149	129	10	4	1	1	2	1	148	128	11	2	1	0	1	0	143	666
1 Hr	688	53	8	6	6	1	6	768	477	44	8	1	11	3	1	545	541	36	8	4	5	4	2	600	478	45	5	3	2	1	0	534	2447
6 Hrs	2333	178	31	25	22	4	8	2601	1565	236	35	33	59	4	2	1934	1904	155	22	15	25	5	6	2132	1634	231	47	32	18	4	3	1969	8636

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 3
Date: 15/10/2016

Notes: -

DESTINATION SUMMARY

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - Melvilee Road								Destination : Arm C - St Margaret's Road (S)								Destination : Arm D - Charlestown Avenue								Dest Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
13:00	165	11	1	2	3	0	1	183	102	10	2	2	2	0	1	119	131	6	0	1	1	2	1	142	116	12	2	0	2	1	0	133	577
13:15	152	15	1	2	1	0	0	171	127	8	1	2	3	0	2	143	122	5	1	1	0	0	1	130	104	13	1	0	2	0	0	120	564
13:30	161	12	0	1	2	1	0	177	121	11	1	0	2	0	0	135	143	7	2	1	2	2	1	158	114	6	1	1	2	0	0	124	594
13:45	195	10	0	1	0	0	1	207	124	11	1	1	4	1	0	142	140	7	1	1	0	0	0	149	105	11	4	0	0	0	0	120	618
1 Hr	673	48	2	6	6	1	2	738	474	40	5	5	11	1	3	539	536	25	4	4	3	4	3	579	439	42	8	1	6	1	0	497	2353
14:00	156	14	1	0	1	0	1	173	146	18	0	1	3	0	0	168	155	9	1	0	1	0	0	166	116	16	2	0	1	0	0	135	642
14:15	169	18	0	0	0	0	0	187	110	7	3	0	5	0	0	125	148	10	1	0	2	1	0	162	114	9	3	0	1	3	0	130	604
14:30	166	10	3	0	3	2	1	185	113	9	0	1	2	1	0	126	110	9	0	0	0	1	0	120	138	9	3	0	0	1	0	151	582
14:45	176	6	1	0	3	0	1	187	142	9	2	0	3	1	1	158	126	9	2	0	0	0	0	137	133	4	0	0	3	0	0	140	622
1 Hr	667	48	5	0	7	2	3	732	511	43	5	2	13	2	1	577	539	37	4	0	3	2	0	585	501	38	8	0	5	4	0	556	2450
15:00	187	3	2	0	1	0	1	194	131	17	1	0	2	0	1	152	158	7	0	0	3	0	0	168	139	11	1	0	1	0	0	152	666
15:15	184	7	0	1	1	1	1	195	117	5	1	0	2	0	0	125	123	6	1	0	1	2	1	134	120	9	1	0	1	0	0	131	585
15:30	197	8	1	0	1	0	1	208	131	10	2	0	2	2	0	147	123	10	0	0	0	0	0	133	143	9	1	0	0	0	0	153	641
15:45	169	6	1	0	3	0	0	179	111	6	2	0	3	1	0	123	114	8	0	0	2	0	1	125	136	9	0	0	3	0	0	148	575
1 Hr	737	24	4	1	6	1	3	776	490	38	6	0	9	3	1	547	518	31	1	0	6	2	2	560	538	38	3	0	5	0	0	584	2467
16:00	151	10	2	1	2	1	1	168	103	4	2	0	2	1	1	113	134	3	1	0	1	0	0	139	115	9	1	0	3	0	0	128	548
16:15	156	10	3	0	2	1	0	172	127	11	1	0	2	3	1	145	87	2	2	0	2	0	0	93	110	3	0	0	1	0	0	114	524
16:30	150	1	0	0	1	0	0	152	124	4	0	0	4	2	0	134	121	3	0	0	0	0	1	125	101	11	0	1	1	0	1	115	526
16:45	171	5	0	0	0	1	0	177	118	8	1	0	1	1	0	129	129	4	3	0	1	2	0	139	115	4	1	0	1	0	0	121	566
1 Hr	628	26	5	1	5	3	1	669	472	27	4	0	9	7	2	521	471	12	6	0	4	2	1	496	441	27	2	1	6	0	1	478	2164
17:00	160	6	0	0	1	0	0	167	112	9	1	0	3	1	0	126	129	7	2	0	1	1	2	142	111	7	0	0	1	0	1	120	555
17:15	165	9	2	0	2	1	0	179	128	8	0	0	3	0	0	139	126	3	1	0	0	0	0	130	94	6	0	1	0	1	0	102	550
17:30	166	7	2	0	2	1	0	178	131	13	1	0	2	0	0	147	110	10	1	0	1	1	1	124	91	3	2	0	1	1	0	98	547
17:45	154	11	2	0	0	0	1	168	117	8	1	1	2	1	0	130	147	3	1	0	1	1	0	153	117	9	0	0	1	2	0	129	580
1 Hr	645	33	6	0	5	2	1	692	488	38	3	1	10	2	0	542	512	23	5	0	3	3	3	549	413	25	2	1	3	4	1	449	2232
18:00	133	12	1	0	2	0	0	148	109	7	0	1	3	0	2	122	112	5	2	0	0	0	3	122	103	3	1	1	1	0	0	109	501
18:15	151	9	0	0	2	0	1	163	104	3	1	0	2	0	0	110	131	5	1	0	0	0	1	138	87	7	2	0	1	0	0	97	508
18:30	120	10	2	0	0	1	0	133	103	5	0	0	3	0	0	111	110	6	0	0	1	0	0	117	89	7	0	0	0	0	0	96	457
18:45	115	7	0	0	0	0	1	123	97	8	2	0	2	0	0	109	102	4	0	0	1	1	0	108	73	3	2	0	2	0	0	80	420
1 Hr	519	38	3	0	4	1	2	567	413	23	3	1	10	0	2	452	455	20	3	0	2	1	4	485	352	20	5	1	4	0	0	382	1886
6 Hrs	3869	217	25	8	33	10	12	4174	2848	209	26	9	62	15	9	3178	3031	148	23	4	21	14	13	3254	2684	190	28	4	29	9	2	2946	13552
Total	6202	395	56	33	55	14	20	6775	4413	445	61	42	121	19	11	5112	4935	303	45	19	46	19	19	5386	4318	421	75	36	47	13	5	4915	22188

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 4
Date: 15/10/2016

Notes: -

Entry : Arm A - St Margaret's Road (N)

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - St Margaret's Road (S)								Destination : Arm C - Development Access								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
07:00	0	0	0	0	0	0	0	0	13	1	0	1	1	0	0	16	1	1	0	0	0	0	0	2	18
07:15	0	0	0	0	0	0	0	0	18	5	1	0	1	0	0	25	0	0	0	0	0	0	0	0	25
07:30	0	0	0	0	0	0	0	0	23	2	2	0	0	0	2	29	3	0	0	0	0	0	0	3	32
07:45	0	0	0	0	0	0	0	0	31	4	2	0	2	0	0	39	6	0	0	0	0	0	0	6	45
1 Hr	0	0	0	0	0	0	0	0	85	12	5	1	4	0	2	109	10	1	0	0	0	0	0	11	120
08:00	0	0	0	0	0	0	0	0	28	9	4	0	1	0	0	42	1	0	0	0	0	0	0	1	43
08:15	0	0	0	0	0	0	0	0	26	3	1	0	0	1	0	31	1	0	0	0	0	0	0	1	32
08:30	0	0	0	0	0	0	0	0	42	2	0	0	1	0	1	46	0	0	0	0	0	0	0	0	46
08:45	0	0	0	0	0	0	0	0	51	7	0	0	1	0	0	59	13	0	0	0	0	0	0	13	72
1 Hr	0	0	0	0	0	0	0	0	147	21	5	0	3	1	1	178	15	0	0	0	0	0	0	15	193
09:00	0	0	0	0	0	0	0	0	36	4	1	1	1	0	0	43	9	0	0	0	0	0	0	9	52
09:15	0	0	0	0	0	0	0	0	48	5	1	0	0	0	0	54	12	0	0	0	0	0	0	12	66
09:30	0	0	0	0	0	0	0	0	59	8	0	1	2	0	0	70	10	1	0	0	0	0	0	11	81
09:45	0	0	0	0	0	0	0	0	50	4	1	4	1	0	0	60	25	0	0	0	0	0	0	25	85
1 Hr	0	0	0	0	0	0	0	0	193	21	3	6	4	0	0	227	56	1	0	0	0	0	0	57	284
10:00	0	0	0	0	0	0	0	0	56	8	1	2	1	0	0	68	22	0	0	0	0	0	0	22	90
10:15	0	0	0	0	0	0	0	0	64	11	0	1	3	1	0	80	18	1	0	0	0	0	2	21	101
10:30	0	0	0	0	0	0	0	0	68	9	2	0	0	0	1	80	21	1	0	0	0	0	0	22	102
10:45	0	0	0	0	0	0	0	0	70	7	1	0	1	0	1	80	31	0	0	0	0	0	0	31	111
1 Hr	0	0	0	0	0	0	0	0	258	35	4	3	5	1	2	308	92	2	0	0	0	0	2	96	404
11:00	0	0	0	0	0	0	0	0	82	4	0	0	1	0	0	87	17	0	0	0	0	0	0	17	104
11:15	0	0	0	0	0	0	0	0	74	14	0	2	2	0	1	93	17	0	0	0	0	0	0	17	110
11:30	0	0	0	0	0	0	0	0	95	6	1	2	2	0	0	106	31	0	0	0	0	0	0	31	137
11:45	0	0	0	0	0	0	0	0	77	6	1	0	1	1	0	86	28	0	0	0	0	0	2	30	116
1 Hr	0	0	0	0	0	0	0	0	328	30	2	4	6	1	1	372	93	0	0	0	0	0	2	95	467
12:00	0	0	0	0	0	0	0	0	79	6	6	0	1	0	1	93	22	1	0	0	0	0	0	23	116
12:15	0	0	0	0	0	0	0	0	105	6	0	1	2	0	1	115	27	1	1	0	0	0	0	29	144
12:30	0	0	0	0	0	0	0	0	99	11	1	3	2	1	0	117	33	0	0	0	0	0	0	33	150
12:45	0	0	0	0	0	0	0	0	72	7	2	1	1	2	0	85	22	1	0	0	0	0	0	23	108
1 Hr	0	0	0	0	0	0	0	0	355	30	9	5	6	3	2	410	104	3	1	0	0	0	0	108	518
6 Hrs	0	0	0	0	0	0	0	0	1366	149	28	19	28	6	8	1604	370	7	1	0	0	0	4	382	1986

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 4
Date: 15/10/2016

Notes: -

Entry : Arm A - St Margaret's Road (N)

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - St Margaret's Road (S)								Destination : Arm C - Development Access								Arm
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
13:00	1	0	0	0	0	0	0	1	75	6	1	1	2	0	2	87	25	1	0	0	0	0	0	26	114
13:15	0	0	0	0	0	0	0	0	94	4	1	0	1	0	2	102	26	1	0	0	0	0	0	27	129
13:30	0	0	0	0	0	0	0	0	83	7	0	0	2	1	1	94	27	0	0	0	0	0	0	27	121
13:45	0	0	0	0	0	0	0	0	96	4	0	0	1	0	0	101	34	0	0	0	0	0	0	34	135
1 Hr	1	0	0	0	0	0	0	1	348	21	2	1	6	1	5	384	112	2	0	0	0	0	0	114	499
14:00	0	0	0	0	0	0	0	0	97	11	0	0	2	0	0	110	24	0	0	0	0	0	0	24	134
14:15	0	0	0	0	0	0	0	0	105	7	1	0	1	1	1	116	26	0	0	0	0	0	0	26	142
14:30	0	0	0	0	0	0	0	0	83	6	1	0	1	1	0	92	34	1	0	0	0	0	0	35	127
14:45	0	0	0	0	0	0	0	0	94	10	0	0	1	0	0	105	33	1	0	0	0	1	0	35	140
1 Hr	0	0	0	0	0	0	0	0	379	34	2	0	5	2	1	423	117	2	0	0	0	1	0	120	543
15:00	0	0	0	0	0	0	0	0	85	8	1	0	2	0	0	96	34	0	0	0	0	0	0	34	130
15:15	0	0	0	0	0	0	0	0	93	9	1	0	1	0	1	105	33	1	0	0	0	0	0	34	139
15:30	0	0	0	0	0	0	0	0	79	6	0	0	1	0	1	87	22	0	0	0	0	0	0	22	109
15:45	0	0	0	0	0	0	0	0	87	7	1	0	3	1	1	100	21	2	0	0	0	0	0	23	123
1 Hr	0	0	0	0	0	0	0	0	344	30	3	0	7	1	3	388	110	3	0	0	0	0	0	113	501
16:00	0	0	0	0	0	0	0	0	79	6	4	0	1	1	1	92	19	0	0	0	0	0	1	20	112
16:15	0	0	0	0	0	0	0	0	60	6	0	0	2	0	1	69	25	3	0	0	0	0	0	28	97
16:30	0	0	0	0	0	0	0	0	73	2	0	0	1	2	2	80	19	0	0	0	0	0	0	19	99
16:45	0	0	0	0	0	0	0	0	86	8	3	0	1	1	0	99	24	0	0	0	0	0	0	24	123
1 Hr	0	0	0	0	0	0	0	0	298	22	7	0	5	4	4	340	87	3	0	0	0	0	1	91	431
17:00	0	0	0	0	0	0	0	0	85	8	0	0	1	1	2	97	20	0	0	0	0	0	0	20	117
17:15	0	0	0	0	0	0	0	0	82	7	1	0	1	1	0	92	24	0	0	0	0	0	0	24	116
17:30	0	0	0	0	0	0	0	0	92	14	1	0	1	3	0	111	27	1	0	0	0	0	0	28	139
17:45	0	0	0	0	0	0	0	0	85	4	1	0	1	1	0	92	14	1	1	0	0	0	0	16	108
1 Hr	0	0	0	0	0	0	0	0	344	33	3	0	4	6	2	392	85	2	1	0	0	0	0	88	480
18:00	0	0	0	0	0	0	0	0	71	3	3	0	1	0	0	78	24	0	0	0	0	0	0	24	102
18:15	0	0	0	0	0	0	0	0	78	4	0	0	1	1	1	85	22	1	0	0	0	0	0	23	108
18:30	0	0	0	0	0	0	0	0	68	7	0	0	1	0	0	76	11	0	0	0	0	0	0	11	87
18:45	0	0	0	0	0	0	0	0	59	6	0	0	1	1	0	67	18	0	0	0	0	0	0	18	85
1 Hr	0	0	0	0	0	0	0	0	276	20	3	0	4	2	1	306	75	1	0	0	0	0	0	76	382
6 Hrs	1	0	0	0	0	0	0	1	1989	160	20	1	31	16	16	2233	586	13	1	0	0	1	1	602	2836
Total	1	0	0	0	0	0	0	1	3355	309	48	20	59	22	24	3837	956	20	2	0	0	1	5	984	4822
Check								1								3837								984	4822

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 4
Date: 15/10/2016

Notes: -

Entry : Arm B - St Margaret's Road (S)

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - St Margaret's Road (S)								Destination : Arm C - Development Access								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
07:00	17	2	0	0	1	0	0	20	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	22
07:15	13	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	14
07:30	21	2	0	0	1	0	1	25	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	26
07:45	31	2	2	0	2	0	0	37	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2	39
1 Hr	82	6	2	0	4	0	1	95	0	0	0	0	0	0	0	0	4	1	1	0	0	0	0	6	101
08:00	23	3	1	0	0	0	0	27	1	0	0	0	0	0	0	1	1	0	1	0	0	0	0	2	30
08:15	29	3	1	2	1	0	0	36	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	38
08:30	16	0	1	3	0	0	0	20	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	25
08:45	30	2	0	0	1	0	0	33	0	0	0	0	0	0	0	0	11	2	0	0	0	0	0	13	46
1 Hr	98	8	3	5	2	0	0	116	1	0	0	0	0	0	0	1	19	2	1	0	0	0	0	22	139
09:00	28	5	1	0	1	0	0	35	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	19	54
09:15	42	8	2	1	2	0	0	55	0	0	0	0	0	0	0	0	23	0	0	0	0	0	0	23	78
09:30	60	3	1	2	0	0	0	66	0	0	0	0	0	0	0	0	40	0	1	0	0	0	0	41	107
09:45	58	6	1	2	1	0	0	68	0	0	0	0	0	0	0	0	43	2	1	0	0	0	0	46	114
1 Hr	188	22	5	5	4	0	0	224	0	0	0	0	0	0	0	0	125	2	2	0	0	0	0	129	353
10:00	51	6	2	0	0	0	0	59	0	0	0	0	0	0	0	0	47	0	0	0	0	0	0	47	106
10:15	59	7	0	3	1	0	0	70	0	0	0	0	0	0	0	0	61	1	0	0	0	0	0	62	132
10:30	73	9	3	1	1	0	0	87	0	0	0	0	0	0	0	0	54	0	0	0	0	0	0	54	141
10:45	72	11	1	1	1	1	0	87	0	0	0	0	0	0	0	0	69	0	0	0	0	0	0	69	156
1 Hr	255	33	6	5	3	1	0	303	0	0	0	0	0	0	0	0	231	1	0	0	0	0	0	232	535
11:00	50	7	1	2	1	0	0	61	0	0	0	0	0	0	0	0	54	2	0	0	0	0	0	56	117
11:15	72	16	1	1	1	0	0	91	0	0	0	0	0	0	0	0	64	1	0	0	0	0	0	65	156
11:30	81	6	1	1	1	1	1	92	0	0	0	0	0	0	0	0	67	1	0	0	0	0	0	68	160
11:45	73	9	0	1	0	1	0	84	0	0	0	0	0	0	0	0	70	3	1	0	0	0	0	74	158
1 Hr	276	38	3	5	3	2	1	328	0	0	0	0	0	0	0	0	255	7	1	0	0	0	0	263	591
12:00	87	10	0	3	3	0	0	103	0	0	0	0	0	0	0	0	58	2	0	0	0	0	0	60	163
12:15	90	7	4	1	1	0	0	103	0	0	0	0	0	0	0	0	75	1	0	0	0	0	0	76	179
12:30	89	10	3	0	0	1	3	106	1	0	0	0	0	0	0	1	61	1	0	0	0	0	0	62	169
12:45	123	17	0	2	2	0	1	145	0	0	0	0	0	0	0	0	84	2	0	0	0	0	0	86	231
1 Hr	389	44	7	6	6	1	4	457	1	0	0	0	0	0	0	1	278	6	0	0	0	0	0	284	742
6 Hrs	1288	151	26	26	22	4	6	1523	2	0	0	0	0	0	0	2	912	19	5	0	0	0	0	936	2461

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 4
Date: 15/10/2016

Notes: -

Entry : Arm B - St Margaret's Road (S)

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - St Margaret's Road (S)								Destination : Arm C - Development Access								Arm
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
13:00	97	10	0	2	3	0	1	113	1	0	0	0	0	0	0	1	56	2	0	0	0	0	0	58	172
13:15	85	10	1	2	1	0	0	99	0	0	0	0	0	0	0	0	62	3	0	0	0	0	0	65	164
13:30	90	13	0	1	2	1	0	107	0	0	0	0	0	0	0	0	61	0	0	0	0	0	0	61	168
13:45	115	9	0	1	0	0	1	126	0	0	0	0	0	0	0	0	71	4	0	0	0	0	0	75	201
1 Hr	387	42	1	6	6	1	2	445	1	0	0	0	0	0	0	1	250	9	0	0	0	0	0	259	705
14:00	83	10	1	0	1	0	1	96	0	0	0	0	0	0	0	0	68	2	0	0	0	0	0	70	166
14:15	97	15	0	0	0	0	0	112	0	0	0	0	0	0	0	0	71	4	0	0	0	0	0	75	187
14:30	98	7	3	0	3	2	1	114	0	0	0	0	0	0	0	0	75	2	0	0	0	0	0	77	191
14:45	87	8	1	0	2	0	0	98	0	0	0	0	0	0	0	0	81	1	0	0	0	0	0	82	180
1 Hr	365	40	5	0	6	2	2	420	0	0	0	0	0	0	0	0	295	9	0	0	0	0	0	304	724
15:00	95	3	2	0	2	0	0	102	0	0	0	0	0	0	0	0	86	0	0	0	0	0	0	86	188
15:15	102	4	1	0	1	1	2	111	0	0	0	0	0	0	0	0	70	1	0	0	0	0	0	71	182
15:30	111	8	1	0	1	0	1	122	0	0	0	0	0	0	0	0	77	2	0	0	0	0	0	79	201
15:45	69	6	1	0	3	0	0	79	0	0	0	0	0	0	0	0	89	0	0	0	0	0	0	89	168
1 Hr	377	21	5	0	7	1	3	414	0	0	0	0	0	0	0	0	322	3	0	0	0	0	0	325	739
16:00	93	11	2	1	1	1	1	110	0	0	0	0	0	0	0	0	55	0	0	0	0	0	0	55	165
16:15	80	10	3	0	2	1	0	96	0	0	0	0	0	0	0	0	59	1	0	0	0	0	0	60	156
16:30	98	0	0	0	2	0	0	100	0	0	0	0	0	0	0	0	47	0	0	0	0	0	0	47	147
16:45	96	8	0	0	0	1	0	105	1	0	0	0	0	0	0	1	62	1	0	0	0	0	0	63	169
1 Hr	367	29	5	1	5	3	1	411	1	0	0	0	0	0	0	1	223	2	0	0	0	0	0	225	637
17:00	102	6	0	0	1	0	0	109	0	0	0	0	0	0	0	0	60	0	0	0	0	0	0	60	169
17:15	99	6	1	0	2	1	0	109	0	0	0	0	0	0	0	0	50	1	0	0	0	0	0	51	160
17:30	108	8	3	0	1	1	0	121	0	0	0	0	0	0	0	0	49	0	0	0	0	0	0	49	170
17:45	91	6	2	0	1	0	0	100	0	1	0	0	0	0	0	1	45	1	0	0	0	0	0	46	147
1 Hr	400	26	6	0	5	2	0	439	0	1	0	0	0	0	0	1	204	2	0	0	0	0	0	206	646
18:00	85	10	0	0	2	0	0	97	0	0	0	0	0	0	0	0	45	0	0	0	0	0	0	45	142
18:15	97	8	1	0	2	0	1	109	0	1	0	0	0	0	0	1	39	2	0	0	0	0	0	41	151
18:30	84	7	1	0	0	1	0	93	1	0	0	0	0	0	0	1	33	1	1	0	0	0	0	35	129
18:45	74	7	0	0	0	0	0	81	0	0	0	0	0	0	0	0	22	2	0	0	0	0	0	24	105
1 Hr	340	32	2	0	4	1	1	380	1	1	0	0	0	0	0	2	139	5	1	0	0	0	0	145	527
6 Hrs	2236	190	24	7	33	10	9	2509	3	2	0	0	0	0	0	5	1433	30	1	0	0	0	0	1464	3978
Total	3524	341	50	33	55	14	15	4032	5	2	0	0	0	0	0	7	2345	49	6	0	0	0	0	2400	6439
Check								4032								7								2400	6439

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 4
Date: 15/10/2016

Notes: -

Entry : Arm C - Development Access

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - St Margaret's Road (S)								Destination : Arm C - Development Access								Arm Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
07:00	2	0	0	0	0	0	0	2	1	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	4
07:15	0	0	0	0	0	0	0	0	2	2	0	1	0	0	0	5	0	0	0	0	0	0	0	0	5
07:30	7	0	0	0	0	0	0	7	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	10
07:45	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	3
1 Hr	10	0	0	0	0	0	0	10	6	4	1	1	0	0	0	12	0	0	0	0	0	0	0	0	22
08:00	0	1	0	0	0	0	0	1	3	0	1	0	0	0	0	4	0	0	0	0	0	0	0	0	5
08:15	2	0	0	0	0	0	0	2	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	3
08:30	4	0	0	0	0	0	0	4	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	7
08:45	5	0	0	0	0	0	0	5	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	13
1 Hr	11	1	0	0	0	0	0	12	13	1	2	0	0	0	0	16	0	0	0	0	0	0	0	0	28
09:00	1	0	0	0	0	0	0	1	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	5
09:15	6	1	0	0	0	0	0	7	13	1	0	0	0	0	0	14	0	0	0	0	0	0	0	0	21
09:30	7	1	0	0	0	0	0	8	9	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	17
09:45	9	0	0	0	0	0	0	9	18	2	0	0	0	0	0	20	0	0	0	0	0	0	0	0	29
1 Hr	23	2	0	0	0	0	0	25	44	3	0	0	0	0	0	47	0	0	0	0	0	0	0	0	72
10:00	13	1	0	0	0	0	0	14	23	0	0	0	0	0	0	23	0	0	0	0	0	0	0	0	37
10:15	13	2	0	0	0	0	0	15	20	1	0	0	0	0	0	21	0	0	0	0	0	0	0	0	36
10:30	22	1	0	0	0	0	0	23	38	0	0	0	0	0	0	38	0	0	0	0	0	0	0	0	61
10:45	22	2	0	0	0	0	0	24	33	2	0	0	0	0	0	35	0	0	0	0	0	0	0	0	59
1 Hr	70	6	0	0	0	0	0	76	114	3	0	0	0	0	0	117	0	0	0	0	0	0	0	0	193
11:00	19	1	1	0	0	0	0	21	32	0	0	0	0	0	0	32	0	0	0	0	0	0	0	0	53
11:15	23	0	0	0	0	0	0	23	46	1	0	0	0	0	0	47	0	0	0	0	0	0	0	0	70
11:30	31	0	0	0	0	0	0	31	53	1	1	0	0	0	0	55	0	0	0	0	0	0	0	0	86
11:45	21	1	0	0	0	0	0	22	60	1	1	0	0	0	1	63	0	0	0	0	0	0	0	0	85
1 Hr	94	2	1	0	0	0	0	97	191	3	2	0	0	0	1	197	0	0	0	0	0	0	0	0	294
12:00	35	2	0	0	0	0	0	37	54	2	1	0	0	0	0	57	0	0	0	0	0	0	0	0	94
12:15	36	1	1	0	0	0	0	38	61	2	0	0	0	0	0	63	0	0	0	0	0	0	0	0	101
12:30	26	1	0	0	0	0	0	27	62	2	0	0	0	0	0	64	0	0	0	0	0	0	0	0	91
12:45	42	0	0	0	0	0	0	42	68	1	0	0	0	0	0	69	0	0	0	0	0	0	0	0	111
1 Hr	139	4	1	0	0	0	0	144	245	7	1	0	0	0	0	253	0	0	0	0	0	0	0	0	397
6 Hrs	347	15	2	0	0	0	0	364	613	21	6	1	0	0	1	642	0	0	0	0	0	0	0	0	1006

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 4
Date: 15/10/2016

Notes: -

Entry : Arm C - Development Access

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - St Margaret's Road (S)								Destination : Arm C - Development Access								Arm
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
13:00	31	2	0	0	0	0	0	33	53	2	0	0	0	0	0	55	0	0	0	0	0	0	0	0	88
13:15	36	0	0	0	0	0	0	36	56	2	0	0	0	0	0	58	0	0	0	0	0	0	0	0	94
13:30	25	0	0	0	0	0	1	26	57	1	0	0	0	0	0	58	0	0	0	0	0	0	0	0	84
13:45	26	0	0	0	0	0	0	26	39	2	0	0	0	0	0	41	0	0	0	0	0	0	0	0	67
1 Hr	118	2	0	0	0	0	1	121	205	7	0	0	0	0	0	212	0	0	0	0	0	0	0	0	333
14:00	32	1	0	0	0	0	0	33	74	5	0	0	0	0	0	79	0	0	0	0	0	0	0	0	112
14:15	34	1	0	1	0	0	0	36	51	1	0	0	0	1	0	53	0	0	0	0	0	0	0	0	89
14:30	37	2	0	0	0	0	0	39	72	1	0	0	0	0	0	73	0	0	0	0	0	0	0	0	112
14:45	24	2	0	0	0	0	0	26	70	1	0	0	0	0	0	71	0	0	0	0	0	0	0	0	97
1 Hr	127	6	0	1	0	0	0	134	267	8	0	0	0	1	0	276	0	0	0	0	0	0	0	0	410
15:00	34	3	0	0	0	1	0	38	70	0	0	0	0	0	0	70	0	0	0	0	0	0	0	0	108
15:15	46	3	0	0	0	2	0	51	80	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	131
15:30	44	2	0	0	0	0	0	46	48	0	0	0	0	0	0	48	0	0	0	0	0	0	0	0	94
15:45	31	0	0	0	0	0	0	31	58	1	0	0	0	0	1	60	0	0	0	0	0	0	0	0	91
1 Hr	155	8	0	0	0	3	0	166	256	1	0	0	0	0	1	258	0	0	0	0	0	0	0	0	424
16:00	47	3	0	0	0	0	0	50	77	0	0	0	0	0	0	77	0	0	0	0	0	0	0	0	127
16:15	34	0	0	1	0	0	0	35	54	0	0	0	0	0	0	54	0	0	0	0	0	0	0	0	89
16:30	38	1	0	0	0	0	0	39	64	0	0	0	0	0	0	64	0	0	0	0	0	0	0	0	103
16:45	40	1	0	0	0	0	1	42	75	1	0	0	0	0	0	76	0	0	0	0	0	0	0	0	118
1 Hr	159	5	0	1	0	0	1	166	270	1	0	0	0	0	0	271	0	0	0	0	0	0	0	0	437
17:00	34	2	0	0	0	0	0	36	42	1	0	0	0	0	0	43	0	0	0	0	0	0	0	0	79
17:15	38	2	0	0	0	0	0	40	79	4	0	0	0	0	0	83	0	0	0	0	0	0	0	0	123
17:30	34	1	0	0	0	0	0	35	57	0	1	0	0	0	0	58	0	0	0	0	0	0	0	0	93
17:45	46	0	0	0	0	0	0	46	81	0	0	0	0	1	0	82	0	0	0	0	0	0	0	0	128
1 Hr	152	5	0	0	0	0	0	157	259	5	1	0	0	1	0	266	0	0	0	0	0	0	0	0	423
18:00	48	0	0	0	0	0	0	48	56	2	0	0	0	0	0	58	0	0	0	0	0	0	0	0	106
18:15	25	2	1	0	0	0	0	28	53	1	0	0	0	0	0	54	0	0	0	0	0	0	0	0	82
18:30	25	1	0	0	0	0	0	26	52	2	0	0	0	0	0	54	0	0	0	0	0	0	0	0	80
18:45	34	1	0	0	0	0	0	35	53	2	0	0	0	0	0	55	0	0	0	0	0	0	0	0	90
1 Hr	132	4	1	0	0	0	0	137	214	7	0	0	0	0	0	221	0	0	0	0	0	0	0	0	358
6 Hrs	843	30	1	2	0	3	2	881	1471	29	1	0	0	2	1	1504	0	0	0	0	0	0	0	0	2385
Total	1190	45	3	2	0	3	2	1245	2084	50	7	1	0	2	2	2146	0	0	0	0	0	0	0	0	3391
Check								1245								2146								0	3391

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 4
Date: 15/10/2016

Notes: -

ORIGIN SUMMARY

	Origin : Arm A - St Margaret's Road (N)								Origin : Arm B - St Margaret's Road (S)								Origin : Arm C - Development Access								Origin Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
07:00	14	2	0	1	1	0	0	18	19	2	0	0	1	0	0	22	3	0	1	0	0	0	0	4	44
07:15	18	5	1	0	1	0	0	25	13	1	0	0	0	0	0	14	2	2	0	1	0	0	0	5	44
07:30	26	2	2	0	0	0	2	32	22	2	0	0	1	0	1	26	9	1	0	0	0	0	0	10	68
07:45	37	4	2	0	2	0	0	45	32	2	3	0	2	0	0	39	2	1	0	0	0	0	0	3	87
1 Hr	95	13	5	1	4	0	2	120	86	7	3	0	4	0	1	101	16	4	1	1	0	0	0	22	243
08:00	29	9	4	0	1	0	0	43	25	3	2	0	0	0	0	30	3	1	1	0	0	0	0	5	78
08:15	27	3	1	0	0	1	0	32	31	3	1	2	1	0	0	38	2	0	1	0	0	0	0	3	73
08:30	42	2	0	0	1	0	1	46	21	0	1	3	0	0	0	25	6	1	0	0	0	0	0	7	78
08:45	64	7	0	0	1	0	0	72	41	4	0	0	1	0	0	46	13	0	0	0	0	0	0	13	131
1 Hr	162	21	5	0	3	1	1	193	118	10	4	5	2	0	0	139	24	2	2	0	0	0	0	28	360
09:00	45	4	1	1	1	0	0	52	47	5	1	0	1	0	0	54	5	0	0	0	0	0	0	5	111
09:15	60	5	1	0	0	0	0	66	65	8	2	1	2	0	0	78	19	2	0	0	0	0	0	21	165
09:30	69	9	0	1	2	0	0	81	100	3	2	2	0	0	0	107	16	1	0	0	0	0	0	17	205
09:45	75	4	1	4	1	0	0	85	101	8	2	2	1	0	0	114	27	2	0	0	0	0	0	29	228
1 Hr	249	22	3	6	4	0	0	284	313	24	7	5	4	0	0	353	67	5	0	0	0	0	0	72	709
10:00	78	8	1	2	1	0	0	90	98	6	2	0	0	0	0	106	36	1	0	0	0	0	0	37	233
10:15	82	12	0	1	3	1	2	101	120	8	0	3	1	0	0	132	33	3	0	0	0	0	0	36	269
10:30	89	10	2	0	0	0	1	102	127	9	3	1	1	0	0	141	60	1	0	0	0	0	0	61	304
10:45	101	7	1	0	1	0	1	111	141	11	1	1	1	1	0	156	55	4	0	0	0	0	0	59	326
1 Hr	350	37	4	3	5	1	4	404	486	34	6	5	3	1	0	535	184	9	0	0	0	0	0	193	1132
11:00	99	4	0	0	1	0	0	104	104	9	1	2	1	0	0	117	51	1	1	0	0	0	0	53	274
11:15	91	14	0	2	2	0	1	110	136	17	1	1	1	0	0	156	69	1	0	0	0	0	0	70	336
11:30	126	6	1	2	2	0	0	137	148	7	1	1	1	1	1	160	84	1	1	0	0	0	0	86	383
11:45	105	6	1	0	1	1	2	116	143	12	1	1	0	1	0	158	81	2	1	0	0	0	1	85	359
1 Hr	421	30	2	4	6	1	3	467	531	45	4	5	3	2	1	591	285	5	3	0	0	0	1	294	1352
12:00	101	7	6	0	1	0	1	116	145	12	0	3	3	0	0	163	89	4	1	0	0	0	0	94	373
12:15	132	7	1	1	2	0	1	144	165	8	4	1	1	0	0	179	97	3	1	0	0	0	0	101	424
12:30	132	11	1	3	2	1	0	150	151	11	3	0	0	1	3	169	88	3	0	0	0	0	0	91	410
12:45	94	8	2	1	1	2	0	108	207	19	0	2	2	0	1	231	110	1	0	0	0	0	0	111	450
1 Hr	459	33	10	5	6	3	2	518	668	50	7	6	6	1	4	742	384	11	2	0	0	0	0	397	1657
6 Hrs	1736	156	29	19	28	6	12	1986	2202	170	31	26	22	4	6	2461	960	36	8	1	0	0	1	1006	5453

