

Great Connell SHD, Newbridge

Traffic and Transportation Assessment

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1 Executive Summary

1. The proposed development is a residential scheme comprising of 569 no. residential units, including a mix of apartments and houses, in addition to a proposed childcare facility/creche and neighbourhood centre/commercial building.
2. This assessment has been carried out in accordance with TII's Traffic and Transport Assessment Guidelines PE-PDV-02045 (May 2014) and makes reference to the Design Manual for Urban Roads & Streets (DMURS).
3. It is proposed to access the proposed residential development from the existing Great Connell Roundabout which will be signalised as part of this development in order to improve the safety of vulnerable road users in the area.
4. The proposed development will deliver a section of the Newbridge Southern Outer Orbital Relief Road (NSORR) from Great Connell Road to the furthest access point within the development site along the new road. The remainder of the NSORR delivery is being progressed by Aston Ltd as part of a separate planning application (Section 247 Kildare County Council Consultation Reference: PP2559). Aston Ltd has taken on this element in order to expedite the approval process and ensure that the connection can be made in a shorter timeframe than if Kildare County Council were to progress under public procurement. These two elements together will enable the completion of the NSORR objective identified in the Newbridge LAP.
5. The Ballyfarm Road will be taken in charge by Kildare County Council in Q2 2022. The remainder of the NSORR to the north of (Oakgale/Lidl section) will also be taken in charge at this time Q2 2022.
6. Capacity analysis was carried out on a number of surrounding existing junctions for a number of different scenarios relating to the delivery of the NSORR. In summary, all of the junctions assessed function within capacity without the full delivery of the NSORR (with the exception of St Conleth's Bridge and Buckley's Cross which are already operating above design thresholds). The maximum impact of the proposed development is +6% at all junctions assessed without the full NSORR in place. The proposed development is therefore considered not to be reliant on the delivery of the full NSORR. The delivery of the full NSOORR improves the already congested junctions and reduces the proposed development impact to only +2% in the worst case design year 2039 at both of those already congested junctions.
7. An option to provide a signalised junction in place of Buckley Cross Roundabout has been presented. These works will be progressed by Kildare County Council with contributions and timeframe agreed with Aston Ltd and Kildare County Council. These works will be progressed by Kildare County Council within 3 years of application grant.

2 Introduction

PUNCH Consulting Engineers were commissioned by Aston Ltd to carry out a Traffic and Transportation Assessment (TTA) for a proposed residential development/strategic housing development (SHD) in Newbridge Co. Kildare.

The assessment has been carried out in accordance with TII's Traffic and Transport Assessment Guidelines PE-PDV-02045 (May 2014) and makes reference to the Design Manual for Urban Roads & Streets (DMURS). Sections from the Newbridge Local Area Plan (2013-2019) and the Kildare County Council Development Plan (2017-2023) have been used to help describe the development location and its local context.

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

2.1 Scoping

A tripartite meeting occurred online on 22nd October 2021. This section of the report addresses items that were specifically raised following the Tri Partite meeting in relation to traffic and transportation. Below is the text extract from ABP's opinion report relating to traffic and transport:

1. *Traffic and Transport*

Further consideration and/or justification of the documents as they relate to the traffic and transport provision. The submitted documentation should address the requirements of the Newbridge Local Area Plan 2013-2019 (as extended) for the delivery of the Newbridge Southern Outer Orbital Relief Road (NSOORR) and Compliance with Objective SRO5a. Regards should be given to the submission of a Traffic and Transport Assessment, including inter alia, potential scenarios with and without the bridge, capacity of the surrounding junction and the impact of the proposed development on the surrounding road network. Plans and particulars should clearly indicate compliance with the required upgrades stated in the Transport Section Report, including any third -party consents required for the works, the need for signalised junctions in the vicinity of the site and the DMURS standards for the internal network.

Consultation was undertaken with Kildare County Council Roads, Transportation & Public Safety Department on numerous occasions throughout 2021 via meetings (see main meeting dates below) and email correspondence to allow them to express their views/comments regarding the proposed development prior to the submission of the planning application.

1. 23 March 2021 -Preplanning Meeting - Kildare County Council Consultation Reference: PP5026
2. 15th April 2021- Kildare County Council Roads, Transportation & Public Safety Department
3. 22nd October 2021 - SHD Pre-Application 311390 - Tripartite Meeting
4. 1st March 2022 - Pre-Planning meeting for road and bridge application for remainder of NSORR - Section 247 Kildare County Council Consultation Reference: PP2559

Refer to Appendix A for detailed responses to ABP and KCC Tripartite meeting comments.

This TTA reflects the comments received from Kildare County Council throughout the design development of this SHD project.

3 Existing Conditions

3.1 Site Location

The application site is part brownfield/ part greenfield site with 3 no. existing buildings on the eastern side, and the majority of the existing land used for agriculture. The proposed development is located to the east of Newbridge town centre on the eastern side of the River Liffey. The site is within the Newbridge Local Area Plan. Refer to Figure 3-1 below.

There are three existing accesses onto the site from Great Connell Road to the east.

The proposed site is bounded by the existing Wellesley Manor residential developments to the north-east, Great Connell Road to the east and existing farmland to the south. The River Liffey and existing farmland are located to the west. Ardstone Homes Limited were granted planning for 343 residential units on the site located on the western side of the River Liffey under planning approval grant ABP-302141-18. This development is now under construction.



Figure 3-1: Site Location Plan
(Ref: <https://viewer.myplan.ie/>)

3.2 Existing Road Network

The site location in relation to the wider road network is detailed in Figure 3-2 below.

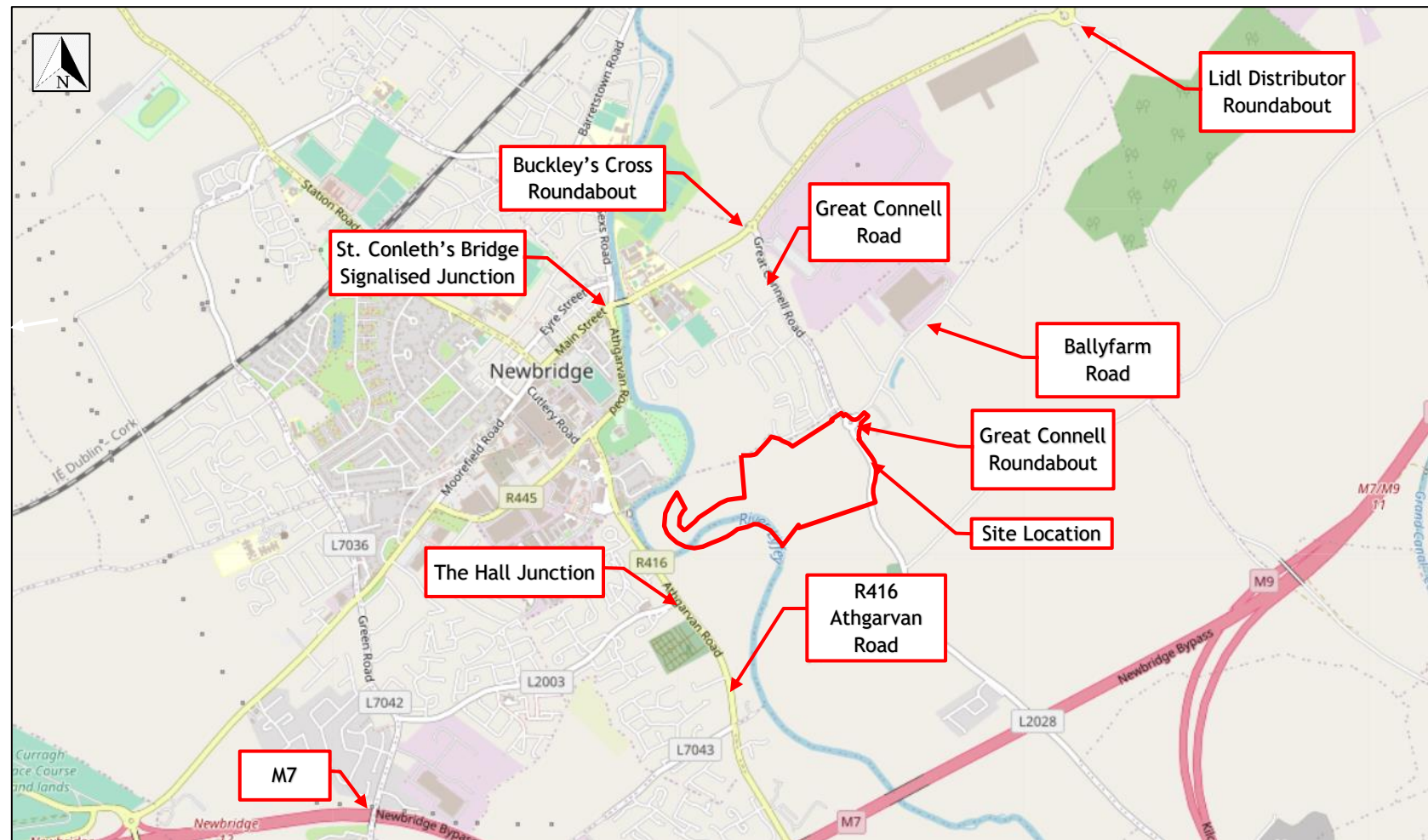


Figure 3-2: Site location and surrounding road network (Ref: <https://www.openstreetmap.org/#map=14/53.2652/-6.1863>)

A brief description of the local road network and the major road junctions is provided below:

3.2.1 Great Connell Road (L2028)

The Great Connell Road is a Local Primary Road linking the R445 at Buckley's Cross with the L2032 in the south. Great Connell Road is a single lane two-way carriageway with a footpath generally only on the western side of the road, heading south from the R445 junction to the Great Connell Roundabout. North of the roundabout the road provides access to a number of residential estates, and east of the roundabout provides access to the Lidl Distribution Centre and Murphy International Limited headquarters/offices via the Ballyfarm Road. Refer to Figure 3-3.

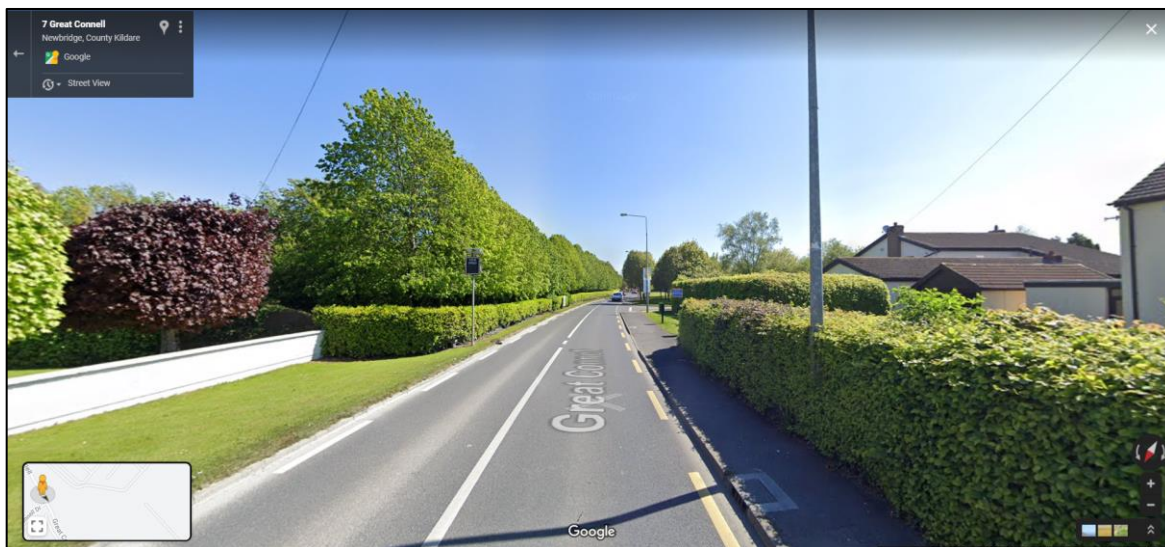


Figure 3-3: Great Connell Road (Looking south-east) © Google Maps

3.2.2 Ballyfarm Road

The Ballyfarm Road connects the Great Connell Roundabout to the Lidl Distributor Roundabout. It forms part of the NSORR and is fully constructed 6m wide carriageway with verges, footpaths and cycle paths on either side. The road will be taken in charge by Kildare County Council in Q2 2022.



Figure 3-4: Ballyfarm Road at connection to Great Connell Roundabout © Google Maps

3.2.3 R416 Athgarvan Road

The R416 Athgarvan road is a Regional Road linking Newbridge town and Athgarvan town. Athgarvan road is a single lane two-way carriageway with some footpaths on both side of the carriageway mainly along developed areas. It has no existing designated cycle lanes. Refer to Figure 3-5.



Figure 3-5: R416 Athgarvan Road (Looking north-west) © Google Maps

3.2.4 The Hall (L2003)

The Hall is part of the existing section of the Newbridge Southern Orbital Relief Road (NSORR) which continues onto Curragh Grange and links Green Road with Athgarvan road. The Hall is a single lane two-way carriageway with wide footpaths on both sides of the carriageway and no existing cycle lanes. The road provides access to a number of residential estates.



Figure 3-6: The Hall (Looking east towards Athgarvan Junction) © Google Maps

3.3 Existing Traffic Flows

A classified turning count traffic survey of the below listed junctions was completed by IDASO on behalf of the client on Wednesday the 10th of November 2021.

1. Great Connell Roundabout
2. Lidl Distributor Roundabout
3. The Hall / R416 Athgarvan Road / New NSORR (East) Signalised Junction.
4. St. Conleth's Bridge Signalised Junction
5. Buckley's Cross Roundabout

The November 2021 surveys were undertaken at a time when schools were fully open and the government was not advising work from home during the Covid-19 pandemic. While it could be argued that an increased proportion of individuals would have continued to work from home during this time period in comparison with pre-covid, it is expected this change in behaviour will become the norm in future years and it is therefore deemed the traffic survey results are appropriate for future analysis.

The November 2021 traffic survey locations and traffic survey results for the peak hours are included in Appendix B.

The November 2021 traffic surveys undertaken found that the mean morning peak hour traffic flows at the existing junctions surrounding the development generally occurred between 08:00 and 09:00 (AM). The evening peak hour flow was found to generally occur between 17:00 and 18:00 (PM). See Figure 3-8 and Figure 3-7 below.

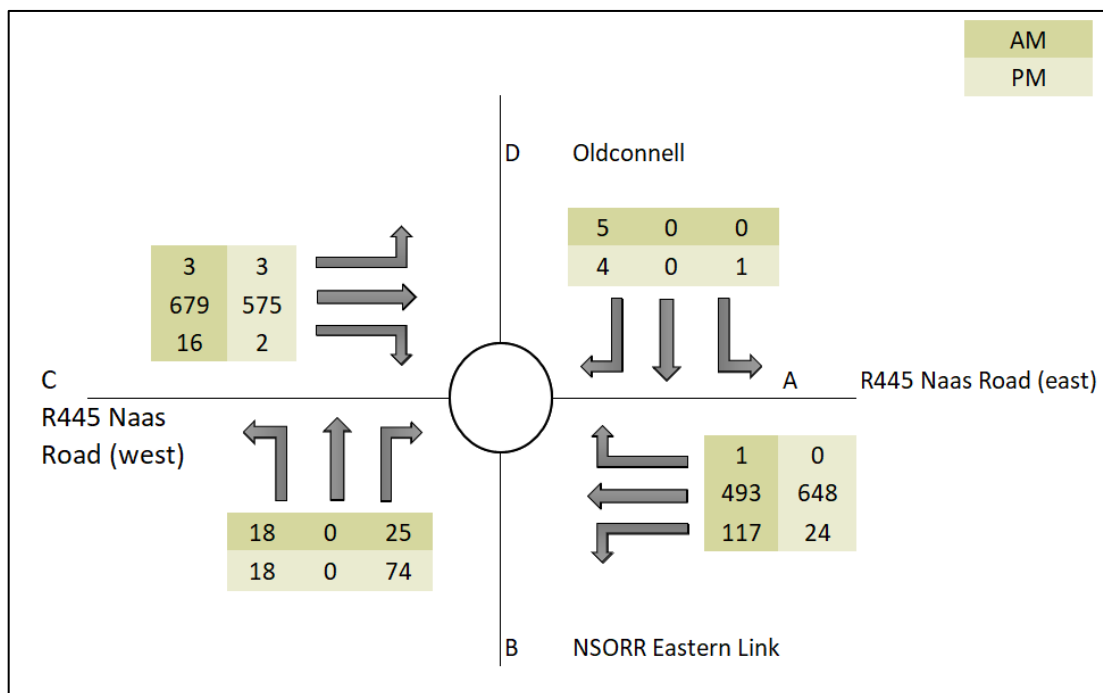


Figure 3-7: November 2021 Lidl Distributor Roundabout
Peak Hour Traffic Survey Results (PCUs)

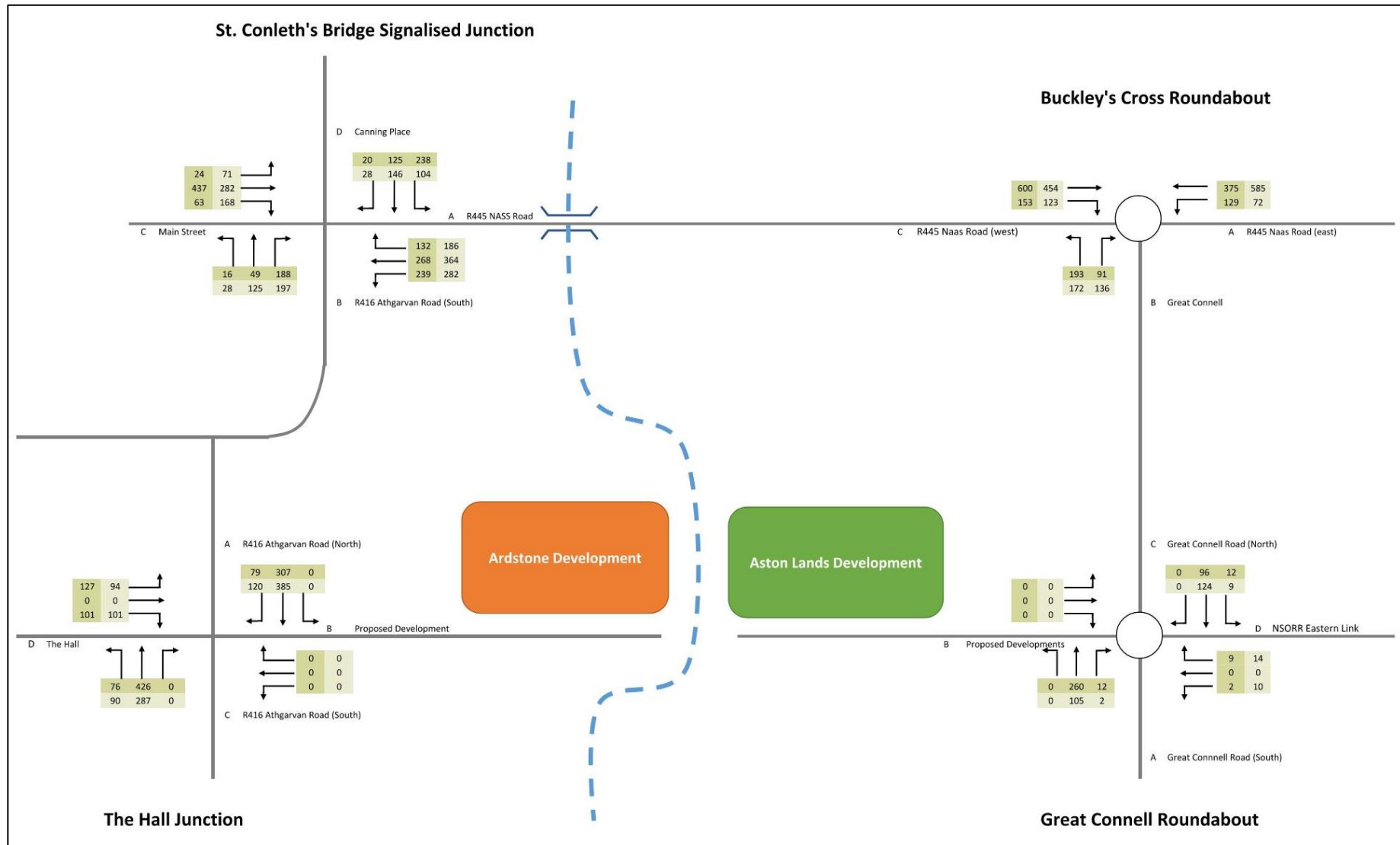


Figure 3-8: November 2021 Peak Hour Traffic Survey Results (PCUs)

3.4 Future Transport Proposals

3.4.1 Newbridge Local Area Plan (2013-2019 as *extended*)

The proposed development is located within the Newbridge Local Area Plan and is mostly zoned as 'C New Residential' and part of the site is also zoned 'F Open Space & Amenity'.

Some of the relevant local area plan transportation objectives are:

- SRO 5a: To construct the NSORR road including a new crossing over the River Liffey.
- SRO 10: To implement safety and/or capacity improvements as necessary at (*relative to this site*):
 - g) R415 Athgarvan Road/Kilbelin junction (The Hall Junction), pending the completion of the Southern Relief Road
 - h) The R445 Naas Road/Great Connell junction (Buckley's Cross Junction)

Refer to Figure 3-9 below which identifies the Movement objectives within the Newbridge Local Area Plan:

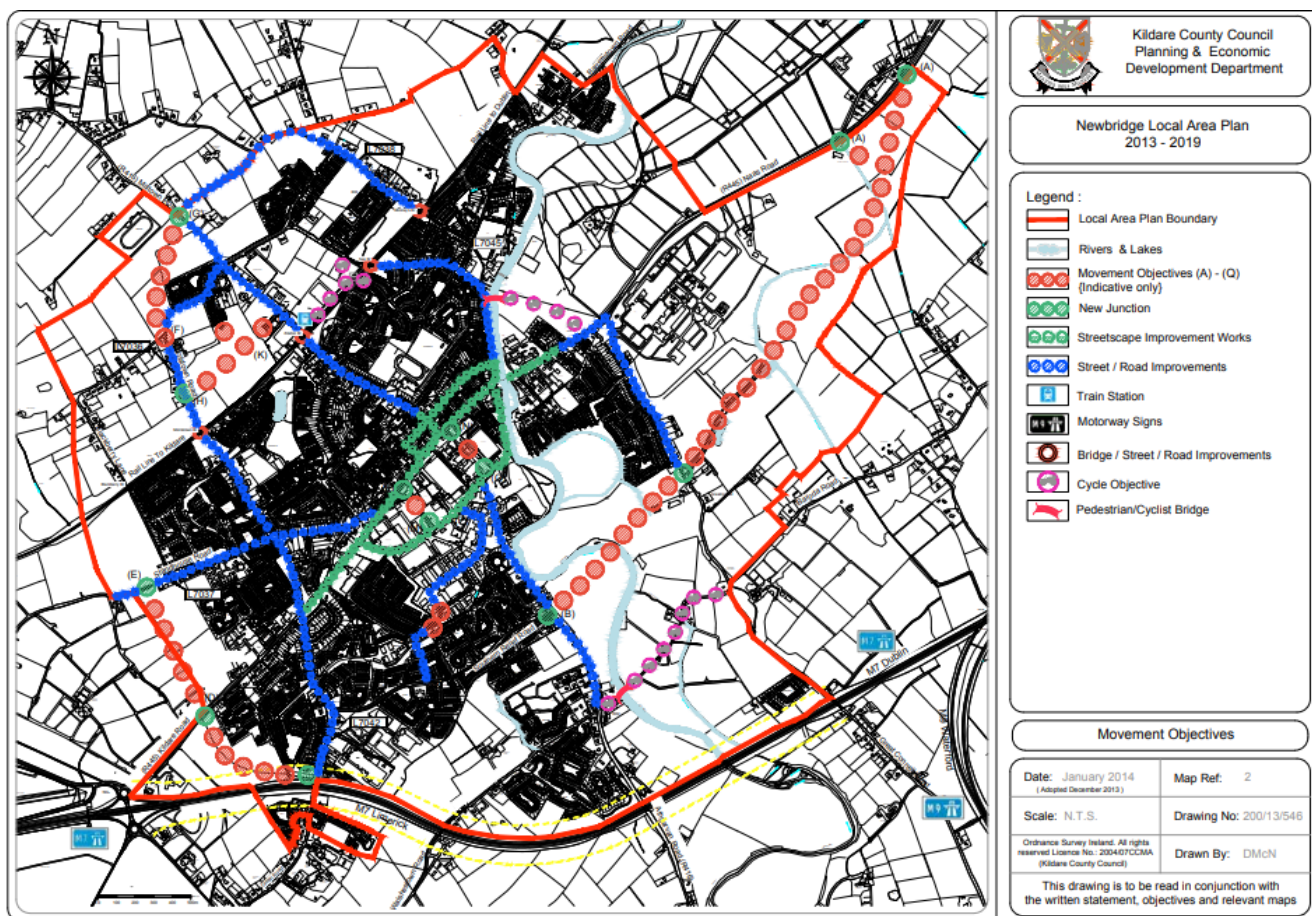


Figure 3-10: Map 2 Movement Objectives - Newbridge Local Area Plan

As discussed later in this report it is proposed as part of this development to contribute significantly to both objectives (SRO5a & SRO10h) noted above.

3.4.2 Kildare County Council Development Plan (2017-2023)

General proposals and objectives as noted in the Development Plan are to reduce car dependency and increase the use of sustainable means of transport such as walking, cycling and the use of public transport.

3.5 Coordination with Other Projects

There are a number of relevant granted planning permissions in the area relating to traffic generation.

1. The adjacent Ardstone Homes Limited residential development located opposite the River Liffey to the south-west of the proposed site (Planning Reference: ABP-302141-18).
2. The proposed Distribution Warehouse located on the NSORR Barola DAC (Planning Reference: 211/248).
3. The change of use of the (distribution) warehouse element to beverage manufacturing use located on the NSORR (Planning Reference: 20/259) by Alder Clover (Dr. Keurig)

The TTA reports from each of the above applications were reviewed and the development traffic predicted in each report has been included in this submission's 'Do Nothing' 'without development' traffic calculations.

Traffic flows in all cases presented in this report include the surveyed 2021 background traffic with a growth factor applied plus the predicted development traffic.

4 Proposed Development

Aston Limited intend to apply to An Bord Pleanála for permission for a strategic housing development at this site at Great Connell, Newbridge, County Kildare. This subject site comprises the lands surrounding and including the dwellings of 'Greatconnell' and 'Valencia Lodge', Great Connell, Newbridge, Co. Kildare, Eircodes: W12 TW29 and W12 V382.

The development will consist of the demolition of existing site structures (2,622.3 sqm) and the construction of 569 no. residential units, a neighbourhood centre with 11 no. units (commercial floor area 2,141 sqm) and a childcare facility (886 sqm), a circa 350 metre section of distributor road, and all ancillary and associated works on a site of 27.64 ha. The proposed development comprises:

1. Demolition of existing site structures (total 2,622.3 sqm) comprising; 'Great Connell' a two-storey dwelling of 331.9 sqm with detached single storey garage and outhouses of 48 sqm; 'Valencia Lodge' a single storey dwelling of 135.6 sqm with a single storey garage of 17.8 sqm; two no. single storey sheds of 1,440 sqm and 595 sqm, and a three-sided shed of 54 sqm.
2. Construction of 569 no. new residential dwellings (325 no. houses and 244 no. apartments) comprising:
 - 64 no. two-bed houses; 173 no. three-bed houses; and 88 no. four-bed houses (ranging in height from 2 to 3 storeys).
 - Apartment Block A (Part 3 and 4 Storeys): 5 no. one-bed apartments; 14 no. two-bed apartments; and 3 no. three-bed apartments. These proposed units have private balconies or terraces, and access to a community roof terrace of 112.4 sqm.
 - Apartment Block B (Part 3 and 4 Storeys): 5 no. one-bed apartments; 14 no. two-bed apartments; and 3 no. three-bed apartments. These proposed units have private balconies or terraces, and access to a community roof terrace of 112.4 sqm.
 - Apartment Block C (Part 3 and 4 Storeys): 4 no. one-bed apartments; 19 no. two-bed apartments and 4 no. three-bed apartments. These proposed units have private balconies or terraces, and access to a community roof terrace of 87 sqm.
 - 13 no. apartments above the proposed Neighbourhood Centre comprising; 4 no. own-door two-bed apartments; 3 no. shared-access one-bed apartments; and 6 no. shared-access two-bed apartments. These proposed units have private balconies or terraces.
 - 160 no. own-door apartments in 2- and 3- storey buildings comprising; 16 no. one-bed apartments; 78 no. two-bed apartments, 66 no. three-bed duplex apartments. These units will have private amenity areas in the form of terraces, balconies and/or rear gardens.
3. Provision of Neighbourhood Centre (ranging in height between 2 and 4 storeys) with 11 no. commercial units comprising: a convenience shop of 909 sqm (unit 1); 3 no. doctor/dentist/physio units of 120 sqm, 120 sqm and 90 sqm (units 6, 7, and 8, respectively); a café of 125 sqm (unit 4); a restaurant of 213 sqm (unit 9); and 5 no. shop/convenience services units of 112 sqm, 49 sqm, 171 sqm, 100sqm and 100 sqm (units 2, 3, 5, 10 and 11, respectively). The proposed Neighbourhood Centre includes an external roof terrace of 176 sqm.
4. Provision of a childcare facility (886 sqm) within the Neighbourhood Centre with capacity for in the order of 154 no. children.
5. Provision of 1,008 no. car parking spaces comprising 650 no. spaces for the proposed houses; 312 no. spaces for the proposed apartments; and 46 no. spaces to serve the Neighbourhood Centre.
6. Provision of 732 bicycle parking spaces comprising 536 no. secure residential spaces, 134 no. residential visitor spaces, and 62 no. spaces to serve the Neighbourhood Centre.
7. A series of 18 no. public open spaces and pocket parks are proposed throughout the residential development (2.613 ha net area).
8. Provision of an 8.31 ha amenity area adjoining the River Liffey.
9. Vehicular access to the proposed development from Great Connell Road via a circa 350 metre section of the Newbridge South Orbital Relief Road (NSORR), including footpaths and cycle paths.

- It is proposed to upgrade the existing Great Connell Roundabout to a signalised junction and provide footpaths and cycle paths within the subject site along the Great Connell Road.
10. Proposed development facilitates future potential pedestrian, cycle and vehicular links to adjoining residential development and undeveloped lands.
 11. All enabling and site development works, landscaping, boundary treatments, lighting, services and connections, including connection to permitted wastewater pumping station, waste management, ESB substations, compensatory flood storage and all other ancillary works above and below ground on a site of 27.64 ha.
 12. A 7 year permission is sought.

The proposed development will deliver approx. 350m of the Newbridge Southern Outer Orbital Relief Road (NSORR) from Great Connell Roundabout to the furthest access point within the development site along the new road. The NSORR splits the proposed development into two distinct sections, north and south.

A bridge over the River Liffey is required to complete the NSORR delivery in accordance with the requirements of the Newbridge Local Area Plan which will eventually tie in with the section of the NSORR to be delivered under Planning Reference: ABP-302141-18, on the western side of the River Liffey. Aston Ltd has commenced the planning process with Kildare County Council to deliver this final road and bridge connection of the NSORR under a separate planning application (Section 247 Kildare County Council Consultation Reference: PP2559). Aston Ltd has taken on this element in order to expedite the approval process and ensure that the connection can be made in a shorter timeframe than if Kildare County Council were to progress under public procurement.

The impact of the full delivery of the NSORR is discussed further in Section 7 of this report.

The proposed layout for the development is detailed in the series of drawings by OFA Architects accompanying this report and an extract is included in Figure 4-1.



Figure 4-1: Proposed Site Layout

5 Vehicle Trip Generation

Given the proposed development is primarily residential, peak flows generated by the proposed development will typically occur on weekdays between 07:00 am and 09:00 am in the mornings and between 16:00 pm and 18:00 pm in the evenings. This range corresponds to the findings of the November 2021 surveys completed on the surrounding road network. The worst-case peak hour times are used in all analysis in this report.

The purpose of this section is to determine the overall number of trips that will be generated by the proposed development. The proposed development includes Apartments, Houses and a neighbourhood centre incorporating a creche and commercial units.

In order to estimate the likely volumes of traffic that will be generated by the residential units within the proposed development, trip rates approved by Kildare County Council in the Ardstone Homes Ltd neighbouring residential development's TTA (Planning Reference: ABP-302141-18) were used and applied pro-rata to the relevant number of houses, apartments and the creche within the development. The rates used were similar to those generated using current TRICS data, the higher values have been utilised for a worst-case scenario presentation.

Trip rates recommended by TRICS (Trip Rate Information Computer System) were extracted from the database and applied pro-rata to the proposed commercial floor space within the neighbourhood centre.

Full details of the TRICS analysis are reproduced in Appendix C.

Table 5-1: Estimated AM and PM peak hour traffic (PCUs) generated by proposed using TRICS

Land Use	Calculation		Trip rate				Additional Number of Trips			
	Factor		AM Peak		PM Peak		AM Peak		PM Peak	
	GFA m ² /100	No. of Units / Children	AM Arriv	AM Depart	PM Arriv	PM Depart	AM Arriv	AM Depart	PM Arriv	PM Depart
Apartments	-	244	0.055	0.147	0.158	0.077	13	36	39	19
Houses	-	325	0.138	0.276	0.28	0.194	45	90	91	63
Creche (per child)	-	154	0.198	0.166	0.061	0.094	31	26	9	15
Commercial	21.4	-	1.579	1.507	1.981	2.117	34	32	42	45
Total							123	184	181	142

6 Trip Assignment and Distribution

There will be an increase in traffic generated by the proposed development. All traffic entering and exiting the proposed development will be obliged to obey all road traffic regulatory requirements.

The proposed development traffic will be apportioned during the analysis in accordance with the directional flow of the 2021 surveyed traffic for Scenario A (Existing scenario).

In Scenario B (Ballyfarm Road open) assumptions have been made as to the distribution of development and background traffic based on the origin destination findings of the November 2021 traffic survey. Refer to Appendix B for November 2021 traffic flow diagrams showing background distribution flows applied in this scenario.

In Scenario C (NSORR fully open) the predicted traffic routing assumed by DBFL TTA report completed for Planning Reference: ABP-302141-18 adjacent to the site was used. The DBFL report, predicted that if the NSORR is completed, including the new bridge over the River Liffey, a number of existing users will use the new crossing, bypassing the existing river crossing at St. Conleth's Bridge.

Refer to Appendix D for predicted distribution of proposed development traffic for all Scenarios explored.

7 Traffic Forecasting

In the absence of any specific local traffic growth information, it was assumed that baseline traffic will continue to grow at the levels recommended by the TII in the Project Appraisal Guidelines (PAG) - Unit 5.3 - Travel Demand Projections publication by the TII (October 2021). The Project Appraisal Guidelines describe three levels of transport model functionality. The static model, which reflects traffic volumes on the basis of link flows, is best suited to the proposed development. Such models do not attempt any route assignment, and hence are applicable for networks where no change in traffic flows will result from a proposed scheme. We have used figures from Table 6.1 'Link-Based Growth Rates' for the Kildare County annual growth rates.

The year of opening of the scheme was assumed to be 2024. A 15-year analysis period for the scheme would give a design year of 2039. The central growth factors from the Project Appraisal Guidelines - Unit 5.3 publication are appropriate and are detailed below:

- TII Link Based Growth Rates: Annual Growth Factor for 2016-2030 = 1.0197 (LVs) & 1.0378 (HVs);
- TII Link Based Growth Rates: Annual Growth Factor for 2030-2040 = 1.0062 (LVs) & 1.0155 (HVs).
- TII Link Based Growth Rates: Annual Growth Factor for 2040-2050 = 1.0053 (LVs) & 1.0187 (HVs).

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

Estimated future baseline traffic flows on the road network in the vicinity of the proposed development were calculated by applying these factors to the 2021 surveyed flows.

8 Assessment and Road Impact

The impact on the local external road network has been assessed in this TTA. During detailed scoping discussions with Kildare County Council Roads, Transportation & Public Safety Department the relevant junction locations for assessment were agreed as shown in Figure 8-1.

1. Great Connell Roundabout
2. Lidl Distributor Roundabout
3. The Hall / R416 Athgarvan Road / New NSORR (East) Signalised Junction.
4. St. Conleth's Bridge Signalised Junction
5. Buckley's Cross Roundabout

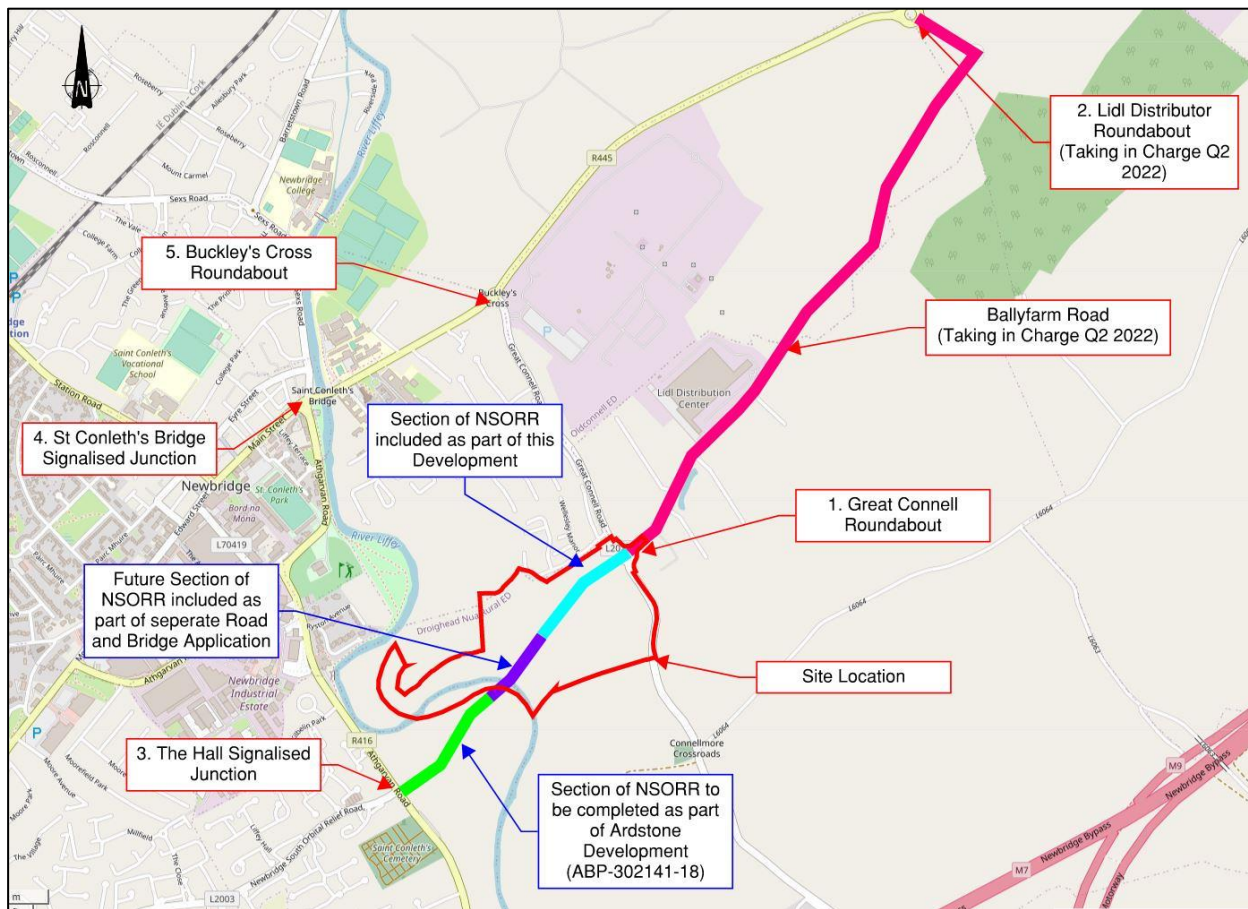


Figure 8-1: Junctions Assessment locations

The delivery of the full NSORR is an objective of the Newbridge Local Area Plan. The completion of the road will have an impact on the existing traffic conditions in the town of Newbridge. Existing and proposed sections of the NSORR are under different ownership/control (Refer to Figures 8-2 & 8-3) for a breakdown.

The Ballyfarm Road (Sections 5-7 on Figures 8-2 & 8-3) will be taken in charge by Kildare County Council in Q2 2022.

The proposed development will deliver approximately 350m of the NSORR from Great Connell Roundabout to the furthest access point within the development site along the new road (Section 4 on Figures 8-2 & 8-3).

Ardstone Ltd has started construction of the western end of the NSORR (Section 1 on Figures 8-2 & 8-3) granted permission under Planning Reference: ABP-302141-18.

A bridge over the River Liffey is required to complete the NSORR (Section 2-3 on Figures 8-2 & 8-3). Aston Ltd has commenced the planning process with Kildare County Council to deliver this road and bridge connection of the NSORR under a separate planning application (Section 247 Kildare County Council Consultation Reference: PP2559). Aston Ltd has taken on this element in order to expedite the approval process and ensure that the connection can be made in a shorter timeframe than if Kildare County Council were to progress under public procurement.

Given the above, it is highly likely that the completion of the NSORR can be delivered within a suitable timeframe for the proposed development. However, the scenarios of with and without the bridge connection were assessed to review the impact on the surrounding junction capacities in the area. Section 8-1 describes the analysis completed.

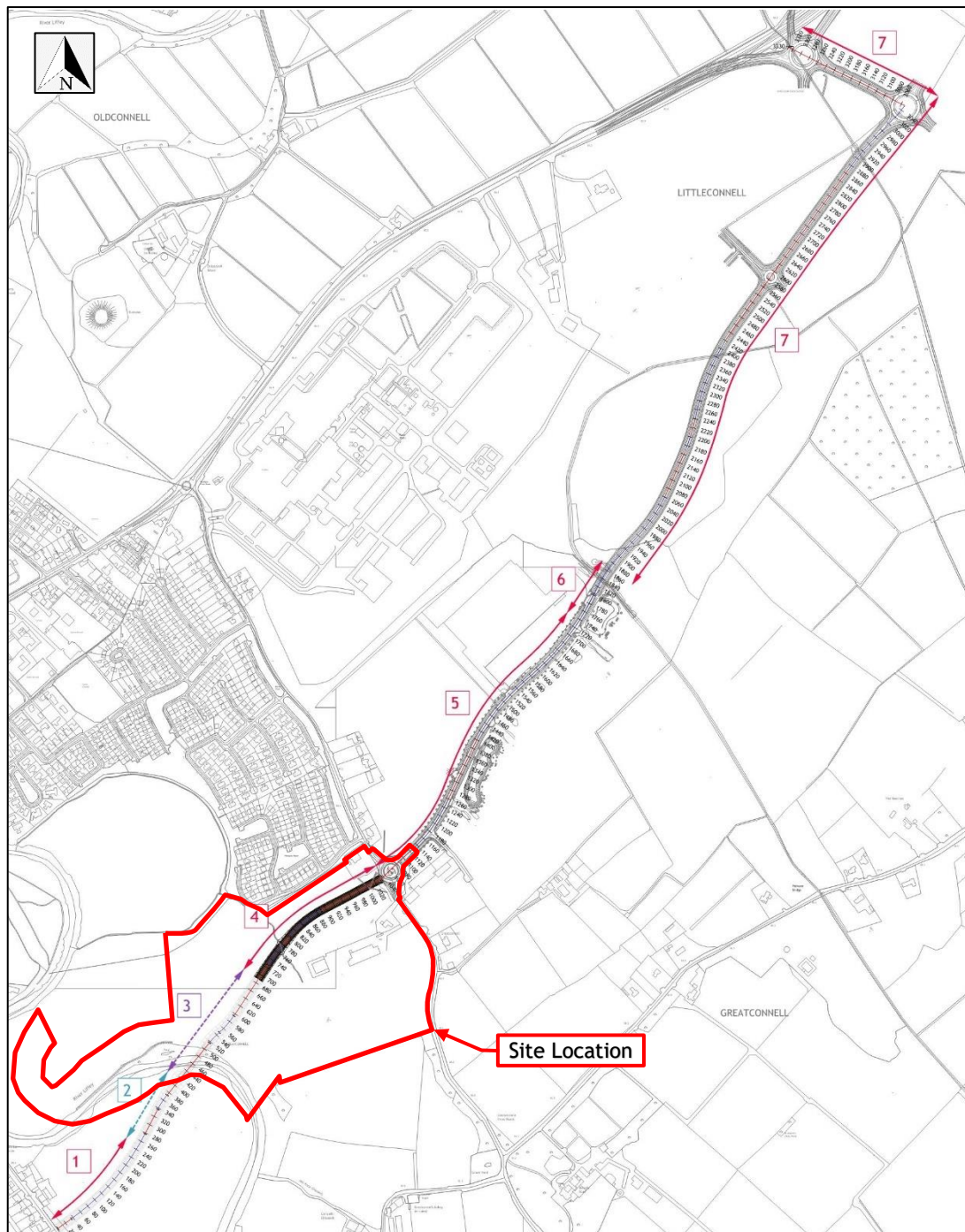


Figure 8-2: NSORR Ownership Details (refer to Figure 8-3 for ownership)

No	Road Section	Planning Reference	Land Ownership	Development Status	Current status of Newbridge Southern Orbital Relief Road (NSORR) section
1	Ch. 0 to Ch. 245	Planning Reference: 18302141	Glenveagh Properties PLC.	Development under construction	Works under construction, road section (245m) be constructed under this application.
2	Ch. 245 to Ch. 410	NA	Glenveagh Properties PLC.	Part of PP5299. Glenveagh agreed for Aston Limited to submit planning application for Road and Bridge. Subject to funding application to government by Kildare Co. Co. (KCC).	This section of road will form part of PP5299.
3	Ch. 410 to Ch. 690	NA	Aston Limited	Part of PP5299 Application with Aston Limited. Development subject of funding application to government by KCC.	Road section (280m), includes 170m long five span bridge across the River Liffey. This section of road will form part of PP5299.
4	Ch. 690 to Ch. 1040	SHD Planning Application ABP-311390-21	Aston Limited	Part of PP5299 and Aston Ltd SHD, as part of its development to form part of the NSOORR.	Road section (350m). Planned road construction works also incorporated into Aston Limited SHD Application planned for Q2 2022. Road design and layout in line with NSOORR requirements.
5	Ch. 1040 to Ch. 1740	Reference No: 99/1828	Ballyfarm Limited & Cox Property Limited	Taking in Charge agreed with Kildare Co Co for Q2 2022 opening to the public.	Road section (700m) complete to TIC standard.
6	Ch. 1740 to Ch. 1870	Reference No: 17/564	Ballyfarm Limited & Cox Property Limited	Taking in charge agreed with KCC for Q2 2022.	Road section (130 m) complete to TIC standard. Partially funded by Kildare Co Co through a development agreement with Lidl GmbH. Awaiting taking in charge by KCC. Planned Q2-2022
7	Ch. 1870 to Ch. 3330.	Reference No: 17/563	Oakgale Limited	Taking in charge anticipated to be Q2 2022 in line with Ballyfarm Road.	Road section (1460m) complete to TIC standard. Partially funded by Kildare Co Co. through a development agreement with Lidl GmbH. Awaiting taking in charge by KCC. Planned Q2-2022

Figure 8-3: NSORR Ownership Details (refer to Figure 8-2 for locations)

8.1 Junction Analysis

The junctions, as detailed above, were each assessed for the proportion of generated development traffic in the scenarios which has the greatest impact on the junction against the existing background traffic. Where the generated development traffic accounted for less than 5% (TII threshold for traffic congested areas) of the existing background traffic, it was determined that junction capacity modelling of that junction was not required as the development trips generated are deemed to have very little impact on that existing junction capacity. See Table 8-1 below for the calculated percentage of development trips against the existing traffic.

Table 8-1: Development Traffic Percentage of Background Traffic

Junction	Junction	Worst Case Development Trips Generated		DN 2024 Background Traffic	Percentage	Modelling Required
1	Great Connell Roundabout	AM	306	476	64.2%	✓
		PM	323	457	70.6%	
2	Lidl Distributor Roundabout	AM	103	1618	6.3%	✓
		PM	164	1600	10.1%	
3	The Hall / R416 Athgarvan Road	AM	98	1243	7.9%	✓
		PM	103	1189	8.6%	
4	St. Conleth's Bridge	AM	94	1955	4.7%	✗
		PM	100	2137	4.7%	
5	Buckley's Cross	AM	274	1713	16.0%	✓
		PM	290	1707	17.0%	

Based on the information in Table 8-1 above all of the junctions other than St. Conleth's Bridge Signalised Junction exceeded the 5% trigger and were brought forward for further analysis. However following further consultation with KCC St. Conleth's Bridge were also brought forward for further analysis.

Capacity analysis was carried out for the junctions listed below:

1. Great Connell Roundabout (Roundabout/Signalised solutions)
2. Lidl Distributor Roundabout
3. The Hall / R416 Athgarvan Road / New NSORR (East) Signalised Junction.
4. St. Conleth's Bridge Signalised Junction
5. Buckley's Cross (Roundabout/Signalised solutions)

The following scenarios for the surrounding road network were analysed:

- A. No section of the NSORR open - current day scenario - These results remain in the report for historical reasons but given the Ballyfarm Road will be delivered before the development is operational (Q2 2022), they are to be viewed for information only and to prove the impacts of the proposals put forward for the proposed development.
- B. Only Ballyfarm Road section of NSORR open (delivery Q2 2022)
- C. NSORR fully complete

The following development scenarios were analysed for each of the above scenarios with and without development for all junctions:

1. Opening year: 2024
2. Design year: opening year + 5 years: 2029
3. Design year: opening year + 15 years: 2039

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

LinSig software was used for the analysis of the signalised junctions. Junctions 9 ARCADY software was used for analysis of the roundabouts.

8.1.1 Analysis Assumptions

1. For NSORR open Scenarios the results shown assume that the connections are complete in the Opening Year 2024
2. Aston Lands Phasing assumptions:
 - a. Phase 1 (north of NSORR) Opening Year 2024 - 169 units & Commercial & Creche
 - b. Phases 2-4 (south of NSORR) from Design Year 2029 - 400 units
3. Traffic generation from the permitted developments noted in Section 3.5 above are included in the 'Without Development' scenario results.

LinSig: Analysis Note:

Junction capacities shown below are only one theoretical interpretation of the phase/stage setup for the existing junction. The results should be viewed more for a comparative assessment of with and without proposed development for the various scenarios.

ARCADY Analysis Note:

The ratio of flow to capacity (RFC) is an indicator of the likely performance of a junction under design year loading. Due to site to site variation, there may be a standard error of prediction of the entry capacity by the formulae of + or - 15% for any site. Thus, queuing should not occur in the various turning movements in the chosen design year peak hour in 5 out of 6 peak hour periods or sites if a maximum RFC of about 85% is used. Once the RFC is at 1.0 the Junctions 9 modelling software produces results regarding queues and delays that is unrepresentative of the actual or likely effects. The results should be viewed more for a comparative assessment of with and without proposed development for the various scenarios.

8.1.2 Great Connell Roundabout

Table 8-2: Summary of Junctions 9 Analysis Results for Great Connell Roundabout (refer to Appendix E for full results output)

	Scenario A - No Bridge/No Ballyfarm Road		Scenario B - No Bridge/ Yes Ballyfarm Road		Scenario C - NSORR Fully Complete	
	Without Development	With Proposed Development	Without Development	With Proposed Development	Without Development	With Proposed Development
Peak Hour Flow	Max RFC	Max RFC	Max RFC	Max RFC	Max RFC	Max RFC
AM 2024 Opening Year	20%	20%	20%	20%	23%	23%
AM 2029 Design Year	22%	23%	21%	23%	25%	26%
AM 2039 Design Year	24%	24%	23%	24%	29%	30%
PM 2024 Opening Year	11%	17%	11%	13%	23%	26%
PM 2029 Design Year	12%	24%	13%	17%	26%	34%
PM 2039 Design Year	13%	24%	13%	18%	30%	36%

The Great Connell Roundabout is large enough to be considered well within the design threshold of RFC<85% in any of the above scenarios explored. It can be seen from the above scenarios that the opening of the NSORR moves traffic onto this roundabout, which it has ample capacity to receive. The relative impact of the proposed development is also improved with the opening of the NSORR.

The above analysis predicts that by the Design Year 2039 the existing roundabout would be operating well within the design threshold with the full development in operation during both the AM and PM peak hours for all scenarios.

Kildare County Council have requested that the Great Connell Roundabout is signalised for safety reasons rather than capacity reasons. It is proposed to provide a new signalised junction to replace the existing large roundabout as per Figure 8-4 below and Appendix F. The junction will include for toucan crossings on all arms for enhanced safety of vulnerable road users. These works will be delivered as part of the proposed development.

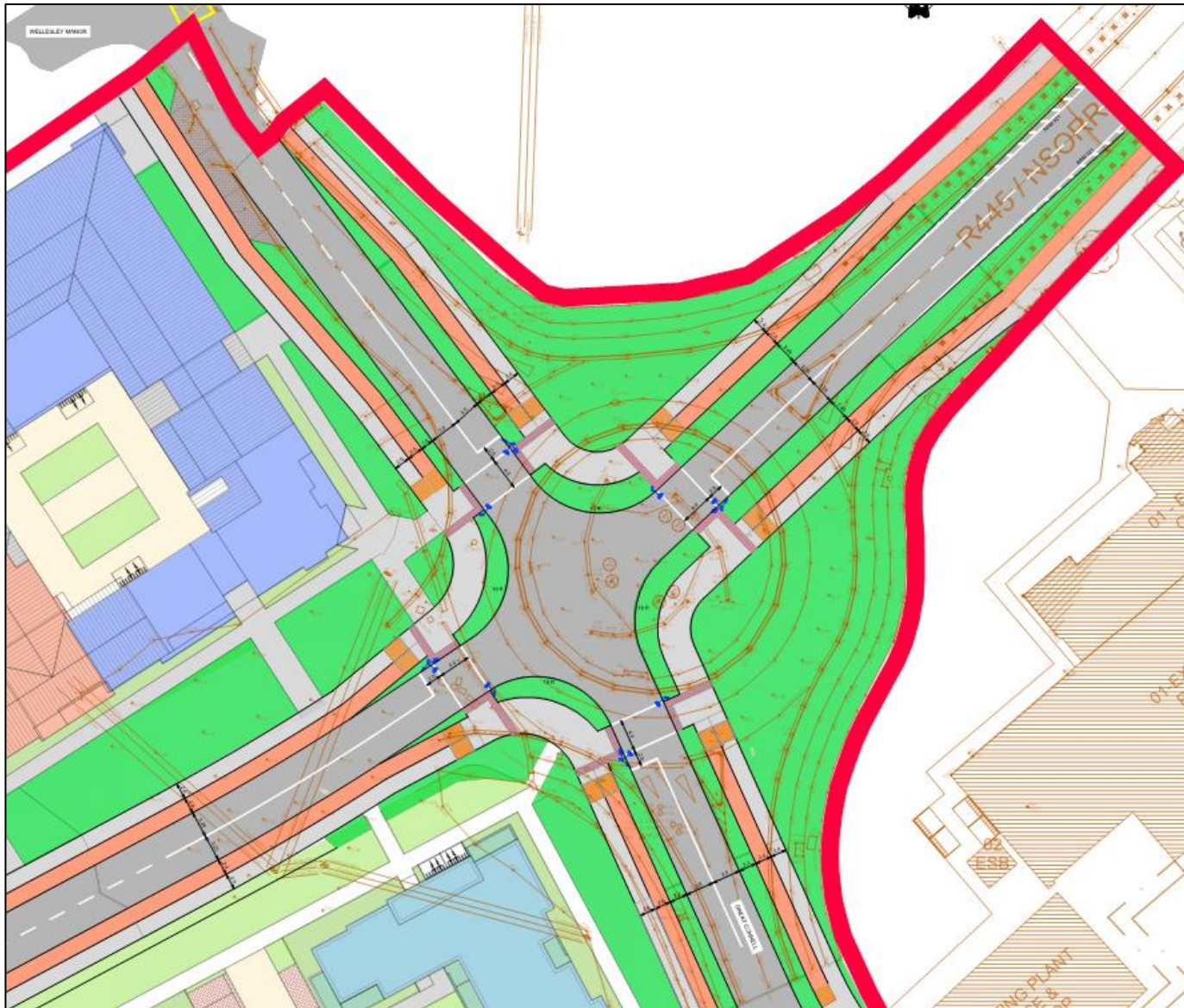


Figure 8-4: Great Connell Roundabout converted to a Signalised Junction (Extract from drawing 192229-PUNCH-XX-XX-DR-C-0431)

For this analysis a Cycle Time of 90 Seconds was used with pedestrians called every cycle. Only Scenarios B & C for the proposed development have been considered as the junction will only be signalised when the development is operational in 2024 when the Ballyfarm Road will be open to the public.

Table 8-3: Summary of Linsig Analysis Results for Great Connell Signalised Junction (refer to Appendix G for full results output)

	Scenario B - No Bridge/ Yes Ballyfarm Road	Scenario C - NSORR Fully Complete
	With Proposed Development	With Proposed Development
Peak Hour Flow	Maximum DOS	Maximum DOS
AM 2024 Opening Year	30%	57%
AM 2029 Design Year	40%	66%
AM 2039 Design Year	42%	71%
PM 2024 Opening Year	21%	48%
PM 2029 Design Year	31%	59%
PM 2039 Design Year	32%	63%

The above analysis predicts that by the Design Year 2039 the proposed signalised junction would be operating within the design threshold (<90% DOS) with the full development in operation during both the AM and PM peak hours for all scenarios. It is proposed to deliver this signalised junction in place of the existing Great Connell Roundabout as part of the proposed development. The detailed design of the signal controls are to be agreed with KCC.

8.1.3 Lidl Distributor Roundabout

Table 8-4 Summary of Junctions 9 Analysis Results for Lidl Distributor Roundabout (refer to Appendix H for full results output)

	Scenario A - No Bridge/No Ballyfarm Road		Scenario B - No Bridge/ Yes Ballyfarm Road		Scenario C - NSORR Fully Complete	
	Without Development	With Proposed Development	Without Development	With Proposed Development	Without Development	With Proposed Development
Peak Hour Flow	Max RFC	Max RFC	Max RFC	Max RFC	Max RFC	Max RFC
AM 2024 Opening Year	48%	52%	44%	45%	41%	44%
AM 2029 Design Year	56%	62%	51%	54%	49%	51%
AM 2039 Design Year	60%	66%	55%	58%	52%	55%
PM 2024 Opening Year	41%	44%	38%	39%	35%	37%
PM 2029 Design Year	47%	52%	44%	46%	40%	44%
PM 2039 Design Year	50%	56%	47%	49%	43%	47%

The Lidl Distributor Roundabout is large enough to be well within the design threshold of RFC<85% in all of the above scenarios explored. The relative impact of the proposed development is also improved with the opening of the NSORR.

The existing roundabout was constructed in 2020 in accordance with current design standards and includes segregated cycle and pedestrian lanes on all existing arms for safe crossing of vulnerable road users, cyclists do not have to join the roundabout carriageway to cross the junction.

8.1.4 The Hall Signalised Junction

It must be noted that the Hall Signalised Junction is operated under a MOVA system which reacts to traffic as it approaches the junction. Existing signal phase/stage information was received from Kildare County Council and inputted into the LinSig model. For this analysis a Cycle Time of 120 Seconds was used with pedestrians called every cycle as per the existing stage/phase timings received from Kildare County Council.

Table 8-5: Summary of LinSig Analysis Results for The Hall Signalised Junction (refer to Appendix I for full results output)

	Scenario A - No Bridge/No Ballyfarm Road		Scenario B - No Bridge/ Yes Ballyfarm Road		Scenario C - NSORR Fully Complete	
	Without Development	With Proposed Development	Without Development	With Proposed Development	Without Development	With Proposed Development
Peak Hour Flow	Maximum DOS	Maximum DOS	Maximum DOS	Maximum DOS	Maximum DOS	Maximum DOS
AM 2024 Opening Year	55%	55%	55%	55%	70%	73%
AM 2029 Design Year	62%	63%	62%	63%	78%	85%
AM 2039 Design Year	67%	67%	67%	67%	87%	95%
PM 2024 Opening Year	50%	50%	50%	50%	61%	65%
PM 2029 Design Year	61%	61%	61%	61%	68%	80%
PM 2039 Design Year	65%	65%	65%	65%	78%	85%

The opening of the Ballyfarm Road section of the NSORR has no impact on the existing signalised junction capacity as development traffic cannot connect to this junction over the River Liffey.

The opening of the Bridge section of the NSORR moves traffic onto this signalised junction due to traffic rerouting from the NSORR. The delivery and opening of the full NSORR is an objective of the Newbridge LAP and Aston Ltd is progressing the remainder of the NSORR delivery as part of this proposed development as well as under a separate planning application (Section 247 Kildare County Council Consultation Reference: PP2559). With the full NSORR in place and the full proposed development in place in 2039 the AM DOS is 95% and PM is 85% (90% is the desired capacity for a signalised junction). This level of service for a signalised junction is considered acceptable in an urban environment. There are always opportunities available for signalised junction improvements in the future on the ground by altering the cycle time to respond to actual traffic loading or by providing on-crossing detectors to improve pedestrian impact on the junction capacity.

8.1.5 St. Conleth Bridge Signalised Junction

As noted in Section 8.1 the proportion of generated development traffic against the existing background traffic at St. Conleth Bridge Signalised Junction is below 5% in both the AM & PM peaks. However, Kildare County Council requested that the junction undergo further capacity modelling to confirm the predicted impact of the proposed development on the junction.

It must be noted that the St. Conleth Bridge Signalised Junction is operated under a SCOOT system which reacts to traffic as it approaches the junction. Existing signal phase/stage information was received from Kildare County Council and inputted into the LinSig model. For this analysis a Cycle Time of 144 Seconds was used with pedestrians called every cycle as per the existing stage/phase timings received from Kildare County Council.

Table 8-6: Summary of LinSig Analysis Results for St. Conleth Bridge Signalised Junction (refer to Appendix J for full results output)

	Scenario A - No Bridge/No Ballyfarm Road		Scenario B - No Bridge/ Yes Ballyfarm Road		Scenario C - NSORR Fully Complete	
	Without Development	With Proposed Development	Without Development	With Proposed Development	Without Development	With Proposed Development
Peak Hour Flow	Maximum DOS	Maximum DOS	Maximum DOS	Maximum DOS	Maximum DOS	Maximum DOS
AM 2024 Opening Year	144%	148%	144%	148%	114%	116%
AM 2029 Design Year	160%	167%	160%	167%	127%	129%
AM 2039 Design Year	173%	179%	173%	179%	137%	139%
PM 2024 Opening Year	129%	132%	129%	132%	96%	99%
PM 2029 Design Year	148%	153%	148%	153%	107%	111%
PM 2039 Design Year	159%	164%	159%	164%	115%	119%

St. Conleth's Bridge signalised junction with the current stage/phase timings is already operating above design capacity in the AM and PM Peaks Opening Year without the proposed development traffic. The opening of the Ballyfarm Road section of the NSORR has no impact on the existing signalised junction as the traffic rerouting from the NSORR does not occur in this scenario.

With the addition of the Phase 1 traffic the DOS increases by a maximum of only 4% in the opening year Scenario B and 3% in Scenario C. With the full development traffic in 2039 the DOS increases by a maximum of only 6% in Scenario B and 4% in Scenario C.

The opening of the bridge section of the NSORR improves the DOS such that it would not reach the existing level of DOS by 2039, even with the full the development traffic added. The relative impact of the proposed development on the existing junction is also improved with the full opening of the NSORR.

As noted previously Aston Ltd is progressing the remainder of the NSORR delivery as part of this proposed development as well as under a separate planning application (Section 247 Kildare County Council Consultation Reference: PP2559) which will expedite the delivery of the full NSORR. Therefore, it is highly likely that the Scenario C results are the improvements that the junction will achieve.

8.1.6 Buckley's Cross

It must be noted that during the below analysis we simulated the queuing at the existing roundabout based on the assumption that the existing roundabout is at theoretical capacity in the current scenario. The modelled queuing is assumed the same for Scenarios A-C even though some improvements with queuing should be experienced with the opening of the NSORR (Scenario C). The results should be viewed more for a comparative assessment of with and without proposed development for the various scenarios.

Table 8-7: Summary of Junctions 9 Analysis Results for Existing Buckley's Cross Roundabout Modelled with Queuing (refer to Appendix K for full results output)

	Scenario A - No Bridge/No Ballyfarm Road		Scenario B - No Bridge/ Yes Ballyfarm Road		Scenario C - NSORR Fully Complete	
	Without Development	With Proposed Development	Without Development	With Proposed Development	Without Development	With Proposed Development
Peak Hour Flow	Max RFC	Max RFC	Max RFC	Max RFC	Max RFC	Max RFC
AM 2024 Opening Year	103%	111%	99%	103%	80%	81%
AM 2029 Design Year	120%	135%	115%	121%	89%	90%
AM 2039 Design Year	129%	144%	123%	129%	96%	98%
PM 2024 Opening Year	80%	88%	77%	81%	57%	59%
PM 2029 Design Year	94%	107%	88%	97%	65%	66%
PM 2039 Design Year	101%	114%	96%	104%	70%	71%

Buckley's Cross Roundabout is above design capacity (>85%RFC) in the Opening Year in the current scenario without any development is place.

With the addition of the Phase 1 traffic the DOS increases by a maximum of only 4% in the opening year Scenario B and 2% in Scenario C. With the full development traffic in 2039 the DOS increases by a maximum of only 8% in Scenario B and 2% in Scenario C.

The opening of Ballyfarm Road improves the existing scenario and the taking in charge of this road is to be furnished by Q2 2022 however the AM Peak is still above the design threshold in the opening year (with Phase 1 development). This level of congestion with Phase 1 development (167 units plus Commercial and Creche) would be considered acceptable in the norms of an urban environment.

When the full NSORR is operational, the capacity of Buckley's Cross Roundabout will be improved, and it will be below the design threshold for roundabout capacity in the PM Peak up to the design Year 2039 and in approximately 2027 (with full development) in the AM Peak. This level of congestion would be considered acceptable in the norms of an urban environment. The relative impact of the proposed development is also improved with partial or full opening of the NSORR. As noted previously Aston Ltd is progressing the delivery of an additional section of the NSORR as part of this proposed development as well as progressing a separate planning application for a section of the NSORR (Section 247 Kildare County Council Consultation Reference: PP2559) which will expedite the delivery of the full NSORR. Therefore, it is highly likely that the Scenario C results are the improvements that the junction will achieve.

It is planned by Kildare County Council to signalise Buckley's Cross in the future therefore we have considered the impact in relation to the proposed development. Figure 8-5 and Appendix L show an indicative layout of a proposed signalised junction design at Buckley's Cross. It should be noted that the design presented below is based on topographical survey from December 2021, and allowances for cycle lanes have been made as the R445 is identified as a primary route in the Strategic Cycle Network Plan for County Kildare. For the analysis of the signal controlled junction, a Cycle Time of 120 Seconds was used with pedestrians called every second cycle. Only Scenarios B & C for the proposed development have been considered as the Ballyfarm Road will be open to the public in Q2 2022.

Buckley's Cross will be required to be signalised prior to the completion of Phase 2 of the development works as per with agreement with Kildare County Council. Refer to Appendix N for letter from Kildare County Council.

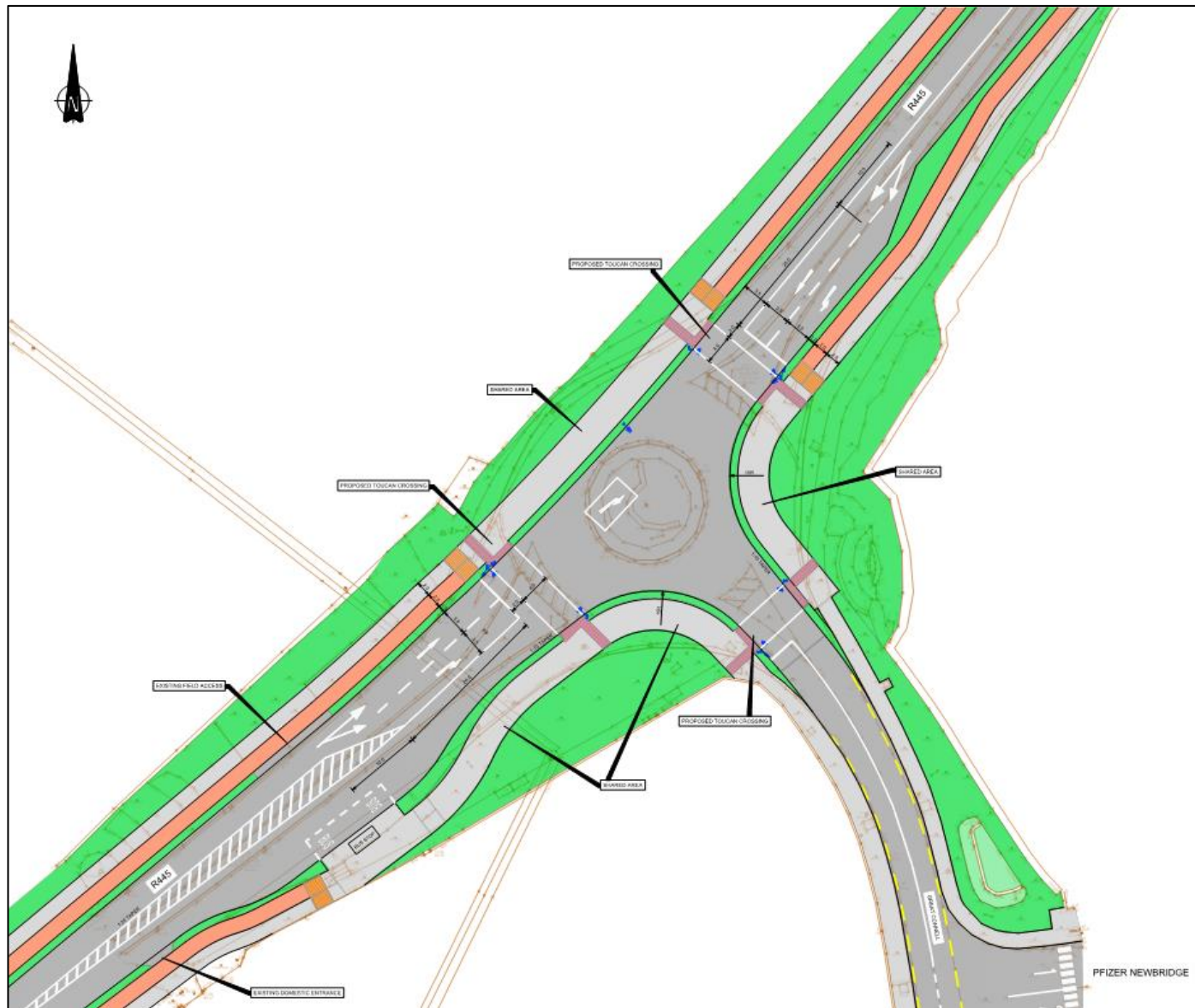


Figure 8-5: Buckley's Cross Indicative Layout of Proposed Signalled Junction (Extract from drawing 192229-PUNCH-XX-XX-DR-C-0432)

Table 8-8: Summary of LinSig Analysis Results for proposed Buckley's Cross Signalised Junction (refer to Appendix M for full results output)

	Scenario B - No Bridge/ Yes Ballyfarm Road	Scenario C - NSORR Fully Complete
	With Proposed Development	With Proposed Development
Peak Hour Flow	Maximum DOS	Maximum DOS
AM 2024 Opening Year	74%	56%
AM 2029 Design Year	87%	62%
AM 2039 Design Year	93%	67%
PM 2024 Opening Year	70%	41%
PM 2029 Design Year	85%	46%
PM 2039 Design Year	93%	49%

It is possible to provide a signalised junction of Buckley's Cross that would be at design capacity for both design scenarios up to the Design Year 2039 with the existing levels of traffic accounted for. With the addition of the full Aston Lands development traffic the design capacity is within the norms of urban development.

When the full NSORR is operational, the capacity of Buckley's Cross Signalised Junction would be improved, and it would be well below the design threshold for junction capacity (max DOS in the design year 2039 of 67%). As noted previously Aston Ltd is progressing the delivery of an additional section of the NSORR as part of this proposed development as well as progressing a separate planning application for a section of the NSORR (Section 247 Kildare County Council Consultation Reference: PP2559) which will expedite the delivery of the full NSORR. Therefore, it is highly likely that the Scenario C results are the improvements that the junction will achieve if signalised.

It is proposed that Kildare County Council would complete a detailed design and deliver this signalised junction if the progression of the River Liffey Bridge Crossing via the NSORR cannot be fulfilled following Phase 1 (167 units plus Commercial and Creche) operation. Contributions and timeframe have been agreed with Kildare County Council and with Aston Ltd. for the implementation of this signalised junction.

8.1.7 Analysis Summary

1. Ballyfarm Road will be taken in charge by Kildare County Council in Q2 2022. Scenario A (where Ballyfarm Road is not open) is only included in the results above to prove the impact of the partial/full opening of the NSORR.
2. As noted previously Aston Ltd is progressing the delivery of an additional section of the NSORR as part of this proposed development as well as progressing a separate planning application for a section of the NSORR (Section 247 Kildare County Council Consultation Reference: PP2559) which will expedite the delivery of the full NSORR. Therefore, it is highly likely that the Scenario C results for each junction are the most appropriate results for the entire network analysis.
3. The Great Connell Roundabout and Lidl Distributor Roundabout are large enough to cater for the proposed development traffic into the design year of 2039 and are well within the design threshold of RFC<85% for all of the scenarios considered.
4. The Lidl Distributor Roundabout existing design has segregated cycle and pedestrian lanes on all arms for safe crossing of vulnerable road users, cyclists do not have to join the roundabout carriageway. No improvements are proposed.
5. It is proposed to alter the Great Connell junction from a roundabout to a signalised junction in order to improve the safety for vulnerable road users. Aston Ltd will deliver this upgrade as part of the proposed development.
6. Whilst the capacity of Buckley's Cross Roundabout is above the design standards at operation of Phase 1 (167 units plus Commercial and Creche) when the Ballyfarm Road is operational, the level of congestion is commensurate with that to be generally expected in urban areas. The opening of the proposed bridge section of the NSORR further improves the capacity of the roundabout. Aston Ltd have commenced the proposed planning application for the extended road and bridge through Kildare County Council. Kildare County Council are actively seeking funding for the bridge construction, and it is reasonable to assume that the bridge could be open within the Design Year 2029. An alternative signalised junction design of Buckley's Cross has been provided which improves capacity for all scenarios if the bridge cannot be progressed. The works to signalise this junction will be completed by Kildare County Council with an agreement for appropriate contributions to be made with Aston Ltd.
7. The Hall signalised junction works harder once the bridge section of the NSORR is opened but it is still considered an acceptable design capacity and within the norms of an urban environment for all of the scenarios considered.
8. The St. Conleth Bridge signalised junction is already operating above design capacity without the proposed development traffic. With the addition of the Phase 1 traffic the DOS increases by a maximum of only 4% in the opening year and 6% in the 2039 design year with the full development traffic. The opening of the Ballyfarm Road section of the NSORR has no impact on the existing signalised junction as the traffic rerouting from the NSORR does not occur in this scenario. The opening of the bridge section of the NSORR improves the DOS such that it would not reach the existing level of DOS by 2039, even with the full the development traffic added.
9. It is considered that in urban areas a certain level of congestion is to be expected during peak times.
10. The results should be viewed more for a comparative assessment of with and without the proposed Aston Lands development which is deemed to be low in all scenarios.
11. The assessment is consistent with the submissions of Kildare County Council and the determination of An Bord Pleanála on the Vacant Site appeal under ABP Reference: Inspectors Report ABP-303069-18 where ABP noted that the existing road network is adequate to support housing on the site and that the delivery of the NSORR would not prevent or delay the provision of housing on the site.

Table 8-9: Worst Case Summary 2039 Results all Surrounding Junctions

	Scenario A - No Bridge/No Ballyfarm Road		Scenario B - No Bridge/ Ballyfarm Road		Scenario C - NSORR Fully Complete	
Junction	2039 Without Development RFC/DOS	2039 With Development RFC/DOS	2039 Without Development RFC/DOS	2039 With Development RFC/DOS	2039 Without Development RFC/DOS	2039 With Development RFC/DOS
Great Connell Roundabout	24%	24%	23%	24%	29%	30%
Great Connell Signalised (Proposed 90 second cycle time)	-	-	-	42%	-	71%
Lidl Distributor Roundabout	60%	66%	55%	58%	52%	55%
The Hall Signalised Junction (Existing 120 second cycle time)	67%	67%	67%	67%	87%	95%
Conleth Bridge Signalised Junction (Existing 144 second cycle time)	173%	179%	173%	179%	137%	139%
Buckley's Cross Roundabout	129%	144%	123%	129%	96%	98%
Buckley's Cross Proposed Signalised Junction (Proposed 120 second cycle time)	-	-	-	93%	-	67%

In summary, all of the junctions assessed function within capacity without the full delivery of the NSORR (with the exception of St Conleth's Bridge and Buckley's Cross which are already operating above design thresholds). The maximum impact of the proposed development is +6% at all junctions assessed without the full NSORR in place. The proposed development is therefore considered not to be reliant on the delivery of the full NSORR.

The delivery of the full NSORR improves the already congested junctions and reduces the proposed development impact to only +2% at both of those junctions. Aston Ltd is progressing the remainder of the NSORR delivery as part of this proposed development as well as under a separate planning application (Section 247 Kildare County Council Consultation Reference: PP2559) which will expedite the delivery of the full NSORR. Therefore, it is highly likely that the Scenario C results for each junction are the most appropriate results for the entire network analysis.

9 Road Safety

A Road Safety Audit for the development will be undertaken and supplied as a separate report. The Road Safety Authority provides collision statistics online for Irish roads.

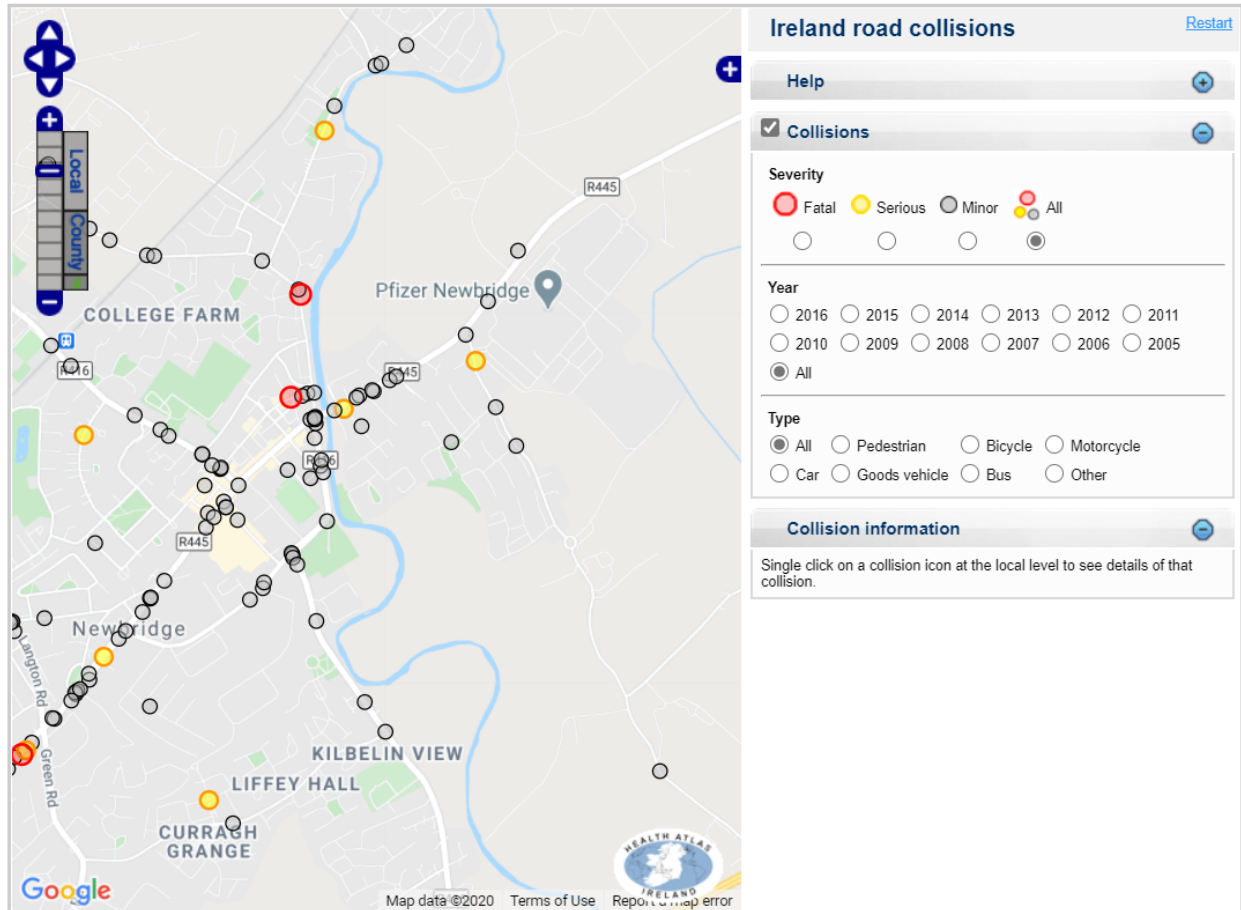


Figure 9-1 Road Safety Statistics adjacent to the development site available at:
<https://www.rsa.ie/en/RSA/Road-Safety/RSA-Statistics/Collision-Statistics/Ireland-Road-Collisions/>

10 Internal Layout

The layout of the proposed development is detailed in the architect and landscape architect's drawings submitted as part of this application. Connectivity of pedestrians and cyclist to adjacent lands is prominent on the site layout. Refer to PUNCH Mobility Management Plan (192229-PUNCH-XX-XX-RP-C-0006) included in the planning documentation which shows the site connectivity with the surrounding land and town centre.

10.1 DMURS

The roads layout together with pedestrian and cycle facilities for the site have been developed considering the design principles set out in the Design Manual for Roads and Streets (2019). A DMURS Compliance Statement (192229-PUNCH-XX-XX-RP-C-0005) for the proposed development is included in the planning documentation.

10.2 Site Access Layout

10.2.1 Primary Site Access

As noted previously, it is proposed to access the site primarily via the western arm off the Great Connell Roundabout which will be upgraded to a signalised junction in order to improve safety for vulnerable road users. A portion of the NSORR is to be constructed in conjunction with the upgrading of the Great Connell Roundabout to a signalised junction.

With the completion of the remainder of the NSORR Road and Bridge, to be submitted separate to this application, access will also be provided via the Hall Signalised Junction to the east.

10.2.2 Secondary Site Access

A secondary access point is also proposed via linkages to the Wellesley Manor Development to the north of the site. This access is principally intended to facilitate pedestrian and cyclist permeability between the proposed development and the Wellesley Manor Development.

10.3 Newbridge South Orbital Relief Road (NSORR)

The proposed development includes 350m of the NSORR. The carriageway width is to be 6.5m along the section of the NSORR with 2m wide cycleways and 2m wide footways either side.

10.4 Internal Street Layout

The proposed development internal street layout is to comprise of main access roads and local roads. This includes for 6m carriageway on the main access roads along with 2m wide footpaths either side, and 5.5m wide carriageway on the local roads along with 2m wide footpaths either side.

10.5 Visibility Splays

The site layout has been developed to provide adequate turning provision and fire tender access. Forward visibility and visibility splays have been provided on the basis of the requirements of Sections

4.4.4 and 4.4.5 of the DMURS manual. Compliance with the requirements is set out on PUNCH drawings 192229-PUNCH-XX-XX-DR-C-0625-629.

10.6 Vehicle Manoeuvring

Autotrack analysis has been undertaken to ensure there are no issues with swept paths and manoeuvrability of fire appliances, refuse vehicles, buses and other heavy goods vehicles on the proposed development site layout. Compliance with the requirements is set out on PUNCH drawings 192229-PUNCH-XX-XX-DR-C-0600-0613.

11 Parking

11.1 Car Parking

Car parking serving the apartments in the development is provided in accordance with the guidance for *Peripheral and/or Less Accessible Urban Locations* in the Design Standards for New Apartments (2018) section 4.22. Car parking serving the houses, creche and neighbourhood/commercial centre are provided in accordance with the Kildare County Council Development Plan (2021) 'Table 17.9'

The applicable car parking standards are noted in Table 11-1 to below:

Table 11-1: Design Standards for New Apartments: *Peripheral and/or Less Accessible Urban Locations* Car Parking Requirement

Development type	GFA m2	No. of Units	Requirement	Total	Total Provided
Apartment	-	244	1 space per unit + 1 visitor space per 4 units	305	312
Total				305	312

Table 11-2: Kildare County Council Development Plan Car Parking Requirement for Residential

Development type	GFA m2	No. of Units	Requirement	Total	Total Provided
House	-	325	2 spaces per unit	650	650

Table 11-3: Kildare County Council Development Plan Car Parking Maximum for Neighbourhood Centre

Neighbourhood Centre	GFA m2	No. of Units / Children	Maximum Provision	Total Maximum	Total Provided
Creche	-	10 staff 154 children	0.5 per staff member plus 1 per 4 children	43	46
Convenience (unit 1)	909	-	1 space per 20 sq.m gross floor area	45	
Convenience (units 2,3,5,10,11)	532	-	1 space per 20 sq.m gross floor area	27	
Clinic / Group Medical Practices (Doctor/Dentist/Physio units 6,7,8)	330	5 consulting rooms	2 spaces per consulting room	10	
Café & Restaurant (units 4 & 9)	338	-	1 space per 10 sq.m	34	
Total				159	46

Table 11-4: Summary Car Parking Provision for Proposed Development

Development type	Total Provided
Residential	962
Commercial	46
Total	1,008

It is proposed to provide 1,008 car parking spaces on the development site, which is slightly lower than the combined max requirements of the above tables of 1,114 spaces. The full designation of residential car parking will be provided for each house/apartment.

The Kildare County Council development plan allows for a maximum 159 no. spaces at the neighbourhood centre. The 46 no. proposed spaces satisfy 29% of the maximum requirement which is in accordance with the Development Plan guidance stating that this maximum should not be a target figure.

This car parking provision is aimed at reducing the additional traffic loading in the area and is deemed appropriate at the neighbourhood centre for the following reasons:

1. The variety of sustainable travel options available for the local residents; such as walking or cycling within and surrounding the development.
2. The nature of the uses of the site and likely durations of stays.
3. The proximity to both the proposed and existing housing in the locality and the nearby industrial and warehousing zoning within walking / cycling distance.
4. The abundant pedestrian and cyclist linkages to the proposed and existing developments.

The car parking area around the neighbourhood centre will have a number of shared spaces for each use. The breakdown of car parking allocation is displayed on architectural drawing PA-011.

The 'standard' parking spaces will be demarcated with white lines. All car parking spaces will be 2.5m by 5m, with disabled spaces providing an additional width and length of 1.2m.

A number of "non-standard" spaces are provided at the neighbourhood centre as shown below in Figure 11-1.

- 1 no. space will be allocated for car sharing such as GoCar to facilitate short term and or occasional car users. Refer to Section 3.7 for further information.
- 5% of the total number non-residential spaces will be designated disabled user car-parking spaces. The disabled spaces are to be demarcated with yellow lines, a protected hatched area and appropriate road markings to identify these spaces. The proposed location of the disabled parking spaces will be in close proximity to the building entrances. 4 no. disabled spaces shall be provided.
- Electric Vehicle Charging Points (EVCP) will be provided for as per the Kildare County Council Development Plan standards i.e. 10% through the provision of 5no. spaces. All houses shall be provided with electric vehicle charging points.



11.2 Cycle Parking

Cycling is to be significantly encouraged as part of the development. Cycle parking serving the proposed development is provided in accordance with the Kildare County Council Development Plan 'Table 17.10. The applicable cycle parking standards are noted in Table 11-5 below:

Table 11-5: Kildare County Council Cycle Parking Space Requirements

Neighbourhood Centre	GFA m2	No. of Units / Children	Minimum Provision	Total Minimum
Creche	-	10 staff 154 children	1 space per 5 staff + 1 space per 10 children	17
Convenience (unit 1)	909	-	1 space per 100 sq.m gross floor area	9
Convenience (units 2,3,5,10,11)	532	-	1 space per 2 car spaces	14
Clinic / Group Medical Practices (Doctor/Dentist/Physio units 6,7,8)	330	5 consulting rooms	1 per 5 staff + 0.5 per consulting room	5
Café & Restaurant (units 4 & 9)	338	-	1 space per 30 sq.m public floor space	7
Total				52

Cycle parking serving the apartments in the development is provided in accordance with the Design Standards for New Apartments (2018) section 4.17.

Table 11-6: Design Standards for New Apartments: Peripheral and/or Less Accessible Urban Locations
Car Parking Requirement

Unit type	Residential requirement per bedroom	Visitor requirement per unit	No of units	No of bedrooms	Residential requirement	Visitor requirement
1 bed Apartment	1	0.5	17	17	17	9
2 bed Apartment	1	0.5	135	270	270	68
3 bed Apartment	1	0.5	76	228	228	38
Totals			228	505	515	115
Total Apartment Requirement						630

Table 11-7: Summary Cycle Parking Provision for Proposed Development

Development type	Long Stay Provided	Short Stay Provided	Total Provided	Total Required
Apartments	536	134	670	630
Commercial			40	35
Creche			22	17
Total			732	682

Refer to the PUNCH Outline Mobility Management Plan (192229-PUNCH-XX-XX-RP-C-0006) included in the planning documentation for further information on provisions for cyclists within the proposed development.

12 Summary and Conclusion

1. The proposed development is a residential scheme comprising of 569 no. residential units, including a mix of apartments and houses, in addition to a proposed childcare facility/creche and neighbourhood centre/commercial building.
2. Traffic surveys of the requested relevant junctions for analysis were completed in November 2021.
3. For the purposes of our assessment, the adjacent residential trip rates (Planning Reference: 18302141) were used for the proposed residential development traffic and the TRICS database was consulted to provide an equivalent trip rate for the proposed commercial development site.
4. It is proposed to access the proposed residential development from the existing Great Connell Roundabout which will be signalised as part of this development in order to improve the safety of vulnerable road users in the area.
5. The Ballyfarm Road will be taken in charge by Kildare County Council in Q2 2022. The remainder of the NSORR to the north of (Oakgate/Lidl section) will also be taken in charge at this time Q2 2022.
6. The proposed development will deliver a section of the Newbridge Southern Outer Orbital Relief Road (NSORR) from Great Connell Road to the furthest access point within the development site along the new road. The remainder of the NSORR delivery is being progressed by Aston Ltd as part of a separate planning application (Section 247 Kildare County Council Consultation Reference: PP2559). Aston Ltd has taken on this element in order to expedite the approval process and ensure that the connection can be made in a shorter timeframe than if Kildare County Council were to progress under public procurement. These two elements together will enable the completion of the NSORR objective identified in the Newbridge LAP.
7. Capacity analysis was carried out on a number of surrounding existing junctions for a number of different scenarios relating to the delivery of the NSORR. In summary, all of the junctions assessed function within capacity without the full delivery of the NSORR (with the exception of St Conleth's Bridge and Buckley's Cross which are already operating above design thresholds). The maximum impact of the proposed development is +6% at all junctions assessed without the full NSORR in place. The proposed development is therefore considered not to be reliant on the delivery of the full NSORR. The delivery of the full NSORR improves the already congested junctions and reduces the proposed development impact to only +2% in the worst case design year 2039 at both of those already congested junctions.
8. An option to provide a signalised junction in place of Buckley Cross Roundabout has been presented. These works will be progressed by Kildare County Council with contributions and timeframe agreed with Kildare County Council and Aston Ltd if the delivery of the NSORR cannot be progressed following the Phase 1 development of this SHD.
9. Car and cycle parking spaces for the proposed development have been provided to meet the requirements set out in the Kildare County Council Development Plan and Design Standards for New Apartments Guidelines for Planning Authorities.

Appendix A Tri Partite Meeting Comments & PUNCH Responses

Tri Partite Meeting Comments

This section of the report addresses the Traffic and Transportation Items raised in the ABP Notice of Pre-Application Consultation Opinion issued following the ABP Tri Partite meeting which took place online on 22nd October 2021.

An Bord Pleanála Notice of Pre-Application Consultation Opinion - Item 1

1. Traffic and Transport

Further consideration and/or justification of the documents as they relate to the traffic and transport provision. The submitted documentation should address the requirements of the Newbridge Local Area Plan 2013-2019 (as extended) for the delivery of the Newbridge Southern Outer Orbital Relief Road (NSOORR) and Compliance with Objective SRO5a. Regards should be given to the submission of a Traffic and Transport Assessment, including inter alia, potential scenarios with and without the bridge, capacity of the surrounding junction and the impact of the proposed development on the surrounding road network. Plans and particulars should clearly indicate compliance with the required upgrades stated in the Transport Section Report, including any third –party consents required for the works, the need for signalised junctions in the vicinity of the site and the DMURS standards for the internal network.

PUNCH Response

Consultation was undertaken with Kildare County Council Roads, Transportation & Public Safety Department on numerous occasions throughout 2021 via meetings (see main meeting dates below) and email correspondence to allow them to express their views/comments regarding the proposed development prior to the submission of the planning application.

1. 23 March 2021 –Preplanning Meeting - Kildare County Council Consultation Reference: PP5026
2. 15th April 2021- Kildare County Council Roads, Transportation & Public Safety Department
3. 22nd October 2021 – SHD Pre-Application 311390 – Tripartite Meeting
4. 1st March 2022 – Pre-Planning meeting for road and bridge application for remainder of NSORR - Section 247 Kildare County Council Consultation Reference: PP2559

The finalised TTA has taken due account of the comments received from Kildare County Council throughout the design development of this SHD project and we note in particular:

1. The TTA has been carried out in accordance with TII's Traffic and Transport Assessment Guidelines PE-PDV-02045 (May 2014) and adheres to the recommendations of the Design Manual for Urban Roads & Streets (DMURS).
2. Access to the proposed residential development will be from the existing Great Connell Roundabout. This junction will be upgraded to a signalised junction as part of this SHD development in order to improve the safety of vulnerable road users in the area.
3. The proposed development will deliver a 350m section of the Newbridge Southern Orbital Relief Road (NSORR) from Great Connell Road to the furthest access point within the

development site along the new road. The remainder of the NSORR delivery is being progressed by Aston Ltd as part of a separate planning application (Section 247 Kildare County Council Consultation Reference: PP2559). Aston Ltd has taken on this element in order to expedite the approval process and ensure that the connection can be made in a shorter timeframe than if Kildare County Council were to progress under public procurement. These two elements together will enable the completion of the NSORR objective (SRO5a) identified in the Newbridge LAP.

4. The Ballyfarm Road will be taken in charge by Kildare County Council in Q2 2022. The remainder of the NSORR to the north of (Oakgale/Lidl section) will also be taken in charge at this time Q2 2022.
5. Capacity analysis was carried out on a number of surrounding existing junctions for a number of different scenarios relating to the delivery of the NSORR. In summary, all of the junctions assessed operate within capacity without the full delivery of the NSORR (with the exception of St Conleth's Bridge and Buckley's Cross which are already operating above design thresholds). The maximum impact of the proposed development is +6% at all junctions assessed without the full NSORR in place. The proposed development is therefore considered not to be reliant on the delivery of the full NSORR. The delivery of the full NSORR improves the already congested junctions and reduces the proposed development impact to only +2% at both of those junctions.
6. An option to provide a signalised junction in place of Buckley Cross Roundabout has been presented. These works will be progressed by Kildare County Council with contributions and timeframe agreed with Kildare County Council and Aston Ltd.

Kildare County Council SHD Stage 2 Opinion (SHD202105)

Transport Section Report Recommendations

The KCC Roads, Transportation & Public Safety Department has examined the information it received in relation to the proposed Strategic Housing Development and requires further details to provide a complete technical assessment and accordingly has the following comments:

Kildare County Council Transport Recommendation

1. The applicant is to note it is the view of the Kildare County Council that it is an absolute necessity the completed section of the Newbridge South Orbital Relief Road (NSORR) to the east of the development site is fully opened prior to the construction phase should this Strategic Housing Development receive a grant of planning permission. This is to minimize traffic disruption and congestion on the existing public road network allowing traffic to access the R445 Regional Road and M7 Motorway east of Newbridge during the construction phase and once the development is completed and occupied. The applicant is requested to confirm the opening date of this section of the NSORR.

PUNCH Response

Noted. The Applicant can confirm that the completed section of the NSORR, known as Ballyfarm Road, will be taken in charge by Kildare County Council in Q2 2022 prior to the construction phase should this Strategic Housing Development receive a grant of planning permission.

Kildare County Council Transport Recommendation

2. The applicant is to note it is the view of the Kildare County Council that it is an absolute necessity to provide the full length of the Road Objective within the red line of the development site and a bridge crossing over the River Liffey in order to prevent traffic disruption on the public road network east of the River Liffey in order to avoid excessive traffic disruption and congestion in this area due to the development's quantity of 606 no. residential units and commercial neighbourhood centre.

PUNCH Response

Noted. The proposed development will deliver a 350m section of the Newbridge Southern Orbital Relief Road (NSORR) from Great Connell Road to the furthest access point within the development site along the new road. The remainder of the NSORR delivery is being progressed by Aston Ltd as part of a separate planning application (Section 247 Kildare County Council Consultation Reference: PP2559). Aston Ltd has taken on this element in order to expedite the approval process and ensure that the connection can be made in a shorter timeframe than if Kildare County Council were to progress under public procurement (Estimated time save is that a period of 9 years as estimated by Kildare County Council can be reduced to 4 years by Aston Ltd obtaining planning permission). These two elements together will enable the completion of the NSORR objective (SRO5a) identified in the Newbridge LAP.

The completed section of the NSORR, known as Ballyfarm Road, will be taken in charge by Kildare County Council in Q2 2022 prior to the construction phase should this Strategic Housing Development receive a grant of planning permission.

Capacity analysis was carried out on a number of surrounding existing junctions for a number of different scenarios relating to the delivery of the NSORR. In summary, all of the junctions assessed operate within capacity without the full delivery of the NSORR (with the exception of St Conleth's Bridge and Buckley's Cross which are already operating above design thresholds). The maximum impact of the proposed development is +6% at all junctions assessed without the full NSORR in place. The proposed development is therefore considered not to be reliant on the delivery of the full NSORR. The delivery of the full NSOORR improves the already congested junctions and reduces the proposed development impact to only +2% in the worst case design year 2039 at both of those already congested junctions.

An option to provide a signalised junction in place of Buckley Cross Roundabout has been presented. These works will be progressed by Kildare County Council (with contributions to be agreed with Aston Ltd).

Kildare County Council Transport Recommendation

- a. The applicant is requested to provide a detailed design that is to indicate lines of sight and corner radii at junctions, longitudinal gradients / vertical and horizontal curvature for the Road Objective SR05 (a) to be in accordance with the Design Manual for Urban Roads and Streets (DMURS) 2019. All manhole covers and frames shall not be located in the wheel track of the main carriageway of the Road Objective. E600 manhole covers and frames with a 150mm deep frame shall be used for both foul and surface water manholes located on the main carriageway of the Road Objective. This is having consideration to the projected high volumes of traffic that will use the fully opened Road Objective in order to avoid rocking of manhole covers from vehicular traffic.

PUNCH Response

Noted. The proposed development will deliver a 350m section of the Newbridge Southern Orbital Relief Road (NSORR) from Great Connell Road to the furthest access point within the development site along the new road. Junction radii, longitudinal gradients and vertical/horizontal curvature meet the requirements set out in the Design Manual for Urban Roads and Streets (DMURS) 2019 and are included on the drawings supporting this planning application. E600 manhole cover and frame are included on the standard detail drawings supporting the planning application. The alignment of foul and surface water sewers along the NSORR has been optimised to avoid, as far as practicable, locating manholes in the wheel tracks on the main carriageway.

A Stage 1 Road Safety Audit, appropriate for Planning Stage of Design, has been carried out in accordance with the requirements of TII Publication Number GE-STY-01024 (Dec 2017) by Bruton Consulting Engineers and is included in support of this SHD planning submission. The road safety measures recommended have been adopted and will be implemented at detailed design stage.

Kildare County Council Transport Recommendation

- b. The surface water runoff collection, attenuation and disposal system for the Road Objective is to be completely separate to that serving the proposed residential development. This shall be in accordance with the Greater Dublin Strategic Drainage Study (GDSDS) and the recommendations pertaining to Sustainable Urban Drainage Systems (SUDs). The locations of lockable gullies are to be indicated as part of the design. This design shall also demonstrate the manner in which surface water runoff is collected and prevented from being discharged onto the Road Objective from the roads to serve the proposed residential development.

PUNCH Response

Noted. A separate surface water run-off collection, attenuation and disposal system has been provided for the NSORR. The surface water design is in accordance with GDSDS and The SuDS Manual (CIRIA 753). Lockable Gully locations are indicated on the drawings supporting this planning application. The roads serving the Residential Scheme are drained entirely separately to the NSORR. The roads generally have 125mm high kerbs which will prevent run-off from any roads adjoining the NSORR discharging surface water run-off onto the NSORR.

Kildare County Council Transport Recommendation

- c. The Road Objective embankment is to be constructed using Class 1 or Class 2C fill with a design CRB \geq 2.5%. This would permit the use of a 150mm subbase over a minimum of 600mm of capping layer.

PUNCH Response

Noted. Refer to drawing 192229-PUNCH-XX-XX-DR-0553 for NSORR Road Cross-Section indicating earthworks build-ups.

Kildare County Council Transport Recommendation

- d. Finished road levels are to be indicated in the design for the full length of the overall Road Objective providing existing road levels on the L-2028 local road, a detailed design for the bridge crossing the River Liffey and the horizontal and vertical alignment with the section of the Road Objective under construction under construction at Kilbelin by Ardstone Homes Ltd / Glenveagh Properties PLC pursuant to the planning permission register reference: 18/302141. The applicant is requested to liaise with Ardstone Homes Ltd/ Glenveagh Properties PLC in respect of this.

PUNCH Response

Noted. The proposed development will deliver a 350m section of the Newbridge Southern Orbital Relief Road (NSORR) from Great Connell Road to the furthest access point within the development site along the new road. The finished road levels for this section of the NSORR are indicated on drawings 192229-PUNCH-XX-XX-DR-0411 and 192229-PUNCH-XX-XX-DR-0414.

The remainder of the NSORR delivery is being progressed by Aston Ltd as part of a separate planning application (Section 247 Kildare County Council Consultation Reference: PP2559). Aston Ltd has taken on this element in order to expedite the approval process and ensure that the connection can

be made in a shorter timeframe than if Kildare County Council were to progress under public procurement. These two elements together will enable the completion of the NSORR objective (SRO5a) identified in the Newbridge LAP.

Kildare County Council Transport Recommendation

- e. The cycle tracks on the Road Objective SR05 (a) are to be in accordance National Transport Authority's National Cycling Manual pertaining to widths and signage, the location of lighting standards and signs, the avoidance of obstructions and the re-establishment of a cyclist's position on-road

PUNCH Response

Noted. The cycle tracks provided on the NSORR for planning stage are in accordance with the National Transport Authority's National Cycling Manual. At detailed design stage, the developed design and drawings will ensure that the cycle tracks widths and signage, the location of lighting standards and signs, the avoidance of obstructions and the re-establishment of a cyclist's position on-road fully meet the requirements of the National Transport Authority's National Cycling Manual.

Kildare County Council Transport Recommendation

- f. Mitigation measures in order to prevent speeding on the Road Objective

PUNCH Response

Noted. The designated Design Speed for the NSORR will be 50kph. The horizontal and vertical curvature along the NSORR has been designed in accordance with DMURS to allow for a design speed of 60kph which is compatible with the proposed speed limit of 50kph. In Section 4.1.2 'Self-Regulating Streets' of DMURS research has shown how the provision of relatively tight vertical and horizontal curvature, together with the street characteristics of close proximity of buildings, active ground floor use and pedestrian activity will have a self-regulating impact on drivers resulting in lower speeds.

Kildare County Council Transport Recommendation

- g. Permeability links from the Road Objective to the Liffey Linear Park.

PUNCH Response

Noted. Permeability links are provided from the NSORR to the Liffey Linear Park. Refer to Architect and Landscape drawings for further details.

Kildare County Council Transport Recommendation

- h. The design of the Road Objective is to have full consideration to the "Guidelines for the Treatment of Noise and Vibration in National Road Schemes" 2004 and the "Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes" March 2014 in meeting a day-evening-night sound level of 60 dB Lden (free-field residential façade criterion) for the Road Objective having a speed limit of 50 km/h.

PUNCH Response

Noted. An Environmental Impact Assessment Report (EIAR) has been prepared in support of this SHD Planning Application. The EIAR has assessed the noise impact of the proposed development on the surrounding environment. Noise mitigation measures such as noise barriers will be introduced into the detailed design stage of the NSORR road scheme where appropriate.

Kildare County Council Transport Recommendation

- i. The design of the Road Objective shall ensure proposed residential development, crèche and neighbourhood centre shall not be exposed to Lden noise levels in excess of 70 dB (A) and Lnight noise levels in excess of 57 dB (A) as the Road Objective incorporating a bridge crossing the River Liffey will qualify as a "Major Road" pursuant to the European Communities Environmental Noise Regulations 2018, S.I. No. 549/2018 once fully operational. The detailed design is to incorporate noise amelioration/mitigation measures and the omission/ relocation of development set back from the Road Objective in achieving this.

PUNCH Response

Noted. An Environmental Impact Assessment Report (EIAR) has been prepared in support of this SHD Planning Application. The EIAR has assessed the noise impact of the proposed development on the surrounding environment. Noise amelioration/mitigation measures such as noise barriers will be introduced into the detailed design stage of the NSORR road scheme where appropriate.

Kildare County Council Transport Recommendation

3. In conjunction with item 2 d and 2 e. set out in the foregoing, the applicant is requested to submit an Acoustic Design Statement for the Road Objective having 3 million vehicle passages + per annum as it will qualify as a "Major Road" pursuant to the European Communities Environmental Noise Regulations 2018 S.I. No. 549 / 2018 once the Road Objective is fully open and operational. This Acoustic Design Statement is to contain noise amelioration / mitigation measures (as required) and demonstrate the following:

- a. The predicted post mitigation Lden noise levels at 1.5 metres above ground level and 1.5 metres above all floor levels are below the 70 dB (A) Lden threshold of the Kildare County Council Third Noise Action Plan 2019-2023 so as not to negatively impact on the useability of open space (both public and private) and the ability of future residents to have patio doors / Windows open during the summer months. Predicted noise level contours are to be indicated on Site Layout Plan drawings at scales of 1:500.
- b. The predicted post mitigation Lnight noise levels at 1.5 metres above all floor levels are below the 57 dB (A) Lnight threshold of the Kildare County Council Third Noise Action Plan 2019-2023. Predicted noise level contours are to be indicated on Site Layout Plan drawings at scales of 1:500.
- c. The predicted internal noise levels of the proposed residential units to be in accordance with the recommended indoor ambient noise levels for a dwelling as prescribed under the British Standards BS 8233:2014. This is also to have an assessment with regard to opening

windows at night (in summer months) and the impact on internal ambient noise levels. This assessment shall also provide an estimate the approximate number of LaFmax events from 11 pm to 7.00 am having regard to potential sleep disturbance.

d. The statement is to incorporate noise amelioration / mitigation measures and the omission / relocation of development set back from the Road Objective in achieving compliance with the Lden and Lnight thresholds. Noise amelioration / mitigation measures and the omission / relocation of development set back from the Road Objective are to be indicated on Site Layout Plan drawings at scales of 1:500.

e. A concluding statement for the overall development indicating full compliance with the Kildare County Council Third Noise Action Plan 2019-2023 and the British Standards BS 8233:2014.

PUNCH Response Item 3a to 3e

Noted. An Acoustic Design Statement has been prepared by the Environmental Consultant and is included with the EIAR in support of this SHD Planning Application.

Kildare County Council Transport Recommendation

4. The applicant is requested to submit a detailed design for the proposed Toucan Crossing on Road Objective in accordance with current standards. The Toucan Crossing is to be in accordance with Kildare County Council's required specifications including:

- a. Details of traffic signals.
- b. The controller to have ELV and LED signals.
- c. The Installation of CCTV camera and pole at the junction to assist monitor relief of traffic flows.
- d. Road markings and signs to be in accordance with the Department of Transport, Tourism and Sport (DTTAS) Traffic Signs Manual.
- e. The Toucan Crossing is not to be ramped on the Road Objective.

The applicant is requested liaise with the Traffic Management Section of Kildare County Council in regard to this.

PUNCH Response Item 4a to 4e

Noted. A signalised Toucan Crossing is proposed at Ch 745 on the NSORR incorporating the requirements set out by Kildare County Council. Refer to drawing 192229-PUNCH-XX-XX-DR-0560 for details

Kildare County Council Transport Recommendation

5. The applicant is requested to liaise with the National Transport Authority and obtain its written agreement with regard to the design for the two proposed bus stops on the Road Objective.

PUNCH Response

Noted.

Kildare County Council Transport Recommendation

6. The applicant is requested to submit a revised Traffic and Transportation Assessment addressing the concerns of Kildare County Council regarding the following items identified in the "Analysis Summary" of the Punch Consulting Engineers' Traffic and Transportation Assessment dated September 2021 and prepare designs for the following:

- a. Lidl Distributor Roundabout - This junction is on the Strategic Cycle Network Plan for County Kildare and the revised linkages for cyclists (onto the Lidl Distributor Road) are required to be incorporated into Site Layout Plans at scales of 1:250.

PUNCH Response Item 6a

Noted. The Lidl Distributor Roundabout is outside the red and blue line boundaries of this application and thus it is not feasible to include the Strategic Cycle Network Plan linkages (onto the Lidl Distributor Road) on the site layout plans. The Mobility Management Plan makes reference to the Strategic Cycle Network Plan.

The existing roundabout was constructed in 2020 in accordance with current design standards and includes segregated cycle and pedestrian lanes on all existing arms for safe crossing of vulnerable road users, cyclists do not have to join the roundabout carriageway to cross the junction.

Kildare County Council Transport Recommendation

- b. Great Connell Roundabout - It is noted that the roundabout is predicted to operate within capacity. However, large roundabouts can be a hostile environment for vulnerable road users. The applicant is therefore requested to complete a design and assessment for signalling this junction on Site Layout Plan drawing at a scale of 1:250 to include Vulnerable Road User facilities. This design is to be in accordance with the Design Manual for Urban Roads and Streets (DMURS) 2019. This design is to review existing public lighting arrangements and provide upgraded lighting arrangements as deemed required.

The Wellesley Manor junction is located approximately 70m from the existing Great Connell Roundabout. The applicant is requested to assess the impact of the proposed development and the effects it would have on the operation of the Wesley Manor junction with the current configuration of the roundabout and that of a signalised junction. Public lighting arrangements at this location are to be reviewed and the provision of upgraded lighting arrangements as deemed required.

PUNCH Response Item 6b

Noted. It is now proposed to upgrade Great Connell Roundabout to a Signalised Junction as part of this SHD proposal to protect vulnerable road users e.g. pedestrians and cyclists. The Signalised Junction has been designed in compliance with the appropriate design standard TII document DN-GEO-03044-02 Signal Controlled Junctions and Roundabouts. Kildare County Council Roads Planning has reviewed and commented on the design seeking minor adjustments that can be facilitated within

the public available lands. It is proposed to further engage with Kildare County Council Roads Planning Department to reach an agreed layout for the Junction post planning.

Refer to drawings 192229-PUNCH-XX-XX-DR-0431 and 192229-PUNCH-XX-XX-DR-0614.

The analysis has shown that the capacity of the Great Connell junction (roundabout or signalised) is sufficient such that it does not and will not impact Wellesley Manor junction. No queuing is experienced on the northern arm during the peak hours in any of the scenarios explored. The quantum of traffic at the Wellesley Manor junction does not warrant capacity assessment of the impact of the proposed development. As an added precaution a yellow box is noted on Great Connell Road at the existing junction to Wellesley Manor.

Kildare County Council Transport Recommendation

C. Buckley's Cross Roundabout - It is of concern that the applicant has qualified their analysis by not including existing queuing on the R445 Regional Road in their calculations. To compound this, it is stated that "in urban areas a certain level of congestion is to be expected during peak times". The applicant is requested to provide a design and assessment for a signalised junction including a topographical survey on a Site Layout Plan at a scale of 1:250 to incorporate vulnerable road user facilities including cycle lanes. This design is to be in accordance with the Design Manual for Urban Roads and Streets (DMURS) 2019. This design is to review existing public lighting arrangements and provide upgraded lighting arrangements as deemed required.

PUNCH Response Item 6c

Noted. The roundabout analysis of Buckley's Cross now includes for queuing in the model.

The final TTA now includes a design and a drawing for a potential signalised junction at Buckley's Cross. The signalised junction at Buckley's Cross does not form part of the SHD Planning Submission. The drawing is provided to demonstrate that a Signalised Junction compliant with the requirements of "TII document DN-GEO-03044-02 Signal Controlled Junctions and Roundabouts" can be delivered by Kildare County Council within publicly available lands. These works will be progressed by Kildare County Council with contributions and timeframe agreed with Kildare County Council and Aston Ltd.

Kildare County Council Transport Recommendation

d. The Hall Signalised Junction - It is claimed that "there are opportunities available for signalised junction improvements in the future by altering the cycle time". However, the analysis shows the junction being over capacity in 2029. The applicant is requested to provide proposals to increase vehicular capacity having priority for vulnerable road users.

PUNCH Response Item 6d

The analysis of The Hall Signalised junction has since been updated based on November 2021 surveys.

The opening of the Ballyfarm Road section of the NSORR has no impact on the existing signalised junction capacity as development traffic cannot connect to this junction over the River Liffey.

The opening of the Bridge section of the NSORR moves traffic onto this signalised junction due to traffic rerouting from the NSORR. The delivery and opening of the full NSORR is an objective of the Newbridge LAP and Aston Ltd is progressing the remainder of the NSORR delivery as part of this proposed development as well as under a separate planning application (Section 247 Kildare County Council Consultation Reference: PP2559). With the full NSORR in place and the full proposed development in place in 2039 the AM DOS is 95% and PM is 85% (90% is the desired capacity for a signalised junction). This level of service for a signalised junction is considered acceptable in an urban environment and therefore no mitigation measures at this junction are proposed.

Kildare County Council Transport Recommendation

e. Existing Liffey Bridge Junction - The analysis shows that the development has a negative impact on the performance of the junction without the bridge being constructed. The text that there is a "negligible impact on the existing signalised junction" appears misleading as the junction is shown to be significantly over capacity. Any increase in impact on the capacity of the junction cannot be considered to be unimportant, especially in the context of improving sustainable movement and accessibility in Newbridge Town.

PUNCH Response Item 6e

The analysis of St. Conleth's Bridge Signalised junction has since been updated based on November 2021 surveys.

St. Conleth's Bridge signalised junction with the current stage/phase timings is already operating above design capacity in the AM and PM Peaks Opening Year without the proposed development traffic. The opening of the Ballyfarm Road section of the NSORR has no impact on the existing signalised junction as the traffic rerouting from the NSORR does not occur in this scenario.

With the addition of the Phase 1 traffic the DOS increases by a maximum of only 4% in the opening year Scenario B and 3% in Scenario C. With the full development traffic in 2039 the DOS increases by a maximum of only 6% in Scenario B and 4% in Scenario C.

The opening of the bridge section of the NSORR improves the DOS such that it would not reach the existing level of DOS by 2039, even with the full the development traffic added. The relative impact of the proposed development on the existing junction is also improved with the full opening of the NSORR. Aston Ltd is progressing the remainder of the NSORR delivery as part of this proposed development as well as under a separate planning application (Section 247 Kildare County Council Consultation Reference: PP2559) which will expedite the delivery of the full NSORR. Therefore, it is highly likely that the Scenario C results are the improvements that the junction will achieve.

Kildare County Council Transport Recommendation

7. The applicant is requested to have consideration to the parking assessment of this report to submit revised Site Layout Plans at scales of 1:500 indicating the following:

a. Revised parking standard for the duplex / apartment units of 1.75 spaces per unit in accordance with Table 17.9 of Chapter 17 of the Kildare County Development Plan 2017-2023 or a revised parking standard of 1.33 spaces per unit (due to its less accessible urban location)

in accordance with Section 4.22 of the of the DHPLG "Design Standards for New Apartments March 2018 in conjunction with a Mobility Management Plan providing a robust justification for this reduced parking standard and the manner in which unauthorised parking of vehicles shall be prevented within the development. The drawings shall indicate off street parking spaces to serve the duplex and apartment development in accordance with Section 4.4.9 of the Design Manual for Urban Roads and Streets (DMURS) 2019.

b. The applicant is requested to consider the parking assessment of this report and address the inadequate vehicular parking proposals of 6 no. spaces for Duplex Block Type 1 numbered 293-300.

c. Vehicular parking spaces for the crèche and neighbourhood centre development to be in accordance with Table 17.9 of Chapter 17 of the Kildare County Development Plan 2017 - 2023.

PUNCH Response Item 7a to 7c

Noted. Revised carparking provisions have been adopted as follows: Car parking serving the apartments in the development is provided in accordance with the guidance for *Peripheral and/or Less Accessible Urban Locations* in the Design Standards for New Apartments (2018) section 4.22.

Car parking serving the houses, creche and neighbourhood/commercial centre are provided in accordance with the Kildare County Council Development Plan (2021) 'Table 17.9'

Kildare County Council Transport Recommendation

d. Lines of sight at all junctions within the application site to be in accordance with the Design Manual for Urban Roads and Streets (DMURS) 2019 having a setback distance 'X' of 2.4 metres.

e. Corner radii at all junctions within the application site to be in accordance with the Design Manual for Urban Roads and Streets (DMURS) 2019.

f. Longitudinal gradients / vertical sag curvature for the roads of the residential development to be in accordance with the Design Manual for Urban Roads and Streets (DMURS) 2019.

g. Concrete footpaths to be 2 metres in width with an applicable kerb upstand of 125 mm. The location of pedestrian crossing points indicating dished kerbs incorporating tactile paving.

PUNCH Response Item 7d to 7g

Noted. Refer to DMURS Compliance Statement (192229-PUNCH-XX-XX-RP-C-0005) for the proposed development is included in the planning documentation.

Kildare County Council Transport Recommendation

h. Mitigation measures in order to prevent speeding on the Road Objective.

PUNCH Response Item 7h

Noted. The designated Design Speed for the NSORR will be 50kph. The horizontal and vertical curvature along the NSORR has been designed in accordance with DMURS to allow for a design speed

of 60kph which is compatible with the proposed speed limit of 50kph. In Section 4.1.2 'Self-Regulating Streets' of DMURS research has shown how the provision of relatively tight vertical and horizontal curvature, together with the street characteristics of close proximity of buildings, active ground floor use and pedestrian activity will have a self-regulating impact on drivers resulting in lower speeds.

Kildare County Council Transport Recommendation

- i. Perpendicular on street vehicular parking spaces within the residential development to be marked in 2.5 metre x 5.0 metre bays in 100 mm wide white lines with a durable permanent material.
- j. Parallel vehicular parking spaces within the residential development to be marked in 2.5 metre x 6.0 metre bays in 100 mm wide white lines with a durable permanent material.
- k. 2 no. within curtilage parking spaces for all house units in order to facilitate item m. set out below.
- l. 2 no. parking spaces each for the house units numbered, 127 to 132 and 211 to 212.
- m. Dual electrical charge points to be provided at the within curtilage spaces for the house units to allow for the night-time charging of Electric Vehicles (EVs). linked to the individual domestic electricity meter. The EV Charger should be compatible with the Sustainable Energy Authority of Ireland's Triple E Register. Elevation details to be indicated at scales of 1:25.
- n. Electric car charge points / arrangements to serve the duplex and apartment development. The EV Charger should be compatible with the Sustainable Energy Authority of Ireland's Triple E Register. Consideration to be had to minimizing trip hazards. Elevation details to be indicated at scales of 1:25. Electric car charge points to be located in areas that will not be taken in charge by Kildare County Council. Areas that could be taken in charge by Kildare County Council in the future are to be indicated on these drawings.
- o. Electric car charge points / arrangements to serve the crèche and neighbourhood centre development. The EV Charger should be compatible with the Sustainable Energy Authority of Ireland's Triple E Register. Consideration shall be had to minimizing trip hazards. Elevation details to be indicated at scales of 1:25.

PUNCH Response Item 7i-o

Noted. 2 No parking spaces are facilitated within each driveway.

Refer to architectural drawings included in the planning documentation for parking information.

Kildare County Council Transport Recommendation

- p. The locations of 30 km/h Slow Zone signs in accordance with the Department of Transport, Tourism and Sport's traffic signs advice note TSAN-2016-02.

PUNCH Response Item 7p

Noted. Refer to PUNCH drawings 192229-PUNCH-XX-XX-DR-0441 to 192229-PUNCH-XX-XX-DR-0444.

Kildare County Council Transport Recommendation

q. Surface wearing course of all roads within residential development to be Stone Mastic Asphalt, SMA 14 surf PMB 65/105-60 des 45mm thick, in compliance with clause 942 of NRANTII specification.

PUNCH Response Item 6q

Noted. Refer to PUNCH drawings 192229-PUNCH-XX-XX-DR-0441 to 192229-PUNCH-XX-XX-DR-0444. (Plans) and 192229-PUNCH-XX-XX-DR-0551 (details)

Kildare County Council Transport Recommendation

r. All signs and road markings shall be in accordance with the Department of Transport, Tourism and Sport (DTTAS) Traffic Signs Manual.

s. The cycle tracks on the Road Objective SR05 (a) are to be in accordance National Transport Authority's National Cycling Manual pertaining to widths and signage, the location of lighting standards and signs, the avoidance of obstructions and the re-establishment of a cyclist's position on-road.

PUNCH Response Item 6r-s

Noted.

Kildare County Council Transport Recommendation

t. Permeability and vehicular links with the road and footpath network of Wellesley Manor Residential Development. This is to demonstrate the permeability link is well lit with public lighting and having passive surveillance. The applicant is requested to liaise with the residents of Wellesley Manor in respect of this.

PUNCH Response Item 6t

Noted. Permeability links are provided from the SHD development to Wellesley Manor and to the Linear Park and onto Newbridge Town. The proposals are described in detail in the Mobility Management Plan. Refer also to the Architect and Landscape drawings.

Kildare County Council Transport Recommendation

u. A suitable boundary condition between the Road Objective with a speed limit of 50 km/h and the residential development, crèche, neighbourhood centre and associated designated public open space in keeping with the guiding principles of the Guidelines for Setting and Managing Speed Limits in Ireland (March 2015) to reduce the incident severity and enhance quality of life in residential areas. The developer shall have consideration to the John Devoy Road, Naas, Co. Kildare and the link road at Rathbride Demesne and L-70050-1 local road in Kildare Town and its respective boundary conditions. (Please see Fig 1.2, Fig1.3, Fig 1.4 and Fig 1.5.).

PUNCH Response Item 6u

Noted. Refer to Architect drawings for fence and boundary details

Kildare County Council Transport Recommendation

8. The applicant is requested to submit a Mobility Management Plan (in conjunction with Item 7.a set out in the foregoing) to Kildare County Council that is to contain:

- a. The manner in which the unauthorised parking of vehicles shall be prevented within the development site having regard to the reduced parking standard of 1.33 spaces per unit for duplex and apartment development.
- b. Full details and the promotion of all existing public transport links and timetables serving Newbridge. This is also to list all public transport links to prominent employment centres.
- c. Future potential bus routes accessing the proposed two bus stops on the Road Objective.
- d. Walking and cycling routes in Newbridge.
- e. The manner in which future residents of the duplex and apartment units will be informed of the reduced parking standard and vehicular parking spaces available prior to the occupation of these units.

PUNCH Response 8a-e

Noted. An Outline Mobility Management Plan (192229-PUNCH-XX-XX-RP-C-0006) has been provided.

Kildare County Council Transport Recommendation

9. In conjunction with item 7 set out in the foregoing, the applicant is requested to submit cross section and elevation details drawing at scales of 1:50 and 1:20 respectively indicating cross section and construction details of the roads within the residential development, its concrete footpaths, cycle tracks, grass verges, vehicular parking spaces, and kerb upstands of 125 mm / 25mm within the residential development. Surface wearing course of all roads within residential development to be Stone Mastic Asphalt, SMA 14 surf PMB 65/105-60 des 45mm thick, in compliance with clause 942 of NRA/TII specification The cycle track on the Road Objective SR05b shall be in accordance National Transport Authority's National Cycling Manual pertaining to widths and signage, the location of lighting standards, the avoidance of obstructions and the re-establishment of a cyclist's position on-road.

PUNCH Response 9

Noted. Refer to drawing 192229-PUNCH-XX-XX-DR-0551 and 192229-PUNCH-XX-XX-DR-0553 for details of pavement build-ups and road cross-sections. Refer to drawing 192229-PUNCH-XX-XX-DR-0560 for details of cycle paths in accordance with the National Cycling Manual.

Kildare County Council Transport Recommendation

10. The applicant is requested to submit a critical swept path analysis on Site Layout Plans at scales of 1:500 indicating the manner a fire tender and a 3 axle refuse vehicle 9.86m by 2.50m in dimension will access, egress and manoeuvre on the entire site.

PUNCH Response 10

Noted. Refer to drawings 192229-PUNCH-XX-XX-DR-0600 to 192229-PUNCH-XX-XX-DR-0603 for Fire Tender and drawings 192229-PUNCH-XX-XX-DR-0610 to 192229-PUNCH-XX-XX-DR-0613.

Kildare County Council Transport Recommendation

11. The applicant is requested to submit a draft Construction Management Plan that is to contain:

a. A Construction Traffic Management Plan indicating all haul routes to and from the site on Regional and National Routes only via the Newbridge South Orbital Relief Road (NSORR) to the R445 Regional Road. Delivery times for plant and materials and waste collection shall have consideration to morning and evening peak school times in the area and peak traffic periods. Construction related

traffic is not permitted to travel through Newbridge Town Centre. This plan is also to contain mitigation measures to minimize the effects the proposed development would have on the immediate public road network and existing traffic movements.

b. Wheelwash arrangements and locations for the construction phase.

c. Location of the construction compound, use of cranes, parking and storage areas during the construction phase. (This is in the interest of the residential amenity of properties in the area).

d. Relevant construction site warning signs shall be in accordance with the Department of Transport, Tourism and Sport (DTTAS) Traffic Signs Manual for the overall development having particular consideration to the construction of the junction on the R445 Regional Road.

e. A Construction and Demolition Waste Management Plan.

f. Details of the method of construction of the proposed junction on the R445 Regional Road in minimizing traffic disruption.

g. Hours of operation during the construction phase to be 08.00 hours to 18.00 hours Monday to Friday and 08.00 hours to 14.00 hours Saturday. No work permitted on the Sundays and public holidays. (This is in the interest of the existing residential amenity of properties in the area).

PUNCH Response 11a-g

Noted. Refer to Environmental Consultant for Draft Construction Management Plan. All construction traffic will be diverted away from Great Connell residential road and Newbridge Town Centre. All construction traffic will use opened section of NSORR (Ballyfarm Road) as per Kildare County Council recommendation.

Kildare County Council Transport Recommendation

12. The applicant is requested to submit a stage 1 and 2 Road Safety Audit / Assessment (RSA) for each of the respective Phases 1, 2A, 2B and 2C by an independent approved and certified auditor. The RSAs are to assess:

- a. The internal areas of the application site.
- b. At the proposed interface L-2028 local road. (Consideration to be had to the request made in Item 6. set out in the foregoing).
- c. At the pedestrian permeability and vehicular links with Wellesley Manor Residential Development.
- d. At the pedestrian permeability links with the Liffey Linear Park.
- e. At the pedestrian permeability links with the Liffey Linear Park and the Road Objective

The applicant is requested to make the necessary changes to the design proposals following the stage 1 and 2 RSAs. The applicant is to note that if the application is subsequently granted, then the applicant will be required to carry out a stage 3 Road Safety Audits for the respective phases.

PUNCH Response 12 a-e

Noted. A Stage 1 Road Safety Audit, appropriate for Planning Stage of Design, has been carried out in accordance with the requirements of TII Publication Number GE-STY-01024 (Dec 2017) by Bruton Consulting Engineers and is included in support of this SHD planning submission. The road safety measures recommended have been adopted and will be implemented at detailed design stage

Kildare County Council Transport Recommendation

13. The applicant is requested to submit a Site Layout Plan drawings at scales of 1:500 indicating the proposed lighting arrangements for the development accompanied by a site lighting report. These are to be in accordance with the Kildare County Council Lighting Policy Street Lighting Technical Specification June 2019. The applicant is requested to demonstrate the proposed lighting scheme will not be a source of light pollution affecting adjacent lands and properties and the public road network. The applicant is requested to review the existing lighting on the public road network at the L-2028 local road and Wellesley Manor providing access to the application site and to submit proposals to provide for additional public lighting at these locations as deemed required. These details shall also contain the following:

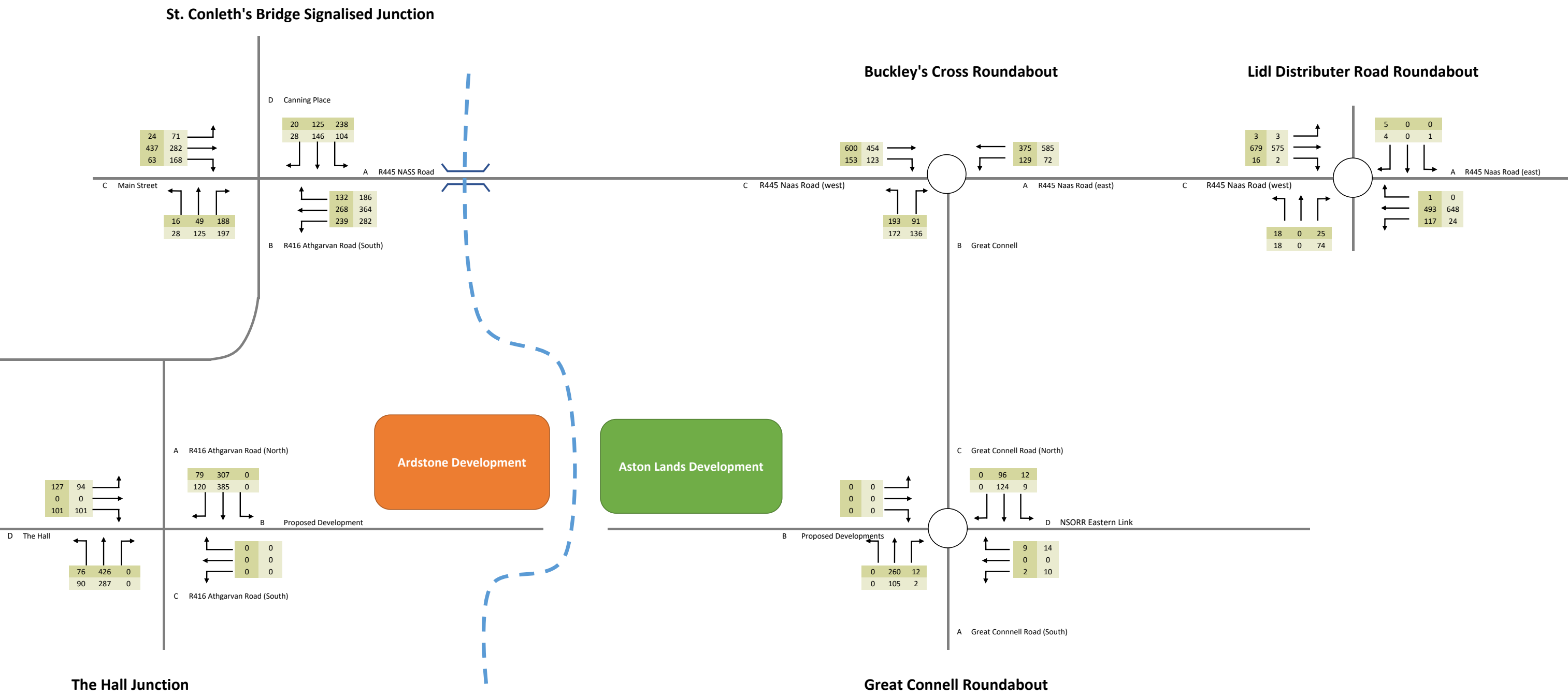
- a. The side elevation and height of lighting standards / columns to be indicated on the drawing.
- b. The types of light fittings to be indicated on this drawing.
- c. Impact upon Vehicular / Vulnerable road users within the development, on the access route from L-2028 local road (having consideration to item 6. set out in the foregoing), at the pedestrian permeability and vehicular links with Wellesley Manor Residential Development and at the permeability links from the Road Objective to the Liffey Linear Park.
- d. Passive surveillance at the pedestrian permeability and vehicular links with Wellesley Manor Residential Development.
- e. Passive surveillance and lighting at the pedestrian permeability links with the Liffey Linear Park
- f. Passive surveillance and lighting at the permeability links from the Road Objective to the Liffey Linear Park.

PUNCH Response 13 a-f

Noted. The scheme lighting layout has been developed by Metec Consulting Engineers and is included in support of this SHD planning submission.

Appendix B Traffic Survey Data

Surveyed Traffic Flows 2021



Appendix C TRICS Data

TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE
TOTAL VEHICLES
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	370	0.000	1	370	1.081	1	370	1.081
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	3	325	0.616	3	325	0.103	3	325	0.719
06:00 - 07:00	9	313	4.368	9	313	3.729	9	313	8.097
07:00 - 08:00	26	449	4.173	26	449	3.634	26	449	7.807
08:00 - 09:00	26	449	5.013	26	449	4.688	26	449	9.701
09:00 - 10:00	26	449	4.345	26	449	4.302	26	449	8.647
10:00 - 11:00	26	449	3.908	26	449	3.651	26	449	7.559
11:00 - 12:00	26	449	4.585	26	449	4.465	26	449	9.050
12:00 - 13:00	26	449	5.519	26	449	5.228	26	449	10.747
13:00 - 14:00	26	449	4.465	26	449	4.336	26	449	8.801
14:00 - 15:00	26	449	5.030	26	449	5.048	26	449	10.078
15:00 - 16:00	26	449	5.236	26	449	5.193	26	449	10.429
16:00 - 17:00	26	449	5.442	26	449	5.108	26	449	10.550
17:00 - 18:00	26	449	5.947	26	449	6.153	26	449	12.100
18:00 - 19:00	26	449	5.742	26	449	6.402	26	449	12.144
19:00 - 20:00	26	449	4.559	26	449	4.688	26	449	9.247
20:00 - 21:00	24	471	2.697	24	471	3.210	24	471	5.907
21:00 - 22:00	23	482	1.885	23	482	2.201	23	482	4.086
22:00 - 23:00	4	361	3.534	4	361	3.812	4	361	7.346
23:00 - 24:00	3	325	2.875	3	325	2.772	3	325	5.647
Total Rates:			79.939			79.804			159.743

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

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

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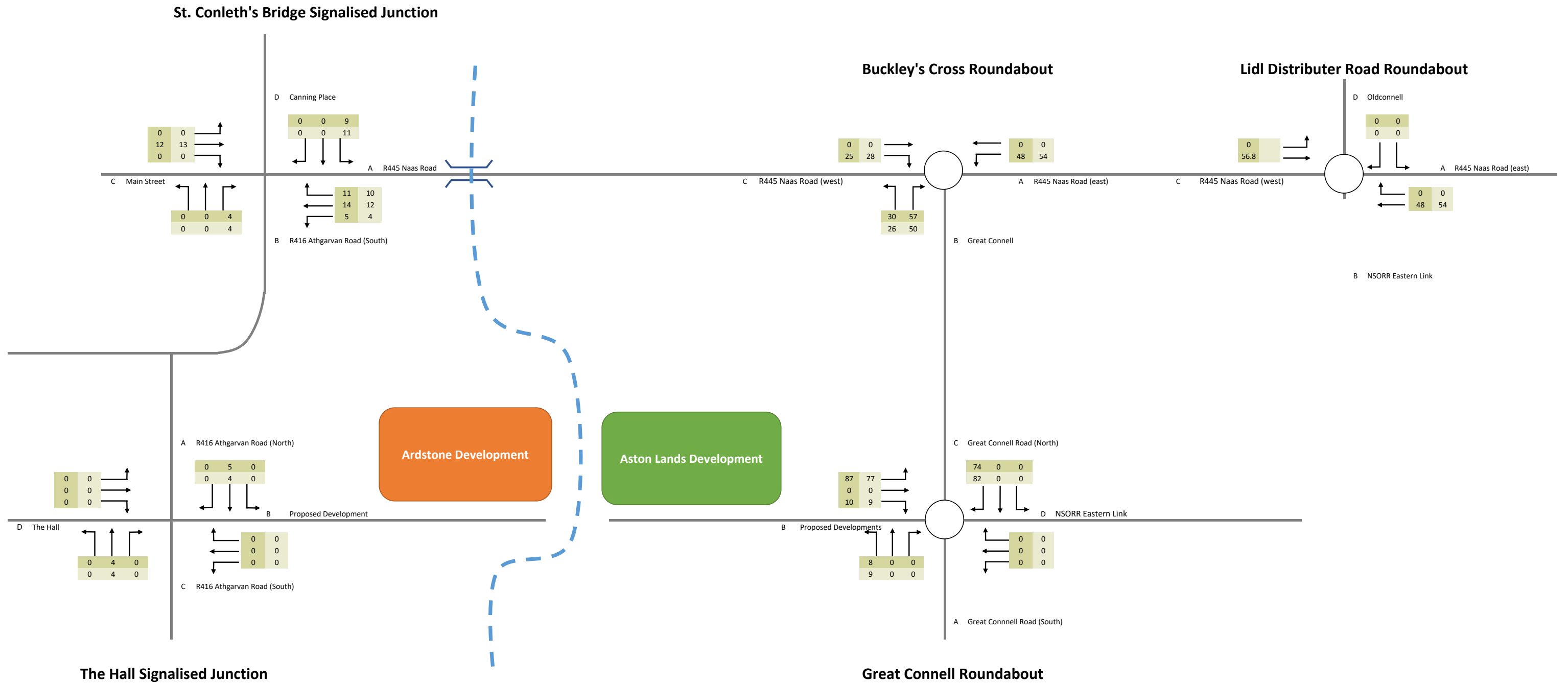
Parameter summary

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Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

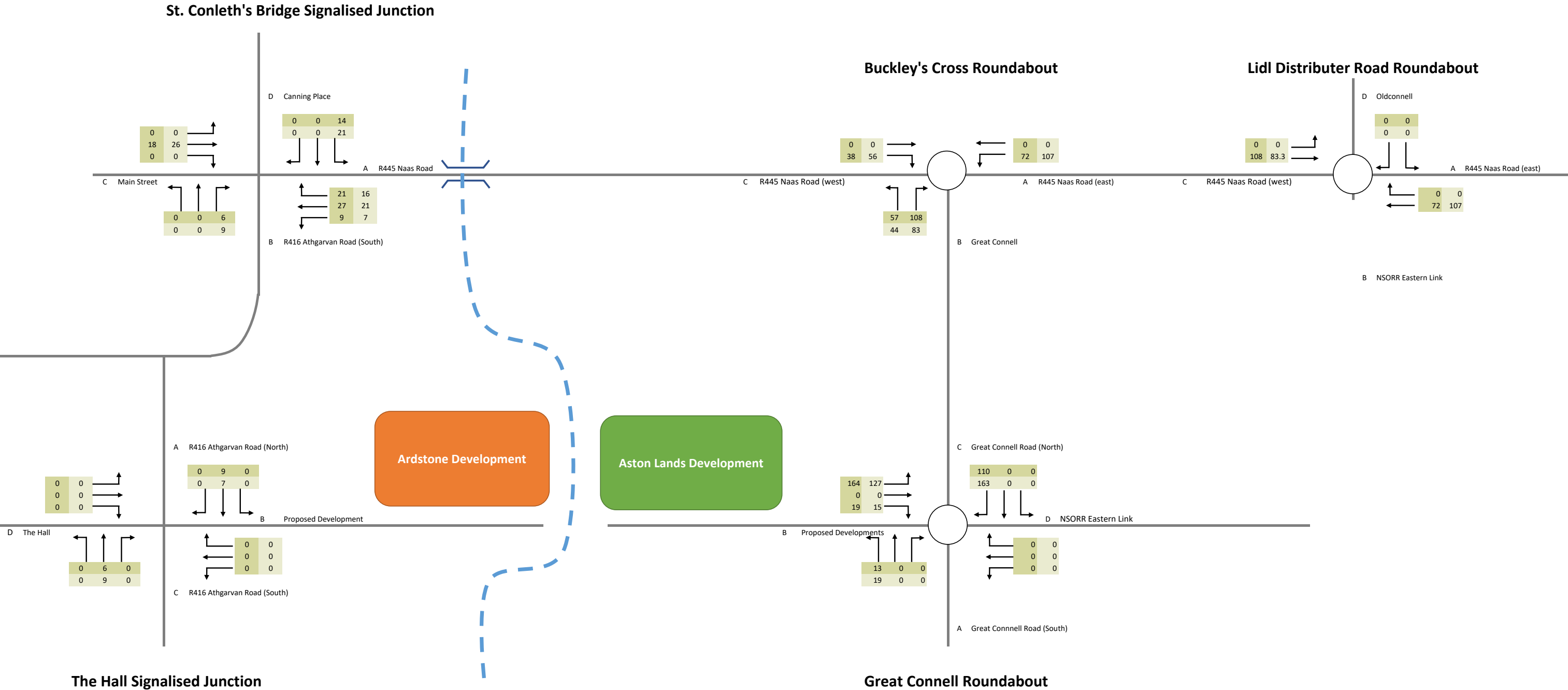
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected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

Appendix D Development Traffic Flow Diagrams

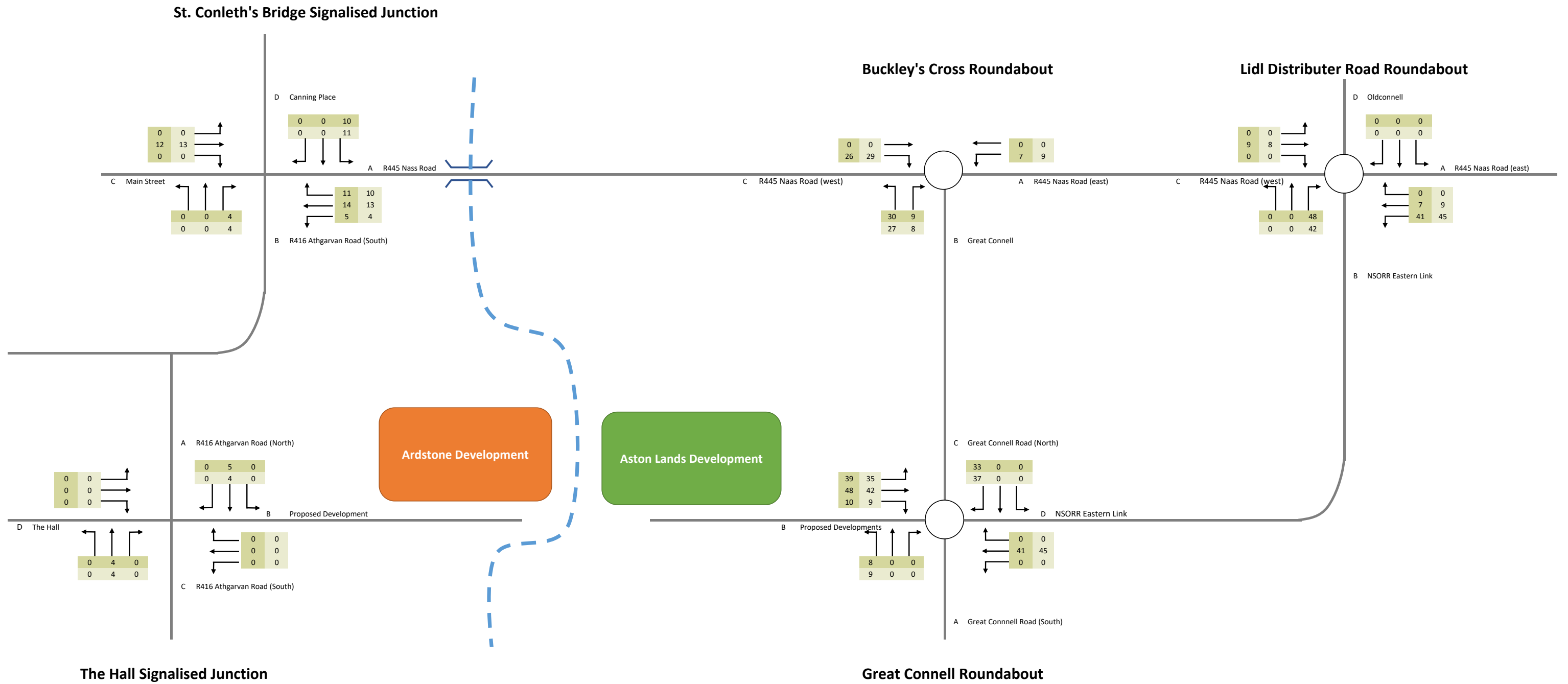
Scenario A - Phase 1 - Proposed Development Flows



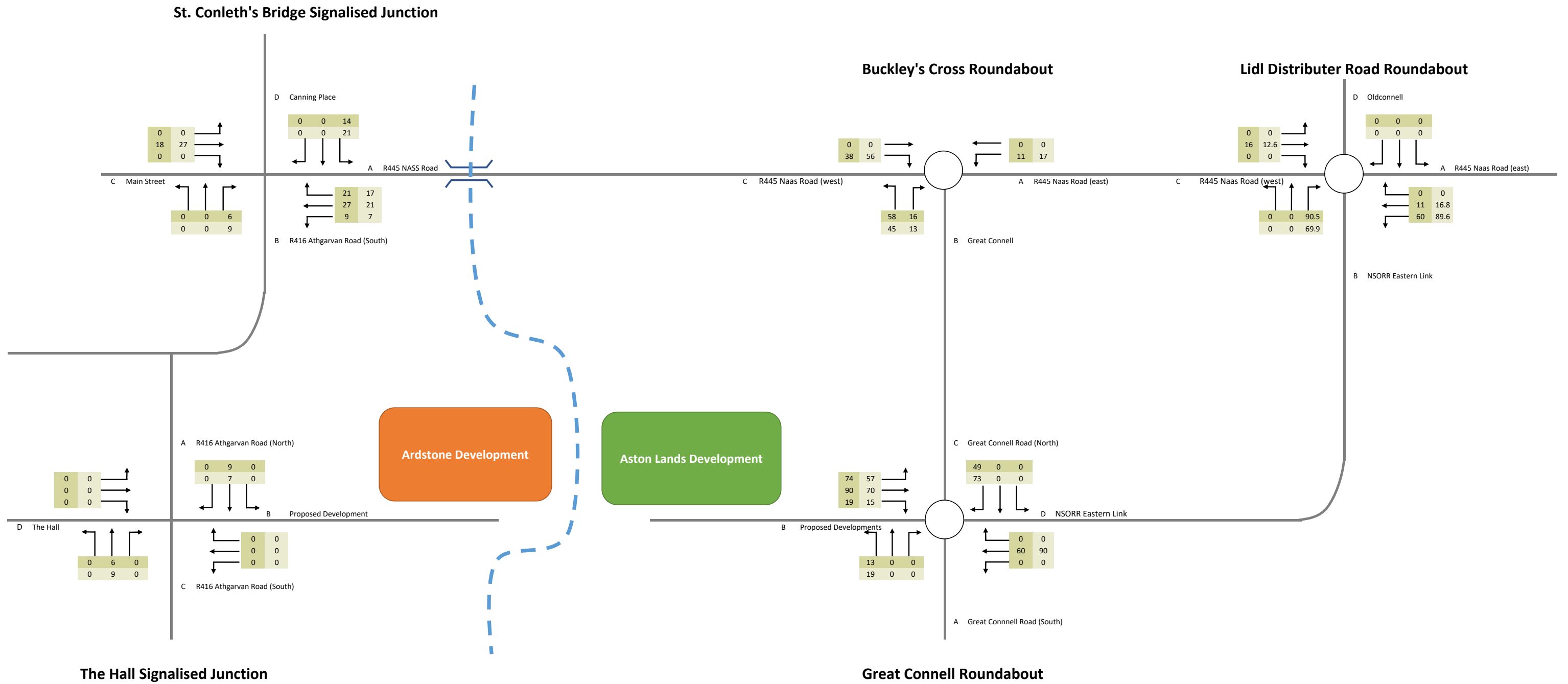
Scenario A - Phase 2 - Proposed Development Flows



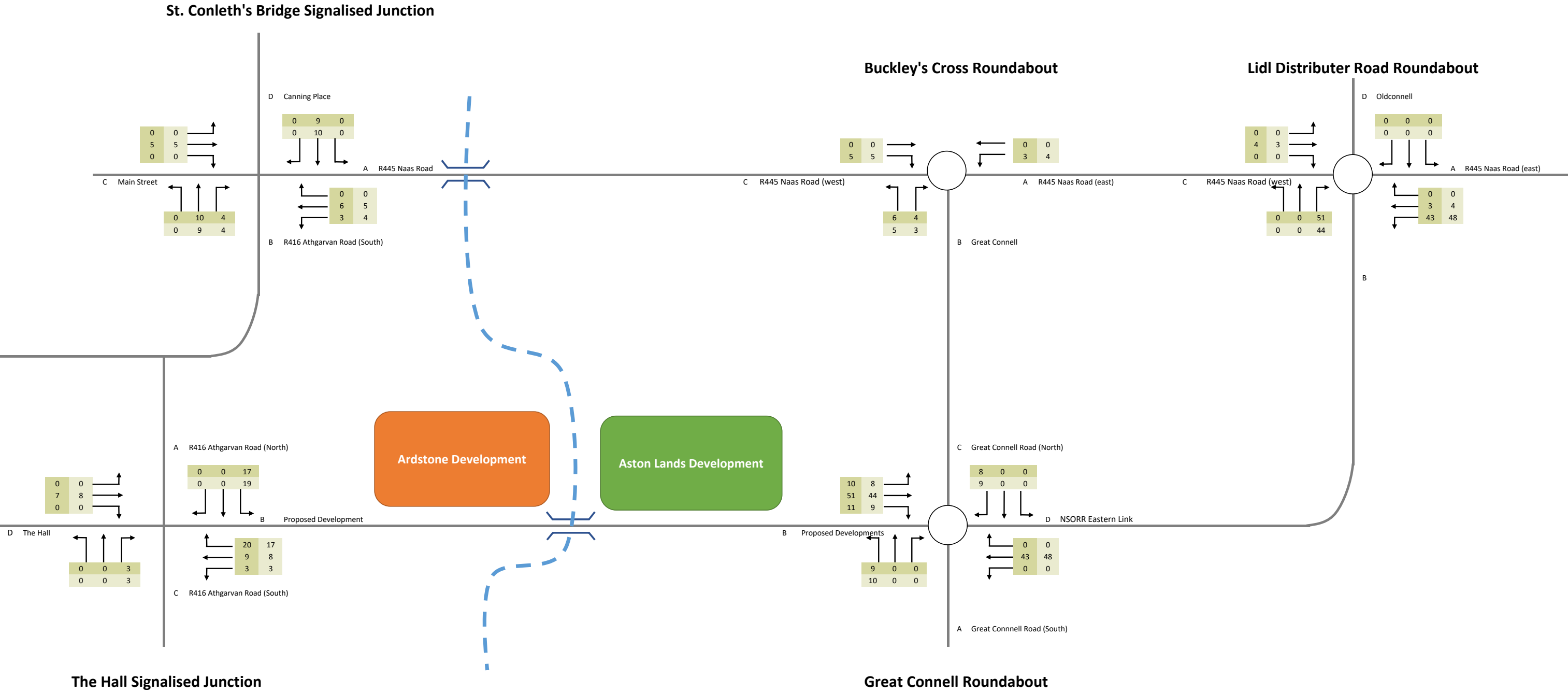
Scenario B - Phase 1 - Proposed Development Flows



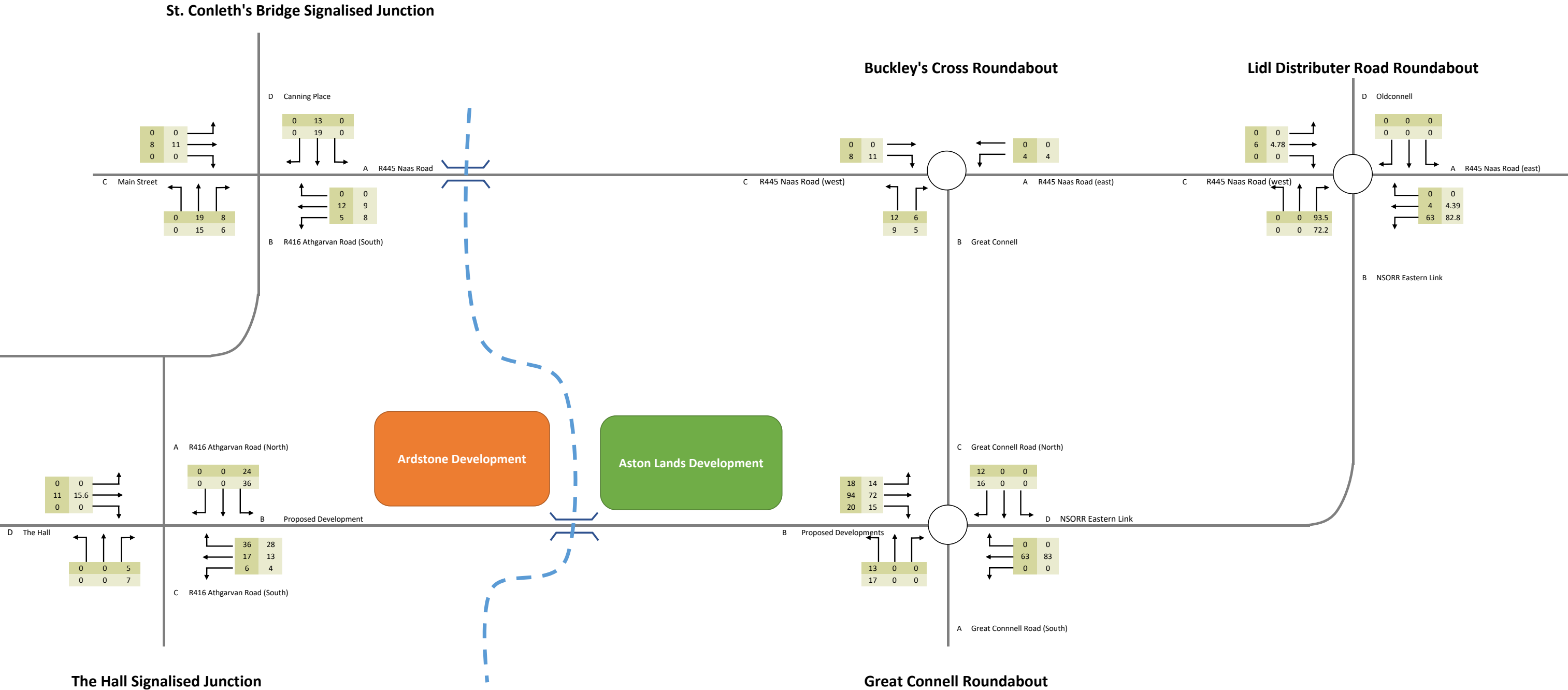
Scenario B - Phase 2 -Proposed Development Flows



Scenario C - Phase 1 - Proposed Development Flows



Scenario C - Phase 2 - Proposed Development Flows



Appendix E Great Connell Roundabout Junctions 9 Results Output

Junctions 9			
ARCADY 9 - Roundabout Module			
Version: 9.5.0.6896 © Copyright TRL Limited, 2018			
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Filename: 192229 - Great Connell Roundabout - Scenario A (2021 Flows).j9

Path: \\w2k19-dl-fs01\users\CAD\DWGS\192\201-250\192229\OfficeDocs\Reports\Planning\Planning Package\0004_TTA\Junction 9 Stage 3 final version\Scenario A - Existing