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 4
Date: 15/10/2016

Notes: -

ORIGIN SUMMARY

	Origin : Arm A - St Margaret's Road (N)								Origin : Arm B - St Margaret's Road (S)								Origin : Arm C - Development Access								Origin
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
13:00	101	7	1	1	2	0	2	114	154	12	0	2	3	0	1	172	84	4	0	0	0	0	0	88	374
13:15	120	5	1	0	1	0	2	129	147	13	1	2	1	0	0	164	92	2	0	0	0	0	0	94	387
13:30	110	7	0	0	2	1	1	121	151	13	0	1	2	1	0	168	82	1	0	0	0	0	1	84	373
13:45	130	4	0	0	1	0	0	135	186	13	0	1	0	0	1	201	65	2	0	0	0	0	0	67	403
1 Hr	461	23	2	1	6	1	5	499	638	51	1	6	6	1	2	705	323	9	0	0	0	0	1	333	1537
14:00	121	11	0	0	2	0	0	134	151	12	1	0	1	0	1	166	106	6	0	0	0	0	0	112	412
14:15	131	7	1	0	1	1	1	142	168	19	0	0	0	0	0	187	85	2	0	1	0	1	0	89	418
14:30	117	7	1	0	1	1	0	127	173	9	3	0	3	2	1	191	109	3	0	0	0	0	0	112	430
14:45	127	11	0	0	1	1	0	140	168	9	1	0	2	0	0	180	94	3	0	0	0	0	0	97	417
1 Hr	496	36	2	0	5	3	1	543	660	49	5	0	6	2	2	724	394	14	0	1	0	1	0	410	1677
15:00	119	8	1	0	2	0	0	130	181	3	2	0	2	0	0	188	104	3	0	0	0	1	0	108	426
15:15	126	10	1	0	1	0	1	139	172	5	1	0	1	1	2	182	126	3	0	0	0	2	0	131	452
15:30	101	6	0	0	1	0	1	109	188	10	1	0	1	0	1	201	92	2	0	0	0	0	0	94	404
15:45	108	9	1	0	3	1	1	123	158	6	1	0	3	0	0	168	89	1	0	0	0	0	1	91	382
1 Hr	454	33	3	0	7	1	3	501	699	24	5	0	7	1	3	739	411	9	0	0	0	3	1	424	1664
16:00	98	6	4	0	1	1	2	112	148	11	2	1	1	1	1	165	124	3	0	0	0	0	0	127	404
16:15	85	9	0	0	2	0	1	97	139	11	3	0	2	1	0	156	88	0	0	1	0	0	0	89	342
16:30	92	2	0	0	1	2	2	99	145	0	0	0	2	0	0	147	102	1	0	0	0	0	0	103	349
16:45	110	8	3	0	1	1	0	123	159	9	0	0	0	1	0	169	115	2	0	0	0	0	1	118	410
1 Hr	385	25	7	0	5	4	5	431	591	31	5	1	5	3	1	637	429	6	0	1	0	0	1	437	1505
17:00	105	8	0	0	1	1	2	117	162	6	0	0	1	0	0	169	76	3	0	0	0	0	0	79	365
17:15	106	7	1	0	1	1	0	116	149	7	1	0	2	1	0	160	117	6	0	0	0	0	0	123	399
17:30	119	15	1	0	1	3	0	139	157	8	3	0	1	1	0	170	91	1	1	0	0	0	0	93	402
17:45	99	5	2	0	1	1	0	108	136	8	2	0	1	0	0	147	127	0	0	0	0	1	0	128	383
1 Hr	429	35	4	0	4	6	2	480	604	29	6	0	5	2	0	646	411	10	1	0	0	1	0	423	1549
18:00	95	3	3	0	1	0	0	102	130	10	0	0	2	0	0	142	104	2	0	0	0	0	0	106	350
18:15	100	5	0	0	1	1	1	108	136	11	1	0	2	0	1	151	78	3	1	0	0	0	0	82	341
18:30	79	7	0	0	1	0	0	87	118	8	2	0	0	1	0	129	77	3	0	0	0	0	0	80	296
18:45	77	6	0	0	1	1	0	85	96	9	0	0	0	0	0	105	87	3	0	0	0	0	0	90	280
1 Hr	351	21	3	0	4	2	1	382	480	38	3	0	4	1	1	527	346	11	1	0	0	0	0	358	1267
6 Hrs	2576	173	21	1	31	17	17	2836	3672	222	25	7	33	10	9	3978	2314	59	2	2	0	5	3	2385	9199
Total	4312	329	50	20	59	23	29	4822	5874	392	56	33	55	14	15	6439	3274	95	10	3	0	5	4	3391	14652
Check								4822								6439								3391	14652

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 4
Date: 15/10/2016

Notes: -

DESTINATION SUMMARY

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - St Margaret's Road (S)								Destination : Arm C - Development Access								Dest Totals
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	
07:00	19	2	0	0	1	0	0	22	14	1	1	1	1	0	0	18	3	1	0	0	0	0	0	4	44
07:15	13	0	0	0	0	0	0	13	20	7	1	1	1	0	0	30	0	1	0	0	0	0	0	1	44
07:30	28	2	0	0	1	0	1	32	25	3	2	0	0	0	2	32	4	0	0	0	0	0	0	4	68
07:45	32	2	2	0	2	0	0	38	32	5	2	0	2	0	0	41	7	0	1	0	0	0	0	8	87
1 Hr	92	6	2	0	4	0	1	105	91	16	6	2	4	0	2	121	14	2	1	0	0	0	0	17	243
08:00	23	4	1	0	0	0	0	28	32	9	5	0	1	0	0	47	2	0	1	0	0	0	0	3	78
08:15	31	3	1	2	1	0	0	38	26	3	2	0	0	1	0	32	3	0	0	0	0	0	0	3	73
08:30	20	0	1	3	0	0	0	24	44	3	0	0	1	0	1	49	5	0	0	0	0	0	0	5	78
08:45	35	2	0	0	1	0	0	38	59	7	0	0	1	0	0	67	24	2	0	0	0	0	0	26	131
1 Hr	109	9	3	5	2	0	0	128	161	22	7	0	3	1	1	195	34	2	1	0	0	0	0	37	360
09:00	29	5	1	0	1	0	0	36	40	4	1	1	1	0	0	47	28	0	0	0	0	0	0	28	111
09:15	48	9	2	1	2	0	0	62	61	6	1	0	0	0	0	68	35	0	0	0	0	0	0	35	165
09:30	67	4	1	2	0	0	0	74	68	8	0	1	2	0	0	79	50	1	1	0	0	0	0	52	205
09:45	67	6	1	2	1	0	0	77	68	6	1	4	1	0	0	80	68	2	1	0	0	0	0	71	228
1 Hr	211	24	5	5	4	0	0	249	237	24	3	6	4	0	0	274	181	3	2	0	0	0	0	186	709
10:00	64	7	2	0	0	0	0	73	79	8	1	2	1	0	0	91	69	0	0	0	0	0	0	69	233
10:15	72	9	0	3	1	0	0	85	84	12	0	1	3	1	0	101	79	2	0	0	0	0	2	83	269
10:30	95	10	3	1	1	0	0	110	106	9	2	0	0	0	1	118	75	1	0	0	0	0	0	76	304
10:45	94	13	1	1	1	1	0	111	103	9	1	0	1	0	1	115	100	0	0	0	0	0	0	100	326
1 Hr	325	39	6	5	3	1	0	379	372	38	4	3	5	1	2	425	323	3	0	0	0	0	2	328	1132
11:00	69	8	2	2	1	0	0	82	114	4	0	0	1	0	0	119	71	2	0	0	0	0	0	73	274
11:15	95	16	1	1	1	0	0	114	120	15	0	2	2	0	1	140	81	1	0	0	0	0	0	82	336
11:30	112	6	1	1	1	1	1	123	148	7	2	2	2	0	0	161	98	1	0	0	0	0	0	99	383
11:45	94	10	0	1	0	1	0	106	137	7	2	0	1	1	1	149	98	3	1	0	0	0	2	104	359
1 Hr	370	40	4	5	3	2	1	425	519	33	4	4	6	1	2	569	348	7	1	0	0	0	2	358	1352
12:00	122	12	0	3	3	0	0	140	133	8	7	0	1	0	1	150	80	3	0	0	0	0	0	83	373
12:15	126	8	5	1	1	0	0	141	166	8	0	1	2	0	1	178	102	2	1	0	0	0	0	105	424
12:30	115	11	3	0	0	1	3	133	162	13	1	3	2	1	0	182	94	1	0	0	0	0	0	95	410
12:45	165	17	0	2	2	0	1	187	140	8	2	1	1	2	0	154	106	3	0	0	0	0	0	109	450
1 Hr	528	48	8	6	6	1	4	601	601	37	10	5	6	3	2	664	382	9	1	0	0	0	0	392	1657
6 Hrs	1635	166	28	26	22	4	6	1887	1981	170	34	20	28	6	9	2248	1282	26	6	0	0	0	4	1318	5453

Tracsis plc
Traffic and Data Services

Client: Atkins Ireland **Weather AM:** Cloudy / Heavy Rain
Project: 3112-IRE Charlestown T **Weather PM:** Cloudy / Light Rain
Site: Site 4
Date: 15/10/2016

Notes: -

DESTINATION SUMMARY

	Destination : Arm A - St Margaret's Road (N)								Destination : Arm B - St Margaret's Road (S)								Destination : Arm C - Development Access								Dest
	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	CAR	LGV	OGV1	OGV2	BUS	MC	PC	Total	Totals
13:00	129	12	0	2	3	0	1	147	129	8	1	1	2	0	2	143	81	3	0	0	0	0	0	84	374
13:15	121	10	1	2	1	0	0	135	150	6	1	0	1	0	2	160	88	4	0	0	0	0	0	92	387
13:30	115	13	0	1	2	1	1	133	140	8	0	0	2	1	1	152	88	0	0	0	0	0	0	88	373
13:45	141	9	0	1	0	0	1	152	135	6	0	0	1	0	0	142	105	4	0	0	0	0	0	109	403
1 Hr	506	44	1	6	6	1	3	567	554	28	2	1	6	1	5	597	362	11	0	0	0	0	0	373	1537
14:00	115	11	1	0	1	0	1	129	171	16	0	0	2	0	0	189	92	2	0	0	0	0	0	94	412
14:15	131	16	0	1	0	0	0	148	156	8	1	0	1	2	1	169	97	4	0	0	0	0	0	101	418
14:30	135	9	3	0	3	2	1	153	155	7	1	0	1	1	0	165	109	3	0	0	0	0	0	112	430
14:45	111	10	1	0	2	0	0	124	164	11	0	0	1	0	0	176	114	2	0	0	0	1	0	117	417
1 Hr	492	46	5	1	6	2	2	554	646	42	2	0	5	3	1	699	412	11	0	0	0	1	0	424	1677
15:00	129	6	2	0	2	1	0	140	155	8	1	0	2	0	0	166	120	0	0	0	0	0	0	120	426
15:15	148	7	1	0	1	3	2	162	173	9	1	0	1	0	1	185	103	2	0	0	0	0	0	105	452
15:30	155	10	1	0	1	0	1	168	127	6	0	0	1	0	1	135	99	2	0	0	0	0	0	101	404
15:45	100	6	1	0	3	0	0	110	145	8	1	0	3	1	2	160	110	2	0	0	0	0	0	112	382
1 Hr	532	29	5	0	7	4	3	580	600	31	3	0	7	1	4	646	432	6	0	0	0	0	0	438	1664
16:00	140	14	2	1	1	1	1	160	156	6	4	0	1	1	1	169	74	0	0	0	0	0	1	75	404
16:15	114	10	3	1	2	1	0	131	114	6	0	0	2	0	1	123	84	4	0	0	0	0	0	88	342
16:30	136	1	0	0	2	0	0	139	137	2	0	0	1	2	2	144	66	0	0	0	0	0	0	66	349
16:45	136	9	0	0	0	1	1	147	162	9	3	0	1	1	0	176	86	1	0	0	0	0	0	87	410
1 Hr	526	34	5	2	5	3	2	577	569	23	7	0	5	4	4	612	310	5	0	0	0	0	1	316	1505
17:00	136	8	0	0	1	0	0	145	127	9	0	0	1	1	2	140	80	0	0	0	0	0	0	80	365
17:15	137	8	1	0	2	1	0	149	161	11	1	0	1	1	0	175	74	1	0	0	0	0	0	75	399
17:30	142	9	3	0	1	1	0	156	149	14	2	0	1	3	0	169	76	1	0	0	0	0	0	77	402
17:45	137	6	2	0	1	0	0	146	166	5	1	0	1	2	0	175	59	2	1	0	0	0	0	62	383
1 Hr	552	31	6	0	5	2	0	596	603	39	4	0	4	7	2	659	289	4	1	0	0	0	0	294	1549
18:00	133	10	0	0	2	0	0	145	127	5	3	0	1	0	0	136	69	0	0	0	0	0	0	69	350
18:15	122	10	2	0	2	0	1	137	131	6	0	0	1	1	1	140	61	3	0	0	0	0	0	64	341
18:30	109	8	1	0	0	1	0	119	121	9	0	0	1	0	0	131	44	1	1	0	0	0	0	46	296
18:45	108	8	0	0	0	0	0	116	112	8	0	0	1	1	0	122	40	2	0	0	0	0	0	42	280
1 Hr	472	36	3	0	4	1	1	517	491	28	3	0	4	2	1	529	214	6	1	0	0	0	0	221	1267
6 Hrs	3080	220	25	9	33	13	11	3391	3463	191	21	1	31	18	17	3742	2019	43	2	0	0	1	1	2066	9199
Total	4715	386	53	35	55	17	17	5278	5444	361	55	21	59	24	26	5990	3301	69	8	0	0	1	5	3384	14652

Appendix B. Parking Survey

CHARLESTOWN SHOPPING CENTRE - TRIP RATE CALCULATION per Bed

560	No. of Beds	285	No. of Units
144.73	GFA sqm.		

Residential Parking AM (Wednesday 6th February 2019)

Residential CP 1 - Wednesday		
Time	Arrival	Departure
7-7:15	0	5
7:15-7:30	0	4
7:30-7:45	0	1
7:45-8:00	1	6
8:00-8:15	0	5
8:15-8:30	0	7
8:30-8:45	0	7
8:45-9:00	0	6
9:00-9:15	0	1
9:15-9:30	2	0
9:30-9:45	2	3
9:45-10:00	0	1
Total	5	46

Residential CP 2 - Wednesday		
Time	Arrival	Departure
7-7:15	1	2
7:15-7:30	0	0
7:30-7:45	0	0
7:45-8:00	0	4
8:00-8:15	1	6
8:15-8:30	1	5
8:30-8:45	0	15
8:45-9:00	2	3
9:00-9:15	8	2
9:15-9:30	0	0
9:30-9:45	0	2
9:45-10:00	0	0
Total	13	39

Residential CP 2 - Wednesday		
Time	Arrival	Departure
7-7:15	1	4
7:15-7:30	0	5
7:30-7:45	0	3
7:45-8:00	0	2
8:00-8:15	0	5
8:15-8:30	1	2
8:30-8:45	0	4
8:45-9:00	0	2
9:00-9:15	1	0
9:15-9:30	0	0
9:30-9:45	0	0
9:45-10:00	0	0
Total	3	27

Residential CP Total - Thursday		
Time	Arrival	Departure
7-7:15	2	11
7:15-7:30	0	9
7:30-7:45	0	4
7:45-8:00	1	12
8:00-8:15	1	16
8:15-8:30	2	14
8:30-8:45	0	26
8:45-9:00	2	11
9:00-9:15	9	3
9:15-9:30	2	0
9:30-9:45	2	5
9:45-10:00	0	1
Total	21	112

Resi Trip Rates - Thursday					
Time	Arrival	Departure	Peak Arrival	Peak Departure	Peak Sum
7-7:15	0.004	0.020	0.005	0.064	0.070
7:15-7:30	0.000	0.016	0.004	0.073	0.077
7:30-7:45	0.000	0.007	0.007	0.082	0.089
7:45-8:00	0.002	0.021	0.007	0.121	0.129
8:00-8:15	0.002	0.029	0.009	0.120	0.129
8:15-8:30	0.004	0.025	0.023	0.096	0.120
8:30-8:45	0.000	0.046	0.023	0.071	0.095
8:45-9:00	0.004	0.020	0.027	0.034	0.061
9:00-9:15	0.016	0.005	0.023	0.016	0.039
9:15-9:30	0.004	0.000	N/A	N/A	N/A
9:30-9:45	0.004	0.009	N/A	N/A	N/A
9:45-10:00	0.000	0.002	N/A	N/A	N/A
Total	0.038	0.200	N/A	N/A	N/A

Residential Parking PM (Wednesday 6th February 2019)

Residential CP 1 - Wednesday		
Time	Arrival	Departure
4:00-4:15	2	0
4:15-4:30	3	1
4:30-4:45	3	0
4:45-5:00	2	0
5:00-5:15	3	3
5:15-5:30	3	1
5:30-5:45	3	1
5:45-6:00	5	0
6:00-6:15	6	4
6:15-6:30	7	2
6:30-6:45	3	2
6:45-7:00	6	1
Total	46	15

Residential CP 2 - Wednesday		
Time	Arrival	Departure
4:00-4:15	2	0
4:15-4:30	4	4
4:30-4:45	3	1
4:45-5:00	1	2
5:00-5:15	2	0
5:15-5:30	2	0
5:30-5:45	2	0
5:45-6:00	1	0
6:00-6:15	3	1
6:15-6:30	6	2
6:30-6:45	2	2
6:45-7:00	1	0
Total	29	12

Residential CP 3 - Wednesday		
Time	Arrival	Departure
4:00-4:15	1	0
4:15-4:30	2	0
4:30-4:45	0	0
4:45-5:00	2	1
5:00-5:15	0	0
5:15-5:30	2	0
5:30-5:45	3	0
5:45-6:00	1	1
6:00-6:15	0	1
6:15-6:30	1	0
6:30-6:45	1	0
6:45-7:00	2	0
Total	15	3

Residential CP Total - Thursday		
Time	Arrival	Departure
4:00-4:15	5	0
4:15-4:30	9	5
4:30-4:45	6	1
4:45-5:00	5	3
5:00-5:15	5	3
5:15-5:30	7	1
5:30-5:45	8	1
5:45-6:00	7	1
6:00-6:15	9	6
6:15-6:30	14	4
6:30-6:45	6	4
6:45-7:00	9	1
Total	90	30

Resi Trip Rates - Thursday					
Time	Arrival	Departure	Peak Arrival	Peak Departure	Peak Sum
4:00-4:15	0.009	0.000	0.045	0.016	0.061
4:15-4:30	0.016	0.009	0.045	0.021	0.066
4:30-4:45	0.011	0.002	0.041	0.014	0.055
4:45-5:00	0.009	0.005	0.045	0.014	0.059
5:00-5:15	0.009	0.005	0.048	0.011	0.059
5:15-5:30	0.013	0.002	0.055	0.016	0.071
5:30-5:45	0.014	0.002	0.068	0.021	0.089
5:45-6:00	0.013	0.002	0.064	0.027	0.091
6:00-6:15	0.016	0.011	0.068	0.027	0.095
6:15-6:30	0.025	0.007	N/A	N/A	N/A
6:30-6:45	0.011	0.007	N/A	N/A	N/A
6:45-7:00	0.016	0.002	N/A	N/A	N/A
Total	0.161	0.054	N/A	N/A	N/A

Appendix C. Go Car Support letter

Atkins House,
150 Lakeside Drive,
Airside Business Park,
Swords, Co. Dublin

Dublin, 18th February 2021

To Whom It May Concern,

This is a letter to confirm that GoCar intends to provide 4 (four) shared car club vehicles in the proposed residential development by Charlestown Place and St. Margaret's Road, Charlestown, Dublin 11. GoCar representatives have discussed the project with representatives of Atkins who are the Engineers for the Project, and are excited to provide a car sharing service at this location.

It is intended that these vehicles will be located at surface level, so will be shared between the residents of the scheme and those living and working nearby. GoCar will work with the eventual managers of the property to promote use of the service within the development.

GoCar is Ireland's leading car sharing service with over 60,000 members and over 800 cars and vans on fleet. Each GoCar which is placed in a community has the potential to replace the journeys of up to 15 private cars. The Department of Housing's Design Standards for New Apartments - Guidelines for Planning Authorities 2018 outline: "For all types of location, where it is sought to eliminate or reduce car parking provision, it is necessary to ensure... provision is also to be made for alternative mobility solutions including facilities for car sharing club vehicles."

Carsharing is a sustainable service. By allowing multiple people to use the same vehicle at different times, car sharing reduces car ownership, car dependency, congestion, noise and air pollution. It frees up land which would otherwise be used for additional parking spaces. Most GoCar users only use a car when necessary, and walk and use public transport more often than car owners.

By having GoCar car sharing vehicles in a development such as this, residents will have access to pay-as-you-go driving, in close proximity to their homes, which will increase usership of the service.

I trust that this information is satisfactory. For any queries, please do not hesitate to contact me.

Rob Kearns
Head of Growth
GoCar Carsharing Ltd
M: 083 822 3924
E: rob.kearns@gocar.ie

Appendix D. Traffic Modelling

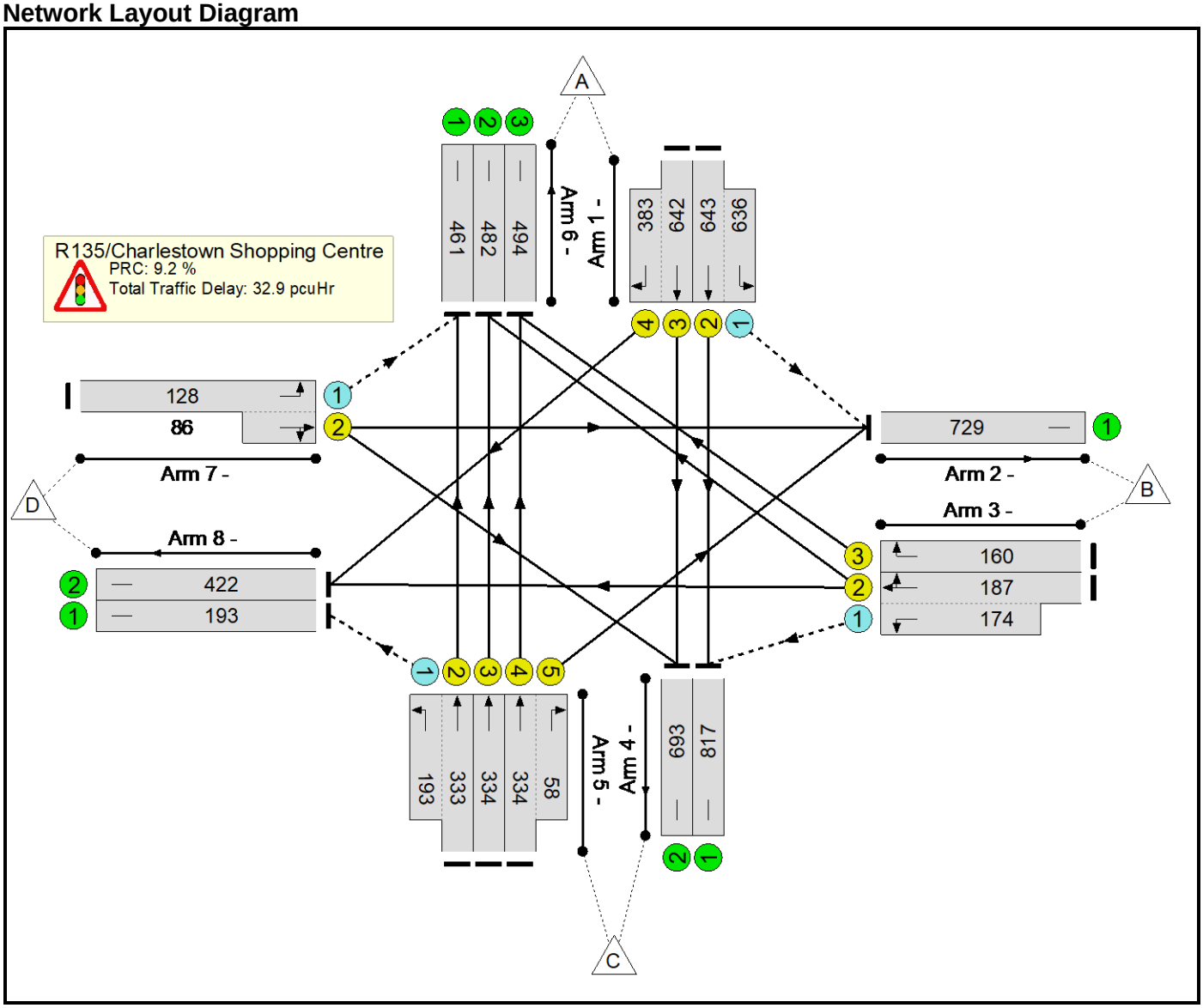
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	2021.02.16. Junction 1 With Mitigation Measures (600 Units).lsg3x
Author:	
Company:	
Address:	

Scenario 1: 'Ex AM Weekday' (FG1: 'Ex AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

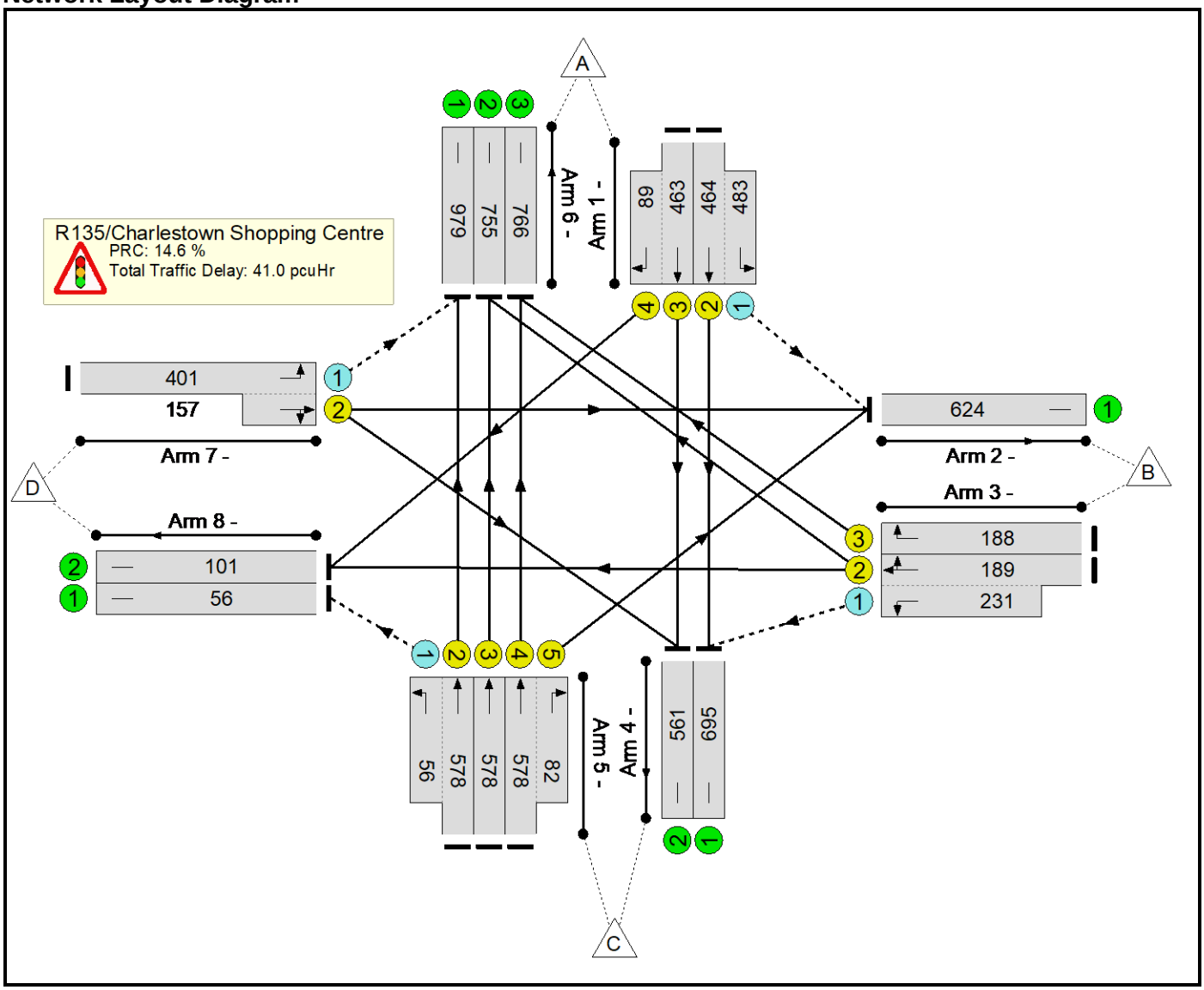
Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**82.4%**	**-**	**-**
R135/Charlestown Shopping Centre	**-**	**-**	**82.4%**	**-**	**-**
1/2+1/1	Left Ahead	U+O	82.4 : 82.4%	13.3	18.0
1/3+1/4	Ahead Right	U	72.0 : 75.6%	27.2	13.1
3/2+3/1	Left Right Ahead	U+O	81.2 : 81.2%	48.8	8.1
3/3	Right	U	65.9%	72.0	6.0
5/2+5/1	Ahead Left	U+O	53.9 : 53.9%	20.9	8.6
5/3	Ahead	U	40.7%	30.1	8.3
5/4+5/5	Right Ahead	U	45.1 : 49.6%	34.4	8.4
7/1+7/2	Ahead Right Left	O+U	74.4 : 74.4%	46.8	4.2

C1	PRC for Signalled Lanes (%):	9.2	Total Delay for Signalled Lanes (pcuHr):	30.15	Cycle Time (s):	120
	PRC Over All Lanes (%):	9.2	Total Delay Over All Lanes(pcuHr):	32.93		

Basic Results Summary

Scenario 2: 'Ex PM Weekday' (FG2: 'Ex PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

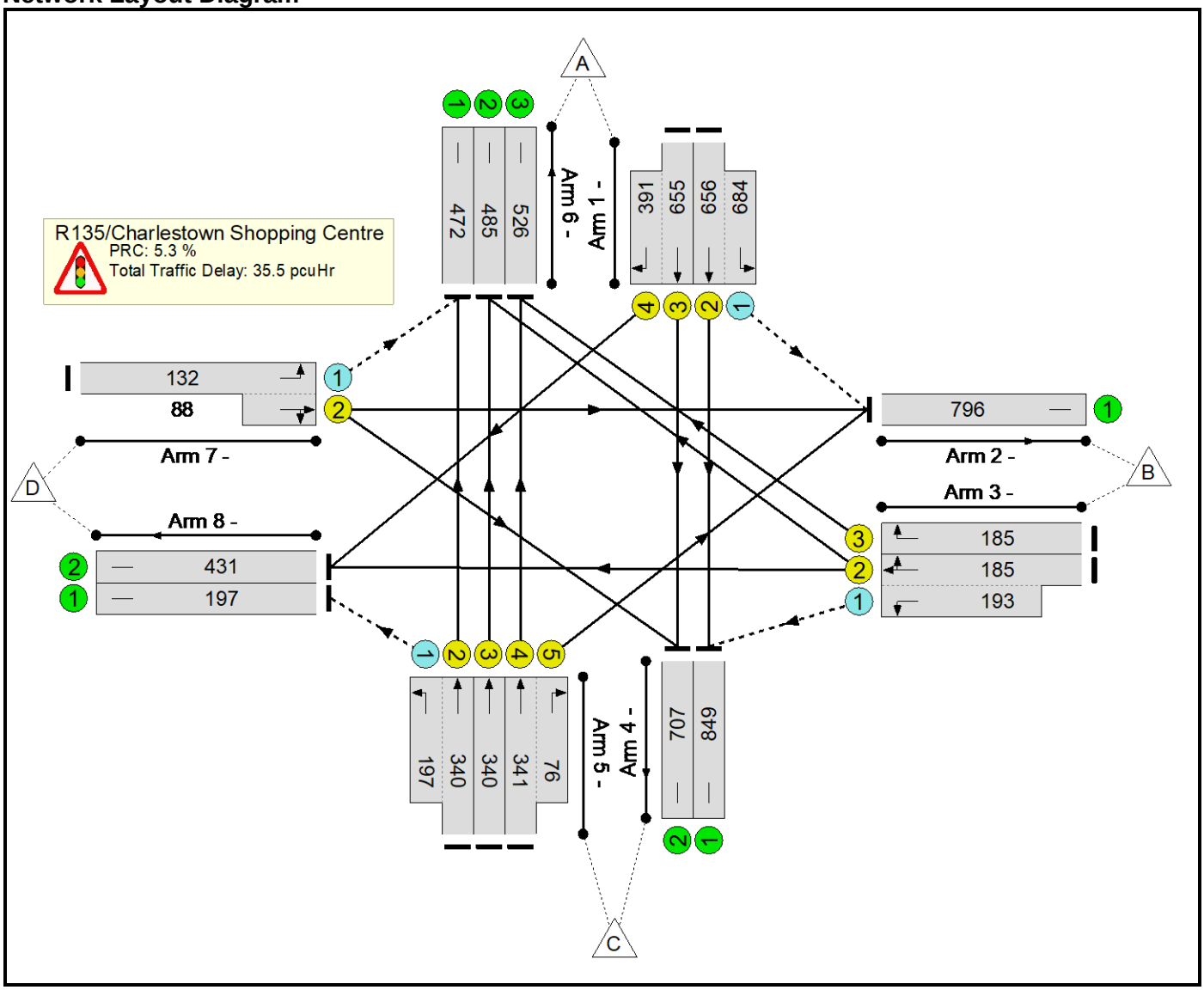
Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**78.5%**	**-**	**-**
R135/Charlestown Shopping Centre	**-**	**-**	**78.5%**	**-**	**-**
1/2+1/1	Left Ahead	U+O	78.5 : 78.5%	19.7	14.6
1/3+1/4	Ahead Right	U	52.6 : 76.8%	33.7	11.8
3/2+3/1	Left Right Ahead	U+O	77.4 : 77.4%	39.1	7.8
3/3	Right	U	72.3%	74.7	7.3
5/2+5/1	Ahead Left	U+O	71.6 : 71.6%	32.2	17.3
5/3	Ahead	U	63.7%	32.0	15.8
5/4+5/5	Right Ahead	U	69.7 : 70.2%	36.4	17.1
7/1+7/2	Ahead Right Left	O+U	77.3 : 77.3%	30.4	10.7

C1	PRC for Signalled Lanes (%):	14.6	Total Delay for Signalled Lanes (pcuHr):	36.29	Cycle Time (s):	120
	PRC Over All Lanes (%):	14.6	Total Delay Over All Lanes(pcuHr):	41.00		

Basic Results Summary

Scenario 3: 'Op AM Weekday' (FG3: 'Op AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

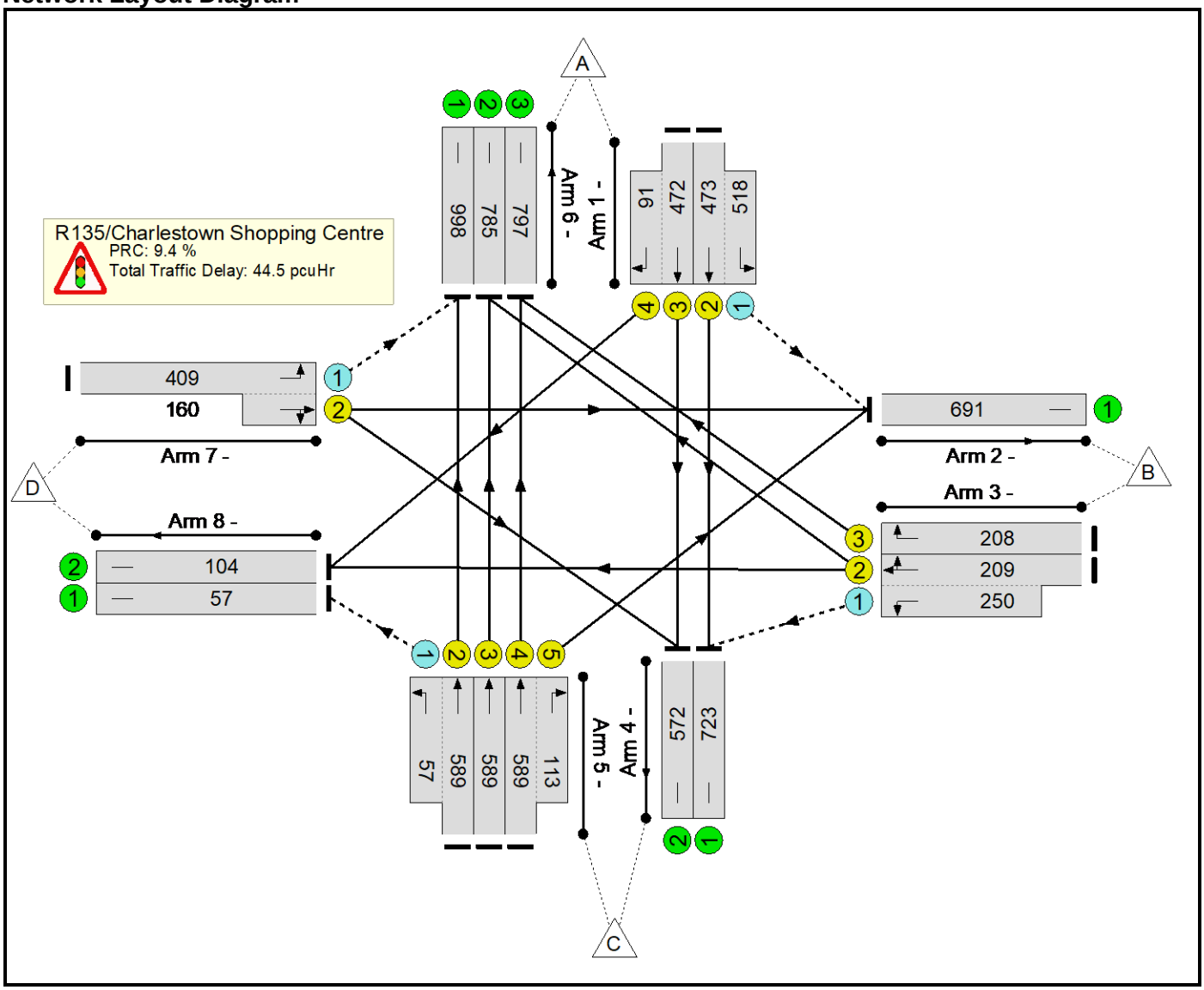
Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**85.5%**	**-**	**-**
R135/Charlestown Shopping Centre	**-**	**-**	**85.5%**	**-**	**-**
1/2+1/1	Left Ahead	U+O	85.5 : 85.5%	14.6	20.7
1/3+1/4	Ahead Right	U	70.8 : 75.0%	26.7	13.3
3/2+3/1	Left Right Ahead	U+O	80.2 : 80.2%	45.8	7.9
3/3	Right	U	76.2%	81.0	7.5
5/2+5/1	Ahead Left	U+O	55.9 : 55.9%	21.7	9.0
5/3	Ahead	U	42.3%	31.1	8.7
5/4+5/5	Right Ahead	U	48.2 : 65.0%	36.7	8.8
7/1+7/2	Ahead Right Left	O+U	76.2 : 76.2%	48.3	4.4