Report generation date: 15/03/2022 15:16:09

»2024 Do Nothing, AM
 »2024 Do Nothing, PM
 »2029 Do Nothing, AM
 »2029 Do Nothing, PM
 »2039 Do Nothing, AM
 »2039 Do Nothing, PM
 »2024 Scenario A Opening Year, AM
 »2024 Scenario A Opening Year, PM
 »2029 Scenario A Design 5 Years, AM
 »2029 Scenario A Design 5 Years, PM
 »2039 Scenario A Design 15 Years, AM
 »2039 Scenario A Design 15 Years, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2024 Do Nothing								
A - Great Connell Road (South)	0.2	2.68	0.20	A	0.1	2.35	0.08	A
B - Proposed Development Site	0.0	0.00	0.00	A	0.0	0.00	0.00	A
C - Great Connell Road (North)	0.1	2.65	0.11	A	0.1	2.63	0.11	A
D - NSOOR Eastern Link	0.0	1.98	0.02	A	0.0	2.05	0.04	A
2029 Do Nothing								
A - Great Connell Road (South)	0.3	2.74	0.22	A	0.1	2.38	0.09	A
B - Proposed Development Site	0.0	0.00	0.00	A	0.0	0.00	0.00	A
C - Great Connell Road (North)	0.1	2.67	0.11	A	0.1	2.67	0.12	A
D - NSOOR Eastern Link	0.0	1.99	0.02	A	0.0	2.06	0.04	A
2039 Do Nothing								
A - Great Connell Road (South)	0.3	2.80	0.24	A	0.1	2.39	0.09	A
B - Proposed Development Site	0.0	0.00	0.00	A	0.0	0.00	0.00	A
C - Great Connell Road (North)	0.1	2.70	0.12	A	0.1	2.69	0.13	A
D - NSOOR Eastern Link	0.0	2.00	0.02	A	0.0	2.08	0.04	A
2024 Scenario A Opening Year								
A - Great Connell Road (South)	0.3	2.76	0.20	A	0.1	2.44	0.08	A
B - Proposed Development Site	0.1	2.76	0.08	A	0.1	2.54	0.06	A
C - Great Connell Road (North)	0.2	2.81	0.16	A	0.2	2.82	0.17	A
D - NSOOR Eastern Link	0.0	2.05	0.02	A	0.0	2.13	0.04	A
2029 Scenario A Design 5 Years								
A - Great Connell Road (South)	0.3	2.90	0.23	A	0.1	2.58	0.10	A
B - Proposed Development Site	0.2	3.02	0.14	A	0.1	2.67	0.10	A
C - Great Connell Road (North)	0.2	2.94	0.19	A	0.3	3.09	0.24	A
D - NSOOR Eastern Link	0.0	2.10	0.02	A	0.0	2.23	0.04	A
2039 Scenario A Design 15 Years								
A - Great Connell Road (South)	0.3	2.96	0.24	A	0.1	2.61	0.11	A
B - Proposed Development Site	0.2	3.07	0.15	A	0.1	2.69	0.10	A
C - Great Connell Road (North)	0.3	2.97	0.20	A	0.3	3.12	0.24	A
D - NSOOR Eastern Link	0.0	2.11	0.02	A	0.0	2.24	0.04	A

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

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

File summary

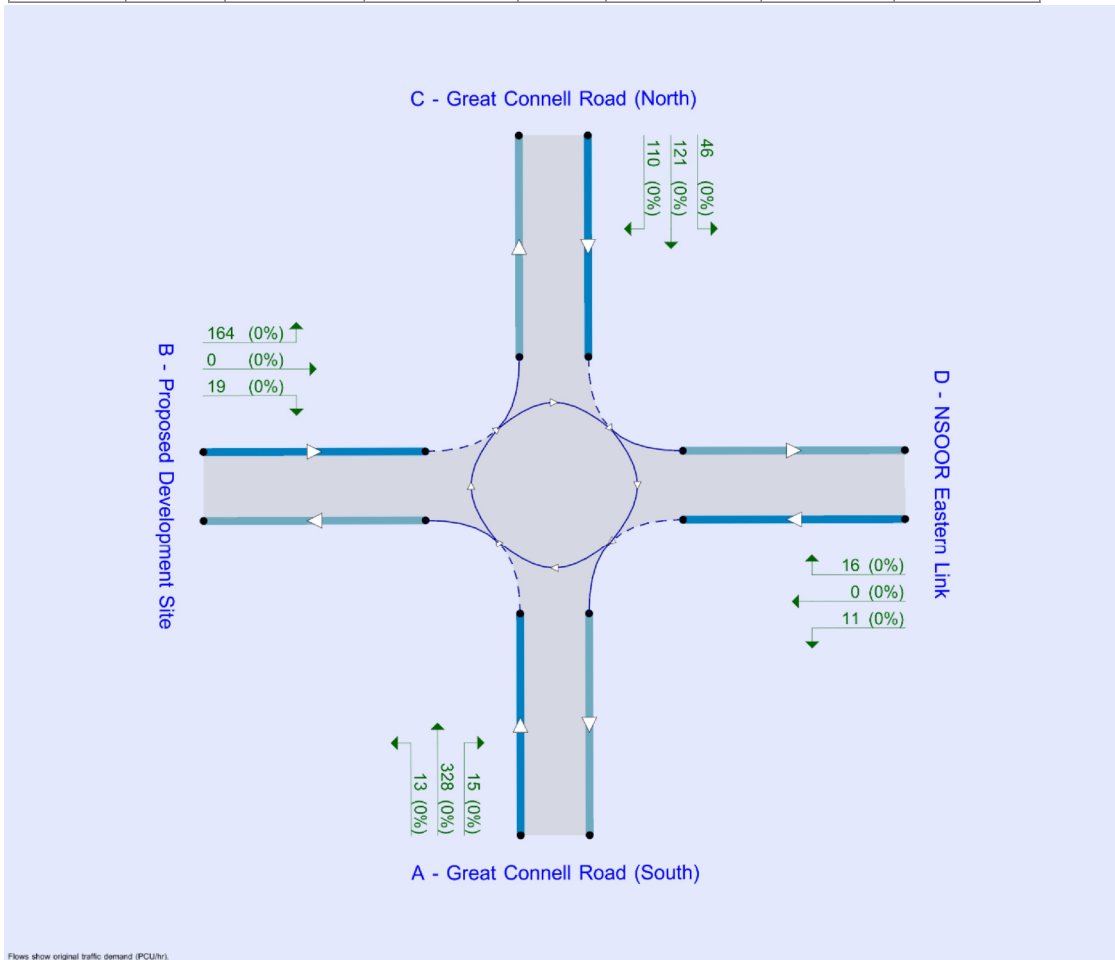
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Location	
Site number	

Date	29/04/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MPPNET\socoileir
Description	

Units

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



Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Do Nothing	AM	ONE HOUR	07:15	08:45	15
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D3	2029 Do Nothing	AM	ONE HOUR	07:15	08:45	15
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D5	2039 Do Nothing	AM	ONE HOUR	07:15	08:45	15
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D7	2024 Scenario A Opening Year	AM	ONE HOUR	07:15	08:45	15
D8	2024 Scenario A Opening Year	PM	ONE HOUR	17:30	19:00	15
D9	2029 Scenario A Design 5 Years	AM	ONE HOUR	07:15	08:45	15
D10	2029 Scenario A Design 5 Years	PM	ONE HOUR	17:30	19:00	15
D11	2039 Scenario A Design 15 Years	AM	ONE HOUR	07:15	08:45	15
D12	2039 Scenario A Design 15 Years	PM	ONE HOUR	17:30	19:00	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.63	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	Great Connell Road (South)	
B	Proposed Development Site	
C	Great Connell Road (North)	
D	NSOOR Eastern Link	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - Great Connell Road (South)	3.60	7.00	15.6	17.4	48.4	29.1	
B - Proposed Development Site	3.50	7.00	10.2	33.5	48.4	26.5	
C - Great Connell Road (North)	3.50	7.00	10.6	38.0	48.4	43.7	
D - NSOOR Eastern Link	4.50	7.00	17.4	18.9	48.4	23.7	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - Great Connell Road (South)	0.612	1691
B - Proposed Development Site	0.608	1616
C - Great Connell Road (North)	0.577	1538
D - NSOOR Eastern Link	0.663	1918

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Do Nothing	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	305	100.000
B - Proposed Development Site		✓	0	100.000
C - Great Connell Road (North)		✓	146	100.000
D - NSOOR Eastern Link		✓	26	100.000

Origin-Destination Data

Demand (PCU/hr)

To				
	A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link

From	A - Great Connell Road (South)	0	0	276	29
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	102	0	0	44
	D - NSOOR Eastern Link	11	0	15	0

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.20	2.68	0.2	A
B - Proposed Development Site	0.00	0.00	0.0	A
C - Great Connell Road (North)	0.11	2.65	0.1	A
D - NSOOR Eastern Link	0.02	1.98	0.0	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	230	11	1684	0.136	229	0.2	2.473	A
B - Proposed Development Site	0	240	1470	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	110	22	1525	0.072	110	0.1	2.543	A
D - NSOOR Eastern Link	20	77	1867	0.010	20	0.0	1.947	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	274	13	1682	0.163	274	0.2	2.556	A
B - Proposed Development Site	0	288	1441	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	131	26	1523	0.086	131	0.1	2.586	A
D - NSOOR Eastern Link	23	92	1857	0.013	23	0.0	1.962	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	336	17	1681	0.200	336	0.2	2.676	A
B - Proposed Development Site	0	352	1402	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	161	32	1519	0.106	161	0.1	2.649	A
D - NSOOR Eastern Link	29	112	1844	0.016	29	0.0	1.982	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	336	17	1681	0.200	336	0.2	2.676	A
B - Proposed Development Site	0	352	1401	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	161	32	1519	0.106	161	0.1	2.649	A
D - NSOOR Eastern Link	29	112	1844	0.016	29	0.0	1.983	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	274	13	1682	0.163	274	0.2	2.558	A
B - Proposed Development Site	0	288	1441	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	131	26	1523	0.086	131	0.1	2.587	A
D - NSOOR Eastern Link	23	92	1857	0.013	23	0.0	1.962	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	230	11	1684	0.136	230	0.2	2.475	A

B - Proposed Development Site	0	241	1469	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	110	22	1525	0.072	110	0.1	2.545	A
D - NSOOR Eastern Link	20	77	1867	0.010	20	0.0	1.949	A

2024 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.43	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	121	100.000
B - Proposed Development Site		✓	0	100.000
C - Great Connell Road (North)		✓	150	100.000
D - NSOOR Eastern Link		✓	60	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	111	10
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	131	0	0	19
	D - NSOOR Eastern Link	18	0	42	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.08	2.35	0.1	A
B - Proposed Development Site	0.00	0.00	0.0	A
C - Great Connell Road (North)	0.11	2.63	0.1	A
D - NSOOR Eastern Link	0.04	2.05	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	91	32	1671	0.055	91	0.1	2.277	A
B - Proposed Development Site	0	122	1541	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	113	8	1533	0.074	113	0.1	2.533	A
D - NSOOR Eastern Link	45	98	1853	0.024	45	0.0	1.991	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	109	38	1668	0.065	109	0.1	2.309	A
B - Proposed Development Site	0	146	1527	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	135	9	1533	0.088	135	0.1	2.575	A
D - NSOOR Eastern Link	54	118	1840	0.029	54	0.0	2.015	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	133	46	1662	0.080	133	0.1	2.353	A
B - Proposed Development Site	0	179	1507	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	165	11	1531	0.108	165	0.1	2.634	A
D - NSOOR Eastern Link	66	144	1823	0.036	66	0.0	2.049	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	133	46	1662	0.080	133	0.1	2.353	A
B - Proposed Development Site	0	179	1507	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	165	11	1531	0.108	165	0.1	2.634	A
D - NSOOR Eastern Link	66	144	1823	0.036	66	0.0	2.049	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	109	38	1667	0.065	109	0.1	2.309	A
B - Proposed Development Site	0	147	1527	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	135	9	1533	0.088	135	0.1	2.577	A
D - NSOOR Eastern Link	54	118	1840	0.029	54	0.0	2.016	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	91	32	1671	0.055	91	0.1	2.279	A
B - Proposed Development Site	0	123	1541	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	113	8	1533	0.074	113	0.1	2.534	A
D - NSOOR Eastern Link	45	99	1853	0.024	45	0.0	1.991	A

2029 Do Nothing , AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.68	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2029 Do Nothing	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	334	100.000
B - Proposed Development Site		✓	0	100.000
C - Great Connell Road (North)		✓	157	100.000
D - NSOOR Eastern Link		✓	27	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	304	30
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	112	0	0	45
	D - NSOOR Eastern Link	11	0	16	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.22	2.74	0.3	A
B - Proposed Development Site	0.00	0.00	0.0	A
C - Great Connell Road (North)	0.11	2.67	0.1	A
D - NSOOR Eastern Link	0.02	1.99	0.0	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	251	12	1683	0.149	251	0.2	2.511	A
B - Proposed Development Site	0	263	1456	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	118	23	1525	0.078	118	0.1	2.558	A
D - NSOOR Eastern Link	20	84	1863	0.011	20	0.0	1.953	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	300	14	1682	0.179	300	0.2	2.605	A
B - Proposed Development Site	0	314	1425	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	141	27	1522	0.093	141	0.1	2.606	A
D - NSOOR Eastern Link	24	101	1852	0.013	24	0.0	1.969	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	368	18	1680	0.219	367	0.3	2.743	A
B - Proposed Development Site	0	385	1382	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	173	33	1519	0.114	173	0.1	2.674	A
D - NSOOR Eastern Link	30	123	1837	0.016	30	0.0	1.992	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	368	18	1680	0.219	368	0.3	2.743	A
B - Proposed Development Site	0	385	1381	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	173	33	1519	0.114	173	0.1	2.674	A
D - NSOOR Eastern Link	30	123	1837	0.016	30	0.0	1.992	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	300	14	1682	0.179	301	0.2	2.608	A
B - Proposed Development Site	0	315	1424	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	141	27	1522	0.093	141	0.1	2.608	A
D - NSOOR Eastern Link	24	101	1851	0.013	24	0.0	1.970	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	251	12	1683	0.149	252	0.2	2.514	A
B - Proposed Development Site	0	264	1455	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	118	23	1525	0.078	118	0.1	2.561	A
D - NSOOR Eastern Link	20	84	1862	0.011	20	0.0	1.954	A

2029 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.45	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	133	100.000
B - Proposed Development Site		✓	0	100.000
C - Great Connell Road (North)		✓	165	100.000
D - NSOOR Eastern Link		✓	62	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	123	10
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	145	0	0	20
	D - NSOOR Eastern Link	19	0	43	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.09	2.38	0.1	A
B - Proposed Development Site	0.00	0.00	0.0	A
C - Great Connell Road (North)	0.12	2.67	0.1	A
D - NSOOR Eastern Link	0.04	2.06	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	100	32	1671	0.060	100	0.1	2.291	A
B - Proposed Development Site	0	132	1535	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	124	8	1533	0.081	124	0.1	2.554	A
D - NSOOR Eastern Link	47	109	1846	0.025	47	0.0	2.000	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	120	39	1667	0.072	120	0.1	2.326	A
B - Proposed Development Site	0	158	1520	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	148	9	1533	0.097	148	0.1	2.600	A
D - NSOOR Eastern Link	56	130	1832	0.030	56	0.0	2.026	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	146	47	1662	0.088	146	0.1	2.375	A
B - Proposed Development Site	0	194	1498	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	182	11	1531	0.119	182	0.1	2.666	A
D - NSOOR Eastern Link	68	160	1812	0.038	68	0.0	2.063	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	146	47	1662	0.088	146	0.1	2.375	A
B - Proposed Development Site	0	194	1498	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	182	11	1531	0.119	182	0.1	2.666	A
D - NSOOR Eastern Link	68	160	1812	0.038	68	0.0	2.063	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	120	39	1667	0.072	120	0.1	2.328	A
B - Proposed Development Site	0	158	1520	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	148	9	1533	0.097	148	0.1	2.602	A
D - NSOOR Eastern Link	56	130	1832	0.030	56	0.0	2.026	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	100	32	1671	0.060	100	0.1	2.293	A
B - Proposed Development Site	0	133	1535	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	124	8	1533	0.081	124	0.1	2.554	A
D - NSOOR Eastern Link	47	109	1846	0.025	47	0.0	2.002	A

2039 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.73	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2039 Do Nothing	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	360	100.000
B - Proposed Development Site		✓	0	100.000
C - Great Connell Road (North)		✓	167	100.000
D - NSOOR Eastern Link		✓	27	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	328	32
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	121	0	0	46
	D - NSOOR Eastern Link	11	0	16	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.24	2.80	0.3	A
B - Proposed Development Site	0.00	0.00	0.0	A
C - Great Connell Road (North)	0.12	2.70	0.1	A
D - NSOOR Eastern Link	0.02	2.00	0.0	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	271	12	1683	0.161	270	0.2	2.546	A
B - Proposed Development Site	0	282	1444	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	126	24	1524	0.083	125	0.1	2.574	A
D - NSOOR Eastern Link	20	91	1858	0.011	20	0.0	1.958	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	324	14	1682	0.192	323	0.2	2.650	A
B - Proposed Development Site	0	338	1410	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	150	29	1521	0.099	150	0.1	2.625	A
D - NSOOR Eastern Link	24	109	1846	0.013	24	0.0	1.975	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	396	18	1680	0.236	396	0.3	2.804	A
B - Proposed Development Site	0	414	1364	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	184	35	1517	0.121	184	0.1	2.699	A
D - NSOOR Eastern Link	30	133	1830	0.016	30	0.0	1.999	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	396	18	1680	0.236	396	0.3	2.804	A
B - Proposed Development Site	0	414	1364	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	184	35	1517	0.121	184	0.1	2.699	A
D - NSOOR Eastern Link	30	133	1830	0.016	30	0.0	1.999	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	324	14	1682	0.192	324	0.2	2.651	A
B - Proposed Development Site	0	338	1410	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	150	29	1521	0.099	150	0.1	2.627	A
D - NSOOR Eastern Link	24	109	1846	0.013	24	0.0	1.977	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	271	12	1683	0.161	271	0.2	2.551	A
B - Proposed Development Site	0	283	1444	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	126	24	1524	0.083	126	0.1	2.576	A
D - NSOOR Eastern Link	20	91	1858	0.011	20	0.0	1.958	A

2039 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.48	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	143	100.000
B - Proposed Development Site		✓	0	100.000
C - Great Connell Road (North)		✓	176	100.000
D - NSOOR Eastern Link		✓	64	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	132	11
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	156	0	0	20
	D - NSOOR Eastern Link	19	0	45	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.09	2.39	0.1	A
B - Proposed Development Site	0.00	0.00	0.0	A
C - Great Connell Road (North)	0.13	2.69	0.1	A
D - NSOOR Eastern Link	0.04	2.08	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	108	34	1670	0.064	107	0.1	2.303	A
B - Proposed Development Site	0	141	1530	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	133	8	1533	0.086	132	0.1	2.570	A
D - NSOOR Eastern Link	48	117	1841	0.026	48	0.0	2.008	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	129	40	1666	0.077	128	0.1	2.341	A
B - Proposed Development Site	0	169	1513	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	158	10	1532	0.103	158	0.1	2.619	A
D - NSOOR Eastern Link	58	140	1825	0.032	58	0.0	2.036	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	157	50	1660	0.095	157	0.1	2.395	A
B - Proposed Development Site	0	207	1490	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	194	12	1531	0.127	194	0.1	2.692	A
D - NSOOR Eastern Link	70	172	1804	0.039	70	0.0	2.075	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	157	50	1660	0.095	157	0.1	2.395	A
B - Proposed Development Site	0	207	1490	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	194	12	1531	0.127	194	0.1	2.692	A
D - NSOOR Eastern Link	70	172	1804	0.039	70	0.0	2.075	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	129	40	1666	0.077	129	0.1	2.341	A
B - Proposed Development Site	0	169	1513	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	158	10	1532	0.103	158	0.1	2.620	A
D - NSOOR Eastern Link	58	140	1825	0.032	58	0.0	2.036	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	108	34	1670	0.064	108	0.1	2.304	A
B - Proposed Development Site	0	142	1530	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	133	8	1533	0.086	133	0.1	2.570	A
D - NSOOR Eastern Link	48	118	1840	0.026	48	0.0	2.008	A

2024 Scenario A Opening Year, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.75	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2024 Scenario A Opening Year	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	297	100.000
B - Proposed Development Site		✓	97	100.000
C - Great Connell Road (North)		✓	220	100.000
D - NSOOR Eastern Link		✓	26	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	8	276	13
	B - Proposed Development Site	10	0	87	0
	C - Great Connell Road (North)	102	74	0	44
	D - NSOOR Eastern Link	11	0	15	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.20	2.76	0.3	A
B - Proposed Development Site	0.08	2.76	0.1	A
C - Great Connell Road (North)	0.16	2.81	0.2	A
D - NSOOR Eastern Link	0.02	2.05	0.0	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	224	67	1650	0.136	223	0.2	2.521	A
B - Proposed Development Site	73	228	1477	0.049	73	0.1	2.563	A
C - Great Connell Road (North)	166	17	1528	0.108	165	0.1	2.642	A
D - NSOOR Eastern Link	20	140	1826	0.011	20	0.0	1.992	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	267	80	1642	0.163	267	0.2	2.618	A
B - Proposed Development Site	87	273	1450	0.060	87	0.1	2.641	A
C - Great Connell Road (North)	198	21	1526	0.130	198	0.1	2.710	A
D - NSOOR Eastern Link	23	167	1807	0.013	23	0.0	2.017	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	327	98	1631	0.201	327	0.2	2.760	A
B - Proposed Development Site	107	334	1412	0.076	107	0.1	2.756	A
C - Great Connell Road (North)	242	25	1523	0.159	242	0.2	2.809	A
D - NSOOR Eastern Link	29	205	1783	0.016	29	0.0	2.052	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	327	98	1631	0.201	327	0.3	2.760	A
B - Proposed Development Site	107	335	1412	0.076	107	0.1	2.757	A
C - Great Connell Road (North)	242	25	1523	0.159	242	0.2	2.809	A
D - NSOOR Eastern Link	29	205	1783	0.016	29	0.0	2.052	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	267	80	1642	0.163	267	0.2	2.621	A
B - Proposed Development Site	87	274	1449	0.060	87	0.1	2.642	A
C - Great Connell Road (North)	198	21	1526	0.130	198	0.1	2.710	A
D - NSOOR Eastern Link	23	167	1807	0.013	23	0.0	2.019	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	224	67	1650	0.136	224	0.2	2.526	A
B - Proposed Development Site	73	229	1477	0.049	73	0.1	2.566	A
C - Great Connell Road (North)	166	17	1528	0.108	166	0.1	2.644	A
D - NSOOR Eastern Link	20	140	1825	0.011	20	0.0	1.994	A

2024 Scenario A Opening Year, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.60	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2024 Scenario A Opening Year	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	122	100.000
B - Proposed Development Site		✓	86	100.000
C - Great Connell Road (North)		✓	232	100.000
D - NSOOR Eastern Link		✓	60	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	9	111	2
	B - Proposed Development Site	9	0	77	0
	C - Great Connell Road (North)	131	82	0	19
	D - NSOOR Eastern Link	18	0	42	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.08	2.44	0.1	A
B - Proposed Development Site	0.06	2.54	0.1	A
C - Great Connell Road (North)	0.17	2.82	0.2	A
D - NSOOR Eastern Link	0.04	2.13	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	92	93	1634	0.056	92	0.1	2.334	A
B - Proposed Development Site	65	116	1545	0.042	65	0.0	2.431	A
C - Great Connell Road (North)	175	8	1533	0.114	174	0.1	2.649	A
D - NSOOR Eastern Link	45	167	1808	0.025	45	0.0	2.042	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	110	111	1622	0.068	110	0.1	2.379	A
B - Proposed Development Site	77	139	1531	0.050	77	0.1	2.475	A
C - Great Connell Road (North)	209	10	1532	0.136	208	0.2	2.719	A
D - NSOOR Eastern Link	54	199	1786	0.030	54	0.0	2.078	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	134	136	1607	0.084	134	0.1	2.443	A
B - Proposed Development Site	95	171	1512	0.063	95	0.1	2.539	A
C - Great Connell Road (North)	255	12	1531	0.167	255	0.2	2.822	A
D - NSOOR Eastern Link	66	244	1756	0.038	66	0.0	2.129	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	134	137	1607	0.084	134	0.1	2.444	A
B - Proposed Development Site	95	171	1512	0.063	95	0.1	2.539	A
C - Great Connell Road (North)	255	12	1531	0.167	255	0.2	2.822	A
D - NSOOR Eastern Link	66	244	1756	0.038	66	0.0	2.129	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	110	112	1622	0.068	110	0.1	2.381	A
B - Proposed Development Site	77	139	1531	0.051	77	0.1	2.478	A
C - Great Connell Road (North)	209	10	1532	0.136	209	0.2	2.722	A
D - NSOOR Eastern Link	54	200	1786	0.030	54	0.0	2.078	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	92	93	1633	0.056	92	0.1	2.336	A
B - Proposed Development Site	65	117	1545	0.042	65	0.0	2.433	A
C - Great Connell Road (North)	175	8	1533	0.114	175	0.1	2.652	A
D - NSOOR Eastern Link	45	167	1807	0.025	45	0.0	2.044	A

2029 Scenario A Design 5 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.91	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D9	2029 Scenario A Design 5 Years	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	331	100.000
B - Proposed Development Site		✓	183	100.000
C - Great Connell Road (North)		✓	267	100.000
D - NSOOR Eastern Link		✓	27	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	13	304	14
	B - Proposed Development Site	19	0	164	0
	C - Great Connell Road (North)	112	110	0	45
	D - NSOOR Eastern Link	11	0	16	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.23	2.90	0.3	A
B - Proposed Development Site	0.14	3.02	0.2	A
C - Great Connell Road (North)	0.19	2.94	0.2	A
D - NSOOR Eastern Link	0.02	2.10	0.0	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	249	95	1633	0.153	248	0.2	2.599	A
B - Proposed Development Site	138	251	1463	0.094	137	0.1	2.715	A
C - Great Connell Road (North)	201	25	1523	0.132	200	0.2	2.719	A
D - NSOOR Eastern Link	20	181	1798	0.011	20	0.0	2.024	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	298	113	1621	0.184	297	0.2	2.719	A
B - Proposed Development Site	165	300	1433	0.115	164	0.1	2.836	A
C - Great Connell Road (North)	240	30	1521	0.158	240	0.2	2.810	A
D - NSOOR Eastern Link	24	217	1775	0.014	24	0.0	2.056	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	364	139	1606	0.227	364	0.3	2.899	A
B - Proposed Development Site	201	367	1392	0.145	201	0.2	3.022	A
C - Great Connell Road (North)	294	36	1517	0.194	294	0.2	2.943	A
D - NSOOR Eastern Link	30	265	1743	0.017	30	0.0	2.101	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	364	139	1606	0.227	364	0.3	2.899	A
B - Proposed Development Site	201	368	1392	0.145	201	0.2	3.022	A
C - Great Connell Road (North)	294	36	1517	0.194	294	0.2	2.943	A
D - NSOOR Eastern Link	30	265	1742	0.017	30	0.0	2.101	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	298	113	1621	0.184	298	0.2	2.720	A
B - Proposed Development Site	165	301	1433	0.115	165	0.1	2.838	A
C - Great Connell Road (North)	240	30	1521	0.158	240	0.2	2.813	A
D - NSOOR Eastern Link	24	217	1775	0.014	24	0.0	2.056	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	249	95	1632	0.153	249	0.2	2.604	A
B - Proposed Development Site	138	252	1463	0.094	138	0.1	2.719	A
C - Great Connell Road (North)	201	25	1523	0.132	201	0.2	2.722	A
D - NSOOR Eastern Link	20	182	1798	0.011	20	0.0	2.024	A

2029 Scenario A Design 5 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.81	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D10	2029 Scenario A Design 5 Years	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	144	100.000
B - Proposed Development Site		✓	142	100.000
C - Great Connell Road (North)		✓	328	100.000
D - NSOOR Eastern Link		✓	62	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	19	123	2
	B - Proposed Development Site	15	0	127	0
	C - Great Connell Road (North)	145	163	0	20
	D - NSOOR Eastern Link	19	0	43	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.10	2.58	0.1	A
B - Proposed Development Site	0.10	2.67	0.1	A
C - Great Connell Road (North)	0.24	3.09	0.3	A
D - NSOOR Eastern Link	0.04	2.23	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	108	155	1596	0.068	108	0.1	2.419	A
B - Proposed Development Site	107	126	1539	0.069	107	0.1	2.513	A
C - Great Connell Road (North)	247	13	1530	0.161	246	0.2	2.802	A
D - NSOOR Eastern Link	47	242	1758	0.027	47	0.0	2.103	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	129	185	1577	0.082	129	0.1	2.485	A
B - Proposed Development Site	128	151	1524	0.084	128	0.1	2.577	A
C - Great Connell Road (North)	295	15	1529	0.193	295	0.2	2.916	A
D - NSOOR Eastern Link	56	290	1726	0.032	56	0.0	2.155	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	159	227	1552	0.102	158	0.1	2.583	A
B - Proposed Development Site	156	185	1503	0.104	156	0.1	2.672	A
C - Great Connell Road (North)	361	19	1527	0.237	361	0.3	3.087	A
D - NSOOR Eastern Link	68	355	1683	0.041	68	0.0	2.229	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	159	227	1552	0.102	159	0.1	2.583	A
B - Proposed Development Site	156	185	1503	0.104	156	0.1	2.672	A
C - Great Connell Road (North)	361	19	1527	0.237	361	0.3	3.087	A
D - NSOOR Eastern Link	68	356	1683	0.041	68	0.0	2.229	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	129	185	1577	0.082	130	0.1	2.488	A
B - Proposed Development Site	128	151	1524	0.084	128	0.1	2.580	A
C - Great Connell Road (North)	295	15	1529	0.193	295	0.2	2.920	A
D - NSOOR Eastern Link	56	291	1726	0.032	56	0.0	2.155	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	108	155	1596	0.068	108	0.1	2.420	A
B - Proposed Development Site	107	127	1539	0.069	107	0.1	2.515	A
C - Great Connell Road (North)	247	13	1530	0.161	247	0.2	2.807	A
D - NSOOR Eastern Link	47	243	1757	0.027	47	0.0	2.104	A

2039 Scenario A Design 15 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.96	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D11	2039 Scenario A Design 15 Years	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	356	100.000
B - Proposed Development Site		✓	183	100.000
C - Great Connell Road (North)		✓	277	100.000
D - NSOOR Eastern Link		✓	27	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	13	328	15
	B - Proposed Development Site	19	0	164	0
	C - Great Connell Road (North)	121	110	0	46
	D - NSOOR Eastern Link	11	0	16	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.24	2.96	0.3	A
B - Proposed Development Site	0.15	3.07	0.2	A
C - Great Connell Road (North)	0.20	2.97	0.3	A
D - NSOOR Eastern Link	0.02	2.11	0.0	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	268	95	1633	0.164	267	0.2	2.635	A
B - Proposed Development Site	138	269	1452	0.095	137	0.1	2.738	A
C - Great Connell Road (North)	209	26	1523	0.137	208	0.2	2.736	A
D - NSOOR Eastern Link	20	188	1794	0.011	20	0.0	2.029	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	320	113	1621	0.197	320	0.2	2.765	A
B - Proposed Development Site	165	323	1420	0.116	164	0.1	2.867	A
C - Great Connell Road (North)	249	31	1520	0.164	249	0.2	2.831	A
D - NSOOR Eastern Link	24	225	1769	0.014	24	0.0	2.062	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	392	139	1606	0.244	392	0.3	2.965	A
B - Proposed Development Site	201	395	1376	0.146	201	0.2	3.065	A
C - Great Connell Road (North)	305	37	1516	0.201	305	0.3	2.971	A
D - NSOOR Eastern Link	30	275	1736	0.017	30	0.0	2.109	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	392	139	1606	0.244	392	0.3	2.965	A
B - Proposed Development Site	201	395	1375	0.147	201	0.2	3.066	A
C - Great Connell Road (North)	305	37	1516	0.201	305	0.3	2.971	A
D - NSOOR Eastern Link	30	275	1736	0.017	30	0.0	2.109	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	320	113	1621	0.197	320	0.2	2.767	A
B - Proposed Development Site	165	323	1419	0.116	165	0.1	2.869	A
C - Great Connell Road (North)	249	31	1520	0.164	249	0.2	2.832	A
D - NSOOR Eastern Link	24	225	1769	0.014	24	0.0	2.064	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	268	95	1632	0.164	268	0.2	2.638	A
B - Proposed Development Site	138	270	1451	0.095	138	0.1	2.740	A
C - Great Connell Road (North)	209	26	1523	0.137	209	0.2	2.741	A
D - NSOOR Eastern Link	20	188	1793	0.011	20	0.0	2.030	A

2039 Scenario A Design 15 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.84	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D12	2039 Scenario A Design 15 Years	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	154	100.000
B - Proposed Development Site		✓	142	100.000
C - Great Connell Road (North)		✓	339	100.000
D - NSOOR Eastern Link		✓	64	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	19	132	3
	B - Proposed Development Site	15	0	127	0
	C - Great Connell Road (North)	156	163	0	20
	D - NSOOR Eastern Link	19	0	45	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.11	2.61	0.1	A
B - Proposed Development Site	0.10	2.69	0.1	A
C - Great Connell Road (North)	0.24	3.12	0.3	A
D - NSOOR Eastern Link	0.04	2.24	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	116	156	1595	0.073	116	0.1	2.433	A
B - Proposed Development Site	107	135	1534	0.070	107	0.1	2.522	A
C - Great Connell Road (North)	255	14	1530	0.167	254	0.2	2.821	A
D - NSOOR Eastern Link	48	251	1752	0.028	48	0.0	2.112	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	138	187	1576	0.088	138	0.1	2.503	A
B - Proposed Development Site	128	162	1517	0.084	128	0.1	2.589	A
C - Great Connell Road (North)	305	16	1528	0.199	305	0.2	2.941	A
D - NSOOR Eastern Link	58	300	1719	0.033	58	0.0	2.165	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	170	229	1550	0.109	169	0.1	2.606	A
B - Proposed Development Site	156	198	1495	0.105	156	0.1	2.688	A
C - Great Connell Road (North)	373	20	1526	0.245	373	0.3	3.121	A
D - NSOOR Eastern Link	70	367	1675	0.042	70	0.0	2.243	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	170	229	1550	0.109	170	0.1	2.606	A
B - Proposed Development Site	156	198	1495	0.105	156	0.1	2.688	A
C - Great Connell Road (North)	373	20	1526	0.245	373	0.3	3.121	A
D - NSOOR Eastern Link	70	368	1675	0.042	70	0.0	2.243	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	138	187	1576	0.088	139	0.1	2.506	A
B - Proposed Development Site	128	162	1517	0.084	128	0.1	2.590	A
C - Great Connell Road (North)	305	16	1528	0.199	305	0.3	2.945	A
D - NSOOR Eastern Link	58	301	1719	0.033	58	0.0	2.168	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	116	157	1595	0.073	116	0.1	2.434	A
B - Proposed Development Site	107	136	1533	0.070	107	0.1	2.525	A
C - Great Connell Road (North)	255	14	1530	0.167	255	0.2	2.824	A
D - NSOOR Eastern Link	48	252	1751	0.028	48	0.0	2.114	A

Junctions 9			
ARCADY 9 - Roundabout Module			
Version: 9.5.0.6896 © Copyright TRL Limited, 2018			
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Filename: 192229 - Great Connell Roundabout - Scenario B.j9

Path: \\w2k19-dl-fs01\users\CAD\DWGS\192\201-250\192229\OfficeDocs\Reports\Planning\Planning Package\0004_TTA\Junction 9 Stage 3 final version\Scenario B - Lidl Rd open

Report generation date: 15/03/2022 15:25:52

»2024 Do Nothing, AM
 »2024 Do Nothing, PM
 »2029 Do Nothing, AM
 »2029 Do Nothing, PM
 »2039 Do Nothing, AM
 »2039 Do Nothing, PM
 »2024 Scenario B Opening Year, AM
 »2024 Scenario B Opening Year, PM
 »2029 Scenario B Design 5 Years, AM
 »2029 Scenario B Design 5 Years, PM
 »2039 Scenario B Design 15 Years, AM
 »2039 Scenario B Design 15 Years, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2024 Do Nothing								
A - Great Connell Road (South)	0.2	2.67	0.20	A	0.1	2.36	0.08	A
B - Proposed Development Site	0.0	0.00	0.00	A	0.0	0.00	0.00	A
C - Great Connell Road (North)	0.1	2.70	0.11	A	0.1	2.65	0.11	A
D - NSOOR Eastern Link	0.0	1.98	0.02	A	0.0	2.05	0.04	A
2029 Do Nothing								
A - Great Connell Road (South)	0.3	2.70	0.21	A	0.1	2.33	0.08	A
B - Proposed Development Site	0.0	0.00	0.00	A	0.0	0.00	0.00	A
C - Great Connell Road (North)	0.1	2.64	0.09	A	0.1	2.66	0.11	A
D - NSOOR Eastern Link	0.0	1.97	0.01	A	0.0	2.02	0.02	A
2039 Do Nothing								
A - Great Connell Road (South)	0.3	2.80	0.23	A	0.1	2.39	0.09	A
B - Proposed Development Site	0.0	0.00	0.00	A	0.0	0.00	0.00	A
C - Great Connell Road (North)	0.1	2.76	0.12	A	0.1	2.72	0.13	A
D - NSOOR Eastern Link	0.0	2.00	0.02	A	0.0	2.08	0.04	A
2024 Scenario B Opening Year								
A - Great Connell Road (South)	0.2	2.75	0.20	A	0.1	2.42	0.08	A
B - Proposed Development Site	0.1	2.75	0.08	A	0.1	2.51	0.06	A
C - Great Connell Road (North)	0.1	2.76	0.11	A	0.2	2.77	0.13	A
D - NSOOR Eastern Link	0.0	2.05	0.03	A	0.0	2.10	0.04	A
2029 Scenario B Design 5 Years								
A - Great Connell Road (South)	0.3	2.90	0.23	A	0.1	2.58	0.10	A
B - Proposed Development Site	0.2	3.02	0.14	A	0.1	2.67	0.10	A
C - Great Connell Road (North)	0.2	2.91	0.13	A	0.2	2.95	0.17	A
D - NSOOR Eastern Link	0.1	2.13	0.05	A	0.1	2.28	0.10	A
2039 Scenario B Design 15 Years								
A - Great Connell Road (South)	0.3	2.96	0.24	A	0.1	2.60	0.11	A
B - Proposed Development Site	0.2	3.06	0.15	A	0.1	2.69	0.10	A
C - Great Connell Road (North)	0.2	2.94	0.14	A	0.2	2.99	0.18	A
D - NSOOR Eastern Link	0.1	2.14	0.05	A	0.1	2.29	0.10	A

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

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

File summary

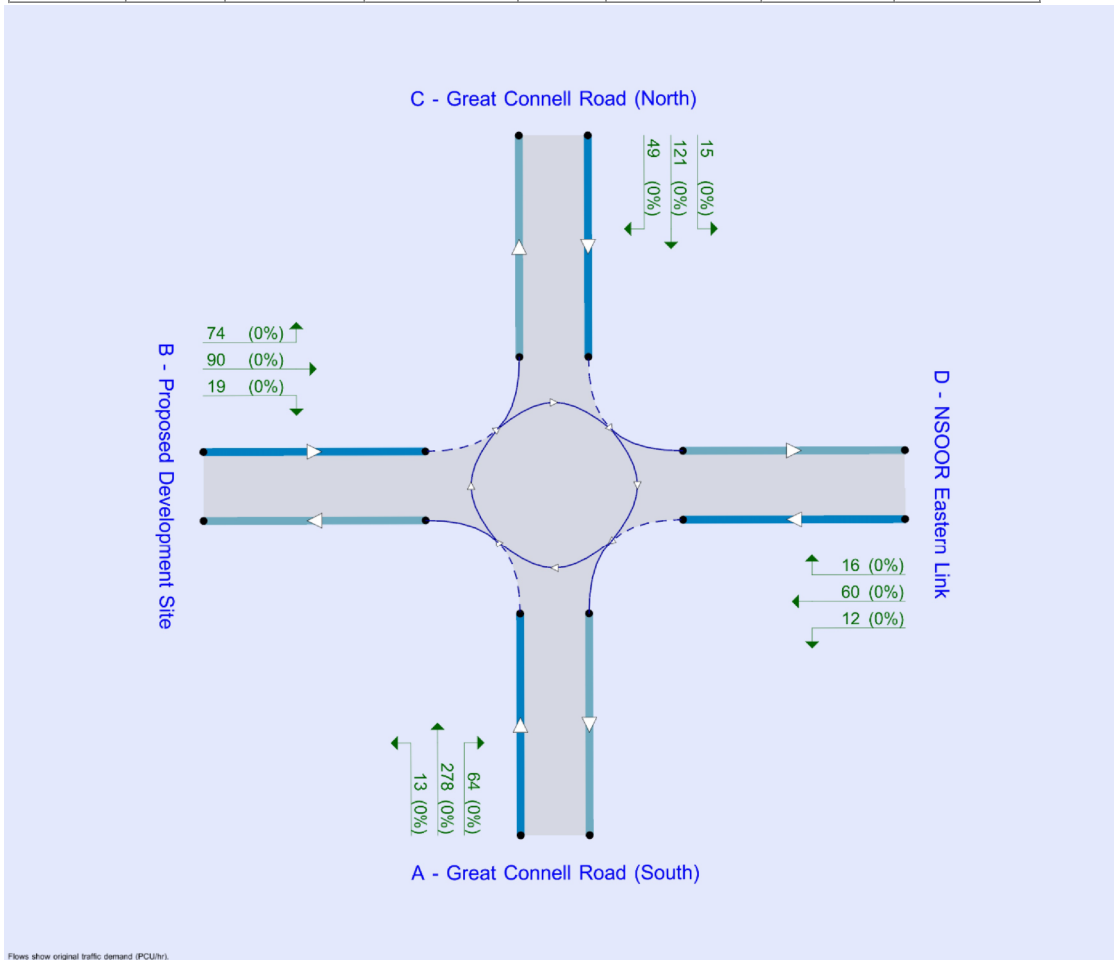
File Description

Title	
Location	
Site number	

Date	29/04/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MPPNET\socoileir
Description	

Units

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



Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Do Nothing	AM	ONE HOUR	07:15	08:45	15
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D3	2029 Do Nothing	AM	ONE HOUR	07:15	08:45	15
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D5	2039 Do Nothing	AM	ONE HOUR	07:15	08:45	15
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D7	2024 Scenario B Opening Year	AM	ONE HOUR	07:15	08:45	15
D8	2024 Scenario B Opening Year	PM	ONE HOUR	17:30	19:00	15
D9	2029 Scenario B Design 5 Years	AM	ONE HOUR	07:15	08:45	15
D10	2029 Scenario B Design 5 Years	PM	ONE HOUR	17:30	19:00	15
D11	2039 Scenario B Design 15 Years	AM	ONE HOUR	07:15	08:45	15
D12	2039 Scenario B Design 15 Years	PM	ONE HOUR	17:30	19:00	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.64	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	Great Connell Road (South)	
B	Proposed Development Site	
C	Great Connell Road (North)	
D	NSOOR Eastern Link	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - Great Connell Road (South)	3.60	7.00	15.6	17.4	48.4	29.1	
B - Proposed Development Site	3.50	7.00	10.2	33.5	48.4	26.5	
C - Great Connell Road (North)	3.50	7.00	10.6	38.0	48.4	43.7	
D - NSOOR Eastern Link	4.50	7.00	17.4	18.9	48.4	23.7	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - Great Connell Road (South)	0.612	1691
B - Proposed Development Site	0.608	1616
C - Great Connell Road (North)	0.577	1538
D - NSOOR Eastern Link	0.663	1918

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Do Nothing	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	304	100.000
B - Proposed Development Site		✓	0	100.000
C - Great Connell Road (North)		✓	146	100.000
D - NSOOR Eastern Link		✓	26	100.000

Origin-Destination Data

Demand (PCU/hr)

To					
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link

From	A - Great Connell Road (South)	0	0	234	70
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	102	0	0	44
	D - NSOOR Eastern Link	11	0	15	0

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.20	2.67	0.2	A
B - Proposed Development Site	0.00	0.00	0.0	A
C - Great Connell Road (North)	0.11	2.70	0.1	A
D - NSOOR Eastern Link	0.02	1.98	0.0	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	229	11	1684	0.136	228	0.2	2.472	A
B - Proposed Development Site	0	240	1470	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	110	53	1507	0.073	110	0.1	2.575	A
D - NSOOR Eastern Link	20	77	1867	0.010	20	0.0	1.947	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	273	13	1682	0.162	273	0.2	2.554	A
B - Proposed Development Site	0	287	1441	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	131	63	1501	0.087	131	0.1	2.626	A
D - NSOOR Eastern Link	23	92	1857	0.013	23	0.0	1.962	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	335	17	1681	0.199	334	0.2	2.674	A
B - Proposed Development Site	0	351	1402	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	161	77	1493	0.108	161	0.1	2.701	A
D - NSOOR Eastern Link	29	112	1844	0.016	29	0.0	1.982	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	335	17	1681	0.199	335	0.2	2.674	A
B - Proposed Development Site	0	351	1402	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	161	77	1493	0.108	161	0.1	2.701	A
D - NSOOR Eastern Link	29	112	1844	0.016	29	0.0	1.983	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	273	13	1682	0.162	274	0.2	2.555	A
B - Proposed Development Site	0	287	1441	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	131	63	1501	0.087	131	0.1	2.627	A
D - NSOOR Eastern Link	23	92	1857	0.013	23	0.0	1.964	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	229	11	1684	0.136	229	0.2	2.474	A

B - Proposed Development Site	0	240	1470	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	110	53	1507	0.073	110	0.1	2.578	A
D - NSOOR Eastern Link	20	77	1867	0.010	20	0.0	1.949	A

2024 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.44	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	122	100.000
B - Proposed Development Site		✓	0	100.000
C - Great Connell Road (North)		✓	150	100.000
D - NSOOR Eastern Link		✓	60	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	95	27
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	131	0	0	19
	D - NSOOR Eastern Link	18	0	42	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.08	2.36	0.1	A
B - Proposed Development Site	0.00	0.00	0.0	A
C - Great Connell Road (North)	0.11	2.65	0.1	A
D - NSOOR Eastern Link	0.04	2.05	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	92	32	1671	0.055	92	0.1	2.278	A
B - Proposed Development Site	0	123	1541	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	113	20	1526	0.074	113	0.1	2.547	A
D - NSOOR Eastern Link	45	98	1853	0.024	45	0.0	1.991	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	110	38	1668	0.066	110	0.1	2.310	A
B - Proposed Development Site	0	147	1526	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	135	24	1524	0.089	135	0.1	2.591	A
D - NSOOR Eastern Link	54	118	1840	0.029	54	0.0	2.015	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	134	46	1662	0.081	134	0.1	2.355	A
B - Proposed Development Site	0	180	1506	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	165	30	1521	0.109	165	0.1	2.655	A
D - NSOOR Eastern Link	66	144	1823	0.036	66	0.0	2.049	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	134	46	1662	0.081	134	0.1	2.355	A
B - Proposed Development Site	0	181	1506	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	165	30	1521	0.109	165	0.1	2.655	A
D - NSOOR Eastern Link	66	144	1823	0.036	66	0.0	2.049	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	110	38	1667	0.066	110	0.1	2.312	A
B - Proposed Development Site	0	148	1526	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	135	24	1524	0.089	135	0.1	2.591	A
D - NSOOR Eastern Link	54	118	1840	0.029	54	0.0	2.015	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	92	32	1671	0.055	92	0.1	2.280	A
B - Proposed Development Site	0	124	1541	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	113	20	1526	0.074	113	0.1	2.547	A
D - NSOOR Eastern Link	45	99	1853	0.024	45	0.0	1.991	A

2029 Do Nothing , AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.66	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2029 Do Nothing	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	318	100.000
B - Proposed Development Site		✓	0	100.000
C - Great Connell Road (North)		✓	126	100.000
D - NSOOR Eastern Link		✓	13	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	258	60
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	112	0	0	14
	D - NSOOR Eastern Link	2	0	11	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.21	2.70	0.3	A
B - Proposed Development Site	0.00	0.00	0.0	A
C - Great Connell Road (North)	0.09	2.64	0.1	A
D - NSOOR Eastern Link	0.01	1.97	0.0	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	239	8	1686	0.142	239	0.2	2.486	A
B - Proposed Development Site	0	247	1466	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	95	45	1512	0.063	95	0.1	2.540	A
D - NSOOR Eastern Link	10	84	1863	0.005	10	0.0	1.942	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	286	10	1685	0.170	286	0.2	2.573	A
B - Proposed Development Site	0	296	1436	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	113	54	1507	0.075	113	0.1	2.583	A
D - NSOOR Eastern Link	12	101	1852	0.006	12	0.0	1.956	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	350	12	1683	0.208	350	0.3	2.699	A
B - Proposed Development Site	0	362	1396	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	139	66	1500	0.093	139	0.1	2.644	A
D - NSOOR Eastern Link	14	123	1837	0.008	14	0.0	1.975	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	350	12	1683	0.208	350	0.3	2.699	A
B - Proposed Development Site	0	362	1395	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	139	66	1500	0.093	139	0.1	2.644	A
D - NSOOR Eastern Link	14	123	1837	0.008	14	0.0	1.975	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	286	10	1685	0.170	286	0.2	2.576	A
B - Proposed Development Site	0	296	1436	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	113	54	1507	0.075	113	0.1	2.583	A
D - NSOOR Eastern Link	12	101	1851	0.006	12	0.0	1.958	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	239	8	1686	0.142	240	0.2	2.491	A
B - Proposed Development Site	0	248	1465	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	95	45	1512	0.063	95	0.1	2.542	A
D - NSOOR Eastern Link	10	84	1862	0.005	10	0.0	1.944	A

2029 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.47	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	125	100.000
B - Proposed Development Site		✓	0	100.000
C - Great Connell Road (North)		✓	156	100.000
D - NSOOR Eastern Link		✓	28	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	104	21
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	145	0	0	11
	D - NSOOR Eastern Link	12	0	16	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.08	2.33	0.1	A
B - Proposed Development Site	0.00	0.00	0.0	A
C - Great Connell Road (North)	0.11	2.66	0.1	A
D - NSOOR Eastern Link	0.02	2.02	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	94	12	1683	0.056	94	0.1	2.264	A
B - Proposed Development Site	0	106	1551	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	117	16	1529	0.077	117	0.1	2.550	A
D - NSOOR Eastern Link	21	109	1846	0.011	21	0.0	1.972	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	112	14	1682	0.067	112	0.1	2.293	A
B - Proposed Development Site	0	127	1539	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	140	19	1527	0.092	140	0.1	2.595	A
D - NSOOR Eastern Link	25	130	1832	0.014	25	0.0	1.992	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	138	18	1680	0.082	138	0.1	2.333	A
B - Proposed Development Site	0	155	1521	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	172	23	1524	0.113	172	0.1	2.660	A
D - NSOOR Eastern Link	31	160	1812	0.017	31	0.0	2.020	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	138	18	1680	0.082	138	0.1	2.333	A
B - Proposed Development Site	0	155	1521	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	172	23	1524	0.113	172	0.1	2.660	A
D - NSOOR Eastern Link	31	160	1812	0.017	31	0.0	2.020	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	112	14	1682	0.067	112	0.1	2.293	A
B - Proposed Development Site	0	127	1539	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	140	19	1527	0.092	140	0.1	2.598	A
D - NSOOR Eastern Link	25	130	1832	0.014	25	0.0	1.992	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	94	12	1683	0.056	94	0.1	2.266	A
B - Proposed Development Site	0	106	1551	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	117	16	1529	0.077	118	0.1	2.552	A
D - NSOOR Eastern Link	21	109	1846	0.011	21	0.0	1.974	A

2039 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.75	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2039 Do Nothing	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	358	100.000
B - Proposed Development Site		✓	0	100.000
C - Great Connell Road (North)		✓	167	100.000
D - NSOOR Eastern Link		✓	28	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	278	80
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	121	0	0	46
	D - NSOOR Eastern Link	12	0	16	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.23	2.80	0.3	A
B - Proposed Development Site	0.00	0.00	0.0	A
C - Great Connell Road (North)	0.12	2.76	0.1	A
D - NSOOR Eastern Link	0.02	2.00	0.0	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	270	12	1683	0.160	269	0.2	2.543	A
B - Proposed Development Site	0	281	1445	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	126	60	1503	0.084	125	0.1	2.613	A
D - NSOOR Eastern Link	21	91	1858	0.011	21	0.0	1.959	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	322	14	1682	0.191	322	0.2	2.646	A
B - Proposed Development Site	0	336	1411	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	150	72	1496	0.100	150	0.1	2.673	A
D - NSOOR Eastern Link	25	109	1846	0.014	25	0.0	1.976	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	394	18	1680	0.235	394	0.3	2.799	A
B - Proposed Development Site	0	411	1365	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	184	88	1487	0.124	184	0.1	2.762	A
D - NSOOR Eastern Link	31	133	1830	0.017	31	0.0	2.000	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	394	18	1680	0.235	394	0.3	2.799	A
B - Proposed Development Site	0	412	1365	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	184	88	1487	0.124	184	0.1	2.762	A
D - NSOOR Eastern Link	31	133	1830	0.017	31	0.0	2.000	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	322	14	1682	0.191	322	0.2	2.647	A
B - Proposed Development Site	0	336	1411	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	150	72	1496	0.100	150	0.1	2.674	A
D - NSOOR Eastern Link	25	109	1846	0.014	25	0.0	1.976	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	270	12	1683	0.160	270	0.2	2.548	A
B - Proposed Development Site	0	282	1444	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	126	60	1503	0.084	126	0.1	2.615	A
D - NSOOR Eastern Link	21	91	1858	0.011	21	0.0	1.959	A

2039 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.49	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	142	100.000
B - Proposed Development Site		✓	0	100.000
C - Great Connell Road (North)		✓	176	100.000
D - NSOOR Eastern Link		✓	65	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	112	30
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	156	0	0	20
	D - NSOOR Eastern Link	20	0	45	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.09	2.39	0.1	A
B - Proposed Development Site	0.00	0.00	0.0	A
C - Great Connell Road (North)	0.13	2.72	0.1	A
D - NSOOR Eastern Link	0.04	2.08	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	107	34	1670	0.064	107	0.1	2.302	A
B - Proposed Development Site	0	140	1530	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	133	23	1525	0.087	132	0.1	2.585	A
D - NSOOR Eastern Link	49	117	1841	0.027	49	0.0	2.009	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	128	40	1666	0.077	128	0.1	2.339	A
B - Proposed Development Site	0	168	1514	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	158	27	1522	0.104	158	0.1	2.638	A
D - NSOOR Eastern Link	58	140	1825	0.032	58	0.0	2.037	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	156	50	1660	0.094	156	0.1	2.393	A
B - Proposed Development Site	0	206	1491	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	194	33	1519	0.128	194	0.1	2.716	A
D - NSOOR Eastern Link	72	172	1804	0.040	72	0.0	2.077	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	156	50	1660	0.094	156	0.1	2.393	A
B - Proposed Development Site	0	206	1491	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	194	33	1519	0.128	194	0.1	2.716	A
D - NSOOR Eastern Link	72	172	1804	0.040	72	0.0	2.077	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	128	40	1666	0.077	128	0.1	2.342	A
B - Proposed Development Site	0	168	1514	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	158	27	1522	0.104	158	0.1	2.639	A
D - NSOOR Eastern Link	58	140	1825	0.032	58	0.0	2.037	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	107	34	1670	0.064	107	0.1	2.304	A
B - Proposed Development Site	0	141	1530	0.000	0	0.0	0.000	A
C - Great Connell Road (North)	133	23	1525	0.087	133	0.1	2.587	A
D - NSOOR Eastern Link	49	118	1840	0.027	49	0.0	2.009	A

2024 Scenario B Opening Year, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.69	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2024 Scenario B Opening Year	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	296	100.000
B - Proposed Development Site		✓	97	100.000
C - Great Connell Road (North)		✓	148	100.000
D - NSOOR Eastern Link		✓	53	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	8	234	54
	B - Proposed Development Site	10	0	39	48
	C - Great Connell Road (North)	102	33	0	13
	D - NSOOR Eastern Link	2	41	10	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.20	2.75	0.2	A
B - Proposed Development Site	0.08	2.75	0.1	A
C - Great Connell Road (North)	0.11	2.76	0.1	A
D - NSOOR Eastern Link	0.03	2.05	0.0	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	223	63	1652	0.135	222	0.2	2.516	A
B - Proposed Development Site	73	224	1480	0.049	73	0.1	2.558	A
C - Great Connell Road (North)	111	84	1489	0.075	111	0.1	2.612	A
D - NSOOR Eastern Link	40	109	1846	0.022	40	0.0	1.992	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	266	75	1644	0.162	266	0.2	2.611	A
B - Proposed Development Site	87	268	1453	0.060	87	0.1	2.635	A
C - Great Connell Road (North)	133	101	1480	0.090	133	0.1	2.672	A
D - NSOOR Eastern Link	48	130	1832	0.026	48	0.0	2.017	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	326	92	1634	0.199	326	0.2	2.751	A
B - Proposed Development Site	107	328	1416	0.075	107	0.1	2.748	A
C - Great Connell Road (North)	163	123	1467	0.111	163	0.1	2.760	A
D - NSOOR Eastern Link	58	160	1813	0.032	58	0.0	2.051	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	326	92	1634	0.199	326	0.2	2.751	A
B - Proposed Development Site	107	328	1416	0.075	107	0.1	2.748	A
C - Great Connell Road (North)	163	123	1467	0.111	163	0.1	2.760	A
D - NSOOR Eastern Link	58	160	1812	0.032	58	0.0	2.052	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	266	76	1644	0.162	266	0.2	2.612	A
B - Proposed Development Site	87	268	1453	0.060	87	0.1	2.636	A
C - Great Connell Road (North)	133	101	1480	0.090	133	0.1	2.675	A
D - NSOOR Eastern Link	48	130	1832	0.026	48	0.0	2.019	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	223	63	1652	0.135	223	0.2	2.519	A
B - Proposed Development Site	73	224	1479	0.049	73	0.1	2.559	A
C - Great Connell Road (North)	111	84	1489	0.075	111	0.1	2.612	A
D - NSOOR Eastern Link	40	109	1846	0.022	40	0.0	1.994	A

2024 Scenario B Opening Year, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.52	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2024 Scenario B Opening Year	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	123	100.000
B - Proposed Development Site		✓	86	100.000
C - Great Connell Road (North)		✓	178	100.000
D - NSOOR Eastern Link		✓	71	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	9	95	19
	B - Proposed Development Site	9	0	35	42
	C - Great Connell Road (North)	131	37	0	10
	D - NSOOR Eastern Link	11	45	15	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.08	2.42	0.1	A
B - Proposed Development Site	0.06	2.51	0.1	A
C - Great Connell Road (North)	0.13	2.77	0.2	A
D - NSOOR Eastern Link	0.04	2.10	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	93	73	1646	0.056	92	0.1	2.317	A
B - Proposed Development Site	65	97	1557	0.042	65	0.0	2.412	A
C - Great Connell Road (North)	134	53	1507	0.089	134	0.1	2.620	A
D - NSOOR Eastern Link	53	133	1830	0.029	53	0.0	2.025	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	111	87	1637	0.068	111	0.1	2.357	A
B - Proposed Development Site	77	116	1545	0.050	77	0.1	2.451	A
C - Great Connell Road (North)	160	63	1501	0.107	160	0.1	2.683	A
D - NSOOR Eastern Link	64	159	1813	0.035	64	0.0	2.058	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	135	107	1625	0.083	135	0.1	2.415	A
B - Proposed Development Site	95	142	1529	0.062	95	0.1	2.508	A
C - Great Connell Road (North)	196	77	1493	0.131	196	0.2	2.774	A
D - NSOOR Eastern Link	78	195	1789	0.044	78	0.0	2.103	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	135	107	1625	0.083	135	0.1	2.415	A
B - Proposed Development Site	95	142	1529	0.062	95	0.1	2.508	A
C - Great Connell Road (North)	196	77	1493	0.131	196	0.2	2.774	A
D - NSOOR Eastern Link	78	195	1789	0.044	78	0.0	2.103	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	111	87	1637	0.068	111	0.1	2.359	A
B - Proposed Development Site	77	116	1545	0.050	77	0.1	2.454	A
C - Great Connell Road (North)	160	63	1501	0.107	160	0.1	2.683	A
D - NSOOR Eastern Link	64	159	1813	0.035	64	0.0	2.058	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	93	73	1646	0.056	93	0.1	2.317	A
B - Proposed Development Site	65	97	1557	0.042	65	0.0	2.414	A
C - Great Connell Road (North)	134	53	1507	0.089	134	0.1	2.621	A
D - NSOOR Eastern Link	53	133	1830	0.029	53	0.0	2.027	A

2029 Scenario B Design 5 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.84	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D9	2029 Scenario B Design 5 Years	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	331	100.000
B - Proposed Development Site		✓	183	100.000
C - Great Connell Road (North)		✓	175	100.000
D - NSOOR Eastern Link		✓	87	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
From	A - Great Connell Road (South)	0	13	258	60
	B - Proposed Development Site	19	0	74	90
	C - Great Connell Road (North)	112	49	0	14
	D - NSOOR Eastern Link	11	60	16	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
From	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.23	2.90	0.3	A
B - Proposed Development Site	0.14	3.02	0.2	A
C - Great Connell Road (North)	0.13	2.91	0.2	A
D - NSOOR Eastern Link	0.05	2.13	0.1	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	249	94	1633	0.153	248	0.2	2.598	A
B - Proposed Development Site	138	251	1463	0.094	137	0.1	2.715	A
C - Great Connell Road (North)	132	127	1465	0.090	131	0.1	2.700	A
D - NSOOR Eastern Link	65	135	1829	0.036	65	0.0	2.041	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	298	112	1622	0.183	297	0.2	2.717	A
B - Proposed Development Site	165	300	1433	0.115	164	0.1	2.836	A
C - Great Connell Road (North)	157	152	1450	0.108	157	0.1	2.784	A
D - NSOOR Eastern Link	78	162	1811	0.043	78	0.0	2.077	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	364	138	1606	0.227	364	0.3	2.898	A
B - Proposed Development Site	201	367	1392	0.145	201	0.2	3.022	A
C - Great Connell Road (North)	193	186	1430	0.135	193	0.2	2.907	A
D - NSOOR Eastern Link	96	198	1787	0.054	96	0.1	2.128	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	364	138	1606	0.227	364	0.3	2.898	A
B - Proposed Development Site	201	368	1392	0.145	201	0.2	3.022	A
C - Great Connell Road (North)	193	186	1430	0.135	193	0.2	2.908	A
D - NSOOR Eastern Link	96	198	1787	0.054	96	0.1	2.128	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	298	112	1622	0.183	298	0.2	2.721	A
B - Proposed Development Site	165	301	1433	0.115	165	0.1	2.838	A
C - Great Connell Road (North)	157	152	1450	0.109	157	0.1	2.784	A
D - NSOOR Eastern Link	78	162	1811	0.043	78	0.0	2.079	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	249	94	1633	0.153	249	0.2	2.601	A
B - Proposed Development Site	138	252	1463	0.094	138	0.1	2.716	A
C - Great Connell Road (North)	132	127	1464	0.090	132	0.1	2.701	A
D - NSOOR Eastern Link	65	136	1828	0.036	66	0.0	2.041	A

2029 Scenario B Design 5 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.66	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D10	2029 Scenario B Design 5 Years	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	144	100.000
B - Proposed Development Site		✓	142	100.000
C - Great Connell Road (North)		✓	229	100.000
D - NSOOR Eastern Link		✓	152	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	19	104	21
	B - Proposed Development Site	15	0	57	70
	C - Great Connell Road (North)	145	73	0	11
	D - NSOOR Eastern Link	19	90	43	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.10	2.58	0.1	A
B - Proposed Development Site	0.10	2.67	0.1	A
C - Great Connell Road (North)	0.17	2.95	0.2	A
D - NSOOR Eastern Link	0.10	2.28	0.1	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	108	155	1596	0.068	108	0.1	2.419	A
B - Proposed Development Site	107	126	1539	0.069	107	0.1	2.513	A
C - Great Connell Road (North)	172	80	1492	0.116	172	0.1	2.725	A
D - NSOOR Eastern Link	114	175	1802	0.063	114	0.1	2.132	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	129	185	1577	0.082	129	0.1	2.486	A
B - Proposed Development Site	128	151	1524	0.084	128	0.1	2.577	A
C - Great Connell Road (North)	206	95	1483	0.139	206	0.2	2.818	A
D - NSOOR Eastern Link	137	209	1780	0.077	137	0.1	2.190	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	159	227	1552	0.102	158	0.1	2.583	A
B - Proposed Development Site	156	185	1503	0.104	156	0.1	2.672	A
C - Great Connell Road (North)	252	117	1470	0.171	252	0.2	2.954	A
D - NSOOR Eastern Link	167	256	1748	0.096	167	0.1	2.276	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	159	227	1552	0.102	159	0.1	2.583	A
B - Proposed Development Site	156	185	1503	0.104	156	0.1	2.672	A
C - Great Connell Road (North)	252	117	1470	0.171	252	0.2	2.954	A
D - NSOOR Eastern Link	167	257	1748	0.096	167	0.1	2.276	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	129	185	1577	0.082	130	0.1	2.486	A
B - Proposed Development Site	128	151	1524	0.084	128	0.1	2.580	A
C - Great Connell Road (North)	206	95	1483	0.139	206	0.2	2.819	A
D - NSOOR Eastern Link	137	210	1779	0.077	137	0.1	2.193	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	108	155	1596	0.068	108	0.1	2.420	A
B - Proposed Development Site	107	127	1539	0.069	107	0.1	2.513	A
C - Great Connell Road (North)	172	80	1492	0.116	173	0.1	2.730	A
D - NSOOR Eastern Link	114	176	1802	0.064	114	0.1	2.133	A

2039 Scenario B Design 15 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.89	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D11	2039 Scenario B Design 15 Years	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	355	100.000
B - Proposed Development Site		✓	183	100.000
C - Great Connell Road (North)		✓	185	100.000
D - NSOOR Eastern Link		✓	88	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	13	278	64
	B - Proposed Development Site	19	0	74	90
	C - Great Connell Road (North)	121	49	0	15
	D - NSOOR Eastern Link	12	60	16	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.24	2.96	0.3	A
B - Proposed Development Site	0.15	3.06	0.2	A
C - Great Connell Road (North)	0.14	2.94	0.2	A
D - NSOOR Eastern Link	0.05	2.14	0.1	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	267	94	1633	0.164	266	0.2	2.633	A
B - Proposed Development Site	138	269	1452	0.095	137	0.1	2.737	A
C - Great Connell Road (North)	139	130	1463	0.095	139	0.1	2.719	A
D - NSOOR Eastern Link	66	142	1824	0.036	66	0.0	2.047	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	319	112	1622	0.197	319	0.2	2.762	A
B - Proposed Development Site	165	322	1420	0.116	164	0.1	2.866	A
C - Great Connell Road (North)	166	155	1448	0.115	166	0.1	2.808	A
D - NSOOR Eastern Link	79	170	1806	0.044	79	0.0	2.084	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	391	138	1606	0.243	391	0.3	2.961	A
B - Proposed Development Site	201	394	1376	0.146	201	0.2	3.063	A
C - Great Connell Road (North)	204	190	1428	0.143	204	0.2	2.940	A
D - NSOOR Eastern Link	97	208	1780	0.054	97	0.1	2.138	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	391	138	1606	0.243	391	0.3	2.961	A
B - Proposed Development Site	201	394	1376	0.146	201	0.2	3.064	A
C - Great Connell Road (North)	204	190	1428	0.143	204	0.2	2.940	A
D - NSOOR Eastern Link	97	208	1780	0.054	97	0.1	2.138	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	319	112	1622	0.197	319	0.2	2.766	A
B - Proposed Development Site	165	322	1420	0.116	165	0.1	2.867	A
C - Great Connell Road (North)	166	156	1448	0.115	166	0.1	2.811	A
D - NSOOR Eastern Link	79	170	1806	0.044	79	0.0	2.085	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	267	94	1633	0.164	267	0.2	2.638	A
B - Proposed Development Site	138	270	1452	0.095	138	0.1	2.741	A
C - Great Connell Road (North)	139	130	1463	0.095	139	0.1	2.720	A
D - NSOOR Eastern Link	66	142	1824	0.036	66	0.0	2.049	A

2039 Scenario B Design 15 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.68	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D12	2039 Scenario B Design 15 Years	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	153	100.000
B - Proposed Development Site		✓	142	100.000
C - Great Connell Road (North)		✓	240	100.000
D - NSOOR Eastern Link		✓	155	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	19	112	22
	B - Proposed Development Site	15	0	57	70
	C - Great Connell Road (North)	156	73	0	11
	D - NSOOR Eastern Link	20	90	45	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.11	2.60	0.1	A
B - Proposed Development Site	0.10	2.69	0.1	A
C - Great Connell Road (North)	0.18	2.99	0.2	A
D - NSOOR Eastern Link	0.10	2.29	0.1	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	115	156	1595	0.072	115	0.1	2.432	A
B - Proposed Development Site	107	134	1534	0.070	107	0.1	2.521	A
C - Great Connell Road (North)	181	80	1491	0.121	180	0.1	2.743	A
D - NSOOR Eastern Link	117	183	1797	0.065	116	0.1	2.142	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	138	187	1576	0.087	137	0.1	2.501	A
B - Proposed Development Site	128	161	1518	0.084	128	0.1	2.588	A
C - Great Connell Road (North)	216	96	1482	0.146	216	0.2	2.841	A
D - NSOOR Eastern Link	139	219	1773	0.079	139	0.1	2.203	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	168	229	1550	0.109	168	0.1	2.604	A
B - Proposed Development Site	156	197	1496	0.105	156	0.1	2.686	A
C - Great Connell Road (North)	264	118	1470	0.180	264	0.2	2.985	A
D - NSOOR Eastern Link	171	268	1740	0.098	171	0.1	2.293	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	168	229	1550	0.109	168	0.1	2.604	A
B - Proposed Development Site	156	197	1496	0.105	156	0.1	2.686	A
C - Great Connell Road (North)	264	118	1470	0.180	264	0.2	2.985	A
D - NSOOR Eastern Link	171	269	1740	0.098	171	0.1	2.293	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	138	187	1576	0.087	138	0.1	2.504	A
B - Proposed Development Site	128	161	1518	0.084	128	0.1	2.591	A
C - Great Connell Road (North)	216	96	1482	0.146	216	0.2	2.842	A
D - NSOOR Eastern Link	139	220	1773	0.079	139	0.1	2.205	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Great Connell Road (South)	115	157	1595	0.072	115	0.1	2.434	A
B - Proposed Development Site	107	135	1534	0.070	107	0.1	2.524	A
C - Great Connell Road (North)	181	81	1491	0.121	181	0.1	2.746	A
D - NSOOR Eastern Link	117	184	1796	0.065	117	0.1	2.143	A

Junctions 9							
ARCADY 9 - Roundabout Module							
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Filename: 192229 - Great Connell Roundabout - Scenario C.j9

Path: \\w2k19-dl-fs01\users\CAD\DWGS\192\201-250\192229\OfficeDocs\Reports\Planning\Planning Package\0004_TTA\Junction 9 Stage 3 final version\Scenario C- NSOOR open

Report generation date: 15/03/2022 15:36:40

»2024 Do Nothing, AM
 »2024 Do Nothing, PM
 »2029 Do Nothing, AM
 »2029 Do Nothing, PM
 »2039 Do Nothing, AM
 »2039 Do Nothing, PM
 »2024 Scenario C Opening Year, AM
 »2024 Scenario C Opening Year, PM
 »2029 Scenario C Design 5 Years, AM
 »2029 Scenario C Design 5 Years, PM
 »2039 Scenario C Design 15 Years, AM
 »2039 Scenario C Design 15 Years, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2024 Do Nothing								
A - Great Connell Road (South)	0.3	3.29	0.23	A	0.1	2.78	0.09	A
B - Proposed Development Site	0.2	2.99	0.18	A	0.1	2.70	0.13	A
C - Great Connell Road (North)	0.2	3.03	0.14	A	0.2	2.92	0.14	A
D - NSOOR Eastern Link	0.3	2.55	0.23	A	0.3	2.65	0.23	A
2029 Do Nothing								
A - Great Connell Road (South)	0.3	3.45	0.25	A	0.1	2.87	0.10	A
B - Proposed Development Site	0.3	3.19	0.23	A	0.2	2.77	0.16	A
C - Great Connell Road (North)	0.1	3.06	0.13	A	0.2	3.02	0.15	A
D - NSOOR Eastern Link	0.3	2.65	0.25	A	0.3	2.77	0.26	A
2039 Do Nothing								
A - Great Connell Road (South)	0.4	3.70	0.29	A	0.1	3.01	0.12	A
B - Proposed Development Site	0.3	3.33	0.24	A	0.2	2.87	0.17	A
C - Great Connell Road (North)	0.2	3.25	0.17	A	0.2	3.12	0.17	A
D - NSOOR Eastern Link	0.4	2.77	0.28	A	0.4	2.96	0.30	A
2024 Scenario C Opening Year								
A - Great Connell Road (South)	0.3	3.43	0.25	A	0.1	2.89	0.10	A
B - Proposed Development Site	0.3	3.20	0.23	A	0.2	2.84	0.17	A
C - Great Connell Road (North)	0.2	3.16	0.15	A	0.2	3.03	0.15	A
D - NSOOR Eastern Link	0.3	2.66	0.25	A	0.4	2.78	0.26	A
2029 Scenario C Design 5 Years								
A - Great Connell Road (South)	0.4	3.76	0.29	A	0.1	3.15	0.13	A
B - Proposed Development Site	0.5	3.71	0.33	A	0.3	3.09	0.24	A
C - Great Connell Road (North)	0.2	3.44	0.17	A	0.2	3.26	0.18	A
D - NSOOR Eastern Link	0.4	2.88	0.30	A	0.5	3.14	0.34	A
2039 Scenario C Design 15 Years								
A - Great Connell Road (South)	0.5	3.96	0.31	A	0.2	3.24	0.14	A
B - Proposed Development Site	0.5	3.84	0.34	A	0.3	3.15	0.25	A
C - Great Connell Road (North)	0.2	3.53	0.19	A	0.2	3.33	0.19	A
D - NSOOR Eastern Link	0.5	2.98	0.32	A	0.6	3.26	0.36	A

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

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

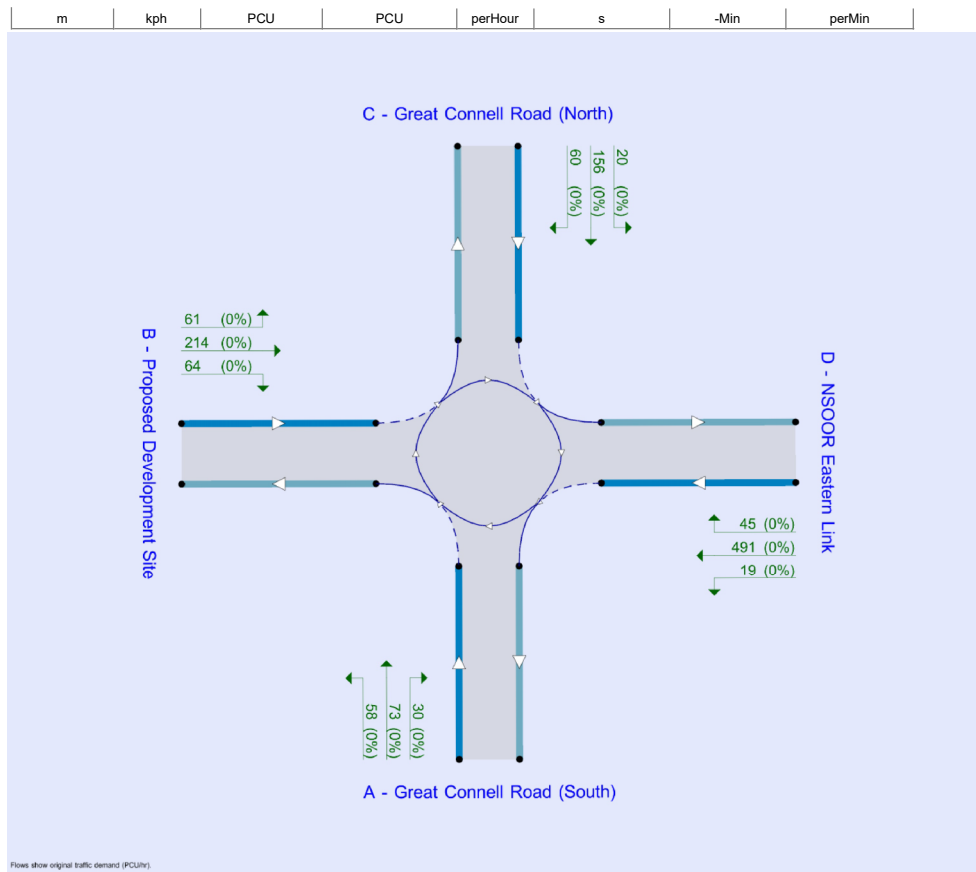
File summary

File Description

Title	
Location	
Site number	
Date	29/04/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MPPNET\socoileir
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
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Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Do Nothing	AM	ONE HOUR	07:15	08:45	15
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D3	2029 Do Nothing	AM	ONE HOUR	07:15	08:45	15
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D5	2039 Do Nothing	AM	ONE HOUR	07:15	08:45	15
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D13	2024 Scenario C Opening Year	AM	ONE HOUR	07:15	08:45	15
D14	2024 Scenario C Opening Year	PM	ONE HOUR	17:30	19:00	15
D15	2029 Scenario C Design 5 Years	AM	ONE HOUR	07:15	08:45	15
D16	2029 Scenario C Design 5 Years	PM	ONE HOUR	17:30	19:00	15
D17	2039 Scenario C Design 15 Years	AM	ONE HOUR	07:15	08:45	15
D18	2039 Scenario C Design 15 Years	PM	ONE HOUR	17:30	19:00	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.93	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	Great Connell Road (South)	
B	Proposed Development Site	
C	Great Connell Road (North)	
D	NSOOR Eastern Link	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - Great Connell Road (South)	3.60	7.00	15.6	17.4	48.4	29.1	
B - Proposed Development Site	3.50	7.00	10.2	33.5	48.4	26.5	
C - Great Connell Road (North)	3.50	7.00	10.6	38.0	48.4	43.7	
D - NSOOR Eastern Link	4.50	7.00	17.4	18.9	48.4	23.7	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - Great Connell Road (South)	0.612	1691
B - Proposed Development Site	0.608	1616
C - Great Connell Road (North)	0.577	1538
D - NSOOR Eastern Link	0.663	1918

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Do Nothing	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	305	100.000
B - Proposed Development Site		✓	232	100.000
C - Great Connell Road (North)		✓	170	100.000
D - NSOOR Eastern Link		✓	373	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link	
From A - Great Connell Road (South)	0	83	152	70	
From B - Proposed Development Site	5	0	46	181	
From C - Great Connell Road (North)	102	24	0	44	
From D - NSOOR Eastern Link	11	347	15	0	

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
A - Great Connell Road (South)	0	0	0	0

	B - Proposed Development Site	0	0	0	0
From	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.23	3.29	0.3	A
B - Proposed Development Site	0.18	2.99	0.2	A
C - Great Connell Road (North)	0.14	3.03	0.2	A
D - NSOOR Eastern Link	0.23	2.55	0.3	A

2024 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.73	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	122	100.000
B - Proposed Development Site		✓	176	100.000
C - Great Connell Road (North)		✓	180	100.000
D - NSOOR Eastern Link		✓	374	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	34	61	27
	B - Proposed Development Site	41	0	35	100
	C - Great Connell Road (North)	131	30	0	19
	D - NSOOR Eastern Link	18	314	42	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.09	2.78	0.1	A
B - Proposed Development Site	0.13	2.70	0.1	A
C - Great Connell Road (North)	0.14	2.92	0.2	A
D - NSOOR Eastern Link	0.23	2.65	0.3	A

2029 Do Nothing , AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	3.06	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2029 Do Nothing	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	319	100.000
B - Proposed Development Site		✓	299	100.000
C - Great Connell Road (North)		✓	156	100.000
D - NSOOR Eastern Link		✓	412	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
From	A - Great Connell Road (South)	0	92	167	60
	B - Proposed Development Site	6	0	60	233
	C - Great Connell Road (North)	112	30	0	14
	D - NSOOR Eastern Link	2	399	11	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
From	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.25	3.45	0.3	A
B - Proposed Development Site	0.23	3.19	0.3	A
C - Great Connell Road (North)	0.13	3.06	0.1	A
D - NSOOR Eastern Link	0.25	2.65	0.3	A

2029 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.84	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	127	100.000
B - Proposed Development Site		✓	225	100.000
C - Great Connell Road (North)		✓	198	100.000
D - NSOOR Eastern Link		✓	410	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
From	A - Great Connell Road (South)	0	38	68	21
	B - Proposed Development Site	46	0	45	134
	C - Great Connell Road (North)	145	42	0	11
	D - NSOOR Eastern Link	12	382	16	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
From	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.10	2.87	0.1	A
B - Proposed Development Site	0.16	2.77	0.2	A
C - Great Connell Road (North)	0.15	3.02	0.2	A
D - NSOOR Eastern Link	0.26	2.77	0.3	A

2039 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	3.22	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2039 Do Nothing	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	360	100.000
B - Proposed Development Site		✓	317	100.000
C - Great Connell Road (North)		✓	199	100.000
D - NSOOR Eastern Link		✓	455	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	99	180	81
	B - Proposed Development Site	6	0	64	247
	C - Great Connell Road (North)	121	32	0	46
	D - NSOOR Eastern Link	11	428	16	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.29	3.70	0.4	A
B - Proposed Development Site	0.24	3.33	0.3	A
C - Great Connell Road (North)	0.17	3.25	0.2	A
D - NSOOR Eastern Link	0.28	2.77	0.4	A

2039 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.98	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	144	100.000
B - Proposed Development Site		✓	239	100.000
C - Great Connell Road (North)		✓	220	100.000
D - NSOOR Eastern Link		✓	472	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
From	A - Great Connell Road (South)	0	41	73	30
	B - Proposed Development Site	49	0	48	142
	C - Great Connell Road (North)	156	44	0	20
	D - NSOOR Eastern Link	19	408	45	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
From	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.12	3.01	0.1	A
B - Proposed Development Site	0.17	2.87	0.2	A
C - Great Connell Road (North)	0.17	3.12	0.2	A
D - NSOOR Eastern Link	0.30	2.96	0.4	A

2024 Scenario C Opening Year, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	3.07	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D13	2024 Scenario C Opening Year	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	314	100.000
B - Proposed Development Site		✓	303	100.000
C - Great Connell Road (North)		✓	178	100.000
D - NSOOR Eastern Link		✓	416	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	92	152	70
	B - Proposed Development Site	15	0	56	232
	C - Great Connell Road (North)	102	32	0	44
	D - NSOOR Eastern Link	11	390	15	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.25	3.43	0.3	A
B - Proposed Development Site	0.23	3.20	0.3	A
C - Great Connell Road (North)	0.15	3.16	0.2	A
D - NSOOR Eastern Link	0.25	2.66	0.3	A

2024 Scenario C Opening Year, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	2.86	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D14	2024 Scenario C Opening Year	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	132	100.000
B - Proposed Development Site		✓	238	100.000
C - Great Connell Road (North)		✓	189	100.000
D - NSOOR Eastern Link		✓	422	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
From	A - Great Connell Road (South)	0	44	61	27
	B - Proposed Development Site	50	0	44	144
	C - Great Connell Road (North)	131	39	0	19
	D - NSOOR Eastern Link	18	362	42	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
From	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.10	2.89	0.1	A
B - Proposed Development Site	0.17	2.84	0.2	A
C - Great Connell Road (North)	0.15	3.03	0.2	A
D - NSOOR Eastern Link	0.26	2.78	0.4	A

2029 Scenario C Design 5 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	3.41	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D15	2029 Scenario C Design 5 Years	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	348	100.000
B - Proposed Development Site		✓	430	100.000
C - Great Connell Road (North)		✓	199	100.000
D - NSOOR Eastern Link		✓	489	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	105	167	76
	B - Proposed Development Site	25	0	78	327
	C - Great Connell Road (North)	112	42	0	45
	D - NSOOR Eastern Link	11	462	16	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.29	3.76	0.4	A
B - Proposed Development Site	0.33	3.71	0.5	A
C - Great Connell Road (North)	0.17	3.44	0.2	A
D - NSOOR Eastern Link	0.30	2.88	0.4	A

2029 Scenario C Design 5 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	3.15	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D16	2029 Scenario C Design 5 Years	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	152	100.000
B - Proposed Development Site		✓	325	100.000
C - Great Connell Road (North)		✓	223	100.000
D - NSOOR Eastern Link		✓	527	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	55	68	29
	B - Proposed Development Site	61	0	58	206
	C - Great Connell Road (North)	145	58	0	20
	D - NSOOR Eastern Link	19	465	43	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.13	3.15	0.1	A
B - Proposed Development Site	0.24	3.09	0.3	A
C - Great Connell Road (North)	0.18	3.26	0.2	A
D - NSOOR Eastern Link	0.34	3.14	0.5	A

2039 Scenario C Design 15 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	3.54	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D17	2039 Scenario C Design 15 Years	AM	ONE HOUR	07:15	08:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	373	100.000
B - Proposed Development Site		✓	448	100.000
C - Great Connell Road (North)		✓	211	100.000
D - NSOOR Eastern Link		✓	518	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
From	A - Great Connell Road (South)	0	112	180	81
	B - Proposed Development Site	26	0	81	341
	C - Great Connell Road (North)	121	44	0	46
	D - NSOOR Eastern Link	11	491	16	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
From	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.31	3.96	0.5	A
B - Proposed Development Site	0.34	3.84	0.5	A
C - Great Connell Road (North)	0.19	3.53	0.2	A
D - NSOOR Eastern Link	0.32	2.98	0.5	A

2039 Scenario C Design 15 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Great Connell Roundabout	Standard Roundabout		A, B, C, D	3.24	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D18	2039 Scenario C Design 15 Years	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Great Connell Road (South)		✓	161	100.000
B - Proposed Development Site		✓	339	100.000
C - Great Connell Road (North)		✓	236	100.000
D - NSOOR Eastern Link		✓	555	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
From	A - Great Connell Road (South)	0	58	73	30
	B - Proposed Development Site	64	0	61	214
	C - Great Connell Road (North)	156	60	0	20
	D - NSOOR Eastern Link	19	491	45	0

Vehicle Mix

Heavy Vehicle Percentages

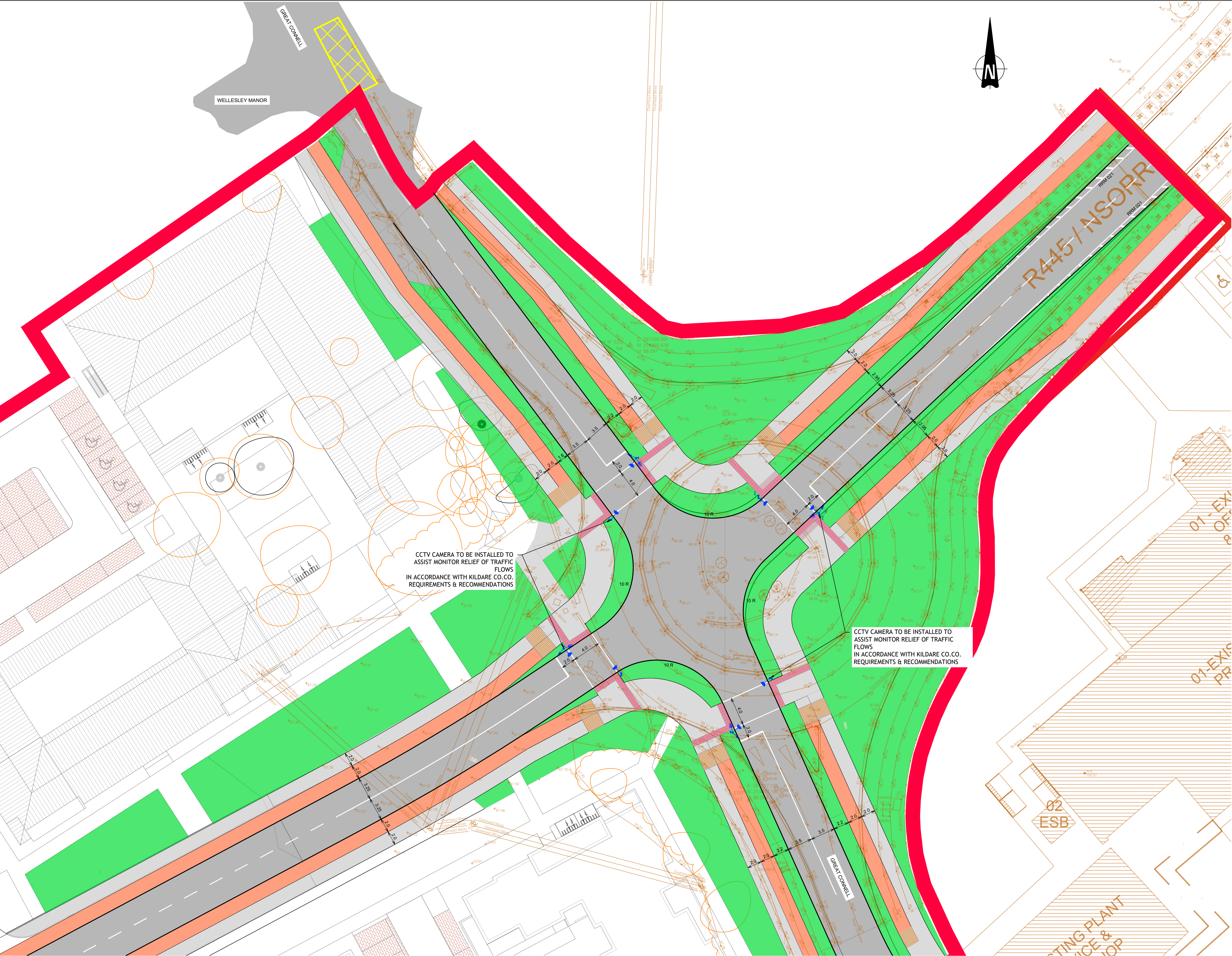
		To			
		A - Great Connell Road (South)	B - Proposed Development Site	C - Great Connell Road (North)	D - NSOOR Eastern Link
From	A - Great Connell Road (South)	0	0	0	0
	B - Proposed Development Site	0	0	0	0
	C - Great Connell Road (North)	0	0	0	0
	D - NSOOR Eastern Link	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - Great Connell Road (South)	0.14	3.24	0.2	A
B - Proposed Development Site	0.25	3.15	0.3	A
C - Great Connell Road (North)	0.19	3.33	0.2	A
D - NSOOR Eastern Link	0.36	3.26	0.6	A

Appendix F Great Connell Signalised Junction Layout



- NOTES:**
1. ALL DIMENSIONS IN METRES (m) UNLESS NOTED OTHERWISE.
 2. ALL JUNCTION, CROSSING AND OTHER DETAILS TO BE IN ACCORDANCE WITH NATIONAL CYCLE MANUAL.
 3. ALL LINEMARKINGS TO BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE TRAFFIC SIGNS MANUAL CHAPTER 7.
 4. ALL SIGNAGE TO BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE TRAFFIC SIGNS MANUAL.
 5. ALL LEVELS RELATE TO MALIN HEAD DATUM.

LEGEND:

- CARRIAGEWAY
- CYCLE LANE TRACK
- FOOTPATH
- GRASSED AREA
- TACTILE PAVING (RED)
- CORDUROY HAZARD WARNING PAVING
- SITE BOUNDARY

TRAFFIC SIGNALS LEGEND

- TRAFFIC SIGNAL POLE
- TRAFFIC SIGNAL PRIMARY HEAD
- TRAFFIC SIGNAL SECONDARY HEAD
- TRAFFIC SIGNAL PEDESTRIAN HEAD
- TRAFFIC SIGNAL PEDESTRIAN DEMAND UNIT
- TRAFFIC SIGNAL CYCLE UNIT
- TRAFFIC SIGNAL PEDESTRIAN UNIT

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Rev	Amendment	By	Date	Rev	Amendment	By	Date	Client:
C01	ISSUED FOR PLANNING	IBS	2022-03-23					
C02	ISSUED FOR PLANNING	SB	2022-03-31					

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Project:	ASTON ROAD & BRIDGE, GREAT CONNELL, NEWBRIDGE CO. KILDARE		
Title:	GREAT CONNELL - SIGNALISED JUNCTION		
Drawn:	S Buckley	Date drawn:	February 2022
Project No:	192229	Model Ref:	192229-PUNCH-XX-XX-M2-C-0431
Scale @ A1:	1:250	Document No:	192229-PUNCH-XX-XX-DR-C-0431
		Approved:	J Tiernan
		Engineer Check:	J Tiernan
		Drawing Status:	A0 PLANNING
		Revision No:	C02

Appendix G Great Connell Signalised Junction Linsig Results Output

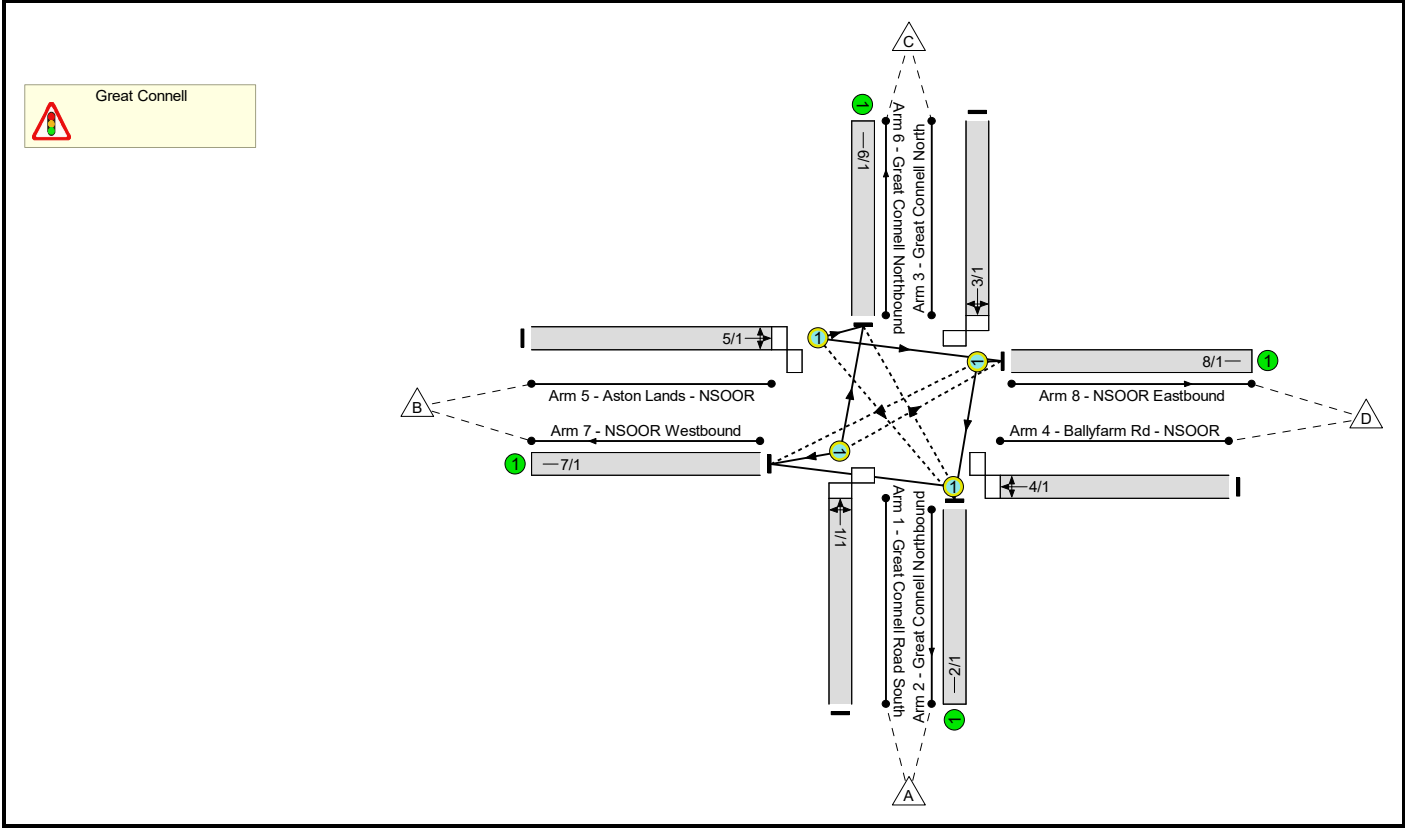
Full Input Data And Results

Full Input Data And Results

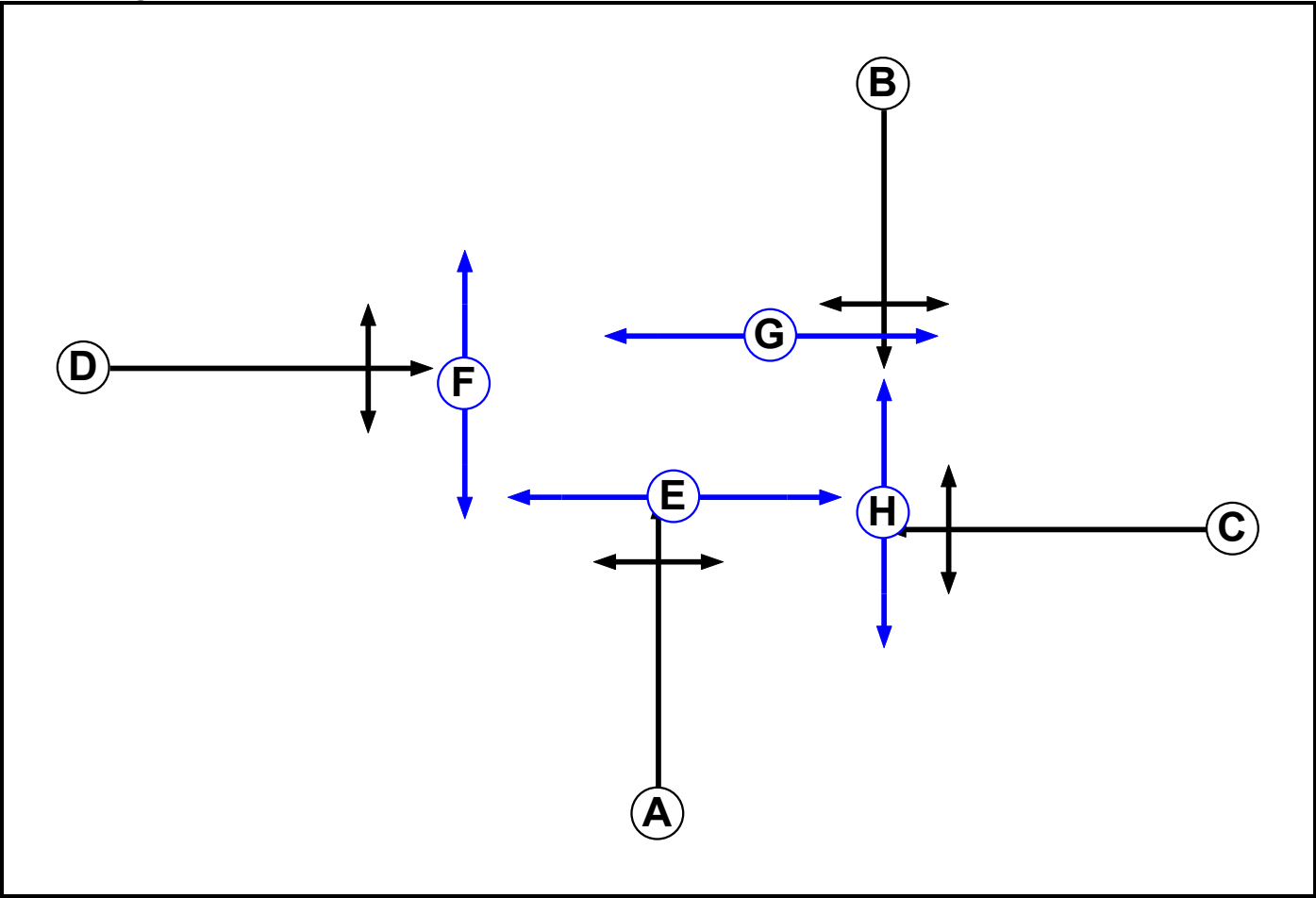
User and Project Details

Project:	Newbridge SHD
Title:	Aston Lands
Location:	Newbridge
Client:	Aston
Checked By:	J Tiernan
Additional detail:	
File name:	192229 - Great Connell Signalised Junction.lsg3x
Author:	J Tiernan
Company:	PUNCH
Address:	97 Henry St Limerick

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Pedestrian		7	7
F	Pedestrian		7	7
G	Pedestrian		7	7
H	Pedestrian		7	7

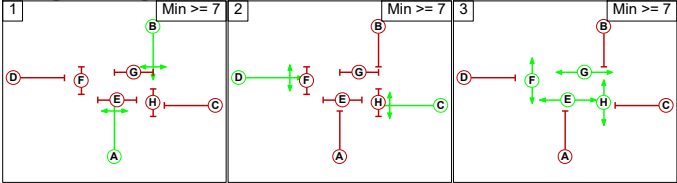
Phase Intergreens Matrix

Terminating Phase	Starting Phase								
		A	B	C	D	E	F	G	H
	A		-	6	5	5	7	8	9
	B	-		5	6	9	8	5	8
	C	5	6		-	8	-	8	5
	D	5	6	-		8	5	8	9
	E	8	8	8	8		-	-	-
	F	8	8	-	8	-		-	-
	G	8	8	8	8	-	-		-
	H	8	8	8	8	-	-	-	

Phases in Stage

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

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

From Stage	To Stage			
		1	2	3
	1		6	9
	2	6		9
	3	8	8	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Great Connell											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/1 (Great Connell Road South)	8/1 (Right)	1439	0	3/1	1.09	All	2.00	1.00	0.50	2	2.00
3/1 (Great Connell North)	7/1 (Right)	1439	0	1/1	1.09	All	2.00	1.00	0.50	2	2.00
4/1 (Ballyfarm Rd - NSOOR)	6/1 (Right)	1439	0	5/1	1.09	All	2.00	1.00	0.50	2	2.00
5/1 (Aston Lands - NSOOR)	2/1 (Right)	1439	0	4/1	1.09	All	2.00	1.00	0.50	2	2.00

Lane Input Data

Junction: Great Connell												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Great Connell Road South)	O	A	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 6 Ahead	Inf
											Arm 7 Left	10.00
											Arm 8 Right	10.00
2/1 (Great Connell Northbound)	U		2	3	60.0	Inf	-	-	-	-	-	-
3/1 (Great Connell North)	O	B	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 2 Ahead	Inf
											Arm 7 Right	10.00
											Arm 8 Left	10.00
4/1 (Ballyfarm Rd - NSOOR)	O	C	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 2 Left	10.00
											Arm 6 Right	10.00
											Arm 7 Ahead	Inf
5/1 (Aston Lands - NSOOR)	O	D	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 2 Right	10.00
											Arm 6 Left	10.00
											Arm 8 Ahead	Inf
6/1 (Great Connell Northbound)	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1 (NSOOR Westbound)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (NSOOR Eastbound)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Scenario B 2024 AM DS'	08:00	09:00	01:00	
2: 'Scenario B 2024 PM DS'	16:15	17:15	01:00	
3: 'Scenario B 2029 AM DS'	08:00	09:00	01:00	
4: 'Scenario B 2029 PM DS'	16:15	17:15	01:00	
5: 'Scenario B 2039 AM DS'	08:00	09:00	01:00	
6: 'Scenario B 2039 PM DS'	16:15	17:15	01:00	
7: 'Scenario C 2024 AM DS'	08:00	09:00	01:00	
8: 'Scenario C 2024 PM DS'	16:15	17:15	01:00	
9: 'Scenario C 2029 AM DS'	08:00	09:00	01:00	
10: 'Scenario C 2029 PM DS'	16:15	17:15	01:00	
11: 'Scenario C 2039 AM DS'	08:00	09:00	01:00	
12: 'Scenario C 2039 PM DS'	16:15	17:15	01:00	

Traffic Flows, Desired

Scenario 1: 'Scenario B 2024 AM DS' (FG1: 'Scenario B 2024 AM DS', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination				
Origin		A	B	C	D	Tot.
	A	0	8	234	54	296
	B	10	0	39	48	97
	C	102	33	0	13	148
	D	2	41	10	0	53
	Tot.	114	82	283	115	594

Scenario 2: 'Scenario B 2024 PM DS' (FG2: 'Scenario B 2024 PM DS', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination				
Origin		A	B	C	D	Tot.
	A	0	9	95	19	123
	B	9	0	35	42	86
	C	131	37	0	10	178
	D	11	45	15	0	71
	Tot.	151	91	145	71	458

Scenario 3: 'Scenario B 2029 AM DS' (FG3: 'Scenario B 2029 AM DS', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination				
Origin		A	B	C	D	Tot.
	A	0	13	258	60	331
	B	19	0	74	90	183
	C	112	49	0	14	175
	D	11	60	16	0	87
	Tot.	142	122	348	164	776

Full Input Data And Results

Scenario 4: 'Scenario B 2029 PM DS' (FG4: 'Scenario B 2029 PM DS', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	19	104	21	144
	B	15	0	57	70	142
	C	145	73	0	11	229
	D	19	90	43	0	152
	Tot.	179	182	204	102	667

Scenario 5: 'Scenario B 2039 AM DS' (FG5: 'Scenario B 2039 AM DS', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	13	278	64	355
	B	19	0	74	90	183
	C	121	49	0	15	185
	D	12	60	16	0	88
	Tot.	152	122	368	169	811

Scenario 6: 'Scenario B 2039 PM DS' (FG6: 'Scenario B 2039 PM DS', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	19	112	22	153
	B	15	0	57	70	142
	C	156	73	0	11	240
	D	20	90	45	0	155
	Tot.	191	182	214	103	690

Scenario 7: 'Scenario C 2024 AM DS' (FG7: 'Scenario C 2024 AM DS', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	92	152	70	314
	B	15	0	56	232	303
	C	102	32	0	44	178
	D	11	390	15	0	416
	Tot.	128	514	223	346	1211

Scenario 8: 'Scenario C 2024 PM DS' (FG8: 'Scenario C 2024 PM DS', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	44	61	27	132
	B	50	0	44	144	238
	C	131	39	0	19	189
	D	18	362	42	0	422
	Tot.	199	445	147	190	981

Full Input Data And Results

Scenario 9: 'Scenario C 2029 AM DS' (FG9: 'Scenario C 2029 AM DS', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	105	167	76	348
	B	25	0	78	327	430
	C	112	42	0	45	199
	D	11	462	16	0	489
	Tot.	148	609	261	448	1466

Scenario 10: 'Scenario C 2029 PM DS' (FG10: 'Scenario C 2029 PM DS', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	55	68	29	152
	B	61	0	58	206	325
	C	145	58	0	20	223
	D	19	465	43	0	527
	Tot.	225	578	169	255	1227

Scenario 11: 'Scenario C 2039 AM DS' (FG11: 'Scenario C 2039 AM DS', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	112	180	81	373
	B	26	0	81	341	448
	C	121	44	0	46	211
	D	11	491	16	0	518
	Tot.	158	647	277	468	1550

Scenario 12: 'Scenario C 2039 PM DS' (FG12: 'Scenario C 2039 PM DS', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	58	73	30	161
	B	64	0	61	214	339
	C	156	60	0	20	236
	D	19	491	45	0	555
	Tot.	239	609	179	264	1291

Full Input Data And Results

Network Results

Scenario 1: 'Scenario B 2024 AM DS' (FG1: 'Scenario B 2024 AM DS', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Aston Lands	-	-	N/A	-	-		-	-	-	-	-	-	30.4%
Great Connell	-	-	N/A	-	-		-	-	-	-	-	-	30.4%
1/1	Great Connell Road South Ahead Left Right	O	N/A	N/A	A		1	45	-	296	1905	974	30.4%
2/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	114	Inf	Inf	0.0%
3/1	Great Connell North Ahead Right Left	O	N/A	N/A	B		1	45	-	148	1877	928	15.9%
4/1	Ballyfarm Rd - NSOOR Left Right Ahead	O	N/A	N/A	C		1	15	-	53	1876	334	15.9%
5/1	Aston Lands - NSOOR Right Left Ahead	O	N/A	N/A	D		1	15	-	97	1803	321	30.3%
6/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	283	Inf	Inf	0.0%
7/1	NSOOR Westbound	U	N/A	N/A	-		-	-	-	82	Inf	Inf	0.0%
8/1	NSOOR Eastbound	U	N/A	N/A	-		-	-	-	115	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Aston Lands	-	-	106	0	1	2.9	0.6	0.0	3.5	-	-	-	-
Great Connell	-	-	106	0	1	2.9	0.6	0.0	3.5	-	-	-	-
1/1	296	296	53	0	1	1.0	0.2	0.0	1.3	15.5	4.3	0.2	4.5
2/1	114	114	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	148	148	33	0	0	0.5	0.1	0.0	0.6	14.6	1.9	0.1	2.0
4/1	53	53	10	0	0	0.5	0.1	0.0	0.6	38.1	1.1	0.1	1.2
5/1	97	97	10	0	0	0.9	0.2	0.0	1.1	40.3	2.1	0.2	2.3
6/1	283	283	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	82	82	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	115	115	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 196.0 Total Delay for Signalled Lanes (pcuHr): 3.52 Cycle Time (s): 90 PRC Over All Lanes (%): 196.0 Total Delay Over All Lanes(pcuHr): 3.52													

Full Input Data And Results

Scenario 2: 'Scenario B 2024 PM DS' (FG2: 'Scenario B 2024 PM DS', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Aston Lands	-	-	N/A	-	-		-	-	-	-	-	-	20.7%
Great Connell	-	-	N/A	-	-		-	-	-	-	-	-	20.7%
1/1	Great Connell Road South Ahead Left Right	O	N/A	N/A	A		1	40	-	123	1900	862	14.3%
2/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	151	Inf	Inf	0.0%
3/1	Great Connell North Ahead Right Left	O	N/A	N/A	B		1	40	-	178	1890	861	20.7%
4/1	Ballyfarm Rd - NSOOR Left Right Ahead	O	N/A	N/A	C		1	20	-	71	1839	429	16.5%
5/1	Aston Lands - NSOOR Right Left Ahead	O	N/A	N/A	D		1	20	-	86	1802	420	20.5%
6/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	145	Inf	Inf	0.0%
7/1	NSOOR Westbound	U	N/A	N/A	-		-	-	-	91	Inf	Inf	0.0%
8/1	NSOOR Eastbound	U	N/A	N/A	-		-	-	-	71	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Aston Lands	-	-	79	0	1	2.4	0.4	0.0	2.9	-	-	-	-
Great Connell	-	-	79	0	1	2.4	0.4	0.0	2.9	-	-	-	-
1/1	123	123	19	0	0	0.5	0.1	0.0	0.6	17.0	1.8	0.1	1.9
2/1	151	151	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	178	178	37	0	0	0.7	0.1	0.0	0.9	17.6	2.7	0.1	2.8
4/1	71	71	15	0	0	0.5	0.1	0.0	0.6	32.9	1.4	0.1	1.5
5/1	86	86	9	0	0	0.7	0.1	0.0	0.8	33.3	1.7	0.1	1.8
6/1	145	145	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	91	91	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	71	71	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 335.3 Total Delay for Signalled Lanes (pcuHr): 2.89 Cycle Time (s): 90 PRC Over All Lanes (%): 335.3 Total Delay Over All Lanes(pcuHr): 2.89													

Full Input Data And Results

Scenario 3: 'Scenario B 2029 AM DS' (FG3: 'Scenario B 2029 AM DS', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Aston Lands	-	-	N/A	-	-		-	-	-	-	-	-	40.3%
Great Connell	-	-	N/A	-	-		-	-	-	-	-	-	40.3%
1/1	Great Connell Road South Ahead Left Right	O	N/A	N/A	A		1	38	-	331	1902	820	40.3%
2/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	142	Inf	Inf	0.0%
3/1	Great Connell North Ahead Right Left	O	N/A	N/A	B		1	38	-	175	1864	693	25.3%
4/1	Ballyfarm Rd - NSOOR Left Right Ahead	O	N/A	N/A	C		1	22	-	87	1854	452	19.3%
5/1	Aston Lands - NSOOR Right Left Ahead	O	N/A	N/A	D		1	22	-	183	1803	461	39.7%
6/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	348	Inf	Inf	0.0%
7/1	NSOOR Westbound	U	N/A	N/A	-		-	-	-	122	Inf	Inf	0.0%
8/1	NSOOR Eastbound	U	N/A	N/A	-		-	-	-	164	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Aston Lands	-	-	142	0	2	4.4	1.0	0.1	5.5	-	-	-	-
Great Connell	-	-	142	0	2	4.4	1.0	0.1	5.5	-	-	-	-
1/1	331	331	59	0	1	1.6	0.3	0.0	2.0	21.4	5.6	0.3	5.9
2/1	142	142	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	175	175	48	0	1	0.8	0.2	0.1	1.0	20.8	2.7	0.2	2.9
4/1	87	87	16	0	0	0.6	0.1	0.0	0.8	31.9	1.7	0.1	1.8
5/1	183	183	19	0	0	1.4	0.3	0.0	1.7	34.3	3.8	0.3	4.1
6/1	348	348	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	122	122	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	164	164	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 123.1 Total Delay for Signalled Lanes (pcuHr): 5.49 Cycle Time (s): 90 PRC Over All Lanes (%): 123.1 Total Delay Over All Lanes(pcuHr): 5.49													

Full Input Data And Results

Scenario 4: 'Scenario B 2029 PM DS' (FG4: 'Scenario B 2029 PM DS', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Aston Lands	-	-	N/A	-	-		-	-	-	-	-	-	31.0%
Great Connell	-	-	N/A	-	-		-	-	-	-	-	-	31.0%
1/1	Great Connell Road South Ahead Left Right	O	N/A	N/A	A		1	35	-	144	1886	751	19.2%
2/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	179	Inf	Inf	0.0%
3/1	Great Connell North Ahead Right Left	O	N/A	N/A	B		1	35	-	229	1863	738	31.0%
4/1	Ballyfarm Rd - NSOOR Left Right Ahead	O	N/A	N/A	C		1	25	-	152	1828	509	29.8%
5/1	Aston Lands - NSOOR Right Left Ahead	O	N/A	N/A	D		1	25	-	142	1803	521	27.3%
6/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	204	Inf	Inf	0.0%
7/1	NSOOR Westbound	U	N/A	N/A	-		-	-	-	182	Inf	Inf	0.0%
8/1	NSOOR Eastbound	U	N/A	N/A	-		-	-	-	102	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Aston Lands	-	-	150	0	2	3.9	0.7	0.1	4.7	-	-	-	-
Great Connell	-	-	150	0	2	3.9	0.7	0.1	4.7	-	-	-	-
1/1	144	144	21	0	0	0.7	0.1	0.0	0.8	20.7	2.3	0.1	2.4
2/1	179	179	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	229	229	72	0	1	1.2	0.2	0.0	1.4	22.7	3.9	0.2	4.1
4/1	152	152	43	0	0	1.0	0.2	0.0	1.3	30.6	2.9	0.2	3.1
5/1	142	142	15	0	0	1.0	0.2	0.0	1.2	29.7	2.7	0.2	2.9
6/1	204	204	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	182	182	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	102	102	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 190.0 Total Delay for Signalled Lanes (pcuHr): 4.74 Cycle Time (s): 90 PRC Over All Lanes (%): 190.0 Total Delay Over All Lanes(pcuHr): 4.74													

Full Input Data And Results

Scenario 5: 'Scenario B 2039 AM DS' (FG5: 'Scenario B 2039 AM DS', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Aston Lands	-	-	N/A	-	-		-	-	-	-	-	-	42.2%
Great Connell	-	-	N/A	-	-		-	-	-	-	-	-	42.2%
1/1	Great Connell Road South Ahead Left Right	O	N/A	N/A	A		1	39	-	355	1903	842	42.2%
2/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	152	Inf	Inf	0.0%
3/1	Great Connell North Ahead Right Left	O	N/A	N/A	B		1	39	-	185	1868	704	26.3%
4/1	Ballyfarm Rd - NSOOR Left Right Ahead	O	N/A	N/A	C		1	21	-	88	1852	432	20.4%
5/1	Aston Lands - NSOOR Right Left Ahead	O	N/A	N/A	D		1	21	-	183	1803	441	41.5%
6/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	368	Inf	Inf	0.0%
7/1	NSOOR Westbound	U	N/A	N/A	-		-	-	-	122	Inf	Inf	0.0%
8/1	NSOOR Eastbound	U	N/A	N/A	-		-	-	-	169	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Aston Lands	-	-	146	0	2	4.6	1.0	0.1	5.7	-	-	-	-
Great Connell	-	-	146	0	2	4.6	1.0	0.1	5.7	-	-	-	-
1/1	355	355	63	0	1	1.7	0.4	0.0	2.1	21.0	6.0	0.4	6.4
2/1	152	152	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	185	185	48	0	1	0.8	0.2	0.1	1.0	20.3	2.8	0.2	3.0
4/1	88	88	16	0	0	0.7	0.1	0.0	0.8	33.0	1.7	0.1	1.9
5/1	183	183	19	0	0	1.5	0.4	0.0	1.8	35.6	3.8	0.4	4.2
6/1	368	368	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	122	122	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	169	169	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 113.4 Total Delay for Signalled Lanes (pcuHr): 5.73 Cycle Time (s): 90 PRC Over All Lanes (%): 113.4 Total Delay Over All Lanes(pcuHr): 5.73													

Full Input Data And Results

Scenario 6: 'Scenario B 2039 PM DS' (FG6: 'Scenario B 2039 PM DS', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Aston Lands	-	-	N/A	-	-		-	-	-	-	-	-	32.3%
Great Connell	-	-	N/A	-	-		-	-	-	-	-	-	32.3%
1/1	Great Connell Road South Ahead Left Right	O	N/A	N/A	A		1	36	-	153	1889	773	19.8%
2/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	191	Inf	Inf	0.0%
3/1	Great Connell North Ahead Right Left	O	N/A	N/A	B		1	36	-	240	1867	743	32.3%
4/1	Ballyfarm Rd - NSOOR Left Right Ahead	O	N/A	N/A	C		1	24	-	155	1825	487	31.9%
5/1	Aston Lands - NSOOR Right Left Ahead	O	N/A	N/A	D		1	24	-	142	1803	501	28.4%
6/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	214	Inf	Inf	0.0%
7/1	NSOOR Westbound	U	N/A	N/A	-		-	-	-	182	Inf	Inf	0.0%
8/1	NSOOR Eastbound	U	N/A	N/A	-		-	-	-	103	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Aston Lands	-	-	153	0	2	4.0	0.8	0.1	4.9	-	-	-	-
Great Connell	-	-	153	0	2	4.0	0.8	0.1	4.9	-	-	-	-
1/1	153	153	22	0	0	0.7	0.1	0.0	0.9	20.2	2.4	0.1	2.5
2/1	191	191	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	240	240	72	0	1	1.2	0.2	0.0	1.5	22.1	4.0	0.2	4.2
4/1	155	155	45	0	1	1.1	0.2	0.0	1.4	31.9	3.1	0.2	3.3
5/1	142	142	15	0	0	1.0	0.2	0.0	1.2	30.7	2.8	0.2	3.0
6/1	214	214	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	182	182	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	103	103	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 178.5 Total Delay for Signalled Lanes (pcuHr): 4.92 Cycle Time (s): 90 PRC Over All Lanes (%): 178.5 Total Delay Over All Lanes(pcuHr): 4.92													

Full Input Data And Results

Scenario 7: 'Scenario C 2024 AM DS' (FG7: 'Scenario C 2024 AM DS', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Aston Lands	-	-	N/A	-	-		-	-	-	-	-	-	57.3%
Great Connell	-	-	N/A	-	-		-	-	-	-	-	-	57.3%
1/1	Great Connell Road South Ahead Left Right	O	N/A	N/A	A		1	27	-	314	1824	556	56.4%
2/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	128	Inf	Inf	0.0%
3/1	Great Connell North Ahead Right Left	O	N/A	N/A	B		1	27	-	178	1847	502	35.5%
4/1	Ballyfarm Rd - NSOOR Left Right Ahead	O	N/A	N/A	C		1	33	-	416	1922	726	57.3%
5/1	Aston Lands - NSOOR Right Left Ahead	O	N/A	N/A	D		1	33	-	303	1874	708	42.8%
6/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	223	Inf	Inf	0.0%
7/1	NSOOR Westbound	U	N/A	N/A	-		-	-	-	514	Inf	Inf	0.0%
8/1	NSOOR Eastbound	U	N/A	N/A	-		-	-	-	346	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Aston Lands	-	-	131	0	1	7.7	2.0	0.1	9.8	-	-	-	-
Great Connell	-	-	131	0	1	7.7	2.0	0.1	9.8	-	-	-	-
1/1	314	314	69	0	1	2.3	0.6	0.0	2.9	33.8	6.5	0.6	7.2
2/1	128	128	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	178	178	32	0	0	1.2	0.3	0.1	1.5	30.5	3.4	0.3	3.6
4/1	416	416	15	0	0	2.6	0.7	0.0	3.2	28.1	8.2	0.7	8.9
5/1	303	303	15	0	0	1.7	0.4	0.0	2.1	25.5	5.6	0.4	5.9
6/1	223	223	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	514	514	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	346	346	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 57.1 Total Delay for Signalled Lanes (pcuHr): 9.85 Cycle Time (s): 90 PRC Over All Lanes (%): 57.1 Total Delay Over All Lanes(pcuHr): 9.85													

Full Input Data And Results

Scenario 8: 'Scenario C 2024 PM DS' (FG8: 'Scenario C 2024 PM DS', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Aston Lands	-	-	N/A	-	-		-	-	-	-	-	-	47.6%
Great Connell	-	-	N/A	-	-		-	-	-	-	-	-	47.6%
1/1	Great Connell Road South Ahead Left Right	O	N/A	N/A	A		1	19	-	132	1818	361	36.5%
2/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	199	Inf	Inf	0.0%
3/1	Great Connell North Ahead Right Left	O	N/A	N/A	B		1	19	-	189	1879	412	45.9%
4/1	Ballyfarm Rd - NSOOR Left Right Ahead	O	N/A	N/A	C		1	41	-	422	1899	886	47.6%
5/1	Aston Lands - NSOOR Right Left Ahead	O	N/A	N/A	D		1	41	-	238	1831	736	32.3%
6/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	147	Inf	Inf	0.0%
7/1	NSOOR Westbound	U	N/A	N/A	-		-	-	-	445	Inf	Inf	0.0%
8/1	NSOOR Eastbound	U	N/A	N/A	-		-	-	-	190	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Aston Lands	-	-	156	0	2	5.6	1.4	0.2	7.1	-	-	-	-
Great Connell	-	-	156	0	2	5.6	1.4	0.2	7.1	-	-	-	-
1/1	132	132	27	0	0	1.1	0.3	0.0	1.4	38.4	2.7	0.3	3.0
2/1	199	199	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	189	189	39	0	0	1.6	0.4	0.0	2.0	38.9	4.0	0.4	4.5
4/1	422	422	42	0	0	1.9	0.5	0.0	2.4	20.5	7.2	0.5	7.6
5/1	238	238	49	0	1	1.0	0.2	0.1	1.3	19.7	3.6	0.2	3.9
6/1	147	147	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	445	445	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	190	190	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 89.0 Total Delay for Signalled Lanes (pcuHr): 7.15 Cycle Time (s): 90 PRC Over All Lanes (%): 89.0 Total Delay Over All Lanes(pcuHr): 7.15													

Full Input Data And Results

Scenario 9: 'Scenario C 2029 AM DS' (FG9: 'Scenario C 2029 AM DS', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Aston Lands	-	-	N/A	-	-		-	-	-	-	-	-	65.9%
Great Connell	-	-	N/A	-	-		-	-	-	-	-	-	65.9%
1/1	Great Connell Road South Ahead Left Right	O	N/A	N/A	A		1	26	-	348	1823	528	65.9%
2/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	148	Inf	Inf	0.0%
3/1	Great Connell North Ahead Right Left	O	N/A	N/A	B		1	26	-	199	1844	395	50.4%
4/1	Ballyfarm Rd - NSOOR Left Right Ahead	O	N/A	N/A	C		1	34	-	489	1924	748	65.4%
5/1	Aston Lands - NSOOR Right Left Ahead	O	N/A	N/A	D		1	34	-	430	1873	725	59.3%
6/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	261	Inf	Inf	0.0%
7/1	NSOOR Westbound	U	N/A	N/A	-		-	-	-	609	Inf	Inf	0.0%
8/1	NSOOR Eastbound	U	N/A	N/A	-		-	-	-	448	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Aston Lands	-	-	157	0	2	9.7	3.1	0.2	13.0	-	-	-	-
Great Connell	-	-	157	0	2	9.7	3.1	0.2	13.0	-	-	-	-
1/1	348	348	75	0	1	2.7	1.0	0.1	3.7	37.9	7.6	1.0	8.6
2/1	148	148	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	199	199	42	0	0	1.4	0.5	0.1	2.0	35.8	3.9	0.5	4.4
4/1	489	489	16	0	0	3.1	0.9	0.0	4.0	29.6	9.9	0.9	10.9
5/1	430	430	25	0	0	2.6	0.7	0.0	3.4	28.3	8.5	0.7	9.2
6/1	261	261	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	609	609	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	448	448	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 36.6 Total Delay for Signalled Lanes (pcuHr): 13.04 Cycle Time (s): 90 PRC Over All Lanes (%): 36.6 Total Delay Over All Lanes(pcuHr): 13.04													

Full Input Data And Results

Scenario 10: 'Scenario C 2029 PM DS' (FG10: 'Scenario C 2029 PM DS', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Aston Lands	-	-	N/A	-	-		-	-	-	-	-	-	59.4%
Great Connell	-	-	N/A	-	-		-	-	-	-	-	-	59.4%
1/1	Great Connell Road South Ahead Left Right	O	N/A	N/A	A		1	19	-	152	1815	368	41.3%
2/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	225	Inf	Inf	0.0%
3/1	Great Connell North Ahead Right Left	O	N/A	N/A	B		1	19	-	223	1867	387	57.6%
4/1	Ballyfarm Rd - NSOOR Left Right Ahead	O	N/A	N/A	C		1	41	-	527	1906	888	59.4%
5/1	Aston Lands - NSOOR Right Left Ahead	O	N/A	N/A	D		1	41	-	325	1839	668	48.7%
6/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	169	Inf	Inf	0.0%
7/1	NSOOR Westbound	U	N/A	N/A	-		-	-	-	578	Inf	Inf	0.0%
8/1	NSOOR Eastbound	U	N/A	N/A	-		-	-	-	255	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Aston Lands	-	-	189	0	2	7.2	2.2	0.3	9.7	-	-	-	-
Great Connell	-	-	189	0	2	7.2	2.2	0.3	9.7	-	-	-	-
1/1	152	152	29	0	0	1.3	0.4	0.0	1.7	39.1	3.2	0.4	3.6
2/1	225	225	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	223	223	57	0	1	1.9	0.7	0.1	2.6	42.6	4.9	0.7	5.6
4/1	527	527	43	0	0	2.6	0.7	0.0	3.3	22.9	9.7	0.7	10.4
5/1	325	325	60	0	1	1.4	0.5	0.2	2.0	22.5	5.2	0.5	5.7
6/1	169	169	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	578	578	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	255	255	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 51.6 Total Delay for Signalled Lanes (pcuHr): 9.67 Cycle Time (s): 90 PRC Over All Lanes (%): 51.6 Total Delay Over All Lanes(pcuHr): 9.67													

Full Input Data And Results

Scenario 11: 'Scenario C 2039 AM DS' (FG11: 'Scenario C 2039 AM DS', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Aston Lands	-	-	N/A	-	-		-	-	-	-	-	-	71.2%
Great Connell	-	-	N/A	-	-		-	-	-	-	-	-	71.2%
1/1	Great Connell Road South Ahead Left Right	O	N/A	N/A	A		1	27	-	373	1823	540	69.1%
2/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	158	Inf	Inf	0.0%
3/1	Great Connell North Ahead Right Left	O	N/A	N/A	B		1	27	-	211	1847	386	54.7%
4/1	Ballyfarm Rd - NSOOR Left Right Ahead	O	N/A	N/A	C		1	33	-	518	1925	727	71.2%
5/1	Aston Lands - NSOOR Right Left Ahead	O	N/A	N/A	D		1	33	-	448	1873	703	63.7%
6/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	277	Inf	Inf	0.0%
7/1	NSOOR Westbound	U	N/A	N/A	-		-	-	-	647	Inf	Inf	0.0%
8/1	NSOOR Eastbound	U	N/A	N/A	-		-	-	-	468	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Aston Lands	-	-	165	0	2	10.5	3.8	0.3	14.6	-	-	-	-
Great Connell	-	-	165	0	2	10.5	3.8	0.3	14.6	-	-	-	-
1/1	373	373	80	0	1	2.8	1.1	0.1	4.0	38.4	8.2	1.1	9.3
2/1	158	158	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	211	211	44	0	0	1.4	0.6	0.1	2.1	36.4	4.0	0.6	4.6
4/1	518	518	16	0	0	3.4	1.2	0.0	4.7	32.5	10.9	1.2	12.2
5/1	448	448	26	0	0	2.9	0.9	0.1	3.8	30.4	9.1	0.9	10.0
6/1	277	277	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	647	647	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	468	468	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 26.4 Total Delay for Signalled Lanes (pcuHr): 14.57 Cycle Time (s): 90 PRC Over All Lanes (%): 26.4 Total Delay Over All Lanes(pcuHr): 14.57													

Full Input Data And Results

Scenario 12: 'Scenario C 2039 PM DS' (FG12: 'Scenario C 2039 PM DS', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Aston Lands	-	-	N/A	-	-		-	-	-	-	-	-	62.5%
Great Connell	-	-	N/A	-	-		-	-	-	-	-	-	62.5%
1/1	Great Connell Road South Ahead Left Right	O	N/A	N/A	A		1	19	-	161	1816	377	42.7%
2/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	239	Inf	Inf	0.0%
3/1	Great Connell North Ahead Right Left	O	N/A	N/A	B		1	19	-	236	1870	377	62.5%
4/1	Ballyfarm Rd - NSOOR Left Right Ahead	O	N/A	N/A	C		1	41	-	555	1907	888	62.5%
5/1	Aston Lands - NSOOR Right Left Ahead	O	N/A	N/A	D		1	41	-	339	1838	647	52.4%
6/1	Great Connell Northbound	U	N/A	N/A	-		-	-	-	179	Inf	Inf	0.0%
7/1	NSOOR Westbound	U	N/A	N/A	-		-	-	-	609	Inf	Inf	0.0%
8/1	NSOOR Eastbound	U	N/A	N/A	-		-	-	-	264	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Aston Lands	-	-	197	0	2	7.6	2.6	0.3	10.5	-	-	-	-
Great Connell	-	-	197	0	2	7.6	2.6	0.3	10.5	-	-	-	-
1/1	161	161	30	0	0	1.3	0.4	0.0	1.8	39.2	3.4	0.4	3.8
2/1	239	239	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	236	236	59	0	1	2.0	0.8	0.1	2.9	44.6	5.2	0.8	6.1
4/1	555	555	45	0	1	2.8	0.8	0.0	3.6	23.7	10.3	0.8	11.2
5/1	339	339	63	0	1	1.5	0.5	0.2	2.2	23.4	5.5	0.5	6.0
6/1	179	179	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	609	609	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	264	264	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 43.9 Total Delay for Signalled Lanes (pcuHr): 10.53 Cycle Time (s): 90 PRC Over All Lanes (%): 43.9 Total Delay Over All Lanes(pcuHr): 10.53													

Appendix H Lidl Distributor Roundabout Junctions 9 Results Output

Junctions 9			
ARCADY 9 - Roundabout Module			
Version: 9.5.0.6896 © Copyright TRL Limited, 2018			
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk			
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution			

Filename: 192229 - Lidl Distributer Roundabout - Scenario A (2021 Flows).j9

Path: \\w2k19-dl-fs01\users\CAD\DWGS\192\201-250\192229\OfficeDocs\Reports\Planning\Planning Package\0004_TTA\Junction 9 Stage 3 final version\Scenario A - Existing

Report generation date: 15/03/2022 15:20:52

»2024 Do Nothing, AM
 »2024 Do Nothing, PM
 »2029 Do Nothing, AM
 »2029 Do Nothing, PM
 »2039 Do Nothing, AM
 »2039 Do Nothing, PM
 »2024 Scenario A Opening Year, AM
 »2024 Scenario A Opening Year, PM
 »2029 Scenario A Design 5 Years, AM
 »2029 Scenario A Design 5 Years, PM
 »2039 Scenario A Design 15 Years, AM
 »2039 Scenario A Design 15 Years, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2024 Do Nothing								
A - R445 Naas Road (east)	0.5	2.24	0.34	A	0.5	2.26	0.35	A
B - NSOOR Eastern Link	0.1	2.49	0.07	A	0.2	2.99	0.15	A
C - R445 Naas Road (West)	0.9	3.94	0.48	A	0.7	3.56	0.41	A
D - Oldconnell	0.0	2.66	0.00	A	0.0	2.57	0.00	A
2029 Do Nothing								
A - R445 Naas Road (east)	0.6	2.39	0.38	A	0.7	2.45	0.40	A
B - NSOOR Eastern Link	0.1	2.61	0.07	A	0.2	3.27	0.16	A
C - R445 Naas Road (West)	1.2	4.61	0.56	A	0.9	3.98	0.47	A
D - Oldconnell	0.0	2.86	0.01	A	0.0	2.72	0.00	A
2039 Do Nothing								
A - R445 Naas Road (east)	0.7	2.49	0.40	A	0.8	2.58	0.43	A
B - NSOOR Eastern Link	0.1	2.69	0.08	A	0.2	3.47	0.18	A
C - R445 Naas Road (West)	1.5	5.07	0.60	A	1.0	4.28	0.50	A
D - Oldconnell	0.0	2.98	0.01	A	0.0	2.81	0.00	A
2024 Scenario A Opening Year								
A - R445 Naas Road (east)	0.6	2.32	0.36	A	0.6	2.34	0.37	A
B - NSOOR Eastern Link	0.1	2.56	0.07	A	0.2	3.09	0.15	A
C - R445 Naas Road (West)	1.1	4.24	0.52	A	0.8	3.76	0.44	A
D - Oldconnell	0.0	2.75	0.01	A	0.0	0.00	0.00	A
2029 Scenario A Design 5 Years								
A - R445 Naas Road (east)	0.7	2.52	0.41	A	0.8	2.66	0.45	A
B - NSOOR Eastern Link	0.1	2.73	0.07	A	0.2	3.56	0.18	A
C - R445 Naas Road (West)	1.6	5.43	0.62	A	1.1	4.43	0.52	A
D - Oldconnell	0.0	3.06	0.01	A	0.0	2.85	0.00	A
2039 Scenario A Design 15 Years								
A - R445 Naas Road (east)	0.8	2.64	0.44	A	0.9	2.82	0.48	A
B - NSOOR Eastern Link	0.1	2.82	0.08	A	0.2	3.79	0.19	A
C - R445 Naas Road (West)	2.0	6.07	0.66	A	1.3	4.80	0.56	A
D - Oldconnell	0.0	3.19	0.01	A	0.0	2.96	0.00	A

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

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

File summary

File Description

Title	
Location	
Site number	

Date	29/04/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MPPNET\socoileir
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Do Nothing	AM	ONE HOUR	08:15	09:45	15
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D3	2029 Do Nothing	AM	ONE HOUR	08:15	09:45	15
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D5	2039 Do Nothing	AM	ONE HOUR	08:15	09:45	15
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D7	2024 Scenario A Opening Year	AM	ONE HOUR	08:15	09:45	15
D8	2024 Scenario A Opening Year	PM	ONE HOUR	17:30	19:00	15
D9	2029 Scenario A Design 5 Years	AM	ONE HOUR	08:15	09:45	15
D10	2029 Scenario A Design 5 Years	PM	ONE HOUR	17:30	19:00	15
D11	2039 Scenario A Design 15 Years	AM	ONE HOUR	08:15	09:45	15
D12	2039 Scenario A Design 15 Years	PM	ONE HOUR	17:30	19:00	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.07	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	R445 Naas Road (east)	
B	NSOOR Eastern Link	
C	R445 Naas Road (West)	
D	Oldconnell	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - R445 Naas Road (east)	7.00	7.30	2.0	36.3	50.0	0.0	
B - NSOOR Eastern Link	4.60	7.00	10.0	24.0	13.0	0.0	
C - R445 Naas Road (West)	3.00	7.80	15.0	26.0	50.0	0.0	
D - Oldconnell	6.00	6.00	0.0	18.0	50.0	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - R445 Naas Road (east)	0.788	2458
B - NSOOR Eastern Link	0.766	2008
C - R445 Naas Road (West)	0.663	1815
D - Oldconnell	0.693	1997

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Do Nothing	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	745	100.000
B - NSOOR Eastern Link		✓	92	100.000
C - R445 Naas Road (West)		✓	775	100.000
D - Oldconnell		✓	5	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell

From	A - R445 Naas Road (east)	0	206	538	1
	B - NSOOR Eastern Link	67	0	25	0
	C - R445 Naas Road (West)	740	32	0	3
	D - Oldconnell	0	0	5	0

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.34	2.24	0.5	A
B - NSOOR Eastern Link	0.07	2.49	0.1	A
C - R445 Naas Road (West)	0.48	3.94	0.9	A
D - Oldconnell	0.00	2.66	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	561	28	2436	0.230	560	0.3	1.918	A
B - NSOOR Eastern Link	69	409	1695	0.041	69	0.0	2.214	A
C - R445 Naas Road (West)	583	51	1781	0.328	582	0.5	2.994	A
D - Oldconnell	4	630	1561	0.002	4	0.0	2.311	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	670	33	2431	0.275	669	0.4	2.043	A
B - NSOOR Eastern Link	83	489	1634	0.051	83	0.1	2.320	A
C - R445 Naas Road (West)	697	61	1775	0.393	696	0.6	3.335	A
D - Oldconnell	4	754	1475	0.003	4	0.0	2.447	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	820	41	2425	0.338	820	0.5	2.242	A
B - NSOOR Eastern Link	101	599	1550	0.065	101	0.1	2.485	A
C - R445 Naas Road (West)	853	75	1766	0.483	852	0.9	3.935	A
D - Oldconnell	6	923	1358	0.004	6	0.0	2.661	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	820	41	2425	0.338	820	0.5	2.242	A
B - NSOOR Eastern Link	101	599	1549	0.065	101	0.1	2.485	A
C - R445 Naas Road (West)	853	75	1766	0.483	853	0.9	3.945	A
D - Oldconnell	6	924	1357	0.004	6	0.0	2.662	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	670	33	2431	0.275	670	0.4	2.046	A
B - NSOOR Eastern Link	83	489	1633	0.051	83	0.1	2.321	A
C - R445 Naas Road (West)	697	61	1775	0.393	698	0.7	3.345	A
D - Oldconnell	4	755	1474	0.003	4	0.0	2.449	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	561	28	2436	0.230	561	0.3	1.920	A
B - NSOOR Eastern Link	69	410	1694	0.041	69	0.0	2.217	A

C - R445 Naas Road (West)	583	51	1781	0.328	584	0.5	3.010	A
D - Oldconnell	4	632	1559	0.002	4	0.0	2.314	A

2024 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	2.86	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	774	100.000
B - NSOOR Eastern Link		✓	187	100.000
C - R445 Naas Road (West)		✓	633	100.000
D - Oldconnell		✓	5	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	70	703	1
	B - NSOOR Eastern Link	146	0	40	1
	C - R445 Naas Road (West)	622	8	0	3
	D - Oldconnell	1	0	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.35	2.26	0.5	A
B - NSOOR Eastern Link	0.15	2.99	0.2	A
C - R445 Naas Road (West)	0.41	3.56	0.7	A
D - Oldconnell	0.00	2.57	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	583	9	2450	0.238	581	0.3	1.925	A
B - NSOOR Eastern Link	141	532	1601	0.088	140	0.1	2.465	A
C - R445 Naas Road (West)	477	111	1742	0.274	475	0.4	2.838	A
D - Oldconnell	4	582	1594	0.002	4	0.0	2.263	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	696	11	2449	0.284	695	0.4	2.053	A
B - NSOOR Eastern Link	168	636	1521	0.111	168	0.1	2.660	A
C - R445 Naas Road (West)	569	133	1727	0.329	569	0.5	3.105	A
D - Oldconnell	4	697	1514	0.003	4	0.0	2.384	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	852	13	2447	0.348	852	0.5	2.256	A
B - NSOOR Eastern Link	206	779	1411	0.146	206	0.2	2.985	A
C - R445 Naas Road (West)	697	163	1707	0.408	696	0.7	3.555	A
D - Oldconnell	6	853	1406	0.004	6	0.0	2.570	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	852	13	2447	0.348	852	0.5	2.256	A
B - NSOOR Eastern Link	206	780	1411	0.146	206	0.2	2.986	A
C - R445 Naas Road (West)	697	163	1707	0.408	697	0.7	3.562	A
D - Oldconnell	6	854	1405	0.004	6	0.0	2.571	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	696	11	2449	0.284	696	0.4	2.055	A
B - NSOOR Eastern Link	168	637	1520	0.111	168	0.1	2.664	A
C - R445 Naas Road (West)	569	133	1727	0.330	570	0.5	3.112	A
D - Oldconnell	4	699	1513	0.003	4	0.0	2.387	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	583	9	2450	0.238	583	0.3	1.927	A
B - NSOOR Eastern Link	141	533	1599	0.088	141	0.1	2.469	A
C - R445 Naas Road (West)	477	112	1741	0.274	477	0.4	2.849	A
D - Oldconnell	4	585	1592	0.002	4	0.0	2.266	A

2029 Do Nothing , AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.48	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2029 Do Nothing	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	831	100.000
B - NSOOR Eastern Link		✓	97	100.000
C - R445 Naas Road (West)		✓	892	100.000
D - Oldconnell		✓	7	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	219	611	1
	B - NSOOR Eastern Link	70	0	27	0
	C - R445 Naas Road (West)	854	34	0	4
	D - Oldconnell	1	0	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.38	2.39	0.6	A
B - NSOOR Eastern Link	0.07	2.61	0.1	A
C - R445 Naas Road (West)	0.56	4.61	1.2	A
D - Oldconnell	0.01	2.86	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	626	30	2434	0.257	624	0.3	1.989	A
B - NSOOR Eastern Link	73	464	1652	0.044	73	0.0	2.279	A
C - R445 Naas Road (West)	672	53	1780	0.377	669	0.6	3.234	A
D - Oldconnell	5	719	1499	0.004	5	0.0	2.409	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	747	36	2429	0.308	747	0.4	2.139	A
B - NSOOR Eastern Link	87	555	1583	0.055	87	0.1	2.406	A
C - R445 Naas Road (West)	802	64	1773	0.452	801	0.8	3.700	A
D - Oldconnell	6	860	1401	0.004	6	0.0	2.580	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	915	44	2423	0.378	914	0.6	2.385	A
B - NSOOR Eastern Link	107	680	1487	0.072	107	0.1	2.607	A
C - R445 Naas Road (West)	982	78	1764	0.557	980	1.2	4.586	A
D - Oldconnell	8	1053	1267	0.006	8	0.0	2.857	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	915	44	2423	0.378	915	0.6	2.387	A
B - NSOOR Eastern Link	107	680	1487	0.072	107	0.1	2.608	A
C - R445 Naas Road (West)	982	78	1764	0.557	982	1.2	4.606	A
D - Oldconnell	8	1055	1266	0.006	8	0.0	2.859	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	747	36	2429	0.308	748	0.4	2.143	A
B - NSOOR Eastern Link	87	556	1582	0.055	87	0.1	2.408	A
C - R445 Naas Road (West)	802	64	1773	0.452	804	0.8	3.721	A
D - Oldconnell	6	863	1399	0.005	6	0.0	2.583	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	626	30	2434	0.257	626	0.3	1.991	A
B - NSOOR Eastern Link	73	466	1651	0.044	73	0.0	2.280	A
C - R445 Naas Road (West)	672	53	1780	0.377	672	0.6	3.252	A
D - Oldconnell	5	722	1497	0.004	5	0.0	2.413	A

2029 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.15	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	887	100.000
B - NSOOR Eastern Link		✓	197	100.000
C - R445 Naas Road (West)		✓	725	100.000
D - Oldconnell		✓	5	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	73	814	0
	B - NSOOR Eastern Link	154	0	42	1
	C - R445 Naas Road (West)	712	9	0	4
	D - Oldconnell	0	0	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.40	2.45	0.7	A
B - NSOOR Eastern Link	0.16	3.27	0.2	A
C - R445 Naas Road (West)	0.47	3.98	0.9	A
D - Oldconnell	0.00	2.72	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	668	11	2449	0.273	666	0.4	2.017	A
B - NSOOR Eastern Link	148	615	1537	0.097	148	0.1	2.592	A
C - R445 Naas Road (West)	546	116	1738	0.314	544	0.5	3.011	A
D - Oldconnell	4	657	1542	0.002	4	0.0	2.339	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	797	13	2448	0.326	797	0.5	2.181	A
B - NSOOR Eastern Link	177	736	1444	0.123	177	0.1	2.840	A
C - R445 Naas Road (West)	652	139	1723	0.378	651	0.6	3.357	A
D - Oldconnell	4	786	1453	0.003	4	0.0	2.485	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	977	15	2445	0.399	976	0.7	2.448	A
B - NSOOR Eastern Link	217	901	1318	0.165	217	0.2	3.268	A
C - R445 Naas Road (West)	798	170	1702	0.469	797	0.9	3.972	A
D - Oldconnell	6	962	1330	0.004	6	0.0	2.716	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	977	15	2445	0.399	977	0.7	2.450	A
B - NSOOR Eastern Link	217	902	1317	0.165	217	0.2	3.270	A
C - R445 Naas Road (West)	798	171	1702	0.469	798	0.9	3.982	A
D - Oldconnell	6	963	1330	0.004	6	0.0	2.718	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	797	13	2448	0.326	798	0.5	2.184	A
B - NSOOR Eastern Link	177	737	1444	0.123	177	0.1	2.845	A
C - R445 Naas Road (West)	652	140	1723	0.378	653	0.6	3.369	A
D - Oldconnell	4	788	1451	0.003	4	0.0	2.489	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	668	11	2449	0.273	668	0.4	2.023	A
B - NSOOR Eastern Link	148	617	1535	0.097	148	0.1	2.597	A
C - R445 Naas Road (West)	546	117	1738	0.314	546	0.5	3.022	A
D - Oldconnell	4	659	1540	0.002	4	0.0	2.344	A

2039 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.76	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2039 Do Nothing	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	888	100.000
B - NSOOR Eastern Link		✓	101	100.000
C - R445 Naas Road (West)		✓	955	100.000
D - Oldconnell		✓	7	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	231	656	1
	B - NSOOR Eastern Link	72	0	29	0
	C - R445 Naas Road (West)	916	35	0	4
	D - Oldconnell	1	0	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.40	2.49	0.7	A
B - NSOOR Eastern Link	0.08	2.69	0.1	A
C - R445 Naas Road (West)	0.60	5.07	1.5	A
D - Oldconnell	0.01	2.98	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	669	31	2433	0.275	667	0.4	2.036	A
B - NSOOR Eastern Link	76	498	1627	0.047	76	0.0	2.321	A
C - R445 Naas Road (West)	719	55	1779	0.404	716	0.7	3.379	A
D - Oldconnell	5	767	1466	0.004	5	0.0	2.464	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	798	37	2429	0.329	798	0.5	2.207	A
B - NSOOR Eastern Link	91	596	1552	0.059	91	0.1	2.463	A
C - R445 Naas Road (West)	859	66	1772	0.485	857	0.9	3.933	A
D - Oldconnell	6	919	1361	0.005	6	0.0	2.657	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	978	45	2422	0.404	977	0.7	2.490	A
B - NSOOR Eastern Link	111	729	1449	0.077	111	0.1	2.689	A
C - R445 Naas Road (West)	1051	80	1762	0.597	1049	1.5	5.035	A
D - Oldconnell	8	1124	1218	0.006	8	0.0	2.973	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	978	45	2422	0.404	978	0.7	2.492	A
B - NSOOR Eastern Link	111	730	1449	0.077	111	0.1	2.690	A
C - R445 Naas Road (West)	1051	80	1762	0.597	1051	1.5	5.065	A
D - Oldconnell	8	1126	1217	0.006	8	0.0	2.976	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	798	37	2428	0.329	799	0.5	2.211	A
B - NSOOR Eastern Link	91	597	1551	0.059	91	0.1	2.467	A
C - R445 Naas Road (West)	859	66	1772	0.485	861	0.9	3.959	A
D - Oldconnell	6	922	1358	0.005	6	0.0	2.663	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	669	31	2433	0.275	669	0.4	2.042	A
B - NSOOR Eastern Link	76	499	1625	0.047	76	0.0	2.325	A
C - R445 Naas Road (West)	719	55	1779	0.404	720	0.7	3.405	A
D - Oldconnell	5	771	1463	0.004	5	0.0	2.471	A

2039 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.35	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	954	100.000
B - NSOOR Eastern Link		✓	204	100.000
C - R445 Naas Road (West)		✓	778	100.000
D - Oldconnell		✓	5	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	75	879	0
	B - NSOOR Eastern Link	160	0	44	0
	C - R445 Naas Road (West)	765	9	0	4
	D - Oldconnell	0	0	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.43	2.58	0.8	A
B - NSOOR Eastern Link	0.18	3.47	0.2	A
C - R445 Naas Road (West)	0.50	4.28	1.0	A
D - Oldconnell	0.00	2.81	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	718	11	2449	0.293	717	0.4	2.076	A
B - NSOOR Eastern Link	154	664	1499	0.102	153	0.1	2.674	A
C - R445 Naas Road (West)	586	120	1736	0.337	584	0.5	3.120	A
D - Oldconnell	4	701	1512	0.002	4	0.0	2.387	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	858	13	2448	0.350	857	0.5	2.263	A
B - NSOOR Eastern Link	183	794	1400	0.131	183	0.2	2.959	A
C - R445 Naas Road (West)	699	144	1720	0.407	699	0.7	3.523	A
D - Oldconnell	4	839	1416	0.003	4	0.0	2.550	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1050	15	2445	0.430	1050	0.7	2.578	A
B - NSOOR Eastern Link	225	973	1263	0.178	224	0.2	3.465	A
C - R445 Naas Road (West)	857	176	1699	0.504	855	1.0	4.255	A
D - Oldconnell	6	1027	1286	0.004	6	0.0	2.811	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1050	15	2445	0.430	1050	0.8	2.580	A
B - NSOOR Eastern Link	225	973	1263	0.178	225	0.2	3.467	A
C - R445 Naas Road (West)	857	176	1698	0.504	857	1.0	4.275	A
D - Oldconnell	6	1028	1285	0.004	6	0.0	2.813	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	858	13	2448	0.350	858	0.5	2.267	A
B - NSOOR Eastern Link	183	795	1399	0.131	184	0.2	2.962	A
C - R445 Naas Road (West)	699	144	1720	0.407	701	0.7	3.536	A
D - Oldconnell	4	841	1414	0.003	4	0.0	2.552	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	718	11	2449	0.293	719	0.4	2.082	A
B - NSOOR Eastern Link	154	666	1498	0.103	154	0.1	2.677	A
C - R445 Naas Road (West)	586	121	1735	0.338	586	0.5	3.134	A
D - Oldconnell	4	704	1509	0.002	4	0.0	2.390	A

2024 Scenario A Opening Year, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.26	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2024 Scenario A Opening Year	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	793	100.000
B - NSOOR Eastern Link		✓	92	100.000
C - R445 Naas Road (West)		✓	832	100.000
D - Oldconnell		✓	6	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	206	586	1
	B - NSOOR Eastern Link	67	0	25	0
	C - R445 Naas Road (West)	797	32	0	3
	D - Oldconnell	1	0	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.36	2.32	0.6	A
B - NSOOR Eastern Link	0.07	2.56	0.1	A
C - R445 Naas Road (West)	0.52	4.24	1.1	A
D - Oldconnell	0.01	2.75	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	597	28	2436	0.245	596	0.3	1.956	A
B - NSOOR Eastern Link	69	445	1667	0.042	69	0.0	2.252	A
C - R445 Naas Road (West)	626	51	1781	0.352	624	0.5	3.106	A
D - Oldconnell	5	672	1531	0.003	5	0.0	2.357	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	713	33	2431	0.293	713	0.4	2.094	A
B - NSOOR Eastern Link	83	532	1601	0.052	83	0.1	2.371	A
C - R445 Naas Road (West)	748	61	1775	0.421	747	0.7	3.502	A
D - Oldconnell	5	805	1440	0.004	5	0.0	2.509	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	873	41	2425	0.360	873	0.6	2.318	A
B - NSOOR Eastern Link	101	651	1509	0.067	101	0.1	2.556	A
C - R445 Naas Road (West)	916	75	1766	0.519	915	1.1	4.223	A
D - Oldconnell	7	985	1315	0.005	7	0.0	2.751	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	873	41	2425	0.360	873	0.6	2.318	A
B - NSOOR Eastern Link	101	652	1509	0.067	101	0.1	2.557	A
C - R445 Naas Road (West)	916	75	1766	0.519	916	1.1	4.236	A
D - Oldconnell	7	986	1314	0.005	7	0.0	2.753	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	713	33	2431	0.293	713	0.4	2.097	A
B - NSOOR Eastern Link	83	533	1600	0.052	83	0.1	2.374	A
C - R445 Naas Road (West)	748	61	1775	0.421	749	0.7	3.517	A
D - Oldconnell	5	807	1438	0.004	5	0.0	2.514	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	597	28	2436	0.245	597	0.3	1.958	A
B - NSOOR Eastern Link	69	446	1666	0.042	69	0.0	2.253	A
C - R445 Naas Road (West)	626	51	1781	0.352	627	0.5	3.120	A
D - Oldconnell	5	675	1529	0.003	5	0.0	2.362	A

2024 Scenario A Opening Year, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	2.99	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2024 Scenario A Opening Year	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	827	100.000
B - NSOOR Eastern Link		✓	187	100.000
C - R445 Naas Road (West)		✓	683	100.000
D - Oldconnell		✓	4	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	70	757	0
	B - NSOOR Eastern Link	146	0	40	1
	C - R445 Naas Road (West)	672	8	0	3
	D - Oldconnell	0	0	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.37	2.34	0.6	A
B - NSOOR Eastern Link	0.15	3.09	0.2	A
C - R445 Naas Road (West)	0.44	3.76	0.8	A
D - Oldconnell	0.00	0.00	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	623	6	2453	0.254	621	0.3	1.965	A
B - NSOOR Eastern Link	141	569	1572	0.090	140	0.1	2.514	A
C - R445 Naas Road (West)	514	110	1742	0.295	513	0.4	2.924	A
D - Oldconnell	0	620	1568	0.000	0	0.0	0.000	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	743	7	2452	0.303	743	0.4	2.106	A
B - NSOOR Eastern Link	168	680	1487	0.113	168	0.1	2.728	A
C - R445 Naas Road (West)	614	132	1728	0.355	613	0.5	3.229	A
D - Oldconnell	0	742	1483	0.000	0	0.0	0.000	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	911	9	2451	0.372	910	0.6	2.335	A
B - NSOOR Eastern Link	206	833	1370	0.150	206	0.2	3.091	A
C - R445 Naas Road (West)	752	162	1708	0.440	751	0.8	3.758	A
D - Oldconnell	0	908	1368	0.000	0	0.0	0.000	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	911	9	2451	0.372	911	0.6	2.337	A
B - NSOOR Eastern Link	206	833	1370	0.150	206	0.2	3.092	A
C - R445 Naas Road (West)	752	162	1708	0.440	752	0.8	3.764	A
D - Oldconnell	0	909	1367	0.000	0	0.0	0.000	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	743	7	2452	0.303	744	0.4	2.108	A
B - NSOOR Eastern Link	168	681	1486	0.113	168	0.1	2.733	A
C - R445 Naas Road (West)	614	132	1728	0.355	615	0.6	3.239	A
D - Oldconnell	0	744	1482	0.000	0	0.0	0.000	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	623	6	2453	0.254	623	0.3	1.967	A
B - NSOOR Eastern Link	141	570	1571	0.090	141	0.1	2.518	A
C - R445 Naas Road (West)	514	111	1742	0.295	515	0.4	2.936	A
D - Oldconnell	0	622	1566	0.000	0	0.0	0.000	A

2029 Scenario A Design 5 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.98	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D9	2029 Scenario A Design 5 Years	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	903	100.000
B - NSOOR Eastern Link		✓	97	100.000
C - R445 Naas Road (West)		✓	1000	100.000
D - Oldconnell		✓	7	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	219	683	1
	B - NSOOR Eastern Link	70	0	27	0
	C - R445 Naas Road (West)	962	34	0	4
	D - Oldconnell	1	0	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.41	2.52	0.7	A
B - NSOOR Eastern Link	0.07	2.73	0.1	A
C - R445 Naas Road (West)	0.62	5.43	1.6	A
D - Oldconnell	0.01	3.06	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	680	30	2434	0.279	678	0.4	2.048	A
B - NSOOR Eastern Link	73	518	1611	0.045	73	0.0	2.340	A
C - R445 Naas Road (West)	753	53	1780	0.423	750	0.7	3.484	A
D - Oldconnell	5	800	1443	0.004	5	0.0	2.503	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	812	36	2429	0.334	811	0.5	2.225	A
B - NSOOR Eastern Link	87	620	1533	0.057	87	0.1	2.489	A
C - R445 Naas Road (West)	899	64	1773	0.507	898	1.0	4.108	A
D - Oldconnell	6	957	1334	0.005	6	0.0	2.710	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	994	44	2423	0.410	993	0.7	2.517	A
B - NSOOR Eastern Link	107	759	1427	0.075	107	0.1	2.727	A
C - R445 Naas Road (West)	1101	78	1764	0.624	1099	1.6	5.392	A
D - Oldconnell	8	1171	1186	0.007	8	0.0	3.055	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	994	44	2423	0.410	994	0.7	2.519	A
B - NSOOR Eastern Link	107	760	1426	0.075	107	0.1	2.727	A
C - R445 Naas Road (West)	1101	78	1764	0.624	1101	1.6	5.433	A
D - Oldconnell	8	1174	1184	0.007	8	0.0	3.060	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	812	36	2429	0.334	813	0.5	2.229	A
B - NSOOR Eastern Link	87	621	1532	0.057	87	0.1	2.492	A
C - R445 Naas Road (West)	899	64	1773	0.507	901	1.0	4.143	A
D - Oldconnell	6	961	1331	0.005	6	0.0	2.718	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	680	30	2434	0.279	680	0.4	2.053	A
B - NSOOR Eastern Link	73	520	1610	0.045	73	0.0	2.342	A
C - R445 Naas Road (West)	753	53	1780	0.423	754	0.7	3.515	A
D - Oldconnell	5	804	1440	0.004	5	0.0	2.508	A