C1	PRC for Signalled Lanes (%):	5.3	Total Delay for Signalled Lanes (pcuHr):	32.59	Cycle Time (s):	120
	PRC Over All Lanes (%):	5.3	Total Delay Over All Lanes(pcuHr):	35.54		

Basic Results Summary

Scenario 4: 'Op PM Weekday' (FG4: 'Op PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

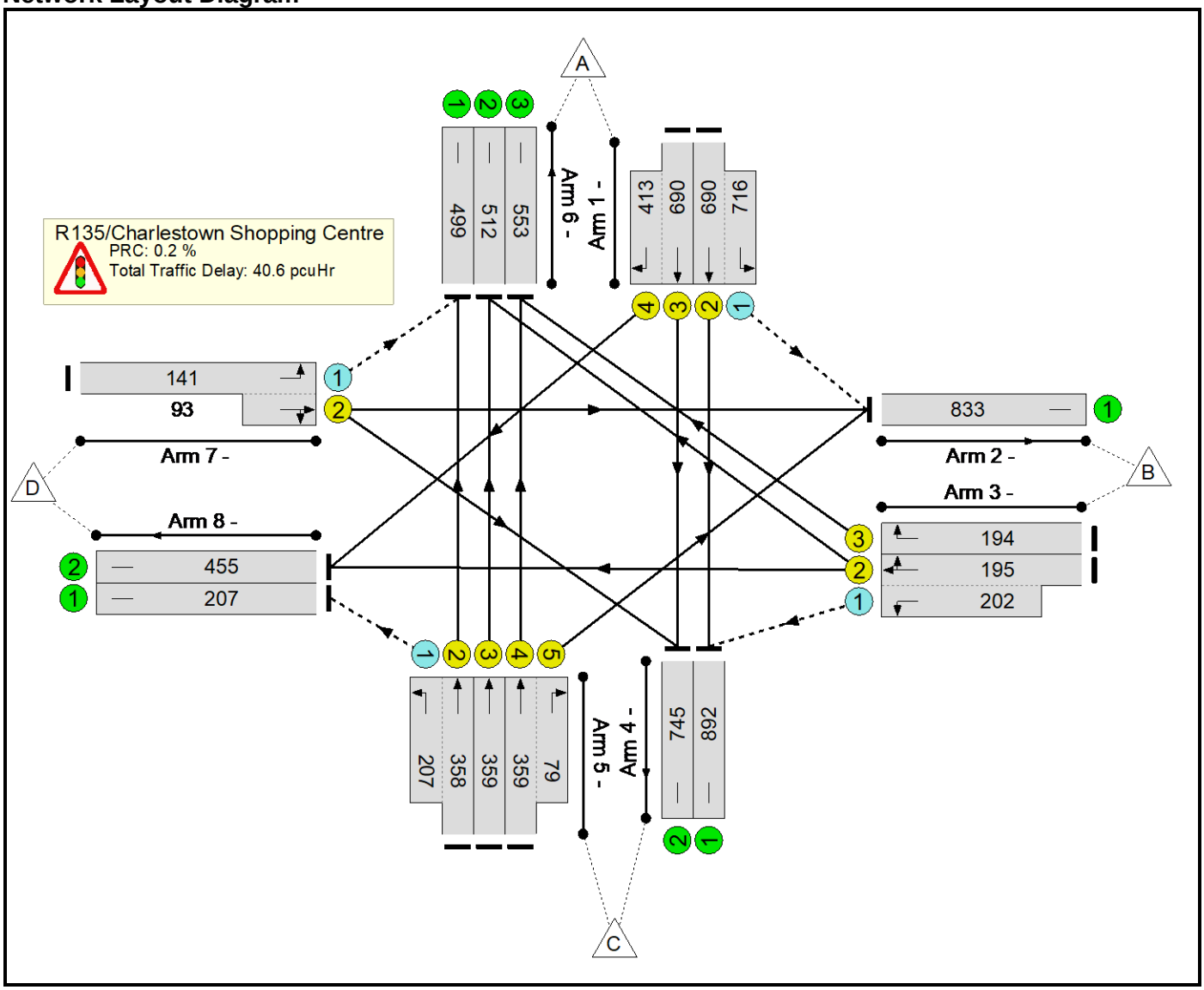
Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**82.3%**	**-**	**-**
R135/Charlestown Shopping Centre	**-**	**-**	**82.3%**	**-**	**-**
1/2+1/1	Left Ahead	U+O	82.2 : 82.2%	21.5	16.8
1/3+1/4	Ahead Right	U	54.5 : 78.5%	34.7	12.3
3/2+3/1	Left Right Ahead	U+O	80.3 : 80.3%	40.7	8.7
3/3	Right	U	75.0%	75.0	8.1
5/2+5/1	Ahead Left	U+O	71.7 : 71.7%	31.5	17.4
5/3	Ahead	U	63.7%	31.3	16.1
5/4+5/5	Right Ahead	U	72.0 : 77.4%	37.4	17.9
7/1+7/2	Ahead Right Left	O+U	82.3 : 82.3%	35.1	12.1

C1 PRC for Signalled Lanes (%): 9.5 Total Delay for Signalled Lanes (pcuHr): 38.93 Cycle Time (s): 120
PRC Over All Lanes (%): 9.4 Total Delay Over All Lanes(pcuHr): 44.48

Basic Results Summary

Scenario 5: 'Op +5 AM Weekday' (FG5: 'Op + 5 AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

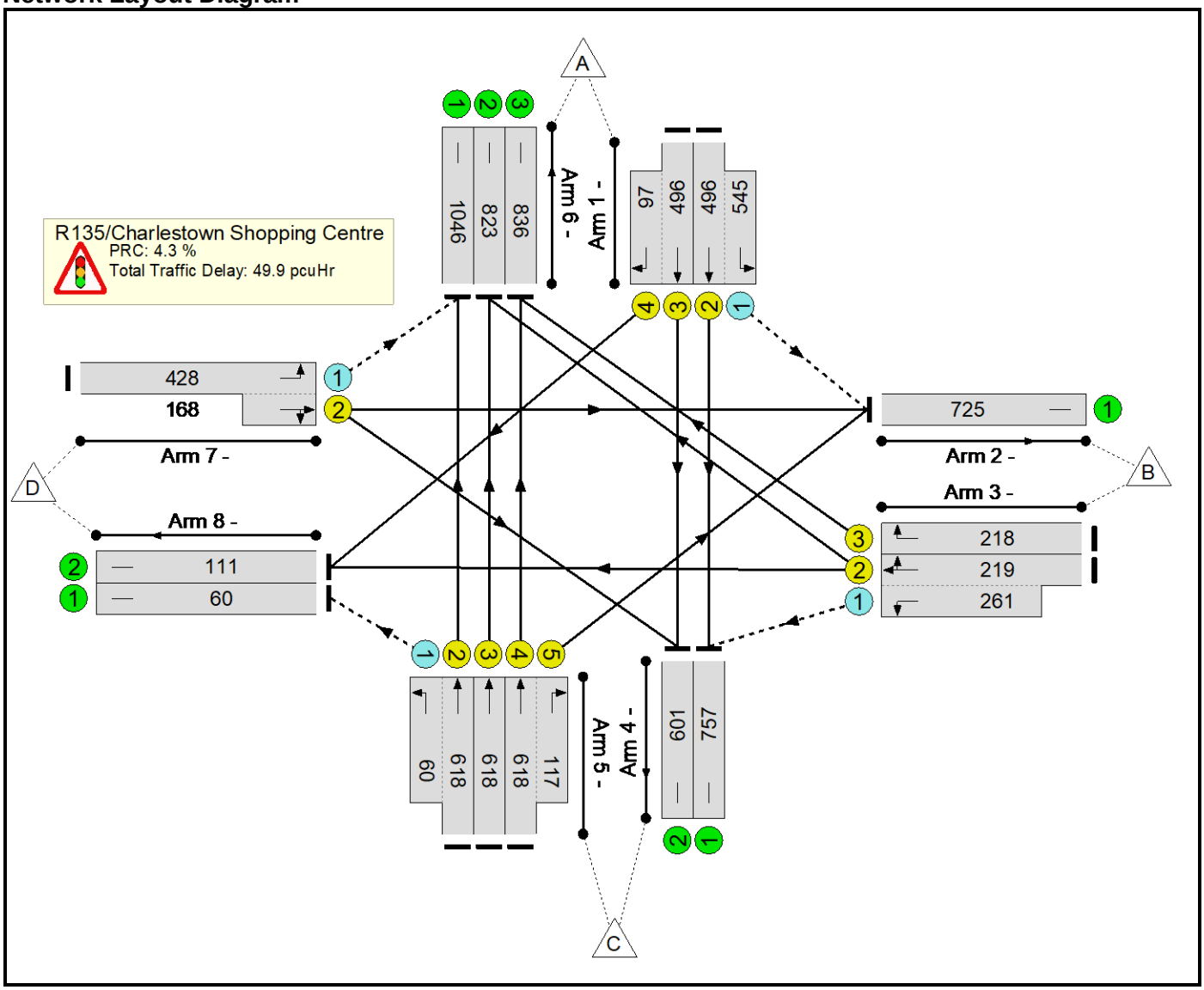
Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**89.8%**	**-**	**-**
R135/Charlestown Shopping Centre	**-**	**-**	**89.8%**	**-**	**-**
1/2+1/1	Left Ahead	U+O	89.8 : 89.8%	18.3	27.1
1/3+1/4	Ahead Right	U	72.3 : 77.1%	26.9	14.4
3/2+3/1	Left Right Ahead	U+O	84.6 : 84.6%	51.2	8.9
3/3	Right	U	79.9%	86.0	8.1
5/2+5/1	Ahead Left	U+O	59.9 : 59.9%	22.9	9.8
5/3	Ahead	U	45.7%	32.5	9.4
5/4+5/5	Right Ahead	U	51.7 : 67.6%	37.9	9.6
7/1+7/2	Ahead Right Left	O+U	80.6 : 80.6%	53.2	5.0

C1	PRC for Signalled Lanes (%):	0.2	Total Delay for Signalled Lanes (pcuHr):	37.13	Cycle Time (s):	120
	PRC Over All Lanes (%):	0.2	Total Delay Over All Lanes(pcuHr):	40.59		

Basic Results Summary

Scenario 6: 'Op +5 PM Weekday' (FG6: 'Op + 5 PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

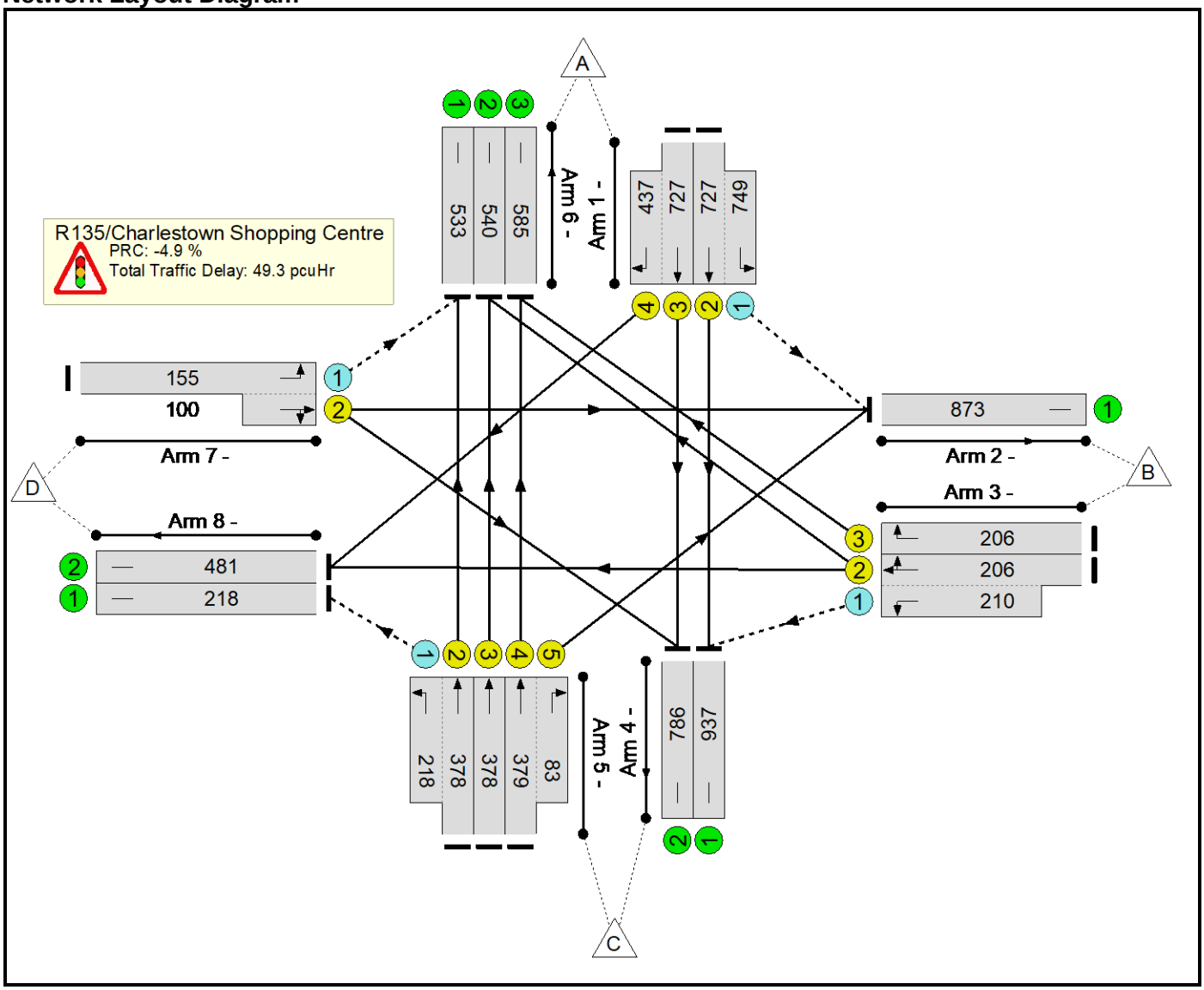
Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**86.3%**	**-**	**-**
R135/Charlestown Shopping Centre	**-**	**-**	**86.3%**	**-**	**-**
1/2+1/1	Left Ahead	U+O	86.2 : 86.2%	24.4	20.1
1/3+1/4	Ahead Right	U	57.2 : 83.7%	35.4	13.2
3/2+3/1	Left Right Ahead	U+O	84.1 : 84.1%	44.8	9.6
3/3	Right	U	78.6%	79.0	8.8
5/2+5/1	Ahead Left	U+O	75.2 : 75.2%	33.1	18.8
5/3	Ahead	U	66.8%	32.4	17.3
5/4+5/5	Right Ahead	U	75.4 : 80.1%	38.8	19.4
7/1+7/2	Ahead Right Left	O+U	86.3 : 86.3%	39.9	13.6

C1	PRC for Signalled Lanes (%):	4.4	Total Delay for Signalled Lanes (pcuHr):	43.35	Cycle Time (s):	120
	PRC Over All Lanes (%):	4.3	Total Delay Over All Lanes(pcuHr):	49.95		

Basic Results Summary

Scenario 7: 'Op +15 AM Weekday' (FG7: 'Op +15 AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

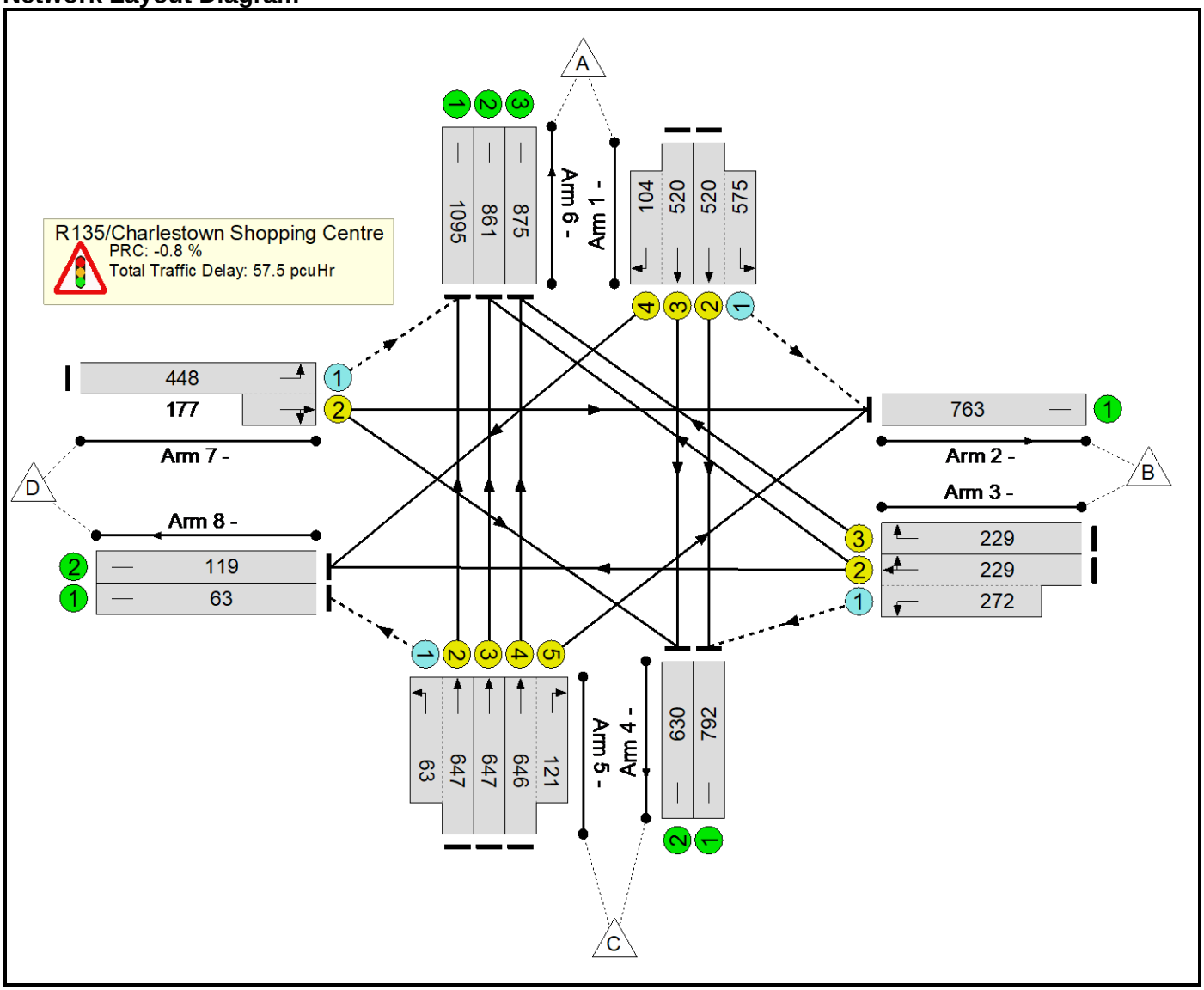
Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**94.4%**	**-**	**-**
R135/Charlestown Shopping Centre	**-**	**-**	**94.4%**	**-**	**-**
1/2+1/1	Left Ahead	U+O	94.4 : 94.4%	26.4	37.3
1/3+1/4	Ahead Right	U	76.9 : 81.5%	28.4	15.9
3/2+3/1	Left Right Ahead	U+O	89.4 : 89.4%	60.7	10.4
3/3	Right	U	84.9%	95.2	9.2
5/2+5/1	Ahead Left	U+O	63.2 : 63.2%	23.6	10.5
5/3	Ahead	U	48.1%	33.0	10.0
5/4+5/5	Right Ahead	U	54.6 : 71.0%	38.5	10.2
7/1+7/2	Ahead Right Left	O+U	86.7 : 86.7%	63.6	6.1

C1	PRC for Signalled Lanes (%):	-4.9	Total Delay for Signalled Lanes (pcuHr):	44.78	Cycle Time (s):	120
	PRC Over All Lanes (%):	-4.9	Total Delay Over All Lanes(pcuHr):	49.29		

Basic Results Summary

Scenario 8: 'Op +15 PM Weekday' (FG8: 'Op +15 PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	**90.7%**	-	-
R135/Charlestown Shopping Centre	-	-	**90.7%**	-	-
1/2+1/1	Left Ahead	U+O	90.6 : 90.6%	29.5	24.9
1/3+1/4	Ahead Right	U	60.0 : 89.8%	36.3	14.0
3/2+3/1	Left Right Ahead	U+O	87.9 : 87.9%	50.7	10.8
3/3	Right	U	82.6%	84.8	9.6
5/2+5/1	Ahead Left	U+O	78.8 : 78.8%	35.0	20.7
5/3	Ahead	U	69.9%	33.5	18.4
5/4+5/5	Right Ahead	U	78.7 : 82.8%	40.4	21.2
7/1+7/2	Ahead Right Left	O+U	90.7 : 90.7%	47.9	16.1

C1

PRC for Signalled Lanes (%): -0.6
PRC Over All Lanes (%): -0.8

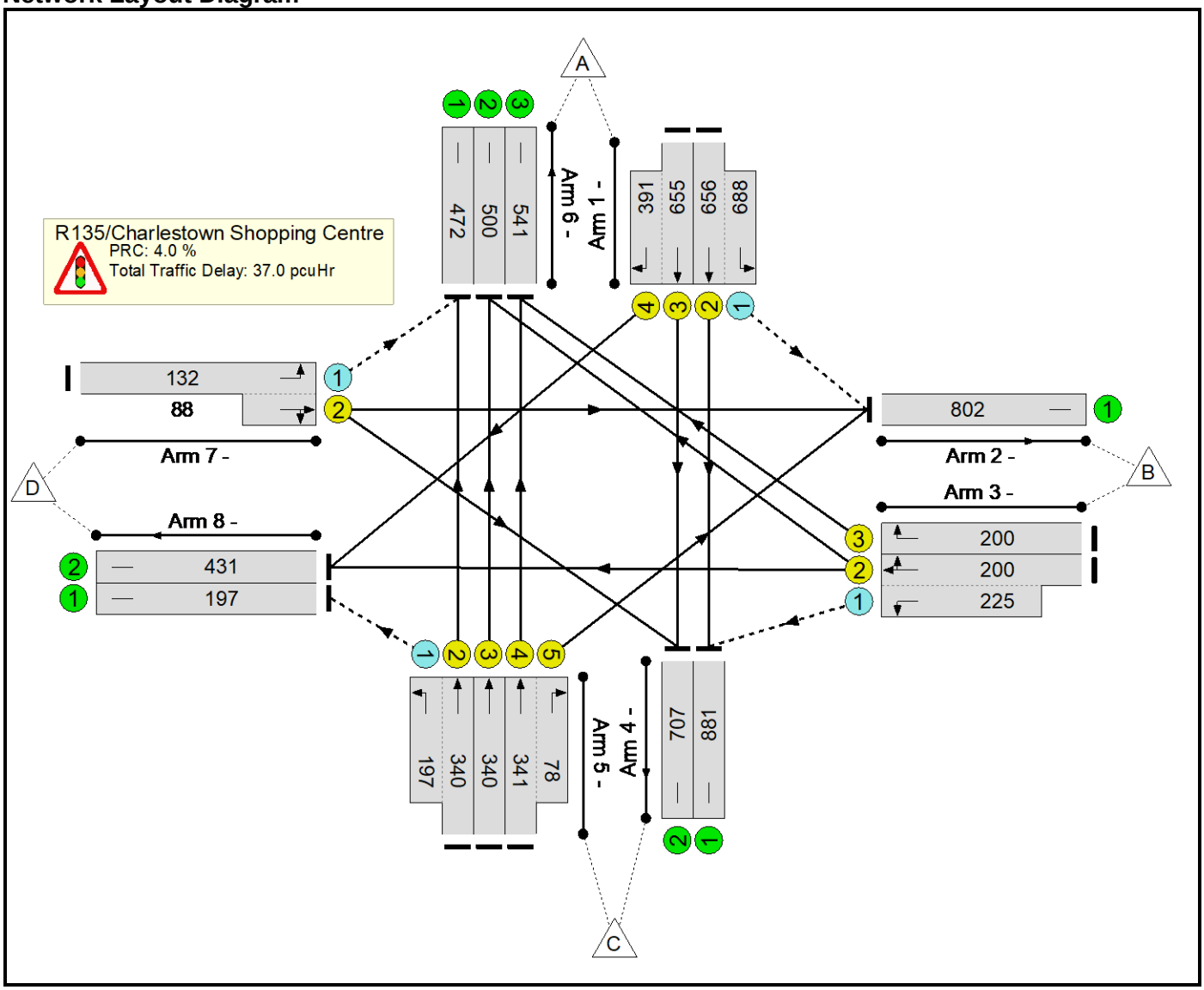
Total Delay for Signalled Lanes (pcuHr): 49.23
Total Delay Over All Lanes(pcuHr): 57.55

Cycle Time (s): 120

Basic Results Summary

Scenario 9: 'Op + Dev AM Weekday' (FG9: 'Op + Dev AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

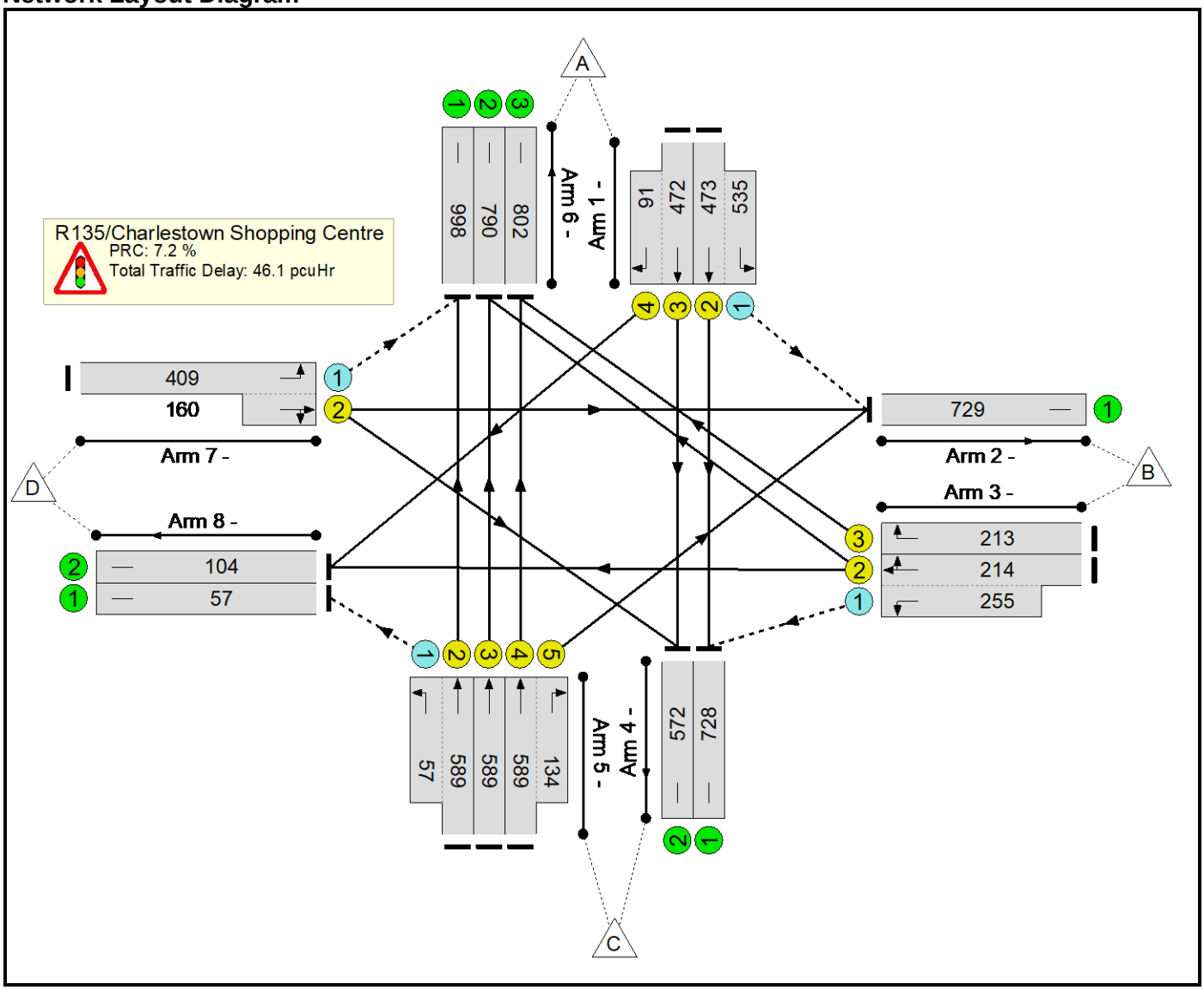
Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**86.6%**	**-**	**-**
R135/Charlestown Shopping Centre	**-**	**-**	**86.6%**	**-**	**-**
1/2+1/1	Left Ahead	U+O	86.6 : 86.6%	15.6	22.1
1/3+1/4	Ahead Right	U	72.7 : 77.1%	27.8	13.8
3/2+3/1	Left Right Ahead	U+O	81.1 : 81.1%	44.0	8.5
3/3	Right	U	76.9%	79.3	8.0
5/2+5/1	Ahead Left	U+O	55.9 : 55.9%	21.7	9.0
5/3	Ahead	U	42.3%	31.1	8.7
5/4+5/5	Right Ahead	U	48.4 : 66.7%	36.8	8.9
7/1+7/2	Ahead Right Left	O+U	76.2 : 76.2%	48.4	4.4

C1	PRC for Signalled Lanes (%):	4.0	Total Delay for Signalled Lanes (pcuHr):	34.00	Cycle Time (s):	120
	PRC Over All Lanes (%):	4.0	Total Delay Over All Lanes(pcuHr):	36.95		

Basic Results Summary

Scenario 10: 'Op + Dev PM Weekday' (FG10: 'Op + Dev PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

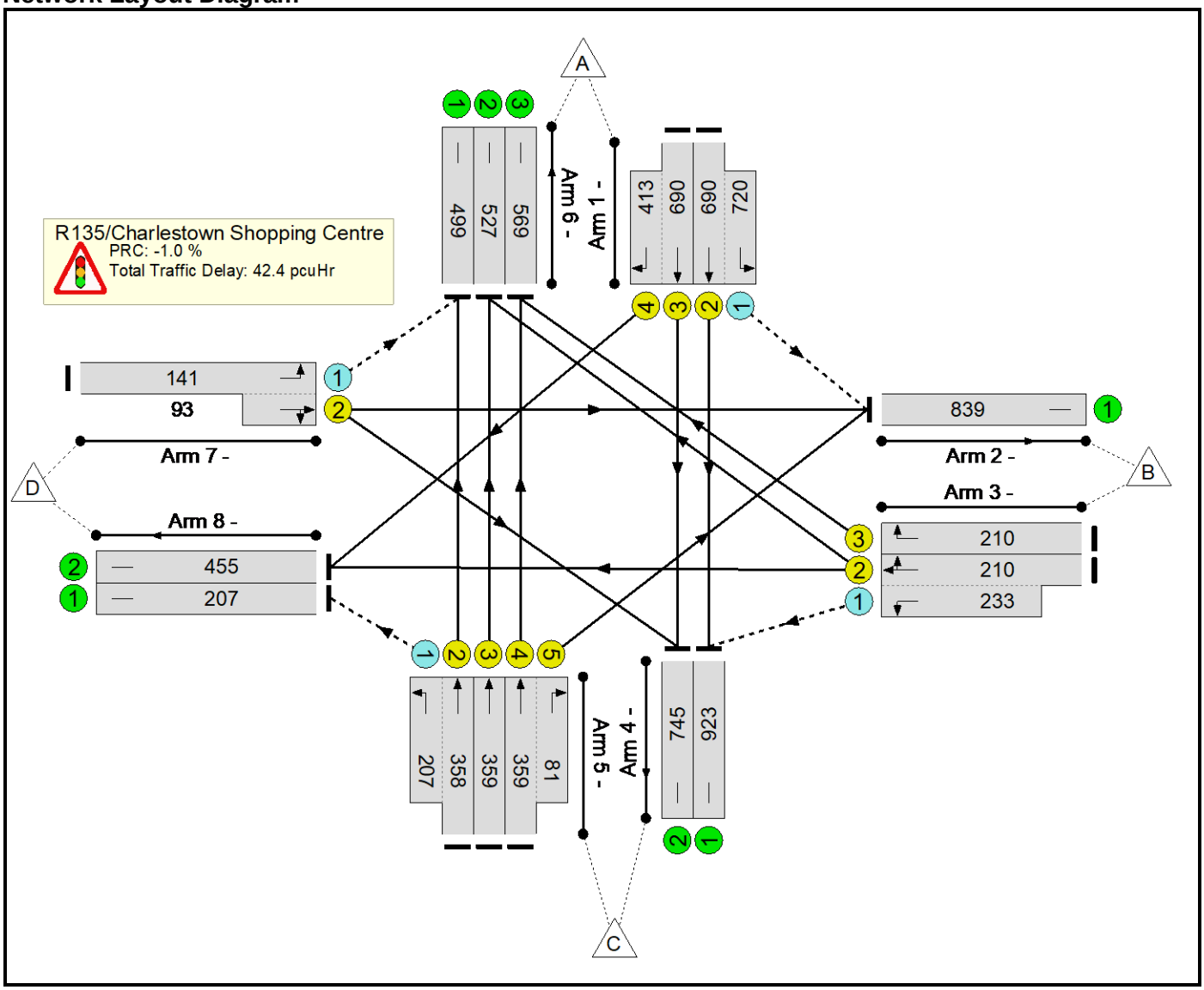
Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**84.0%**	**-**	**-**
R135/Charlestown Shopping Centre	**-**	**-**	**84.0%**	**-**	**-**
1/2+1/1	Left Ahead	U+O	84.0 : 84.0%	22.7	17.7
1/3+1/4	Ahead Right	U	55.4 : 78.5%	35.4	12.5
3/2+3/1	Left Right Ahead	U+O	82.2 : 82.2%	42.5	9.1
3/3	Right	U	76.8%	76.9	8.4
5/2+5/1	Ahead Left	U+O	71.7 : 71.7%	31.5	17.4
5/3	Ahead	U	63.7%	31.3	16.1
5/4+5/5	Right Ahead	U	73.5 : 83.4%	38.7	18.2
7/1+7/2	Ahead Right Left	O+U	82.3 : 82.3%	35.1	12.1

C1	PRC for Signalled Lanes (%):	7.2	Total Delay for Signalled Lanes (pcuHr):	40.54	Cycle Time (s):	120
	PRC Over All Lanes (%):	7.2	Total Delay Over All Lanes(pcuHr):	46.09		

Basic Results Summary

Scenario 11: 'Op + 5 + Dev AM Weekday' (FG11: 'Op + 5 + Dev AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

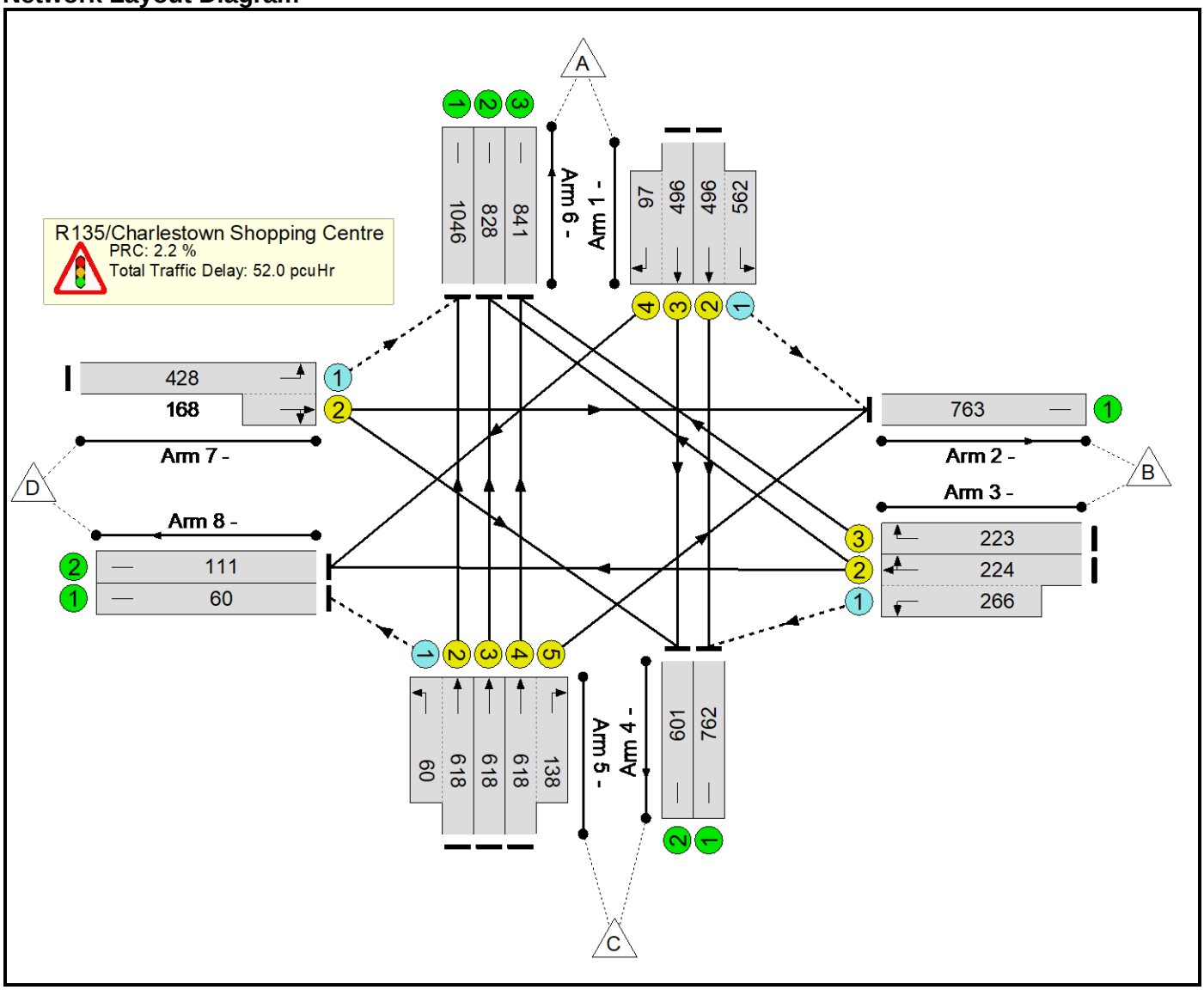
Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**90.9%**	**-**	**-**
R135/Charlestown Shopping Centre	**-**	**-**	**90.9%**	**-**	**-**
1/2+1/1	Left Ahead	U+O	90.9 : 90.9%	20.1	29.2
1/3+1/4	Ahead Right	U	74.2 : 79.2%	28.1	15.0
3/2+3/1	Left Right Ahead	U+O	85.1 : 85.1%	49.4	9.5
3/3	Right	U	80.8%	84.5	8.7
5/2+5/1	Ahead Left	U+O	59.9 : 59.9%	22.9	9.8
5/3	Ahead	U	45.7%	32.5	9.4
5/4+5/5	Right Ahead	U	51.9 : 69.3%	38.0	9.6
7/1+7/2	Ahead Right Left	O+U	80.6 : 80.6%	53.2	5.0

C1	PRC for Signalled Lanes (%):	-1.0	Total Delay for Signalled Lanes (pcuHr):	38.97	Cycle Time (s):	120
	PRC Over All Lanes (%):	-1.0	Total Delay Over All Lanes(pcuHr):	42.43		

Basic Results Summary

Scenario 12: 'Op + 5 + Dev PM Weekday' (FG12: 'Op + 5 + Dev PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

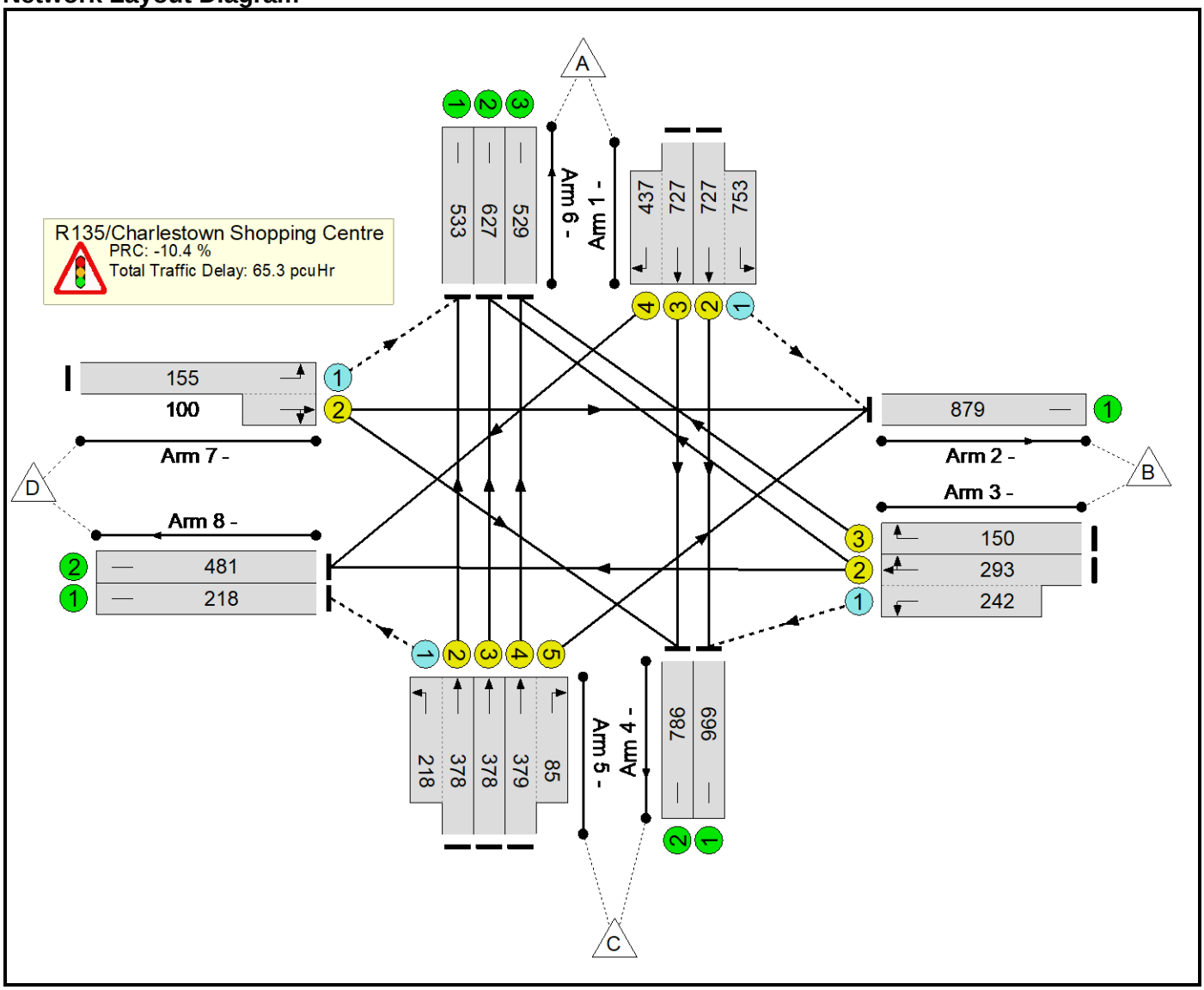
Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**88.1%**	**-**	**-**
R135/Charlestown Shopping Centre	**-**	**-**	**88.1%**	**-**	**-**
1/2+1/1	Left Ahead	U+O	88.1 : 88.1%	26.3	21.3
1/3+1/4	Ahead Right	U	58.2 : 83.7%	36.2	13.3
3/2+3/1	Left Right Ahead	U+O	86.1 : 86.1%	47.4	10.2
3/3	Right	U	80.4%	81.4	9.1
5/2+5/1	Ahead Left	U+O	75.2 : 75.2%	33.1	18.8
5/3	Ahead	U	66.8%	32.4	17.3
5/4+5/5	Right Ahead	U	76.9 : 85.9%	40.2	20.0
7/1+7/2	Ahead Right Left	O+U	86.3 : 86.3%	39.9	13.6

C1	PRC for Signalled Lanes (%):	2.2	Total Delay for Signalled Lanes (pcuHr):	45.44	Cycle Time (s):	120
	PRC Over All Lanes (%):	2.2	Total Delay Over All Lanes(pcuHr):	52.04		

Basic Results Summary

Scenario 13: 'Op + 15 + Dev AM Weekday' (FG13: 'Op + 15 + Dev AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

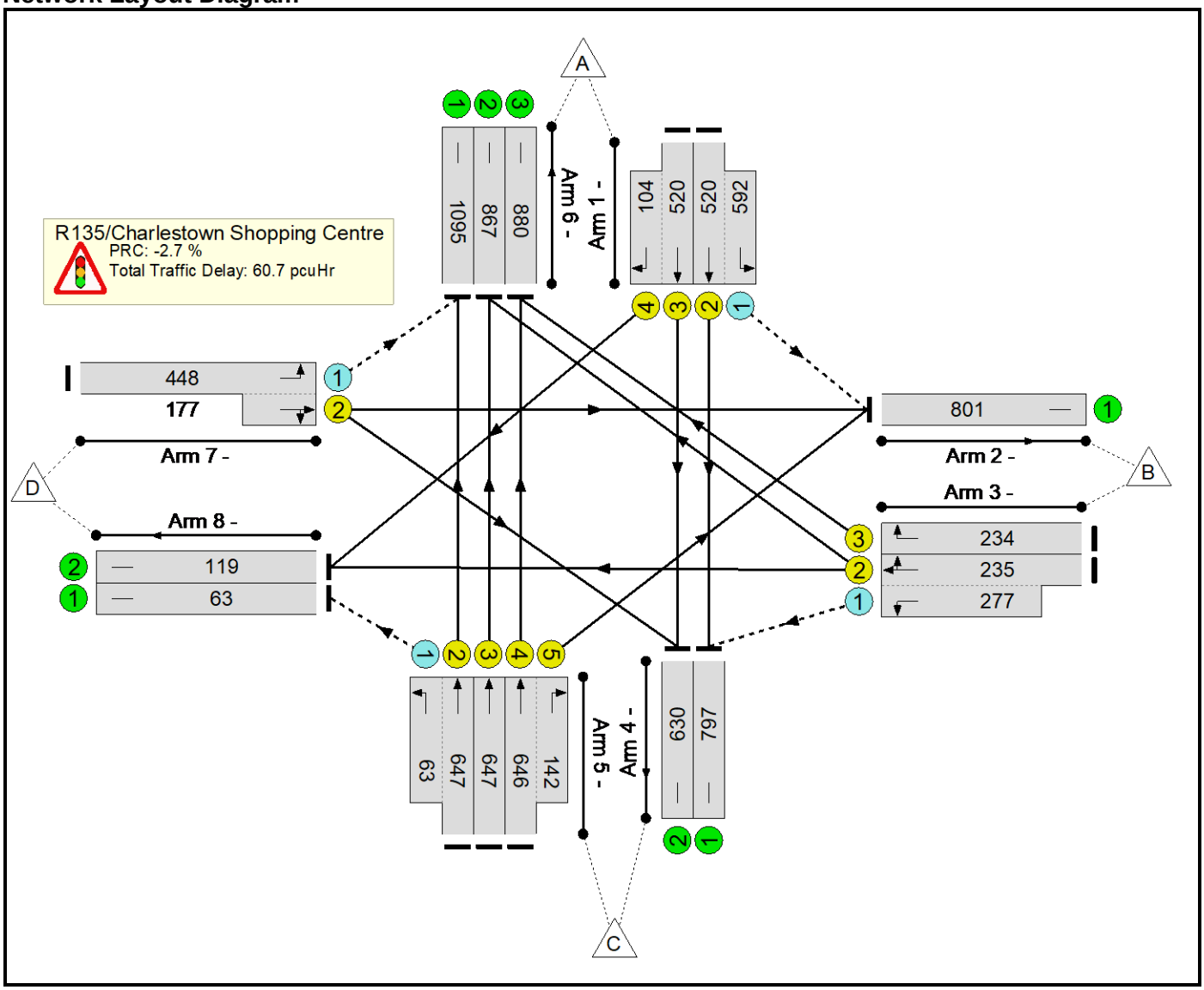
Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	**99.4%**	-	-
R135/Charlestown Shopping Centre	-	-	**99.4%**	-	-
1/2+1/1	Left Ahead	U+O	98.7 : 98.7%	47.8	52.1
1/3+1/4	Ahead Right	U	76.4 : 83.8%	30.5	17.2
3/2+3/1	Left Right Ahead	U+O	99.4 : 99.4%	104.2	20.4
3/3	Right	U	48.1%	57.8	5.0
5/2+5/1	Ahead Left	U+O	66.6 : 66.6%	25.9	11.1
5/3	Ahead	U	51.6%	36.0	10.5
5/4+5/5	Right Ahead	U	58.2 : 72.7%	41.2	10.8
7/1+7/2	Ahead Right Left	O+U	86.7 : 86.7%	64.1	6.1

C1 PRC for Signalled Lanes (%): -10.4 Total Delay for Signalled Lanes (pcuHr): 60.76 Cycle Time (s): 120
PRC Over All Lanes (%): -10.4 Total Delay Over All Lanes(pcuHr): 65.30

Basic Results Summary

Scenario 14: 'Op + 15 + Dev PM Weekday' (FG14: 'Op + 15 + Dev PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

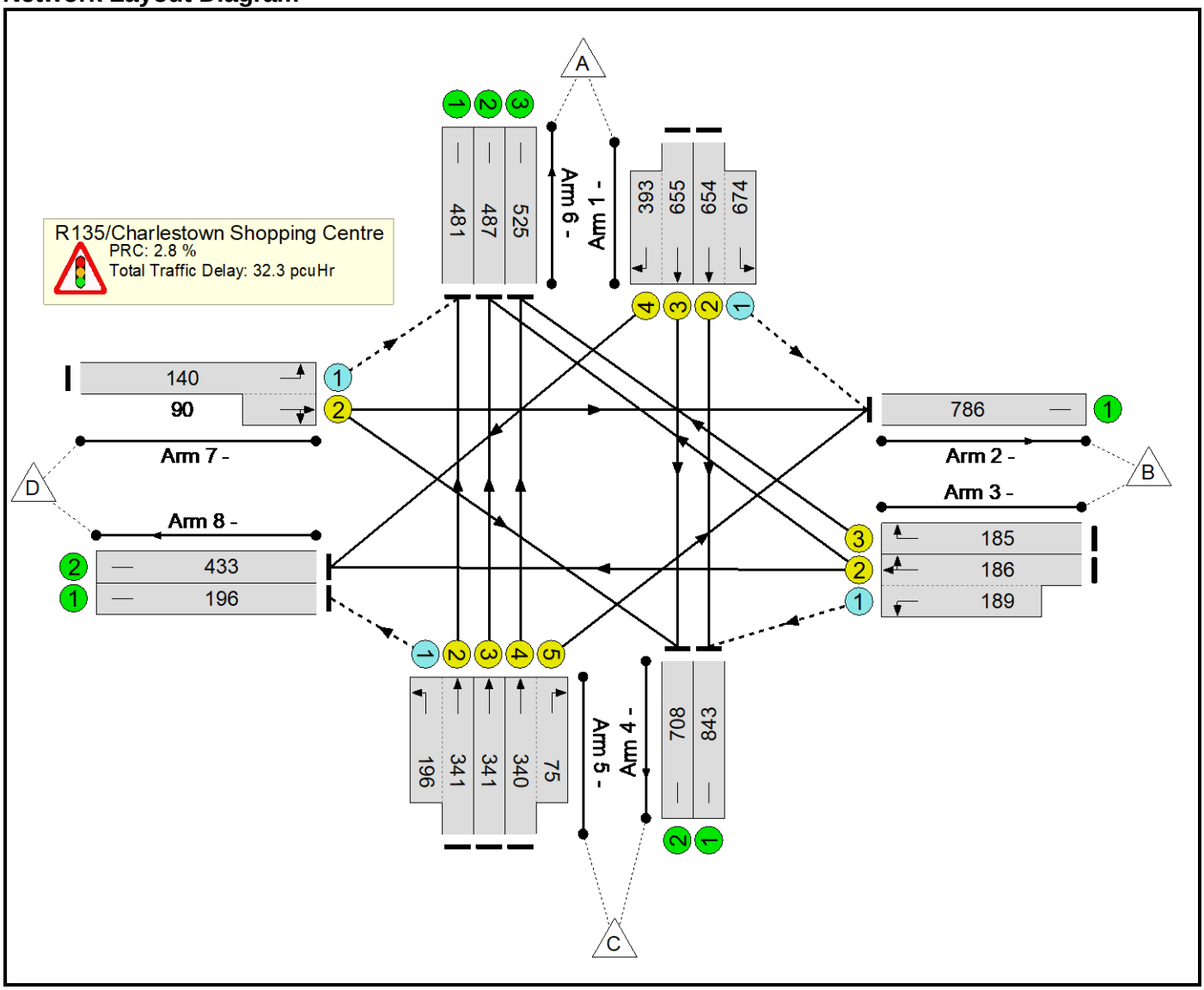
Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**92.5%**	**-**	**-**
R135/Charlestown Shopping Centre	**-**	**-**	**92.5%**	**-**	**-**
1/2+1/1	Left Ahead	U+O	92.5 : 92.5%	33.1	27.0
1/3+1/4	Ahead Right	U	61.0 : 89.8%	37.1	14.3
3/2+3/1	Left Right Ahead	U+O	90.2 : 90.2%	55.4	11.7
3/3	Right	U	84.4%	88.1	10.0
5/2+5/1	Ahead Left	U+O	78.8 : 78.8%	35.0	20.7
5/3	Ahead	U	69.9%	33.5	18.4
5/4+5/5	Right Ahead	U	80.3 : 88.4%	42.1	22.0
7/1+7/2	Ahead Right Left	O+U	90.7 : 90.7%	47.9	16.1

C1 PRC for Signalled Lanes (%): -2.7 Total Delay for Signalled Lanes (pcuHr): 52.40 Cycle Time (s): 120
PRC Over All Lanes (%): -2.7 Total Delay Over All Lanes(pcuHr): 60.72

Basic Results Summary

Scenario 15: 'OP + 15 AM Weekday (10% Reduction)' (FG15: 'OP + 15 AM Weekday (10% Reduction)', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

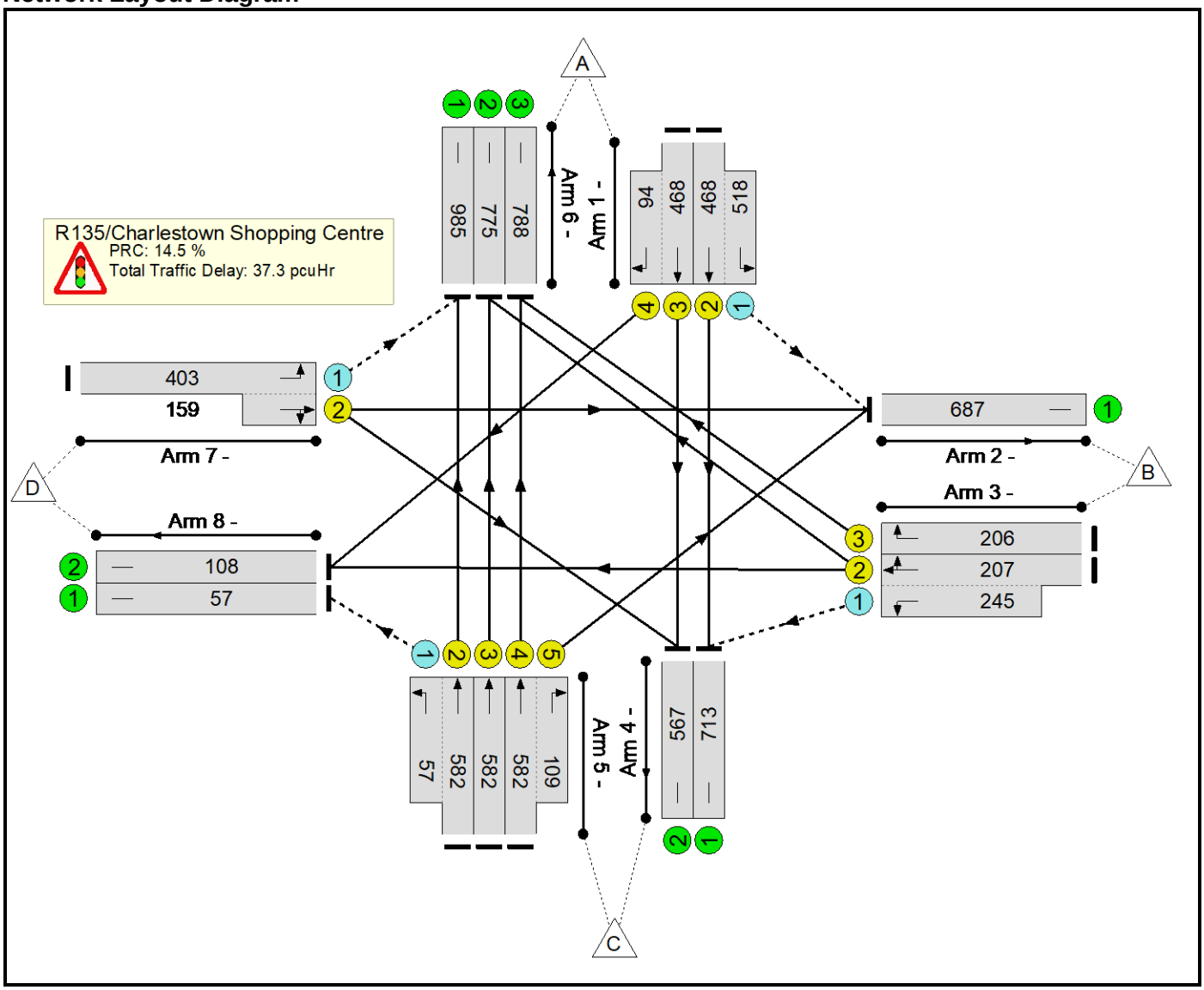
Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**87.5%**	**-**	**-**
R135/Charlestown Shopping Centre	**-**	**-**	**87.5%**	**-**	**-**
1/2+1/1	Left Ahead	U+O	87.5 : 87.5%	16.5	16.4
1/3+1/4	Ahead Right	U	62.4 : 84.8%	24.5	12.2
3/2+3/1	Left Right Ahead	U+O	84.7 : 84.7%	46.2	7.1
3/3	Right	U	80.0%	75.2	6.3
5/2+5/1	Ahead Left	U+O	54.8 : 54.8%	18.4	7.2
5/3	Ahead	U	45.8%	26.8	7.0
5/4+5/5	Right Ahead	U	49.6 : 49.6%	29.6	7.0
7/1+7/2	Ahead Right Left	O+U	58.5 : 58.5%	27.4	2.8

C1 PRC for Signalled Lanes (%): 2.8 Total Delay for Signalled Lanes (pcuHr): 30.58 Cycle Time (s): 90
PRC Over All Lanes (%): 2.8 Total Delay Over All Lanes(pcuHr): 32.33

Basic Results Summary

Scenario 16: 'OP + 15 PM Weekday (10% Reduction)' (FG16: 'OP + 15 PM Weekday (10% Reduction)', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

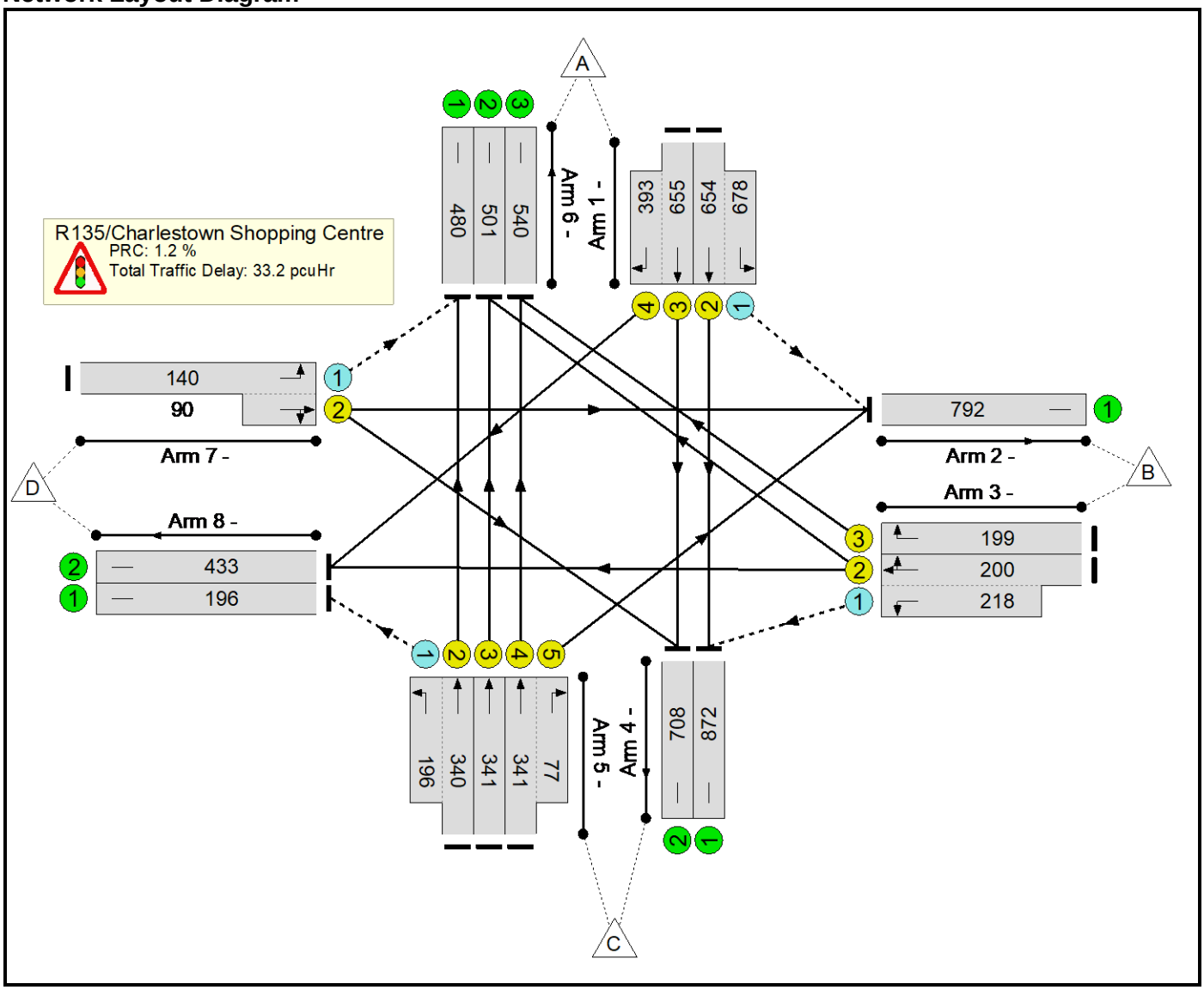
Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**78.6%**	**-**	**-**
R135/Charlestown Shopping Centre	**-**	**-**	**78.6%**	**-**	**-**
1/2+1/1	Left Ahead	U+O	78.0 : 78.0%	17.2	10.9
1/3+1/4	Ahead Right	U	57.4 : 60.8%	29.0	9.8
3/2+3/1	Left Right Ahead	U+O	73.4 : 73.4%	29.4	6.3
3/3	Right	U	68.6%	55.2	5.9
5/2+5/1	Ahead Left	U+O	78.6 : 78.6%	31.9	14.5
5/3	Ahead	U	71.4%	30.9	13.5
5/4+5/5	Right Ahead	U	77.4 : 77.4%	34.7	14.4
7/1+7/2	Ahead Right Left	O+U	76.4 : 76.4%	25.0	6.3

C1	PRC for Signalled Lanes (%):	14.5	Total Delay for Signalled Lanes (pcuHr):	33.43	Cycle Time (s):	90
	PRC Over All Lanes (%):	14.5	Total Delay Over All Lanes(pcuHr):	37.34		

Basic Results Summary

Scenario 17: 'OP + 15 + Dev Am Weekday (10% Reduction)' (FG17: 'OP + 15 + Dev AM Weekday (10% Reduction)', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

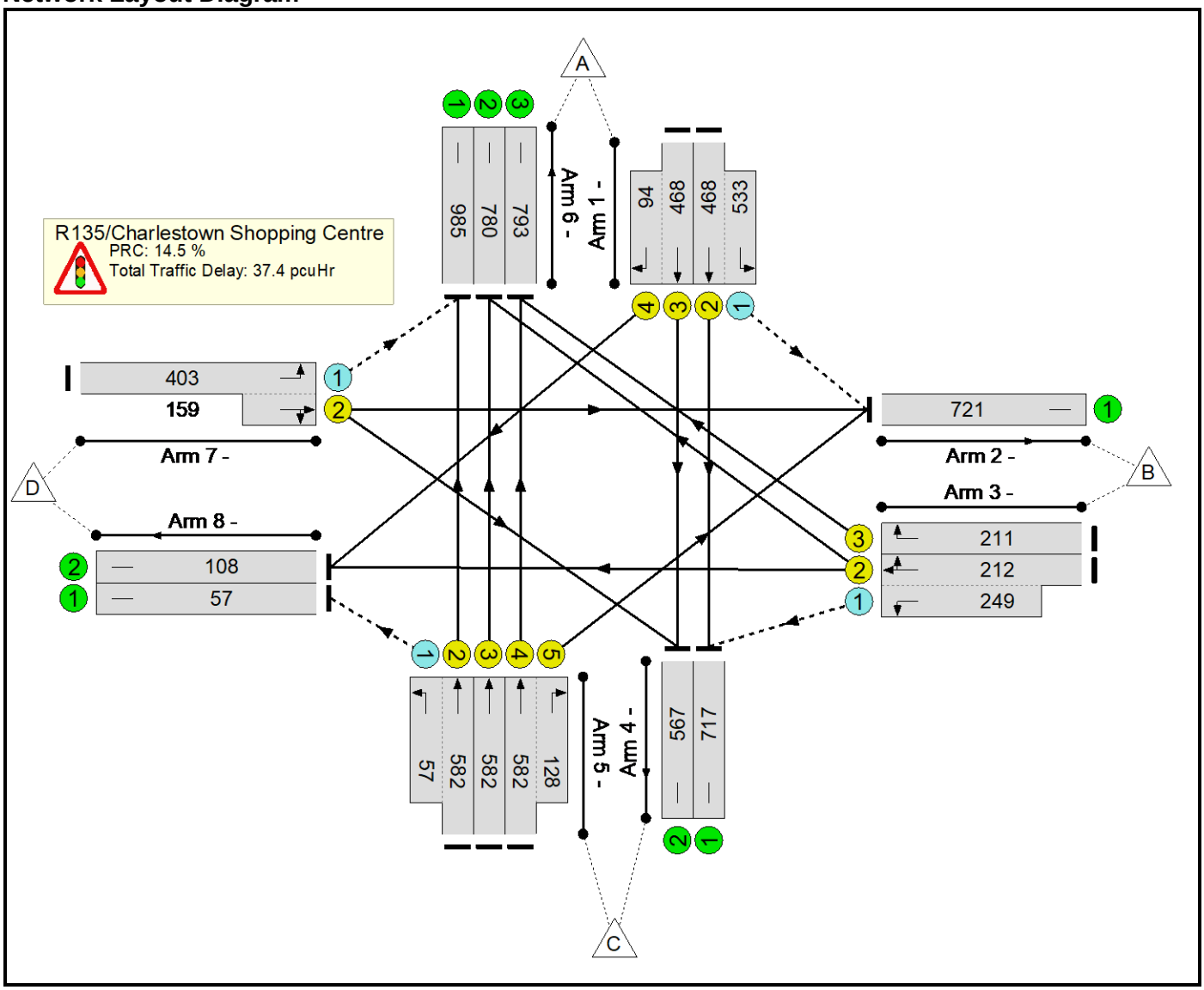
Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**88.9%**	**-**	**-**
R135/Charlestown Shopping Centre	**-**	**-**	**88.9%**	**-**	**-**
1/2+1/1	Left Ahead	U+O	88.9 : 88.9%	18.1	17.9
1/3+1/4	Ahead Right	U	63.5 : 88.5%	25.6	12.5
3/2+3/1	Left Right Ahead	U+O	82.9 : 82.9%	40.8	7.1
3/3	Right	U	78.3%	69.1	6.5
5/2+5/1	Ahead Left	U+O	54.7 : 54.7%	18.4	7.2
5/3	Ahead	U	45.8%	26.8	7.0
5/4+5/5	Right Ahead	U	49.8 : 49.8%	29.7	7.0
7/1+7/2	Ahead Right Left	O+U	58.5 : 58.5%	27.4	2.8

C1	PRC for Signalled Lanes (%):	1.2	Total Delay for Signalled Lanes (pcuHr):	31.42	Cycle Time (s):	90
	PRC Over All Lanes (%):	1.2	Total Delay Over All Lanes(pcuHr):	33.17		

Basic Results Summary

Scenario 18: 'OP + 15 + Dev PM Weekday (10% Reduction)' (FG18: 'OP + 15 + Dev PM Weekday (10% Reduction)', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**78.6%**	**-**	**-**
R135/Charlestown Shopping Centre	**-**	**-**	**78.6%**	**-**	**-**
1/2+1/1	Left Ahead	U+O	78.4 : 78.4%	17.2	10.9
1/3+1/4	Ahead Right	U	57.4 : 60.8%	29.0	9.8
3/2+3/1	Left Right Ahead	U+O	75.2 : 75.2%	30.3	6.5
3/3	Right	U	70.2%	56.3	6.1
5/2+5/1	Ahead Left	U+O	76.6 : 76.6%	30.1	14.0
5/3	Ahead	U	69.5%	29.4	13.1
5/4+5/5	Right Ahead	U	76.6 : 76.6%	33.7	14.2
7/1+7/2	Ahead Right Left	O+U	78.6 : 78.6%	26.8	6.6

C1	PRC for Signalled Lanes (%):	14.8	Total Delay for Signalled Lanes (pcuHr):	33.22	Cycle Time (s):	90
	PRC Over All Lanes (%):	14.5	Total Delay Over All Lanes(pcuHr):	37.40		

Basic Results Summary

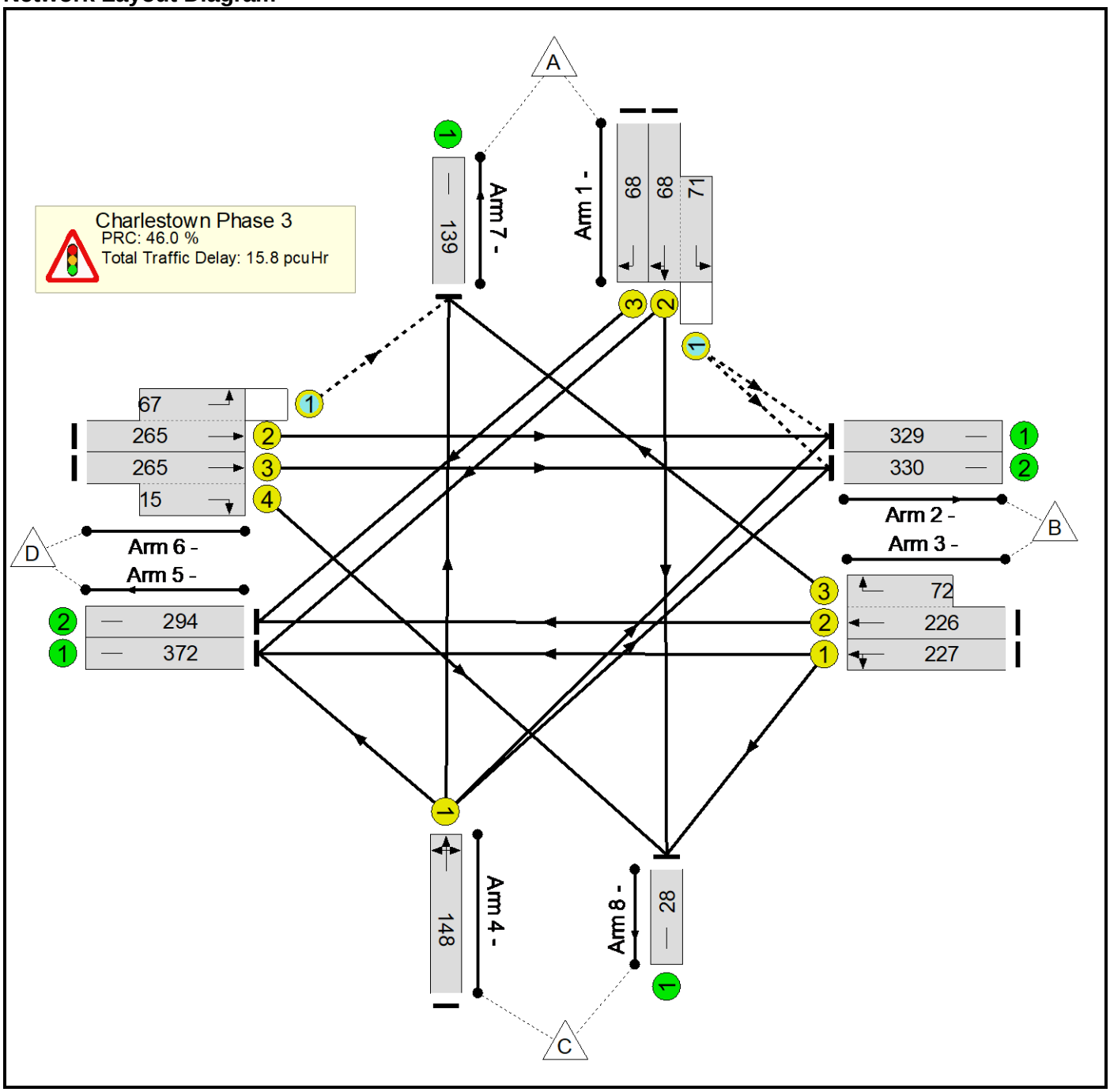
User and Project Details

Project:	**Chalestown Phase 3 development**
Title:	
Location:	
Additional detail:	
File name:	2021.02.16. Junction 2 -Charlestown Place Proposed - no LTL.lsg3x
Author:	
Company:	
Address:	