2029 Scenario A Design 5 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.46	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D10	2029 Scenario A Design 5 Years	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	994	100.000
B - NSOOR Eastern Link		✓	197	100.000
C - R445 Naas Road (West)		✓	808	100.000
D - Oldconnell		✓	5	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	73	921	0
	B - NSOOR Eastern Link	154	0	42	1
	C - R445 Naas Road (West)	795	9	0	4
	D - Oldconnell	0	0	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.45	2.66	0.8	A
B - NSOOR Eastern Link	0.18	3.56	0.2	A
C - R445 Naas Road (West)	0.52	4.43	1.1	A
D - Oldconnell	0.00	2.85	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	748	11	2449	0.306	747	0.4	2.112	A
B - NSOOR Eastern Link	148	696	1475	0.101	148	0.1	2.712	A
C - R445 Naas Road (West)	608	116	1738	0.350	606	0.5	3.175	A
D - Oldconnell	4	719	1499	0.003	4	0.0	2.406	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	894	13	2448	0.365	893	0.6	2.316	A
B - NSOOR Eastern Link	177	832	1371	0.129	177	0.1	3.014	A
C - R445 Naas Road (West)	726	139	1723	0.422	726	0.7	3.608	A
D - Oldconnell	4	860	1401	0.003	4	0.0	2.577	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1094	15	2445	0.448	1093	0.8	2.662	A
B - NSOOR Eastern Link	217	1019	1228	0.177	217	0.2	3.559	A
C - R445 Naas Road (West)	890	170	1702	0.523	888	1.1	4.413	A
D - Oldconnell	6	1053	1267	0.004	6	0.0	2.852	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1094	15	2445	0.448	1094	0.8	2.664	A
B - NSOOR Eastern Link	217	1020	1227	0.177	217	0.2	3.562	A
C - R445 Naas Road (West)	890	171	1702	0.523	890	1.1	4.430	A
D - Oldconnell	6	1055	1266	0.004	6	0.0	2.854	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	894	13	2448	0.365	895	0.6	2.320	A
B - NSOOR Eastern Link	177	833	1370	0.129	177	0.1	3.021	A
C - R445 Naas Road (West)	726	140	1723	0.422	728	0.7	3.625	A
D - Oldconnell	4	863	1399	0.003	4	0.0	2.580	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	748	11	2449	0.306	749	0.4	2.117	A
B - NSOOR Eastern Link	148	698	1474	0.101	148	0.1	2.716	A
C - R445 Naas Road (West)	608	117	1738	0.350	609	0.5	3.190	A
D - Oldconnell	4	722	1497	0.003	4	0.0	2.412	A

2039 Scenario A Design 15 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	4.36	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D11	2039 Scenario A Design 15 Years	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	960	100.000
B - NSOOR Eastern Link		✓	101	100.000
C - R445 Naas Road (West)		✓	1062	100.000
D - Oldconnell		✓	7	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	231	728	1
	B - NSOOR Eastern Link	72	0	29	0
	C - R445 Naas Road (West)	1023	35	0	4
	D - Oldconnell	1	0	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.44	2.64	0.8	A
B - NSOOR Eastern Link	0.08	2.82	0.1	A
C - R445 Naas Road (West)	0.66	6.07	2.0	A
D - Oldconnell	0.01	3.19	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	723	31	2433	0.297	721	0.4	2.100	A
B - NSOOR Eastern Link	76	552	1585	0.048	76	0.1	2.385	A
C - R445 Naas Road (West)	800	55	1779	0.449	796	0.8	3.651	A
D - Oldconnell	5	847	1410	0.004	5	0.0	2.562	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	863	37	2429	0.355	863	0.5	2.299	A
B - NSOOR Eastern Link	91	660	1502	0.060	91	0.1	2.550	A
C - R445 Naas Road (West)	955	66	1772	0.539	953	1.2	4.391	A
D - Oldconnell	6	1014	1294	0.005	6	0.0	2.794	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1057	45	2422	0.436	1056	0.8	2.634	A
B - NSOOR Eastern Link	111	809	1389	0.080	111	0.1	2.817	A
C - R445 Naas Road (West)	1169	80	1762	0.664	1166	1.9	6.010	A
D - Oldconnell	8	1241	1137	0.007	8	0.0	3.186	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1057	45	2422	0.436	1057	0.8	2.636	A
B - NSOOR Eastern Link	111	809	1388	0.080	111	0.1	2.818	A
C - R445 Naas Road (West)	1169	80	1762	0.664	1169	2.0	6.070	A
D - Oldconnell	8	1244	1135	0.007	8	0.0	3.192	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	863	37	2428	0.355	864	0.6	2.303	A
B - NSOOR Eastern Link	91	661	1501	0.060	91	0.1	2.553	A
C - R445 Naas Road (West)	955	66	1772	0.539	958	1.2	4.438	A
D - Oldconnell	6	1019	1291	0.005	6	0.0	2.801	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	723	31	2433	0.297	723	0.4	2.105	A
B - NSOOR Eastern Link	76	554	1584	0.048	76	0.1	2.389	A
C - R445 Naas Road (West)	800	55	1779	0.449	801	0.8	3.688	A
D - Oldconnell	5	852	1407	0.004	5	0.0	2.568	A

2039 Scenario A Design 15 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.71	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D12	2039 Scenario A Design 15 Years	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	1060	100.000
B - NSOOR Eastern Link		✓	204	100.000
C - R445 Naas Road (West)		✓	861	100.000
D - Oldconnell		✓	5	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	75	985	0
	B - NSOOR Eastern Link	160	0	44	0
	C - R445 Naas Road (West)	848	9	0	4
	D - Oldconnell	0	0	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.48	2.82	0.9	A
B - NSOOR Eastern Link	0.19	3.79	0.2	A
C - R445 Naas Road (West)	0.56	4.80	1.3	A
D - Oldconnell	0.00	2.96	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	798	11	2449	0.326	796	0.5	2.176	A
B - NSOOR Eastern Link	154	744	1439	0.107	153	0.1	2.800	A
C - R445 Naas Road (West)	648	120	1736	0.373	646	0.6	3.296	A
D - Oldconnell	4	763	1469	0.003	4	0.0	2.457	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	953	13	2448	0.389	952	0.6	2.406	A
B - NSOOR Eastern Link	183	889	1327	0.138	183	0.2	3.147	A
C - R445 Naas Road (West)	774	144	1720	0.450	773	0.8	3.798	A
D - Oldconnell	4	913	1364	0.003	4	0.0	2.646	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1167	15	2445	0.477	1166	0.9	2.811	A
B - NSOOR Eastern Link	225	1089	1174	0.191	224	0.2	3.790	A
C - R445 Naas Road (West)	948	176	1699	0.558	946	1.2	4.774	A
D - Oldconnell	6	1118	1223	0.005	6	0.0	2.957	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1167	15	2445	0.477	1167	0.9	2.815	A
B - NSOOR Eastern Link	225	1090	1173	0.191	225	0.2	3.793	A
C - R445 Naas Road (West)	948	176	1698	0.558	948	1.3	4.796	A
D - Oldconnell	6	1120	1221	0.005	6	0.0	2.960	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	953	13	2448	0.389	954	0.6	2.413	A
B - NSOOR Eastern Link	183	891	1326	0.138	184	0.2	3.152	A
C - R445 Naas Road (West)	774	144	1720	0.450	776	0.8	3.819	A
D - Oldconnell	4	916	1362	0.003	4	0.0	2.650	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	798	11	2449	0.326	799	0.5	2.183	A
B - NSOOR Eastern Link	154	746	1437	0.107	154	0.1	2.807	A
C - R445 Naas Road (West)	648	121	1735	0.374	649	0.6	3.318	A
D - Oldconnell	4	767	1466	0.003	4	0.0	2.461	A

Junctions 9			
ARCADY 9 - Roundabout Module			
Version: 9.5.0.6896 © Copyright TRL Limited, 2018			
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Filename: 192229 - Lidl Distributer Road Roundabout - Scenario B.j9

Path: \\w2k19-dl-fs01\users\CAD\DWGS\192\201-250\192229\OfficeDocs\Reports\Planning\Planning Package\0004_TTA\Junction 9 Stage 3 final version\Scenario B - Lidl Rd open

Report generation date: 15/03/2022 15:27:13

»2024 Do Nothing, AM
 »2024 Do Nothing, PM
 »2029 Do Nothing, AM
 »2029 Do Nothing, PM
 »2039 Do Nothing, AM
 »2039 Do Nothing, PM
 »2024 Scenario B Opening Year, AM
 »2024 Scenario B Opening Year, PM
 »2029 Scenario B Design 5 Years, AM
 »2029 Scenario B Design 5 Years, PM
 »2039 Scenario B Design 15 Years, AM
 »2039 Scenario B Design 15 Years, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2024 Do Nothing								
A - R445 Naas Road (east)	0.4	2.04	0.28	A	0.5	2.21	0.34	A
B - NSOOR Eastern Link	0.1	2.42	0.07	A	0.1	2.66	0.08	A
C - R445 Naas Road (West)	0.8	3.69	0.44	A	0.6	3.33	0.38	A
D - Oldconnell	0.0	0.00	0.00	A	0.0	0.00	0.00	A
2029 Do Nothing								
A - R445 Naas Road (east)	0.5	2.14	0.31	A	0.6	2.39	0.39	A
B - NSOOR Eastern Link	0.1	2.53	0.08	A	0.1	2.85	0.09	A
C - R445 Naas Road (West)	1.0	4.23	0.51	A	0.8	3.66	0.44	A
D - Oldconnell	0.0	0.00	0.00	A	0.0	0.00	0.00	A
2039 Do Nothing								
A - R445 Naas Road (east)	0.5	2.21	0.33	A	0.7	2.51	0.41	A
B - NSOOR Eastern Link	0.1	2.59	0.08	A	0.1	2.96	0.09	A
C - R445 Naas Road (West)	1.2	4.56	0.55	A	0.9	3.88	0.47	A
D - Oldconnell	0.0	0.00	0.00	A	0.0	0.00	0.00	A
2024 Scenario B Opening Year								
A - R445 Naas Road (east)	0.4	2.09	0.30	A	0.6	2.29	0.36	A
B - NSOOR Eastern Link	0.1	2.52	0.10	A	0.1	2.77	0.11	A
C - R445 Naas Road (West)	0.8	3.80	0.45	A	0.6	3.43	0.39	A
D - Oldconnell	0.0	0.00	0.00	A	0.0	0.00	0.00	A
2029 Scenario B Design 5 Years								
A - R445 Naas Road (east)	0.5	2.24	0.34	A	0.8	2.59	0.43	A
B - NSOOR Eastern Link	0.2	2.74	0.14	A	0.2	3.07	0.14	A
C - R445 Naas Road (West)	1.2	4.69	0.54	A	0.8	3.92	0.46	A
D - Oldconnell	0.0	0.00	0.00	A	0.0	0.00	0.00	A
2039 Scenario B Design 15 Years								
A - R445 Naas Road (east)	0.6	2.32	0.37	A	0.9	2.73	0.46	A
B - NSOOR Eastern Link	0.2	2.82	0.15	A	0.2	3.20	0.15	A
C - R445 Naas Road (West)	1.4	5.14	0.58	A	1.0	4.18	0.49	A
D - Oldconnell	0.0	0.00	0.00	A	0.0	0.00	0.00	A

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

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

File summary

File Description

Title	
Location	
Site number	

Date	29/04/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MPPNET\socoileir
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Do Nothing	AM	ONE HOUR	08:15	09:45	15
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D3	2029 Do Nothing	AM	ONE HOUR	08:15	09:45	15
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D5	2039 Do Nothing	AM	ONE HOUR	08:15	09:45	15
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D7	2024 Scenario B Opening Year	AM	ONE HOUR	08:15	09:45	15
D8	2024 Scenario B Opening Year	PM	ONE HOUR	17:30	19:00	15
D9	2029 Scenario B Design 5 Years	AM	ONE HOUR	08:15	09:45	15
D10	2029 Scenario B Design 5 Years	PM	ONE HOUR	17:30	19:00	15
D11	2039 Scenario B Design 15 Years	AM	ONE HOUR	08:15	09:45	15
D12	2039 Scenario B Design 15 Years	PM	ONE HOUR	17:30	19:00	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	2.88	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	R445 Naas Road (east)	
B	NSOOR Eastern Link	
C	R445 Naas Road (West)	
D	Oldconnell	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - R445 Naas Road (east)	7.00	7.30	2.0	36.3	50.0	0.0	
B - NSOOR Eastern Link	4.60	7.00	10.0	24.0	13.0	0.0	
C - R445 Naas Road (West)	3.00	7.80	15.0	26.0	50.0	0.0	
D - Oldconnell	6.00	6.00	0.0	18.0	50.0	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - R445 Naas Road (east)	0.788	2458
B - NSOOR Eastern Link	0.766	2008
C - R445 Naas Road (West)	0.663	1815
D - Oldconnell	0.693	1997

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Do Nothing	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	620	100.000
B - NSOOR Eastern Link		✓	101	100.000
C - R445 Naas Road (West)		✓	701	100.000
D - Oldconnell		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell

From	A - R445 Naas Road (east)	0	135	485	0
	B - NSOOR Eastern Link	95	0	6	0
	C - R445 Naas Road (West)	686	15	0	0
	D - Oldconnell	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.28	2.04	0.4	A
B - NSOOR Eastern Link	0.07	2.42	0.1	A
C - R445 Naas Road (West)	0.44	3.69	0.8	A
D - Oldconnell	0.00	0.00	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	467	11	2449	0.191	466	0.2	1.815	A
B - NSOOR Eastern Link	76	364	1729	0.044	76	0.0	2.177	A
C - R445 Naas Road (West)	528	71	1768	0.298	526	0.4	2.895	A
D - Oldconnell	0	597	1583	0.000	0	0.0	0.000	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	557	13	2447	0.228	557	0.3	1.904	A
B - NSOOR Eastern Link	91	436	1674	0.054	91	0.1	2.273	A
C - R445 Naas Road (West)	630	85	1759	0.358	630	0.6	3.186	A
D - Oldconnell	0	715	1502	0.000	0	0.0	0.000	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	683	16	2445	0.279	682	0.4	2.042	A
B - NSOOR Eastern Link	111	534	1599	0.070	111	0.1	2.418	A
C - R445 Naas Road (West)	772	105	1746	0.442	771	0.8	3.688	A
D - Oldconnell	0	875	1391	0.000	0	0.0	0.000	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	683	17	2445	0.279	683	0.4	2.042	A
B - NSOOR Eastern Link	111	534	1599	0.070	111	0.1	2.419	A
C - R445 Naas Road (West)	772	105	1746	0.442	772	0.8	3.694	A
D - Oldconnell	0	876	1390	0.000	0	0.0	0.000	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	557	14	2447	0.228	558	0.3	1.907	A
B - NSOOR Eastern Link	91	436	1674	0.054	91	0.1	2.275	A
C - R445 Naas Road (West)	630	85	1759	0.358	631	0.6	3.194	A
D - Oldconnell	0	717	1501	0.000	0	0.0	0.000	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	467	11	2449	0.191	467	0.2	1.816	A
B - NSOOR Eastern Link	76	365	1728	0.044	76	0.0	2.180	A

C - R445 Naas Road (West)	528	72	1768	0.299	528	0.4	2.904	A
D - Oldconnell	0	600	1582	0.000	0	0.0	0.000	A

2024 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	2.71	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	749	100.000
B - NSOOR Eastern Link		✓	108	100.000
C - R445 Naas Road (West)		✓	609	100.000
D - Oldconnell		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	114	634	1
	B - NSOOR Eastern Link	86	0	21	1
	C - R445 Naas Road (West)	603	6	0	0
	D - Oldconnell	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.34	2.21	0.5	A
B - NSOOR Eastern Link	0.08	2.66	0.1	A
C - R445 Naas Road (West)	0.38	3.33	0.6	A
D - Oldconnell	0.00	0.00	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	564	5	2454	0.230	563	0.3	1.903	A
B - NSOOR Eastern Link	81	477	1643	0.050	81	0.1	2.305	A
C - R445 Naas Road (West)	458	66	1772	0.259	457	0.3	2.736	A
D - Oldconnell	0	522	1636	0.000	0	0.0	0.000	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	673	5	2453	0.274	673	0.4	2.022	A
B - NSOOR Eastern Link	97	571	1571	0.062	97	0.1	2.442	A
C - R445 Naas Road (West)	547	79	1763	0.311	547	0.4	2.961	A
D - Oldconnell	0	624	1565	0.000	0	0.0	0.000	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	825	7	2452	0.336	824	0.5	2.211	A
B - NSOOR Eastern Link	119	699	1473	0.081	119	0.1	2.658	A
C - R445 Naas Road (West)	671	97	1751	0.383	670	0.6	3.328	A
D - Oldconnell	0	764	1468	0.000	0	0.0	0.000	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	825	7	2452	0.336	825	0.5	2.211	A
B - NSOOR Eastern Link	119	699	1473	0.081	119	0.1	2.658	A
C - R445 Naas Road (West)	671	97	1751	0.383	671	0.6	3.330	A
D - Oldconnell	0	765	1467	0.000	0	0.0	0.000	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	673	5	2453	0.274	674	0.4	2.024	A
B - NSOOR Eastern Link	97	571	1570	0.062	97	0.1	2.445	A
C - R445 Naas Road (West)	547	79	1763	0.311	548	0.5	2.964	A
D - Oldconnell	0	626	1564	0.000	0	0.0	0.000	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	564	5	2454	0.230	564	0.3	1.904	A
B - NSOOR Eastern Link	81	478	1642	0.050	81	0.1	2.308	A
C - R445 Naas Road (West)	458	66	1771	0.259	459	0.4	2.745	A
D - Oldconnell	0	524	1634	0.000	0	0.0	0.000	A

2029 Do Nothing , AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.22	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2029 Do Nothing	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	694	100.000
B - NSOOR Eastern Link		✓	106	100.000
C - R445 Naas Road (West)		✓	809	100.000
D - Oldconnell		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	140	554	0
	B - NSOOR Eastern Link	100	0	6	0
	C - R445 Naas Road (West)	794	15	0	0
	D - Oldconnell	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.31	2.14	0.5	A
B - NSOOR Eastern Link	0.08	2.53	0.1	A
C - R445 Naas Road (West)	0.51	4.23	1.0	A
D - Oldconnell	0.00	0.00	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	522	11	2449	0.213	521	0.3	1.868	A
B - NSOOR Eastern Link	80	416	1689	0.047	80	0.0	2.236	A
C - R445 Naas Road (West)	609	75	1766	0.345	607	0.5	3.102	A
D - Oldconnell	0	682	1525	0.000	0	0.0	0.000	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	624	13	2447	0.255	624	0.3	1.974	A
B - NSOOR Eastern Link	95	498	1627	0.059	95	0.1	2.350	A
C - R445 Naas Road (West)	727	90	1756	0.414	727	0.7	3.496	A
D - Oldconnell	0	816	1432	0.000	0	0.0	0.000	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	764	16	2445	0.313	764	0.5	2.141	A
B - NSOOR Eastern Link	117	610	1541	0.076	117	0.1	2.526	A
C - R445 Naas Road (West)	891	110	1742	0.511	889	1.0	4.213	A
D - Oldconnell	0	999	1305	0.000	0	0.0	0.000	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	764	17	2445	0.313	764	0.5	2.142	A
B - NSOOR Eastern Link	117	610	1541	0.076	117	0.1	2.527	A
C - R445 Naas Road (West)	891	110	1742	0.511	891	1.0	4.227	A
D - Oldconnell	0	1001	1304	0.000	0	0.0	0.000	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	624	14	2447	0.255	624	0.3	1.977	A
B - NSOOR Eastern Link	95	498	1626	0.059	95	0.1	2.351	A
C - R445 Naas Road (West)	727	90	1756	0.414	729	0.7	3.511	A
D - Oldconnell	0	819	1430	0.000	0	0.0	0.000	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	522	11	2449	0.213	523	0.3	1.871	A
B - NSOOR Eastern Link	80	417	1688	0.047	80	0.0	2.239	A
C - R445 Naas Road (West)	609	75	1765	0.345	610	0.5	3.118	A
D - Oldconnell	0	685	1523	0.000	0	0.0	0.000	A

2029 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	2.95	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	861	100.000
B - NSOOR Eastern Link		✓	110	100.000
C - R445 Naas Road (West)		✓	697	100.000
D - Oldconnell		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	121	739	1
	B - NSOOR Eastern Link	88	0	21	1
	C - R445 Naas Road (West)	691	6	0	0
	D - Oldconnell	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.39	2.39	0.6	A
B - NSOOR Eastern Link	0.09	2.85	0.1	A
C - R445 Naas Road (West)	0.44	3.66	0.8	A
D - Oldconnell	0.00	0.00	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	648	5	2454	0.264	647	0.4	1.989	A
B - NSOOR Eastern Link	83	556	1582	0.052	83	0.1	2.400	A
C - R445 Naas Road (West)	525	68	1771	0.296	523	0.4	2.882	A
D - Oldconnell	0	589	1589	0.000	0	0.0	0.000	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	774	5	2453	0.316	774	0.5	2.143	A
B - NSOOR Eastern Link	99	665	1499	0.066	99	0.1	2.571	A
C - R445 Naas Road (West)	627	81	1762	0.356	626	0.5	3.168	A
D - Oldconnell	0	705	1509	0.000	0	0.0	0.000	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	948	7	2452	0.387	947	0.6	2.390	A
B - NSOOR Eastern Link	121	814	1384	0.087	121	0.1	2.848	A
C - R445 Naas Road (West)	767	99	1750	0.439	767	0.8	3.658	A
D - Oldconnell	0	863	1399	0.000	0	0.0	0.000	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	948	7	2452	0.387	948	0.6	2.392	A
B - NSOOR Eastern Link	121	815	1384	0.088	121	0.1	2.849	A
C - R445 Naas Road (West)	767	99	1750	0.439	767	0.8	3.664	A
D - Oldconnell	0	864	1398	0.000	0	0.0	0.000	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	774	5	2453	0.316	775	0.5	2.146	A
B - NSOOR Eastern Link	99	666	1498	0.066	99	0.1	2.574	A
C - R445 Naas Road (West)	627	81	1762	0.356	627	0.6	3.175	A
D - Oldconnell	0	707	1508	0.000	0	0.0	0.000	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	648	5	2454	0.264	649	0.4	1.994	A
B - NSOOR Eastern Link	83	557	1581	0.052	83	0.1	2.402	A
C - R445 Naas Road (West)	525	68	1770	0.296	525	0.4	2.891	A
D - Oldconnell	0	592	1587	0.000	0	0.0	0.000	A

2039 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.42	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2039 Do Nothing	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	739	100.000
B - NSOOR Eastern Link		✓	106	100.000
C - R445 Naas Road (West)		✓	866	100.000
D - Oldconnell		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	145	594	0
	B - NSOOR Eastern Link	100	0	6	0
	C - R445 Naas Road (West)	851	15	0	0
	D - Oldconnell	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.33	2.21	0.5	A
B - NSOOR Eastern Link	0.08	2.59	0.1	A
C - R445 Naas Road (West)	0.55	4.56	1.2	A
D - Oldconnell	0.00	0.00	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	556	11	2449	0.227	555	0.3	1.901	A
B - NSOOR Eastern Link	80	446	1666	0.048	80	0.1	2.269	A
C - R445 Naas Road (West)	652	75	1766	0.369	650	0.6	3.219	A
D - Oldconnell	0	725	1495	0.000	0	0.0	0.000	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	664	13	2447	0.272	664	0.4	2.019	A
B - NSOOR Eastern Link	95	534	1599	0.060	95	0.1	2.393	A
C - R445 Naas Road (West)	779	90	1756	0.443	778	0.8	3.677	A
D - Oldconnell	0	868	1396	0.000	0	0.0	0.000	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	814	16	2445	0.333	813	0.5	2.207	A
B - NSOOR Eastern Link	117	654	1507	0.077	117	0.1	2.588	A
C - R445 Naas Road (West)	953	110	1742	0.547	952	1.2	4.545	A
D - Oldconnell	0	1062	1261	0.000	0	0.0	0.000	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	814	17	2445	0.333	814	0.5	2.207	A
B - NSOOR Eastern Link	117	654	1507	0.077	117	0.1	2.588	A
C - R445 Naas Road (West)	953	110	1742	0.547	953	1.2	4.563	A
D - Oldconnell	0	1064	1260	0.000	0	0.0	0.000	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	664	14	2447	0.272	665	0.4	2.020	A
B - NSOOR Eastern Link	95	534	1599	0.060	95	0.1	2.394	A
C - R445 Naas Road (West)	779	90	1756	0.443	780	0.8	3.698	A
D - Oldconnell	0	870	1394	0.000	0	0.0	0.000	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	556	11	2449	0.227	557	0.3	1.902	A
B - NSOOR Eastern Link	80	447	1665	0.048	80	0.1	2.270	A
C - R445 Naas Road (West)	652	75	1765	0.369	653	0.6	3.237	A
D - Oldconnell	0	728	1493	0.000	0	0.0	0.000	A

2039 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.11	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	924	100.000
B - NSOOR Eastern Link		✓	109	100.000
C - R445 Naas Road (West)		✓	748	100.000
D - Oldconnell		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	127	797	0
	B - NSOOR Eastern Link	88	0	21	0
	C - R445 Naas Road (West)	742	6	0	0
	D - Oldconnell	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.41	2.51	0.7	A
B - NSOOR Eastern Link	0.09	2.96	0.1	A
C - R445 Naas Road (West)	0.47	3.88	0.9	A
D - Oldconnell	0.00	0.00	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	696	5	2454	0.283	694	0.4	2.043	A
B - NSOOR Eastern Link	82	599	1549	0.053	82	0.1	2.452	A
C - R445 Naas Road (West)	563	66	1772	0.318	561	0.5	2.971	A
D - Oldconnell	0	627	1563	0.000	0	0.0	0.000	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	831	5	2453	0.339	830	0.5	2.218	A
B - NSOOR Eastern Link	98	716	1460	0.067	98	0.1	2.643	A
C - R445 Naas Road (West)	672	79	1763	0.381	672	0.6	3.297	A
D - Oldconnell	0	751	1477	0.000	0	0.0	0.000	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1017	7	2452	0.415	1017	0.7	2.506	A
B - NSOOR Eastern Link	120	877	1337	0.090	120	0.1	2.958	A
C - R445 Naas Road (West)	824	97	1751	0.470	822	0.9	3.873	A
D - Oldconnell	0	919	1360	0.000	0	0.0	0.000	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1017	7	2452	0.415	1017	0.7	2.508	A
B - NSOOR Eastern Link	120	878	1336	0.090	120	0.1	2.959	A
C - R445 Naas Road (West)	824	97	1751	0.470	824	0.9	3.881	A
D - Oldconnell	0	920	1359	0.000	0	0.0	0.000	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	831	5	2453	0.339	831	0.5	2.220	A
B - NSOOR Eastern Link	98	717	1459	0.067	98	0.1	2.645	A
C - R445 Naas Road (West)	672	79	1763	0.381	673	0.6	3.309	A
D - Oldconnell	0	753	1476	0.000	0	0.0	0.000	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	696	5	2454	0.283	696	0.4	2.049	A
B - NSOOR Eastern Link	82	600	1548	0.053	82	0.1	2.457	A
C - R445 Naas Road (West)	563	66	1771	0.318	564	0.5	2.981	A
D - Oldconnell	0	630	1561	0.000	0	0.0	0.000	A

2024 Scenario B Opening Year, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	2.92	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2024 Scenario B Opening Year	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	668	100.000
B - NSOOR Eastern Link		✓	148	100.000
C - R445 Naas Road (West)		✓	694	100.000
D - Oldconnell		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	175	493	0
	B - NSOOR Eastern Link	142	0	6	0
	C - R445 Naas Road (West)	694	0	0	0
	D - Oldconnell	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.30	2.09	0.4	A
B - NSOOR Eastern Link	0.10	2.52	0.1	A
C - R445 Naas Road (West)	0.45	3.80	0.8	A
D - Oldconnell	0.00	0.00	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	503	0	2458	0.205	502	0.3	1.840	A
B - NSOOR Eastern Link	111	370	1724	0.065	111	0.1	2.231	A
C - R445 Naas Road (West)	522	107	1745	0.299	521	0.4	2.938	A
D - Oldconnell	0	627	1562	0.000	0	0.0	0.000	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	601	0	2458	0.244	600	0.3	1.938	A
B - NSOOR Eastern Link	133	443	1669	0.080	133	0.1	2.343	A
C - R445 Naas Road (West)	624	128	1731	0.360	623	0.6	3.249	A
D - Oldconnell	0	751	1477	0.000	0	0.0	0.000	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	735	0	2458	0.299	735	0.4	2.090	A
B - NSOOR Eastern Link	163	542	1592	0.102	163	0.1	2.517	A
C - R445 Naas Road (West)	764	156	1712	0.446	763	0.8	3.792	A
D - Oldconnell	0	919	1360	0.000	0	0.0	0.000	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	735	0	2458	0.299	735	0.4	2.090	A
B - NSOOR Eastern Link	163	543	1592	0.102	163	0.1	2.518	A
C - R445 Naas Road (West)	764	156	1712	0.446	764	0.8	3.798	A
D - Oldconnell	0	920	1359	0.000	0	0.0	0.000	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	601	0	2458	0.244	601	0.3	1.940	A
B - NSOOR Eastern Link	133	443	1668	0.080	133	0.1	2.344	A
C - R445 Naas Road (West)	624	128	1731	0.361	625	0.6	3.260	A
D - Oldconnell	0	753	1476	0.000	0	0.0	0.000	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	503	0	2458	0.205	503	0.3	1.841	A
B - NSOOR Eastern Link	111	371	1723	0.065	111	0.1	2.234	A
C - R445 Naas Road (West)	522	107	1744	0.300	523	0.4	2.948	A
D - Oldconnell	0	630	1561	0.000	0	0.0	0.000	A

2024 Scenario B Opening Year, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	2.78	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2024 Scenario B Opening Year	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	802	100.000
B - NSOOR Eastern Link		✓	150	100.000
C - R445 Naas Road (West)		✓	610	100.000
D - Oldconnell		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	159	643	0
	B - NSOOR Eastern Link	128	0	21	1
	C - R445 Naas Road (West)	610	0	0	0
	D - Oldconnell	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.36	2.29	0.6	A
B - NSOOR Eastern Link	0.11	2.77	0.1	A
C - R445 Naas Road (West)	0.39	3.43	0.6	A
D - Oldconnell	0.00	0.00	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	604	0	2458	0.246	602	0.3	1.940	A
B - NSOOR Eastern Link	113	483	1638	0.069	113	0.1	2.360	A
C - R445 Naas Road (West)	459	97	1751	0.262	458	0.4	2.781	A
D - Oldconnell	0	554	1613	0.000	0	0.0	0.000	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	721	0	2458	0.293	721	0.4	2.072	A
B - NSOOR Eastern Link	135	578	1565	0.086	135	0.1	2.515	A
C - R445 Naas Road (West)	548	116	1738	0.315	548	0.5	3.024	A
D - Oldconnell	0	663	1538	0.000	0	0.0	0.000	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	883	0	2458	0.359	882	0.6	2.286	A
B - NSOOR Eastern Link	165	707	1466	0.113	165	0.1	2.766	A
C - R445 Naas Road (West)	672	142	1721	0.390	671	0.6	3.426	A
D - Oldconnell	0	812	1435	0.000	0	0.0	0.000	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	883	0	2458	0.359	883	0.6	2.286	A
B - NSOOR Eastern Link	165	708	1466	0.113	165	0.1	2.767	A
C - R445 Naas Road (West)	672	142	1721	0.390	672	0.6	3.429	A
D - Oldconnell	0	813	1434	0.000	0	0.0	0.000	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	721	0	2458	0.293	722	0.4	2.075	A
B - NSOOR Eastern Link	135	579	1565	0.086	135	0.1	2.517	A
C - R445 Naas Road (West)	548	116	1738	0.315	549	0.5	3.030	A
D - Oldconnell	0	664	1537	0.000	0	0.0	0.000	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	604	0	2458	0.246	604	0.3	1.942	A
B - NSOOR Eastern Link	113	484	1637	0.069	113	0.1	2.363	A
C - R445 Naas Road (West)	459	97	1751	0.262	460	0.4	2.788	A
D - Oldconnell	0	556	1612	0.000	0	0.0	0.000	A

2029 Scenario B Design 5 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.43	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D9	2029 Scenario B Design 5 Years	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	764	100.000
B - NSOOR Eastern Link		✓	197	100.000
C - R445 Naas Road (West)		✓	825	100.000
D - Oldconnell		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	200	564	0
	B - NSOOR Eastern Link	191	0	6	0
	C - R445 Naas Road (West)	810	15	0	0
	D - Oldconnell	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.34	2.24	0.5	A
B - NSOOR Eastern Link	0.14	2.74	0.2	A
C - R445 Naas Road (West)	0.54	4.69	1.2	A
D - Oldconnell	0.00	0.00	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	575	11	2449	0.235	574	0.3	1.919	A
B - NSOOR Eastern Link	148	424	1683	0.088	148	0.1	2.344	A
C - R445 Naas Road (West)	621	143	1720	0.361	619	0.6	3.261	A
D - Oldconnell	0	762	1469	0.000	0	0.0	0.000	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	687	13	2447	0.281	686	0.4	2.045	A
B - NSOOR Eastern Link	177	507	1620	0.109	177	0.1	2.494	A
C - R445 Naas Road (West)	742	172	1702	0.436	741	0.8	3.743	A
D - Oldconnell	0	912	1365	0.000	0	0.0	0.000	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	841	16	2445	0.344	841	0.5	2.244	A
B - NSOOR Eastern Link	217	621	1533	0.142	217	0.2	2.735	A
C - R445 Naas Road (West)	908	210	1676	0.542	907	1.2	4.671	A
D - Oldconnell	0	1117	1223	0.000	0	0.0	0.000	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	841	17	2445	0.344	841	0.5	2.244	A
B - NSOOR Eastern Link	217	621	1532	0.142	217	0.2	2.736	A
C - R445 Naas Road (West)	908	210	1676	0.542	908	1.2	4.690	A
D - Oldconnell	0	1119	1222	0.000	0	0.0	0.000	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	687	14	2447	0.281	687	0.4	2.046	A
B - NSOOR Eastern Link	177	507	1619	0.109	177	0.1	2.498	A
C - R445 Naas Road (West)	742	172	1701	0.436	743	0.8	3.765	A
D - Oldconnell	0	915	1363	0.000	0	0.0	0.000	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	575	11	2449	0.235	576	0.3	1.922	A
B - NSOOR Eastern Link	148	425	1683	0.088	148	0.1	2.348	A
C - R445 Naas Road (West)	621	144	1720	0.361	622	0.6	3.280	A
D - Oldconnell	0	766	1467	0.000	0	0.0	0.000	A

2029 Scenario B Design 5 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.15	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D10	2029 Scenario B Design 5 Years	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	966	100.000
B - NSOOR Eastern Link		✓	180	100.000
C - R445 Naas Road (West)		✓	710	100.000
D - Oldconnell		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	210	756	0
	B - NSOOR Eastern Link	158	0	21	1
	C - R445 Naas Road (West)	704	6	0	0
	D - Oldconnell	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.43	2.59	0.8	A
B - NSOOR Eastern Link	0.14	3.07	0.2	A
C - R445 Naas Road (West)	0.46	3.92	0.8	A
D - Oldconnell	0.00	0.00	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	727	5	2454	0.296	726	0.4	2.081	A
B - NSOOR Eastern Link	136	568	1573	0.086	135	0.1	2.503	A
C - R445 Naas Road (West)	535	119	1736	0.308	533	0.4	2.988	A
D - Oldconnell	0	651	1546	0.000	0	0.0	0.000	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	868	5	2453	0.354	868	0.5	2.271	A
B - NSOOR Eastern Link	162	679	1488	0.109	162	0.1	2.714	A
C - R445 Naas Road (West)	638	143	1721	0.371	638	0.6	3.322	A
D - Oldconnell	0	780	1457	0.000	0	0.0	0.000	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1064	7	2452	0.434	1063	0.8	2.589	A
B - NSOOR Eastern Link	198	832	1371	0.145	198	0.2	3.068	A
C - R445 Naas Road (West)	782	175	1699	0.460	781	0.8	3.915	A
D - Oldconnell	0	954	1336	0.000	0	0.0	0.000	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1064	7	2452	0.434	1064	0.8	2.591	A
B - NSOOR Eastern Link	198	832	1371	0.145	198	0.2	3.069	A
C - R445 Naas Road (West)	782	175	1699	0.460	782	0.8	3.923	A
D - Oldconnell	0	956	1335	0.000	0	0.0	0.000	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	868	5	2453	0.354	869	0.6	2.273	A
B - NSOOR Eastern Link	162	680	1487	0.109	162	0.1	2.718	A
C - R445 Naas Road (West)	638	143	1720	0.371	639	0.6	3.332	A
D - Oldconnell	0	781	1456	0.000	0	0.0	0.000	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	727	5	2454	0.296	728	0.4	2.087	A
B - NSOOR Eastern Link	136	570	1572	0.086	136	0.1	2.508	A
C - R445 Naas Road (West)	535	120	1736	0.308	535	0.4	3.001	A
D - Oldconnell	0	654	1544	0.000	0	0.0	0.000	A

2039 Scenario B Design 15 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.69	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D11	2039 Scenario B Design 15 Years	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	811	100.000
B - NSOOR Eastern Link		✓	201	100.000
C - R445 Naas Road (West)		✓	883	100.000
D - Oldconnell		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	206	605	0
	B - NSOOR Eastern Link	195	0	6	0
	C - R445 Naas Road (West)	868	15	0	0
	D - Oldconnell	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.37	2.32	0.6	A
B - NSOOR Eastern Link	0.15	2.82	0.2	A
C - R445 Naas Road (West)	0.58	5.14	1.4	A
D - Oldconnell	0.00	0.00	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	611	11	2449	0.249	609	0.3	1.956	A
B - NSOOR Eastern Link	151	454	1660	0.091	151	0.1	2.386	A
C - R445 Naas Road (West)	665	146	1718	0.387	662	0.6	3.400	A
D - Oldconnell	0	809	1437	0.000	0	0.0	0.000	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	729	13	2447	0.298	729	0.4	2.095	A
B - NSOOR Eastern Link	181	544	1592	0.114	181	0.1	2.551	A
C - R445 Naas Road (West)	794	175	1699	0.467	793	0.9	3.968	A
D - Oldconnell	0	968	1326	0.000	0	0.0	0.000	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	893	16	2445	0.365	892	0.6	2.319	A
B - NSOOR Eastern Link	221	666	1498	0.148	221	0.2	2.818	A
C - R445 Naas Road (West)	972	215	1673	0.581	970	1.4	5.108	A
D - Oldconnell	0	1185	1176	0.000	0	0.0	0.000	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	893	17	2445	0.365	893	0.6	2.319	A
B - NSOOR Eastern Link	221	666	1498	0.148	221	0.2	2.819	A
C - R445 Naas Road (West)	972	215	1673	0.581	972	1.4	5.137	A
D - Oldconnell	0	1187	1175	0.000	0	0.0	0.000	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	729	14	2447	0.298	730	0.4	2.098	A
B - NSOOR Eastern Link	181	544	1591	0.114	181	0.1	2.552	A
C - R445 Naas Road (West)	794	175	1699	0.467	796	0.9	3.994	A
D - Oldconnell	0	971	1324	0.000	0	0.0	0.000	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	611	11	2449	0.249	611	0.3	1.959	A
B - NSOOR Eastern Link	151	456	1659	0.091	151	0.1	2.387	A
C - R445 Naas Road (West)	665	147	1718	0.387	666	0.6	3.426	A
D - Oldconnell	0	813	1434	0.000	0	0.0	0.000	A

2039 Scenario B Design 15 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.33	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D12	2039 Scenario B Design 15 Years	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	1030	100.000
B - NSOOR Eastern Link		✓	180	100.000
C - R445 Naas Road (West)		✓	761	100.000
D - Oldconnell		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	216	814	0
	B - NSOOR Eastern Link	159	0	21	0
	C - R445 Naas Road (West)	755	6	0	0
	D - Oldconnell	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.46	2.73	0.9	A
B - NSOOR Eastern Link	0.15	3.20	0.2	A
C - R445 Naas Road (West)	0.49	4.18	1.0	A
D - Oldconnell	0.00	0.00	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	775	5	2454	0.316	774	0.5	2.141	A
B - NSOOR Eastern Link	136	611	1540	0.088	135	0.1	2.563	A
C - R445 Naas Road (West)	573	119	1736	0.330	571	0.5	3.084	A
D - Oldconnell	0	690	1519	0.000	0	0.0	0.000	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	926	5	2453	0.377	925	0.6	2.356	A
B - NSOOR Eastern Link	162	731	1448	0.112	162	0.1	2.798	A
C - R445 Naas Road (West)	684	143	1721	0.398	683	0.7	3.469	A
D - Oldconnell	0	826	1425	0.000	0	0.0	0.000	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1134	7	2452	0.462	1133	0.9	2.728	A
B - NSOOR Eastern Link	198	895	1322	0.150	198	0.2	3.201	A
C - R445 Naas Road (West)	838	175	1699	0.493	837	1.0	4.167	A
D - Oldconnell	0	1012	1296	0.000	0	0.0	0.000	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1134	7	2452	0.462	1134	0.9	2.730	A
B - NSOOR Eastern Link	198	896	1322	0.150	198	0.2	3.203	A
C - R445 Naas Road (West)	838	175	1699	0.493	838	1.0	4.179	A
D - Oldconnell	0	1013	1295	0.000	0	0.0	0.000	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	926	5	2453	0.377	927	0.6	2.359	A
B - NSOOR Eastern Link	162	733	1447	0.112	162	0.1	2.803	A
C - R445 Naas Road (West)	684	143	1720	0.398	685	0.7	3.483	A
D - Oldconnell	0	828	1423	0.000	0	0.0	0.000	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	775	5	2454	0.316	776	0.5	2.147	A
B - NSOOR Eastern Link	136	613	1538	0.088	136	0.1	2.568	A
C - R445 Naas Road (West)	573	120	1736	0.330	574	0.5	3.100	A
D - Oldconnell	0	693	1517	0.000	0	0.0	0.000	A

Junctions 9							
ARCADY 9 - Roundabout Module							
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Filename: 192229 - Lidl Distributer Roundabout - Scenario C.j9

Path: \\w2k19-dl-fs01\users\CAD\DWGS\192\201-250\192229\OfficeDocs\Reports\Planning\Planning Package\0004_TTA\Junction 9 Stage 3 final version\Scenario C- NSOOR open

Report generation date: 15/03/2022 15:40:04

»2024 Do Nothing, AM
 »2024 Do Nothing, PM
 »2029 Do Nothing, AM
 »2029 Do Nothing, PM
 »2039 Do Nothing, AM
 »2039 Do Nothing, PM
 »2024 Scenario C Opening Year, AM
 »2024 Scenario C Opening Year, PM
 »2029 Scenario C Design 5 Years, AM
 »2029 Scenario C Design 5 Years, PM
 »2039 Scenario C Design 15 Years, AM
 »2039 Scenario C Design 15 Years, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2024 Do Nothing								
A - R445 Naas Road (east)	0.4	2.11	0.30	A	0.5	2.26	0.35	A
B - NSOOR Eastern Link	0.2	2.47	0.16	A	0.2	2.56	0.15	A
C - R445 Naas Road (West)	0.7	3.71	0.41	A	0.4	3.02	0.29	A
D - Oldconnell	0.0	2.67	0.00	A	0.0	2.37	0.00	A
2029 Do Nothing								
A - R445 Naas Road (east)	0.6	2.39	0.38	A	0.7	2.46	0.40	A
B - NSOOR Eastern Link	0.3	2.75	0.23	A	0.2	2.73	0.18	A
C - R445 Naas Road (West)	0.9	4.46	0.49	A	0.5	3.23	0.33	A
D - Oldconnell	0.0	2.97	0.01	A	0.0	2.48	0.00	A
2039 Do Nothing								
A - R445 Naas Road (east)	0.7	2.49	0.40	A	0.8	2.58	0.43	A
B - NSOOR Eastern Link	0.3	2.80	0.24	A	0.2	2.79	0.19	A
C - R445 Naas Road (West)	1.1	4.79	0.52	A	0.5	3.36	0.35	A
D - Oldconnell	0.0	3.07	0.01	A	0.0	2.53	0.00	A
2024 Scenario C Opening Year								
A - R445 Naas Road (east)	0.6	2.31	0.36	A	0.6	2.34	0.37	A
B - NSOOR Eastern Link	0.3	2.67	0.22	A	0.2	2.66	0.18	A
C - R445 Naas Road (West)	0.8	4.08	0.44	A	0.4	3.11	0.30	A
D - Oldconnell	0.0	2.85	0.00	A	0.0	2.43	0.00	A
2029 Scenario C Design 5 Years								
A - R445 Naas Road (east)	0.7	2.51	0.41	A	0.8	2.64	0.44	A
B - NSOOR Eastern Link	0.4	2.99	0.29	A	0.3	2.91	0.23	A
C - R445 Naas Road (West)	1.0	4.91	0.51	A	0.5	3.41	0.34	A
D - Oldconnell	0.0	3.17	0.01	A	0.0	2.59	0.00	A
2039 Scenario C Design 15 Years								
A - R445 Naas Road (east)	0.8	2.63	0.43	A	0.9	2.77	0.47	A
B - NSOOR Eastern Link	0.5	3.11	0.31	A	0.3	3.01	0.24	A
C - R445 Naas Road (West)	1.2	5.43	0.55	A	0.6	3.58	0.37	A
D - Oldconnell	0.0	3.33	0.01	A	0.0	2.66	0.00	A

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

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

File summary

File Description

Title	
Location	
Site number	
Date	29/04/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MPPNET\socoileir
Description	

Units

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

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Do Nothing	AM	ONE HOUR	08:15	09:45	15
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D3	2029 Do Nothing	AM	ONE HOUR	08:15	09:45	15
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D5	2039 Do Nothing	AM	ONE HOUR	08:15	09:45	15
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15
D13	2024 Scenario C Opening Year	AM	ONE HOUR	08:15	09:45	15
D14	2024 Scenario C Opening Year	PM	ONE HOUR	17:30	19:00	15
D15	2029 Scenario C Design 5 Years	AM	ONE HOUR	08:15	09:45	15
D16	2029 Scenario C Design 5 Years	PM	ONE HOUR	17:30	19:00	15
D17	2039 Scenario C Design 15 Years	AM	ONE HOUR	08:15	09:45	15
D18	2039 Scenario C Design 15 Years	PM	ONE HOUR	17:30	19:00	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	2.81	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	R445 Naas Road (east)	
B	NSOOR Eastern Link	
C	R445 Naas Road (West)	
D	Oldconnell	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - R445 Naas Road (east)	7.00	7.30	2.0	36.3	50.0	0.0	
B - NSOOR Eastern Link	4.60	7.00	10.0	24.0	13.0	0.0	
C - R445 Naas Road (West)	3.00	7.80	15.0	26.0	50.0	0.0	
D - Oldconnell	6.00	6.00	0.0	18.0	50.0	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - R445 Naas Road (east)	0.788	2458
B - NSOOR Eastern Link	0.766	2008
C - R445 Naas Road (West)	0.663	1815
D - Oldconnell	0.693	1997

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Do Nothing	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	663	100.000
B - NSOOR Eastern Link		✓	254	100.000
C - R445 Naas Road (West)		✓	612	100.000
D - Oldconnell		✓	5	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
From	A - R445 Naas Road (east)	0	347	315	1
	B - NSOOR Eastern Link	235	0	19	0
	C - R445 Naas Road (West)	592	17	0	3
	D - Oldconnell	0	0	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0

From	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.30	2.11	0.4	A
B - NSOOR Eastern Link	0.16	2.47	0.2	A
C - R445 Naas Road (West)	0.41	3.71	0.7	A
D - Oldconnell	0.00	2.67	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	499	17	2445	0.204	498	0.3	1.849	A
B - NSOOR Eastern Link	191	241	1823	0.105	191	0.1	2.205	A
C - R445 Naas Road (West)	461	177	1698	0.271	459	0.4	2.902	A
D - Oldconnell	4	633	1558	0.002	4	0.0	2.315	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	596	20	2442	0.244	596	0.3	1.949	A
B - NSOOR Eastern Link	228	288	1787	0.128	228	0.1	2.309	A
C - R445 Naas Road (West)	550	212	1675	0.329	550	0.5	3.198	A
D - Oldconnell	4	758	1472	0.003	4	0.0	2.452	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	730	24	2438	0.299	730	0.4	2.106	A
B - NSOOR Eastern Link	280	353	1737	0.161	279	0.2	2.469	A
C - R445 Naas Road (West)	674	260	1643	0.410	673	0.7	3.707	A
D - Oldconnell	6	928	1354	0.004	6	0.0	2.669	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	730	24	2438	0.299	730	0.4	2.106	A
B - NSOOR Eastern Link	280	353	1737	0.161	280	0.2	2.469	A
C - R445 Naas Road (West)	674	260	1643	0.410	674	0.7	3.713	A
D - Oldconnell	6	929	1353	0.004	6	0.0	2.670	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	596	20	2442	0.244	596	0.3	1.950	A
B - NSOOR Eastern Link	228	289	1787	0.128	229	0.1	2.312	A
C - R445 Naas Road (West)	550	212	1675	0.329	551	0.5	3.208	A
D - Oldconnell	4	760	1471	0.003	4	0.0	2.456	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	499	17	2444	0.204	499	0.3	1.853	A
B - NSOOR Eastern Link	191	242	1823	0.105	191	0.1	2.208	A
C - R445 Naas Road (West)	461	178	1697	0.271	461	0.4	2.912	A
D - Oldconnell	4	636	1557	0.002	4	0.0	2.318	A

2024 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	2.54	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	775	100.000
B - NSOOR Eastern Link		✓	227	100.000
C - R445 Naas Road (West)		✓	441	100.000
D - Oldconnell		✓	5	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
From	A - R445 Naas Road (east)	0	359	415	1
	B - NSOOR Eastern Link	186	0	40	1
	C - R445 Naas Road (West)	430	8	0	3
	D - Oldconnell	1	0	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
From	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.35	2.26	0.5	A
B - NSOOR Eastern Link	0.15	2.56	0.2	A
C - R445 Naas Road (West)	0.29	3.02	0.4	A
D - Oldconnell	0.00	2.37	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	583	9	2450	0.238	582	0.3	1.926	A
B - NSOOR Eastern Link	171	316	1766	0.097	170	0.1	2.256	A
C - R445 Naas Road (West)	332	141	1722	0.193	331	0.2	2.587	A
D - Oldconnell	4	468	1673	0.002	4	0.0	2.156	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	697	11	2449	0.284	696	0.4	2.054	A
B - NSOOR Eastern Link	204	377	1719	0.119	204	0.1	2.376	A
C - R445 Naas Road (West)	396	169	1703	0.233	396	0.3	2.754	A
D - Oldconnell	4	561	1609	0.003	4	0.0	2.243	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	853	13	2447	0.349	853	0.5	2.258	A
B - NSOOR Eastern Link	250	462	1654	0.151	250	0.2	2.563	A
C - R445 Naas Road (West)	486	207	1678	0.289	485	0.4	3.017	A
D - Oldconnell	6	686	1522	0.004	6	0.0	2.374	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	853	13	2447	0.349	853	0.5	2.258	A
B - NSOOR Eastern Link	250	462	1654	0.151	250	0.2	2.563	A
C - R445 Naas Road (West)	486	207	1678	0.289	486	0.4	3.018	A
D - Oldconnell	6	687	1521	0.004	6	0.0	2.374	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	697	11	2449	0.284	697	0.4	2.055	A
B - NSOOR Eastern Link	204	378	1718	0.119	204	0.1	2.377	A
C - R445 Naas Road (West)	396	169	1703	0.233	397	0.3	2.758	A
D - Oldconnell	4	562	1608	0.003	4	0.0	2.246	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	583	9	2450	0.238	584	0.3	1.930	A
B - NSOOR Eastern Link	171	316	1766	0.097	171	0.1	2.257	A
C - R445 Naas Road (West)	332	142	1721	0.193	332	0.2	2.591	A
D - Oldconnell	4	470	1672	0.002	4	0.0	2.159	A

2029 Do Nothing , AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.22	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2029 Do Nothing	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	834	100.000
B - NSOOR Eastern Link		✓	361	100.000
C - R445 Naas Road (West)		✓	693	100.000
D - Oldconnell		✓	6	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
From	A - R445 Naas Road (east)	0	483	350	1
	B - NSOOR Eastern Link	334	0	27	0
	C - R445 Naas Road (West)	655	34	0	4
	D - Oldconnell	0	0	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
From	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.38	2.39	0.6	A
B - NSOOR Eastern Link	0.23	2.75	0.3	A
C - R445 Naas Road (West)	0.49	4.46	0.9	A
D - Oldconnell	0.01	2.97	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	628	30	2434	0.258	626	0.3	1.991	A
B - NSOOR Eastern Link	272	268	1802	0.151	271	0.2	2.349	A
C - R445 Naas Road (West)	522	252	1648	0.316	520	0.5	3.184	A
D - Oldconnell	5	768	1465	0.003	5	0.0	2.464	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	750	36	2429	0.309	749	0.4	2.143	A
B - NSOOR Eastern Link	325	321	1762	0.184	324	0.2	2.503	A
C - R445 Naas Road (West)	623	301	1616	0.386	622	0.6	3.622	A
D - Oldconnell	5	919	1361	0.004	5	0.0	2.656	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	918	44	2423	0.379	918	0.6	2.390	A
B - NSOOR Eastern Link	397	393	1707	0.233	397	0.3	2.748	A
C - R445 Naas Road (West)	763	369	1571	0.486	762	0.9	4.443	A
D - Oldconnell	7	1125	1218	0.005	7	0.0	2.971	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	918	44	2423	0.379	918	0.6	2.392	A
B - NSOOR Eastern Link	397	393	1707	0.233	397	0.3	2.748	A
C - R445 Naas Road (West)	763	369	1571	0.486	763	0.9	4.456	A
D - Oldconnell	7	1126	1217	0.005	7	0.0	2.974	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	750	36	2429	0.309	750	0.4	2.144	A
B - NSOOR Eastern Link	325	321	1762	0.184	325	0.2	2.505	A
C - R445 Naas Road (West)	623	301	1615	0.386	624	0.6	3.635	A
D - Oldconnell	5	921	1359	0.004	5	0.0	2.659	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	628	30	2434	0.258	628	0.3	1.995	A
B - NSOOR Eastern Link	272	269	1802	0.151	272	0.2	2.352	A
C - R445 Naas Road (West)	522	252	1648	0.317	522	0.5	3.202	A
D - Oldconnell	5	771	1463	0.003	5	0.0	2.469	A

2029 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	2.73	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	893	100.000
B - NSOOR Eastern Link		✓	264	100.000
C - R445 Naas Road (West)		✓	491	100.000
D - Oldconnell		✓	6	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
From	A - R445 Naas Road (east)	0	427	466	0
	B - NSOOR Eastern Link	222	0	42	0
	C - R445 Naas Road (West)	478	9	0	4
	D - Oldconnell	1	0	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
From	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.40	2.46	0.7	A
B - NSOOR Eastern Link	0.18	2.73	0.2	A
C - R445 Naas Road (West)	0.33	3.23	0.5	A
D - Oldconnell	0.00	2.48	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	672	11	2449	0.274	671	0.4	2.022	A
B - NSOOR Eastern Link	199	354	1737	0.114	198	0.1	2.340	A
C - R445 Naas Road (West)	370	167	1705	0.217	369	0.3	2.691	A
D - Oldconnell	5	532	1628	0.003	5	0.0	2.216	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	803	13	2448	0.328	802	0.5	2.188	A
B - NSOOR Eastern Link	237	423	1684	0.141	237	0.2	2.488	A
C - R445 Naas Road (West)	441	199	1683	0.262	441	0.4	2.898	A
D - Oldconnell	5	637	1556	0.003	5	0.0	2.321	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	983	15	2445	0.402	982	0.7	2.459	A
B - NSOOR Eastern Link	291	518	1611	0.180	290	0.2	2.725	A
C - R445 Naas Road (West)	541	244	1653	0.327	540	0.5	3.232	A
D - Oldconnell	7	780	1457	0.005	7	0.0	2.481	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	983	15	2445	0.402	983	0.7	2.461	A
B - NSOOR Eastern Link	291	519	1611	0.180	291	0.2	2.726	A
C - R445 Naas Road (West)	541	244	1653	0.327	541	0.5	3.234	A
D - Oldconnell	7	781	1456	0.005	7	0.0	2.482	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	803	13	2448	0.328	804	0.5	2.191	A
B - NSOOR Eastern Link	237	424	1683	0.141	238	0.2	2.489	A
C - R445 Naas Road (West)	441	200	1683	0.262	442	0.4	2.903	A
D - Oldconnell	5	638	1555	0.003	5	0.0	2.322	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	672	11	2449	0.274	673	0.4	2.026	A
B - NSOOR Eastern Link	199	355	1736	0.114	199	0.1	2.343	A
C - R445 Naas Road (West)	370	167	1704	0.217	370	0.3	2.697	A
D - Oldconnell	5	534	1627	0.003	5	0.0	2.218	A

2039 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.40	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2039 Do Nothing	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	889	100.000
B - NSOOR Eastern Link		✓	363	100.000
C - R445 Naas Road (West)		✓	744	100.000
D - Oldconnell		✓	6	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	511	377	1
	B - NSOOR Eastern Link	334	0	29	0
	C - R445 Naas Road (West)	705	35	0	4
	D - Oldconnell	0	0	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.40	2.49	0.7	A
B - NSOOR Eastern Link	0.24	2.80	0.3	A
C - R445 Naas Road (West)	0.52	4.79	1.1	A
D - Oldconnell	0.01	3.07	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	669	31	2433	0.275	668	0.4	2.037	A
B - NSOOR Eastern Link	273	288	1787	0.153	273	0.2	2.376	A
C - R445 Naas Road (West)	560	252	1648	0.340	558	0.5	3.296	A
D - Oldconnell	5	806	1439	0.003	5	0.0	2.509	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	799	37	2429	0.329	799	0.5	2.209	A
B - NSOOR Eastern Link	326	345	1744	0.187	326	0.2	2.539	A
C - R445 Naas Road (West)	669	301	1616	0.414	668	0.7	3.795	A
D - Oldconnell	5	965	1329	0.004	5	0.0	2.719	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	979	45	2422	0.404	978	0.7	2.492	A
B - NSOOR Eastern Link	400	422	1684	0.237	399	0.3	2.801	A
C - R445 Naas Road (West)	819	369	1571	0.521	818	1.1	4.770	A
D - Oldconnell	7	1181	1179	0.006	7	0.0	3.069	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	979	45	2422	0.404	979	0.7	2.494	A
B - NSOOR Eastern Link	400	423	1684	0.237	400	0.3	2.802	A
C - R445 Naas Road (West)	819	369	1571	0.522	819	1.1	4.789	A
D - Oldconnell	7	1182	1178	0.006	7	0.0	3.073	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	799	37	2428	0.329	800	0.5	2.213	A
B - NSOOR Eastern Link	326	346	1743	0.187	327	0.2	2.543	A
C - R445 Naas Road (West)	669	301	1615	0.414	670	0.7	3.817	A
D - Oldconnell	5	967	1327	0.004	5	0.0	2.725	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	669	31	2433	0.275	670	0.4	2.043	A
B - NSOOR Eastern Link	273	289	1786	0.153	273	0.2	2.379	A
C - R445 Naas Road (West)	560	252	1648	0.340	561	0.5	3.315	A
D - Oldconnell	5	810	1436	0.003	5	0.0	2.515	A

2039 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	2.85	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	955	100.000
B - NSOOR Eastern Link		✓	266	100.000
C - R445 Naas Road (West)		✓	528	100.000
D - Oldconnell		✓	6	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
From	A - R445 Naas Road (east)	0	453	502	0
	B - NSOOR Eastern Link	222	0	44	0
	C - R445 Naas Road (West)	515	9	0	4
	D - Oldconnell	1	0	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
From	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.43	2.58	0.8	A
B - NSOOR Eastern Link	0.19	2.79	0.2	A
C - R445 Naas Road (West)	0.35	3.36	0.5	A
D - Oldconnell	0.00	2.53	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	719	11	2449	0.294	717	0.4	2.077	A
B - NSOOR Eastern Link	200	381	1716	0.117	200	0.1	2.374	A
C - R445 Naas Road (West)	398	167	1705	0.233	396	0.3	2.748	A
D - Oldconnell	5	560	1609	0.003	5	0.0	2.243	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	859	13	2448	0.351	858	0.5	2.265	A
B - NSOOR Eastern Link	239	456	1659	0.144	239	0.2	2.534	A
C - R445 Naas Road (West)	475	199	1683	0.282	474	0.4	2.978	A
D - Oldconnell	5	670	1533	0.004	5	0.0	2.356	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1051	15	2445	0.430	1051	0.8	2.580	A
B - NSOOR Eastern Link	293	558	1581	0.185	293	0.2	2.794	A
C - R445 Naas Road (West)	581	244	1653	0.352	581	0.5	3.354	A
D - Oldconnell	7	821	1429	0.005	7	0.0	2.531	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1051	15	2445	0.430	1051	0.8	2.582	A
B - NSOOR Eastern Link	293	558	1580	0.185	293	0.2	2.795	A
C - R445 Naas Road (West)	581	244	1653	0.352	581	0.5	3.357	A
D - Oldconnell	7	821	1428	0.005	7	0.0	2.532	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	859	13	2448	0.351	859	0.5	2.267	A
B - NSOOR Eastern Link	239	456	1658	0.144	239	0.2	2.538	A
C - R445 Naas Road (West)	475	200	1683	0.282	475	0.4	2.984	A
D - Oldconnell	5	671	1532	0.004	5	0.0	2.357	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	719	11	2449	0.294	719	0.4	2.083	A
B - NSOOR Eastern Link	200	382	1715	0.117	200	0.1	2.376	A
C - R445 Naas Road (West)	398	167	1704	0.233	398	0.3	2.755	A
D - Oldconnell	5	562	1608	0.003	5	0.0	2.246	A

2024 Scenario C Opening Year, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.01	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D13	2024 Scenario C Opening Year	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	791	100.000
B - NSOOR Eastern Link		✓	351	100.000
C - R445 Naas Road (West)		✓	631	100.000
D - Oldconnell		✓	5	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	472	318	1
	B - NSOOR Eastern Link	326	0	25	0
	C - R445 Naas Road (West)	596	32	0	3
	D - Oldconnell	0	0	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.36	2.31	0.6	A
B - NSOOR Eastern Link	0.22	2.67	0.3	A
C - R445 Naas Road (West)	0.44	4.08	0.8	A
D - Oldconnell	0.00	2.85	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	596	28	2436	0.245	594	0.3	1.954	A
B - NSOOR Eastern Link	264	243	1821	0.145	264	0.2	2.309	A
C - R445 Naas Road (West)	475	246	1652	0.287	473	0.4	3.049	A
D - Oldconnell	4	716	1501	0.003	4	0.0	2.403	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	711	33	2431	0.292	711	0.4	2.092	A
B - NSOOR Eastern Link	316	291	1785	0.177	315	0.2	2.449	A
C - R445 Naas Road (West)	567	294	1620	0.350	567	0.5	3.414	A
D - Oldconnell	4	857	1403	0.003	4	0.0	2.572	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	871	41	2425	0.359	870	0.6	2.315	A
B - NSOOR Eastern Link	386	356	1735	0.223	386	0.3	2.669	A
C - R445 Naas Road (West)	695	360	1577	0.441	694	0.8	4.073	A
D - Oldconnell	6	1049	1270	0.004	6	0.0	2.845	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	871	41	2425	0.359	871	0.6	2.315	A
B - NSOOR Eastern Link	386	357	1735	0.223	386	0.3	2.669	A
C - R445 Naas Road (West)	695	360	1577	0.441	695	0.8	4.082	A
D - Oldconnell	6	1050	1269	0.004	6	0.0	2.847	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	711	33	2431	0.292	712	0.4	2.095	A
B - NSOOR Eastern Link	316	292	1785	0.177	316	0.2	2.451	A
C - R445 Naas Road (West)	567	294	1620	0.350	568	0.5	3.424	A
D - Oldconnell	4	859	1402	0.003	4	0.0	2.577	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	596	28	2436	0.245	596	0.3	1.956	A
B - NSOOR Eastern Link	264	244	1821	0.145	264	0.2	2.314	A
C - R445 Naas Road (West)	475	246	1652	0.288	476	0.4	3.063	A
D - Oldconnell	4	719	1499	0.003	4	0.0	2.408	A

2024 Scenario C Opening Year, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	2.62	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D14	2024 Scenario C Opening Year	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	825	100.000
B - NSOOR Eastern Link		✓	271	100.000
C - R445 Naas Road (West)		✓	444	100.000
D - Oldconnell		✓	5	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	407	418	0
	B - NSOOR Eastern Link	230	0	40	1
	C - R445 Naas Road (West)	433	8	0	3
	D - Oldconnell	1	0	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.37	2.34	0.6	A
B - NSOOR Eastern Link	0.18	2.66	0.2	A
C - R445 Naas Road (West)	0.30	3.11	0.4	A
D - Oldconnell	0.00	2.43	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	621	9	2450	0.253	620	0.3	1.966	A
B - NSOOR Eastern Link	204	317	1765	0.116	204	0.1	2.305	A
C - R445 Naas Road (West)	334	173	1700	0.197	333	0.2	2.632	A
D - Oldconnell	4	504	1648	0.002	4	0.0	2.188	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	742	11	2449	0.303	741	0.4	2.108	A
B - NSOOR Eastern Link	244	379	1717	0.142	243	0.2	2.442	A
C - R445 Naas Road (West)	399	208	1678	0.238	399	0.3	2.815	A
D - Oldconnell	4	603	1580	0.003	4	0.0	2.285	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	908	13	2447	0.371	908	0.6	2.337	A
B - NSOOR Eastern Link	298	464	1652	0.181	298	0.2	2.658	A
C - R445 Naas Road (West)	489	254	1647	0.297	488	0.4	3.108	A
D - Oldconnell	6	738	1486	0.004	6	0.0	2.431	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	908	13	2447	0.371	908	0.6	2.339	A
B - NSOOR Eastern Link	298	465	1652	0.181	298	0.2	2.658	A
C - R445 Naas Road (West)	489	254	1647	0.297	489	0.4	3.108	A
D - Oldconnell	6	739	1485	0.004	6	0.0	2.432	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	742	11	2449	0.303	742	0.4	2.111	A
B - NSOOR Eastern Link	244	380	1717	0.142	244	0.2	2.443	A
C - R445 Naas Road (West)	399	208	1677	0.238	400	0.3	2.819	A
D - Oldconnell	4	604	1579	0.003	4	0.0	2.288	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	621	9	2450	0.253	621	0.3	1.968	A
B - NSOOR Eastern Link	204	318	1764	0.116	204	0.1	2.308	A
C - R445 Naas Road (West)	334	174	1700	0.197	335	0.2	2.636	A
D - Oldconnell	4	506	1647	0.002	4	0.0	2.190	A

2029 Scenario C Design 5 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.43	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D15	2029 Scenario C Design 5 Years	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	899	100.000
B - NSOOR Eastern Link		✓	454	100.000
C - R445 Naas Road (West)		✓	699	100.000
D - Oldconnell		✓	6	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	545	353	1
	B - NSOOR Eastern Link	427	0	27	0
	C - R445 Naas Road (West)	661	34	0	4
	D - Oldconnell	0	0	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.41	2.51	0.7	A
B - NSOOR Eastern Link	0.29	2.99	0.4	A
C - R445 Naas Road (West)	0.51	4.91	1.0	A
D - Oldconnell	0.01	3.17	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	677	30	2434	0.278	675	0.4	2.045	A
B - NSOOR Eastern Link	342	270	1801	0.190	341	0.2	2.465	A
C - R445 Naas Road (West)	526	321	1602	0.328	524	0.5	3.334	A
D - Oldconnell	5	842	1414	0.003	5	0.0	2.553	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	808	36	2429	0.333	808	0.5	2.220	A
B - NSOOR Eastern Link	408	323	1760	0.232	408	0.3	2.662	A
C - R445 Naas Road (West)	628	385	1560	0.403	628	0.7	3.856	A
D - Oldconnell	5	1008	1299	0.004	5	0.0	2.782	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	990	44	2423	0.409	989	0.7	2.509	A
B - NSOOR Eastern Link	500	396	1705	0.293	499	0.4	2.987	A
C - R445 Naas Road (West)	770	471	1503	0.512	768	1.0	4.889	A
D - Oldconnell	7	1233	1142	0.006	7	0.0	3.168	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	990	44	2423	0.409	990	0.7	2.511	A
B - NSOOR Eastern Link	500	396	1704	0.293	500	0.4	2.988	A
C - R445 Naas Road (West)	770	471	1503	0.512	770	1.0	4.910	A
D - Oldconnell	7	1235	1141	0.006	7	0.0	3.172	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	808	36	2429	0.333	809	0.5	2.224	A
B - NSOOR Eastern Link	408	324	1760	0.232	409	0.3	2.664	A
C - R445 Naas Road (West)	628	385	1560	0.403	630	0.7	3.876	A
D - Oldconnell	5	1011	1297	0.004	5	0.0	2.786	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	677	30	2434	0.278	677	0.4	2.051	A
B - NSOOR Eastern Link	342	271	1800	0.190	342	0.2	2.469	A
C - R445 Naas Road (West)	526	322	1601	0.329	527	0.5	3.354	A
D - Oldconnell	5	846	1411	0.003	5	0.0	2.560	A

2029 Scenario C Design 5 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	2.90	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D16	2029 Scenario C Design 5 Years	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	981	100.000
B - NSOOR Eastern Link		✓	336	100.000
C - R445 Naas Road (West)		✓	496	100.000
D - Oldconnell		✓	6	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
From	A - R445 Naas Road (east)	0	510	471	0
	B - NSOOR Eastern Link	294	0	42	0
	C - R445 Naas Road (West)	483	9	0	4
	D - Oldconnell	1	0	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
From	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.44	2.64	0.8	A
B - NSOOR Eastern Link	0.23	2.91	0.3	A
C - R445 Naas Road (West)	0.34	3.41	0.5	A
D - Oldconnell	0.00	2.59	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	739	11	2449	0.302	737	0.4	2.100	A
B - NSOOR Eastern Link	253	358	1734	0.146	252	0.2	2.428	A
C - R445 Naas Road (West)	373	221	1669	0.224	372	0.3	2.773	A
D - Oldconnell	5	590	1588	0.003	5	0.0	2.272	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	882	13	2448	0.360	881	0.6	2.298	A
B - NSOOR Eastern Link	302	428	1680	0.180	302	0.2	2.611	A
C - R445 Naas Road (West)	446	264	1640	0.272	446	0.4	3.013	A
D - Oldconnell	5	706	1508	0.004	5	0.0	2.395	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1080	15	2445	0.442	1079	0.8	2.634	A
B - NSOOR Eastern Link	370	524	1607	0.230	370	0.3	2.909	A
C - R445 Naas Road (West)	546	323	1601	0.341	546	0.5	3.409	A
D - Oldconnell	7	865	1398	0.005	7	0.0	2.586	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1080	15	2445	0.442	1080	0.8	2.636	A
B - NSOOR Eastern Link	370	524	1607	0.230	370	0.3	2.910	A
C - R445 Naas Road (West)	546	324	1601	0.341	546	0.5	3.413	A
D - Oldconnell	7	865	1398	0.005	7	0.0	2.587	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	882	13	2448	0.360	883	0.6	2.303	A
B - NSOOR Eastern Link	302	428	1680	0.180	302	0.2	2.615	A
C - R445 Naas Road (West)	446	265	1640	0.272	446	0.4	3.017	A
D - Oldconnell	5	707	1507	0.004	5	0.0	2.398	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	739	11	2449	0.302	739	0.4	2.107	A
B - NSOOR Eastern Link	253	359	1733	0.146	253	0.2	2.432	A
C - R445 Naas Road (West)	373	222	1668	0.224	374	0.3	2.783	A
D - Oldconnell	5	592	1587	0.003	5	0.0	2.274	A

2039 Scenario C Design 15 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.69	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D17	2039 Scenario C Design 15 Years	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	955	100.000
B - NSOOR Eastern Link		✓	475	100.000
C - R445 Naas Road (West)		✓	750	100.000
D - Oldconnell		✓	6	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	574	380	1
	B - NSOOR Eastern Link	446	0	29	0
	C - R445 Naas Road (West)	711	35	0	4
	D - Oldconnell	0	0	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.43	2.63	0.8	A
B - NSOOR Eastern Link	0.31	3.11	0.5	A
C - R445 Naas Road (West)	0.55	5.43	1.2	A
D - Oldconnell	0.01	3.33	0.0	A

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	719	31	2433	0.295	717	0.4	2.096	A
B - NSOOR Eastern Link	358	291	1785	0.200	357	0.2	2.519	A
C - R445 Naas Road (West)	565	336	1593	0.355	562	0.5	3.487	A
D - Oldconnell	5	894	1378	0.003	5	0.0	2.621	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	859	37	2429	0.354	858	0.5	2.292	A
B - NSOOR Eastern Link	427	348	1742	0.245	427	0.3	2.737	A
C - R445 Naas Road (West)	674	402	1549	0.435	673	0.8	4.107	A
D - Oldconnell	5	1070	1255	0.004	5	0.0	2.879	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1051	45	2422	0.434	1051	0.8	2.624	A
B - NSOOR Eastern Link	523	426	1682	0.311	522	0.4	3.103	A
C - R445 Naas Road (West)	826	492	1489	0.555	824	1.2	5.396	A
D - Oldconnell	7	1310	1089	0.006	7	0.0	3.324	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1051	45	2422	0.434	1051	0.8	2.626	A
B - NSOOR Eastern Link	523	426	1682	0.311	523	0.5	3.106	A
C - R445 Naas Road (West)	826	492	1489	0.555	826	1.2	5.428	A
D - Oldconnell	7	1312	1088	0.006	7	0.0	3.329	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	859	37	2428	0.354	859	0.5	2.295	A
B - NSOOR Eastern Link	427	348	1741	0.245	428	0.3	2.740	A
C - R445 Naas Road (West)	674	402	1548	0.435	676	0.8	4.134	A
D - Oldconnell	5	1074	1253	0.004	5	0.0	2.884	A

09:30 - 09:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	719	31	2433	0.295	719	0.4	2.101	A
B - NSOOR Eastern Link	358	292	1785	0.200	358	0.3	2.525	A
C - R445 Naas Road (West)	565	337	1592	0.355	566	0.6	3.509	A
D - Oldconnell	5	899	1375	0.003	5	0.0	2.629	A

2039 Scenario C Design 15 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lidl Distributer Roundabout	Standard Roundabout		A, B, C, D	3.04	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D18	2039 Scenario C Design 15 Years	PM	ONE HOUR	17:30	19:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		✓	1042	100.000
B - NSOOR Eastern Link		✓	348	100.000
C - R445 Naas Road (West)		✓	533	100.000
D - Oldconnell		✓	6	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
From	A - R445 Naas Road (east)	0	536	506	0
	B - NSOOR Eastern Link	304	0	44	0
	C - R445 Naas Road (West)	520	9	0	4
	D - Oldconnell	1	0	5	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A - R445 Naas Road (east)	B - NSOOR Eastern Link	C - R445 Naas Road (West)	D - Oldconnell
From	A - R445 Naas Road (east)	0	0	0	0
	B - NSOOR Eastern Link	0	0	0	0
	C - R445 Naas Road (West)	0	0	0	0
	D - Oldconnell	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - R445 Naas Road (east)	0.47	2.77	0.9	A
B - NSOOR Eastern Link	0.24	3.01	0.3	A
C - R445 Naas Road (West)	0.37	3.58	0.6	A
D - Oldconnell	0.00	2.66	0.0	A

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	784	11	2449	0.320	783	0.5	2.158	A
B - NSOOR Eastern Link	262	384	1714	0.153	261	0.2	2.477	A
C - R445 Naas Road (West)	401	228	1664	0.241	400	0.3	2.846	A
D - Oldconnell	5	625	1564	0.003	5	0.0	2.308	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	937	13	2448	0.383	936	0.6	2.380	A
B - NSOOR Eastern Link	313	459	1656	0.189	313	0.2	2.679	A
C - R445 Naas Road (West)	479	273	1634	0.293	479	0.4	3.116	A
D - Oldconnell	5	748	1479	0.004	5	0.0	2.442	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1147	15	2445	0.469	1146	0.9	2.768	A
B - NSOOR Eastern Link	383	562	1577	0.243	383	0.3	3.013	A
C - R445 Naas Road (West)	587	334	1594	0.368	586	0.6	3.572	A
D - Oldconnell	7	916	1362	0.005	7	0.0	2.654	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1147	15	2445	0.469	1147	0.9	2.772	A
B - NSOOR Eastern Link	383	563	1577	0.243	383	0.3	3.014	A
C - R445 Naas Road (West)	587	335	1593	0.368	587	0.6	3.575	A
D - Oldconnell	7	917	1362	0.005	7	0.0	2.656	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	937	13	2448	0.383	938	0.6	2.387	A
B - NSOOR Eastern Link	313	460	1656	0.189	313	0.2	2.681	A
C - R445 Naas Road (West)	479	274	1634	0.293	480	0.4	3.122	A
D - Oldconnell	5	750	1478	0.004	5	0.0	2.444	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	784	11	2449	0.320	785	0.5	2.165	A
B - NSOOR Eastern Link	262	385	1713	0.153	262	0.2	2.483	A
C - R445 Naas Road (West)	401	229	1663	0.241	402	0.3	2.853	A
D - Oldconnell	5	628	1562	0.003	5	0.0	2.310	A

Appendix I The Hall Signalised Junction Linsig Results Output

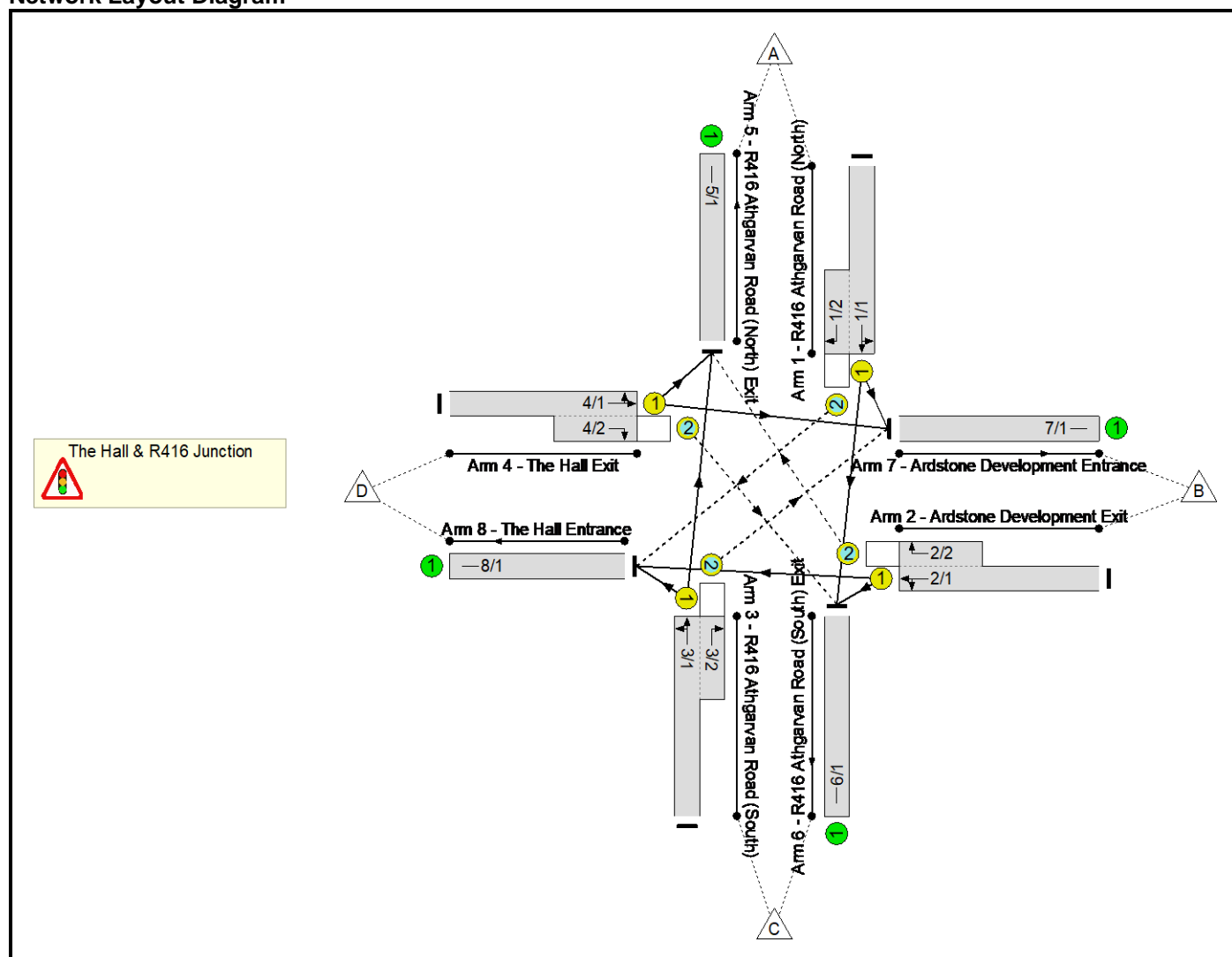
Full Input Data And Results

Full Input Data And Results

User and Project Details

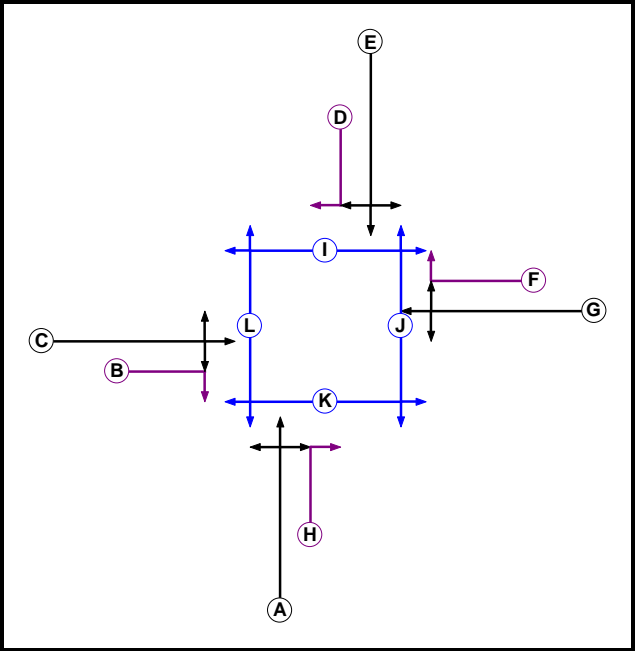
Project:	Newbridge SHD
Title:	
Location:	
Client:	Aston Ltd
Site Ref(s):	192229
Date Started:	April 2021
Checked By:	J Tiernan
Additional detail:	
File name:	192229 - The Hall Signalised Junction.lsg3x
Author:	S O'Coileir
Company:	PUNCH Consulting Engineers
Address:	Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland

Network Layout Diagram



Full Input Data And Results

Phase Diagram



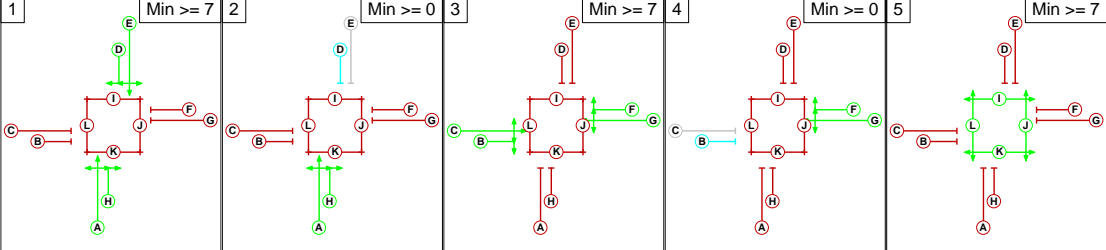
Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Ind. Arrow	C	4	4
C	Traffic		7	7
D	Ind. Arrow	E	4	4
E	Traffic		7	7
F	Ind. Arrow	G	4	4
G	Traffic		7	7
H	Ind. Arrow	A	4	4
I	Pedestrian		7	7
J	Pedestrian		7	7
K	Pedestrian		7	7
L	Pedestrian		7	7

Phases in Stage

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

Stage Diagram



Full Input Data And Results

Phase Intergreens Matrix

		Starting Phase											
Terminating Phase		A	B	C	D	E	F	G	H	I	J	K	L
	A		5	5	-	-	5	5	-	5	7	7	6
	B	5		-	5	5	-	-	5	7	-	-	5
	C	5	-		5	5	-	-	5	7	6	7	5
	D	-	5	5		-	5	5	-	-	5	-	6
	E	-	5	5	-		5	5	-	7	5	6	6
	F	5	-	-	5	5		-	5	-	7	5	-
	G	5	-	-	5	5	-		5	6	7	5	7
	H	-	5	5	-	-	5	5		5	-	7	-
	I	11	11	11	-	11	-	11	11		-	-	-
	J	11	-	11	11	11	11	11	-	-		-	-
	K	12	-	12	-	12	12	12	12	-	-		-
	L	12	12	12	12	12	-	12	-	-	-	-	

Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

		To Stage				
From Stage		1	2	3	4	5
	1		0	5	5	7
	2	X		5	5	7
	3	5	5		0	7
	4	5	5	X		7
	5	12	12	12	12	

Full Input Data And Results

Give-Way Lane Input Data

Junction: The Hall && R416 Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (R416 Athgarvan Road (North))	8/1 (Right)	1439	0	3/1	1.09	All	2.00	-	0.50	2	2.00
2/2 (Ardstone Development Exit)	5/1 (Right)	1439	0	4/1	1.09	All	2.00	-	0.50	2	2.00
3/2 (R416 Athgarvan Road (South))	7/1 (Right)	1439	0	1/1	1.09	All	2.00	-	0.50	2	2.00
4/2 (The Hall Exit)	6/1 (Right)	1439	0	2/1	1.09	All	2.00	-	0.50	2	2.00

Full Input Data And Results

Lane Input Data

Junction: The Hall && R416 Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (R416 Athgarvan Road (North))	U	E	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 6 Ahead	Inf
											Arm 7 Left	8.30
1/2 (R416 Athgarvan Road (North))	O	E D	2	3	5.0	Geom	-	3.25	0.00	Y	Arm 8 Right	12.00
2/1 (Ardstone Development Exit)	U	G	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 6 Left	5.20
											Arm 8 Ahead	Inf
2/2 (Ardstone Development Exit)	O	G F	2	3	5.0	Geom	-	3.25	0.00	Y	Arm 5 Right	12.00
3/1 (R416 Athgarvan Road (South))	U	A	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	8.00
3/2 (R416 Athgarvan Road (South))	O	A H	2	3	5.0	Geom	-	3.25	0.00	Y	Arm 7 Right	12.00
4/1 (The Hall Exit)	U	C	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Left	10.00
											Arm 7 Ahead	Inf
4/2 (The Hall Exit)	O	C B	2	3	5.0	Geom	-	3.25	0.00	Y	Arm 6 Right	12.00
5/1 (R416 Athgarvan Road (North) Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (R416 Athgarvan Road (South) Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1 (Ardstone Development Entrance)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (The Hall Entrance)	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2024 Do Nothing AM'	08:30	09:30	01:00	
2: '2024 Do Nothing PM'	17:45	18:45	01:00	
3: '2029 Do Nothing AM'	08:30	09:30	01:00	
4: '2029 Do Nothing PM'	17:45	18:45	01:00	
5: '2039 Do Nothing AM'	08:30	09:30	01:00	
6: '2039 Do Nothing PM'	17:45	18:45	01:00	
7: '2024 Opening Year AM'	08:30	09:30	01:00	
8: '2024 Opening Year PM'	17:45	18:45	01:00	
9: '2029 Design 5 Years AM'	08:30	09:30	01:00	
10: '2029 Design 5 Years PM'	17:45	18:45	01:00	
11: '2039 Design 15 Years AM'	08:30	09:30	01:00	
12: '2039 Design 15 Years PM'	17:45	18:45	01:00	

Traffic Flows, Desired

Scenario 1: '2024 Do Nothing AM' (FG1: '2024 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	18	330	84	432
	B	24	0	1	3	28
	C	457	1	0	82	540
	D	135	2	108	0	245
	Tot.	616	21	439	169	1245

Scenario 2: '2024 Do Nothing PM' (FG2: '2024 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	18	412	127	557
	B	14	0	1	2	17
	C	307	1	0	96	404
	D	100	2	108	0	210
	Tot.	421	21	521	225	1188

Scenario 3: '2029 Do Nothing AM' (FG3: '2029 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	41	368	92	501
	B	70	0	3	8	81
	C	513	1	0	92	606
	D	148	4	119	0	271
	Tot.	731	46	490	192	1459

Full Input Flow Data And Results

Scenario 4: '2029 Do Nothing PM' (FG4: '2029 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	66	464	140	670
	B	47	0	2	5	54
	C	345	2	0	107	454
	D	110	7	120	0	237
	Tot.	502	75	586	252	1415

Scenario 5: '2039 Do Nothing AM' (FG5: '2039 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	41	396	100	537
	B	70	0	3	8	81
	C	552	1	0	99	652
	D	160	4	128	0	292
	Tot.	782	46	527	207	1562

Scenario 6: '2039 Do Nothing PM' (FG6: '2039 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	66	499	151	716
	B	47	0	2	5	54
	C	372	2	0	115	489
	D	118	7	129	0	254
	Tot.	537	75	630	271	1513

Scenario 7: '2024 Opening Year AM' (FG7: '2024 Opening Year AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	18	334	84	436
	B	24	0	1	3	28
	C	461	1	0	82	544
	D	135	2	108	0	245
	Tot.	620	21	443	169	1253

Scenario 8: '2024 Opening Year PM' (FG8: '2024 Opening Year PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	18	416	127	561
	B	14	0	1	2	17
	C	312	1	0	96	409
	D	100	2	108	0	210
	Tot.	426	21	525	225	1197

Full Input Data And Results

Scenario 9: '2029 Design 5 Years AM' (FG9: '2029 Design 5 Years AM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	41	377	92	510
	B	70	0	3	8	81
	C	519	1	0	92	612
	D	148	4	119	0	271
	Tot.	737	46	499	192	1474

Scenario 10: '2029 Design 5 Years PM' (FG10: '2029 Design 5 Years PM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	66	471	140	677
	B	47	0	2	5	54
	C	354	2	0	107	463
	D	110	7	120	0	237
	Tot.	511	75	593	252	1431

Scenario 11: '2039 Design 15 Years AM' (FG11: '2039 Design 15 Years AM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	41	405	100	546
	B	70	0	3	8	81
	C	558	1	0	99	658
	D	160	4	128	0	292
	Tot.	788	46	536	207	1577

Scenario 12: '2039 Design 15 Years PM' (FG12: '2039 Design 15 Years PM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	66	506	151	723
	B	47	0	2	5	54
	C	380	2	0	115	497
	D	118	7	129	0	254
	Tot.	545	75	637	271	1528

Full Input Data And Results

Network Results

Scenario 1: '2024 Do Nothing AM' (FG1: '2024 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	55.3%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	55.3%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E	D	2	61	61	432	1922:1724	868+209	40.1 : 40.1%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G	F	2	18	18	28	1810:1724	30+177	13.5 : 13.5%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A	H	2	61	61	540	1886:1724	974+2	55.3 : 55.3%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C	B	2	16	16	245	1690:1724	254+200	54.0 : 54.0%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	616	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	439	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	21	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	169	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	203	0	14	4.5	1.6	0.2	6.3	-	-	-	-
The Hall && R416 Junction	-	-	203	0	14	4.5	1.6	0.2	6.3	-	-	-	-
1/1+1/2	432	432	71	0	13	1.1	0.3	0.2	1.6	13.6	4.5	0.3	4.9
2/1+2/2	28	28	24	0	0	0.2	0.1	0.0	0.3	34.8	0.3	0.1	0.4
3/1+3/2	540	540	1	0	0	1.6	0.6	0.0	2.2	15.0	8.2	0.6	8.9
4/1+4/2	245	245	108	0	0	1.6	0.6	0.0	2.2	32.2	2.1	0.6	2.7
5/1	616	616	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	439	439	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	21	21	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	169	169	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	62.7 62.7	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	6.34 6.34	Cycle Time (s): 120
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Scenario 2: '2024 Do Nothing PM' (FG2: '2024 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	49.6%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	49.6%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E	D	2	63	63	557	1925:1724	867+256	49.6 : 49.6%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G	F	2	16	16	17	1770:1724	38+177	7.9 : 7.9%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A	H	2	63	63	404	1857:1724	995+2	40.5 : 40.5%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C	B	2	14	14	210	1691:1724	225+230	45.2 : 47.0%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	421	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	521	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	21	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	225	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	250	0	0	4.0	1.3	0.2	5.5	-	-	-	-
The Hall && R416 Junction	-	-	250	0	0	4.0	1.3	0.2	5.5	-	-	-	-
1/1+1/2	557	557	127	0	0	1.4	0.5	0.2	2.1	13.8	6.3	0.5	6.8
2/1+2/2	17	17	14	0	0	0.1	0.0	0.0	0.2	33.4	0.2	0.0	0.2
3/1+3/2	404	404	1	0	0	1.1	0.3	0.0	1.4	12.5	5.7	0.3	6.0
4/1+4/2	210	210	108	0	0	1.4	0.4	0.0	1.8	31.6	1.6	0.4	2.1
5/1	421	421	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	521	521	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	21	21	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	225	225	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1													
PRC for Signalled Lanes (%):			81.5		Total Delay for Signalled Lanes (pcuHr):			5.53		Cycle Time (s): 120			
PRC Over All Lanes (%):			81.5		Total Delay Over All Lanes(pcuHr):			5.53					

Full Input Data And Results

Scenario 3: '2029 Do Nothing AM' (FG3: '2029 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	62.1%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	62.1%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E	D	2	61	61	501	1905:1724	872+196	46.9 : 46.9%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G	F	2	18	18	81	1799:1724	26+163	42.9 : 42.9%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A	H	2	61	61	606	1886:1724	975+2	62.1 : 62.1%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C	B	2	16	16	271	1693:1724	254+199	59.9 : 59.9%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	731	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	490	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	46	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	192	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	260	0	22	5.5	2.4	0.4	8.3	-	-	-	-
The Hall && R416 Junction	-	-	260	0	22	5.5	2.4	0.4	8.3	-	-	-	-
1/1+1/2	501	501	72	0	20	1.3	0.4	0.3	2.0	14.6	5.8	0.4	6.3
2/1+2/2	81	81	68	0	2	0.5	0.4	0.1	1.0	42.7	1.0	0.4	1.4
3/1+3/2	606	606	1	0	0	1.9	0.8	0.0	2.7	16.3	9.8	0.8	10.6
4/1+4/2	271	271	119	0	0	1.8	0.7	0.0	2.5	33.8	2.5	0.7	3.2
5/1	731	731	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	490	490	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	46	46	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	192	192	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	45.0 45.0	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	8.28 8.28	Cycle Time (s): 120
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Scenario 4: '2029 Do Nothing PM' (FG4: '2029 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	60.5%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	60.5%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E	D	2	63	63	670	1897:1724	876+231	60.5 : 60.5%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G	F	2	16	16	54	1792:1724	24+163	28.8 : 28.8%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A	H	2	63	63	454	1858:1724	993+4	45.5 : 45.5%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C	B	2	14	14	237	1700:1724	227+230	51.6 : 52.2%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	502	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	586	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	75	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	252	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	288	0	21	5.1	1.9	0.3	7.3	-	-	-	-
The Hall && R416 Junction	-	-	288	0	21	5.1	1.9	0.3	7.3	-	-	-	-
1/1+1/2	670	670	120	0	20	1.9	0.8	0.2	2.9	15.5	8.9	0.8	9.7
2/1+2/2	54	54	46	0	1	0.3	0.2	0.0	0.6	39.1	0.7	0.2	0.9
3/1+3/2	454	454	2	0	0	1.2	0.4	0.0	1.7	13.2	6.4	0.4	6.8
4/1+4/2	237	237	120	0	0	1.6	0.5	0.0	2.2	32.7	1.9	0.5	2.5
5/1	502	502	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	586	586	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	75	75	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	252	252	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 48.7 Total Delay for Signalled Lanes (pcuHr): 7.28 Cycle Time (s): 120 PRC Over All Lanes (%): 48.7 Total Delay Over All Lanes(pcuHr): 7.28													

Full Input Data And Results

Scenario 5: '2039 Do Nothing AM' (FG5: '2039 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	66.8%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	66.8%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E	D	2	61	61	537	1908:1724	871+199	50.2 : 50.2%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G	F	2	18	18	81	1799:1724	23+149	47.1 : 47.1%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A	H	2	61	61	652	1886:1724	975+1	66.8 : 66.8%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C	B	2	16	16	292	1692:1724	254+198	64.6 : 64.6%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	782	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	527	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	46	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	207	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	247	0	52	6.0	2.8	0.4	9.3	-	-	-	-
The Hall && R416 Junction	-	-	247	0	52	6.0	2.8	0.4	9.3	-	-	-	-
1/1+1/2	537	537	55	0	45	1.4	0.5	0.3	2.3	15.1	6.3	0.5	6.8
2/1+2/2	81	81	63	0	7	0.5	0.4	0.1	1.0	46.1	1.0	0.4	1.5
3/1+3/2	652	652	1	0	0	2.1	1.0	0.0	3.2	17.4	10.9	1.0	11.9
4/1+4/2	292	292	128	0	0	1.9	0.9	0.0	2.9	35.3	2.6	0.9	3.5
5/1	782	782	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	527	527	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	46	46	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	207	207	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	34.7 34.7	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	9.31 9.31	Cycle Time (s): 120
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Scenario 6: '2039 Do Nothing PM' (FG6: '2039 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	64.6%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	64.6%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E	D	2	63	63	716	1900:1724	875+234	64.6 : 64.6%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G	F	2	16	16	54	1792:1724	22+149	31.6 : 31.6%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A	H	2	63	63	489	1858:1724	994+4	49.0 : 49.0%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C	B	2	14	14	254	1699:1724	227+230	55.2 : 56.1%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	537	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	630	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	75	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	271	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	296	0	33	5.5	2.2	0.4	8.1	-	-	-	-
The Hall && R416 Junction	-	-	296	0	33	5.5	2.2	0.4	8.1	-	-	-	-
1/1+1/2	716	716	119	0	32	2.1	0.9	0.3	3.3	16.5	10.2	0.9	11.1
2/1+2/2	54	54	46	0	1	0.3	0.2	0.1	0.6	41.1	0.7	0.2	0.9
3/1+3/2	489	489	2	0	0	1.4	0.5	0.0	1.9	13.6	7.2	0.5	7.7
4/1+4/2	254	254	129	0	0	1.7	0.6	0.0	2.4	33.5	2.0	0.6	2.7
5/1	537	537	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	630	630	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	75	75	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	271	271	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 39.4 Total Delay for Signalled Lanes (pcuHr): 8.11 Cycle Time (s): 120 PRC Over All Lanes (%): 39.4 Total Delay Over All Lanes(pcuHr): 8.11													

Full Input Data And Results

Scenario 7: '2024 Opening Year AM' (FG7: '2024 Opening Year AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	55.3%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	55.3%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E	D	2	61	61	436	1922:1724	863+206	40.8 : 40.8%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G	F	2	18	18	28	1810:1724	30+177	13.5 : 13.5%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A	H	2	61	61	544	1887:1724	982+2	55.3 : 55.3%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C	B	2	16	16	245	1690:1724	254+200	54.0 : 54.0%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	620	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	443	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	21	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	169	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	183	0	34	5.1	1.6	0.2	6.9	-	-	-	-
The Hall && R416 Junction	-	-	183	0	34	5.1	1.6	0.2	6.9	-	-	-	-
1/1+1/2	436	436	50	0	34	1.1	0.3	0.2	1.6	13.3	4.6	0.3	4.9
2/1+2/2	28	28	24	0	0	0.2	0.1	0.0	0.3	36.2	0.4	0.1	0.5
3/1+3/2	544	544	1	0	0	2.2	0.6	0.0	2.8	18.5	8.0	0.6	8.6
4/1+4/2	245	245	108	0	0	1.7	0.6	0.0	2.3	33.3	2.5	0.6	3.1
5/1	620	620	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	443	443	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	21	21	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	169	169	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	62.8 62.8	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	6.95 6.95	Cycle Time (s): 120
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Scenario 8: '2024 Opening Year PM' (FG8: '2024 Opening Year PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	50.0%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	50.0%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E	D	2	63	63	561	1926:1724	868+254	50.0 : 50.0%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G	F	2	16	16	17	1770:1724	38+177	7.9 : 7.9%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A	H	2	63	63	409	1858:1724	995+2	41.0 : 41.0%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C	B	2	14	14	210	1691:1724	225+230	45.2 : 47.0%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	426	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	525	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	21	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	225	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	250	0	0	4.0	1.3	0.2	5.6	-	-	-	-
The Hall && R416 Junction	-	-	250	0	0	4.0	1.3	0.2	5.6	-	-	-	-
1/1+1/2	561	561	127	0	0	1.4	0.5	0.2	2.2	13.8	6.3	0.5	6.8
2/1+2/2	17	17	14	0	0	0.1	0.0	0.0	0.2	33.4	0.2	0.0	0.2
3/1+3/2	409	409	1	0	0	1.1	0.3	0.0	1.4	12.6	5.7	0.3	6.0
4/1+4/2	210	210	108	0	0	1.4	0.4	0.0	1.8	31.6	1.6	0.4	2.1
5/1	426	426	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	525	525	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	21	21	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	225	225	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 80.1 Total Delay for Signalled Lanes (pcuHr): 5.58 Cycle Time (s): 120 PRC Over All Lanes (%): 80.1 Total Delay Over All Lanes(pcuHr): 5.58													

Full Input Data And Results

Scenario 9: '2029 Design 5 Years AM' (FG9: '2029 Design 5 Years AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	62.7%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	62.7%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E	D	2	61	61	510	1906:1724	875+193	47.8 : 47.8%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G	F	2	18	18	81	1799:1724	26+163	42.9 : 42.9%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A	H	2	61	61	612	1887:1724	975+2	62.7 : 62.7%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C	B	2	16	16	271	1693:1724	254+199	59.9 : 59.9%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	737	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	499	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	46	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	192	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	257	0	25	5.6	2.4	0.4	8.4	-	-	-	-
The Hall && R416 Junction	-	-	257	0	25	5.6	2.4	0.4	8.4	-	-	-	-
1/1+1/2	510	510	69	0	23	1.4	0.5	0.3	2.1	14.7	5.9	0.5	6.3
2/1+2/2	81	81	68	0	2	0.5	0.4	0.1	1.0	42.7	1.0	0.4	1.4
3/1+3/2	612	612	1	0	0	2.0	0.8	0.0	2.8	16.4	9.9	0.8	10.7
4/1+4/2	271	271	119	0	0	1.8	0.7	0.0	2.5	33.8	2.5	0.7	3.2
5/1	737	737	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	499	499	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	46	46	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	192	192	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	43.6 43.6	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	8.38 8.38	Cycle Time (s): 120
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Scenario 10: '2029 Design 5 Years PM' (FG10: '2029 Design 5 Years PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	61.2%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	61.2%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E	D	2	63	63	677	1898:1724	878+229	61.2 : 61.2%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G	F	2	16	16	54	1792:1724	24+163	28.8 : 28.8%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A	H	2	63	63	463	1859:1724	994+4	46.4 : 46.4%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C	B	2	14	14	237	1700:1724	227+230	51.6 : 52.2%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	511	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	593	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	75	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	252	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	284	0	25	5.1	2.0	0.3	7.4	-	-	-	-
The Hall && R416 Junction	-	-	284	0	25	5.1	2.0	0.3	7.4	-	-	-	-
1/1+1/2	677	677	116	0	24	1.9	0.8	0.2	2.9	15.7	9.2	0.8	10.0
2/1+2/2	54	54	46	0	1	0.3	0.2	0.0	0.6	39.1	0.7	0.2	0.9
3/1+3/2	463	463	2	0	0	1.3	0.4	0.0	1.7	13.3	6.7	0.4	7.1
4/1+4/2	237	237	120	0	0	1.6	0.5	0.0	2.2	32.7	1.9	0.5	2.5
5/1	511	511	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	593	593	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	75	75	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	252	252	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 47.1 Total Delay for Signalled Lanes (pcuHr): 7.39 Cycle Time (s): 120 PRC Over All Lanes (%): 47.1 Total Delay Over All Lanes(pcuHr): 7.39													

Full Input Data And Results

Scenario 11: '2039 Design 15 Years AM' (FG11: '2039 Design 15 Years AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	67.4%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	67.4%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E	D	2	61	61	546	1908:1724	873+196	51.1 : 51.1%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G	F	2	18	18	81	1799:1724	23+149	47.1 : 47.1%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A	H	2	61	61	658	1887:1724	975+1	67.4 : 67.4%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C	B	2	16	16	292	1692:1724	254+198	64.6 : 64.6%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	788	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	536	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	46	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	207	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	244	0	55	6.1	2.9	0.5	9.4	-	-	-	-
The Hall && R416 Junction	-	-	244	0	55	6.1	2.9	0.5	9.4	-	-	-	-
1/1+1/2	546	546	52	0	48	1.5	0.5	0.3	2.3	15.3	6.6	0.5	7.1
2/1+2/2	81	81	63	0	7	0.5	0.4	0.1	1.0	46.1	1.0	0.4	1.5
3/1+3/2	658	658	1	0	0	2.2	1.0	0.0	3.2	17.6	11.0	1.0	12.0
4/1+4/2	292	292	128	0	0	1.9	0.9	0.0	2.9	35.3	2.6	0.9	3.5
5/1	788	788	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	536	536	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	46	46	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	207	207	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	33.6 33.6	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	9.42 9.42	Cycle Time (s): 120
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Scenario 12: '2039 Design 15 Years PM' (FG12: '2039 Design 15 Years PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	65.3%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	65.3%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E	D	2	63	63	723	1900:1724	876+231	65.3 : 65.3%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G	F	2	16	16	54	1792:1724	22+149	31.6 : 31.6%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A	H	2	63	63	497	1859:1724	994+4	49.8 : 49.8%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C	B	2	14	14	254	1699:1724	227+230	55.2 : 56.1%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	545	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	637	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	75	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	271	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	298	0	31	5.6	2.3	0.4	8.2	-	-	-	-
The Hall && R416 Junction	-	-	298	0	31	5.6	2.3	0.4	8.2	-	-	-	-
1/1+1/2	723	723	121	0	30	2.1	0.9	0.3	3.3	16.6	10.3	0.9	11.3
2/1+2/2	54	54	46	0	1	0.3	0.2	0.1	0.6	41.1	0.7	0.2	0.9
3/1+3/2	497	497	2	0	0	1.4	0.5	0.0	1.9	13.8	7.3	0.5	7.8
4/1+4/2	254	254	129	0	0	1.7	0.6	0.0	2.4	33.5	2.0	0.6	2.6
5/1	545	545	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	637	637	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	75	75	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	271	271	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 37.9 Total Delay for Signalled Lanes (pcuHr): 8.22 Cycle Time (s): 120 PRC Over All Lanes (%): 37.9 Total Delay Over All Lanes(pcuHr): 8.22													

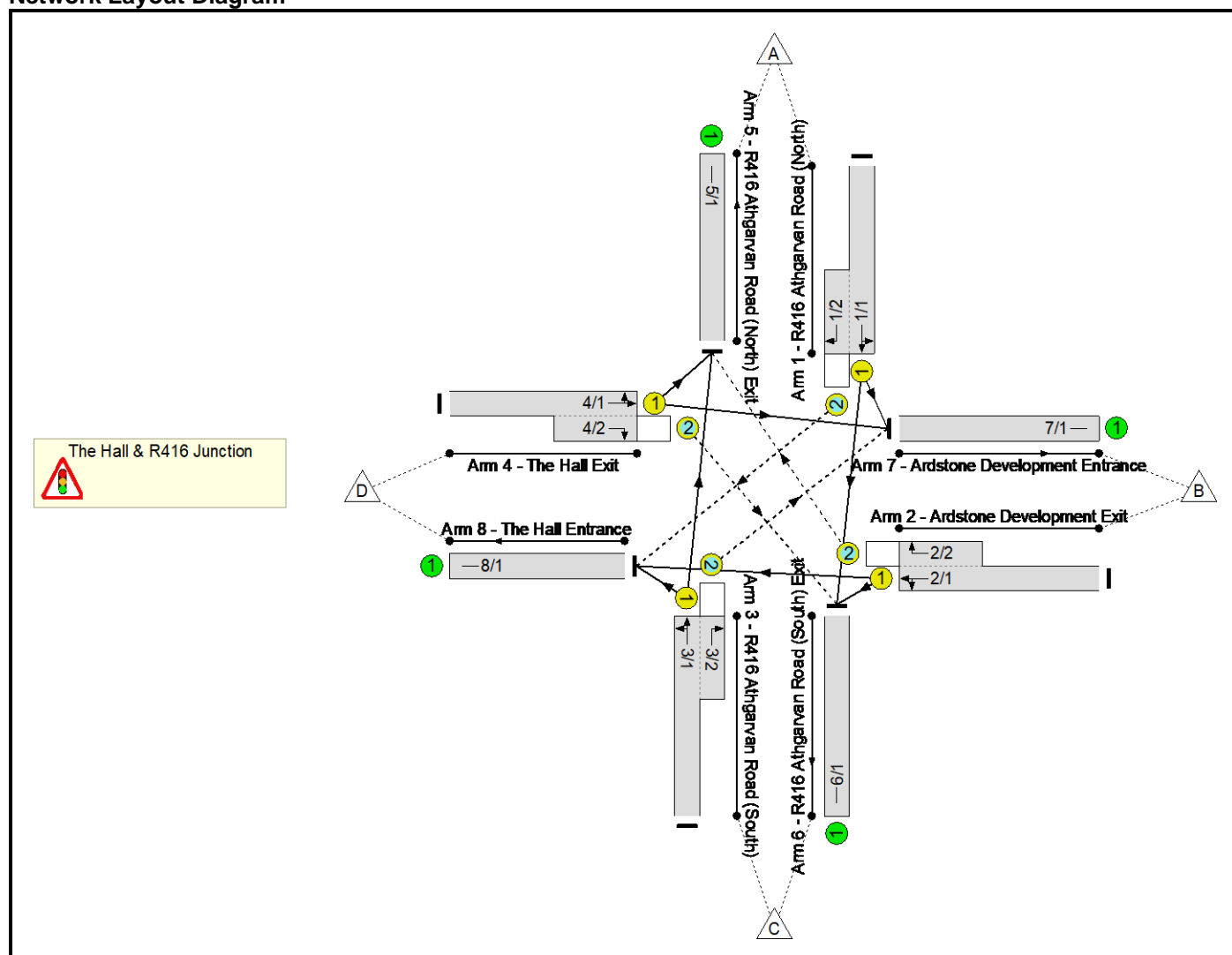
Full Input Data And Results

Full Input Data And Results

User and Project Details

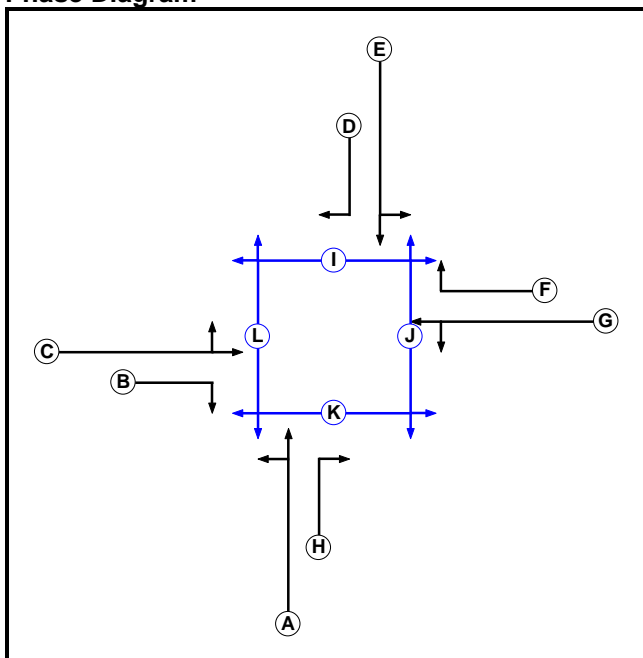
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Title:	
Location:	
Client:	Aston Ltd
Site Ref(s):	192229
Date Started:	April 2021
Checked By:	J Tiernan
Additional detail:	
File name:	192229 - The Hall Signalised Junction - Scenario B.lsg3x
Author:	S O'Coileir
Company:	PUNCH Consulting Engineers
Address:	Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland

Network Layout Diagram



Full Input Data And Results

Phase Diagram



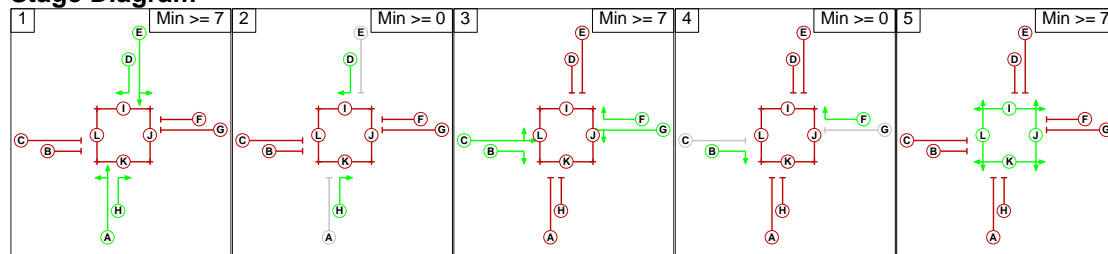
Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Traffic		7	7
G	Traffic		7	7
H	Traffic		7	7
I	Pedestrian		7	7
J	Pedestrian		7	7
K	Pedestrian		7	7
L	Pedestrian		7	7

Phases in Stage

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

Stage Diagram



Full Input Data And Results

Phase Intergreens Matrix

Terminating Phase	Starting Phase												
		A	B	C	D	E	F	G	H	I	J	K	L
	A		5	5	-	-	5	5	-	5	7	7	6
	B	5		-	5	5	-	-	5	7	-	-	5
	C	5	-		5	5	-	-	5	7	6	7	5
	D	-	5	5		-	5	5	-	-	5	-	6
	E	-	5	5	-		5	5	-	7	5	6	6
	F	5	-	-	5	5		-	5	-	7	5	-
	G	5	-	-	5	5	-		5	6	7	5	7
	H	-	5	5	-	-	5	5		5	-	7	-
	I	11	11	11	-	11	-	11	11		-	-	-
	J	11	-	11	11	11	11	11	-	-		-	-
	K	12	-	12	-	12	12	12	12	-	-		-
	L	12	12	12	12	12	-	12	-	-	-	-	

Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

	To Stage					
From Stage		1	2	3	4	5
	1		0	5	5	7
	2	2		5	5	7
	3	5	5		0	7
	4	5	5	2		7
	5	12	12	12	12	

Full Input Data And Results

Give-Way Lane Input Data

Junction: The Hall && R416 Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (R416 Athgarvan Road (North))	8/1 (Right)	1439	0	3/1	1.09	All	2.00	-	0.50	2	2.00
2/2 (Ardstone Development Exit)	5/1 (Right)	1439	0	4/1	1.09	All	2.00	-	0.50	2	2.00
3/2 (R416 Athgarvan Road (South))	7/1 (Right)	1439	0	1/1	1.09	All	2.00	-	0.50	2	2.00
4/2 (The Hall Exit)	6/1 (Right)	1439	0	2/1	1.09	All	2.00	-	0.50	2	2.00

Full Input Data And Results

Lane Input Data

Junction: The Hall & R416 Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (R416 Athgarvan Road (North))	U	E	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 6 Ahead	Inf
											Arm 7 Left	8.30
1/2 (R416 Athgarvan Road (North))	O	D	2	3	5.0	Geom	-	3.25	0.00	Y	Arm 8 Right	12.00
2/1 (Ardstone Development Exit)	U	G	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 6 Left	5.20
											Arm 8 Ahead	Inf
2/2 (Ardstone Development Exit)	O	F	2	3	5.0	Geom	-	3.25	0.00	Y	Arm 5 Right	12.00
3/1 (R416 Athgarvan Road (South))	U	A	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	8.00
3/2 (R416 Athgarvan Road (South))	O	H	2	3	5.0	Geom	-	3.25	0.00	Y	Arm 7 Right	12.00
4/1 (The Hall Exit)	U	C	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Left	10.00
											Arm 7 Ahead	Inf
4/2 (The Hall Exit)	O	B	2	3	5.0	Geom	-	3.25	0.00	Y	Arm 6 Right	12.00
5/1 (R416 Athgarvan Road (North) Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (R416 Athgarvan Road (South) Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1 (Ardstone Development Entrance)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (The Hall Entrance)	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2024 Do Nothing AM'	08:00	09:00	01:00	
2: '2024 Do Nothing PM'	17:00	18:00	01:00	
3: '2029 Do Nothing AM'	08:00	09:00	01:00	
4: '2029 Do Nothing PM'	17:00	18:00	01:00	
5: '2039 Do Nothing AM'	08:00	09:00	01:00	
6: '2039 Do Nothing PM'	17:00	18:00	01:00	
7: '2024 Opening Year AM'	08:00	09:00	01:00	
8: '2024 Opening Year PM'	17:00	18:00	01:00	
9: '2029 Design 5 Years AM'	08:00	09:00	01:00	
10: '2029 Design 5 Years PM'	17:00	18:00	01:00	
11: '2039 Design 15 Years AM'	08:00	09:00	01:00	
12: '2039 Design 15 Years PM'	17:00	18:00	01:00	

Traffic Flows, Desired

Scenario 1: '2024 Do Nothing AM' (FG1: '2024 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	18	330	84	432
	B	24	0	1	3	28
	C	457	1	0	82	540
	D	135	2	108	0	245
	Tot.	616	21	439	169	1245

Scenario 2: '2024 Do Nothing PM' (FG2: '2024 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	18	412	127	557
	B	14	0	1	2	17
	C	307	1	0	96	404
	D	100	2	108	0	210
	Tot.	421	21	521	225	1188

Scenario 3: '2029 Do Nothing AM' (FG3: '2029 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	41	368	92	501
	B	70	0	3	8	81
	C	513	1	0	92	606
	D	148	4	119	0	271
	Tot.	731	46	490	192	1459

Full Input Flow Data And Results

Scenario 4: '2029 Do Nothing PM' (FG4: '2029 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	66	464	140	670
	B	47	0	2	5	54
	C	345	2	0	107	454
	D	110	7	120	0	237
	Tot.	502	75	586	252	1415

Scenario 5: '2039 Do Nothing AM' (FG5: '2039 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	41	396	100	537
	B	70	0	3	8	81
	C	552	1	0	99	652
	D	160	4	128	0	292
	Tot.	782	46	527	207	1562

Scenario 6: '2039 Do Nothing PM' (FG6: '2039 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	66	499	151	716
	B	47	0	2	5	54
	C	372	2	0	115	489
	D	118	7	129	0	254
	Tot.	537	75	630	271	1513

Scenario 7: '2024 Opening Year AM' (FG7: '2024 Opening Year AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	18	334	84	436
	B	24	0	1	3	28
	C	461	1	0	82	544
	D	135	2	108	0	245
	Tot.	620	21	443	169	1253

Scenario 8: '2024 Opening Year PM' (FG8: '2024 Opening Year PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	18	416	127	561
	B	14	0	1	2	17
	C	312	1	0	96	409
	D	100	2	108	0	210
	Tot.	426	21	525	225	1197

Full Input Data And Results

Scenario 9: '2029 Design 5 Years AM' (FG9: '2029 Design 5 Years AM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	41	377	92	510
	B	70	0	3	8	81
	C	519	1	0	92	612
	D	148	4	119	0	271
	Tot.	737	46	499	192	1474

Scenario 10: '2029 Design 5 Years PM' (FG10: '2029 Design 5 Years PM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	66	471	140	677
	B	47	0	2	5	54
	C	354	2	0	107	463
	D	110	7	120	0	237
	Tot.	511	75	593	252	1431

Scenario 11: '2039 Design 15 Years AM' (FG11: '2039 Design 15 Years AM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	41	405	100	546
	B	70	0	3	8	81
	C	558	1	0	99	658
	D	160	4	128	0	292
	Tot.	788	46	536	207	1577

Scenario 12: '2039 Design 15 Years PM' (FG12: '2039 Design 15 Years PM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	66	506	151	723
	B	47	0	2	5	54
	C	381	2	0	115	498
	D	118	7	129	0	254
	Tot.	546	75	637	271	1529

Full Input Data And Results

Network Results

Scenario 1: '2024 Do Nothing AM' (FG1: '2024 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	55.3%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	55.3%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		2	61	-	432	1922:1724	868+209	40.1 : 40.1%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		2	16:18	-	28	1810:1724	30+177	13.5 : 13.5%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		2	61	-	540	1886:1724	974+2	55.3 : 55.3%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		2	16:18	-	245	1690:1724	254+200	54.0 : 54.0%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	616	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	439	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	21	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	169	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	201	0	16	4.5	1.6	0.2	6.3	-	-	-	-
The Hall && R416 Junction	-	-	201	0	16	4.5	1.6	0.2	6.3	-	-	-	-
1/1+1/2	432	432	71	0	13	1.1	0.3	0.2	1.6	13.6	4.5	0.3	4.9
2/1+2/2	28	28	24	0	0	0.2	0.1	0.0	0.3	34.9	0.3	0.1	0.4
3/1+3/2	540	540	1	0	0	1.6	0.6	0.0	2.2	15.0	8.2	0.6	8.9
4/1+4/2	245	245	106	0	2	1.6	0.6	0.0	2.2	31.8	2.1	0.6	2.7
5/1	616	616	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	439	439	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	21	21	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	169	169	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	62.7 62.7	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	6.31 6.31	Cycle Time (s): 120
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Scenario 2: '2024 Do Nothing PM' (FG2: '2024 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	49.6%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	49.6%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		2	63	-	557	1925:1724	867+256	49.6 : 49.6%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		2	14:16	-	17	1770:1724	38+177	7.9 : 7.9%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		2	63	-	404	1857:1724	995+2	40.5 : 40.5%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		2	14:16	-	210	1691:1724	225+239	45.2 : 45.2%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	421	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	521	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	21	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	225	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	248	0	2	4.0	1.3	0.2	5.5	-	-	-	-
The Hall && R416 Junction	-	-	248	0	2	4.0	1.3	0.2	5.5	-	-	-	-
1/1+1/2	557	557	127	0	0	1.4	0.5	0.2	2.1	13.8	6.3	0.5	6.8
2/1+2/2	17	17	14	0	0	0.1	0.0	0.0	0.2	33.6	0.2	0.0	0.2
3/1+3/2	404	404	1	0	0	1.1	0.3	0.0	1.4	12.5	5.7	0.3	6.0
4/1+4/2	210	210	106	0	2	1.4	0.4	0.0	1.8	30.8	1.6	0.4	2.0
5/1	421	421	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	521	521	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	21	21	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	225	225	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 81.5 Total Delay for Signalled Lanes (pcuHr): 5.49 Cycle Time (s): 120 PRC Over All Lanes (%): 81.5 Total Delay Over All Lanes(pcuHr): 5.49													

Full Input Data And Results

Scenario 3: '2029 Do Nothing AM' (FG3: '2029 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	62.1%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	62.1%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		2	61	-	501	1905:1724	872+196	46.9 : 46.9%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		2	16:18	-	81	1799:1724	26+163	42.9 : 42.9%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		2	61	-	606	1886:1724	975+2	62.1 : 62.1%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		2	16:18	-	271	1693:1724	254+199	59.9 : 59.9%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	731	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	490	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	46	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	192	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	258	0	24	5.5	2.4	0.4	8.3	-	-	-	-
The Hall && R416 Junction	-	-	258	0	24	5.5	2.4	0.4	8.3	-	-	-	-
1/1+1/2	501	501	72	0	20	1.3	0.4	0.3	2.0	14.6	5.8	0.4	6.3
2/1+2/2	81	81	68	0	2	0.5	0.4	0.1	1.0	42.9	1.0	0.4	1.4
3/1+3/2	606	606	1	0	0	1.9	0.8	0.0	2.7	16.3	9.8	0.8	10.6
4/1+4/2	271	271	117	0	2	1.8	0.7	0.0	2.5	33.4	2.5	0.7	3.2
5/1	731	731	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	490	490	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	46	46	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	192	192	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	45.0 45.0	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	8.25 8.25	Cycle Time (s): 120
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Scenario 4: '2029 Do Nothing PM' (FG4: '2029 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	60.5%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	60.5%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		2	63	-	670	1897:1724	876+231	60.5 : 60.5%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		2	14:16	-	54	1792:1724	24+163	28.8 : 28.8%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		2	63	-	454	1858:1724	993+4	45.5 : 45.5%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		2	14:16	-	237	1700:1724	227+232	51.6 : 51.6%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	502	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	586	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	75	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	252	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	286	0	23	5.0	1.9	0.3	7.2	-	-	-	-
The Hall && R416 Junction	-	-	286	0	23	5.0	1.9	0.3	7.2	-	-	-	-
1/1+1/2	670	670	120	0	20	1.9	0.8	0.2	2.9	15.5	8.9	0.8	9.7
2/1+2/2	54	54	46	0	1	0.3	0.2	0.0	0.6	39.2	0.7	0.2	0.9
3/1+3/2	454	454	2	0	0	1.2	0.4	0.0	1.7	13.2	6.4	0.4	6.8
4/1+4/2	237	237	118	0	2	1.6	0.5	0.0	2.1	32.2	1.9	0.5	2.5
5/1	502	502	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	586	586	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	75	75	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	252	252	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 48.7 Total Delay for Signalled Lanes (pcuHr): 7.25 Cycle Time (s): 120 PRC Over All Lanes (%): 48.7 Total Delay Over All Lanes(pcuHr): 7.25													

Full Input Data And Results

Scenario 5: '2039 Do Nothing AM' (FG5: '2039 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	66.8%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	66.8%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		2	61	-	537	1908:1724	871+199	50.2 : 50.2%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		2	16:18	-	81	1799:1724	23+149	47.1 : 47.1%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		2	61	-	652	1886:1724	975+1	66.8 : 66.8%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		2	16:18	-	292	1692:1724	254+198	64.6 : 64.6%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	782	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	527	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	46	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	207	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	245	0	54	6.0	2.8	0.4	9.3	-	-	-	-
The Hall && R416 Junction	-	-	245	0	54	6.0	2.8	0.4	9.3	-	-	-	-
1/1+1/2	537	537	55	0	45	1.4	0.5	0.3	2.3	15.1	6.3	0.5	6.8
2/1+2/2	81	81	63	0	7	0.5	0.4	0.1	1.0	46.2	1.0	0.4	1.5
3/1+3/2	652	652	1	0	0	2.1	1.0	0.0	3.2	17.4	10.9	1.0	11.9
4/1+4/2	292	292	126	0	2	1.9	0.9	0.0	2.8	34.8	2.6	0.9	3.5
5/1	782	782	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	527	527	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	46	46	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	207	207	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	34.7 34.7	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	9.28 9.28	Cycle Time (s): 120
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Scenario 6: '2039 Do Nothing PM' (FG6: '2039 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	64.6%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	64.6%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		2	63	-	716	1900:1724	875+234	64.6 : 64.6%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		2	14:16	-	54	1792:1724	22+149	31.6 : 31.6%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		2	63	-	489	1858:1724	994+4	49.0 : 49.0%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		2	14:16	-	254	1699:1724	227+234	55.2 : 55.2%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	537	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	630	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	75	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	271	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	294	0	35	5.5	2.2	0.4	8.1	-	-	-	-
The Hall && R416 Junction	-	-	294	0	35	5.5	2.2	0.4	8.1	-	-	-	-
1/1+1/2	716	716	119	0	32	2.1	0.9	0.3	3.3	16.5	10.2	0.9	11.1
2/1+2/2	54	54	46	0	1	0.3	0.2	0.1	0.6	41.3	0.7	0.2	0.9
3/1+3/2	489	489	2	0	0	1.4	0.5	0.0	1.9	13.6	7.2	0.5	7.7
4/1+4/2	254	254	127	0	2	1.7	0.6	0.0	2.3	32.9	2.0	0.6	2.7
5/1	537	537	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	630	630	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	75	75	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	271	271	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 39.4 Total Delay for Signalled Lanes (pcuHr): 8.07 Cycle Time (s): 120 PRC Over All Lanes (%): 39.4 Total Delay Over All Lanes(pcuHr): 8.07													

Full Input Data And Results

Scenario 7: '2024 Opening Year AM' (FG7: '2024 Opening Year AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	55.3%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	55.3%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		2	61	-	436	1922:1724	863+206	40.8 : 40.8%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		2	16:18	-	28	1810:1724	30+177	13.5 : 13.5%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		2	61	-	544	1887:1724	982+2	55.3 : 55.3%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		2	16:18	-	245	1690:1724	254+200	54.0 : 54.0%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	620	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	443	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	21	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	169	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	181	0	36	5.1	1.6	0.2	6.9	-	-	-	-
The Hall && R416 Junction	-	-	181	0	36	5.1	1.6	0.2	6.9	-	-	-	-
1/1+1/2	436	436	50	0	34	1.1	0.3	0.2	1.6	13.3	4.6	0.3	4.9
2/1+2/2	28	28	24	0	0	0.2	0.1	0.0	0.3	36.3	0.4	0.1	0.5
3/1+3/2	544	544	1	0	0	2.2	0.6	0.0	2.8	18.5	8.0	0.6	8.6
4/1+4/2	245	245	106	0	2	1.6	0.6	0.0	2.2	33.0	2.5	0.6	3.1
5/1	620	620	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	443	443	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	21	21	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	169	169	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	62.8 62.8	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	6.93 6.93	Cycle Time (s): 120
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Scenario 8: '2024 Opening Year PM' (FG8: '2024 Opening Year PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	50.0%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	50.0%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		2	63	-	561	1926:1724	868+254	50.0 : 50.0%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		2	14:16	-	17	1770:1724	38+177	7.9 : 7.9%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		2	63	-	409	1858:1724	995+2	41.0 : 41.0%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		2	14:16	-	210	1691:1724	225+239	45.2 : 45.2%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	426	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	525	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	21	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	225	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	248	0	2	4.0	1.3	0.2	5.5	-	-	-	-
The Hall && R416 Junction	-	-	248	0	2	4.0	1.3	0.2	5.5	-	-	-	-
1/1+1/2	561	561	127	0	0	1.4	0.5	0.2	2.2	13.8	6.3	0.5	6.8
2/1+2/2	17	17	14	0	0	0.1	0.0	0.0	0.2	33.6	0.2	0.0	0.2
3/1+3/2	409	409	1	0	0	1.1	0.3	0.0	1.4	12.6	5.7	0.3	6.0
4/1+4/2	210	210	106	0	2	1.4	0.4	0.0	1.8	30.8	1.6	0.4	2.0
5/1	426	426	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	525	525	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	21	21	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	225	225	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 80.1 Total Delay for Signalled Lanes (pcuHr): 5.54 Cycle Time (s): 120 PRC Over All Lanes (%): 80.1 Total Delay Over All Lanes(pcuHr): 5.54													

Full Input Data And Results

Scenario 9: '2029 Design 5 Years AM' (FG9: '2029 Design 5 Years AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	62.7%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	62.7%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		2	61	-	510	1906:1724	875+193	47.8 : 47.8%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		2	16:18	-	81	1799:1724	26+163	42.9 : 42.9%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		2	61	-	612	1887:1724	975+2	62.7 : 62.7%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		2	16:18	-	271	1693:1724	254+199	59.9 : 59.9%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	737	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	499	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	46	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	192	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	255	0	27	5.5	2.4	0.4	8.4	-	-	-	-
The Hall && R416 Junction	-	-	255	0	27	5.5	2.4	0.4	8.4	-	-	-	-
1/1+1/2	510	510	69	0	23	1.4	0.5	0.3	2.1	14.7	5.9	0.5	6.3
2/1+2/2	81	81	68	0	2	0.5	0.4	0.1	1.0	42.9	1.0	0.4	1.4
3/1+3/2	612	612	1	0	0	2.0	0.8	0.0	2.8	16.4	9.9	0.8	10.7
4/1+4/2	271	271	117	0	2	1.8	0.7	0.0	2.5	33.4	2.5	0.7	3.2
5/1	737	737	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	499	499	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	46	46	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	192	192	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	43.6 43.6	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	8.35 8.35	Cycle Time (s): 120
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Scenario 10: '2029 Design 5 Years PM' (FG10: '2029 Design 5 Years PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	61.2%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	61.2%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		2	63	-	677	1898:1724	878+229	61.2 : 61.2%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		2	14:16	-	54	1792:1724	24+163	28.8 : 28.8%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		2	63	-	463	1859:1724	994+4	46.4 : 46.4%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		2	14:16	-	237	1700:1724	227+232	51.6 : 51.6%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	511	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	593	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	75	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	252	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	282	0	27	5.1	1.9	0.3	7.4	-	-	-	-
The Hall && R416 Junction	-	-	282	0	27	5.1	1.9	0.3	7.4	-	-	-	-
1/1+1/2	677	677	116	0	24	1.9	0.8	0.2	2.9	15.7	9.2	0.8	10.0
2/1+2/2	54	54	46	0	1	0.3	0.2	0.0	0.6	39.2	0.7	0.2	0.9
3/1+3/2	463	463	2	0	0	1.3	0.4	0.0	1.7	13.3	6.7	0.4	7.1
4/1+4/2	237	237	118	0	2	1.6	0.5	0.0	2.1	32.2	1.9	0.5	2.5
5/1	511	511	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	593	593	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	75	75	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	252	252	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 47.1 Total Delay for Signalled Lanes (pcuHr): 7.36 Cycle Time (s): 120 PRC Over All Lanes (%): 47.1 Total Delay Over All Lanes(pcuHr): 7.36													

Full Input Data And Results

Scenario 11: '2039 Design 15 Years AM' (FG11: '2039 Design 15 Years AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	67.4%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	67.4%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		2	61	-	546	1908:1724	873+196	51.1 : 51.1%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		2	16:18	-	81	1799:1724	23+149	47.1 : 47.1%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		2	61	-	658	1887:1724	975+1	67.4 : 67.4%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		2	16:18	-	292	1692:1724	254+198	64.6 : 64.6%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	788	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	536	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	46	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	207	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	242	0	57	6.0	2.9	0.4	9.4	-	-	-	-
The Hall && R416 Junction	-	-	242	0	57	6.0	2.9	0.4	9.4	-	-	-	-
1/1+1/2	546	546	52	0	48	1.5	0.5	0.3	2.3	15.3	6.6	0.5	7.1
2/1+2/2	81	81	63	0	7	0.5	0.4	0.1	1.0	46.2	1.0	0.4	1.5
3/1+3/2	658	658	1	0	0	2.2	1.0	0.0	3.2	17.6	11.0	1.0	12.0
4/1+4/2	292	292	126	0	2	1.9	0.9	0.0	2.8	34.8	2.6	0.9	3.5
5/1	788	788	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	536	536	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	46	46	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	207	207	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	33.6 33.6	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	9.39 9.39	Cycle Time (s): 120
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Scenario 12: '2039 Design 15 Years PM' (FG12: '2039 Design 15 Years PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	65.3%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	65.3%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		2	63	-	723	1900:1724	876+231	65.3 : 65.3%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		2	14:16	-	54	1792:1724	22+149	31.6 : 31.6%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		2	63	-	498	1859:1724	994+4	49.9 : 49.9%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		2	14:16	-	254	1699:1724	227+234	55.2 : 55.2%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	546	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	637	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	75	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	271	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	296	0	33	5.5	2.3	0.4	8.2	-	-	-	-
The Hall && R416 Junction	-	-	296	0	33	5.5	2.3	0.4	8.2	-	-	-	-
1/1+1/2	723	723	121	0	30	2.1	0.9	0.3	3.3	16.6	10.3	0.9	11.3
2/1+2/2	54	54	46	0	1	0.3	0.2	0.1	0.6	41.2	0.7	0.2	0.9
3/1+3/2	498	498	2	0	0	1.4	0.5	0.0	1.9	13.8	7.3	0.5	7.8
4/1+4/2	254	254	127	0	2	1.7	0.6	0.0	2.3	32.9	2.0	0.6	2.6
5/1	546	546	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	637	637	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	75	75	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	271	271	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 37.9 Total Delay for Signalled Lanes (pcuHr): 8.19 Cycle Time (s): 120 PRC Over All Lanes (%): 37.9 Total Delay Over All Lanes(pcuHr): 8.19													

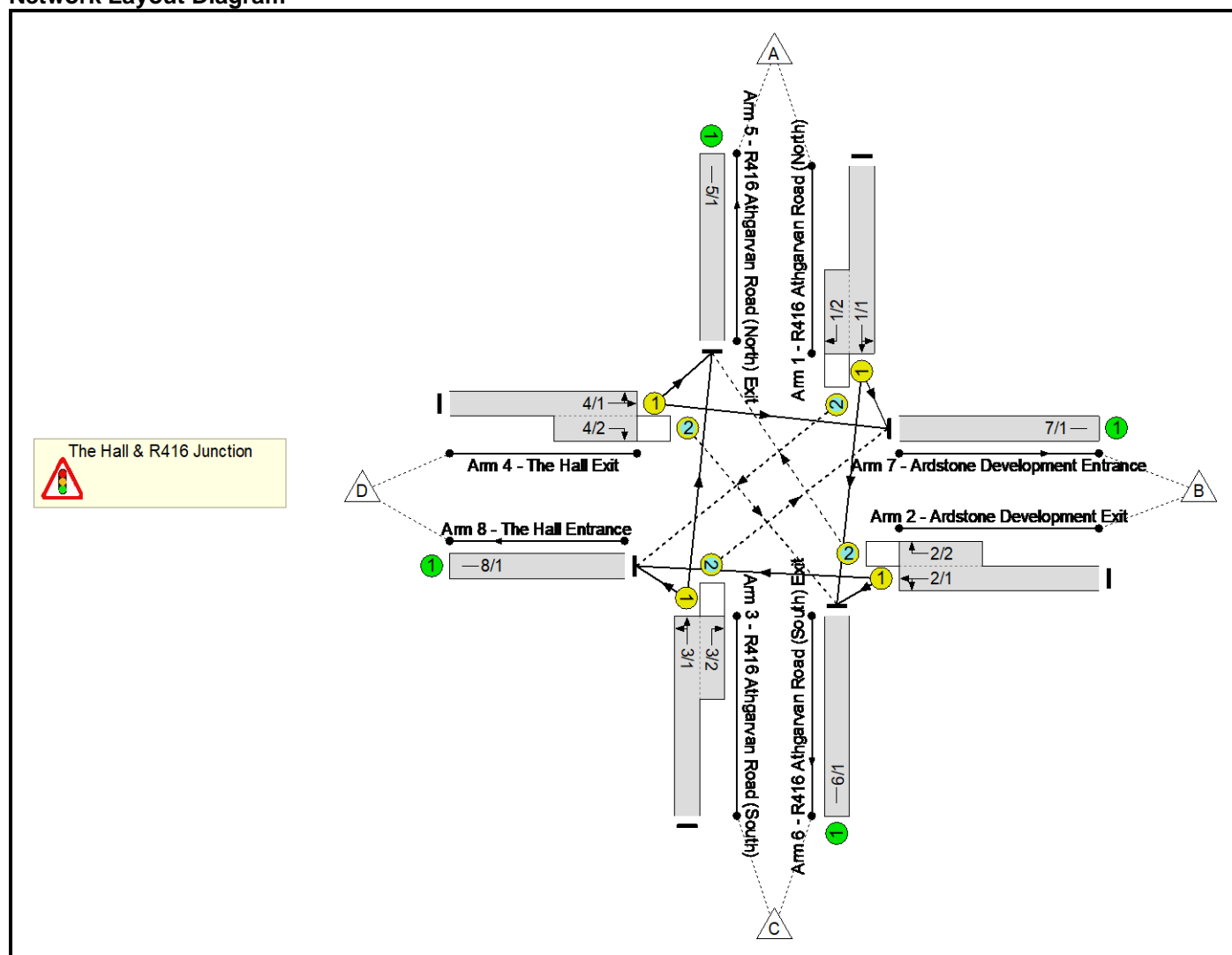
Full Input Data And Results

Full Input Data And Results

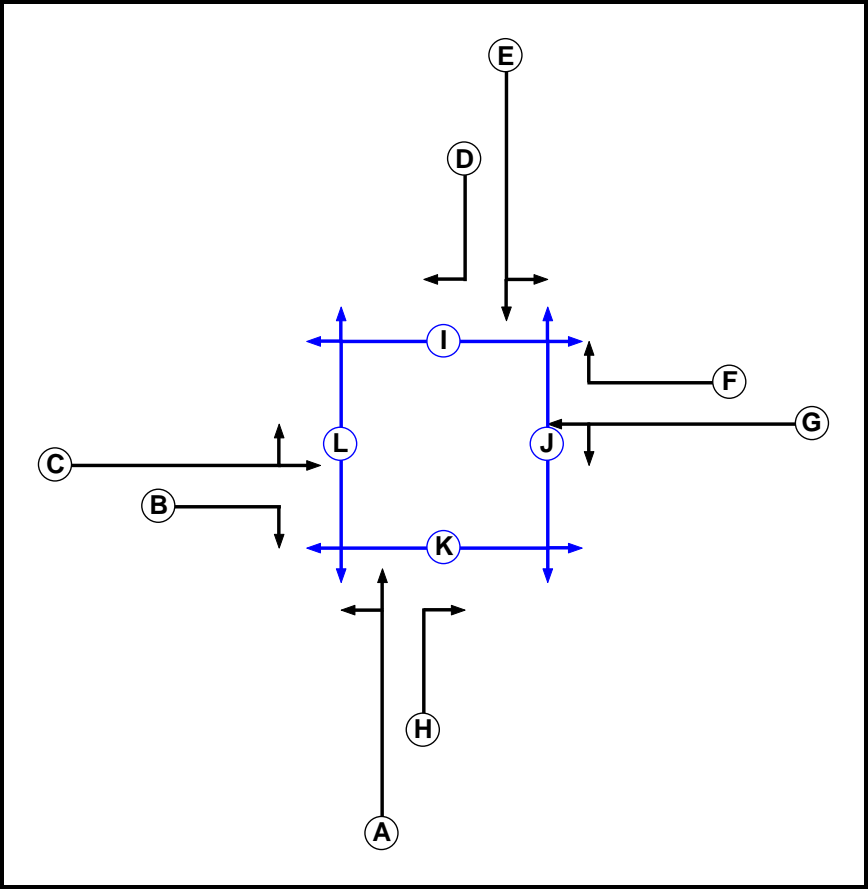
User and Project Details

Project:	Newbridge SHD
Title:	
Location:	
Client:	Aston Ltd
Site Ref(s):	192229
Date Started:	April 2021
Checked By:	J Tiernan
Additional detail:	
File name:	192229 - The Hall Signalised Junction - Scenario C.lsg3x
Author:	S O'Coileir
Company:	PUNCH Consulting Engineers
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Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Traffic		7	7
G	Traffic		7	7
H	Traffic		7	7
I	Pedestrian		7	7
J	Pedestrian		7	7
K	Pedestrian		7	7
L	Pedestrian		7	7

Full Input Data And Results

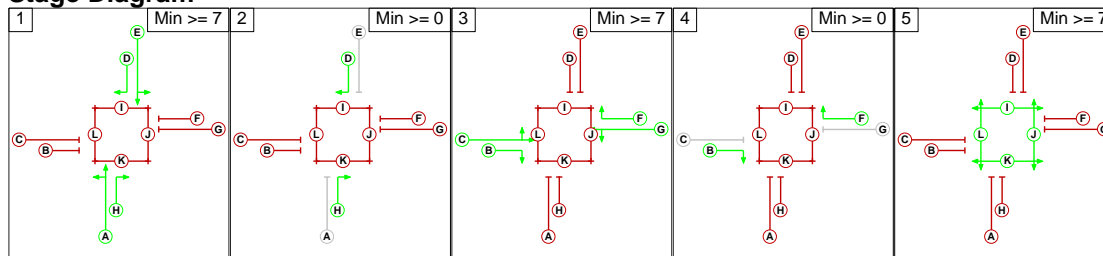
Phase Intergreens Matrix

	Starting Phase											
	A	B	C	D	E	F	G	H	I	J	K	L
Terminating Phase	A	5	5	-	-	5	5	-	5	7	7	6
	B	5	-	5	5	-	-	5	7	-	-	5
	C	5	-	5	5	-	-	5	7	6	7	5
	D	-	5	5	-	5	5	-	-	5	-	6
	E	-	5	5	-	5	5	-	7	5	6	6
	F	5	-	-	5	5	-	5	-	7	5	-
	G	5	-	-	5	5	-	5	6	7	5	7
	H	-	5	5	-	5	5	-	5	-	7	-
	I	11	11	11	-	11	-	11	11	-	-	-
	J	11	-	11	11	11	11	-	-	-	-	-
	K	12	-	12	-	12	12	12	-	-	-	-
	L	12	12	12	12	12	-	12	-	-	-	-

Phases in Stage

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

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

	To Stage				
	1	2	3	4	5
From Stage	1	0	5	5	7
	2	2	5	5	7
	3	5	5	0	7
	4	5	5	2	7
	5	12	12	12	12

Full Input Data And Results

Give-Way Lane Input Data

Junction: The Hall && R416 Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (R416 Athgarvan Road (North))	8/1 (Right)	1439	0	3/1	1.09	All	2.00	-	0.50	2	2.00
2/2 (Ardstone Development Exit)	5/1 (Right)	1439	0	4/1	1.09	All	2.00	-	0.50	2	2.00
3/2 (R416 Athgarvan Road (South))	7/1 (Right)	1439	0	1/1	1.09	All	2.00	-	0.50	2	2.00
4/2 (The Hall Exit)	6/1 (Right)	1439	0	2/1	1.09	All	2.00	-	0.50	2	2.00

Full Input Data And Results

Lane Input Data

Junction: The Hall & R416 Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (R416 Athgarvan Road (North))	U	E	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 6 Ahead	Inf
											Arm 7 Left	8.30
1/2 (R416 Athgarvan Road (North))	O	D	2	3	5.0	Geom	-	3.25	0.00	Y	Arm 8 Right	12.00
2/1 (Ardstone Development Exit)	U	G	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 6 Left	5.20
											Arm 8 Ahead	Inf
2/2 (Ardstone Development Exit)	O	F	2	3	5.0	Geom	-	3.25	0.00	Y	Arm 5 Right	12.00
3/1 (R416 Athgarvan Road (South))	U	A	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	8.00
3/2 (R416 Athgarvan Road (South))	O	H	2	3	5.0	Geom	-	3.25	0.00	Y	Arm 7 Right	12.00
4/1 (The Hall Exit)	U	C	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Left	10.00
											Arm 7 Ahead	Inf
4/2 (The Hall Exit)	O	B	2	3	5.0	Geom	-	3.25	0.00	Y	Arm 6 Right	12.00
5/1 (R416 Athgarvan Road (North) Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (R416 Athgarvan Road (South) Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1 (Ardstone Development Entrance)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (The Hall Entrance)	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2024 Do Nothing AM'	08:00	09:00	01:00	
2: '2024 Do Nothing PM'	17:00	18:00	01:00	
3: '2029 Do Nothing AM'	08:00	09:00	01:00	
4: '2029 Do Nothing PM'	17:00	18:00	01:00	
5: '2039 Do Nothing AM'	08:00	09:00	01:00	
6: '2039 Do Nothing PM'	17:00	18:00	01:00	
7: '2024 Opening Year AM'	08:00	09:00	01:00	
8: '2024 Opening Year PM'	17:00	18:00	01:00	
9: '2029 Design 5 Years AM'	08:00	09:00	01:00	
10: '2029 Design 5 Years PM'	17:00	18:00	01:00	
11: '2039 Design 15 Years AM'	08:00	09:00	01:00	
12: '2039 Design 15 Years PM'	17:00	18:00	01:00	

Traffic Flows, Desired

Scenario 1: '2024 Do Nothing AM' (FG1: '2024 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	37	294	84	415
	B	311	0	88	46	445
	C	317	136	0	81	534
	D	94	42	108	0	244
	Tot.	722	215	490	211	1638

Scenario 2: '2024 Do Nothing PM' (FG2: '2024 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	45	368	127	540
	B	225	0	81	54	360
	C	214	92	0	96	402
	D	70	32	108	0	210
	Tot.	509	169	557	277	1512

Scenario 3: '2029 Do Nothing AM' (FG3: '2029 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	36	323	92	451
	B	337	0	96	48	481
	C	349	149	0	89	587
	D	104	45	118	0	267
	Tot.	790	230	537	229	1786

Full Input Flow Data And Results

Scenario 4: '2029 Do Nothing PM' (FG4: '2029 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	45	405	140	590
	B	278	0	79	40	397
	C	235	101	0	105	441
	D	77	33	118	0	228
	Tot.	590	179	602	285	1656

Scenario 5: '2039 Do Nothing AM' (FG5: '2039 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	48	350	100	498
	B	379	0	106	59	544
	C	379	162	0	98	639
	D	112	52	128	0	292
	Tot.	870	262	584	257	1973

Scenario 6: '2039 Do Nothing PM' (FG6: '2039 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	64	440	151	655
	B	310	0	87	48	445
	C	255	109	0	114	478
	D	83	43	129	0	255
	Tot.	648	216	656	313	1833

Scenario 7: '2024 Opening Year AM' (FG7: '2024 Opening Year AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	53	294	84	431
	B	330	0	91	55	476
	C	317	139	0	81	537
	D	94	49	108	0	251
	Tot.	741	241	493	220	1695

Scenario 8: '2024 Opening Year PM' (FG8: '2024 Opening Year PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	64	368	127	559
	B	243	0	84	62	389
	C	214	95	0	96	405
	D	70	40	108	0	218
	Tot.	527	199	560	285	1571

Full Input Data And Results

Scenario 9: '2029 Design 5 Years AM' (FG9: '2029 Design 5 Years AM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	69	325	92	486
	B	389	0	104	72	565
	C	352	155	0	91	598
	D	104	59	119	0	282
	Tot.	845	283	548	255	1931

Scenario 10: '2029 Design 5 Years PM' (FG10: '2029 Design 5 Years PM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	96	408	140	644
	B	317	0	85	58	460
	C	237	108	0	106	451
	D	77	56	120	0	253
	Tot.	631	260	613	304	1808

Scenario 11: '2039 Design 15 Years AM' (FG11: '2039 Design 15 Years AM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	72	350	100	522
	B	415	0	111	76	602
	C	379	167	0	98	644
	D	112	63	128	0	303
	Tot.	906	302	589	274	2071

Scenario 12: '2039 Design 15 Years PM' (FG12: '2039 Design 15 Years PM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	99	440	151	690
	B	338	0	91	61	490
	C	255	116	0	114	485
	D	83	58	129	0	270
	Tot.	676	273	660	326	1935

Full Input Data And Results

Network Results

Scenario 1: '2024 Do Nothing AM' (FG1: '2024 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	70.0%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	70.0%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		1	46	-	415	1902:1724	621+157	53.3 : 53.3%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		1	39:43	-	445	1631:1724	191+444	70.0 : 70.0%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		1	46	-	534	1869:1724	571+195	69.8 : 69.8%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		1	39:43	-	244	1758:1724	393+312	34.6 : 34.6%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	722	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	490	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	215	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	211	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	625	7	7	13.4	3.1	1.2	17.8	-	-	-	-
The Hall && R416 Junction	-	-	625	7	7	13.4	3.1	1.2	17.8	-	-	-	-
1/1+1/2	415	415	84	0	0	3.1	0.6	0.4	4.1	35.4	9.0	0.6	9.6
2/1+2/2	445	445	301	5	5	4.1	1.2	0.3	5.6	45.3	10.3	1.2	11.5
3/1+3/2	534	534	136	0	0	4.3	1.1	0.3	5.8	39.3	12.8	1.1	14.0
4/1+4/2	244	244	104	2	2	1.9	0.3	0.1	2.2	33.2	3.2	0.3	3.5
5/1	722	722	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	490	490	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	215	215	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	211	211	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	28.5 28.5	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	17.76 17.76	Cycle Time (s): 120
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Scenario 2: '2024 Do Nothing PM' (FG2: '2024 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	61.0%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	61.0%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		1	53	-	540	1903:1724	683+210	60.5 : 60.5%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		1	34:36	-	360	1654:1724	221+369	61.0 : 61.0%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		1	53	-	402	1834:1724	661+196	46.9 : 46.9%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		1	34:36	-	210	1759:1724	319+337	32.0 : 32.0%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	509	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	557	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	169	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	277	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	546	0	6	11.3	2.2	1.0	14.5	-	-	-	-
The Hall && R416 Junction	-	-	546	0	6	11.3	2.2	1.0	14.5	-	-	-	-
1/1+1/2	540	540	127	0	0	3.5	0.8	0.3	4.6	30.4	11.5	0.8	12.3
2/1+2/2	360	360	221	0	4	3.5	0.8	0.2	4.5	44.7	6.6	0.8	7.4
3/1+3/2	402	402	92	0	0	2.4	0.4	0.4	3.2	29.0	7.6	0.4	8.0
4/1+4/2	210	210	106	0	2	1.9	0.2	0.2	2.2	38.6	2.8	0.2	3.1
5/1	509	509	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	557	557	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	169	169	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	277	277	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 47.7 Total Delay for Signalled Lanes (pcuHr): 14.52 Cycle Time (s): 120 PRC Over All Lanes (%): 47.7 Total Delay Over All Lanes(pcuHr): 14.52													

Full Input Data And Results

Scenario 3: '2029 Do Nothing AM' (FG3: '2029 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	78.3%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	78.3%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		1	45	-	451	1905:1724	608+156	59.1 : 59.1%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		1	42:44	-	481	1627:1724	188+441	76.4 : 76.4%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		1	45	-	587	1869:1724	560+190	78.3 : 78.3%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		1	42:44	-	267	1756:1724	417+330	35.7 : 35.7%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	790	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	537	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	230	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	229	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	688	0	8	15.2	4.3	1.4	20.9	-	-	-	-
The Hall && R416 Junction	-	-	688	0	8	15.2	4.3	1.4	20.9	-	-	-	-
1/1+1/2	451	451	92	0	0	3.6	0.7	0.5	4.8	38.4	10.4	0.7	11.1
2/1+2/2	481	481	331	0	6	4.5	1.6	0.4	6.4	48.0	11.8	1.6	13.3
3/1+3/2	587	587	149	0	0	5.1	1.8	0.4	7.3	44.9	15.3	1.8	17.0
4/1+4/2	267	267	116	0	2	2.0	0.3	0.1	2.3	31.7	3.5	0.3	3.8
5/1	790	790	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	537	537	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	230	230	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	229	229	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	15.0 15.0	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	20.90 20.90	Cycle Time (s): 120
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Scenario 4: '2029 Do Nothing PM' (FG4: '2029 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	68.4%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	68.4%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		1	51	-	590	1906:1724	658+205	68.4 : 68.4%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		1	34:38	-	397	1628:1724	175+408	68.2 : 68.2%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		1	51	-	441	1834:1724	638+189	53.3 : 53.3%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		1	34:38	-	228	1756:1724	325+348	33.9 : 33.9%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	590	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	602	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	179	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	285	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	624	7	7	13.2	3.0	1.2	17.3	-	-	-	-
The Hall && R416 Junction	-	-	624	7	7	13.2	3.0	1.2	17.3	-	-	-	-
1/1+1/2	590	590	140	0	0	4.3	1.1	0.4	5.7	34.8	13.9	1.1	14.9
2/1+2/2	397	397	269	5	5	3.9	1.1	0.3	5.3	47.9	9.1	1.1	10.2
3/1+3/2	441	441	101	0	0	3.0	0.6	0.5	4.0	32.6	9.0	0.6	9.6
4/1+4/2	228	228	114	2	2	2.0	0.3	0.1	2.3	37.0	3.0	0.3	3.3
5/1	590	590	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	602	602	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	179	179	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	285	285	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 31.6 Total Delay for Signalled Lanes (pcuHr): 17.32 Cycle Time (s): 120 PRC Over All Lanes (%): 31.6 Total Delay Over All Lanes(pcuHr): 17.32													