Basic Results Summary

Scenario 1: 'Ultimate Op +Dev AM Weekday' (FG1: 'Ultimate Op +Dev AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

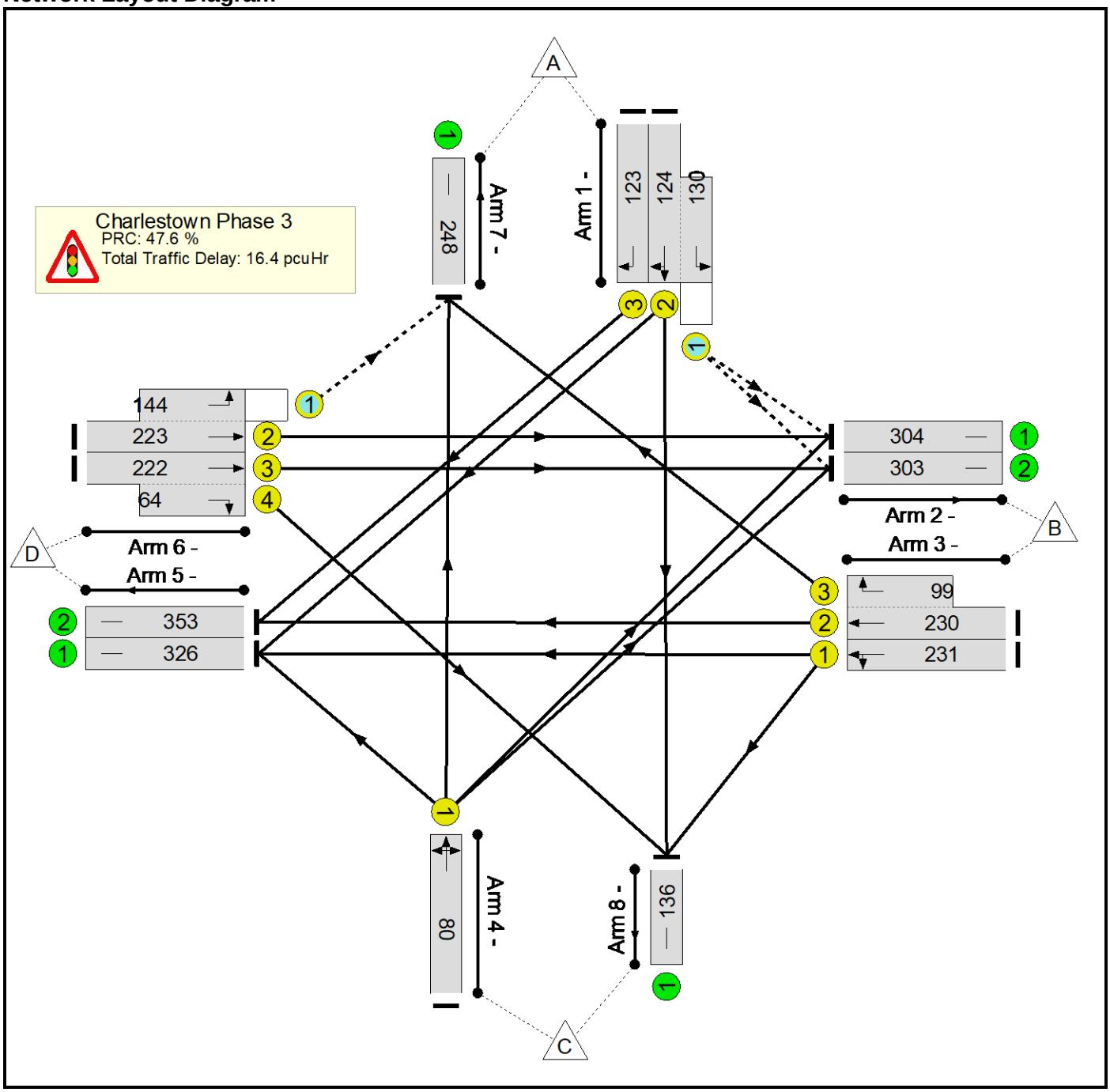
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**61.7%**	**29**	**109**	**0**	**15.8**	**-**	**-**
Charlestown Phase 3	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**61.7%**	**29**	**109**	**0**	**15.8**	**-**	**-**
1/2+1/1	Left Right Ahead	U+O	F G		1	7:85	-	139	1722:1844	162+169	42.0 : 42.0%	19	52	0	1.1	27.6	1.9
1/3	Right	U	E		1	9	-	68	1757	207	32.9%	-	-	-	0.9	47.4	1.7
2/1		U	-		-	-	-	329	1940	1940	17.0%	-	-	-	0.1	1.1	0.1
2/2		U	-		-	-	-	330	1940	1940	17.0%	-	-	-	0.1	1.1	0.1
3/1	Ahead Left	U	J		1	19	-	227	1916	451	50.4%	-	-	-	2.3	36.2	5.1
3/2+3/3	Ahead Right	U	I H		1	19:7	-	298	1940:1719	396+126	57.0 : 57.0%	-	-	-	3.2	38.1	5.2
4/1	Right Left Ahead	U	K		1	10	-	148	1864	241	61.4%	-	-	-	2.2	54.0	4.1
5/1		U	-		-	-	-	372	1940	1940	19.2%	-	-	-	0.1	1.1	0.1
5/2		U	-		-	-	-	294	1940	1940	15.2%	-	-	-	0.1	1.1	0.1
6/2+6/1	Ahead Left	U+O	C D		1	20:85	-	332	1940:1915	430+109	61.7 : 61.7%	10	57	0	2.9	31.0	6.4
6/3+6/4	Ahead Right	U	B A		1	20:7	-	280	1940:1652	469+27	56.6 : 56.6%	-	-	-	2.9	36.7	6.1
7/1		U	-		-	-	-	139	2085	2085	6.7%	-	-	-	0.0	0.9	0.0
8/1		U	-		-	-	-	28	1855	1855	1.5%	-	-	-	0.0	1.0	0.0

C1 PRC for Signalled Lanes (%): 46.0 Total Delay for Signalled Lanes (pcuHr): 15.33 Cycle Time (s): 85
PRC Over All Lanes (%): 46.0 Total Delay Over All Lanes(pcuHr): 15.79

Basic Results Summary

Scenario 2: 'Ultimate Op +Dev PM Weekday' (FG2: 'Ultimate Op +Dev PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**61.0%**	**52**	**222**	**0**	**16.4**	**-**	**-**
Charlestown Phase 3	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**61.0%**	**52**	**222**	**0**	**16.4**	**-**	**-**
1/2+1/1	Left Right Ahead	U+O	F G		1	9:85	-	254	1728:1844	203+213	61.0 : 61.0%	35	95	0	2.0	28.8	3.5
1/3	Right	U	E		1	11	-	123	1757	248	49.6%	-	-	-	1.6	48.0	3.2
2/1		U	-		-	-	-	304	1940	1940	15.7%	-	-	-	0.1	1.1	0.1
2/2		U	-		-	-	-	303	1940	1940	15.6%	-	-	-	0.1	1.1	0.1
3/1	Ahead Left	U	J		1	20	-	231	1825	451	51.2%	-	-	-	2.3	35.7	5.2
3/2+3/3	Ahead Right	U	I H		1	20:8	-	329	1940:1719	396+170	58.1 : 58.1%	-	-	-	3.4	37.5	5.3
4/1	Right Left Ahead	U	K		1	7	-	80	1863	175	45.6%	-	-	-	1.2	55.2	2.2
5/1		U	-		-	-	-	326	1940	1940	16.8%	-	-	-	0.1	1.1	0.1
5/2		U	-		-	-	-	353	1940	1940	18.2%	-	-	-	0.1	1.1	0.1
6/2+6/1	Ahead Left	U+O	C D		1	20:85	-	367	1940:1915	377+244	59.1 : 59.1%	17	127	0	2.4	23.6	5.2
6/3+6/4	Ahead Right	U	B A		1	20:7	-	286	1940:1652	416+120	53.3 : 53.3%	-	-	-	2.9	36.4	5.0
7/1		U	-		-	-	-	248	2085	2085	11.9%	-	-	-	0.1	1.0	0.1
8/1		U	-		-	-	-	136	1855	1855	7.3%	-	-	-	0.0	1.0	0.0

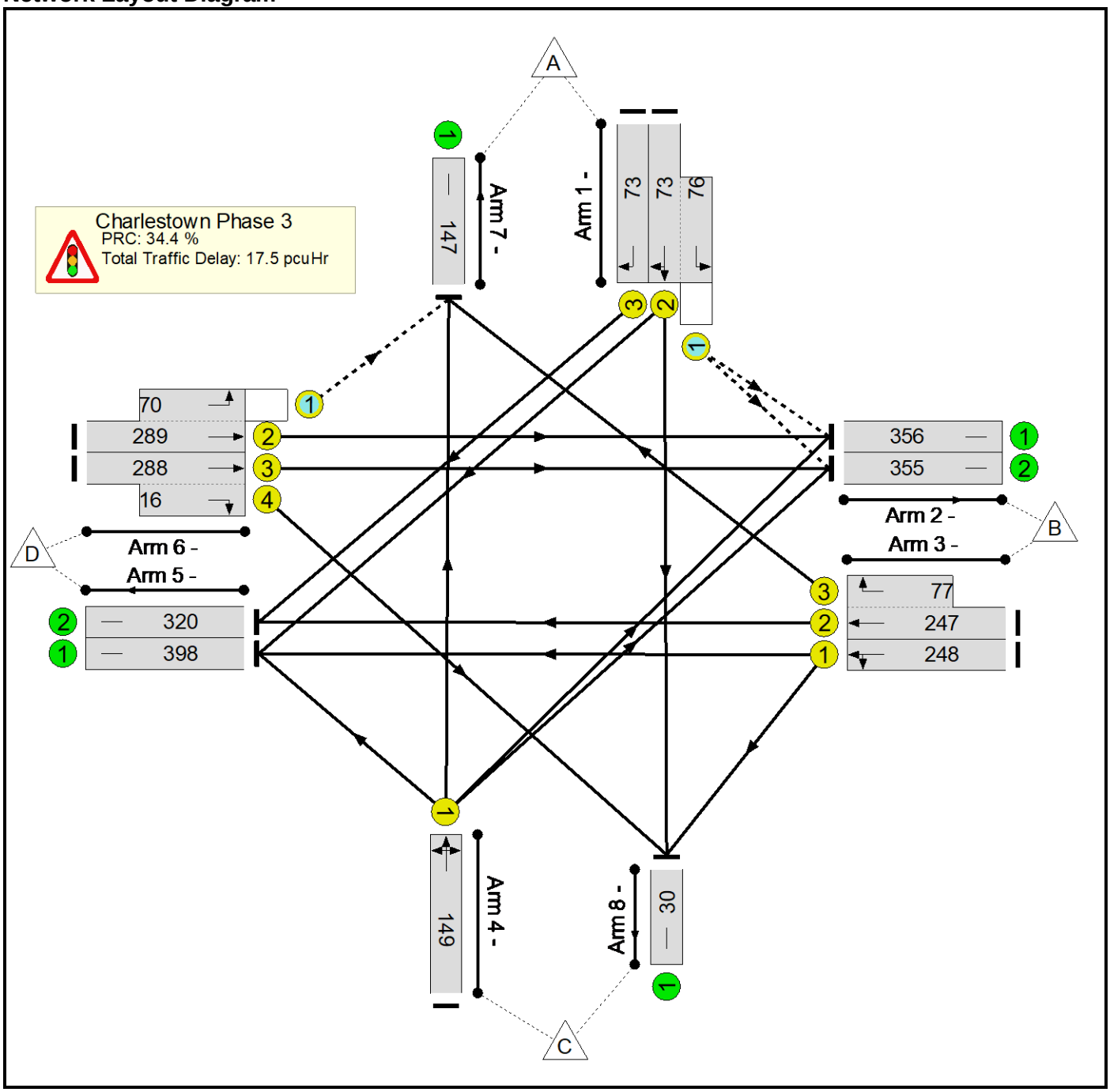
C1 PRC for Signalled Lanes (%): 47.6 Total Delay for Signalled Lanes (pcuHr): 15.92 Cycle Time (s): 85

PRC Over All Lanes (%): 47.6 Total Delay Over All Lanes(pcuHr): 16.42

Basic Results Summary

Scenario 3: 'Ultimate Op +5 +Dev AM Weekday' (FG3: 'Ultimate Op +5 +Dev AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

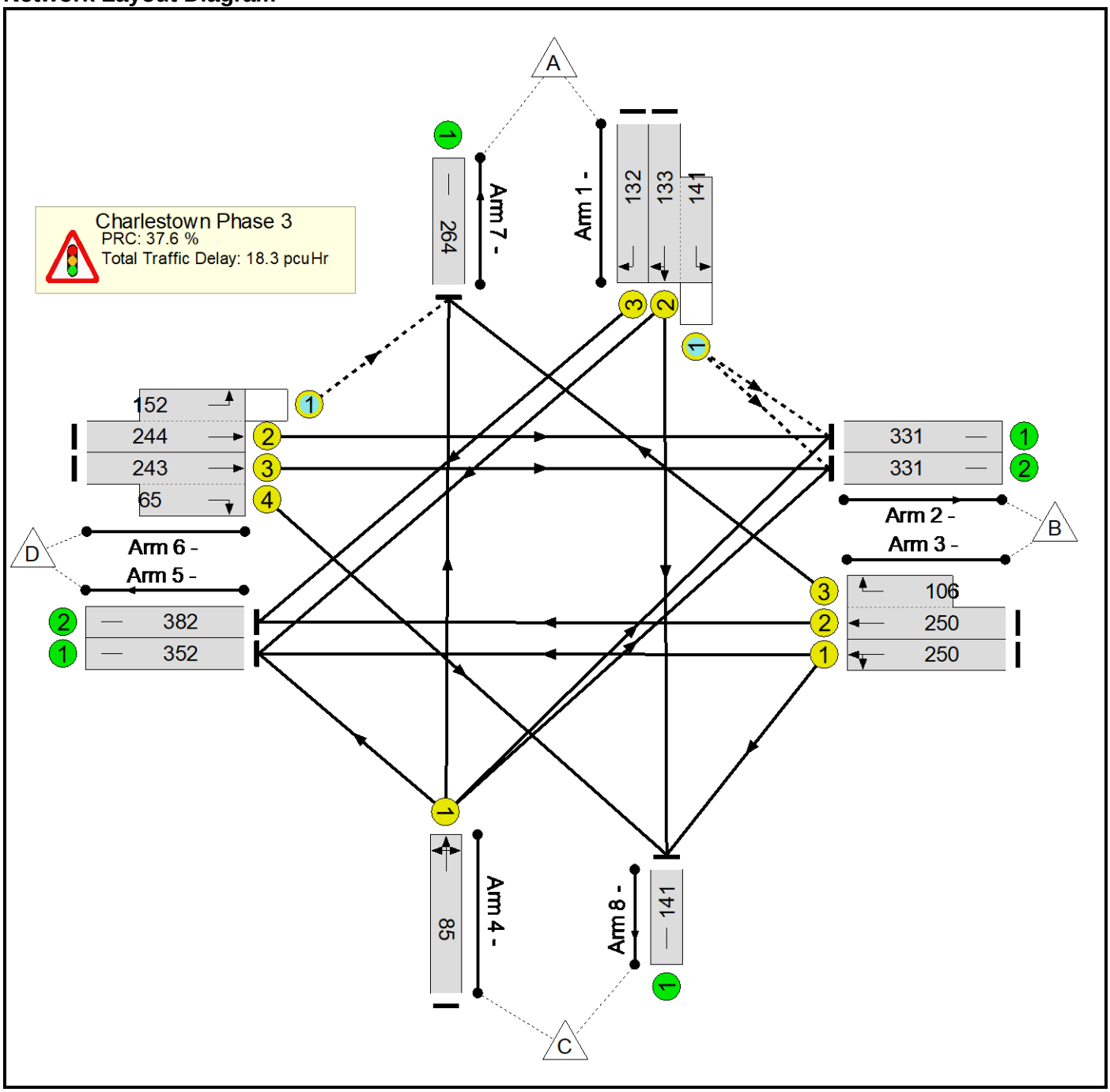
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**66.9%**	**31**	**115**	**0**	**17.5**	**-**	**-**
Charlestown Phase 3	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**66.9%**	**31**	**115**	**0**	**17.5**	**-**	**-**
1/2+1/1	Left Right Ahead	U+O	F G		1	7:85	-	149	1722:1844	162+169	45.0 : 45.0%	21	55	0	1.2	28.4	2.0
1/3	Right	U	E		1	9	-	73	1757	207	35.3%	-	-	-	1.0	48.0	1.9
2/1		U	-		-	-	-	356	1940	1940	18.4%	-	-	-	0.1	1.1	0.1
2/2		U	-		-	-	-	355	1940	1940	18.3%	-	-	-	0.1	1.1	0.1
3/1	Ahead Left	U	J		1	19	-	248	1917	451	55.0%	-	-	-	2.6	37.4	5.7
3/2+3/3	Ahead Right	U	I H		1	19:7	-	324	1940:1719	397+124	62.1 : 62.1%	-	-	-	3.6	39.4	6.0
4/1	Right Left Ahead	U	K		1	10	-	149	1865	241	61.7%	-	-	-	2.2	54.2	4.1
5/1		U	-		-	-	-	398	1940	1940	20.5%	-	-	-	0.1	1.2	0.1
5/2		U	-		-	-	-	320	1940	1940	16.5%	-	-	-	0.1	1.1	0.1
6/2+6/1	Ahead Left	U+O	C D		1	20:85	-	359	1940:1915	432+105	66.9 : 66.9%	11	59	0	3.3	33.0	7.3
6/3+6/4	Ahead Right	U	B A		1	20:7	-	304	1940:1652	469+26	61.4 : 61.4%	-	-	-	3.2	38.4	6.8
7/1		U	-		-	-	-	147	2085	2085	7.1%	-	-	-	0.0	0.9	0.0
8/1		U	-		-	-	-	30	1855	1855	1.6%	-	-	-	0.0	1.0	0.0

C1 PRC for Signalled Lanes (%): 34.4 Total Delay for Signalled Lanes (pcuHr): 17.05 Cycle Time (s): 85
PRC Over All Lanes (%): 34.4 Total Delay Over All Lanes(pcuHr): 17.55

Basic Results Summary

Scenario 4: 'Ultimate Op +5 +Dev PM Weekday' (FG4: 'Ultimate Op +5 +Dev PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**65.4%**	**56**	**237**	**0**	**18.3**	**-**	**-**
Charlestown Phase 3	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**65.4%**	**56**	**237**	**0**	**18.3**	**-**	**-**
1/2+1/1	Left Right Ahead	U+O	F G		1	9:85	-	274	1729:1844	203+216	65.4 : 65.4%	38	103	0	2.3	30.2	3.9
1/3	Right	U	E		1	11	-	132	1757	248	53.2%	-	-	-	1.8	49.3	3.4
2/1		U	-		-	-	-	331	1940	1940	17.1%	-	-	-	0.1	1.1	0.1
2/2		U	-		-	-	-	331	1940	1940	17.1%	-	-	-	0.1	1.1	0.1
3/1	Ahead Left	U	J		1	20	-	250	1829	452	55.3%	-	-	-	2.6	36.8	5.8
3/2+3/3	Ahead Right	U	I H		1	20:8	-	356	1940:1719	397+168	63.0 : 63.0%	-	-	-	3.8	38.7	6.0
4/1	Right Left Ahead	U	K		1	7	-	85	1863	175	48.5%	-	-	-	1.3	56.3	2.4
5/1		U	-		-	-	-	352	1940	1940	18.1%	-	-	-	0.1	1.1	0.1
5/2		U	-		-	-	-	382	1940	1940	19.7%	-	-	-	0.1	1.2	0.1
6/2+6/1	Ahead Left	U+O	C D		1	20:85	-	396	1940:1915	380+237	64.3 : 64.3%	18	134	0	2.8	25.1	5.8
6/3+6/4	Ahead Right	U	B A		1	20:7	-	308	1940:1652	420+112	57.8 : 57.8%	-	-	-	3.2	37.4	5.6
7/1		U	-		-	-	-	264	2085	2085	12.7%	-	-	-	0.1	1.0	0.1
8/1		U	-		-	-	-	141	1855	1855	7.6%	-	-	-	0.0	1.1	0.0

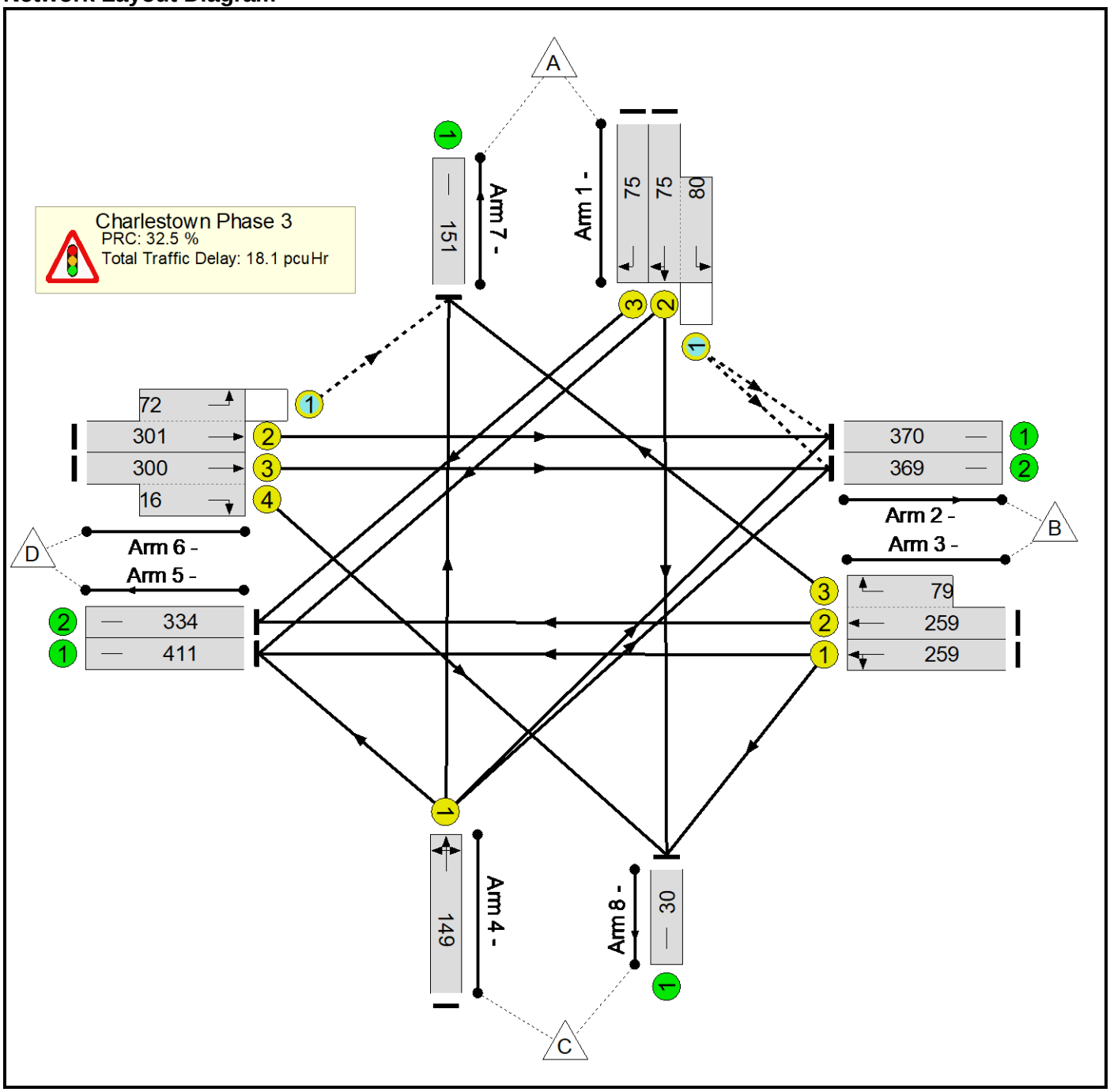
C1 PRC for Signalled Lanes (%): 37.6 Total Delay for Signalled Lanes (pcuHr): 17.77 Cycle Time (s): 85

PRC Over All Lanes (%): 37.6 Total Delay Over All Lanes(pcuHr): 18.33

Basic Results Summary

Scenario 5: 'Ultimate Op +15 +Dev AM Weekday' (FG5: 'Ultimate Op +15 +Dev AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

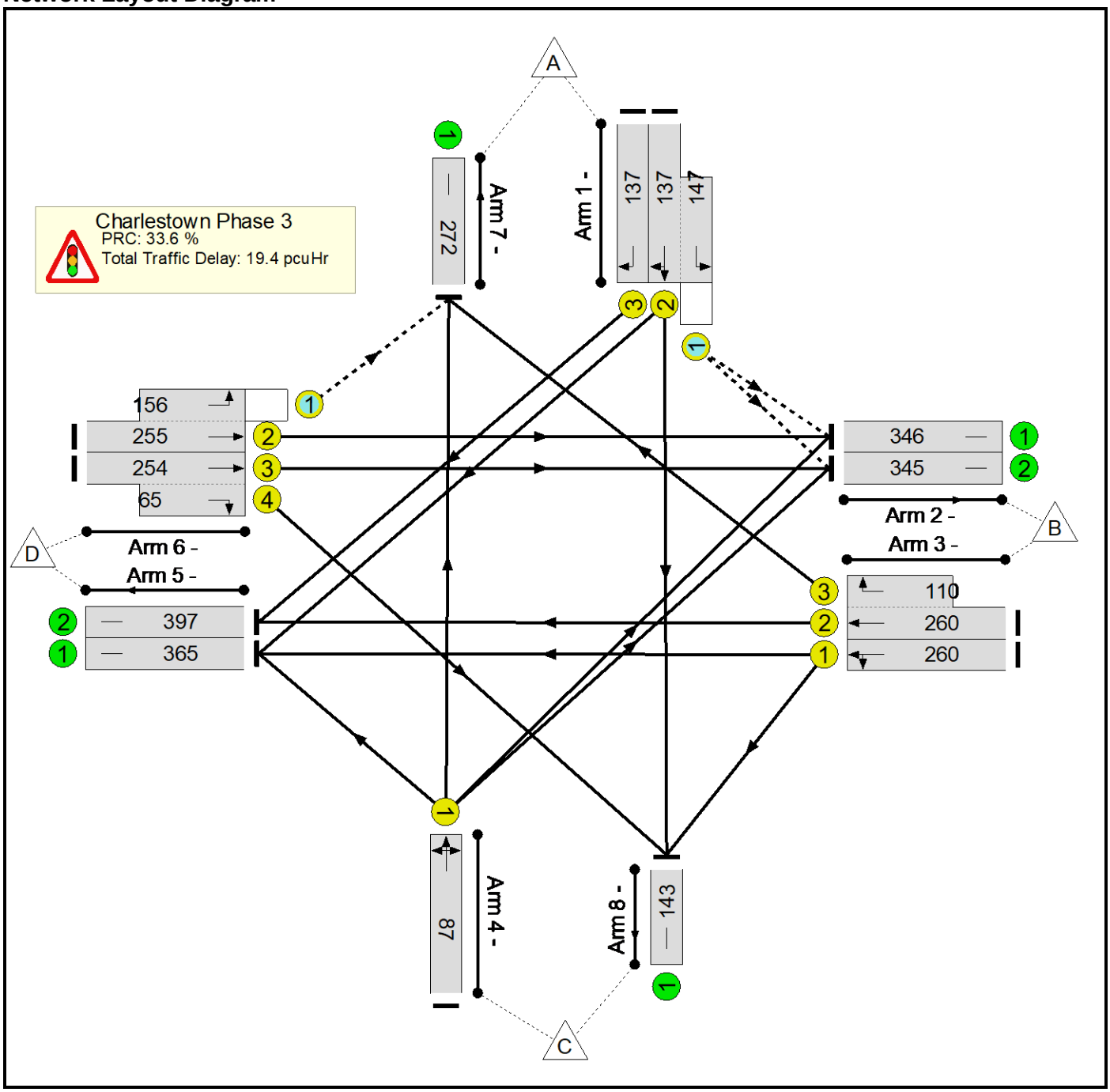
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.9%**	**33**	**119**	**0**	**18.1**	**-**	**-**
Charlestown Phase 3	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.9%**	**33**	**119**	**0**	**18.1**	**-**	**-**
1/2+1/1	Left Right Ahead	U+O	F G		1	7:85	-	155	1722:1844	162+173	46.3 : 46.3%	23	57	0	1.2	28.3	2.1
1/3	Right	U	E		1	9	-	75	1757	207	36.3%	-	-	-	1.0	48.2	1.9
2/1		U	-		-	-	-	370	1940	1940	19.1%	-	-	-	0.1	1.1	0.1
2/2		U	-		-	-	-	369	1940	1940	19.0%	-	-	-	0.1	1.1	0.1
3/1	Ahead Left	U	J		1	20	-	259	1918	474	54.7%	-	-	-	2.6	36.2	5.9
3/2+3/3	Ahead Right	U	I H		1	20:7	-	338	1940:1719	416+127	62.3 : 62.3%	-	-	-	3.6	38.6	6.2
4/1	Right Left Ahead	U	K		1	9	-	149	1865	219	67.9%	-	-	-	2.5	60.8	4.4
5/1		U	-		-	-	-	411	1940	1940	21.2%	-	-	-	0.1	1.2	0.1
5/2		U	-		-	-	-	334	1940	1940	17.2%	-	-	-	0.1	1.1	0.1
6/2+6/1	Ahead Left	U+O	C D		1	21:85	-	373	1940:1915	451+108	66.8 : 66.8%	10	62	0	3.3	32.1	7.5
6/3+6/4	Ahead Right	U	B A		1	21:7	-	316	1940:1652	491+26	61.1 : 61.1%	-	-	-	3.3	37.3	7.0
7/1		U	-		-	-	-	151	2085	2085	7.2%	-	-	-	0.0	0.9	0.0
8/1		U	-		-	-	-	30	1855	1855	1.6%	-	-	-	0.0	1.0	0.0

C1 PRC for Signalled Lanes (%): 32.5 Total Delay for Signalled Lanes (pcuHr): 17.57 Cycle Time (s): 85
PRC Over All Lanes (%): 32.5 Total Delay Over All Lanes(pcuHr): 18.09

Basic Results Summary

Scenario 6: 'Ultimate Op +15 +Dev PM Weekday' (FG6: 'Ultimate Op +15 +Dev PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.4%**	**58**	**245**	**0**	**19.4**	**-**	**-**
Charlestown Phase 3	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.4%**	**58**	**245**	**0**	**19.4**	**-**	**-**
1/2+1/1	Left Right Ahead	U+O	F G		1	9:85	-	284	1729:1844	203+218	67.4 : 67.4%	40	107	0	2.4	30.8	4.1
1/3	Right	U	E		1	11	-	137	1757	248	55.2%	-	-	-	1.9	50.0	3.6
2/1		U	-		-	-	-	346	1940	1940	17.8%	-	-	-	0.1	1.1	0.1
2/2		U	-		-	-	-	345	1940	1940	17.8%	-	-	-	0.1	1.1	0.1
3/1	Ahead Left	U	J		1	20	-	260	1830	452	57.5%	-	-	-	2.7	37.4	6.0
3/2+3/3	Ahead Right	U	I H		1	20:8	-	370	1940:1719	397+168	65.5 : 65.5%	-	-	-	4.1	39.5	6.4
4/1	Right Left Ahead	U	K		1	7	-	87	1862	175	49.6%	-	-	-	1.4	56.8	2.4
5/1		U	-		-	-	-	365	1940	1940	18.8%	-	-	-	0.1	1.1	0.1
5/2		U	-		-	-	-	397	1940	1940	20.5%	-	-	-	0.1	1.2	0.1
6/2+6/1	Ahead Left	U+O	C D		1	20:85	-	411	1940:1915	381+233	67.0 : 67.0%	18	138	0	3.0	26.0	6.3
6/3+6/4	Ahead Right	U	B A		1	20:7	-	319	1940:1652	422+108	60.1 : 60.1%	-	-	-	3.4	37.9	6.0
7/1		U	-		-	-	-	272	2085	2085	13.0%	-	-	-	0.1	1.0	0.1
8/1		U	-		-	-	-	143	1855	1855	7.7%	-	-	-	0.0	1.1	0.0

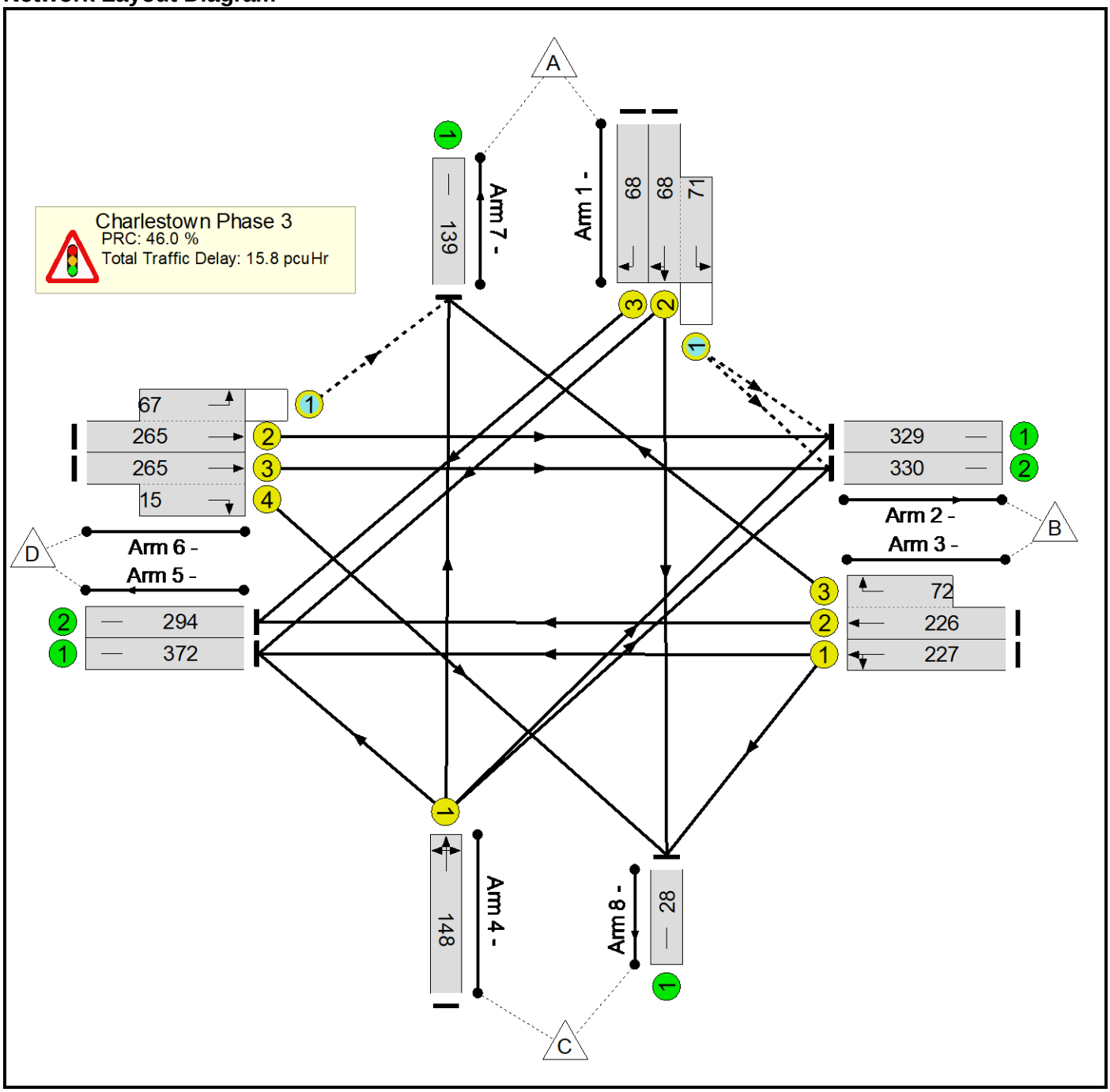
C1 PRC for Signalled Lanes (%): 33.6 Total Delay for Signalled Lanes (pcuHr): 18.80 Cycle Time (s): 85