Full Input Data And Results

Scenario 5: '2039 Do Nothing AM' (FG5: '2039 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	87.0%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	87.0%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		1	44	-	498	1899:1724	589+119	67.6 : 83.7%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		1	41:45	-	544	1637:1724	194+446	85.1 : 85.1%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		1	44	-	639	1868:1724	548+186	87.0 : 87.0%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		1	41:45	-	292	1760:1724	411+321	39.9 : 39.9%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	870	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	584	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	262	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	257	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	717	18	34	17.9	7.3	1.7	26.9	-	-	-	-
The Hall && R416 Junction	-	-	717	18	34	17.9	7.3	1.7	26.9	-	-	-	-
1/1+1/2	498	498	75	0	25	4.3	1.2	0.6	6.1	43.8	12.3	1.2	13.5
2/1+2/2	544	544	357	16	6	5.3	2.7	0.4	8.5	56.0	14.3	2.7	17.0
3/1+3/2	639	639	162	0	0	6.1	3.1	0.5	9.7	54.8	17.8	3.1	21.0
4/1+4/2	292	292	124	2	2	2.2	0.3	0.1	2.6	32.5	3.9	0.3	4.2
5/1	870	870	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	584	584	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	262	262	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	257	257	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	3.4 3.4	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	26.90 26.90	Cycle Time (s): 120
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Scenario 6: '2039 Do Nothing PM' (FG6: '2039 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	77.6%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	77.6%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		1	50	-	655	1896:1724	649+194	77.6 : 77.6%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		1	37:39	-	445	1636:1724	175+403	77.0 : 77.0%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		1	50	-	478	1834:1724	627+185	58.9 : 58.9%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		1	37:39	-	255	1766:1724	351+359	35.9 : 35.9%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	648	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	656	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	216	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	313	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	692	0	7	15.2	4.3	1.5	21.0	-	-	-	-
The Hall && R416 Junction	-	-	692	0	7	15.2	4.3	1.5	21.0	-	-	-	-
1/1+1/2	655	655	151	0	0	5.2	1.7	0.4	7.3	40.1	16.9	1.7	18.6
2/1+2/2	445	445	305	0	5	4.5	1.6	0.3	6.4	52.0	10.9	1.6	12.6
3/1+3/2	478	478	109	0	0	3.5	0.7	0.6	4.8	36.0	10.3	0.7	11.1
4/1+4/2	255	255	127	0	2	2.1	0.3	0.1	2.5	35.7	3.3	0.3	3.5
5/1	648	648	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	656	656	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	216	216	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	313	313	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 15.9 Total Delay for Signalled Lanes (pcuHr): 21.03 Cycle Time (s): 120 PRC Over All Lanes (%): 15.9 Total Delay Over All Lanes(pcuHr): 21.03													

Full Input Data And Results

Scenario 7: '2024 Opening Year AM' (FG7: '2024 Opening Year AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	73.0%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	73.0%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		1	44	-	431	1888:1724	585+142	59.3 : 59.3%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		1	43:45	-	476	1644:1724	202+456	72.4 : 72.4%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		1	44	-	537	1869:1724	545+190	73.0 : 73.0%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		1	43:45	-	251	1766:1724	432+326	33.1 : 33.1%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	741	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	493	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	241	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	220	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	654	0	7	14.2	3.6	1.3	19.0	-	-	-	-
The Hall && R416 Junction	-	-	654	0	7	14.2	3.6	1.3	19.0	-	-	-	-
1/1+1/2	431	431	84	0	0	3.5	0.7	0.4	4.6	38.6	10.2	0.7	10.9
2/1+2/2	476	476	325	0	6	4.2	1.3	0.4	5.9	44.3	11.0	1.3	12.3
3/1+3/2	537	537	139	0	0	4.7	1.3	0.4	6.4	42.9	13.3	1.3	14.7
4/1+4/2	251	251	106	0	2	1.8	0.2	0.1	2.1	30.6	3.3	0.2	3.5
5/1	741	741	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	493	493	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	241	241	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	220	220	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	23.3 23.3	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	19.02 19.02	Cycle Time (s):	120
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Scenario 8: '2024 Opening Year PM' (FG8: '2024 Opening Year PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	65.3%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	65.3%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		1	52	-	559	1889:1724	662+195	65.3 : 65.3%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		1	35:37	-	389	1664:1724	227+378	64.2 : 64.2%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		1	52	-	405	1834:1724	646+198	48.0 : 48.0%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		1	35:37	-	218	1771:1724	341+335	32.3 : 32.3%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	527	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	560	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	199	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	285	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	567	0	6	12.1	2.5	1.1	15.7	-	-	-	-
The Hall && R416 Junction	-	-	567	0	6	12.1	2.5	1.1	15.7	-	-	-	-
1/1+1/2	559	559	127	0	0	3.9	0.9	0.3	5.1	32.7	12.8	0.9	13.7
2/1+2/2	389	389	239	0	4	3.8	0.9	0.2	4.9	45.3	7.5	0.9	8.4
3/1+3/2	405	405	95	0	0	2.5	0.5	0.4	3.4	30.5	7.7	0.5	8.2
4/1+4/2	218	218	106	0	2	1.9	0.2	0.2	2.3	37.7	2.8	0.2	3.0
5/1	527	527	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	560	560	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	199	199	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	285	285	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 37.9 Total Delay for Signalled Lanes (pcuHr): 15.69 Cycle Time (s): 120 PRC Over All Lanes (%): 37.9 Total Delay Over All Lanes(pcuHr): 15.69													

Full Input Data And Results

Scenario 9: '2029 Design 5 Years AM' (FG9: '2029 Design 5 Years AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	84.8%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	84.8%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		1	42	-	486	1880:1724	562+128	70.1 : 71.6%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		1	45:47	-	565	1657:1724	209+463	84.1 : 84.1%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		1	42	-	598	1868:1724	522+183	84.8 : 84.8%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		1	45:47	-	282	1771:1724	454+331	35.9 : 35.9%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	845	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	548	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	283	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	255	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	739	0	16	17.4	6.6	1.6	25.6	-	-	-	-
The Hall && R416 Junction	-	-	739	0	16	17.4	6.6	1.6	25.6	-	-	-	-
1/1+1/2	486	486	84	0	8	4.4	1.2	0.5	6.1	45.1	12.5	1.2	13.6
2/1+2/2	565	565	383	0	6	5.2	2.5	0.4	8.2	52.0	14.4	2.5	16.9
3/1+3/2	598	598	155	0	0	5.8	2.7	0.5	9.0	54.4	16.4	2.7	19.0
4/1+4/2	282	282	117	0	2	1.9	0.3	0.1	2.3	29.6	3.7	0.3	3.9
5/1	845	845	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	548	548	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	283	283	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	255	255	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	6.1 6.1	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	25.61 25.61	Cycle Time (s): 120
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Scenario 10: '2029 Design 5 Years PM' (FG10: '2029 Design 5 Years PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	80.0%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	80.0%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		1	49	-	644	1875:1724	630+175	80.0 : 80.0%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		1	38:40	-	460	1656:1724	184+408	77.7 : 77.7%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		1	49	-	451	1834:1724	544+166	63.0 : 65.2%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		1	38:40	-	253	1785:1724	373+337	35.7 : 35.7%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	631	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	613	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	260	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	304	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	678	0	7	15.2	4.8	1.4	21.4	-	-	-	-
The Hall && R416 Junction	-	-	678	0	7	15.2	4.8	1.4	21.4	-	-	-	-
1/1+1/2	644	644	140	0	0	5.3	2.0	0.3	7.6	42.3	17.0	2.0	19.0
2/1+2/2	460	460	312	0	5	4.6	1.7	0.3	6.6	51.6	11.3	1.7	13.0
3/1+3/2	451	451	108	0	0	3.3	0.9	0.6	4.8	38.4	9.6	0.9	10.4
4/1+4/2	253	253	118	0	2	2.1	0.3	0.1	2.4	34.8	3.2	0.3	3.5
5/1	631	631	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	613	613	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	260	260	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	304	304	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%)		12.5 12.5		Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):		21.43 21.43		Cycle Time (s): 120				

Full Input Data And Results

Scenario 11: '2039 Design 15 Years AM' (FG11: '2039 Design 15 Years AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	95.0%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	95.0%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		1	44	-	522	1882:1724	586+117	72.0 : 85.5%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		1	40:45	-	602	1656:1724	197+437	95.0 : 95.0%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		1	44	-	644	1868:1724	545+191	87.5 : 87.5%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		1	40:45	-	303	1770:1724	411+301	42.6 : 42.6%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	906	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	589	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	302	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	274	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	679	46	84	19.6	11.8	1.8	33.2	-	-	-	-
The Hall && R416 Junction	-	-	679	46	84	19.6	11.8	1.8	33.2	-	-	-	-
1/1+1/2	522	522	72	0	28	4.6	1.4	0.6	6.6	45.8	13.5	1.4	14.9
2/1+2/2	602	602	334	43	38	6.4	6.7	0.5	13.6	81.4	17.0	6.7	23.7
3/1+3/2	644	644	151	0	16	6.2	3.3	0.6	10.1	56.5	17.9	3.3	21.2
4/1+4/2	303	303	123	3	2	2.3	0.4	0.1	2.8	33.5	4.2	0.4	4.6
5/1	906	906	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	589	589	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	302	302	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	274	274	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	-5.6 -5.6	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	33.19 33.19	Cycle Time (s): 120
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Scenario 12: '2039 Design 15 Years PM' (FG12: '2039 Design 15 Years PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	85.4%
The Hall && R416 Junction	-	-	N/A	-	-		-	-	-	-	-	-	85.4%
1/1+1/2	R416 Athgarvan Road (North) Ahead Left Right	U+O	N/A	N/A	E D		1	50	-	690	1878:1724	642+180	84.0 : 84.0%
2/1+2/2	Ardstone Development Exit Right Left Ahead	U+O	N/A	N/A	G F		1	35:39	-	490	1654:1724	178+396	85.4 : 85.4%
3/1+3/2	R416 Athgarvan Road (South) Ahead Right Left	U+O	N/A	N/A	A H		1	50	-	485	1834:1724	460+145	80.2 : 80.2%
4/1+4/2	The Hall Exit Left Right Ahead	U+O	N/A	N/A	C B		1	35:39	-	270	1783:1724	348+319	40.5 : 40.5%
5/1	R416 Athgarvan Road (North) Exit	U	N/A	N/A	-		-	-	-	676	Inf	Inf	0.0%
6/1	R416 Athgarvan Road (South) Exit	U	N/A	N/A	-		-	-	-	660	Inf	Inf	0.0%
7/1	Ardstone Development Entrance	U	N/A	N/A	-		-	-	-	273	Inf	Inf	0.0%
8/1	The Hall Entrance	U	N/A	N/A	-		-	-	-	326	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	682	27	25	16.9	7.6	1.6	26.1	-	-	-	-
The Hall && R416 Junction	-	-	682	27	25	16.9	7.6	1.6	26.1	-	-	-	-
1/1+1/2	690	690	151	0	0	5.7	2.5	0.4	8.6	45.1	18.9	2.5	21.4
2/1+2/2	490	490	307	25	6	5.2	2.7	0.4	8.4	61.4	12.9	2.7	15.6
3/1+3/2	485	485	99	0	17	3.6	2.0	0.7	6.3	46.7	10.6	2.0	12.5
4/1+4/2	270	270	125	2	2	2.3	0.3	0.1	2.8	37.3	3.6	0.3	3.9
5/1	676	676	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	660	660	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	273	273	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	326	326	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 5.4 Total Delay for Signalled Lanes (pcuHr): 26.09 Cycle Time (s): 120 PRC Over All Lanes (%): 5.4 Total Delay Over All Lanes(pcuHr): 26.09													

Appendix J St. Conleth's Bridge Signalised Junction Linsig Results Output

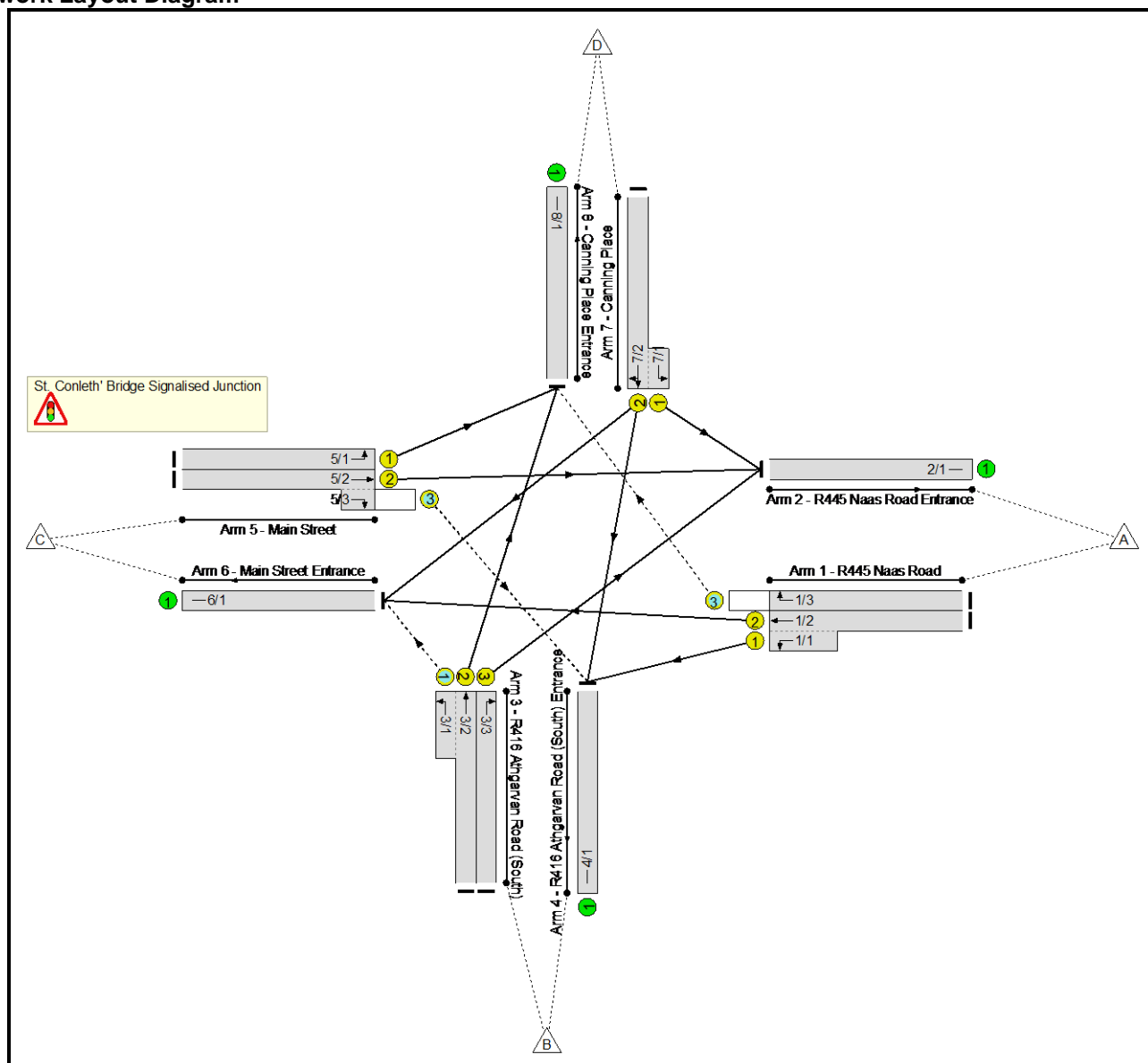
Full Input Data And Results

Full Input Data And Results

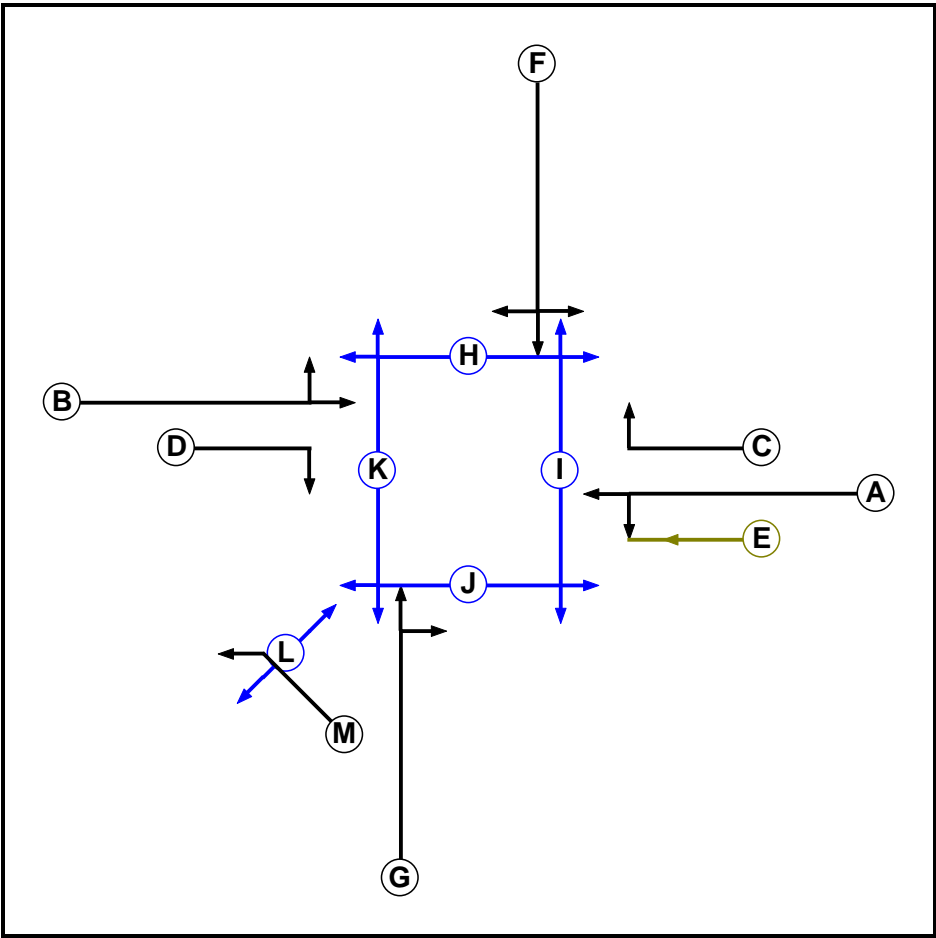
User and Project Details

Project:	192229
Title:	Newbridge SHD
Location:	
Client:	Aston Ltd
Date Started:	April 2021
Checked By:	J Tiernan
Additional detail:	
File name:	192229 - St. Conleth's Bridge Signalised Junction - Scenario A.lsg3x
Author:	J Tiernan
Company:	PUNCH Consulting Engineers
Address:	Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Filter	A	4	0
F	Traffic		7	7
G	Traffic		7	7
H	Pedestrian		7	7
I	Pedestrian		7	7
J	Pedestrian		7	7
K	Pedestrian		7	7
L	Pedestrian		7	7
M	Traffic		7	7

Full Input Data And Results

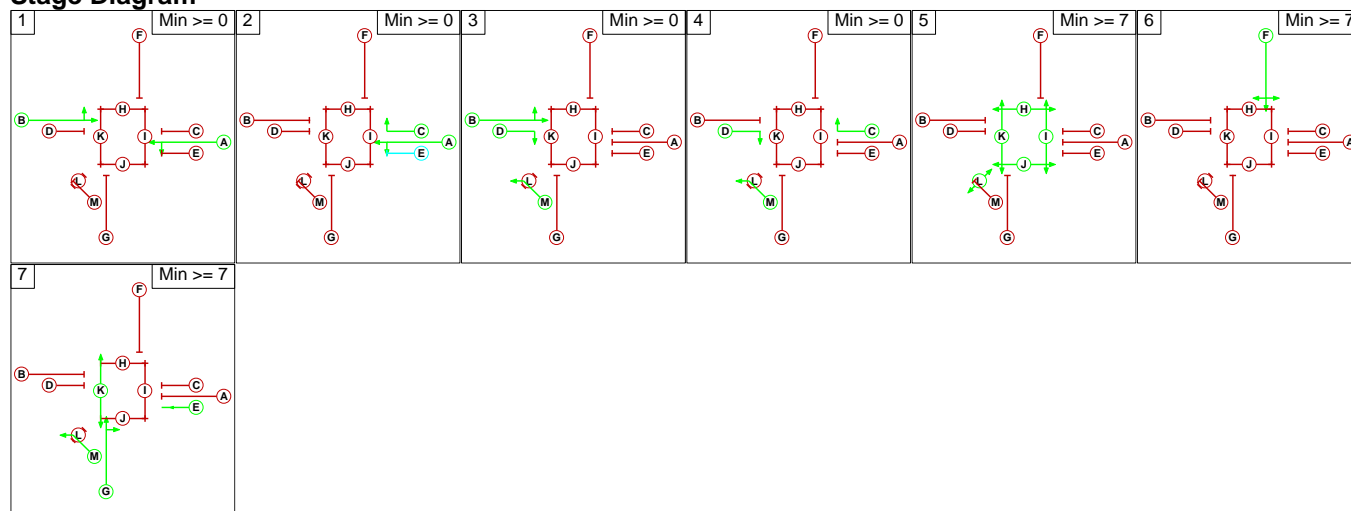
Phase Intergreens Matrix

Phase into Starting Phase														
	Starting Phase													
Terminating Phase		A	B	C	D	E	F	G	H	I	J	K	L	M
	A		-	-	6	-	6	6	8	6	9	10	10	10
	B	-		6	-	5	8	6	9	10	9	5	5	-
	C	-	5		-	-	6	5	8	6	-	-	5	-
	D	-	-	-		-	-	-	-	-	9	5	5	-
	E	-	5	-	5		5	-	-	6	9	-	5	-
	F	5	6	5	6	5		5	5	6	10	10	10	10
	G	7	6	7	5	-	8		10	9	6	-	5	-
	H	11	11	11	-	-	11	11		-	-	-	-	11
	I	17	1	17	-	17	17	17	-		-	-	-	17
	J	15	15	-	15	15	15	15	-	-		-	-	15
	K	16	16	-	16	-	16	-	-	-	-		-	-
	L	8	8	8	8	8	8	8	-	-	-	-		8
	M	5	-	-	-	-	5	-	5	5	5	-	5	

Phases in Stage

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

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Full Input Data And Results

Prohibited Stage Change

From Stage	To Stage							
		1	2	3	4	5	6	7
	1		6	10	10	10	8	10
	2	5		10	10	10	6	10
	3	5	6		6	10	8	6
	4	5	5	5		9	6	5
	5	17	17	17	17		17	17
	6	6	5	10	10	10		10
	7	21	16	X	X	X	X	

Give-Way Lane Input Data

Junction: St. Conleth' Bridge Signalised Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/3 (R445 Naas Road) 3/1 (R416 Athgarvan Road (South))	8/1 (Right)	1439	0	5/2	1.09	All	3.00	-	0.50	3	2.00
				5/1	1.09	All					
	6/1 (Left)	715	0	7/2	0.22	All	-	-	-	-	-
				1/2	0.22	All					
5/3 (Main Street)	4/1 (Right)	1439	0	1/2	1.09	All	3.00	-	0.50	3	2.00

Full Input Data And Results

Lane Input Data

Junction: St. Conleth' Bridge Signalised Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (R445 Naas Road)	U	A	2	3	5.0	Geom	-	2.85	0.00	Y	Arm 4 Left	20.00
1/2 (R445 Naas Road)	U	A	2	3	60.0	Geom	-	2.75	0.00	Y	Arm 6 Ahead	Inf
1/3 (R445 Naas Road)	O	C	2	3	9.0	Geom	-	2.75	0.00	Y	Arm 8 Right	Inf
2/1 (R445 Naas Road Entrance)	U		2	3	60.0	Geom	-	4.20	0.00	Y		
3/1 (R416 Athgarvan Road (South))	O	M	2	3	5.0	Geom	-	4.50	0.00	Y	Arm 6 Left	29.00
3/2 (R416 Athgarvan Road (South))	U	G	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 8 Ahead	Inf
3/3 (R416 Athgarvan Road (South))	U	G	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 2 Right	Inf
4/1 (R416 Athgarvan Road (South) Entrance)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
5/1 (Main Street)	U	B	2	3	6.0	Geom	-	3.25	0.00	Y	Arm 8 Left	53.00
5/2 (Main Street)	U	B	2	3	60.0	Geom	-	3.00	0.00	N	Arm 2 Ahead	Inf
5/3 (Main Street)	O	D	2	3	2.5	Geom	-	3.25	0.00	Y	Arm 4 Right	12.00
6/1 (Main Street Entrance)	U		2	3	60.0	Geom	-	5.00	0.00	Y		
7/1 (Canning Place)	U	F	2	3	3.0	Geom	-	2.75	0.00	Y	Arm 2 Left	15.00
7/2 (Canning Place)	U	F	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 4 Ahead Arm 6 Right	Inf 21.30
8/1 (Canning Place Entrance)	U		2	3	60.0	Geom	-	3.00	0.00	Y		

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2024 Do Nothing AM'	08:45	09:45	01:00	
2: '2024 Do Nothing PM'	17:00	18:00	01:00	
3: '2029 Do Nothing AM'	08:45	09:45	01:00	
4: '2029 Do Nothing PM'	17:00	18:00	01:00	
5: '2039 Do Nothing AM'	08:45	09:45	01:00	
6: '2039 Do Nothing PM'	17:00	18:00	01:00	
7: '2024 Scenario A Opening Year AM'	08:45	09:45	01:00	
8: '2024 Scenario A Opening Year PM'	17:00	18:00	01:00	
9: '2029 Scenario A Design 5 Year AM'	08:45	09:45	01:00	
10: '2029 Scenario A Design 5 Year PM'	17:00	18:00	01:00	
11: '2039 Scenario A Design 15 Year AM'	08:45	09:45	01:00	
12: '2039 Scenario A Design 15 Year PM'	17:00	18:00	01:00	

Traffic Flows, Desired

Scenario 1: '2024 Do Nothing AM' (FG1: '2024 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	271	284	140	695
	B	223	0	17	55	295
	C	463	67	0	25	555
	D	252	136	21	0	409
	Tot.	938	474	322	220	1954

Scenario 2: '2024 Do Nothing PM' (FG2: '2024 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	317	386	197	900
	B	223	0	30	135	388
	C	299	178	0	75	552
	D	110	158	30	0	298
	Tot.	632	653	446	407	2138

Scenario 3: '2029 Do Nothing AM' (FG3: '2029 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	320	313	154	787
	B	290	0	19	67	376
	C	511	74	0	28	613
	D	278	152	23	0	453
	Tot.	1079	546	355	249	2229

Full Input Flow Data And Results

Scenario 4: '2029 Do Nothing PM' (FG4: '2029 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	396	425	217	1038
	B	277	0	33	153	463
	C	330	196	0	83	609
	D	122	180	33	0	335
	Tot.	729	772	491	453	2445

Scenario 5: '2039 Do Nothing AM' (FG5: '2039 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	342	338	166	846
	B	307	0	20	72	399
	C	551	79	0	30	660
	D	300	164	25	0	489
	Tot.	1158	585	383	268	2394

Scenario 6: '2039 Do Nothing PM' (FG6: '2039 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	421	459	234	1114
	B	295	0	35	165	495
	C	355	212	0	89	656
	D	131	193	35	0	359
	Tot.	781	826	529	488	2624

Scenario 7: '2024 Scenario A Opening Year AM' (FG7: '2024 Scenario A Opening Year AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	276	298	151	725
	B	227	0	17	55	299
	C	475	67	0	25	567
	D	262	136	21	0	419
	Tot.	964	479	336	231	2010

Scenario 8: '2024 Scenario A Opening Year PM' (FG8: '2024 Scenario A Opening Year PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	321	398	207	926
	B	227	0	30	135	392
	C	312	178	0	75	565
	D	121	158	30	0	309
	Tot.	660	657	458	417	2192

Full Input Data And Results

Scenario 9: '2029 Scenario A Design 5 Year AM' (FG9: '2029 Scenario A Design 5 Year AM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	329	340	175	844
	B	296	0	19	67	382
	C	529	74	0	28	631
	D	292	152	23	0	467
	Tot.	1117	555	382	270	2324

Scenario 10: '2029 Scenario A Design 5 Year PM' (FG10: '2029 Scenario A Design 5 Year PM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	403	446	234	1083
	B	286	0	33	153	472
	C	356	196	0	83	635
	D	142	180	33	0	355
	Tot.	784	779	512	470	2545

Scenario 11: '2039 Scenario A Design 15 Year AM' (FG11: '2039 Scenario A Design 15 Year AM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	351	364	187	902
	B	313	0	20	72	405
	C	568	79	0	30	677
	D	314	164	25	0	503
	Tot.	1195	594	409	289	2487

Scenario 12: '2039 Scenario A Design 15 Year PM' (FG12: '2039 Scenario A Design 15 Year PM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	428	479	251	1158
	B	304	0	35	165	504
	C	382	212	0	89	683
	D	152	193	35	0	380
	Tot.	838	833	549	505	2725

Full Input Data And Results

Network Results

Scenario 1: '2024 Do Nothing AM' (FG1: '2024 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	144.4%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	144.4%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	555	1890:1767	287+274	98.8 : 98.8%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	140	1890	210	66.7%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	938	2035	2035	33.3%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:22	-	72	1940:1963	166+51	33.1 : 33.1%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	223	1940	175	127.3%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	474	1940	1940	21.4%
5/1	Main Street Left	U	N/A	N/A	B		2	23	-	25	1887	328	7.6%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	23:19	-	530	2055:1724	321+46	144.4 : 144.4%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	322	2115	2115	14.9%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	19	-	409	1897:1718	113+182	138.6 : 138.6%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	220	1915	1915	11.5%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	161	42	52.2	179.9	0.0	232.0	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	161	42	52.2	179.9	0.0	232.0	-	-	-	-
1/2+1/1	555	555	-	-	-	8.0	10.2	-	18.2	118.0	17.3	10.2	27.5
1/3	140	140	0	98	42	1.9	1.0	0.0	2.9	73.7	4.6	1.0	5.6
2/1	678	678	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
3/2+3/1	72	72	0	17	0	1.1	0.2	-	1.3	65.2	2.0	0.2	2.3
3/3	223	175	-	-	-	7.9	26.1	-	34.0	549.0	12.6	26.1	38.6
4/1	416	416	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
5/1	25	25	-	-	-	0.3	0.0	-	0.3	43.7	0.7	0.0	0.8
5/2+5/3	530	367	0	46	0	18.2	83.0	0.0	101.2	687.4	24.3	83.0	107.3
6/1	316	316	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	409	295	-	-	-	14.9	58.7	-	73.6	648.1	22.0	58.7	80.7
8/1	220	220	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
C1 PRC for Signalled Lanes (%): -60.4 Total Delay for Signalled Lanes (pcuHr): 231.51 Cycle Time (s): 144 PRC Over All Lanes (%): -60.4 Total Delay Over All Lanes(pcuHr): 232.04													

Full Input Data And Results

Scenario 2: '2024 Do Nothing PM' (FG2: '2024 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	129.0%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	129.0%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	703	1890:1767	300+246	128.8 : 128.8%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	21	-	197	1890	302	65.3%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	632	2035	2035	24.2%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:27	-	165	1940:1963	169+38	79.8 : 79.8%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	223	1940	175	127.3%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	653	1940	1940	26.2%
5/1	Main Street Left	U	N/A	N/A	B		2	21	-	75	1887	301	24.9%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	21:24	-	477	2055:1724	232+138	129.0 : 129.0%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	446	2115	2115	16.7%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	14	-	298	1894:1718	147+86	127.9 : 127.9%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	407	1915	1915	21.3%

Full Input Data And Results

[illegible]

Full Input Data And Results

Scenario 3: '2029 Do Nothing AM' (FG3: '2029 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	160.0%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	160.0%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	633	1890:1767	279+285	112.2 : 112.2%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	154	1890	210	73.3%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	1079	2035	2035	33.6%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	13:23	-	86	1940:1963	178+50	37.7 : 37.7%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	13	-	290	1940	189	153.8%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	546	1940	1940	22.0%
5/1	Main Street Left	U	N/A	N/A	B		2	23	-	28	1887	328	8.5%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	23:19	-	585	2055:1724	321+46	159.3 : 159.3%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	355	2115	2115	14.8%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	18	-	453	1897:1718	109+174	160.0 : 160.0%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	249	1915	1915	13.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	177	43	74.1	289.3	0.0	363.4	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	177	43	74.1	289.3	0.0	363.4	-	-	-	-
1/2+1/1	633	564	-	-	-	14.0	38.5	-	52.5	298.5	24.1	38.5	62.6
1/3	154	154	0	111	43	2.2	1.3	0.0	3.5	81.1	5.1	1.3	6.4
2/1	683	683	-	-	-	0.0	0.3	-	0.3	1.3	0.0	0.3	0.3
3/2+3/1	86	86	0	19	0	1.3	0.3	-	1.6	65.6	2.5	0.3	2.8
3/3	290	189	-	-	-	13.5	52.1	-	65.6	813.9	19.5	52.1	71.6
4/1	427	427	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
5/1	28	28	-	-	-	0.3	0.0	-	0.3	43.8	0.8	0.0	0.8
5/2+5/3	585	367	0	46	0	22.7	110.3	0.0	132.9	818.1	29.9	110.3	140.2
6/1	312	312	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	453	283	-	-	-	20.3	86.2	-	106.5	846.3	27.9	86.2	114.2
8/1	249	249	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
C1 PRC for Signalled Lanes (%): -77.7 Total Delay for Signalled Lanes (pcuHr): 362.85 Cycle Time (s): 144 PRC Over All Lanes (%): -77.7 Total Delay Over All Lanes(pcuHr): 363.41													

Full Input Data And Results

Scenario 4: '2029 Do Nothing PM' (FG4: '2029 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	147.5%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	147.5%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	821	1890:1767	289+270	146.9 : 146.9%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	21	-	217	1890	302	71.9%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	729	2035	2035	24.4%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	13:27	-	186	1940:1963	181+39	84.8 : 84.8%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	13	-	277	1940	189	146.9%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	772	1940	1940	27.2%
5/1	Main Street Left	U	N/A	N/A	B		2	20	-	83	1887	288	28.8%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	20:23	-	526	2055:1724	224+133	147.5 : 147.5%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	491	2115	2115	16.3%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	14	-	335	1894:1718	148+85	144.3 : 144.3%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	453	1915	1915	23.7%

Full Input Data And Results

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Full Input Data And Results

Scenario 5: '2039 Do Nothing AM' (FG5: '2039 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	172.7%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	172.7%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	680	1890:1767	281+284	120.2 : 120.2%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	166	1890	210	79.0%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	1158	2035	2035	33.6%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	13:23	-	92	1940:1963	178+49	40.5 : 40.5%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	13	-	307	1940	189	162.8%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	585	1940	1940	21.9%
5/1	Main Street Left	U	N/A	N/A	B		2	23	-	30	1887	328	9.2%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	23:19	-	630	2055:1724	321+46	171.7 : 171.7%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	383	2115	2115	14.9%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	18	-	489	1897:1718	109+174	172.7 : 172.7%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	268	1915	1915	14.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	189	43	87.3	360.0	0.0	447.3	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	189	43	87.3	360.0	0.0	447.3	-	-	-	-
1/2+1/1	680	566	-	-	-	17.9	60.0	-	78.0	412.7	27.8	60.0	87.8
1/3	166	166	0	123	43	2.4	1.7	0.0	4.1	89.5	5.5	1.7	7.2
2/1	683	683	-	-	-	0.0	0.3	-	0.3	1.3	0.0	0.3	0.3
3/2+3/1	92	92	0	20	0	1.4	0.3	-	1.7	66.4	2.7	0.3	3.0
3/3	307	189	-	-	-	15.2	60.5	-	75.6	886.8	21.5	60.5	82.0
4/1	425	425	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
5/1	30	30	-	-	-	0.3	0.1	-	0.4	43.9	0.9	0.1	0.9
5/2+5/3	630	367	0	46	0	26.4	132.7	0.0	159.1	909.0	34.5	132.7	167.2
6/1	316	316	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	489	283	-	-	-	23.8	104.1	-	127.9	941.6	32.1	104.1	136.2
8/1	268	268	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
C1 PRC for Signalled Lanes (%): -91.8 Total Delay for Signalled Lanes (pcuHr): 446.76 Cycle Time (s): 144 PRC Over All Lanes (%): -91.8 Total Delay Over All Lanes(pcuHr): 447.32													

Full Input Data And Results

Scenario 6: '2039 Do Nothing PM' (FG6: '2039 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	159.1%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	159.1%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	880	1890:1767	291+267	157.9 : 157.9%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	21	-	234	1890	302	77.5%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	781	2035	2035	24.4%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	13:27	-	200	1940:1963	181+38	91.3 : 91.3%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	13	-	295	1940	189	156.4%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	826	1940	1940	27.0%
5/1	Main Street Left	U	N/A	N/A	B		2	20	-	89	1887	288	30.9%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	20:23	-	567	2055:1724	223+133	159.1 : 159.1%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	529	2115	2115	16.5%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	14	-	359	1895:1718	147+85	154.6 : 154.6%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	488	1915	1915	25.5%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	368	34	94.9	395.0	0.0	489.9	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	368	34	94.9	395.0	0.0	489.9	-	-	-	-
1/2+1/1	880	557	-	-	-	35.6	162.8	-	198.3	811.4	44.7	162.8	207.5
1/3	234	234	0	200	34	2.7	1.6	0.0	4.3	66.7	7.4	1.6	9.1
2/1	496	496	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
3/2+3/1	200	200	0	35	0	3.2	3.8	-	6.9	125.1	6.8	3.8	10.6
3/3	295	189	-	-	-	14.0	54.5	-	68.5	836.1	20.1	54.5	74.6
4/1	525	525	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
5/1	89	89	-	-	-	0.9	0.2	-	1.1	46.1	2.5	0.2	2.7
5/2+5/3	567	356	0	133	0	23.0	106.7	0.0	129.7	823.6	29.1	106.7	135.8
6/1	348	348	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	359	232	-	-	-	15.5	64.8	-	80.3	805.1	21.3	64.8	86.0
8/1	488	488	-	-	-	0.0	0.2	-	0.2	1.3	1.1	0.2	1.2
C1 PRC for Signalled Lanes (%): -76.8 Total Delay for Signalled Lanes (pcuHr): 489.29 Cycle Time (s): 144 PRC Over All Lanes (%): -76.8 Total Delay Over All Lanes(pcuHr): 489.91													

Full Input Data And Results

Scenario 7: '2024 Scenario A Opening Year AM' (FG7: '2024 Scenario A Opening Year AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	147.8%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	147.8%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	574	1890:1767	290+268	102.8 : 102.8%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	151	1890	210	71.9%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	964	2035	2035	33.4%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:22	-	72	1940:1963	166+51	33.1 : 33.1%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	227	1940	175	129.6%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	479	1940	1940	21.1%
5/1	Main Street Left	U	N/A	N/A	B		2	23	-	25	1887	328	7.6%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	23:19	-	542	2055:1724	321+45	147.8 : 147.8%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	336	2115	2115	15.2%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	19	-	419	1897:1718	110+183	143.0 : 143.0%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	231	1915	1915	12.1%

Full Input Data And Results

[illegible]

Full Input Data And Results

Scenario 8: '2024 Scenario A Opening Year PM' (FG8: '2024 Scenario A Opening Year PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	132.2%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	132.2%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	719	1890:1767	301+243	132.2 : 132.2%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	21	-	207	1890	302	68.6%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	660	2035	2035	24.8%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:27	-	165	1940:1963	169+38	79.8 : 79.8%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	227	1940	175	129.6%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	657	1940	1940	25.8%
5/1	Main Street Left	U	N/A	N/A	B		2	21	-	75	1887	301	24.9%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	21:24	-	490	2055:1724	238+136	131.3 : 131.3%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	458	2115	2115	16.7%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	14	-	309	1894:1718	144+93	130.3 : 130.3%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	417	1915	1915	21.8%

Full Input Data And Results

[illegible]

Full Input Data And Results

Scenario 9: '2029 Scenario A Design 5 Year AM' (FG9: '2029 Scenario A Design 5 Year AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	166.4%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	166.4%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	669	1890:1767	286+277	118.8 : 118.8%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	175	1890	210	83.3%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	1117	2035	2035	33.7%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	13:23	-	86	1940:1963	178+50	37.7 : 37.7%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	13	-	296	1940	189	156.9%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	555	1940	1940	21.3%
5/1	Main Street Left	U	N/A	N/A	B		2	23	-	28	1887	328	8.5%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	23:19	-	603	2055:1724	322+45	164.5 : 164.5%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	382	2115	2115	15.1%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	18	-	467	1897:1718	105+176	166.4 : 166.4%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	270	1915	1915	14.1%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	195	44	81.4	327.9	0.0	409.3	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	195	44	81.4	327.9	0.0	409.3	-	-	-	-
1/2+1/1	669	563	-	-	-	17.1	55.9	-	73.0	392.9	27.1	55.9	83.0
1/3	175	175	0	131	44	2.6	2.2	0.0	4.8	98.1	5.8	2.2	8.0
2/1	686	686	-	-	-	0.0	0.3	-	0.3	1.3	0.0	0.3	0.3
3/2+3/1	86	86	0	19	0	1.3	0.3	-	1.6	65.6	2.5	0.3	2.8
3/3	296	189	-	-	-	14.1	55.0	-	69.1	840.5	20.2	55.0	75.2
4/1	413	413	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
5/1	28	28	-	-	-	0.3	0.0	-	0.3	43.8	0.8	0.0	0.8
5/2+5/3	603	367	0	45	0	24.2	119.4	0.0	143.6	857.5	31.8	119.4	151.2
6/1	319	319	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	467	281	-	-	-	21.9	94.4	-	116.2	896.1	29.8	94.4	124.2
8/1	270	270	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
C1 PRC for Signalled Lanes (%): -84.8 Total Delay for Signalled Lanes (pcuHr): 408.69 Cycle Time (s): 144 PRC Over All Lanes (%): -84.8 Total Delay Over All Lanes(pcuHr): 409.25													

Full Input Data And Results

Scenario 10: '2029 Scenario A Design 5 Year PM' (FG10: '2029 Scenario A Design 5 Year PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	152.8%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	152.8%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	849	1890:1767	292+264	152.8 : 152.8%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	21	-	234	1890	302	77.5%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	784	2035	2035	25.5%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	13:27	-	186	1940:1963	181+39	84.8 : 84.8%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	13	-	286	1940	189	151.6%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	779	1940	1940	26.5%
5/1	Main Street Left	U	N/A	N/A	B		2	20	-	83	1887	288	28.8%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	20:23	-	552	2055:1724	234+129	152.4 : 152.4%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	512	2115	2115	16.4%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	14	-	355	1894:1718	143+95	148.7 : 148.7%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	470	1915	1915	24.5%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	362	34	88.6	359.2	0.0	447.8	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	362	34	88.6	359.2	0.0	447.8	-	-	-	-
1/2+1/1	849	556	-	-	-	33.1	148.1	-	181.2	768.4	42.4	148.1	190.5
1/3	234	234	0	200	34	2.7	1.6	0.0	4.3	66.7	7.4	1.6	9.1
2/1	518	518	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
3/2+3/1	186	186	0	33	0	2.9	2.4	-	5.4	103.7	6.2	2.4	8.6
3/3	286	189	-	-	-	13.1	50.1	-	63.2	795.5	19.0	50.1	69.1
4/1	514	514	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
5/1	83	83	-	-	-	0.9	0.2	-	1.1	45.8	2.4	0.2	2.6
5/2+5/3	552	363	0	129	0	21.4	96.4	0.0	117.8	768.4	27.2	96.4	123.5
6/1	347	347	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	355	239	-	-	-	14.6	59.6	-	74.2	752.3	20.0	59.6	79.7
8/1	470	470	-	-	-	0.0	0.2	-	0.2	1.2	1.1	0.2	1.2
C1 PRC for Signalled Lanes (%): -69.8 Total Delay for Signalled Lanes (pcuHr): 447.17 Cycle Time (s): 144 PRC Over All Lanes (%): -69.8 Total Delay Over All Lanes(pcuHr): 447.78													

Full Input Data And Results

Scenario 11: '2039 Scenario A Design 15 Year AM' (FG11: '2039 Scenario A Design 15 Year AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	178.7%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	178.7%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	715	1890:1767	287+276	127.0 : 127.0%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	187	1890	210	89.0%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	1195	2035	2035	33.4%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:22	-	92	1940:1963	167+46	43.0 : 43.0%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	313	1940	175	178.7%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	594	1940	1940	21.5%
5/1	Main Street Left	U	N/A	N/A	B		2	23	-	30	1887	328	9.2%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	23:19	-	647	2055:1724	322+45	176.5 : 176.5%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	409	2115	2115	15.2%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	19	-	503	1897:1718	110+183	171.5 : 171.5%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	289	1915	1915	15.1%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	196	56	94.7	400.0	0.0	494.6	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	196	56	94.7	400.0	0.0	494.6	-	-	-	-
1/2+1/1	715	563	-	-	-	21.1	78.4	-	99.5	500.8	30.9	78.4	109.2
1/3	187	187	0	131	56	2.8	3.2	0.0	6.0	114.9	6.2	3.2	9.4
2/1	680	680	-	-	-	0.0	0.3	-	0.3	1.3	0.0	0.3	0.3
3/2+3/1	92	92	0	20	0	1.4	0.4	-	1.8	68.7	2.7	0.4	3.1
3/3	313	175	-	-	-	16.9	70.0	-	86.9	999.8	23.3	70.0	93.3
4/1	417	417	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
5/1	30	30	-	-	-	0.3	0.1	-	0.4	43.9	0.9	0.1	0.9
5/2+5/3	647	367	0	45	0	27.8	141.4	0.0	169.2	941.3	36.3	141.4	177.7
6/1	321	321	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	503	293	-	-	-	24.4	106.0	-	130.4	933.4	33.1	106.0	139.2
8/1	289	289	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
C1 PRC for Signalled Lanes (%): -98.6 Total Delay for Signalled Lanes (pcuHr): 494.08 Cycle Time (s): 144 PRC Over All Lanes (%): -98.6 Total Delay Over All Lanes(pcuHr): 494.65													

Full Input Data And Results

Scenario 12: '2039 Scenario A Design 15 Year PM' (FG12: '2039 Scenario A Design 15 Year PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	164.1%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	164.1%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	907	1890:1767	293+262	163.6 : 163.6%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	20	-	251	1890	289	86.9%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	838	2035	2035	25.4%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	13:27	-	200	1940:1963	181+38	91.3 : 91.3%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	13	-	304	1940	189	161.2%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	833	1940	1940	26.4%
5/1	Main Street Left	U	N/A	N/A	B		2	21	-	89	1887	301	29.5%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	21:23	-	594	2055:1724	233+129	164.1 : 164.1%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	549	2115	2115	16.5%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	14	-	380	1895:1718	143+95	159.2 : 159.2%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	505	1915	1915	26.4%

Full Input Data And Results

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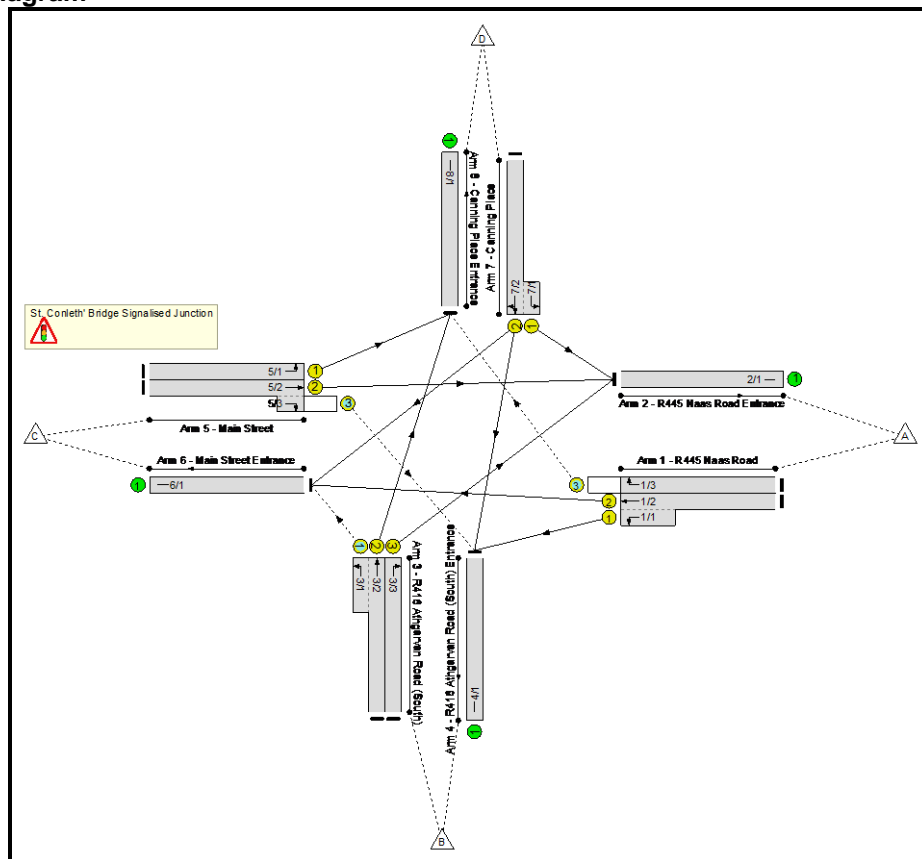
Full Input Data And Results

Full Input Data And Results

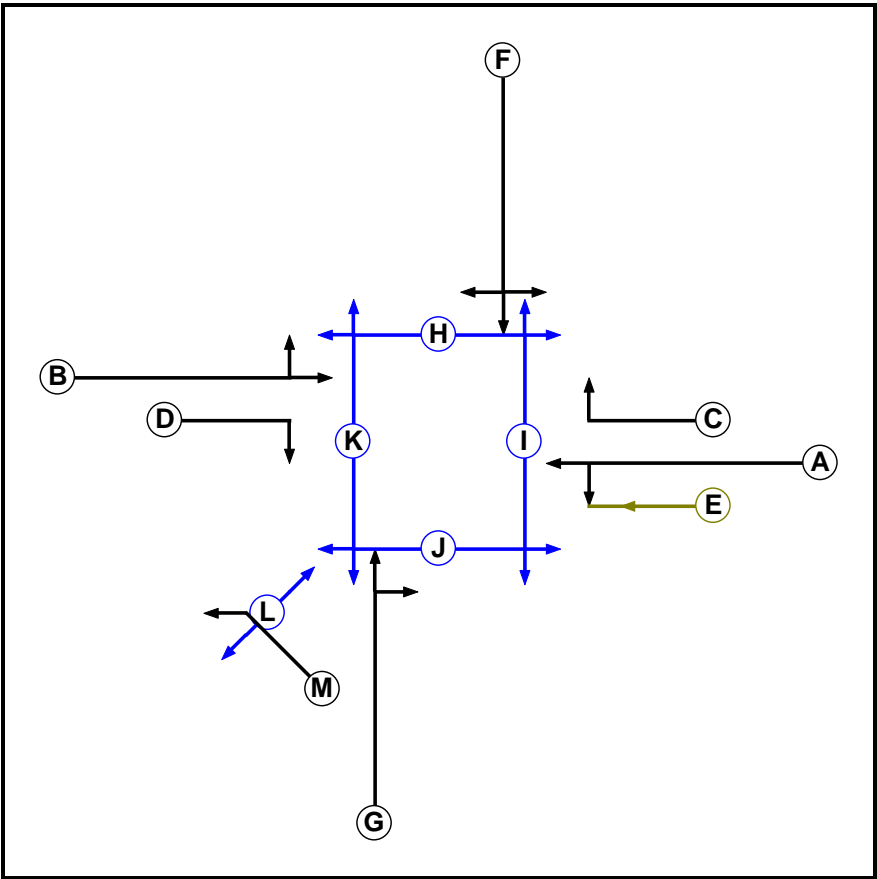
User and Project Details

Project:	192229
Title:	Newbridge SHD
Location:	
Client:	Aston Ltd
Date Started:	April 2021
Checked By:	J Tiernan
Additional detail:	
File name:	192229 - St. Conleth's Bridge Signalised Junction - Scenario B.lsg3x
Author:	J Tiernan
Company:	PUNCH Consulting Engineers
Address:	Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic	A	7	7
E	Filter		4	0
F	Traffic		7	7
G	Traffic		7	7
H	Pedestrian		7	7
I	Pedestrian		7	7
J	Pedestrian		7	7
K	Pedestrian		7	7
L	Pedestrian		7	7
M	Traffic		7	7

Full Input Data And Results

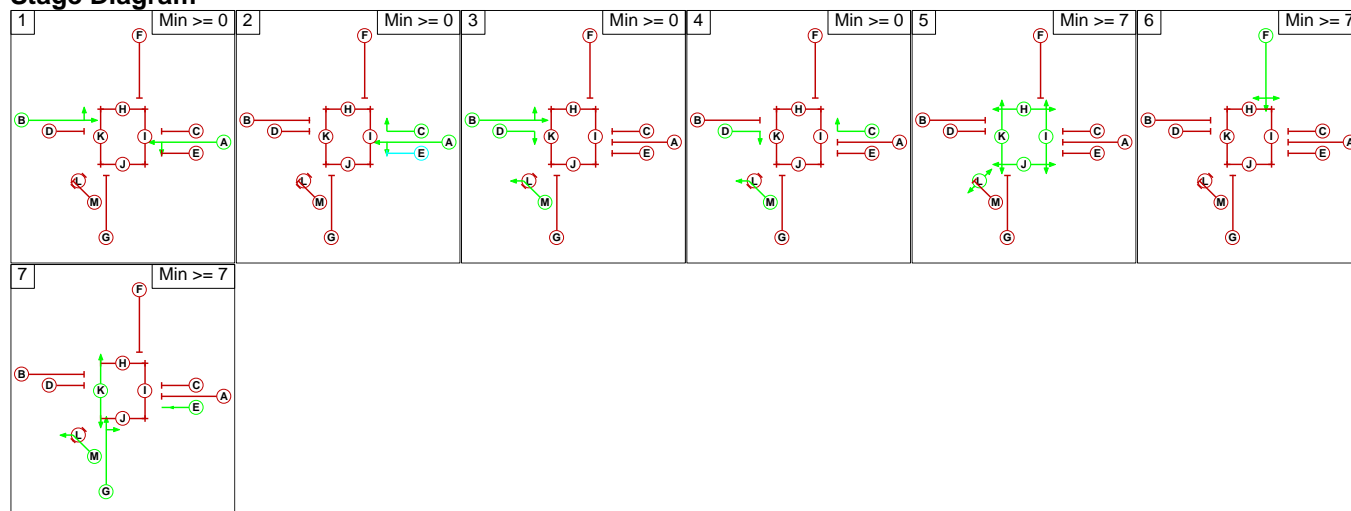
Phase Intergreens Matrix

Phase into 3rd grade matrix														
	Starting Phase													
Terminating Phase		A	B	C	D	E	F	G	H	I	J	K	L	M
	A		-	-	6	-	6	6	8	6	9	10	10	10
	B	-		6	-	5	8	6	9	10	9	5	5	-
	C	-	5		-	-	6	5	8	6	-	-	5	-
	D	-	-	-		-	-	-	-	-	9	5	5	-
	E	-	5	-	5		5	-	-	6	9	-	5	-
	F	5	6	5	6	5		5	5	6	10	10	10	10
	G	7	6	7	5	-	8		10	9	6	-	5	-
	H	11	11	11	-	-	11	11		-	-	-	-	11
	I	17	1	17	-	17	17	17	-		-	-	-	17
	J	15	15	-	15	15	15	15	-	-		-	-	15
	K	16	16	-	16	-	16	-	-	-	-		-	-
	L	8	8	8	8	8	8	8	-	-	-	-		8
	M	5	-	-	-	-	5	-	5	5	5	-	5	

Phases in Stage

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

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Full Input Data And Results

Prohibited Stage Change

From Stage	To Stage							
		1	2	3	4	5	6	7
	1		6	10	10	10	8	10
	2	5		10	10	10	6	10
	3	5	6		6	10	8	6
	4	5	5	5		9	6	5
	5	17	17	17	17		17	17
	6	6	5	10	10	10		10
	7	21	16	X	X	X	X	

Give-Way Lane Input Data

Junction: St. Conleth' Bridge Signalised Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/3 (R445 Naas Road) 3/1 (R416 Athgarvan Road (South))	8/1 (Right)	1439	0	5/2	1.09	All	3.00	-	0.50	3	2.00
				5/1	1.09	All					
	6/1 (Left)	715	0	7/2	0.22	All	-	-	-	-	-
				1/2	0.22	All					
5/3 (Main Street)	4/1 (Right)	1439	0	1/2	1.09	All	3.00	-	0.50	3	2.00

Full Input Data And Results

Lane Input Data

Junction: St. Conleth' Bridge Signalised Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (R445 Naas Road)	U	A	2	3	5.0	Geom	-	2.85	0.00	Y	Arm 4 Left	20.00
1/2 (R445 Naas Road)	U	A	2	3	60.0	Geom	-	2.75	0.00	Y	Arm 6 Ahead	Inf
1/3 (R445 Naas Road)	O	C	2	3	9.0	Geom	-	2.75	0.00	Y	Arm 8 Right	Inf
2/1 (R445 Naas Road Entrance)	U		2	3	60.0	Geom	-	4.20	0.00	Y		
3/1 (R416 Athgarvan Road (South))	O	M	2	3	5.0	Geom	-	4.50	0.00	Y	Arm 6 Left	29.00
3/2 (R416 Athgarvan Road (South))	U	G	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 8 Ahead	Inf
3/3 (R416 Athgarvan Road (South))	U	G	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 2 Right	Inf
4/1 (R416 Athgarvan Road (South) Entrance)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
5/1 (Main Street)	U	B	2	3	6.0	Geom	-	3.25	0.00	Y	Arm 8 Left	53.00
5/2 (Main Street)	U	B	2	3	60.0	Geom	-	3.00	0.00	N	Arm 2 Ahead	Inf
5/3 (Main Street)	O	D	2	3	2.5	Geom	-	3.25	0.00	Y	Arm 4 Right	12.00
6/1 (Main Street Entrance)	U		2	3	60.0	Geom	-	5.00	0.00	Y		
7/1 (Canning Place)	U	F	2	3	3.0	Geom	-	2.75	0.00	Y	Arm 2 Left	15.00
7/2 (Canning Place)	U	F	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 4 Ahead Arm 6 Right	Inf 21.30
8/1 (Canning Place Entrance)	U		2	3	60.0	Geom	-	3.00	0.00	Y		

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2024 Do Nothing AM'	08:45	09:45	01:00	
2: '2024 Do Nothing PM'	17:00	18:00	01:00	
3: '2029 Do Nothing AM'	08:45	09:45	01:00	
4: '2029 Do Nothing PM'	17:00	18:00	01:00	
5: '2039 Do Nothing AM'	08:45	09:45	01:00	
6: '2039 Do Nothing PM'	17:00	18:00	01:00	
7: '2024 Scenario A Opening Year AM'	08:45	09:45	01:00	
8: '2024 Scenario A Opening Year PM'	17:00	18:00	01:00	
9: '2029 Scenario A Design 5 Year AM'	08:45	09:45	01:00	
10: '2029 Scenario A Design 5 Year PM'	17:00	18:00	01:00	
11: '2039 Scenario A Design 15 Year AM'	08:45	09:45	01:00	
12: '2039 Scenario A Design 15 Year PM'	17:00	18:00	01:00	

Traffic Flows, Desired

Scenario 1: '2024 Do Nothing AM' (FG1: '2024 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	271	284	140	695
	B	223	0	17	55	295
	C	463	67	0	25	555
	D	252	136	21	0	409
	Tot.	938	474	322	220	1954

Scenario 2: '2024 Do Nothing PM' (FG2: '2024 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	317	386	197	900
	B	223	0	30	135	388
	C	299	178	0	75	552
	D	110	158	30	0	298
	Tot.	632	653	446	407	2138

Scenario 3: '2029 Do Nothing AM' (FG3: '2029 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	320	313	154	787
	B	290	0	19	67	376
	C	511	74	0	28	613
	D	278	152	23	0	453
	Tot.	1079	546	355	249	2229

Full Input Flow Data And Results

Scenario 4: '2029 Do Nothing PM' (FG4: '2029 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	396	425	217	1038
	B	277	0	33	153	463
	C	330	196	0	83	609
	D	122	180	33	0	335
	Tot.	729	772	491	453	2445

Scenario 5: '2039 Do Nothing AM' (FG5: '2039 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	342	338	166	846
	B	307	0	20	72	399
	C	551	79	0	30	660
	D	300	164	25	0	489
	Tot.	1158	585	383	268	2394

Scenario 6: '2039 Do Nothing PM' (FG6: '2039 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	421	459	234	1114
	B	295	0	35	165	495
	C	355	212	0	89	656
	D	131	193	35	0	359
	Tot.	781	826	529	488	2624

Scenario 7: '2024 Scenario A Opening Year AM' (FG7: '2024 Scenario A Opening Year AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	276	299	151	726
	B	227	0	17	55	299
	C	476	67	0	25	568
	D	262	136	21	0	419
	Tot.	965	479	337	231	2012

Scenario 8: '2024 Scenario A Opening Year PM' (FG8: '2024 Scenario A Opening Year PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	321	399	207	927
	B	227	0	30	135	392
	C	312	178	0	75	565
	D	121	158	30	0	309
	Tot.	660	657	459	417	2193

Full Input Data And Results

Scenario 9: '2029 Scenario A Design 5 Year AM' (FG9: '2029 Scenario A Design 5 Year AM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	329	341	176	846
	B	296	0	19	67	382
	C	529	74	0	28	631
	D	292	152	23	0	467
	Tot.	1117	555	383	271	2326

Scenario 10: '2029 Scenario A Design 5 Year PM' (FG10: '2029 Scenario A Design 5 Year PM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	403	447	234	1084
	B	286	0	33	153	472
	C	356	196	0	83	635
	D	142	180	33	0	355
	Tot.	784	779	513	470	2546

Scenario 11: '2039 Scenario A Design 15 Year AM' (FG11: '2039 Scenario A Design 15 Year AM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	351	365	188	904
	B	313	0	20	72	405
	C	569	79	0	30	678
	D	314	164	25	0	503
	Tot.	1196	594	410	290	2490

Scenario 12: '2039 Scenario A Design 15 Year PM' (FG12: '2039 Scenario A Design 15 Year PM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	428	480	251	1159
	B	304	0	35	165	504
	C	382	212	0	89	683
	D	152	193	35	0	380
	Tot.	838	833	550	505	2726

Full Input Data And Results

Network Results

Scenario 1: '2024 Do Nothing AM' (FG1: '2024 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	144.4%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	144.4%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	555	1890:1767	287+274	98.8 : 98.8%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	140	1890	210	66.7%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	938	2035	2035	33.3%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:22	-	72	1940:1963	166+51	33.1 : 33.1%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	223	1940	175	127.3%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	474	1940	1940	21.4%
5/1	Main Street Left	U	N/A	N/A	B		2	23	-	25	1887	328	7.6%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	23:19	-	530	2055:1724	321+46	144.4 : 144.4%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	322	2115	2115	14.9%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	19	-	409	1897:1718	113+182	138.6 : 138.6%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	220	1915	1915	11.5%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	161	42	52.2	179.9	0.0	232.0	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	161	42	52.2	179.9	0.0	232.0	-	-	-	-
1/2+1/1	555	555	-	-	-	8.0	10.2	-	18.2	118.0	17.3	10.2	27.5
1/3	140	140	0	98	42	1.9	1.0	0.0	2.9	73.7	4.6	1.0	5.6
2/1	678	678	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
3/2+3/1	72	72	0	17	0	1.1	0.2	-	1.3	65.2	2.0	0.2	2.3
3/3	223	175	-	-	-	7.9	26.1	-	34.0	549.0	12.6	26.1	38.6
4/1	416	416	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
5/1	25	25	-	-	-	0.3	0.0	-	0.3	43.7	0.7	0.0	0.8
5/2+5/3	530	367	0	46	0	18.2	83.0	0.0	101.2	687.4	24.3	83.0	107.3
6/1	316	316	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	409	295	-	-	-	14.9	58.7	-	73.6	648.1	22.0	58.7	80.7
8/1	220	220	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
C1													
			PRC for Signalled Lanes (%):		-60.4	Total Delay for Signalled Lanes (pcuHr):		231.51	Cycle Time (s): 144				
			PRC Over All Lanes (%):		-60.4	Total Delay Over All Lanes(pcuHr):		232.04					

Full Input Data And Results

Scenario 2: '2024 Do Nothing PM' (FG2: '2024 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	129.0%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	129.0%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	703	1890:1767	300+246	128.8 : 128.8%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	21	-	197	1890	302	65.3%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	632	2035	2035	24.2%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:27	-	165	1940:1963	169+38	79.8 : 79.8%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	223	1940	175	127.3%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	653	1940	1940	26.2%
5/1	Main Street Left	U	N/A	N/A	B		2	21	-	75	1887	301	24.9%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	21:24	-	477	2055:1724	232+138	129.0 : 129.0%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	446	2115	2115	16.7%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	14	-	298	1894:1718	147+86	127.9 : 127.9%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	407	1915	1915	21.3%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	357	8	59.4	200.7	0.0	260.1	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	357	8	59.4	200.7	0.0	260.1	-	-	-	-
1/2+1/1	703	546	-	-	-	21.3	80.8	-	102.1	522.8	31.3	80.8	112.1
1/3	197	197	0	189	8	2.2	0.9	0.0	3.1	56.7	6.0	0.9	6.9
2/1	493	493	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
3/2+3/1	165	165	0	30	0	2.6	1.8	-	4.4	96.4	5.3	1.8	7.1
3/3	223	175	-	-	-	7.9	26.1	-	34.0	549.0	12.6	26.1	38.6
4/1	508	508	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
5/1	75	75	-	-	-	0.8	0.2	-	0.9	44.0	2.1	0.2	2.3
5/2+5/3	477	370	0	138	0	15.1	55.7	0.0	70.8	534.7	19.5	55.7	75.2
6/1	353	353	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	298	233	-	-	-	9.5	34.7	-	44.1	533.2	14.2	34.7	48.9
8/1	407	407	-	-	-	0.0	0.1	-	0.1	1.2	0.5	0.1	0.7
C1													
PRC for Signalled Lanes (%):			-43.3		Total Delay for Signalled Lanes (pcuHr):			259.53		Cycle Time (s): 144			
PRC Over All Lanes (%):			-43.3		Total Delay Over All Lanes(pcuHr):			260.10					

Full Input Data And Results

Scenario 3: '2029 Do Nothing AM' (FG3: '2029 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	160.0%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	160.0%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	633	1890:1767	279+285	112.2 : 112.2%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	154	1890	210	73.3%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	1079	2035	2035	33.6%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	13:23	-	86	1940:1963	178+50	37.7 : 37.7%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	13	-	290	1940	189	153.8%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	546	1940	1940	22.0%
5/1	Main Street Left	U	N/A	N/A	B		2	23	-	28	1887	328	8.5%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	23:19	-	585	2055:1724	321+46	159.3 : 159.3%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	355	2115	2115	14.8%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	18	-	453	1897:1718	109+174	160.0 : 160.0%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	249	1915	1915	13.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	177	43	74.1	289.3	0.0	363.4	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	177	43	74.1	289.3	0.0	363.4	-	-	-	-
1/2+1/1	633	564	-	-	-	14.0	38.5	-	52.5	298.5	24.1	38.5	62.6
1/3	154	154	0	111	43	2.2	1.3	0.0	3.5	81.1	5.1	1.3	6.4
2/1	683	683	-	-	-	0.0	0.3	-	0.3	1.3	0.0	0.3	0.3
3/2+3/1	86	86	0	19	0	1.3	0.3	-	1.6	65.6	2.5	0.3	2.8
3/3	290	189	-	-	-	13.5	52.1	-	65.6	813.9	19.5	52.1	71.6
4/1	427	427	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
5/1	28	28	-	-	-	0.3	0.0	-	0.3	43.8	0.8	0.0	0.8
5/2+5/3	585	367	0	46	0	22.7	110.3	0.0	132.9	818.1	29.9	110.3	140.2
6/1	312	312	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	453	283	-	-	-	20.3	86.2	-	106.5	846.3	27.9	86.2	114.2
8/1	249	249	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
C1 PRC for Signalled Lanes (%): -77.7 Total Delay for Signalled Lanes (pcuHr): 362.85 Cycle Time (s): 144 PRC Over All Lanes (%): -77.7 Total Delay Over All Lanes(pcuHr): 363.41													

Full Input Data And Results

Scenario 4: '2029 Do Nothing PM' (FG4: '2029 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	147.5%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	147.5%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	821	1890:1767	289+270	146.9 : 146.9%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	21	-	217	1890	302	71.9%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	729	2035	2035	24.4%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	13:27	-	186	1940:1963	181+39	84.8 : 84.8%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	13	-	277	1940	189	146.9%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	772	1940	1940	27.2%
5/1	Main Street Left	U	N/A	N/A	B		2	20	-	83	1887	288	28.8%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	20:23	-	526	2055:1724	224+133	147.5 : 147.5%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	491	2115	2115	16.3%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	14	-	335	1894:1718	148+85	144.3 : 144.3%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	453	1915	1915	23.7%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	363	20	81.8	322.0	0.0	403.8	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	363	20	81.8	322.0	0.0	403.8	-	-	-	-
1/2+1/1	821	559	-	-	-	30.4	132.6	-	163.0	714.8	39.8	132.6	172.4
1/3	217	217	0	197	20	2.5	1.2	0.0	3.7	61.6	6.8	1.2	8.0
2/1	497	497	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
3/2+3/1	186	186	0	33	0	2.9	2.4	-	5.4	103.7	6.2	2.4	8.6
3/3	277	189	-	-	-	12.2	45.7	-	57.9	752.4	17.9	45.7	63.6
4/1	527	527	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
5/1	83	83	-	-	-	0.9	0.2	-	1.1	45.8	2.4	0.2	2.6
5/2+5/3	526	357	0	133	0	19.8	86.2	0.0	106.0	725.6	25.1	86.2	111.3
6/1	345	345	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	335	232	-	-	-	13.1	53.0	-	66.2	711.3	18.5	53.0	71.6
8/1	453	453	-	-	-	0.0	0.2	-	0.2	1.2	1.1	0.2	1.2
C1 PRC for Signalled Lanes (%): -63.9 Total Delay for Signalled Lanes (pcuHr): 403.24 Cycle Time (s): 144 PRC Over All Lanes (%): -63.9 Total Delay Over All Lanes(pcuHr): 403.84													

Full Input Data And Results

Scenario 5: '2039 Do Nothing AM' (FG5: '2039 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	172.7%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	172.7%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	680	1890:1767	281+284	120.2 : 120.2%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	166	1890	210	79.0%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	1158	2035	2035	33.6%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	13:23	-	92	1940:1963	178+49	40.5 : 40.5%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	13	-	307	1940	189	162.8%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	585	1940	1940	21.9%
5/1	Main Street Left	U	N/A	N/A	B		2	23	-	30	1887	328	9.2%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	23:19	-	630	2055:1724	321+46	171.7 : 171.7%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	383	2115	2115	14.9%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	18	-	489	1897:1718	109+174	172.7 : 172.7%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	268	1915	1915	14.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	189	43	87.3	360.0	0.0	447.3	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	189	43	87.3	360.0	0.0	447.3	-	-	-	-
1/2+1/1	680	566	-	-	-	17.9	60.0	-	78.0	412.7	27.8	60.0	87.8
1/3	166	166	0	123	43	2.4	1.7	0.0	4.1	89.5	5.5	1.7	7.2
2/1	683	683	-	-	-	0.0	0.3	-	0.3	1.3	0.0	0.3	0.3
3/2+3/1	92	92	0	20	0	1.4	0.3	-	1.7	66.4	2.7	0.3	3.0
3/3	307	189	-	-	-	15.2	60.5	-	75.6	886.8	21.5	60.5	82.0
4/1	425	425	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
5/1	30	30	-	-	-	0.3	0.1	-	0.4	43.9	0.9	0.1	0.9
5/2+5/3	630	367	0	46	0	26.4	132.7	0.0	159.1	909.0	34.5	132.7	167.2
6/1	316	316	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	489	283	-	-	-	23.8	104.1	-	127.9	941.6	32.1	104.1	136.2
8/1	268	268	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
C1 PRC for Signalled Lanes (%): -91.8 Total Delay for Signalled Lanes (pcuHr): 446.76 Cycle Time (s): 144 PRC Over All Lanes (%): -91.8 Total Delay Over All Lanes(pcuHr): 447.32													

Full Input Data And Results

Scenario 6: '2039 Do Nothing PM' (FG6: '2039 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	159.1%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	159.1%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	880	1890:1767	291+267	157.9 : 157.9%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	21	-	234	1890	302	77.5%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	781	2035	2035	24.4%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	13:27	-	200	1940:1963	181+38	91.3 : 91.3%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	13	-	295	1940	189	156.4%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	826	1940	1940	27.0%
5/1	Main Street Left	U	N/A	N/A	B		2	20	-	89	1887	288	30.9%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	20:23	-	567	2055:1724	223+133	159.1 : 159.1%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	529	2115	2115	16.5%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	14	-	359	1895:1718	147+85	154.6 : 154.6%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	488	1915	1915	25.5%

Full Input Data And Results

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Full Input Data And Results

Scenario 7: '2024 Scenario A Opening Year AM' (FG7: '2024 Scenario A Opening Year AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	148.1%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	148.1%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	575	1890:1767	290+268	103.1 : 103.1%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	151	1890	210	71.9%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	965	2035	2035	33.4%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:22	-	72	1940:1963	166+51	33.1 : 33.1%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	227	1940	175	129.6%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	479	1940	1940	21.0%
5/1	Main Street Left	U	N/A	N/A	B		2	23	-	25	1887	328	7.6%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	23:19	-	543	2055:1724	321+45	148.1 : 148.1%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	337	2115	2115	15.2%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	19	-	419	1897:1718	110+183	143.0 : 143.0%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	231	1915	1915	12.1%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	171	43	56.6	201.3	0.0	257.8	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	171	43	56.6	201.3	0.0	257.8	-	-	-	-
1/2+1/1	575	558	-	-	-	9.5	17.0	-	26.5	165.9	19.5	17.0	36.6
1/3	151	151	0	108	43	2.1	1.2	0.0	3.3	79.3	5.0	1.2	6.2
2/1	680	680	-	-	-	0.0	0.3	-	0.3	1.3	0.0	0.3	0.3
3/2+3/1	72	72	0	17	0	1.1	0.2	-	1.3	65.2	2.0	0.2	2.3
3/3	227	175	-	-	-	8.3	28.0	-	36.3	575.6	13.0	28.0	41.0
4/1	408	408	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
5/1	25	25	-	-	-	0.3	0.0	-	0.3	43.7	0.7	0.0	0.8
5/2+5/3	543	367	0	45	0	19.3	89.7	0.0	108.9	722.1	25.7	89.7	115.3
6/1	322	322	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	419	293	-	-	-	16.1	64.6	-	80.6	692.9	23.4	64.6	88.0
8/1	231	231	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
C1 PRC for Signalled Lanes (%): -64.5 Total Delay for Signalled Lanes (pcuHr): 257.29 Cycle Time (s): 144 PRC Over All Lanes (%): -64.5 Total Delay Over All Lanes(pcuHr): 257.83													

Full Input Data And Results

Scenario 8: '2024 Scenario A Opening Year PM' (FG8: '2024 Scenario A Opening Year PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	132.4%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	132.4%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	720	1890:1767	301+242	132.4 : 132.4%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	21	-	207	1890	302	68.6%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	660	2035	2035	24.8%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:27	-	165	1940:1963	169+38	79.8 : 79.8%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	227	1940	175	129.6%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	657	1940	1940	25.7%
5/1	Main Street Left	U	N/A	N/A	B		2	21	-	75	1887	301	24.9%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	21:24	-	490	2055:1724	238+136	131.3 : 131.3%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	459	2115	2115	16.8%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	14	-	309	1894:1718	144+93	130.3 : 130.3%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	417	1915	1915	21.8%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	362	11	63.0	220.2	0.0	283.2	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	362	11	63.0	220.2	0.0	283.2	-	-	-	-
1/2+1/1	720	544	-	-	-	22.9	90.1	-	113.0	565.0	32.8	90.1	122.9
1/3	207	207	0	196	11	2.3	1.1	0.0	3.4	58.7	6.4	1.1	7.4
2/1	506	506	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
3/2+3/1	165	165	0	30	0	2.6	1.8	-	4.4	96.4	5.3	1.8	7.1
3/3	227	175	-	-	-	8.3	28.0	-	36.3	575.6	13.0	28.0	41.0
4/1	499	499	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
5/1	75	75	-	-	-	0.8	0.2	-	0.9	44.0	2.1	0.2	2.3
5/2+5/3	490	373	0	136	0	15.9	60.5	0.0	76.4	561.2	20.2	60.5	80.7
6/1	354	354	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	309	237	-	-	-	10.2	38.0	-	48.2	561.4	15.0	38.0	53.0
8/1	417	417	-	-	-	0.0	0.1	-	0.1	1.2	0.5	0.1	0.7
C1 PRC for Signalled Lanes (%): -47.1 Total Delay for Signalled Lanes (pcuHr): 282.58 Cycle Time (s): 144 PRC Over All Lanes (%): -47.1 Total Delay Over All Lanes(pcuHr): 283.15													

Full Input Data And Results

Scenario 9: '2029 Scenario A Design 5 Year AM' (FG9: '2029 Scenario A Design 5 Year AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	166.4%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	166.4%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	670	1890:1767	286+276	119.0 : 119.0%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	176	1890	210	83.8%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	1117	2035	2035	33.7%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	13:23	-	86	1940:1963	178+50	37.7 : 37.7%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	13	-	296	1940	189	156.9%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	555	1940	1940	21.3%
5/1	Main Street Left	U	N/A	N/A	B		2	23	-	28	1887	328	8.5%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	23:19	-	603	2055:1724	322+45	164.5 : 164.5%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	383	2115	2115	15.1%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	18	-	467	1897:1718	105+176	166.4 : 166.4%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	271	1915	1915	14.2%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	195	45	81.5	328.6	0.0	410.1	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	195	45	81.5	328.6	0.0	410.1	-	-	-	-
1/2+1/1	670	563	-	-	-	17.2	56.5	-	73.8	396.4	27.2	56.5	83.7
1/3	176	176	0	131	45	2.6	2.3	0.0	4.9	99.3	5.8	2.3	8.1
2/1	686	686	-	-	-	0.0	0.3	-	0.3	1.3	0.0	0.3	0.3
3/2+3/1	86	86	0	19	0	1.3	0.3	-	1.6	65.6	2.5	0.3	2.8
3/3	296	189	-	-	-	14.1	55.0	-	69.1	840.5	20.2	55.0	75.2
4/1	413	413	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
5/1	28	28	-	-	-	0.3	0.0	-	0.3	43.8	0.8	0.0	0.8
5/2+5/3	603	367	0	45	0	24.2	119.4	0.0	143.6	857.5	31.8	119.4	151.2
6/1	319	319	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	467	281	-	-	-	21.9	94.4	-	116.2	896.1	29.8	94.4	124.2
8/1	271	271	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
C1 PRC for Signalled Lanes (%): -84.8 Total Delay for Signalled Lanes (pcuHr): 409.52 Cycle Time (s): 144 PRC Over All Lanes (%): -84.8 Total Delay Over All Lanes(pcuHr): 410.08													