PRC Over All Lanes (%): 33.6 Total Delay Over All Lanes(pcuHr): 19.37

Basic Results Summary

Scenario 7: 'Phase 1 + Op +Dev AM Weekday' (FG7: 'Phase 1 + Op +Dev AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

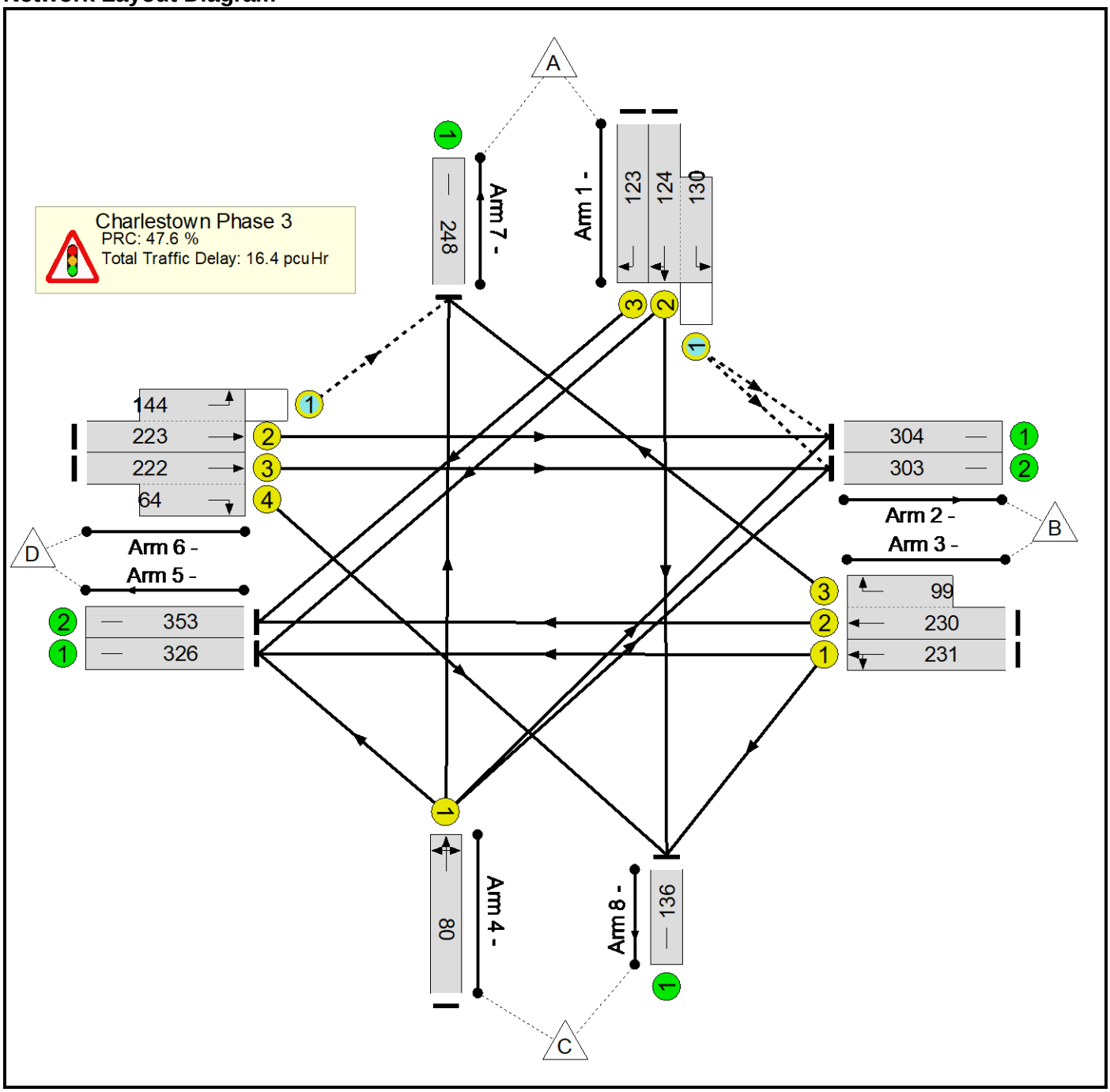
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**61.7%**	**29**	**109**	**0**	**15.8**	**-**	**-**
Charlestown Phase 3	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**61.7%**	**29**	**109**	**0**	**15.8**	**-**	**-**
1/2+1/1	Left Right Ahead	U+O	F G		1	7:85	-	139	1722:1844	162+169	42.0 : 42.0%	19	52	0	1.1	27.6	1.9
1/3	Right	U	E		1	9	-	68	1757	207	32.9%	-	-	-	0.9	47.4	1.7
2/1		U	-		-	-	-	329	1940	1940	17.0%	-	-	-	0.1	1.1	0.1
2/2		U	-		-	-	-	330	1940	1940	17.0%	-	-	-	0.1	1.1	0.1
3/1	Ahead Left	U	J		1	19	-	227	1916	451	50.4%	-	-	-	2.3	36.2	5.1
3/2+3/3	Ahead Right	U	I H		1	19:7	-	298	1940:1719	396+126	57.0 : 57.0%	-	-	-	3.2	38.1	5.2
4/1	Right Left Ahead	U	K		1	10	-	148	1864	241	61.4%	-	-	-	2.2	54.0	4.1
5/1		U	-		-	-	-	372	1940	1940	19.2%	-	-	-	0.1	1.1	0.1
5/2		U	-		-	-	-	294	1940	1940	15.2%	-	-	-	0.1	1.1	0.1
6/2+6/1	Ahead Left	U+O	C D		1	20:85	-	332	1940:1915	430+109	61.7 : 61.7%	10	57	0	2.9	31.0	6.4
6/3+6/4	Ahead Right	U	B A		1	20:7	-	280	1940:1652	469+27	56.6 : 56.6%	-	-	-	2.9	36.7	6.1
7/1		U	-		-	-	-	139	2085	2085	6.7%	-	-	-	0.0	0.9	0.0
8/1		U	-		-	-	-	28	1855	1855	1.5%	-	-	-	0.0	1.0	0.0

C1 PRC for Signalled Lanes (%): 46.0 PRC Over All Lanes (%): 46.0 Total Delay for Signalled Lanes (pcuHr): 15.33 Total Delay Over All Lanes(pcuHr): 15.79 Cycle Time (s): 85

Basic Results Summary

Scenario 8: 'Phase 1 + Op +Dev PM Weekday' (FG8: 'Phase 1 + Op +Dev PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**61.0%**	**52**	**222**	**0**	**16.4**	**-**	**-**
Charlestown Phase 3	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**61.0%**	**52**	**222**	**0**	**16.4**	**-**	**-**
1/2+1/1	Left Right Ahead	U+O	F G		1	9:85	-	254	1728:1844	203+213	61.0 : 61.0%	35	95	0	2.0	28.8	3.5
1/3	Right	U	E		1	11	-	123	1757	248	49.6%	-	-	-	1.6	48.0	3.2
2/1		U	-		-	-	-	304	1940	1940	15.7%	-	-	-	0.1	1.1	0.1
2/2		U	-		-	-	-	303	1940	1940	15.6%	-	-	-	0.1	1.1	0.1
3/1	Ahead Left	U	J		1	20	-	231	1825	451	51.2%	-	-	-	2.3	35.7	5.2
3/2+3/3	Ahead Right	U	I H		1	20:8	-	329	1940:1719	396+170	58.1 : 58.1%	-	-	-	3.4	37.5	5.3
4/1	Right Left Ahead	U	K		1	7	-	80	1863	175	45.6%	-	-	-	1.2	55.2	2.2
5/1		U	-		-	-	-	326	1940	1940	16.8%	-	-	-	0.1	1.1	0.1
5/2		U	-		-	-	-	353	1940	1940	18.2%	-	-	-	0.1	1.1	0.1
6/2+6/1	Ahead Left	U+O	C D		1	20:85	-	367	1940:1915	377+244	59.1 : 59.1%	17	127	0	2.4	23.6	5.2
6/3+6/4	Ahead Right	U	B A		1	20:7	-	286	1940:1652	416+120	53.3 : 53.3%	-	-	-	2.9	36.4	5.0
7/1		U	-		-	-	-	248	2085	2085	11.9%	-	-	-	0.1	1.0	0.1
8/1		U	-		-	-	-	136	1855	1855	7.3%	-	-	-	0.0	1.0	0.0

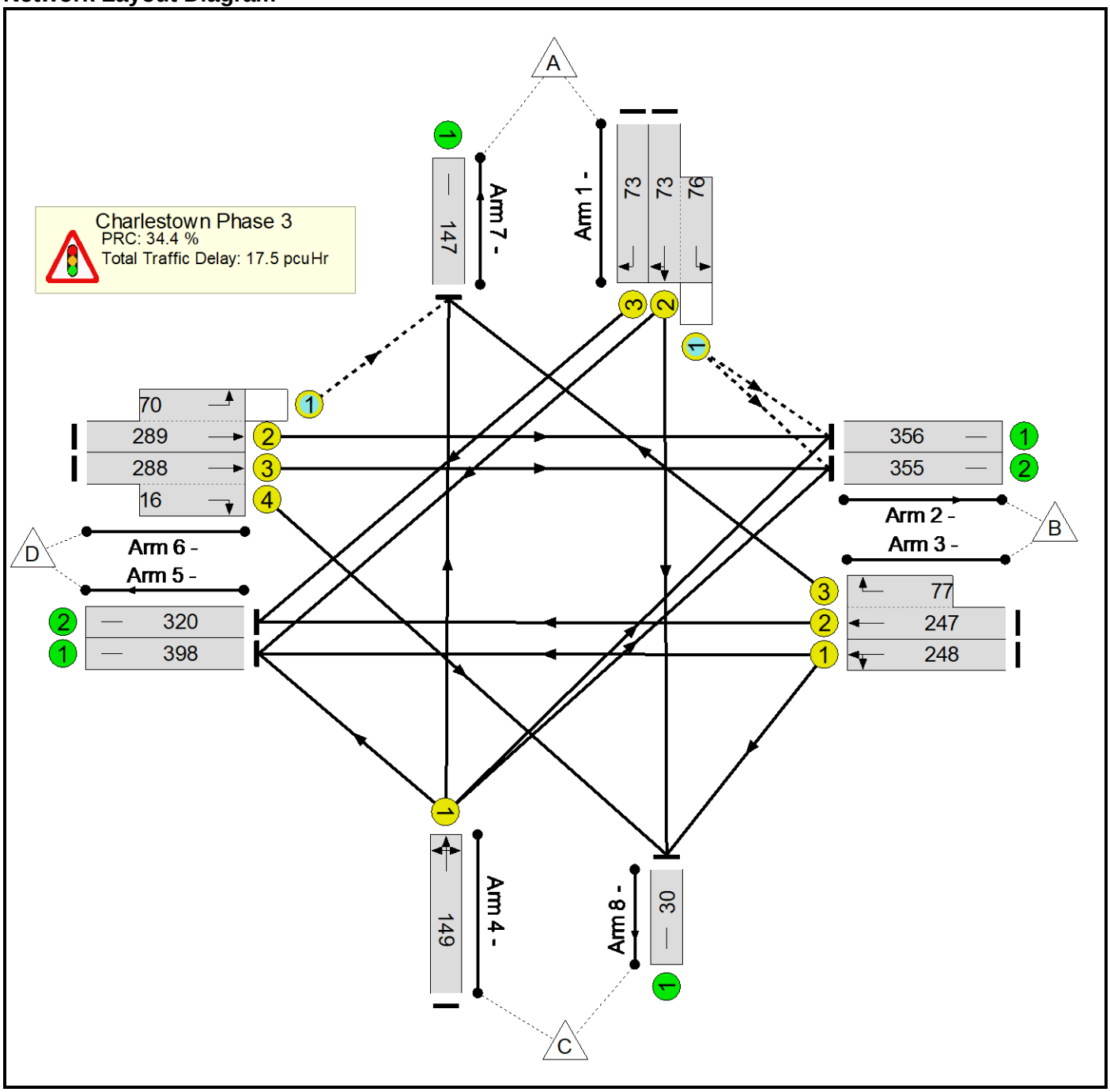
C1 PRC for Signalled Lanes (%): 47.6 Total Delay for Signalled Lanes (pcuHr): 15.92 Cycle Time (s): 85

PRC Over All Lanes (%): 47.6 Total Delay Over All Lanes(pcuHr): 16.42

Basic Results Summary

Scenario 9: 'Phase 1 + Op +5 +Dev AM Weekday' (FG9: 'Phase 1 + Op +5 +Dev AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

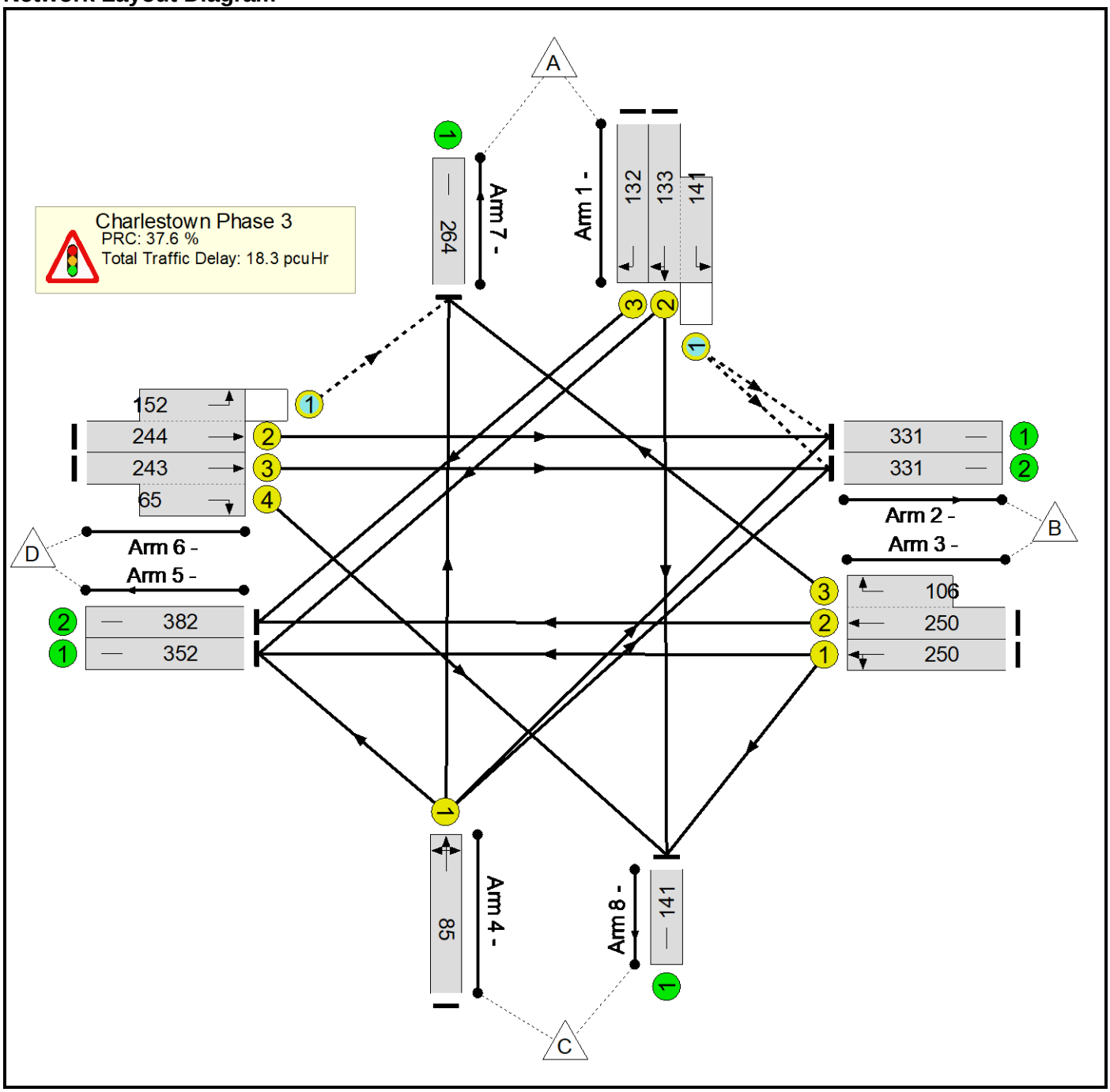
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**66.9%**	**31**	**115**	**0**	**17.5**	**-**	**-**
Charlestown Phase 3	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**66.9%**	**31**	**115**	**0**	**17.5**	**-**	**-**
1/2+1/1	Left Right Ahead	U+O	F G		1	7:85	-	149	1722:1844	162+169	45.0 : 45.0%	21	55	0	1.2	28.4	2.0
1/3	Right	U	E		1	9	-	73	1757	207	35.3%	-	-	-	1.0	48.0	1.9
2/1		U	-		-	-	-	356	1940	1940	18.4%	-	-	-	0.1	1.1	0.1
2/2		U	-		-	-	-	355	1940	1940	18.3%	-	-	-	0.1	1.1	0.1
3/1	Ahead Left	U	J		1	19	-	248	1917	451	55.0%	-	-	-	2.6	37.4	5.7
3/2+3/3	Ahead Right	U	I H		1	19:7	-	324	1940:1719	397+124	62.1 : 62.1%	-	-	-	3.6	39.4	6.0
4/1	Right Left Ahead	U	K		1	10	-	149	1865	241	61.7%	-	-	-	2.2	54.2	4.1
5/1		U	-		-	-	-	398	1940	1940	20.5%	-	-	-	0.1	1.2	0.1
5/2		U	-		-	-	-	320	1940	1940	16.5%	-	-	-	0.1	1.1	0.1
6/2+6/1	Ahead Left	U+O	C D		1	20:85	-	359	1940:1915	432+105	66.9 : 66.9%	11	59	0	3.3	33.0	7.3
6/3+6/4	Ahead Right	U	B A		1	20:7	-	304	1940:1652	469+26	61.4 : 61.4%	-	-	-	3.2	38.4	6.8
7/1		U	-		-	-	-	147	2085	2085	7.1%	-	-	-	0.0	0.9	0.0
8/1		U	-		-	-	-	30	1855	1855	1.6%	-	-	-	0.0	1.0	0.0

C1 PRC for Signalled Lanes (%): 34.4 Total Delay for Signalled Lanes (pcuHr): 17.05 Cycle Time (s): 85
PRC Over All Lanes (%): 34.4 Total Delay Over All Lanes(pcuHr): 17.55

Basic Results Summary

Scenario 10: 'Phase 1 + Op +5 +Dev PM Weekday' (FG10: 'Phase 1 + Op +5 +Dev PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

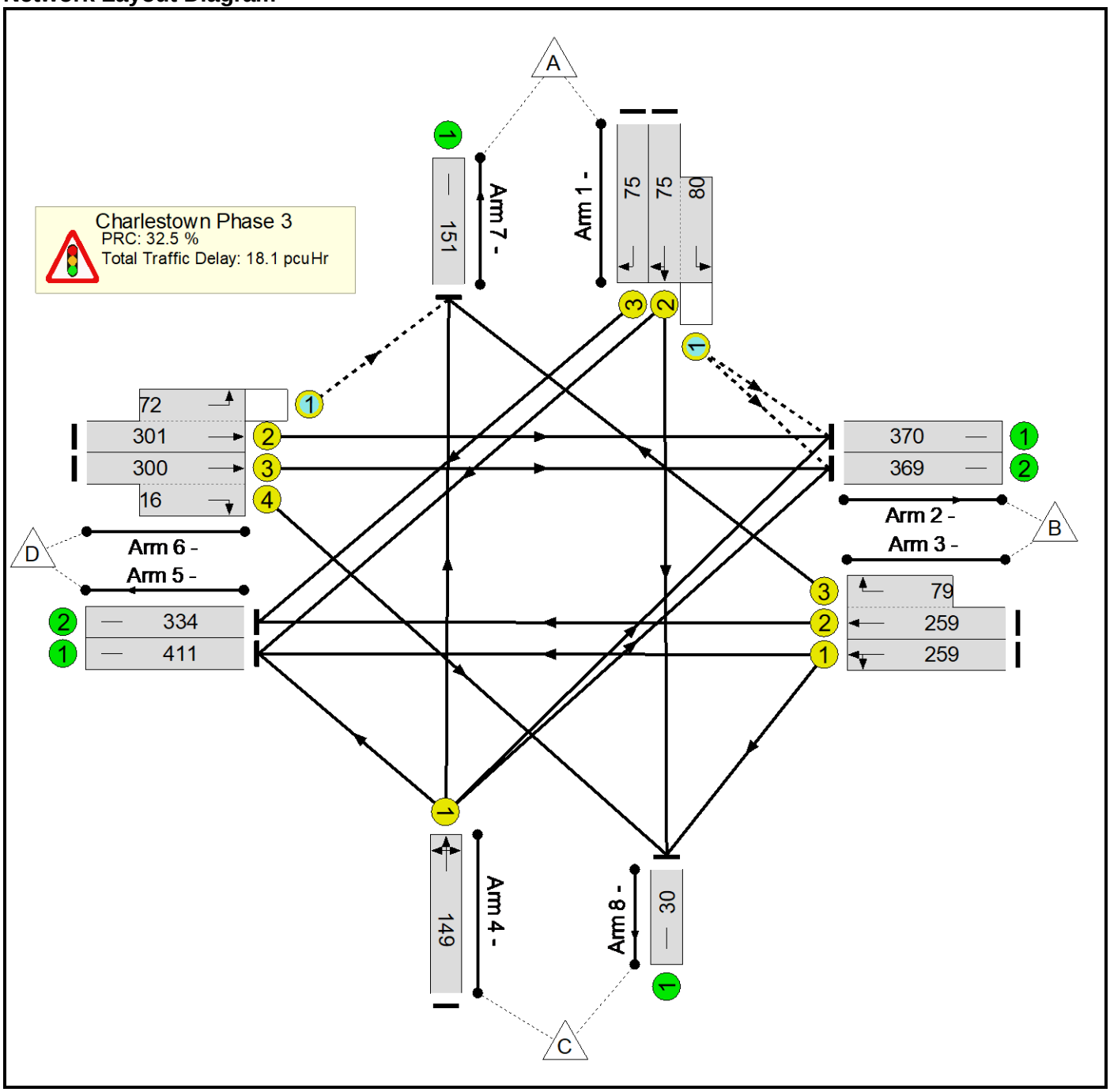
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**65.4%**	**56**	**237**	**0**	**18.3**	**-**	**-**
Charlestown Phase 3	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**65.4%**	**56**	**237**	**0**	**18.3**	**-**	**-**
1/2+1/1	Left Right Ahead	U+O	F G		1	9:85	-	274	1729:1844	203+216	65.4 : 65.4%	38	103	0	2.3	30.2	3.9
1/3	Right	U	E		1	11	-	132	1757	248	53.2%	-	-	-	1.8	49.3	3.4
2/1		U	-		-	-	-	331	1940	1940	17.1%	-	-	-	0.1	1.1	0.1
2/2		U	-		-	-	-	331	1940	1940	17.1%	-	-	-	0.1	1.1	0.1
3/1	Ahead Left	U	J		1	20	-	250	1829	452	55.3%	-	-	-	2.6	36.8	5.8
3/2+3/3	Ahead Right	U	I H		1	20:8	-	356	1940:1719	397+168	63.0 : 63.0%	-	-	-	3.8	38.7	6.0
4/1	Right Left Ahead	U	K		1	7	-	85	1863	175	48.5%	-	-	-	1.3	56.3	2.4
5/1		U	-		-	-	-	352	1940	1940	18.1%	-	-	-	0.1	1.1	0.1
5/2		U	-		-	-	-	382	1940	1940	19.7%	-	-	-	0.1	1.2	0.1
6/2+6/1	Ahead Left	U+O	C D		1	20:85	-	396	1940:1915	380+237	64.3 : 64.3%	18	134	0	2.8	25.1	5.8
6/3+6/4	Ahead Right	U	B A		1	20:7	-	308	1940:1652	420+112	57.8 : 57.8%	-	-	-	3.2	37.4	5.6
7/1		U	-		-	-	-	264	2085	2085	12.7%	-	-	-	0.1	1.0	0.1
8/1		U	-		-	-	-	141	1855	1855	7.6%	-	-	-	0.0	1.1	0.0

C1 PRC for Signalled Lanes (%): 37.6 Total Delay for Signalled Lanes (pcuHr): 17.77 Cycle Time (s): 85
PRC Over All Lanes (%): 37.6 Total Delay Over All Lanes(pcuHr): 18.33

Basic Results Summary

Scenario 11: 'Phase 1 + Op +15 +Dev AM Weekday' (FG10: 'Phase 1 + Op +5 +Dev PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

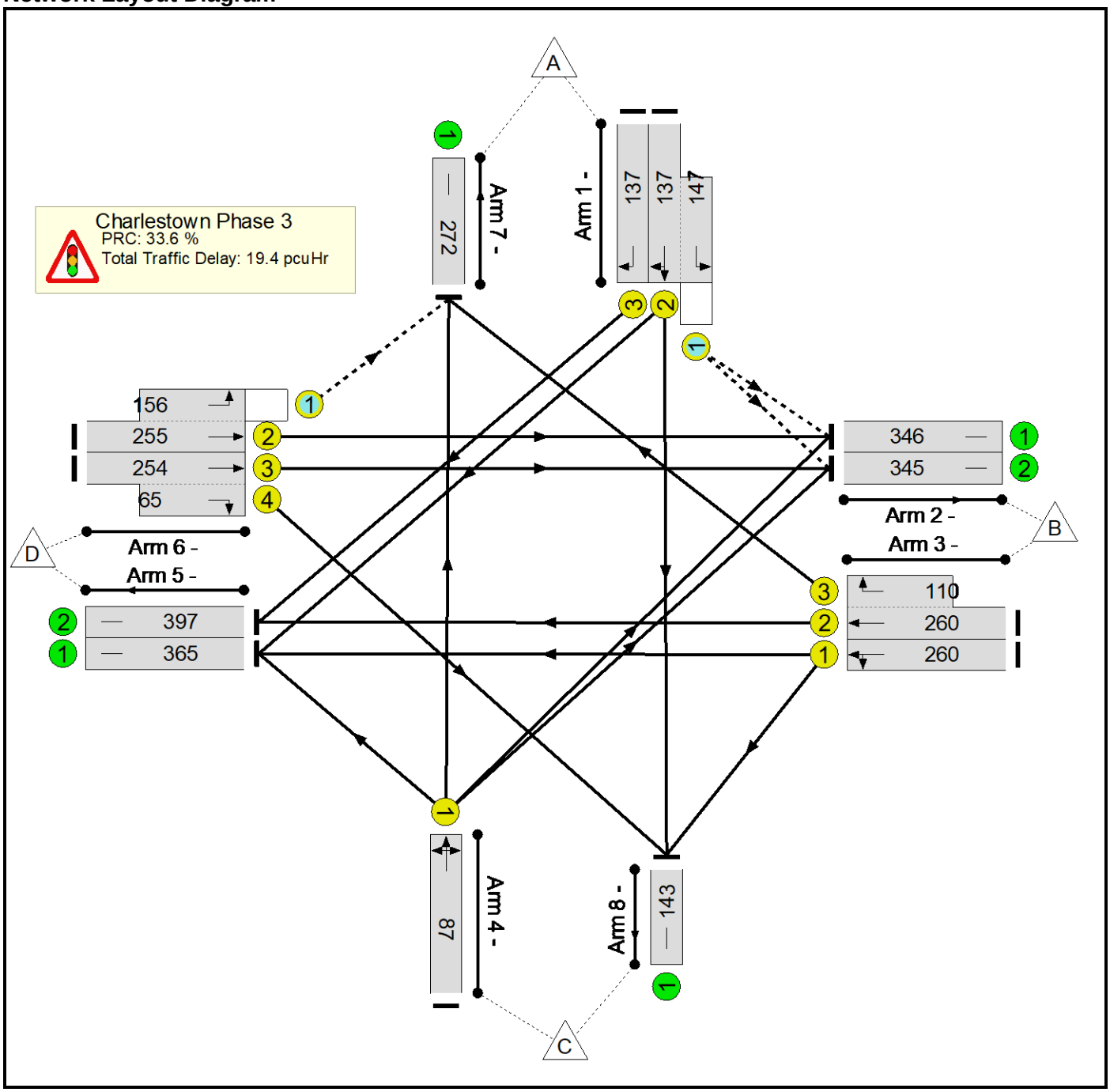
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.9%**	**33**	**119**	**0**	**18.1**	**-**	**-**
Charlestown Phase 3	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.9%**	**33**	**119**	**0**	**18.1**	**-**	**-**
1/2+1/1	Left Right Ahead	U+O	F G		1	7:85	-	155	1722:1844	162+173	46.3 : 46.3%	23	57	0	1.2	28.3	2.1
1/3	Right	U	E		1	9	-	75	1757	207	36.3%	-	-	-	1.0	48.2	1.9
2/1		U	-		-	-	-	370	1940	1940	19.1%	-	-	-	0.1	1.1	0.1
2/2		U	-		-	-	-	369	1940	1940	19.0%	-	-	-	0.1	1.1	0.1
3/1	Ahead Left	U	J		1	20	-	259	1918	474	54.7%	-	-	-	2.6	36.2	5.9
3/2+3/3	Ahead Right	U	I H		1	20:7	-	338	1940:1719	416+127	62.3 : 62.3%	-	-	-	3.6	38.6	6.2
4/1	Right Left Ahead	U	K		1	9	-	149	1865	219	67.9%	-	-	-	2.5	60.8	4.4
5/1		U	-		-	-	-	411	1940	1940	21.2%	-	-	-	0.1	1.2	0.1
5/2		U	-		-	-	-	334	1940	1940	17.2%	-	-	-	0.1	1.1	0.1
6/2+6/1	Ahead Left	U+O	C D		1	21:85	-	373	1940:1915	451+108	66.8 : 66.8%	10	62	0	3.3	32.1	7.5
6/3+6/4	Ahead Right	U	B A		1	21:7	-	316	1940:1652	491+26	61.1 : 61.1%	-	-	-	3.3	37.3	7.0
7/1		U	-		-	-	-	151	2085	2085	7.2%	-	-	-	0.0	0.9	0.0
8/1		U	-		-	-	-	30	1855	1855	1.6%	-	-	-	0.0	1.0	0.0

C1 PRC for Signalled Lanes (%): 32.5 Total Delay for Signalled Lanes (pcuHr): 17.57 Cycle Time (s): 85
PRC Over All Lanes (%): 32.5 Total Delay Over All Lanes(pcuHr): 18.09

Basic Results Summary

Scenario 12: 'Phase 1 + Op +15 +Dev PM Weekday' (FG12: 'Phase 1 + Op +15 +Dev PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.4%**	**58**	**245**	**0**	**19.4**	**-**	**-**
Charlestown Phase 3	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.4%**	**58**	**245**	**0**	**19.4**	**-**	**-**
1/2+1/1	Left Right Ahead	U+O	F G		1	9:85	-	284	1729:1844	203+218	67.4 : 67.4%	40	107	0	2.4	30.8	4.1
1/3	Right	U	E		1	11	-	137	1757	248	55.2%	-	-	-	1.9	50.0	3.6
2/1		U	-		-	-	-	346	1940	1940	17.8%	-	-	-	0.1	1.1	0.1
2/2		U	-		-	-	-	345	1940	1940	17.8%	-	-	-	0.1	1.1	0.1
3/1	Ahead Left	U	J		1	20	-	260	1830	452	57.5%	-	-	-	2.7	37.4	6.0
3/2+3/3	Ahead Right	U	I H		1	20:8	-	370	1940:1719	397+168	65.5 : 65.5%	-	-	-	4.1	39.5	6.4
4/1	Right Left Ahead	U	K		1	7	-	87	1862	175	49.6%	-	-	-	1.4	56.8	2.4
5/1		U	-		-	-	-	365	1940	1940	18.8%	-	-	-	0.1	1.1	0.1
5/2		U	-		-	-	-	397	1940	1940	20.5%	-	-	-	0.1	1.2	0.1
6/2+6/1	Ahead Left	U+O	C D		1	20:85	-	411	1940:1915	381+233	67.0 : 67.0%	18	138	0	3.0	26.0	6.3
6/3+6/4	Ahead Right	U	B A		1	20:7	-	319	1940:1652	422+108	60.1 : 60.1%	-	-	-	3.4	37.9	6.0
7/1		U	-		-	-	-	272	2085	2085	13.0%	-	-	-	0.1	1.0	0.1
8/1		U	-		-	-	-	143	1855	1855	7.7%	-	-	-	0.0	1.1	0.0

C1 PRC for Signalled Lanes (%): 33.6 Total Delay for Signalled Lanes (pcuHr): 18.80 Cycle Time (s): 85

PRC Over All Lanes (%): 33.6 Total Delay Over All Lanes(pcuHr): 19.37

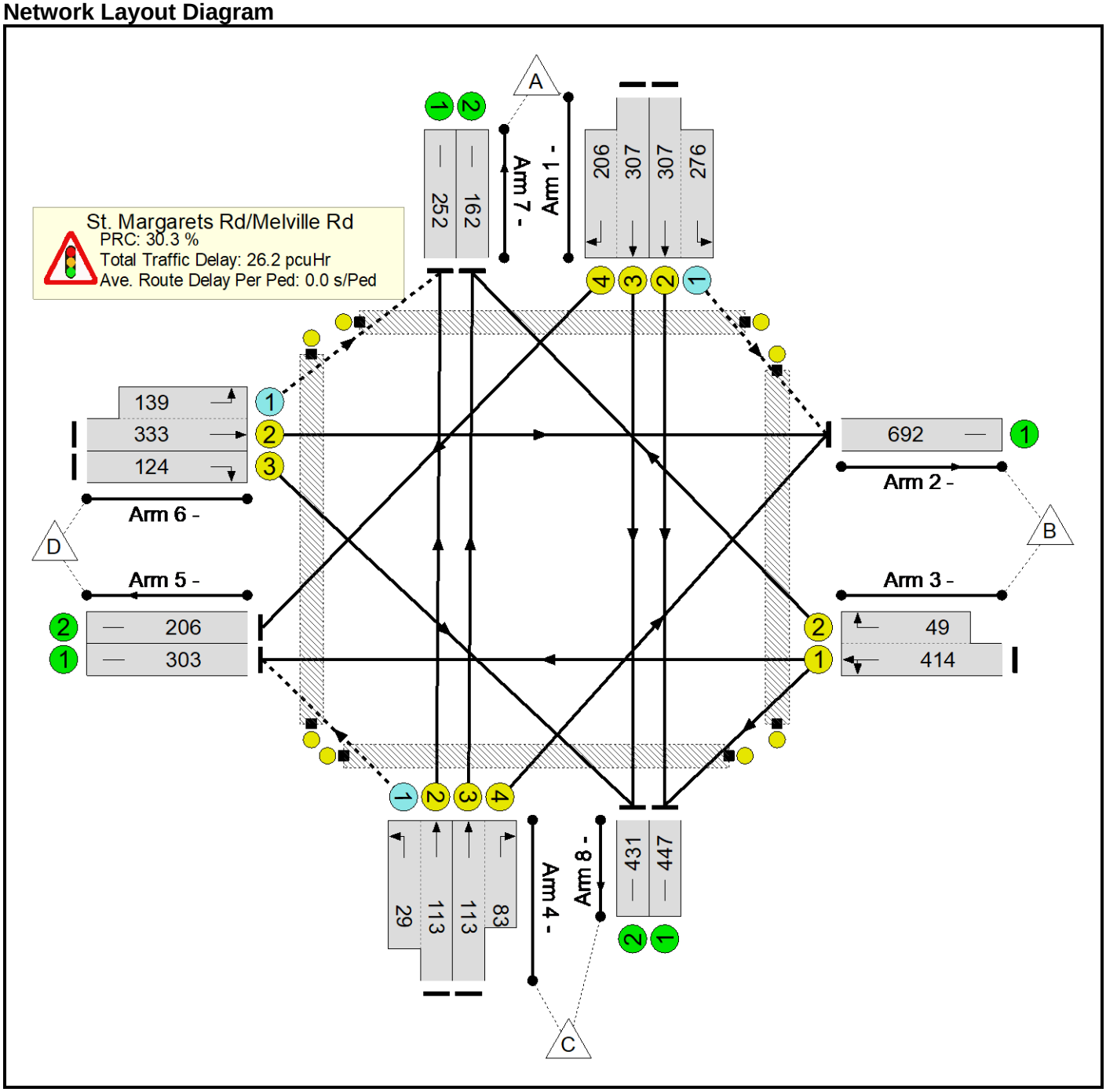
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	2021.02.16. Junction 3 -Charlestown Place (2020).lsg3x
Author:	
Company:	
Address:	

Scenario 1: 'Op + Dev AM Weekday' (FG1: 'Op + Dev AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Basic Results Summary

Network Results

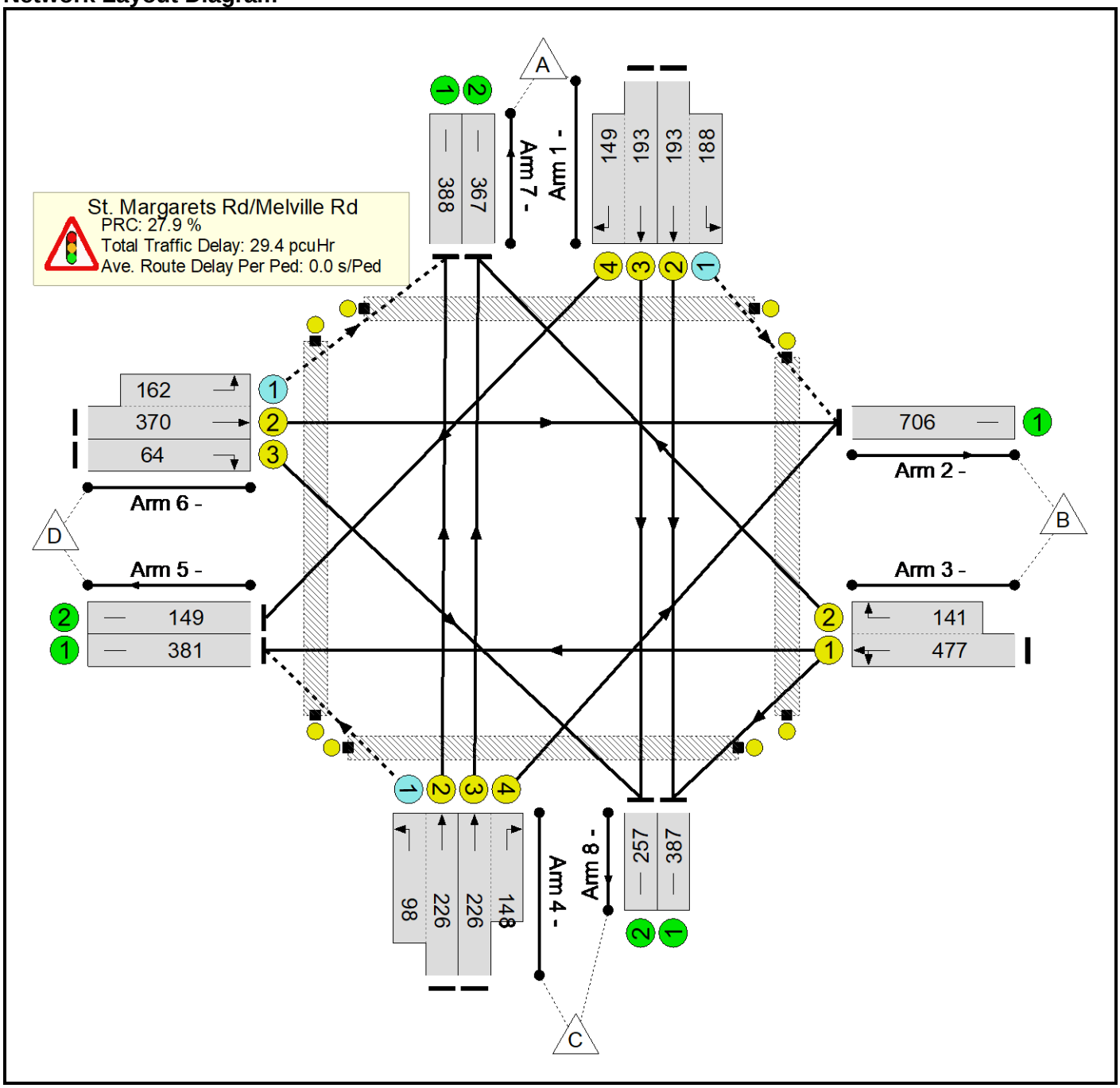
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**69.1%**	**171**	**273**	**0**	**26.2**	-	-
St. Margarets Rd/Melville Rd	-	-	-		-	-	-	-	-	-	**69.1%**	**171**	**273**	**0**	**26.2**	-	-
1/2+1/1	Left Ahead	U+O	D -		1	38	-	583	2105:1826	450+405	68.2 : 68.2%	122	154	0	3.8	23.7	10.1
1/3+1/4	Right Ahead	U	D C		1	38:26	-	513	2105:1700	649+383	47.3 : 53.9%	-	-	-	5.6	39.1	8.5
3/1+3/2	Ahead Right Left	U	F E		1	39:7	-	463	1879:1804	599+71	69.1 : 69.1%	-	-	-	5.8	44.9	13.3
4/2+4/1	Left Ahead	U+O	H -		1	19	-	142	2105:1798	324+83	34.9 : 34.9%	16	13	0	1.7	41.8	3.6
4/3+4/4	Right Ahead	U	H G		1	19:7	-	196	2105:1892	172+126	65.8 : 65.8%	-	-	-	3.6	65.9	4.2
6/2+6/1	Ahead Left	U+O	B -		1	44	-	472	2095:1787	637+266	52.3 : 52.3%	32	107	0	3.1	23.9	8.8
6/3	Right	U	A		1	12	-	124	1783	193	64.2%	-	-	-	2.6	76.7	4.8
Ped Link: P1	Unnamed Ped Link	-	I		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	K		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	L		1	7	-	0	-	0	0.0%	-	-	-	-	-	-

C1 PRC for Signalled Lanes (%): 30.3 Total Delay for Signalled Lanes (pcuHr): 26.18 Cycle Time (s): 120
PRC Over All Lanes (%): 30.3 Total Delay Over All Lanes(pcuHr): 26.18

Basic Results Summary

Scenario 2: 'Op + Dev PM Weekday' (FG2: 'Op + Dev PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**70.4%**	**210**	**238**	**0**	**29.4**	**-**	**-**
St. Margarets Rd/Melville Rd	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**70.4%**	**210**	**238**	**0**	**29.4**	**-**	**-**
1/2+1/1	Left Ahead	U+O	D -		1	20	-	381	2105:1826	292+284	66.1 : 66.1%	102	86	0	3.4	31.9	6.8
1/3+1/4	Right Ahead	U	D C		1	20:14	-	342	2105:1700	368+213	52.4 : 70.1%	-	-	-	5.2	54.8	6.5
3/1+3/2	Ahead Right Left	U	F E		1	50:13	-	618	1868:1804	678+200	70.4 : 70.4%	-	-	-	6.7	39.1	15.0
4/2+4/1	Left Ahead	U+O	H -		1	25	-	324	2105:1798	379+164	59.6 : 59.6%	54	44	0	3.3	36.9	7.3
4/3+4/4	Right Ahead	U	H G		1	25:19	-	374	2105:1892	323+211	70.1 : 70.1%	-	-	-	5.6	54.1	9.1
6/2+6/1	Ahead Left	U+O	B -		1	44	-	532	2095:1787	631+276	58.6 : 58.6%	54	108	0	3.7	24.8	10.1
6/3	Right	U	A		1	7	-	64	1783	119	53.8%	-	-	-	1.5	86.4	2.6
Ped Link: P1	Unnamed Ped Link	-	I		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	K		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	L		1	7	-	0	-	0	0.0%	-	-	-	-	-	-

C1

PRC for Signalled Lanes (%): 27.9
PRC Over All Lanes (%): 27.9

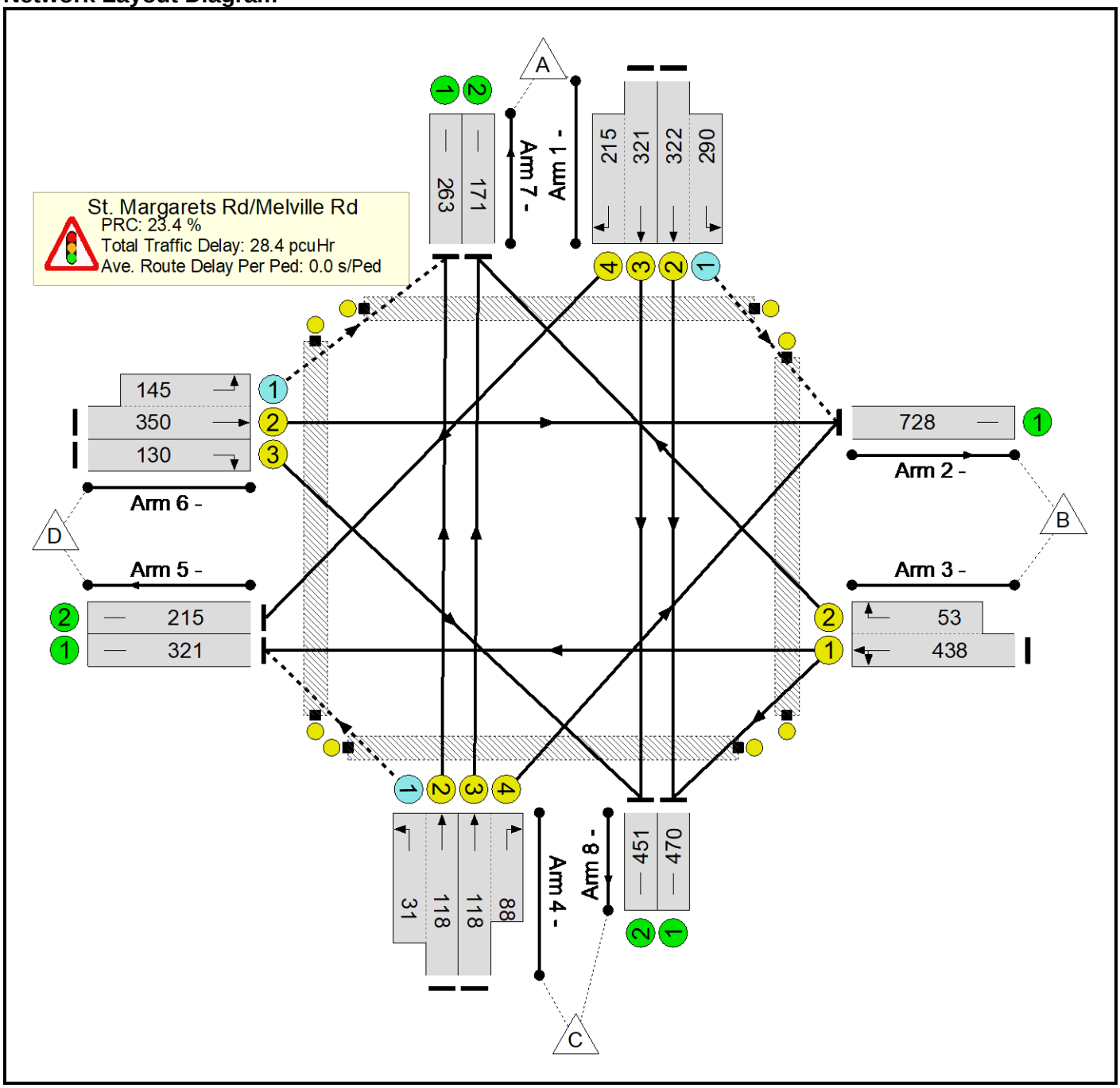
Total Delay for Signalled Lanes (pcuHr): 29.44
Total Delay Over All Lanes(pcuHr): 29.44

Cycle Time (s): 120

Basic Results Summary

Scenario 3: 'Op +5 + Dev AM Weekday' (FG3: 'Op +5 + Dev AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

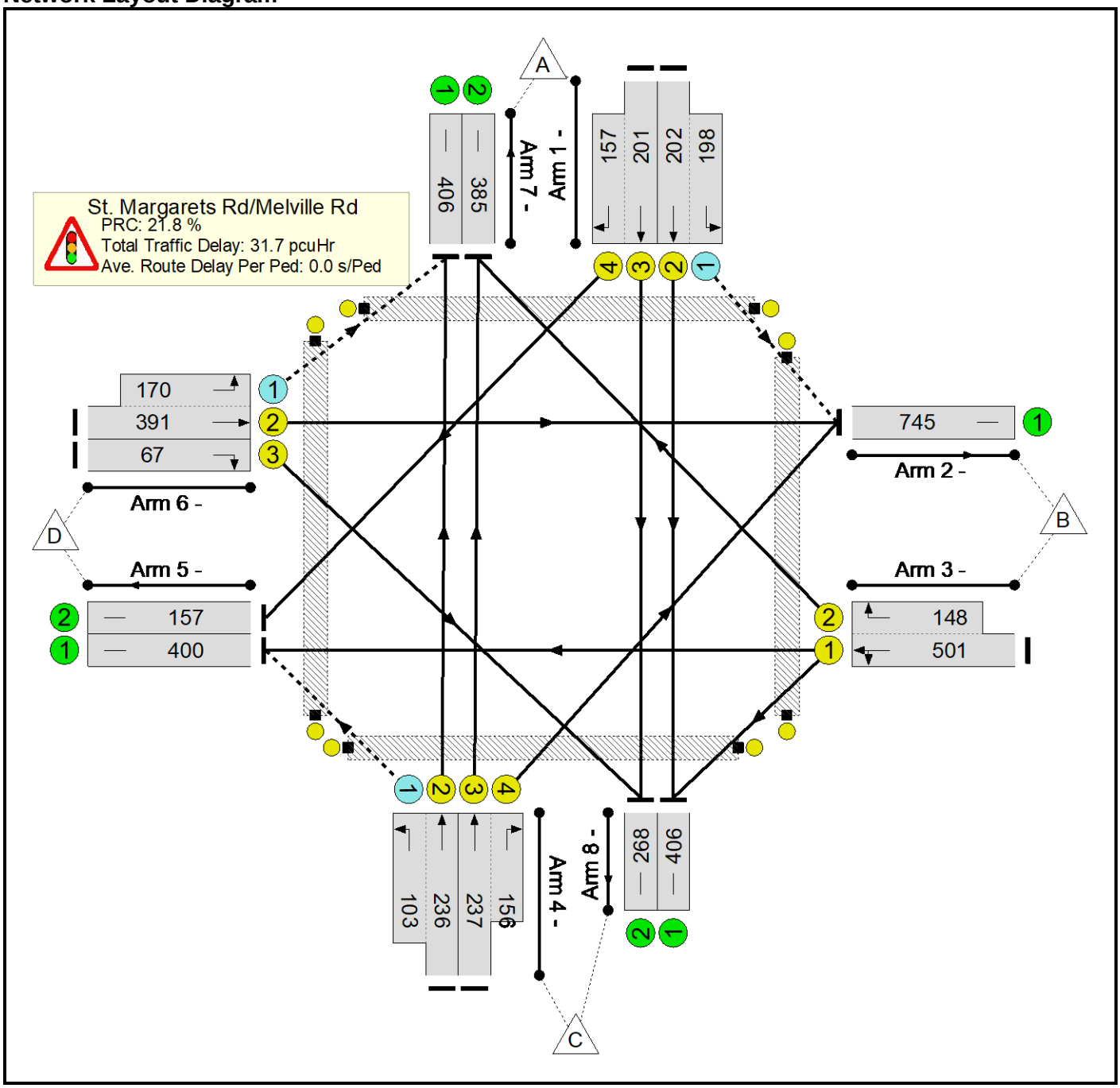
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.9%**	**179**	**287**	**0**	**28.4**	**-**	**-**
St. Margarets Rd/Melville Rd	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.9%**	**179**	**287**	**0**	**28.4**	**-**	**-**
1/2+1/1	Left Ahead	U+O	D -		1	38	-	612	2105:1826	450+405	71.6 : 71.6%	128	162	0	4.2	24.9	11.4
1/3+1/4	Right Ahead	U	D C		1	38:26	-	536	2105:1700	649+383	49.5 : 56.2%	-	-	-	5.9	39.5	9.0
3/1+3/2	Ahead Right Left	U	F E		1	40:7	-	491	1879:1804	613+74	71.5 : 71.5%	-	-	-	6.2	45.2	14.2
4/2+4/1	Left Ahead	U+O	H -		1	19	-	149	2105:1798	323+85	36.5 : 36.5%	18	13	0	1.7	41.9	3.7
4/3+4/4	Right Ahead	U	H G		1	19:7	-	206	2105:1892	169+126	69.8 : 69.8%	-	-	-	3.9	68.4	4.6
6/2+6/1	Ahead Left	U+O	B -		1	44	-	495	2095:1787	637+264	54.9 : 54.9%	34	111	0	3.4	24.4	9.4
6/3	Right	U	A		1	11	-	130	1783	178	72.9%	-	-	-	3.2	87.8	5.5
Ped Link: P1	Unnamed Ped Link	-	I		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	K		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	L		1	7	-	0	-	0	0.0%	-	-	-	-	-	-

C1 PRC for Signalled Lanes (%): 23.4 Total Delay for Signalled Lanes (pcuHr): 28.44 Cycle Time (s): 120
PRC Over All Lanes (%): 23.4 Total Delay Over All Lanes(pcuHr): 28.44

Basic Results Summary

Scenario 4: 'Op +5 + Dev PM Weekday' (FG4: 'Op +5 + Dev PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**73.9%**	**221**	**250**	**0**	**31.7**	**-**	**-**
St. Margarets Rd/Melville Rd	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**73.9%**	**221**	**250**	**0**	**31.7**	**-**	**-**
1/2+1/1	Left Ahead	U+O	D -		1	20	-	400	2105:1826	292+286	69.2 : 69.2%	107	91	0	3.6	32.8	7.2
1/3+1/4	Right Ahead	U	D C		1	20:14	-	358	2105:1700	368+213	54.6 : 73.9%	-	-	-	5.5	55.6	6.9
3/1+3/2	Ahead Right Left	U	F E		1	50:13	-	649	1868:1804	678+200	73.9 : 73.9%	-	-	-	7.3	40.5	16.6
4/2+4/1	Left Ahead	U+O	H -		1	25	-	339	2105:1798	379+165	62.3 : 62.3%	57	46	0	3.5	37.6	7.7
4/3+4/4	Right Ahead	U	H G		1	25:19	-	393	2105:1892	322+212	73.6 : 73.6%	-	-	-	6.1	55.9	10.0
6/2+6/1	Ahead Left	U+O	B -		1	44	-	561	2095:1787	632+275	61.8 : 61.8%	57	113	0	4.0	25.6	10.8
6/3	Right	U	A		1	7	-	67	1783	119	56.4%	-	-	-	1.6	88.2	2.8
Ped Link: P1	Unnamed Ped Link	-	I		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	K		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	L		1	7	-	0	-	0	0.0%	-	-	-	-	-	-

C1

PRC for Signalled Lanes (%): 21.8
PRC Over All Lanes (%): 21.8

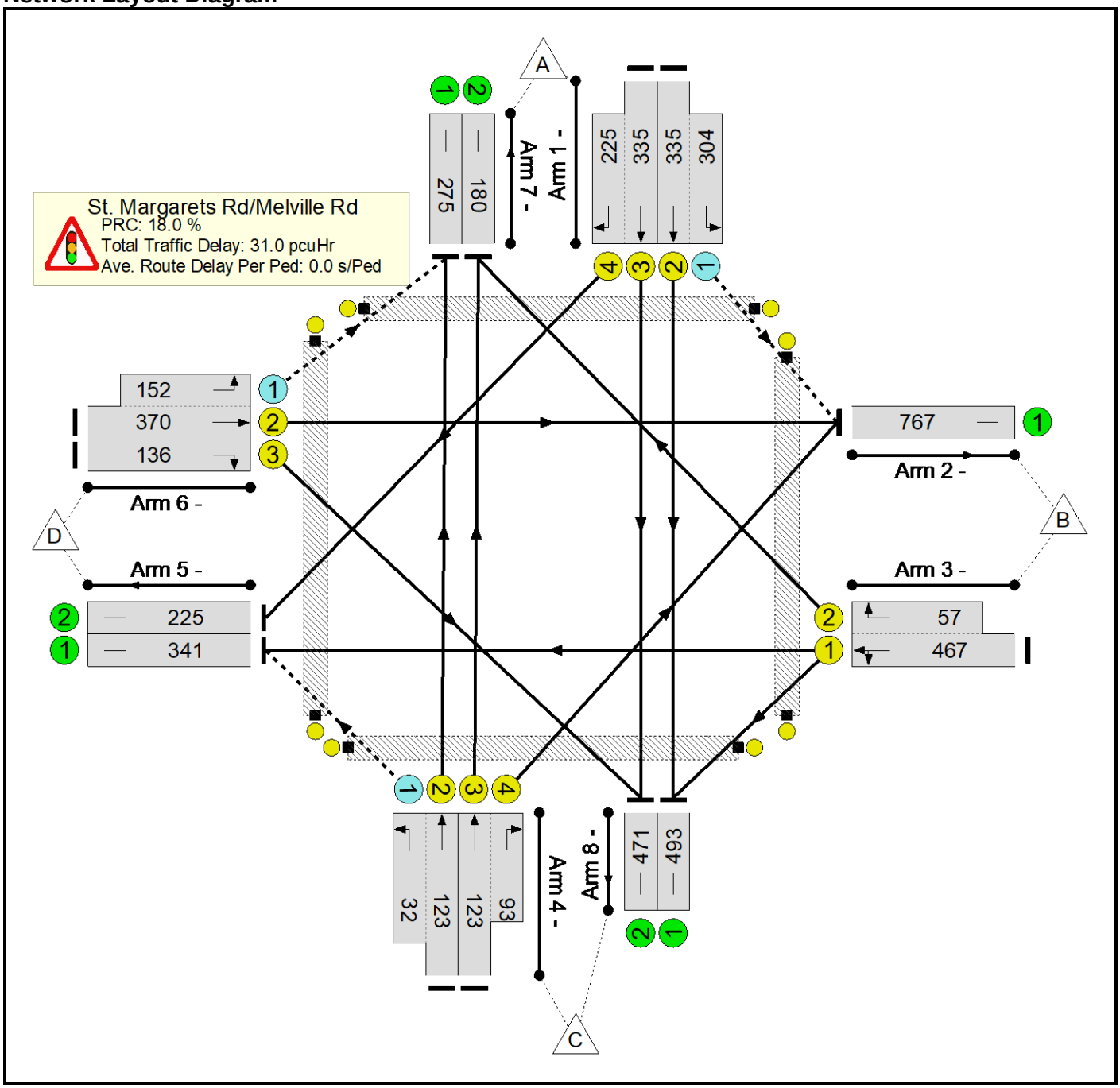
Total Delay for Signalled Lanes (pcuHr): 31.73
Total Delay Over All Lanes(pcuHr): 31.73

Cycle Time (s): 120

Basic Results Summary

Scenario 5: 'Op +15 + Dev AM Weekday' (FG5: 'Op +15 + Dev AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**76.3%**	**190**	**298**	**0**	**31.0**	**-**	**-**
St. Margarets Rd/Melville Rd	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**76.3%**	**190**	**298**	**0**	**31.0**	**-**	**-**
1/2+1/1	Left Ahead	U+O	D -		1	37	-	639	2105:1826	440+400	76.1 : 76.1%	137	167	0	4.9	27.3	12.9
1/3+1/4	Right Ahead	U	D C		1	37:25	-	560	2105:1700	639+368	52.5 : 61.1%	-	-	-	6.4	41.0	9.7
3/1+3/2	Ahead Right Left	U	F E		1	41:7	-	524	1879:1804	626+76	74.6 : 74.6%	-	-	-	6.7	45.9	15.6
4/2+4/1	Left Ahead	U+O	H -		1	19	-	155	2105:1798	323+84	38.1 : 38.1%	18	14	0	1.8	42.2	3.9
4/3+4/4	Right Ahead	U	H G		1	19:7	-	216	2105:1892	167+126	73.7 : 73.7%	-	-	-	4.3	71.5	5.0
6/2+6/1	Ahead Left	U+O	B -		1	45	-	522	2095:1787	650+267	56.9 : 56.9%	35	117	0	3.5	24.2	9.8
6/3	Right	U	A		1	11	-	136	1783	178	76.3%	-	-	-	3.5	92.4	5.9
Ped Link: P1	Unnamed Ped Link	-	I		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	K		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	L		1	7	-	0	-	0	0.0%	-	-	-	-	-	-

C1

PRC for Signalled Lanes (%): 18.0
PRC Over All Lanes (%): 18.0

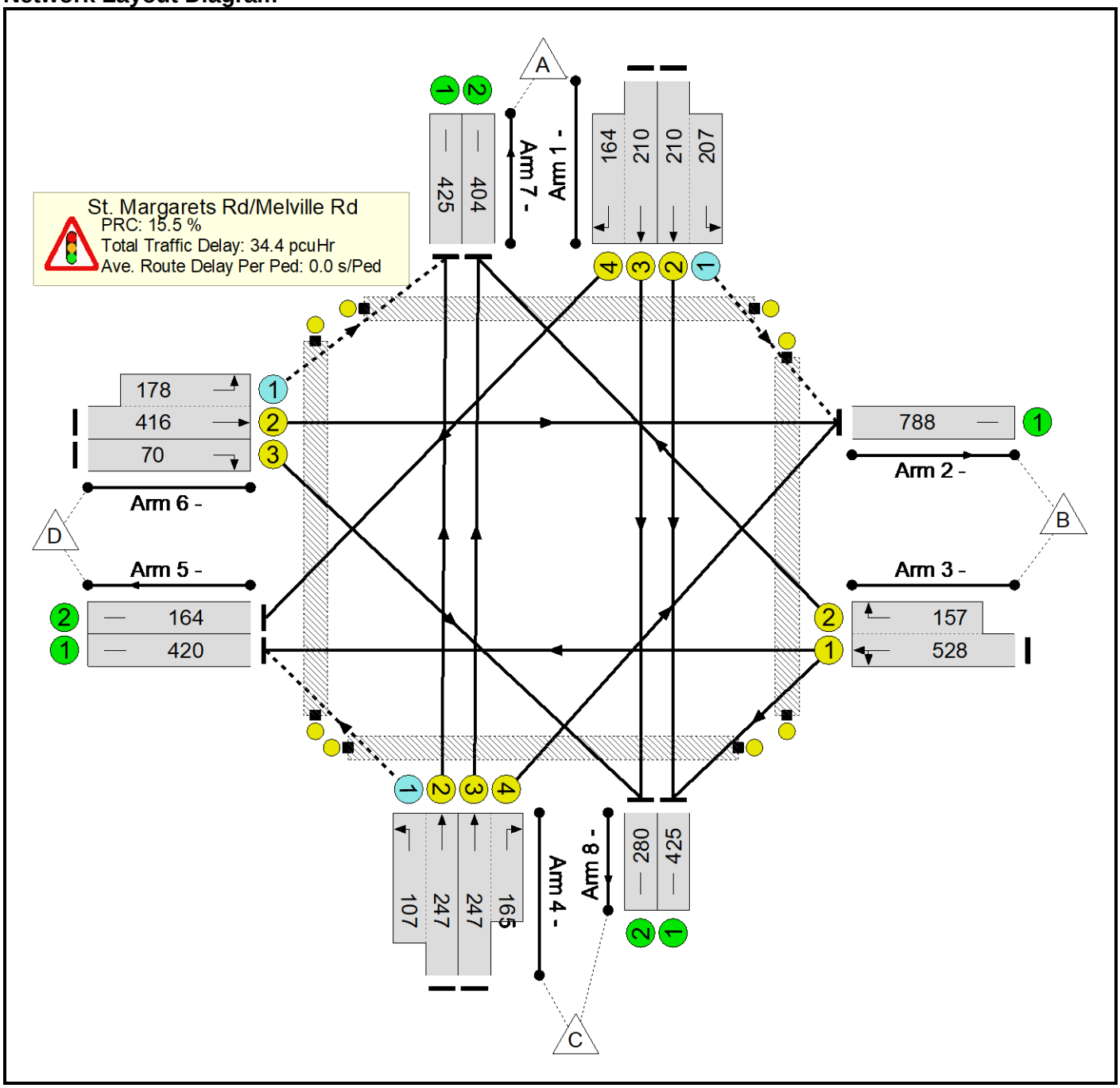
Total Delay for Signalled Lanes (pcuHr): 31.02
Total Delay Over All Lanes(pcuHr): 31.02

Cycle Time (s): 120

Basic Results Summary

Scenario 6: 'Op +15 + Dev PM Weekday' (FG6: 'Op +15 + Dev PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

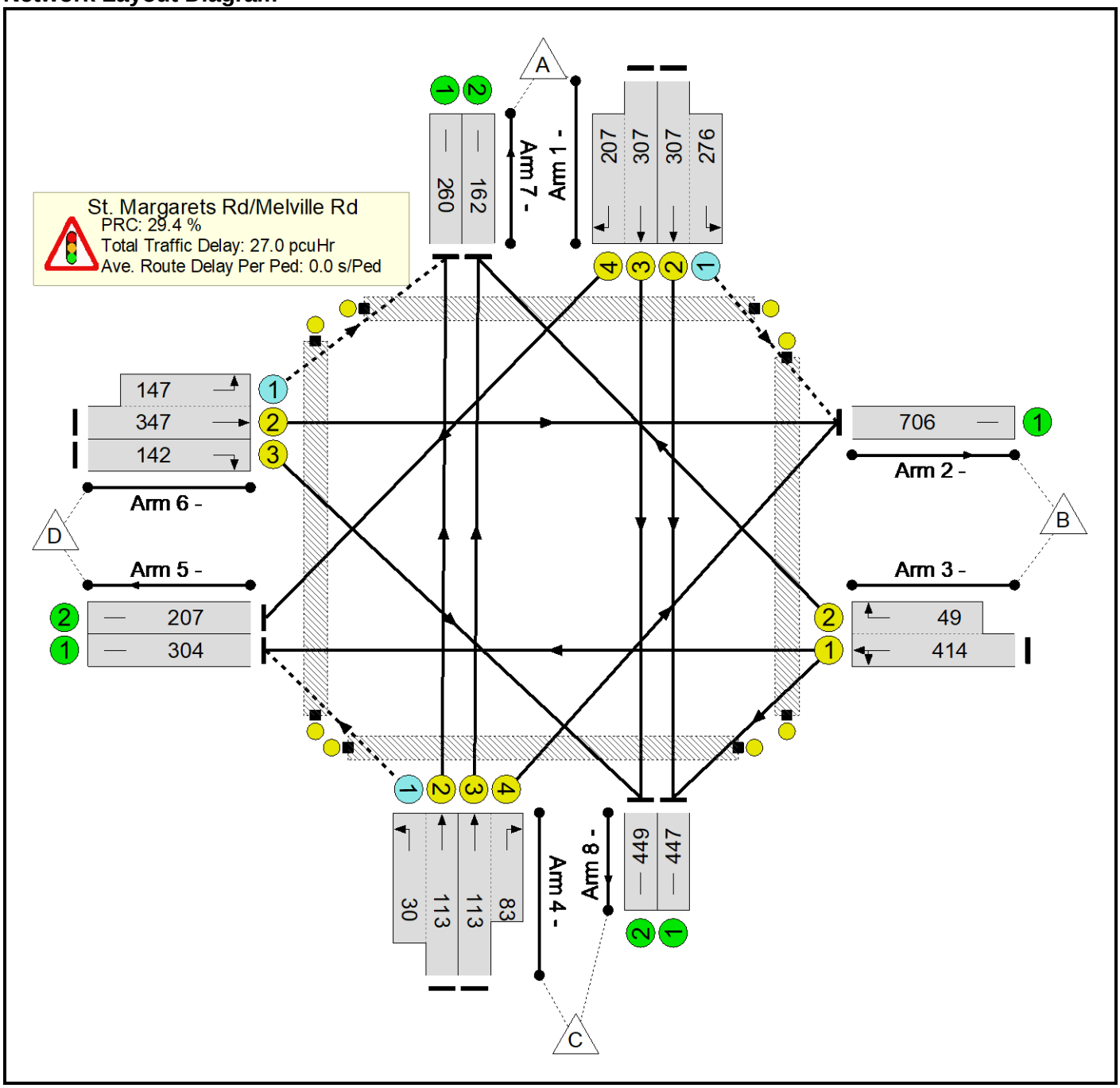
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**78.0%**	**230**	**262**	**0**	**34.4**	**-**	**-**
St. Margarets Rd/Melville Rd	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**78.0%**	**230**	**262**	**0**	**34.4**	**-**	**-**
1/2+1/1	Left Ahead	U+O	D -		1	20	-	417	2105:1826	292+287	72.0 : 72.0%	112	95	0	3.9	33.8	7.6
1/3+1/4	Right Ahead	U	D C		1	20:14	-	374	2105:1700	368+213	57.0 : 77.2%	-	-	-	5.9	56.4	7.3
3/1+3/2	Ahead Right Left	U	F E		1	50:13	-	685	1868:1804	677+201	78.0 : 78.0%	-	-	-	8.1	42.5	18.4
4/2+4/1	Left Ahead	U+O	H -		1	25	-	354	2105:1798	379+164	65.1 : 65.1%	59	48	0	3.8	38.5	8.2
4/3+4/4	Right Ahead	U	H G		1	25:19	-	412	2105:1892	321+214	77.0 : 77.0%	-	-	-	6.6	58.0	10.9
6/2+6/1	Ahead Left	U+O	B -		1	44	-	594	2095:1787	634+271	65.6 : 65.6%	59	119	0	4.4	26.6	12.0
6/3	Right	U	A		1	7	-	70	1783	119	58.9%	-	-	-	1.8	90.2	3.0
Ped Link: P1	Unnamed Ped Link	-	I		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	K		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	L		1	7	-	0	-	0	0.0%	-	-	-	-	-	-

C1 PRC for Signalled Lanes (%): 15.5 Total Delay for Signalled Lanes (pcuHr): 34.41 Cycle Time (s): 120
PRC Over All Lanes (%): 15.5 Total Delay Over All Lanes(pcuHr): 34.41

Basic Results Summary

Scenario 7: 'Op + Phase 1 Dev AM Weekday' (FG7: 'Op + Phase 1 Dev AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**69.5%**	**175**	**278**	**0**	**27.0**	-	-
St. Margarets Rd/Melville Rd	-	-	-		-	-	-	-	-	-	**69.5%**	**175**	**278**	**0**	**27.0**	-	-
1/2+1/1	Left Ahead	U+O	D -		1	37	-	583	2105:1826	441+397	69.5 : 69.5%	124	152	0	4.0	24.6	10.4
1/3+1/4	Right Ahead	U	D C		1	37:25	-	514	2105:1700	637+368	48.2 : 56.2%	-	-	-	5.7	40.1	8.7
3/1+3/2	Ahead Right Left	U	F E		1	39:7	-	463	1879:1804	599+71	69.1 : 69.1%	-	-	-	5.8	44.9	13.3
4/2+4/1	Left Ahead	U+O	H -		1	19	-	143	2105:1798	323+86	35.0 : 35.0%	16	13	0	1.7	41.6	3.6
4/3+4/4	Right Ahead	U	H G		1	19:7	-	196	2105:1892	172+126	65.8 : 65.8%	-	-	-	3.6	65.9	4.2
6/2+6/1	Ahead Left	U+O	B -		1	45	-	494	2095:1787	647+274	53.7 : 53.7%	34	113	0	3.2	23.5	9.1
6/3	Right	U	A		1	13	-	142	1783	208	68.3%	-	-	-	3.0	77.3	5.6
Ped Link: P1	Unnamed Ped Link	-	I		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	K		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	L		1	7	-	0	-	0	0.0%	-	-	-	-	-	-

C1

PRC for Signalled Lanes (%): 29.4
PRC Over All Lanes (%): 29.4

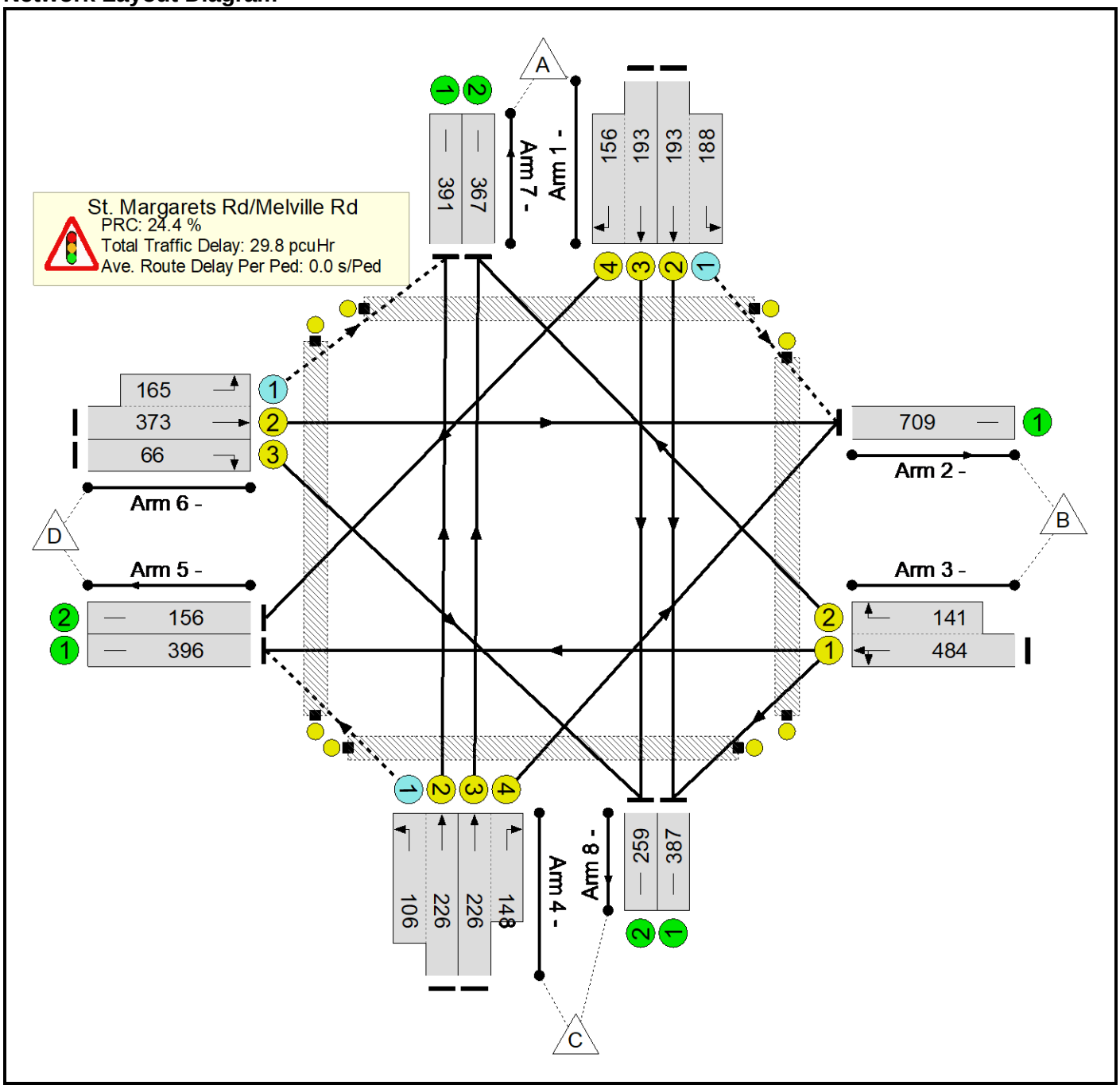
Total Delay for Signalled Lanes (pcuHr): 26.99
Total Delay Over All Lanes(pcuHr): 26.99

Cycle Time (s): 120

Basic Results Summary

Scenario 8: 'Op + Phase 1 Dev PM Weekday' (FG8: 'Op + Phase 1 Dev PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

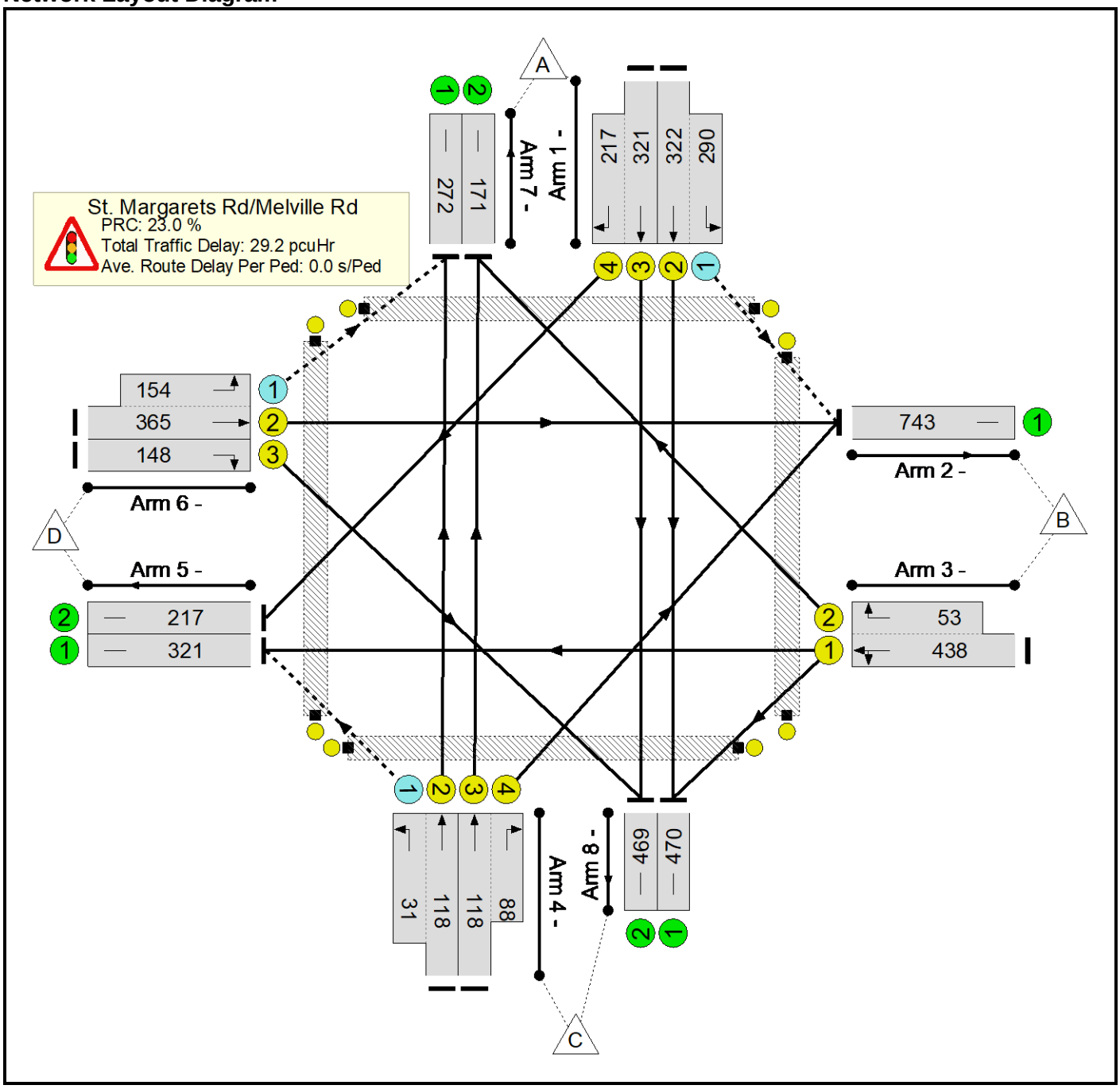
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**72.4%**	**213**	**246**	**0**	**29.8**	-	-
St. Margarets Rd/Melville Rd	-	-	-		-	-	-	-	-	-	**72.4%**	**213**	**246**	**0**	**29.8**	-	-
1/2+1/1	Left Ahead	U+O	D -		1	21	-	381	2105:1826	300+292	64.3 : 64.3%	102	86	0	3.3	30.8	6.6
1/3+1/4	Right Ahead	U	D C		1	21:15	-	349	2105:1700	386+227	50.0 : 68.8%	-	-	-	5.2	53.3	6.4
3/1+3/2	Ahead Right Left	U	F E		1	50:12	-	625	1869:1804	680+195	71.2 : 72.1%	-	-	-	6.9	39.6	15.5
4/2+4/1	Left Ahead	U+O	H -		1	24	-	332	2105:1798	364+171	62.1 : 62.1%	59	47	0	3.5	37.5	7.5
4/3+4/4	Right Ahead	U	H G		1	24:18	-	374	2105:1892	312+205	72.4 : 72.4%	-	-	-	5.9	56.3	9.3
6/2+6/1	Ahead Left	U+O	B -		1	45	-	538	2095:1787	642+284	58.1 : 58.1%	52	113	0	3.6	24.1	10.0
6/3	Right	U	A		1	7	-	66	1783	119	55.5%	-	-	-	1.6	87.6	2.7
Ped Link: P1	Unnamed Ped Link	-	I		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	K		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	L		1	7	-	0	-	0	0.0%	-	-	-	-	-	-

C1 PRC for Signalled Lanes (%): 24.4 Total Delay for Signalled Lanes (pcuHr): 29.83 Cycle Time (s): 120
PRC Over All Lanes (%): 24.4 Total Delay Over All Lanes(pcuHr): 29.83

Basic Results Summary

Scenario 9: 'Op +5 + Phase 1 Dev AM Weekday' (FG9: 'Op +5 + Phase 1 Dev AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**73.2%**	**183**	**292**	**0**	**29.2**	**-**	**-**
St. Margarets Rd/Melville Rd	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**73.2%**	**183**	**292**	**0**	**29.2**	**-**	**-**
1/2+1/1	Left Ahead	U+O	D -		1	37	-	612	2105:1826	441+397	73.0 : 73.0%	131	160	0	4.4	25.9	11.7
1/3+1/4	Right Ahead	U	D C		1	37:25	-	538	2105:1700	634+368	50.6 : 58.9%	-	-	-	6.1	40.6	9.1
3/1+3/2	Ahead Right Left	U	F E		1	39:7	-	491	1879:1804	599+72	73.2 : 73.2%	-	-	-	6.4	46.7	14.6
4/2+4/1	Left Ahead	U+O	H -		1	19	-	149	2105:1798	323+85	36.5 : 36.5%	17	14	0	1.7	41.9	3.7
4/3+4/4	Right Ahead	U	H G		1	19:7	-	206	2105:1892	169+126	69.8 : 69.8%	-	-	-	3.9	68.4	4.6
6/2+6/1	Ahead Left	U+O	B -		1	45	-	519	2095:1787	647+273	56.4 : 56.4%	36	118	0	3.5	24.0	9.7
6/3	Right	U	A		1	13	-	148	1783	208	71.1%	-	-	-	3.3	79.9	5.9
Ped Link: P1	Unnamed Ped Link	-	I		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	K		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	L		1	7	-	0	-	0	0.0%	-	-	-	-	-	-

C1

PRC for Signalled Lanes (%): 23.0
PRC Over All Lanes (%): 23.0

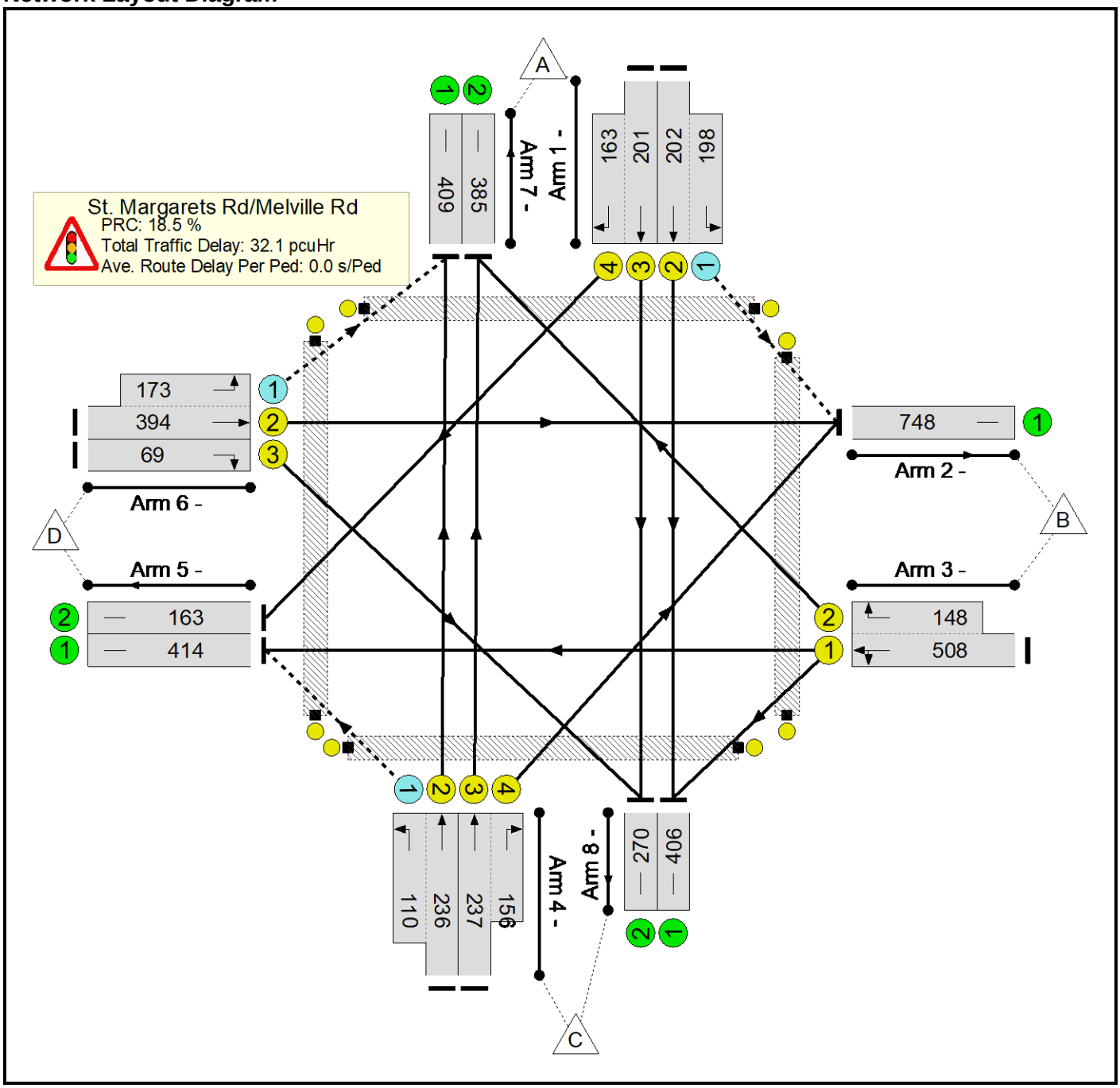
Total Delay for Signalled Lanes (pcuHr): 29.23
Total Delay Over All Lanes(pcuHr): 29.23

Cycle Time (s): 120

Basic Results Summary

Scenario 10: 'Op +5 + Phase 1 Dev PM Weekday' (FG10: 'Op +5 + Phase 1 Dev PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**76.0%**	**223**	**258**	**0**	**32.1**	-	-
St. Margarets Rd/Melville Rd	-	-	-		-	-	-	-	-	-	**76.0%**	**223**	**258**	**0**	**32.1**	-	-
1/2+1/1	Left Ahead	U+O	D -		1	21	-	400	2105:1826	300+294	67.3 : 67.3%	107	91	0	3.5	31.5	7.1
1/3+1/4	Right Ahead	U	D C		1	21:15	-	364	2105:1700	386+227	52.1 : 71.9%	-	-	-	5.5	54.0	6.8
3/1+3/2	Ahead Right Left	U	F E		1	50:12	-	656	1869:1804	680+195	74.7 : 75.7%	-	-	-	7.5	41.1	16.9
4/2+4/1	Left Ahead	U+O	H -		1	24	-	346	2105:1798	364+170	64.8 : 64.8%	61	49	0	3.7	38.4	7.9
4/3+4/4	Right Ahead	U	H G		1	24:18	-	393	2105:1892	312+205	76.0 : 76.0%	-	-	-	6.4	58.4	10.3
6/2+6/1	Ahead Left	U+O	B -		1	45	-	567	2095:1787	643+282	61.3 : 61.3%	55	118	0	3.9	24.8	10.7
6/3	Right	U	A		1	7	-	69	1783	119	58.0%	-	-	-	1.7	89.5	2.9
Ped Link: P1	Unnamed Ped Link	-	I		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	K		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	L		1	7	-	0	-	0	0.0%	-	-	-	-	-	-

C1

PRC for Signalled Lanes (%): 18.5
PRC Over All Lanes (%): 18.5

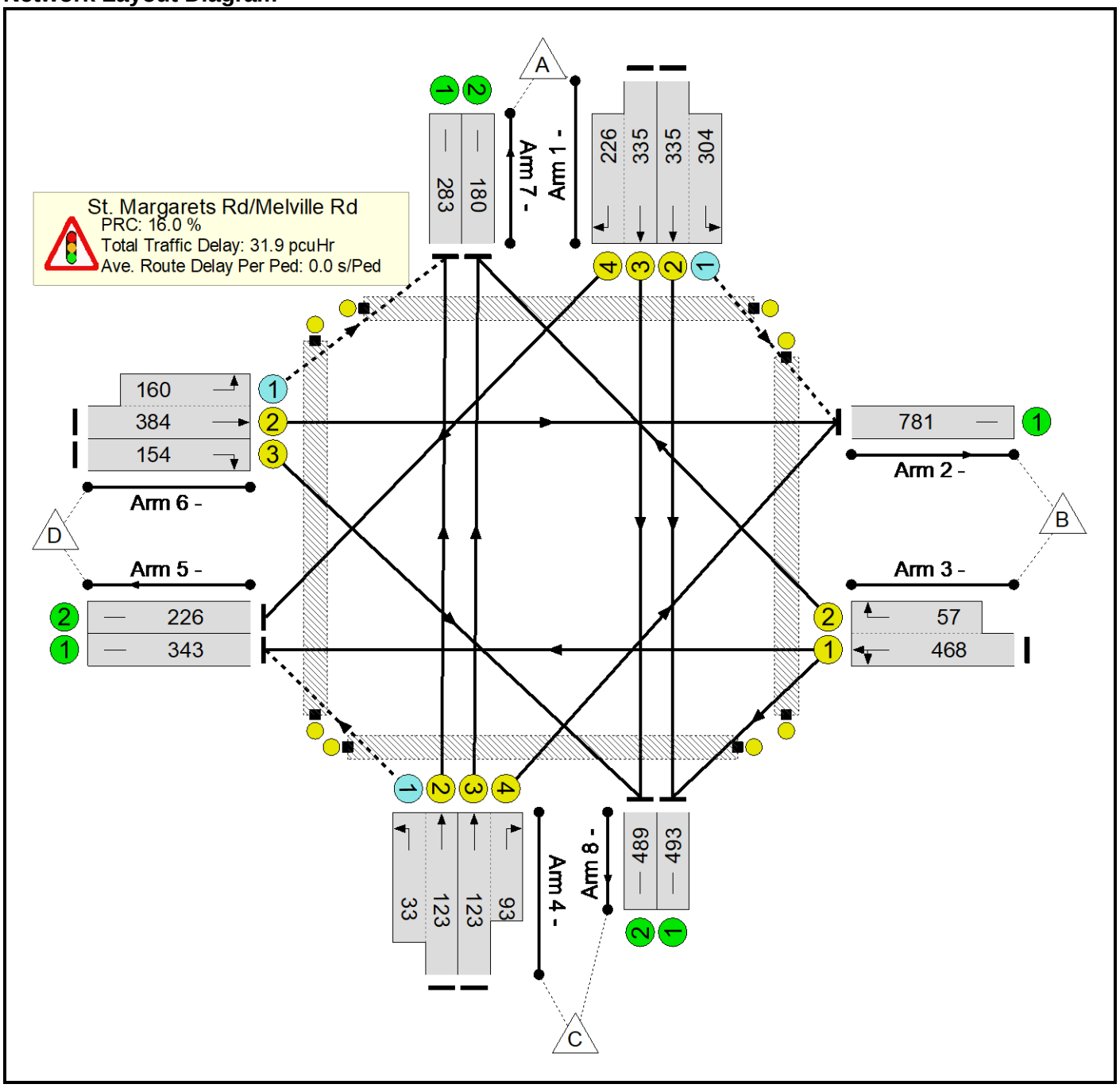
Total Delay for Signalled Lanes (pcuHr): 32.14
Total Delay Over All Lanes(pcuHr): 32.14

Cycle Time (s): 120

Basic Results Summary

Scenario 11: 'Op +15 + Phase 1 Dev AM Weekday' (FG11: 'Op +15 + Phase 1 Dev AM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

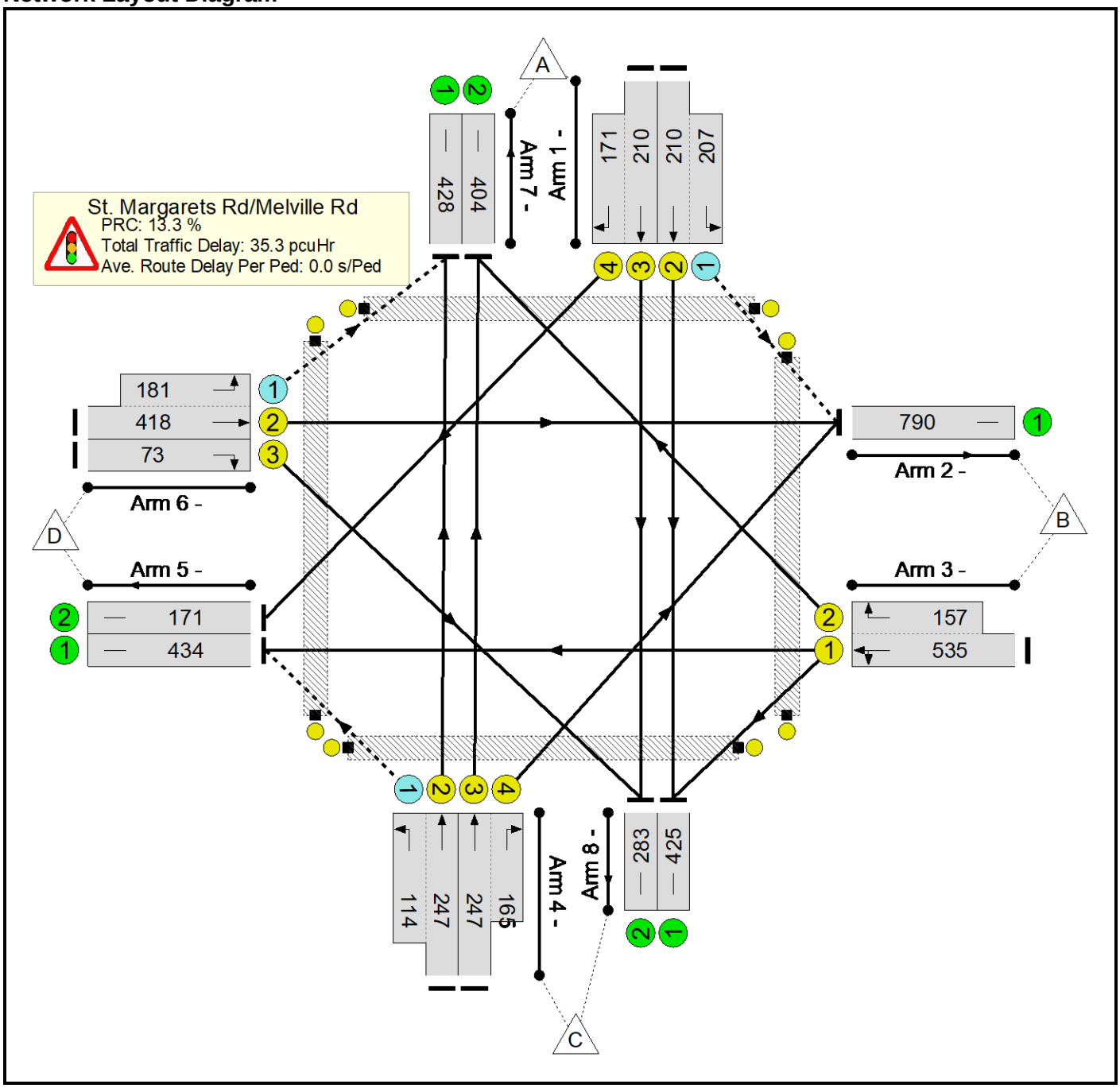
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**77.6%**	**194**	**303**	**0**	**31.9**	**-**	**-**
St. Margarets Rd/Melville Rd	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**77.6%**	**194**	**303**	**0**	**31.9**	**-**	**-**
1/2+1/1	Left Ahead	U+O	D -		1	36	-	639	2105:1826	432+392	77.6 : 77.6%	139	165	0	5.1	28.7	13.4
1/3+1/4	Right Ahead	U	D C		1	36:25	-	561	2105:1700	629+368	53.2 : 61.4%	-	-	-	6.5	41.6	9.8
3/1+3/2	Ahead Right Left	U	F E		1	40:7	-	525	1879:1804	612+75	76.4 : 76.4%	-	-	-	6.9	47.7	16.0
4/2+4/1	Left Ahead	U+O	H -		1	18	-	156	2105:1798	309+83	39.8 : 39.8%	18	15	0	1.9	43.2	4.0
4/3+4/4	Right Ahead	U	H G		1	18:7	-	216	2105:1892	167+126	73.7 : 73.7%	-	-	-	4.3	72.0	5.0
6/2+6/1	Ahead Left	U+O	B -		1	46	-	544	2095:1787	660+275	58.2 : 58.2%	36	124	0	3.6	23.8	10.2
6/3	Right	U	A		1	13	-	154	1783	208	74.0%	-	-	-	3.5	83.0	6.3
Ped Link: P1	Unnamed Ped Link	-	I		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	K		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	L		1	7	-	0	-	0	0.0%	-	-	-	-	-	-

C1 PRC for Signalled Lanes (%): 16.0 Total Delay for Signalled Lanes (pcuHr): 31.86 Cycle Time (s): 120
PRC Over All Lanes (%): 16.0 Total Delay Over All Lanes(pcuHr): 31.86

Basic Results Summary

Scenario 12: 'Op +15 + Phase 1 Dev PM Weekday' (FG12: 'Op +15 + Phase 1 Dev PM Weekday', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**79.4%**	**235**	**267**	**0**	**35.3**	-	-
St. Margarets Rd/Melville Rd	-	-	-		-	-	-	-	-	-	**79.4%**	**235**	**267**	**0**	**35.3**	-	-
1/2+1/1	Left Ahead	U+O	D -		1	20	-	417	2105:1826	292+287	72.0 : 72.0%	112	95	0	3.9	33.8	7.6
1/3+1/4	Right Ahead	U	D C		1	20:15	-	381	2105:1700	368+227	57.0 : 75.4%	-	-	-	5.9	55.8	7.2
3/1+3/2	Ahead Right Left	U	F E		1	50:13	-	692	1869:1804	679+199	78.8 : 78.8%	-	-	-	8.2	42.9	18.8
4/2+4/1	Left Ahead	U+O	H -		1	24	-	361	2105:1798	365+168	67.8 : 67.8%	64	50	0	4.0	39.5	8.4
4/3+4/4	Right Ahead	U	H G		1	24:19	-	412	2105:1892	311+208	79.4 : 79.4%	-	-	-	6.9	60.6	11.3
6/2+6/1	Ahead Left	U+O	B -		1	44	-	599	2095:1787	633+274	66.1 : 66.1%	59	122	0	4.4	26.6	12.0
6/3	Right	U	A		1	7	-	73	1783	119	61.4%	-	-	-	1.9	92.5	3.1
Ped Link: P1	Unnamed Ped Link	-	I		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	K		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	L		1	7	-	0	-	0	0.0%	-	-	-	-	-	-

C1

PRC for Signalled Lanes (%): 13.3
PRC Over All Lanes (%): 13.3

Total Delay for Signalled Lanes (pcuHr): 35.27
Total Delay Over All Lanes(pcuHr): 35.27

Cycle Time (s): 120

Appendix E. R135 / Charlestown Place General Arrangement Drawing

DO NOT SCALE

A1

100 0 10

EXISTING TRAFFIC CHAMBER AND DUCTING TO BE PROTECTED IN-SITU AS PART OF THE WORKS. EXISTING CHAMBER AND DUCTING TO REMAIN OPERATIONAL UNTIL NEW NETWORK IS COMMISSIONED AND OPERATIONAL.

MH IL = 70.005
MH DEPTH = 1.515M
DEPTH OF PIPE = 1.29M

PROPOSED PAVEMENT IN ACCORDANCE WITH APPENDIX 7/1

CHARLESTOWN PLACE

TAKE UP FROM WHERE SET ASIDE AND REINSTALL CCTV POLE AND CAMERA ON NEW TRAFFIC SIGNAL POLE

X: 712429.8
Y: 740446.0

X: 712448.3
Y: 740442.5

X: 712434.9
Y: 740435.5

X: 712416.6
Y: 740438.8

PROPOSED WORKS TO TIE INTO EXISTING CYCLE TRACK AND FOOTPATH

X: 712450.8
Y: 740437.2

REFER TO DRAWING 5152288 / HTR / SCD / 001 FOR DETAILS OF PROPOSED CHAMBERS

MH IL = 69.980.
MH DEPTH = 1.84M
DEPTH OF PIPE = 1.5M

X: 712412.2
Y: 740429.9

X: 712408.3
Y: 740428.2

PROPOSED GULLY TO CONNECT TO EXISTING SURFACE WATER NETWORK

GULLY CONNECTION TO SURFACE WATER NETWORK

EXISTING CHAMBERS AND CABINETS TO BE PROTECTED INSITU AS PART OF WORKS

PROPOSED PAVEMENT IN ACCORDANCE WITH APPENDIX 7/1

X: 712377.3
Y: 740418.9

X: 712412.1
Y: 740422.2

X: 712414.6
Y: 740423.3

GULLY CONNECTION TO SURFACE WATER NETWORK

EXISTING TRAFFIC CHAMBER AND DUCTING TO BE PROTECTED IN-SITU AS PART OF THE WORKS. EXISTING CHAMBER AND DUCTING TO REMAIN OPERATIONAL UNTIL NEW NETWORK IS COMMISSIONED AND OPERATIONAL.

X: 712427.7
Y: 740415.5

PROPOSED FOOTPATH GULLY IN ACCORDANCE WITH 5152288/HTR/SCD/006

PROPOSED CHANNEL KERB IN ACCORDANCE WITH 5152288/HTR/SCD/006

X: 712379.8
Y: 740412.0

R1m

EXISTING SURFACE WATER SEWER

X: 712392.3
Y: 740408.3

X: 712396.2
Y: 740405.8

PROPOSED WORKS TO TIE INTO EXISTING CYCLE TRACK AND FOOTPATH

PROPOSED 5 No. PLASTIC PENCIL BOLLARDS

R135

X: 712451.7
Y: 740380.1

X: 712449.3
Y: 740378.9

NOTES

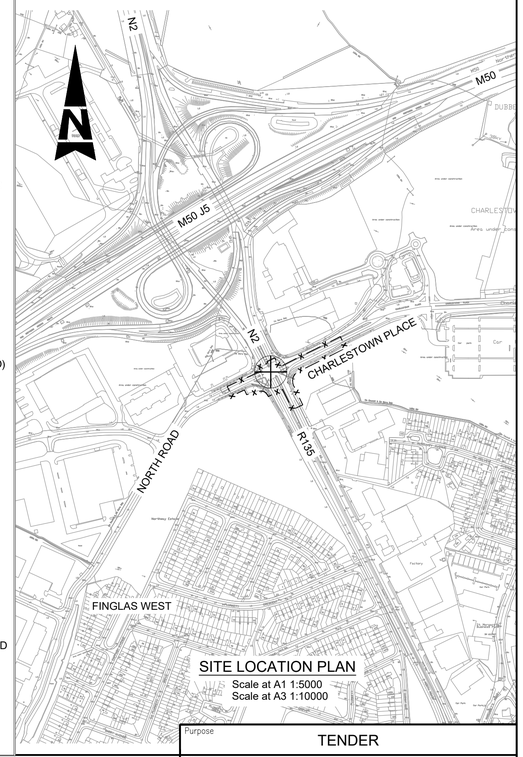
1. PROVISION OF PAVEMENT TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF APPENDIX 7/1 OF THE SPECIFICATION.
2. PROVISION OF KERBS, FOOTWAYS AND PAVED AREAS TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF APPENDIX 11/1 OF THE SPECIFICATION.
3. PROVISION OF TACTILE PAVING TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF APPENDIX 11/1 OF THE SPECIFICATION.
4. ALL DIMENSIONS SHOWN FROM CENTRE OF EXISTING FEATURE

GENERAL NOTES

1. DO NOT SCALE. USE ONLY FIGURED DIMENSIONS.
2. ALL DIMENSIONS ARE IN METRES UNLESS STATED OTHERWISE.
3. LEVELS SHOWN TO MALIN HEAD DATUM UNLESS OTHERWISE STATED.
4. COORDINATES ARE TO (ITM) IRISH TRANSVERSE MERCATOR UNLESS STATED OTHERWISE.
5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE CONTRACT DOCUMENTS.

LEGEND:

- MMARC BOUNDARY
- EXTENT OF WORKS
- EXISTING FOOTPATH TO BE RETAINED
- EXISTING CARRIAGEWAY TO BE RETAINED
- PROPOSED CARRIAGEWAY
- PROPOSED TACTILE PAVING (CONTROLLED)
- PROPOSED LADDER/TRAMLINE TACTILE PAVING
- EXISTING VERGE TO BE RETAINED
- PROPOSED NEW GRASS VERGE
- PROPOSED CYCLE TRACK
- PROPOSED FOOTPATH
- PROPOSED SHARED AREA
- EXISTING CYCLE TRACK TO BE RETAINED
- PROPOSED FULL HEIGHT KERB (125mm UPSTAND)
- PROPOSED PEDESTRIAN DROP KERB (0 - 6mm UPSTAND)
- PGR EXISTING PEDESTRIAN GUARDRAIL TO BE RETAINED
- PROPOSED TRANSITION KERB
- PROPOSED PEDESTRIAN GUARDRAIL
- RS EXISTING ROAD SIGN
- LP EXISTING LIGHTING POLE TO BE RETAINED
- G1 PROPOSED GULLY
- G2 EXISTING GULLY TO BE RETAINED
- PROPOSED TRAFFIC SIGNALS
- EXISTING MANHOLE / CHAMBER TO BE RAISED / LOWERED
- PROPOSED REFLECTIVE BOLLARD
- PROPOSED MANHOLE / CHAMBER
- PROPOSED RAMP



SITE LOCATION PLAN
Scale at A1 1:5000
Scale at A3 1:10000

GENERAL ARRANGEMENT -CHARLESTOWN PLACE
Scale at A1 1:250
Scale at A3 1:500

Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

Rev	Description	By	Date	Chk'd	Auth
-	FOR TENDER	AK	15.10.20	CF	MD

ATKINS
Member of the SNC-Lavalin Group

Atkins House, 150-155 Airside Business Park, Swords, Co. Dublin
Tel (+353) 01 810 8000
Fax (+353) 01 810 8001

Unit 2B, 2200 Cork Airport Business Park, Cork
Tel (+353) 021 429 0300
Fax (+353) 021 429 0360

2nd Floor Technology House Parkmore Technology Park, Galway
Tel (+353) 091 786 050
Fax (+353) 091 779 830

Client: JOHN PAUL CONSTRUCTION

Project: CHARLESTOWN PLACE PHASE 2B

Purpose: TENDER

Title: GENERAL ARRANGEMENT

Original Scale	Design/Drawn	Checked	Authorised
1:250 at A1 1:500 at A3	AK	CF	MD
	Date 15.10.20	Date 15.10.20	Date 15.10.20

Status: T

Drawing Number: 5152288 / HTR / DR / 0001

Rev: -

File: 5152288_HTR_DR_0001.dwg
Date: Oct 19, 2020 - 3:22pm
Plotted by: AKoryakovtsev

Z:\5152288 Charlestown Phase 2b\6 Dwgs-Graphics\61 AutoCad\5152288_HTR_DR_0001.dwg

Office Locations / Contact Details

Dublin

Atkins House, 150, Airside Business Park, Swords, Co Dublin, K67 V3P4
Telephone +353 1 810 8000
Fax +353 1 810 8001

Cork

Unit 2B, Building 2200, Cork Airport Business Park,
Cork, T12 R279
Telephone +353 21 4290300
Fax +353 21 4290360

Galway

2nd Floor, Technology House, Parkmore Technology Park, Galway, H91 NXY4
Telephone +353 91 786050
Fax +353 91 779830

email: info.ie@atkinsglobal.com

www.atkinsireland.ie