Full Input Data And Results

Scenario 10: '2029 Scenario A Design 5 Year PM' (FG10: '2029 Scenario A Design 5 Year PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	153.1%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	153.1%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	850	1890:1767	292+263	153.1 : 153.1%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	21	-	234	1890	302	77.5%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	784	2035	2035	25.5%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	13:27	-	186	1940:1963	181+39	84.8 : 84.8%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	13	-	286	1940	189	151.6%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	779	1940	1940	26.4%
5/1	Main Street Left	U	N/A	N/A	B		2	20	-	83	1887	288	28.8%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	20:23	-	552	2055:1724	234+129	152.4 : 152.4%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	513	2115	2115	16.4%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	14	-	355	1894:1718	143+95	148.7 : 148.7%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	470	1915	1915	24.5%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	362	34	88.7	359.8	0.0	448.5	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	362	34	88.7	359.8	0.0	448.5	-	-	-	-
1/2+1/1	850	555	-	-	-	33.2	148.8	-	181.9	770.5	42.5	148.8	191.2
1/3	234	234	0	200	34	2.7	1.6	0.0	4.3	66.7	7.4	1.6	9.1
2/1	518	518	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
3/2+3/1	186	186	0	33	0	2.9	2.4	-	5.4	103.7	6.2	2.4	8.6
3/3	286	189	-	-	-	13.1	50.1	-	63.2	795.5	19.0	50.1	69.1
4/1	513	513	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
5/1	83	83	-	-	-	0.9	0.2	-	1.1	45.8	2.4	0.2	2.6
5/2+5/3	552	363	0	129	0	21.4	96.4	0.0	117.8	768.4	27.2	96.4	123.5
6/1	347	347	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	355	239	-	-	-	14.6	59.6	-	74.2	752.3	20.0	59.6	79.7
8/1	470	470	-	-	-	0.0	0.2	-	0.2	1.2	1.1	0.2	1.2
C1 PRC for Signalled Lanes (%): -70.1 Total Delay for Signalled Lanes (pcuHr): 447.89 Cycle Time (s): 144 PRC Over All Lanes (%): -70.1 Total Delay Over All Lanes(pcuHr): 448.50													

Full Input Data And Results

Scenario 11: '2039 Scenario A Design 15 Year AM' (FG11: '2039 Scenario A Design 15 Year AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	178.7%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	178.7%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	716	1890:1767	287+276	127.3 : 127.3%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	188	1890	210	89.5%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	1196	2035	2035	33.4%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:22	-	92	1940:1963	167+46	43.0 : 43.0%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	313	1940	175	178.7%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	594	1940	1940	21.4%
5/1	Main Street Left	U	N/A	N/A	B		2	23	-	30	1887	328	9.2%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	23:19	-	648	2055:1724	322+45	176.8 : 176.8%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	410	2115	2115	15.2%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	19	-	503	1897:1718	110+183	171.5 : 171.5%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	290	1915	1915	15.1%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	196	57	94.9	401.2	0.0	496.1	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	196	57	94.9	401.2	0.0	496.1	-	-	-	-
1/2+1/1	716	563	-	-	-	21.2	79.0	-	100.2	503.9	31.0	79.0	110.0
1/3	188	188	0	131	57	2.8	3.3	0.0	6.1	116.7	6.2	3.3	9.5
2/1	680	680	-	-	-	0.0	0.3	-	0.3	1.3	0.0	0.3	0.3
3/2+3/1	92	92	0	20	0	1.4	0.4	-	1.8	68.7	2.7	0.4	3.1
3/3	313	175	-	-	-	16.9	70.0	-	86.9	999.8	23.3	70.0	93.3
4/1	416	416	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
5/1	30	30	-	-	-	0.3	0.1	-	0.4	43.9	0.9	0.1	0.9
5/2+5/3	648	367	0	45	0	27.9	141.9	0.0	169.8	943.2	36.4	141.9	178.3
6/1	321	321	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	503	293	-	-	-	24.4	106.0	-	130.4	933.4	33.1	106.0	139.2
8/1	290	290	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
C1 PRC for Signalled Lanes (%): -98.6 Total Delay for Signalled Lanes (pcuHr): 495.55 Cycle Time (s): 144 PRC Over All Lanes (%): -98.6 Total Delay Over All Lanes(pcuHr): 496.12													

Full Input Data And Results

Scenario 12: '2039 Scenario A Design 15 Year PM' (FG12: '2039 Scenario A Design 15 Year PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	164.1%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	164.1%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	34	-	908	1890:1767	293+261	163.9 : 163.9%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	20	-	251	1890	289	86.9%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	838	2035	2035	25.4%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	13:27	-	200	1940:1963	181+38	91.3 : 91.3%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	13	-	304	1940	189	161.2%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	833	1940	1940	26.4%
5/1	Main Street Left	U	N/A	N/A	B		2	21	-	89	1887	301	29.5%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	21:23	-	594	2055:1724	233+129	164.1 : 164.1%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	550	2115	2115	16.5%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	14	-	380	1895:1718	143+95	159.2 : 159.2%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	505	1915	1915	26.4%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	371	45	102.0	433.9	0.0	535.8	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	371	45	102.0	433.9	0.0	535.8	-	-	-	-
1/2+1/1	908	554	-	-	-	38.2	178.2	-	216.4	858.0	47.3	178.2	225.5
1/3	251	251	0	206	45	3.1	2.9	0.0	6.0	85.6	8.0	2.9	10.9
2/1	517	517	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
3/2+3/1	200	200	0	35	0	3.2	3.8	-	6.9	125.1	6.8	3.8	10.6
3/3	304	189	-	-	-	14.9	59.0	-	73.8	874.5	21.1	59.0	80.1
4/1	512	512	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
5/1	89	89	-	-	-	0.9	0.2	-	1.1	45.4	2.5	0.2	2.7
5/2+5/3	594	362	0	129	0	24.7	117.3	0.0	141.9	860.2	31.3	117.3	148.6
6/1	350	350	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	380	239	-	-	-	17.0	71.9	-	89.0	843.0	22.9	71.9	94.9
8/1	505	505	-	-	-	0.0	0.2	-	0.2	1.3	1.1	0.2	1.3
C1 PRC for Signalled Lanes (%): -82.3 Total Delay for Signalled Lanes (pcuHr): 535.21 Cycle Time (s): 144 PRC Over All Lanes (%): -82.3 Total Delay Over All Lanes(pcuHr): 535.84													

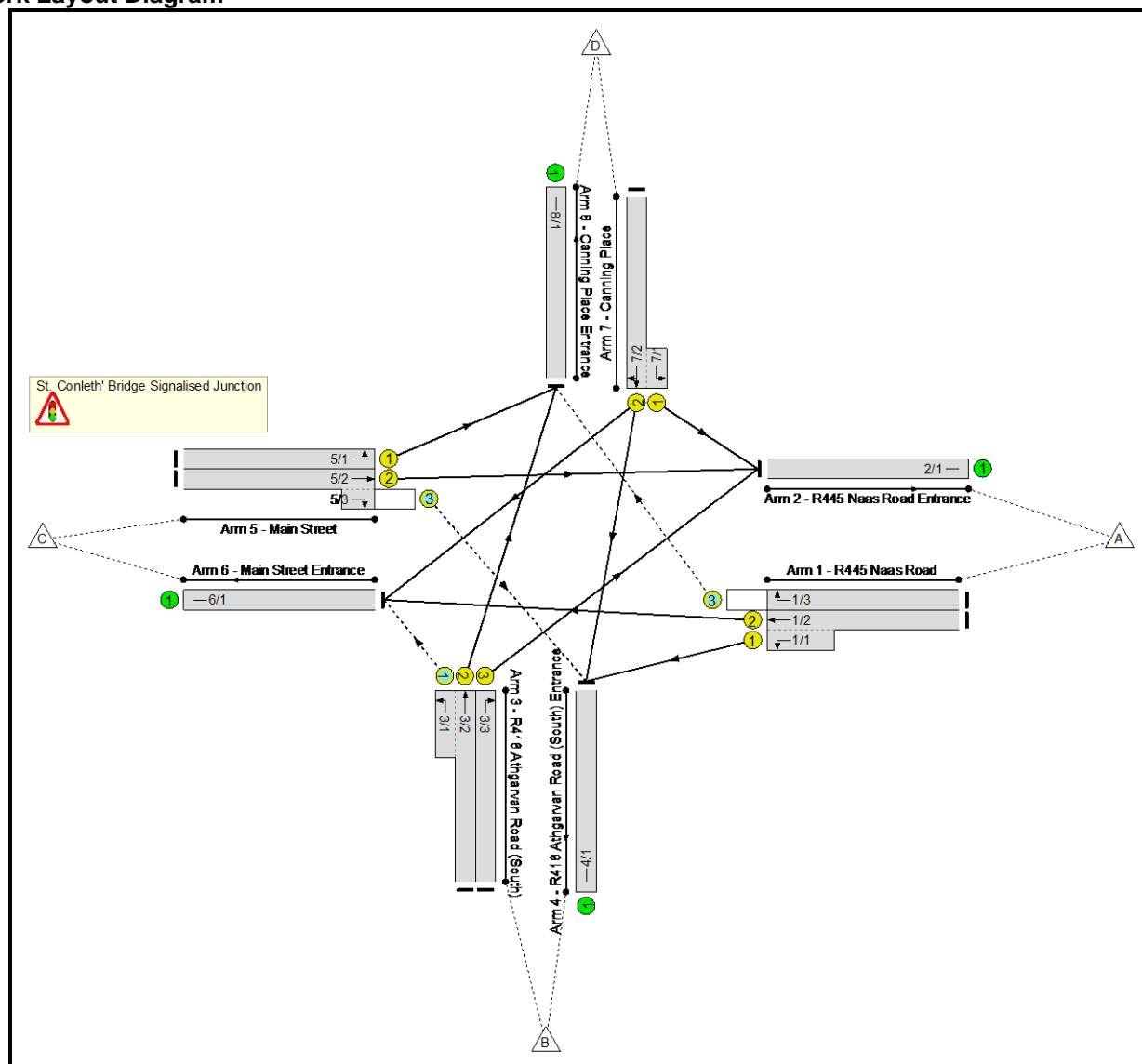
Full Input Data And Results

Full Input Data And Results

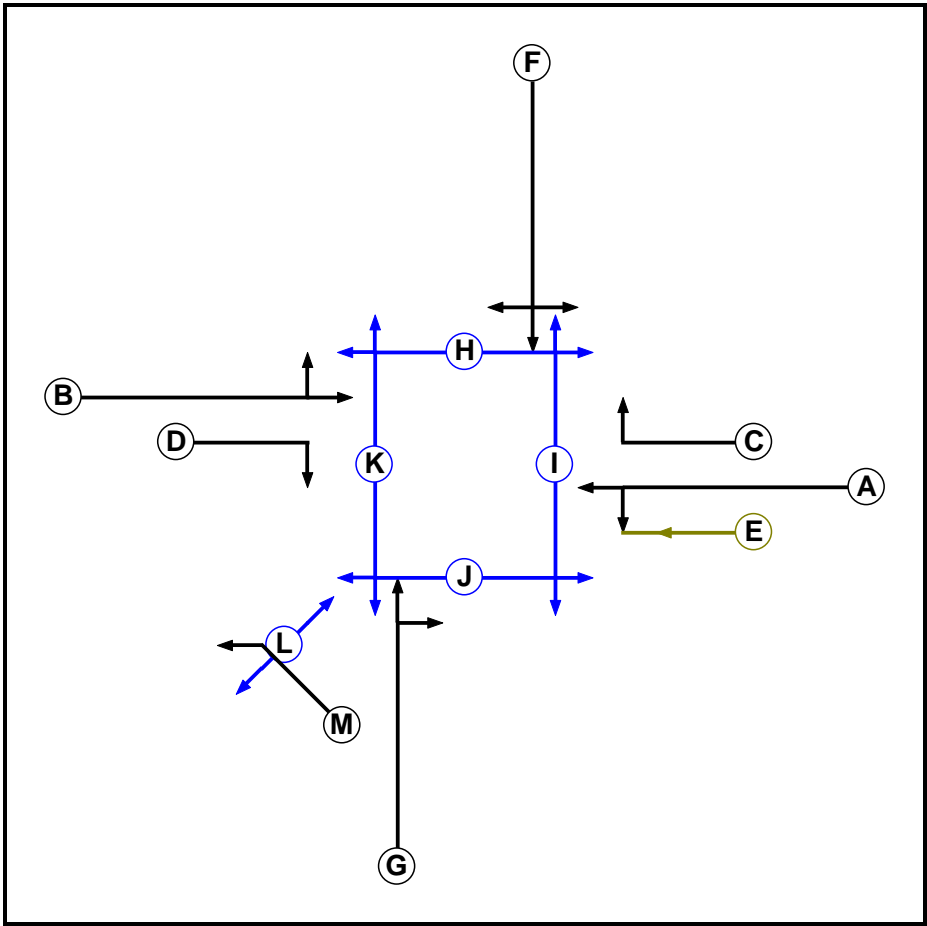
User and Project Details

Project:	192229
Title:	Newbridge SHD
Location:	
Client:	Aston Ltd
Date Started:	April 2021
Checked By:	J Tiernan
Additional detail:	
File name:	192229 - St. Conleth's Bridge Signalised Junction - Scenario C.lsg3x
Author:	J Tiernan
Company:	PUNCH Consulting Engineers
Address:	Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Filter	A	4	0
F	Traffic		7	7
G	Traffic		7	7
H	Pedestrian		7	7
I	Pedestrian		7	7
J	Pedestrian		7	7
K	Pedestrian		7	7
L	Pedestrian		7	7
M	Traffic		7	7

Full Input Data And Results

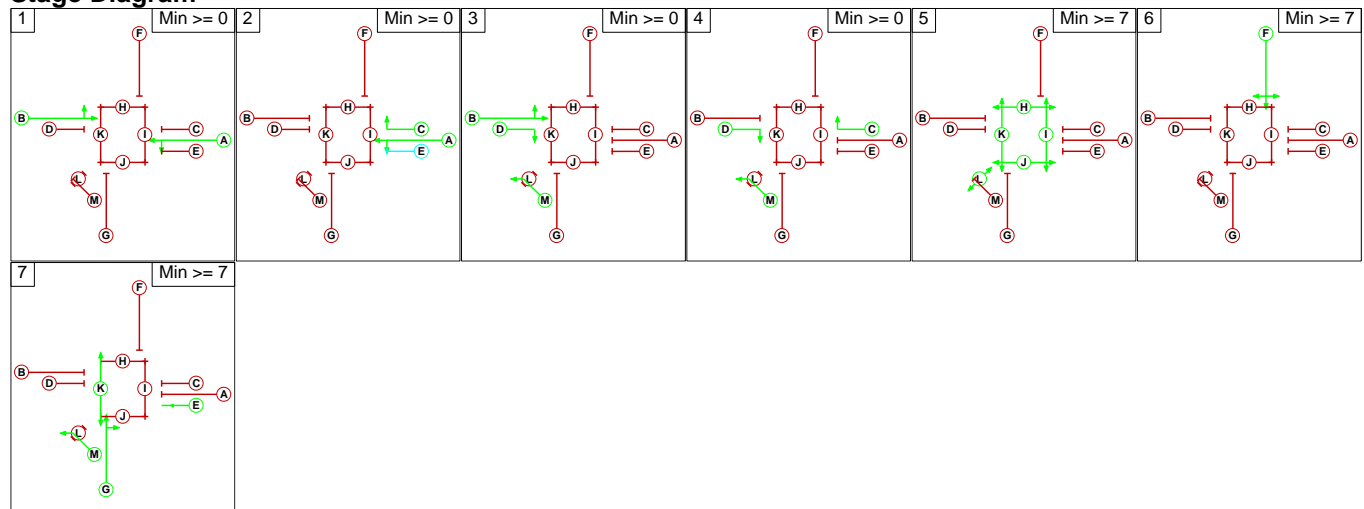
Phase Intergreens Matrix

	Starting Phase													
Terminating Phase		A	B	C	D	E	F	G	H	I	J	K	L	M
	A		-	-	6	-	6	6	8	6	9	10	10	10
	B	-		6	-	5	8	6	9	10	9	5	5	-
	C	-	5		-	-	6	5	8	6	-	-	5	-
	D	-	-	-		-	-	-	-	-	9	5	5	-
	E	-	5	-	5		5	-	-	6	9	-	5	-
	F	5	6	5	6	5		5	5	6	10	10	10	10
	G	7	6	7	5	-	8		10	9	6	-	5	-
	H	11	11	11	-	-	11	11		-	-	-	-	11
	I	17	1	17	-	17	17	17	-		-	-	-	17
	J	15	15	-	15	15	15	15	-	-		-	-	15
	K	16	16	-	16	-	16	-	-	-	-		-	-
	L	8	8	8	8	8	8	8	-	-	-	-		8
	M	5	-	-	-	-	5	-	5	5	5	-	5	

Phases in Stage

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

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Full Input Data And Results

Prohibited Stage Change

From Stage	To Stage							
		1	2	3	4	5	6	7
	1		6	10	10	10	8	10
	2	5		10	10	10	6	10
	3	5	6		6	10	8	6
	4	5	5	5		9	6	5
	5	17	17	17	17		17	17
	6	6	5	10	10	10		10
	7	21	16	X	X	X	X	

Give-Way Lane Input Data

Junction: St. Conleth' Bridge Signalised Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/3 (R445 Naas Road)	8/1 (Right)	1439	0	5/2	1.09	All	3.00	-	0.50	3	2.00
				5/1	1.09	All					
3/1 (R416 Athgarvan Road (South))	6/1 (Left)	715	0	7/2	0.22	All	-	-	-	-	-
				1/2	0.22	All					
5/3 (Main Street)	4/1 (Right)	1439	0	1/2	1.09	All	3.00	-	0.50	3	2.00

Full Input Data And Results

Lane Input Data

Junction: St. Conleth' Bridge Signalised Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (R445 Naas Road)	U	A	2	3	5.0	Geom	-	2.85	0.00	Y	Arm 4 Left	20.00
1/2 (R445 Naas Road)	U	A	2	3	60.0	Geom	-	2.75	0.00	Y	Arm 6 Ahead	Inf
1/3 (R445 Naas Road)	O	C	2	3	9.0	Geom	-	2.75	0.00	Y	Arm 8 Right	Inf
2/1 (R445 Naas Road Entrance)	U		2	3	60.0	Geom	-	4.20	0.00	Y		
3/1 (R416 Athgarvan Road (South))	O	M	2	3	5.0	Geom	-	4.50	0.00	Y	Arm 6 Left	29.00
3/2 (R416 Athgarvan Road (South))	U	G	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 8 Ahead	Inf
3/3 (R416 Athgarvan Road (South))	U	G	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 2 Right	Inf
4/1 (R416 Athgarvan Road (South) Entrance)	U		2	3	60.0	Geom	-	3.25	0.00	Y		
5/1 (Main Street)	U	B	2	3	6.0	Geom	-	3.25	0.00	Y	Arm 8 Left	53.00
5/2 (Main Street)	U	B	2	3	60.0	Geom	-	3.00	0.00	N	Arm 2 Ahead	Inf
5/3 (Main Street)	O	D	2	3	2.5	Geom	-	3.25	0.00	Y	Arm 4 Right	12.00
6/1 (Main Street Entrance)	U		2	3	60.0	Geom	-	5.00	0.00	Y		
7/1 (Canning Place)	U	F	2	3	3.0	Geom	-	2.75	0.00	Y	Arm 2 Left	15.00
7/2 (Canning Place)	U	F	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 4 Ahead Arm 6 Right	Inf 21.30
8/1 (Canning Place Entrance)	U		2	3	60.0	Geom	-	3.00	0.00	Y		

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2024 Do Nothing AM'	08:45	09:45	01:00	
2: '2024 Do Nothing PM'	17:00	18:00	01:00	
3: '2029 Do Nothing AM'	08:45	09:45	01:00	
4: '2029 Do Nothing PM'	17:00	18:00	01:00	
5: '2039 Do Nothing AM'	08:45	09:45	01:00	
6: '2039 Do Nothing PM'	17:00	18:00	01:00	
7: '2024 Scenario A Opening Year AM'	08:45	09:45	01:00	
8: '2024 Scenario A Opening Year PM'	17:00	18:00	01:00	
9: '2029 Scenario A Design 5 Year AM'	08:45	09:45	01:00	
10: '2029 Scenario A Design 5 Year PM'	17:00	18:00	01:00	
11: '2039 Scenario A Design 15 Year AM'	08:45	09:45	01:00	
12: '2039 Scenario A Design 15 Year PM'	17:00	18:00	01:00	

Traffic Flows, Desired

Scenario 1: '2024 Do Nothing AM' (FG1: '2024 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination				
Origin		A	B	C	D	Tot.
	A	0	153	170	112	435
	B	121	0	17	55	193
	C	278	67	0	25	370
	D	252	135	21	0	408
	Tot.	651	355	208	192	1406

Scenario 2: '2024 Do Nothing PM' (FG2: '2024 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination				
Origin		A	B	C	D	Tot.
	A	0	180	232	158	570
	B	126	0	30	135	291
	C	179	178	0	75	432
	D	110	157	30	0	297
	Tot.	415	515	292	368	1590

Scenario 3: '2029 Do Nothing AM' (FG3: '2029 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

		Destination				
Origin		A	B	C	D	Tot.
	A	0	170	188	123	481
	B	136	0	19	67	222
	C	306	74	0	28	408
	D	278	152	23	0	453
	Tot.	720	396	230	218	1564

Full Input Flow Data And Results

Scenario 4: '2029 Do Nothing PM' (FG4: '2029 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	202	255	174	631
	B	141	0	33	153	327
	C	198	196	0	83	477
	D	122	180	33	0	335
	Tot.	461	578	321	410	1770

Scenario 5: '2039 Do Nothing AM' (FG5: '2039 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	183	203	133	519
	B	146	0	20	72	238
	C	330	79	0	30	439
	D	300	164	25	0	489
	Tot.	776	426	248	235	1685

Scenario 6: '2039 Do Nothing PM' (FG6: '2039 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	217	275	188	680
	B	152	0	35	165	352
	C	213	212	0	89	514
	D	131	193	35	0	359
	Tot.	496	622	345	442	1905

Scenario 7: '2024 Scenario A Opening Year AM' (FG7: '2024 Scenario A Opening Year AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	157	176	112	445
	B	125	0	17	66	208
	C	283	67	0	25	375
	D	252	144	21	0	417
	Tot.	660	368	214	203	1445

Scenario 8: '2024 Scenario A Opening Year PM' (FG8: '2024 Scenario A Opening Year PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	184	237	158	579
	B	130	0	30	144	304
	C	185	178	0	75	438
	D	110	167	30	0	307
	Tot.	425	529	297	377	1628

Full Input Data And Results

Scenario 9: '2029 Scenario A Design 5 Year AM' (FG9: '2029 Scenario A Design 5 Year AM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	175	199	123	497
	B	143	0	19	86	248
	C	315	74	0	28	417
	D	278	165	23	0	466
	Tot.	736	414	241	237	1628

Scenario 10: '2029 Scenario A Design 5 Year PM' (FG10: '2029 Scenario A Design 5 Year PM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	209	264	174	647
	B	147	0	33	168	348
	C	209	196	0	83	488
	D	122	198	33	0	353
	Tot.	478	603	330	425	1836

Scenario 11: '2039 Scenario A Design 15 Year AM' (FG11: '2039 Scenario A Design 15 Year AM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	188	214	133	535
	B	154	0	20	91	265
	C	339	79	0	30	448
	D	300	176	25	0	501
	Tot.	793	443	259	254	1749

Scenario 12: '2039 Scenario A Design 15 Year PM' (FG12: '2039 Scenario A Design 15 Year PM', Plan 1: 'Network Control Plan 1')
Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	225	284	188	697
	B	158	0	35	179	372
	C	225	212	0	89	526
	D	131	212	35	0	378
	Tot.	514	649	354	456	1973

Full Input Data And Results

Network Results

Scenario 1: '2024 Do Nothing AM' (FG1: '2024 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	114.4%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	114.4%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	29	-	323	1890:1767	259+233	65.7 : 65.7%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	112	1890	210	53.3%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	651	2035	2035	29.0%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:22	-	72	1940:1963	166+51	33.1 : 33.1%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	121	1940	175	69.1%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	355	1940	1940	17.1%
5/1	Main Street Left	U	N/A	N/A	B		2	18	-	25	1887	262	9.5%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	18:19	-	345	2055:1724	248+60	111.9 : 111.9%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	208	2115	2115	9.7%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	24	-	408	1897:1718	136+220	114.4 : 114.4%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	192	1915	1915	10.0%

Full Input Data And Results

[illegible]

Full Input Data And Results

Scenario 2: '2024 Do Nothing PM' (FG2: '2024 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	96.1%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	96.1%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	26	-	412	1890:1767	247+192	94.0 : 94.0%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	15	-	158	1890	223	70.8%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	415	2035	2035	20.4%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:29	-	165	1940:1963	169+38	79.8 : 79.8%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	126	1940	175	71.9%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	515	1940	1940	26.5%
5/1	Main Street Left	U	N/A	N/A	B		2	21	-	75	1887	301	24.9%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	21:26	-	357	2055:1724	188+187	95.0 : 95.0%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	292	2115	2115	13.8%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	20	-	297	1894:1718	195+115	96.1 : 96.1%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	368	1915	1915	19.2%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	320	46	25.5	22.3	0.0	47.8	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	320	46	25.5	22.3	0.0	47.8	-	-	-	-
1/2+1/1	412	412	-	-	-	6.3	5.5	-	11.8	103.4	12.3	5.5	17.7
1/3	158	158	0	115	43	1.9	1.2	0.0	3.1	69.9	4.9	1.2	6.1
2/1	415	415	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
3/2+3/1	165	165	0	30	0	2.6	1.8	-	4.4	96.3	5.3	1.8	7.1
3/3	126	126	-	-	-	2.2	1.2	-	3.5	98.6	4.9	1.2	6.1
4/1	515	515	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
5/1	75	75	-	-	-	0.8	0.2	-	1.0	47.5	2.2	0.2	2.4
5/2+5/3	357	357	0	174	4	6.7	5.9	0.0	12.5	126.3	11.7	5.9	17.5
6/1	292	292	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	297	297	-	-	-	4.9	6.1	-	11.0	133.6	10.0	6.1	16.0
8/1	368	368	-	-	-	0.0	0.1	-	0.1	1.2	0.5	0.1	0.7
C1													
PRC for Signalled Lanes (%):			-6.7		Total Delay for Signalled Lanes (pcuHr):			47.31		Cycle Time (s): 144			
PRC Over All Lanes (%):			-6.7		Total Delay Over All Lanes(pcuHr):			47.82					

Full Input Data And Results

Scenario 3: '2029 Do Nothing AM' (FG3: '2029 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	126.7%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	126.7%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	29	-	358	1890:1767	258+234	72.7 : 72.7%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	123	1890	210	58.6%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	720	2035	2035	29.7%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:22	-	86	1940:1963	167+47	40.1 : 40.1%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	136	1940	175	77.7%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	396	1940	1940	18.0%
5/1	Main Street Left	U	N/A	N/A	B		2	18	-	28	1887	262	10.7%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	18:19	-	380	2055:1724	248+60	123.3 : 123.3%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	230	2115	2115	10.6%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	24	-	453	1897:1718	138+219	126.7 : 126.7%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	218	1915	1915	11.4%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	163	39	34.3	92.8	0.0	127.1	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	163	39	34.3	92.8	0.0	127.1	-	-	-	-
1/2+1/1	358	358	-	-	-	5.0	1.3	-	6.3	63.7	8.4	1.3	9.7
1/3	123	123	0	84	39	1.6	0.7	0.0	2.3	67.2	4.0	0.7	4.7
2/1	604	604	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
3/2+3/1	86	86	0	19	0	1.3	0.3	-	1.6	67.8	2.5	0.3	2.8
3/3	136	136	-	-	-	2.4	1.6	-	4.0	106.6	5.3	1.6	6.9
4/1	350	350	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
5/1	28	28	-	-	-	0.3	0.1	-	0.4	49.2	0.8	0.1	0.9
5/2+5/3	380	308	0	60	0	10.1	38.3	0.0	48.4	458.9	15.0	38.3	53.4
6/1	225	225	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	453	357	-	-	-	13.6	50.0	-	63.6	505.4	22.1	50.0	72.1
8/1	218	218	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
C1													
PRC for Signalled Lanes (%):			-40.8		Total Delay for Signalled Lanes (pcuHr):			126.70		Cycle Time (s): 144			
PRC Over All Lanes (%):			-40.8		Total Delay Over All Lanes(pcuHr):			127.14					

Full Input Data And Results

Scenario 4: '2029 Do Nothing PM' (FG4: '2029 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	106.8%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	106.8%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	25	-	457	1890:1767	239+189	106.8 : 106.8%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	174	1890	210	82.9%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	461	2035	2035	21.9%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:29	-	186	1940:1963	169+37	90.3 : 90.3%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	141	1940	175	80.5%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	578	1940	1940	28.3%
5/1	Main Street Left	U	N/A	N/A	B		2	21	-	83	1887	301	27.5%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	21:26	-	394	2055:1724	189+187	104.9 : 104.9%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	321	2115	2115	14.3%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	21	-	335	1894:1718	204+117	104.4 : 104.4%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	410	1915	1915	21.4%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	350	44	33.1	57.3	0.0	90.5	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	350	44	33.1	57.3	0.0	90.5	-	-	-	-
1/2+1/1	457	428	-	-	-	9.3	20.3	-	29.6	233.1	16.1	20.3	36.4
1/3	174	174	0	131	43	2.3	2.2	0.0	4.5	92.8	5.4	2.2	7.6
2/1	447	447	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
3/2+3/1	186	186	0	33	0	3.0	3.5	-	6.4	124.4	6.3	3.5	9.7
3/3	141	141	-	-	-	2.5	1.9	-	4.4	111.8	5.5	1.9	7.4
4/1	548	548	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
5/1	83	83	-	-	-	0.9	0.2	-	1.1	48.6	2.5	0.2	2.7
5/2+5/3	394	376	0	186	1	8.8	15.5	0.0	24.3	222.0	14.3	15.5	29.8
6/1	303	303	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	335	321	-	-	-	6.2	13.4	-	19.6	210.5	12.4	13.4	25.8
8/1	410	410	-	-	-	0.0	0.1	-	0.1	1.2	1.1	0.1	1.2
C1													
			PRC for Signalled Lanes (%):		-18.7	Total Delay for Signalled Lanes (pcuHr):		89.89	Cycle Time (s): 144				
			PRC Over All Lanes (%):		-18.7	Total Delay Over All Lanes(pcuHr):		90.45					

Full Input Data And Results

Scenario 5: '2039 Do Nothing AM' (FG5: '2039 Do Nothing AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	136.8%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	136.8%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	29	-	386	1890:1767	259+233	78.5 : 78.5%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	133	1890	210	63.3%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	776	2035	2035	30.2%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:22	-	92	1940:1963	167+46	43.0 : 43.0%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	146	1940	175	83.4%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	426	1940	1940	18.7%
5/1	Main Street Left	U	N/A	N/A	B		2	18	-	30	1887	262	11.4%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	18:19	-	409	2055:1724	249+59	132.8 : 132.8%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	248	2115	2115	11.4%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	24	-	489	1897:1718	138+219	136.8 : 136.8%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	235	1915	1915	12.3%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	170	42	41.3	125.7	0.0	167.0	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	170	42	41.3	125.7	0.0	167.0	-	-	-	-
1/2+1/1	386	386	-	-	-	5.5	1.8	-	7.3	67.7	9.8	1.8	11.5
1/3	133	133	0	91	42	1.8	0.8	0.0	2.6	70.7	4.4	0.8	5.2
2/1	614	614	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
3/2+3/1	92	92	0	20	0	1.4	0.4	-	1.8	68.8	2.7	0.4	3.1
3/3	146	146	-	-	-	2.6	2.2	-	4.8	118.2	5.7	2.2	7.9
4/1	362	362	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
5/1	30	30	-	-	-	0.3	0.1	-	0.4	49.3	0.9	0.1	1.0
5/2+5/3	409	308	0	59	0	12.5	52.4	0.0	65.0	572.1	17.2	52.4	69.6
6/1	241	241	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	489	358	-	-	-	17.1	67.6	-	84.7	623.5	26.3	67.6	93.8
8/1	235	235	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
C1 PRC for Signalled Lanes (%): -52.0 Total Delay for Signalled Lanes (pcuHr): 166.52 Cycle Time (s): 144 PRC Over All Lanes (%): -52.0 Total Delay Over All Lanes(pcuHr): 166.99													

Full Input Data And Results

Scenario 6: '2039 Do Nothing PM' (FG6: '2039 Do Nothing PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	115.1%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	115.1%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	25	-	492	1890:1767	239+188	115.1 : 115.1%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	188	1890	210	89.5%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	496	2035	2035	22.5%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:29	-	200	1940:1963	170+36	97.3 : 97.3%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	152	1940	175	86.8%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	622	1940	1940	28.3%
5/1	Main Street Left	U	N/A	N/A	B		2	21	-	89	1887	301	29.5%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	21:26	-	425	2055:1724	188+187	113.1 : 113.1%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	345	2115	2115	14.4%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	21	-	359	1895:1718	204+117	111.8 : 111.8%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	442	1915	1915	23.1%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	352	58	41.0	99.6	0.0	140.6	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	352	58	41.0	99.6	0.0	140.6	-	-	-	-
1/2+1/1	492	427	-	-	-	12.4	35.8	-	48.2	352.6	19.0	35.8	54.8
1/3	188	188	0	131	57	2.6	3.3	0.0	5.9	112.8	5.8	3.3	9.1
2/1	457	457	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
3/2+3/1	200	200	0	35	0	3.2	5.8	-	9.0	162.9	6.9	5.8	12.7
3/3	152	152	-	-	-	2.7	2.7	-	5.4	127.9	6.0	2.7	8.7
4/1	548	548	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
5/1	89	89	-	-	-	1.0	0.2	-	1.2	48.9	2.7	0.2	2.9
5/2+5/3	425	376	0	186	1	11.2	28.4	0.0	39.7	335.9	16.7	28.4	45.1
6/1	305	305	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	359	321	-	-	-	7.8	22.9	-	30.7	307.6	14.5	22.9	37.4
8/1	442	442	-	-	-	0.0	0.2	-	0.2	1.2	1.1	0.2	1.2
C1 PRC for Signalled Lanes (%): -27.9 Total Delay for Signalled Lanes (pcuHr): 140.06 Cycle Time (s): 144 PRC Over All Lanes (%): -27.9 Total Delay Over All Lanes(pcuHr): 140.64													

Full Input Data And Results

Scenario 7: '2024 Scenario A Opening Year AM' (FG7: '2024 Scenario A Opening Year AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	116.0%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	116.0%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	29	-	333	1890:1767	259+231	67.9 : 67.9%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	112	1890	210	53.3%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	660	2035	2035	29.0%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:22	-	83	1940:1963	168+43	39.3 : 39.3%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	125	1940	175	71.4%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	368	1940	1940	17.6%
5/1	Main Street Left	U	N/A	N/A	B		2	18	-	25	1887	262	9.5%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	18:19	-	350	2055:1724	249+59	113.7 : 113.7%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	214	2115	2115	10.0%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	24	-	417	1898:1718	142+217	116.0 : 116.0%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	203	1915	1915	10.6%

Full Input Data And Results

[illegible]

Full Input Data And Results

Scenario 8: '2024 Scenario A Opening Year PM' (FG8: '2024 Scenario A Opening Year PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	98.9%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	98.9%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	25	-	421	1890:1767	240+186	98.9 : 98.9%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	158	1890	210	75.2%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	425	2035	2035	20.9%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:29	-	174	1940:1963	170+35	84.9 : 84.9%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	130	1940	175	74.2%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	529	1940	1940	27.3%
5/1	Main Street Left	U	N/A	N/A	B		2	21	-	75	1887	301	24.9%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	21:26	-	363	2055:1724	192+184	96.5 : 96.5%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	297	2115	2115	14.0%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	21	-	307	1895:1718	205+115	96.0 : 96.0%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	377	1915	1915	19.7%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	320	46	26.5	28.0	0.0	54.5	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	320	46	26.5	28.0	0.0	54.5	-	-	-	-
1/2+1/1	421	421	-	-	-	6.6	9.1	-	15.8	134.7	12.8	9.1	22.0
1/3	158	158	0	115	43	2.0	1.4	0.0	3.5	78.9	4.9	1.4	6.4
2/1	425	425	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
3/2+3/1	174	174	0	30	0	2.8	2.4	-	5.2	107.5	5.8	2.4	8.2
3/3	130	130	-	-	-	2.3	1.4	-	3.7	101.5	5.1	1.4	6.4
4/1	529	529	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
5/1	75	75	-	-	-	0.8	0.2	-	1.0	48.1	2.2	0.2	2.4
5/2+5/3	363	363	0	174	4	6.9	6.8	0.0	13.7	135.8	12.2	6.8	19.0
6/1	297	297	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	307	307	-	-	-	5.1	6.1	-	11.2	130.9	10.4	6.1	16.5
8/1	377	377	-	-	-	0.0	0.1	-	0.1	1.2	1.1	0.1	1.2
C1													
PRC for Signalled Lanes (%):			-9.8		Total Delay for Signalled Lanes (pcuHr):			53.94		Cycle Time (s): 144			
PRC Over All Lanes (%):			-9.8		Total Delay Over All Lanes(pcuHr):			54.46					

Full Input Data And Results

Scenario 9: '2029 Scenario A Design 5 Year AM' (FG9: '2029 Scenario A Design 5 Year AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	128.9%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	128.9%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	29	-	374	1890:1767	260+229	76.5 : 76.5%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	123	1890	210	58.6%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	736	2035	2035	29.9%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:22	-	105	1940:1963	169+37	50.8 : 50.8%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	143	1940	175	81.6%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	414	1940	1940	18.6%
5/1	Main Street Left	U	N/A	N/A	B		2	18	-	28	1887	262	10.7%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	18:19	-	389	2055:1724	249+58	126.5 : 126.5%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	241	2115	2115	11.2%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	24	-	466	1899:1718	146+216	128.9 : 128.9%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	237	1915	1915	12.4%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	162	39	36.8	102.7	0.0	139.5	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	162	39	36.8	102.7	0.0	139.5	-	-	-	-
1/2+1/1	374	374	-	-	-	5.3	1.6	-	6.9	66.2	9.3	1.6	10.9
1/3	123	123	0	84	39	1.6	0.7	0.0	2.3	67.2	4.0	0.7	4.7
2/1	608	608	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
3/2+3/1	105	105	0	19	0	1.6	0.5	-	2.1	73.3	3.3	0.5	3.8
3/3	143	143	-	-	-	2.6	2.0	-	4.5	114.2	5.6	2.0	7.6
4/1	361	361	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
5/1	28	28	-	-	-	0.3	0.1	-	0.4	49.2	0.8	0.1	0.9
5/2+5/3	389	308	0	58	0	10.9	43.0	0.0	53.9	499.1	15.7	43.0	58.8
6/1	236	236	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	466	361	-	-	-	14.5	54.4	-	68.9	532.4	23.2	54.4	77.6
8/1	237	237	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
C1													
PRC for Signalled Lanes (%):					-43.2	Total Delay for Signalled Lanes (pcuHr):			139.08	Cycle Time (s): 144			
PRC Over All Lanes (%):					-43.2	Total Delay Over All Lanes(pcuHr):			139.54				

Full Input Data And Results

Scenario 10: '2029 Scenario A Design 5 Year PM' (FG10: '2029 Scenario A Design 5 Year PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	111.0%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	111.0%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	25	-	473	1890:1767	239+189	110.6 : 110.6%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	174	1890	210	82.9%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	478	2035	2035	22.2%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:29	-	201	1940:1963	170+33	98.7 : 98.7%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	147	1940	175	83.9%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	603	1940	1940	28.3%
5/1	Main Street Left	U	N/A	N/A	B		2	21	-	83	1887	301	27.5%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	21:26	-	405	2055:1724	194+182	107.6 : 107.6%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	330	2115	2115	14.3%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	21	-	353	1896:1718	208+110	111.0 : 111.0%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	425	1915	1915	22.2%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	345	44	37.0	79.8	0.0	116.8	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	345	44	37.0	79.8	0.0	116.8	-	-	-	-
1/2+1/1	473	428	-	-	-	10.7	27.0	-	37.8	287.5	17.4	27.0	44.5
1/3	174	174	0	131	43	2.3	2.2	0.0	4.5	92.8	5.4	2.2	7.6
2/1	451	451	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
3/2+3/1	201	201	0	33	0	3.3	6.5	-	9.8	174.6	7.0	6.5	13.5
3/3	147	147	-	-	-	2.6	2.3	-	4.9	119.6	5.8	2.3	8.0
4/1	549	549	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
5/1	83	83	-	-	-	0.9	0.2	-	1.1	48.6	2.5	0.2	2.7
5/2+5/3	405	376	0	181	1	9.6	19.5	0.0	29.1	258.9	15.0	19.5	34.5
6/1	301	301	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	353	318	-	-	-	7.5	21.6	-	29.1	296.9	14.2	21.6	35.8
8/1	425	425	-	-	-	0.0	0.1	-	0.1	1.2	1.6	0.1	1.7
C1													
PRC for Signalled Lanes (%):			-23.3		Total Delay for Signalled Lanes (pcuHr):			116.25		Cycle Time (s): 144			
PRC Over All Lanes (%):			-23.3		Total Delay Over All Lanes(pcuHr):			116.82					

Full Input Data And Results

Scenario 11: '2039 Scenario A Design 15 Year AM' (FG11: '2039 Scenario A Design 15 Year AM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	138.8%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	138.8%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	29	-	402	1890:1767	260+229	82.2 : 82.2%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	133	1890	210	63.3%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	793	2035	2035	30.4%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:22	-	111	1940:1963	169+37	53.8 : 53.8%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	154	1940	175	87.9%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	443	1940	1940	19.2%
5/1	Main Street Left	U	N/A	N/A	B		2	18	-	30	1887	262	11.4%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	18:19	-	418	2055:1724	249+58	136.0 : 136.0%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	259	2115	2115	11.9%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	24	-	501	1898:1718	145+216	138.8 : 138.8%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	254	1915	1915	13.3%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	169	42	43.8	136.0	0.0	179.8	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	169	42	43.8	136.0	0.0	179.8	-	-	-	-
1/2+1/1	402	402	-	-	-	5.8	2.2	-	8.0	71.5	10.7	2.2	12.9
1/3	133	133	0	91	42	1.8	0.8	0.0	2.6	70.7	4.4	0.8	5.2
2/1	619	619	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
3/2+3/1	111	111	0	20	0	1.7	0.6	-	2.3	74.6	3.5	0.6	4.0
3/3	154	154	-	-	-	2.8	2.9	-	5.6	131.7	6.1	2.9	8.9
4/1	373	373	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
5/1	30	30	-	-	-	0.3	0.1	-	0.4	49.3	0.9	0.1	1.0
5/2+5/3	418	307	0	58	0	13.4	57.2	0.0	70.5	607.5	18.0	57.2	75.2
6/1	252	252	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	501	361	-	-	-	18.0	71.8	-	89.8	645.4	27.3	71.8	99.1
8/1	254	254	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
C1 PRC for Signalled Lanes (%): -54.2 Total Delay for Signalled Lanes (pcuHr): 179.30 Cycle Time (s): 144 PRC Over All Lanes (%): -54.2 Total Delay Over All Lanes(pcuHr): 179.79													

Full Input Data And Results

Scenario 12: '2039 Scenario A Design 15 Year PM' (FG12: '2039 Scenario A Design 15 Year PM', Plan 1: 'Network Control Plan 1')

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newbridge SHD	-	-	N/A	-	-		-	-	-	-	-	-	119.0%
St. Conleth' Bridge Signalised Junction	-	-	N/A	-	-		-	-	-	-	-	-	119.0%
1/2+1/1	R445 Naas Road Left Ahead	U	N/A	N/A	A		1	25	-	509	1890:1767	239+189	119.0 : 119.0%
1/3	R445 Naas Road Right	O	N/A	N/A	C		2	14	-	188	1890	210	89.5%
2/1	R445 Naas Road Entrance	U	N/A	N/A	-		-	-	-	514	2035	2035	22.7%
3/2+3/1	R416 Athgarvan Road (South) Left Ahead	U+O	N/A	N/A	G M		1:2	12:29	-	214	1940:1963	170+33	105.2 : 105.2%
3/3	R416 Athgarvan Road (South) Right	U	N/A	N/A	G		1	12	-	158	1940	175	90.2%
4/1	R416 Athgarvan Road (South) Entrance	U	N/A	N/A	-		-	-	-	649	1940	1940	28.4%
5/1	Main Street Left	U	N/A	N/A	B		2	21	-	89	1887	301	29.5%
5/2+5/3	Main Street Ahead Right	U+O	N/A	N/A	B D		2:1	21:26	-	437	2055:1724	194+183	116.1 : 116.1%
6/1	Main Street Entrance	U	N/A	N/A	-		-	-	-	354	2115	2115	14.3%
7/2+7/1	Canning Place Left Ahead Right	U	N/A	N/A	F		1	21	-	378	1896:1718	208+110	118.8 : 118.8%
8/1	Canning Place Entrance	U	N/A	N/A	-		-	-	-	456	1915	1915	23.4%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newbridge SHD	-	-	0	346	57	46.4	127.8	0.0	174.2	-	-	-	-
St. Conleth' Bridge Signalised Junction	-	-	0	346	57	46.4	127.8	0.0	174.2	-	-	-	-
1/2+1/1	509	428	-	-	-	13.9	43.5	-	57.4	406.3	20.4	43.5	63.9
1/3	188	188	0	131	57	2.6	3.3	0.0	5.9	112.8	5.8	3.3	9.1
2/1	462	462	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
3/2+3/1	214	203	0	33	0	4.2	10.4	-	14.6	246.1	8.2	10.4	18.6
3/3	158	158	-	-	-	2.8	3.3	-	6.2	140.6	6.2	3.3	9.6
4/1	550	550	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
5/1	89	89	-	-	-	1.0	0.2	-	1.2	48.9	2.7	0.2	2.9
5/2+5/3	437	376	0	182	1	12.1	33.6	0.0	45.8	376.9	17.5	33.6	51.1
6/1	301	301	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2+7/1	378	318	-	-	-	9.7	32.8	-	42.5	405.1	16.8	32.8	49.7
8/1	447	447	-	-	-	0.0	0.2	-	0.2	1.2	1.6	0.2	1.8
C1 PRC for Signalled Lanes (%): -32.2 Total Delay for Signalled Lanes (pcuHr): 173.64 Cycle Time (s): 144 PRC Over All Lanes (%): -32.2 Total Delay Over All Lanes(pcuHr): 174.22													

Appendix K Buckley's Cross Roundabout Junction 9 Results Output

Junctions 9			
ARCADY 9 - Roundabout Module			
Version: 9.5.0.6896 © Copyright TRL Limited, 2018			
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk			
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution			

Filename: 192229 - Buckleys Cross Roundabout-Scenario A-Queuing AM 2021 Flows.j9

Path: \\w2k19-dl-fs01\users\CAD\DWGS\192\201-250\192229\OfficeDocs\Reports\Planning\Planning Package\0004_TTA\Junction 9 Stage 3 final version\Scenario A - Exisitng

Report generation date: 21/03/2022 16:21:04

»2024 Do Nothing, AM
 »2029 Do Nothing, AM
 »2039 Do Nothing, AM
 »2024 Scenario A Opening Year, AM
 »2029 Scenario A Design 5 Years, AM
 »2039 Scenario A Design 15 Years, AM

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
2024 Do Nothing				
A - R445 Naas Road (east)	10.0	63.23	0.94	F
B - Great Connell	1.6	17.07	0.62	C
C - R445 Naas Road (west)	29.6	109.91	1.03	F
2029 Do Nothing				
A - R445 Naas Road (east)	31.8	160.18	1.06	F
B - Great Connell	2.4	23.29	0.71	C
C - R445 Naas Road (west)	101.2	386.72	1.20	F
2039 Do Nothing				
A - R445 Naas Road (east)	55.7	294.41	1.14	F
B - Great Connell	3.1	28.67	0.77	D
C - R445 Naas Road (west)	157.8	609.04	1.29	F
2024 Scenario A Opening Year				
A - R445 Naas Road (east)	24.3	130.71	1.03	F
B - Great Connell	3.2	28.13	0.78	D
C - R445 Naas Road (west)	59.0	202.69	1.11	F
2029 Scenario A Design 5 Years				
A - R445 Naas Road (east)	74.3	419.15	1.19	F
B - Great Connell	16.7	109.79	1.00	F
C - R445 Naas Road (west)	191.5	771.88	1.35	F
2039 Scenario A Design 15 Years				
A - R445 Naas Road (east)	110.8	612.73	1.27	F
B - Great Connell	26.9	161.05	1.06	F
C - R445 Naas Road (west)	262.3	1080.04	1.44	F

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

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

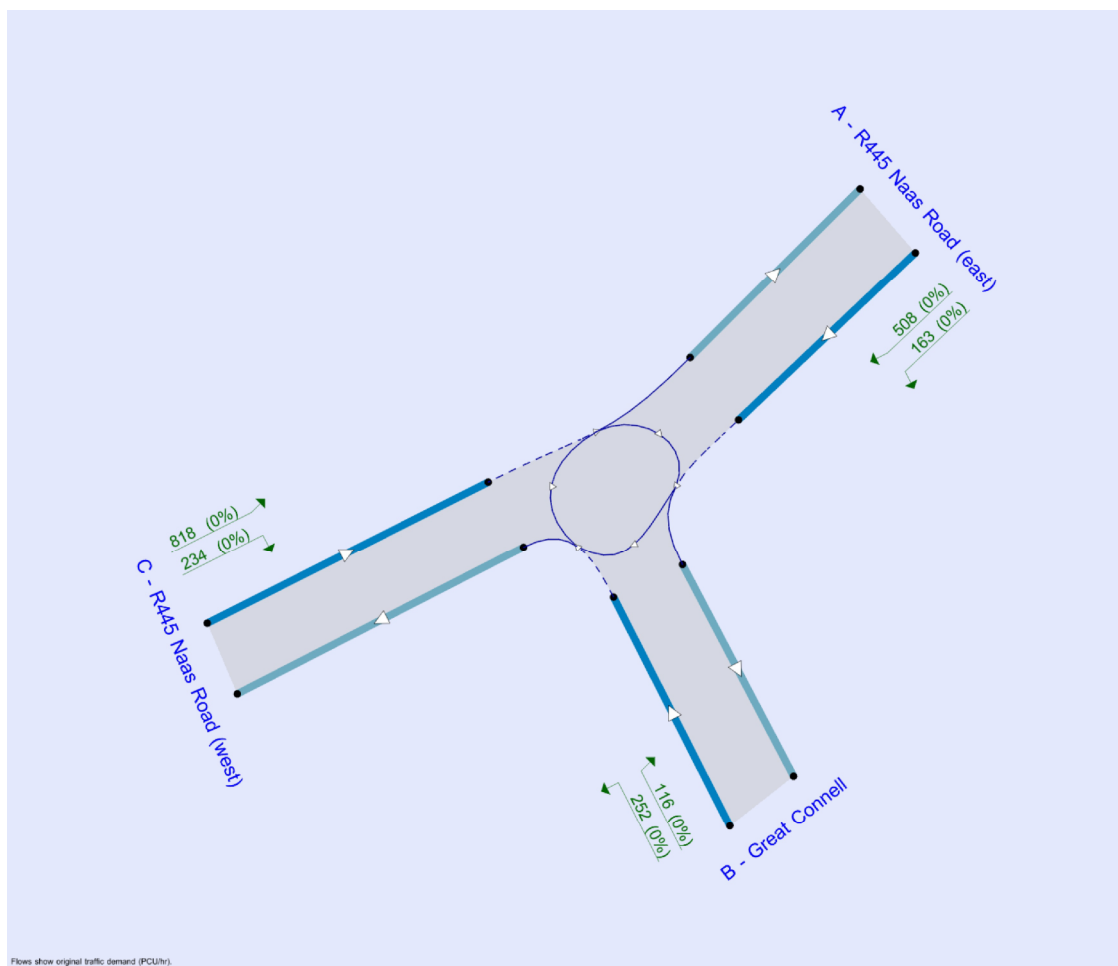
File summary

File Description

Title	
Location	
Site number	
Date	18/03/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MPPNET\socoileir
Description	

Units

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



Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓
D3	2029 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓
D5	2039 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓
D7	2024 Scenario A Opening Year	AM	ONE HOUR	08:15	09:45	15	✓
D9	2029 Scenario A Design 5 Years	AM	ONE HOUR	08:15	09:45	15	✓
D11	2039 Scenario A Design 15 Years	AM	ONE HOUR	08:15	09:45	15	✓

Analysis Set Details

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

2024 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	78.17	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	R445 Naas Road (east)	
B	Great Connell	
C	R445 Naas Road (west)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - R445 Naas Road (east)	4.00	4.00	0.0	10.0	18.0	0.0	
B - Great Connell	3.00	3.50	3.0	10.0	18.0	0.0	
C - R445 Naas Road (west)	4.00	5.50	15.0	10.0	18.0	0.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)
A - R445 Naas Road (east)	Percentage	observed queuing	60.00
B - Great Connell	Percentage	observed queuing	75.00
C - R445 Naas Road (west)	Percentage	observed queuing	60.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - R445 Naas Road (east)	0.595	767
B - Great Connell	0.551	798
C - R445 Naas Road (west)	0.671	985

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	550	100.000
B - Great Connell		ONE HOUR	✓	309	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	854	100.000

Origin-Destination Data

Demand (PCU/hr)

--	--

From	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
	A - R445 Naas Road (east)	0	137	413
	B - Great Connell	98	0	211
	C - R445 Naas Road (west)	658	196	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.94	63.23	10.0	F	505	757
B - Great Connell	0.62	17.07	1.6	C	284	425
C - R445 Naas Road (west)	1.03	109.91	29.6	F	784	1175

2029 Do Nothing , AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	250.37	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2029 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	624	100.000
B - Great Connell		ONE HOUR	✓	343	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	984	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	151	473
	B - Great Connell	108	0	235
	C - R445 Naas Road (west)	764	220	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	1.06	160.18	31.8	F	573	859
B - Great Connell	0.71	23.29	2.4	C	315	472
C - R445 Naas Road (west)	1.20	386.72	101.2	F	903	1354

2039 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	405.93	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2039 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	671	100.000
B - Great Connell		ONE HOUR	✓	368	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	1052	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	163	508
	B - Great Connell	116	0	252
	C - R445 Naas Road (west)	818	234	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	1.14	294.41	55.7	F	616	924
B - Great Connell	0.77	28.67	3.1	D	338	507
C - R445 Naas Road (west)	1.29	609.04	157.8	F	965	1448

2024 Scenario A Opening Year, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	142.90	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2024 Scenario A Opening Year	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	598	100.000
B - Great Connell		ONE HOUR	✓	395	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	880	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	185	413
	B - Great Connell	155	0	240
	C - R445 Naas Road (west)	658	222	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	1.03	130.71	24.3	F	549	823
B - Great Connell	0.78	28.13	3.2	D	362	544
C - R445 Naas Road (west)	1.11	202.69	59.0	F	808	1211

2029 Scenario A Design 5 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	510.68	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2029 Scenario A Design 5 Years	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	696	100.000
B - Great Connell		ONE HOUR	✓	507	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	1022	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	223	473
	B - Great Connell	216	0	291
	C - R445 Naas Road (west)	764	258	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	1.19	419.15	74.3	F	639	958
B - Great Connell	1.00	109.79	16.7	F	465	698
C - R445 Naas Road (west)	1.35	771.88	191.5	F	938	1407

2039 Scenario A Design 15 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	726.55	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2039 Scenario A Design 15 Years	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	742	100.000
B - Great Connell		ONE HOUR	✓	532	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	1090	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	234	508
	B - Great Connell	223	0	309
	C - R445 Naas Road (west)	818	272	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	1.27	612.73	110.8	F	681	1021
B - Great Connell	1.06	161.05	26.9	F	488	732
C - R445 Naas Road (west)	1.44	1080.04	262.3	F	1000	1500

Junctions 9			
ARCADY 9 - Roundabout Module			
Version: 9.5.0.6896 © Copyright TRL Limited, 2018			
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Filename: 192229 - Buckleys Cross Roundabout-Scenario A-Queuing PM 2021 Flows.j9

Path: \\w2k19-dl-fs01\users\CAD\DWGS\192\201-250\192229\OfficeDocs\Reports\Planning\Planning Package\0004_TTA\Junction 9 Stage 3 final version\Scenario A - Exisitng

Report generation date: 15/03/2022 15:13:35

»2024 Do Nothing, PM
 »2029 Do Nothing, PM
 »2039 Do Nothing, PM
 »2024 Scenario A Opening Year, PM
 »2029 Scenario A Design 5 Years, PM
 »2039 Scenario A Design 15 Years, PM

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
2024 Do Nothing				
A - R445 Naas Road (east)	3.5	16.83	0.79	C
B - Great Connell	2.1	19.96	0.69	C
C - R445 Naas Road (west)	3.9	20.59	0.80	C
2029 Do Nothing				
A - R445 Naas Road (east)	9.4	39.86	0.92	E
B - Great Connell	5.0	44.09	0.86	E
C - R445 Naas Road (west)	10.3	48.89	0.94	E
2039 Do Nothing				
A - R445 Naas Road (east)	20.4	76.77	0.99	F
B - Great Connell	10.4	83.78	0.96	F
C - R445 Naas Road (west)	22.4	92.93	1.01	F
2024 Scenario A Opening Year				
A - R445 Naas Road (east)	5.7	25.82	0.86	D
B - Great Connell	4.5	35.83	0.83	E
C - R445 Naas Road (west)	6.2	32.32	0.88	D
2029 Scenario A Design 5 Years				
A - R445 Naas Road (east)	46.5	151.84	1.07	F
B - Great Connell	27.2	163.76	1.07	F
C - R445 Naas Road (west)	38.4	149.89	1.07	F
2039 Scenario A Design 15 Years				
A - R445 Naas Road (east)	77.5	269.35	1.14	F
B - Great Connell	43.7	272.79	1.13	F
C - R445 Naas Road (west)	65.3	265.56	1.14	F

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

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

File summary

File Description

Title	
Location	
Site number	
Date	18/03/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MPPNET\socoileir
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓
D8	2024 Scenario A Opening Year	PM	ONE HOUR	17:30	19:00	15	✓
D10	2029 Scenario A Design 5 Years	PM	ONE HOUR	17:30	19:00	15	✓
D12	2039 Scenario A Design 15 Years	PM	ONE HOUR	17:30	19:00	15	✓

Analysis Set Details

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

2024 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	18.89	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	R445 Naas Road (east)	
B	Great Connell	
C	R445 Naas Road (west)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - R445 Naas Road (east)	4.00	4.00	0.0	10.0	18.0	0.0	
B - Great Connell	3.00	3.50	3.0	10.0	18.0	0.0	
C - R445 Naas Road (west)	4.00	5.50	15.0	10.0	18.0	0.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)
A - R445 Naas Road (east)	Percentage	observed queuing	85.00
B - Great Connell	Percentage	observed queuing	90.00
C - R445 Naas Road (west)	Percentage	observed queuing	60.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - R445 Naas Road (east)	0.595	1087
B - Great Connell	0.551	957
C - R445 Naas Road (west)	0.671	985

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	711	100.000
B - Great Connell		ONE HOUR	✓	357	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	638	100.000

Origin-Destination Data

Demand (PCU/hr)

--	--

From	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
	A - R445 Naas Road (east)	0	76	635
	B - Great Connell	150	0	207
	C - R445 Naas Road (west)	497	141	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.79	16.83	3.5	C	652	979
B - Great Connell	0.69	19.96	2.1	C	328	491
C - R445 Naas Road (west)	0.80	20.59	3.9	C	585	878

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	535	134	105	1024	0.523	531	483	0.0	1.1	7.234	A
B - Great Connell	269	67	474	696	0.386	266	162	0.0	0.6	8.334	A
C - R445 Naas Road (west)	480	120	112	910	0.528	476	629	0.0	1.1	8.208	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	639	160	126	1012	0.632	637	579	1.1	1.7	9.534	A
B - Great Connell	321	80	569	644	0.498	320	194	0.6	1.0	11.052	B
C - R445 Naas Road (west)	574	143	134	895	0.641	571	754	1.1	1.7	11.012	B

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	783	196	154	996	0.786	776	705	1.7	3.4	15.884	C
B - Great Connell	393	98	693	575	0.683	389	236	1.0	2.0	18.873	C
C - R445 Naas Road (west)	702	176	163	876	0.802	695	918	1.7	3.7	19.083	C

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	783	196	155	995	0.787	782	712	3.4	3.5	16.833	C
B - Great Connell	393	98	699	572	0.687	393	239	2.0	2.1	19.956	C
C - R445 Naas Road (west)	702	176	165	875	0.803	702	926	3.7	3.9	20.587	C

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	639	160	129	1011	0.633	646	590	3.5	1.8	10.067	B
B - Great Connell	321	80	577	639	0.502	325	198	2.1	1.0	11.617	B
C - R445 Naas Road (west)	574	143	137	894	0.642	582	766	3.9	1.9	11.812	B

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	535	134	107	1023	0.523	538	490	1.8	1.1	7.455	A
B - Great Connell	269	67	480	693	0.388	270	164	1.0	0.6	8.559	A
C - R445 Naas Road (west)	480	120	114	909	0.528	483	637	1.9	1.1	8.505	A

2029 Do Nothing , PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	44.11	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	824	100.000
B - Great Connell		ONE HOUR	✓	397	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	734	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	84	740
	B - Great Connell	165	0	232
	C - R445 Naas Road (west)	574	160	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.92	39.86	9.4	E	756	1134
B - Great Connell	0.86	44.09	5.0	E	364	546
C - R445 Naas Road (west)	0.94	48.89	10.3	E	674	1010

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	620	155	119	1016	0.610	614	550	0.0	1.5	8.830	A
B - Great Connell	299	75	552	653	0.458	296	182	0.0	0.8	9.980	A
C - R445 Naas Road (west)	553	138	123	903	0.612	546	724	0.0	1.5	9.937	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	741	185	143	1002	0.739	736	660	1.5	2.7	13.300	B
B - Great Connell	357	89	661	593	0.602	354	218	0.8	1.5	14.928	B
C - R445 Naas Road (west)	660	165	147	887	0.744	655	868	1.5	2.7	15.225	C

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	907	227	171	985	0.921	886	791	2.7	8.1	30.968	D
B - Great Connell	437	109	795	519	0.842	426	261	1.5	4.3	35.053	E
C - R445 Naas Road (west)	808	202	177	867	0.932	785	1044	2.7	8.6	36.439	E

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	907	227	175	983	0.923	902	807	8.1	9.4	39.865	E
B - Great Connell	437	109	810	511	0.855	434	267	4.3	5.0	44.091	E
C - R445 Naas Road (west)	808	202	180	864	0.935	801	1064	8.6	10.3	48.889	E

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	741	185	150	998	0.742	766	692	9.4	3.1	17.010	C
B - Great Connell	357	89	688	578	0.617	370	228	5.0	1.7	18.291	C
C - R445 Naas Road (west)	660	165	154	882	0.748	688	904	10.3	3.2	20.809	C

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	620	155	122	1015	0.611	626	563	3.1	1.6	9.400	A
B - Great Connell	299	75	562	647	0.462	302	186	1.7	0.9	10.521	B
C - R445 Naas Road (west)	553	138	126	901	0.613	559	739	3.2	1.6	10.696	B

2039 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	84.25	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	884	100.000
B - Great Connell		ONE HOUR	✓	425	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	786	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	91	793
	B - Great Connell	177	0	248
	C - R445 Naas Road (west)	615	171	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.99	76.77	20.4	F	811	1217
B - Great Connell	0.96	83.78	10.4	F	390	585
C - R445 Naas Road (west)	1.01	92.93	22.4	F	721	1082

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	666	166	127	1011	0.658	658	589	0.0	1.9	9.991	A
B - Great Connell	320	80	590	632	0.506	316	195	0.0	1.0	11.256	B
C - R445 Naas Road (west)	592	148	132	897	0.660	584	775	0.0	1.9	11.256	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	795	199	152	996	0.797	788	705	1.9	3.6	16.680	C
B - Great Connell	382	96	707	568	0.673	378	233	1.0	1.9	18.617	C
C - R445 Naas Road (west)	707	177	158	880	0.803	699	927	1.9	3.7	19.184	C

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	973	243	178	981	0.992	929	826	3.6	14.7	47.900	E
B - Great Connell	468	117	833	498	0.940	446	274	1.9	7.5	54.118	F
C - R445 Naas Road (west)	865	216	186	861	1.005	819	1093	3.7	15.4	55.776	F

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	973	243	182	979	0.995	950	845	14.7	20.4	76.766	F
B - Great Connell	468	117	852	488	0.960	456	280	7.5	10.4	83.781	F
C - R445 Naas Road (west)	865	216	190	858	1.009	837	1119	15.4	22.4	92.930	F

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	795	199	169	987	0.806	858	779	20.4	4.7	36.159	E
B - Great Connell	382	96	770	533	0.716	413	257	10.4	2.8	35.321	E
C - R445 Naas Road (west)	707	177	172	870	0.812	776	1010	22.4	5.0	49.697	E

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	666	166	131	1009	0.660	676	608	4.7	2.0	11.144	B
B - Great Connell	320	80	607	623	0.514	327	201	2.8	1.1	12.411	B
C - R445 Naas Road (west)	592	148	136	894	0.662	604	797	5.0	2.0	12.876	B

2024 Scenario A Opening Year, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	30.47	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2024 Scenario A Opening Year	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	765	100.000
B - Great Connell		ONE HOUR	✓	434	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	667	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	130	635
	B - Great Connell	200	0	234
	C - R445 Naas Road (west)	497	170	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.86	25.82	5.7	D	702	1053
B - Great Connell	0.83	35.83	4.5	E	398	597
C - R445 Naas Road (west)	0.88	32.32	6.2	D	612	918

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	576	144	127	1012	0.569	571	519	0.0	1.3	8.074	A
B - Great Connell	327	82	474	696	0.469	323	224	0.0	0.9	9.569	A
C - R445 Naas Road (west)	502	126	149	885	0.567	497	648	0.0	1.3	9.153	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	688	172	152	997	0.690	684	623	1.3	2.1	11.401	B
B - Great Connell	390	98	568	644	0.606	388	268	0.9	1.5	13.896	B
C - R445 Naas Road (west)	600	150	179	866	0.693	596	777	1.3	2.2	13.185	B

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	842	211	184	978	0.861	830	753	2.1	5.3	22.586	C
B - Great Connell	478	119	689	578	0.827	468	325	1.5	4.0	30.267	D
C - R445 Naas Road (west)	734	184	216	841	0.873	721	941	2.2	5.6	27.252	D

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	842	211	187	976	0.863	841	765	5.3	5.7	25.816	D
B - Great Connell	478	119	698	573	0.834	476	329	4.0	4.5	35.826	E
C - R445 Naas Road (west)	734	184	219	838	0.876	732	954	5.6	6.2	32.323	D

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	688	172	157	994	0.692	701	643	5.7	2.3	12.826	B
B - Great Connell	390	98	582	637	0.613	401	276	4.5	1.6	15.985	C
C - R445 Naas Road (west)	600	150	185	861	0.696	615	799	6.2	2.4	15.409	C

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	576	144	129	1010	0.570	580	529	2.3	1.4	8.441	A
B - Great Connell	327	82	481	692	0.472	330	228	1.6	0.9	10.016	B
C - R445 Naas Road (west)	502	126	152	883	0.568	506	659	2.4	1.3	9.651	A

2029 Scenario A Design 5 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	153.94	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2029 Scenario A Design 5 Years	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	931	100.000
B - Great Connell		ONE HOUR	✓	524	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	790	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	191	740
	B - Great Connell	248	0	276
	C - R445 Naas Road (west)	574	216	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	1.07	151.84	46.5	F	854	1281
B - Great Connell	1.07	163.76	27.2	F	481	721
C - R445 Naas Road (west)	1.07	149.89	38.4	F	725	1087

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	701	175	160	992	0.707	692	610	0.0	2.3	11.670	B
B - Great Connell	394	99	550	654	0.603	389	302	0.0	1.5	13.279	B
C - R445 Naas Road (west)	595	149	184	862	0.690	586	754	0.0	2.1	12.696	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	837	209	191	973	0.860	825	728	2.3	5.2	22.669	C
B - Great Connell	471	118	656	596	0.791	464	361	1.5	3.3	25.847	D
C - R445 Naas Road (west)	710	178	219	838	0.847	700	900	2.1	4.7	24.284	C

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1025	256	218	958	1.071	935	826	5.2	27.6	77.138	F
B - Great Connell	577	144	744	548	1.054	524	410	3.3	16.5	86.823	F
C - R445 Naas Road (west)	870	217	248	819	1.062	796	1020	4.7	23.2	78.455	F

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1025	256	221	955	1.073	950	840	27.6	46.5	151.841	F
B - Great Connell	577	144	755	541	1.066	534	416	16.5	27.2	163.760	F
C - R445 Naas Road (west)	870	217	253	816	1.066	809	1036	23.2	38.4	149.894	F

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	837	209	218	957	0.874	937	829	46.5	21.5	134.586	F
B - Great Connell	471	118	745	547	0.861	527	410	27.2	13.1	143.397	F
C - R445 Naas Road (west)	710	178	250	818	0.868	797	1023	38.4	16.7	129.479	F

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	701	175	178	981	0.714	776	681	21.5	2.7	23.684	C
B - Great Connell	394	99	617	617	0.639	440	337	13.1	1.9	24.989	C
C - R445 Naas Road (west)	595	149	208	846	0.703	651	848	16.7	2.5	23.433	C

2039 Scenario A Design 15 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	268.81	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2039 Scenario A Design 15 Years	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	990	100.000
B - Great Connell		ONE HOUR	✓	552	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	842	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	197	793
	B - Great Connell	261	0	291
	C - R445 Naas Road (west)	615	227	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	1.14	269.35	77.5	F	908	1363
B - Great Connell	1.13	272.79	43.7	F	507	760
C - R445 Naas Road (west)	1.14	265.56	65.3	F	773	1159

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	745	186	168	987	0.755	734	648	0.0	2.9	13.653	B
B - Great Connell	416	104	588	633	0.656	408	314	0.0	1.8	15.538	C
C - R445 Naas Road (west)	634	158	193	856	0.741	623	803	0.0	2.7	14.861	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	890	222	199	968	0.919	870	768	2.9	7.9	31.361	D
B - Great Connell	496	124	697	573	0.865	484	372	1.8	5.0	35.880	E
C - R445 Naas Road (west)	757	189	229	832	0.910	739	952	2.7	7.2	33.475	D

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1090	273	218	957	1.138	947	839	7.9	43.6	111.179	F
B - Great Connell	608	152	759	539	1.127	527	406	5.0	25.1	121.931	F
C - R445 Naas Road (west)	927	232	249	818	1.133	807	1037	7.2	37.1	113.331	F

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	1090	273	220	956	1.140	955	847	43.6	77.5	237.858	F
B - Great Connell	608	152	765	536	1.134	533	409	25.1	43.7	247.545	F
C - R445 Naas Road (west)	927	232	252	816	1.136	814	1046	37.1	65.3	237.216	F

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	890	222	217	958	0.929	946	838	77.5	63.6	269.354	F
B - Great Connell	496	124	757	540	0.919	528	405	43.7	35.8	272.791	F
C - R445 Naas Road (west)	757	189	250	818	0.925	806	1036	65.3	53.1	265.560	F

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	745	186	217	958	0.778	943	836	63.6	14.1	153.682	F
B - Great Connell	416	104	756	541	0.768	526	404	35.8	8.2	159.577	F
C - R445 Naas Road (west)	634	158	249	818	0.774	803	1033	53.1	10.7	149.707	F

Junctions 9			
ARCADY 9 - Roundabout Module			
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Filename: 192229 - Buckleys Cross Roundabout - Scenario B - modelled queuing AM.j9

Path: \\w2k19-dl-fs01\users\CAD\DWGS\192\201-250\192229\OfficeDocs\Reports\Planning\Planning Package\0004_TTA\Junction 9 Stage 3 final version\Scenario B - Lidl Rd open

Report generation date: 15/03/2022 15:22:27

»2024 Do Nothing, AM
 »2029 Do Nothing, AM
 »2039 Do Nothing, AM
 »2024 Scenario B Opening Year, AM
 »2029 Scenario B Design 5 Years, AM
 »2039 Scenario B Design 15 Years, AM

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
2024 Do Nothing				
A - R445 Naas Road (east)	5.2	36.08	0.85	E
B - Great Connell	1.1	13.97	0.53	B
C - R445 Naas Road (west)	20.1	78.47	0.99	F
2029 Do Nothing				
A - R445 Naas Road (east)	13.3	80.84	0.97	F
B - Great Connell	1.6	18.58	0.63	C
C - R445 Naas Road (west)	82.0	289.57	1.15	F
2039 Do Nothing				
A - R445 Naas Road (east)	26.4	138.76	1.04	F
B - Great Connell	2.1	22.35	0.68	C
C - R445 Naas Road (west)	126.6	484.48	1.23	F
2024 Scenario B Opening Year				
A - R445 Naas Road (east)	6.4	44.24	0.89	E
B - Great Connell	1.5	16.69	0.61	C
C - R445 Naas Road (west)	30.7	110.22	1.03	F
2029 Scenario B Design 5 Years				
A - R445 Naas Road (east)	19.9	113.22	1.01	F
B - Great Connell	3.2	29.77	0.77	D
C - R445 Naas Road (west)	111.4	424.18	1.21	F
2039 Scenario B Design 15 Years				
A - R445 Naas Road (east)	36.8	185.94	1.08	F
B - Great Connell	4.3	38.92	0.83	E
C - R445 Naas Road (west)	170.3	637.84	1.29	F

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

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

File summary

File Description

Title	
Location	
Site number	
Date	18/03/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MPPNET\socoileir
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓
D3	2029 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓
D5	2039 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓
D7	2024 Scenario B Opening Year	AM	ONE HOUR	08:15	09:45	15	✓
D9	2029 Scenario B Design 5 Years	AM	ONE HOUR	08:15	09:45	15	✓
D11	2039 Scenario B Design 15 Years	AM	ONE HOUR	08:15	09:45	15	✓

Analysis Set Details

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

2024 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	54.87	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	R445 Naas Road (east)	
B	Great Connell	
C	R445 Naas Road (west)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - R445 Naas Road (east)	4.00	4.00	0.0	10.0	18.0	0.0	
B - Great Connell	3.00	3.50	3.0	10.0	18.0	0.0	
C - R445 Naas Road (west)	4.00	5.50	15.0	10.0	18.0	0.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)
A - R445 Naas Road (east)	Percentage	observed queuing	60.00
B - Great Connell	Percentage	observed queuing	75.00
C - R445 Naas Road (west)	Percentage	observed queuing	60.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - R445 Naas Road (east)	0.595	767
B - Great Connell	0.551	798
C - R445 Naas Road (west)	0.671	985

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	498	100.000
B - Great Connell		ONE HOUR	✓	264	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	854	100.000

Origin-Destination Data

Demand (PCU/hr)

--	--

From	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
	A - R445 Naas Road (east)	0	85	413
	B - Great Connell	53	0	211
	C - R445 Naas Road (west)	658	196	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.85	36.08	5.2	E	457	685
B - Great Connell	0.53	13.97	1.1	B	242	363
C - R445 Naas Road (west)	0.99	78.47	20.1	F	784	1175

2029 Do Nothing , AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	182.30	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2029 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	566	100.000
B - Great Connell		ONE HOUR	✓	294	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	984	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	93	473
	B - Great Connell	59	0	235
	C - R445 Naas Road (west)	764	220	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.97	80.84	13.3	F	519	779
B - Great Connell	0.63	18.58	1.6	C	270	405
C - R445 Naas Road (west)	1.15	289.57	82.0	F	903	1354

2039 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	304.34	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2039 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	608	100.000
B - Great Connell		ONE HOUR	✓	315	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	1052	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	100	508
	B - Great Connell	63	0	252
	C - R445 Naas Road (west)	818	234	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	1.04	138.76	26.4	F	558	837
B - Great Connell	0.68	22.35	2.1	C	289	434
C - R445 Naas Road (west)	1.23	484.48	126.6	F	965	1448

2024 Scenario B Opening Year, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	73.69	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2024 Scenario B Opening Year	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	505	100.000
B - Great Connell		ONE HOUR	✓	303	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	880	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	92	413
	B - Great Connell	62	0	241
	C - R445 Naas Road (west)	658	222	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.89	44.24	6.4	E	463	695
B - Great Connell	0.61	16.69	1.5	C	278	417
C - R445 Naas Road (west)	1.03	110.22	30.7	F	808	1211

2029 Scenario B Design 5 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	259.29	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2029 Scenario B Design 5 Years	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	577	100.000
B - Great Connell		ONE HOUR	✓	367	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	1022	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	104	473
	B - Great Connell	75	0	292
	C - R445 Naas Road (west)	764	258	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	1.01	113.22	19.9	F	529	794
B - Great Connell	0.77	29.77	3.2	D	337	505
C - R445 Naas Road (west)	1.21	424.18	111.4	F	938	1407

2039 Scenario B Design 15 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	393.46	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2039 Scenario B Design 15 Years	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	619	100.000
B - Great Connell		ONE HOUR	✓	389	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	1090	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	111	508
	B - Great Connell	79	0	310
	C - R445 Naas Road (west)	818	272	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	1.08	185.94	36.8	F	568	852
B - Great Connell	0.83	38.92	4.3	E	357	535
C - R445 Naas Road (west)	1.29	637.84	170.3	F	1000	1500

Junctions 9
ARCADY 9 - Roundabout Module
Version: 9.5.0.6896 © Copyright TRL Limited, 2018
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Filename: 192229 - Buckleys Cross Roundabout - Scenario B - modelled queuing PM.j9

Path: \\w2k19-dl-fs01\users\CAD\DWGS\192\201-250\192229\OfficeDocs\Reports\Planning\Planning Package\0004_TTA\Junction 9 Stage 3 final version\Scenario B - Lidl Rd open

Report generation date: 16/03/2022 10:29:34

»2024 Do Nothing, PM
 »2029 Do Nothing, PM
 »2039 Do Nothing, PM
 »2024 Scenario B Opening Year, PM
 »2029 Scenario B Design 5 Years, PM
 »2039 Scenario B Design 15 Years, PM

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
2024 Do Nothing				
A - R445 Naas Road (east)	2.4	12.52	0.71	B
B - Great Connell	1.4	15.41	0.59	C
C - R445 Naas Road (west)	3.2	17.14	0.77	C
2029 Do Nothing				
A - R445 Naas Road (east)	4.7	21.37	0.83	C
B - Great Connell	2.1	22.02	0.68	C
C - R445 Naas Road (west)	6.2	30.03	0.88	D
2039 Do Nothing				
A - R445 Naas Road (east)	7.9	34.48	0.90	D
B - Great Connell	4.6	44.31	0.84	E
C - R445 Naas Road (west)	13.9	61.04	0.96	F
2024 Scenario B Opening Year				
A - R445 Naas Road (east)	2.7	13.84	0.73	B
B - Great Connell	1.9	18.42	0.66	C
C - R445 Naas Road (west)	4.1	20.77	0.81	C
2029 Scenario B Design 5 Years				
A - R445 Naas Road (east)	6.9	31.49	0.89	D
B - Great Connell	5.3	46.85	0.87	E
C - R445 Naas Road (west)	15.3	66.19	0.97	F
2039 Scenario B Design 15 Years				
A - R445 Naas Road (east)	12.6	53.45	0.95	F
B - Great Connell	11.2	89.91	0.97	F
C - R445 Naas Road (west)	32.5	120.61	1.04	F

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

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

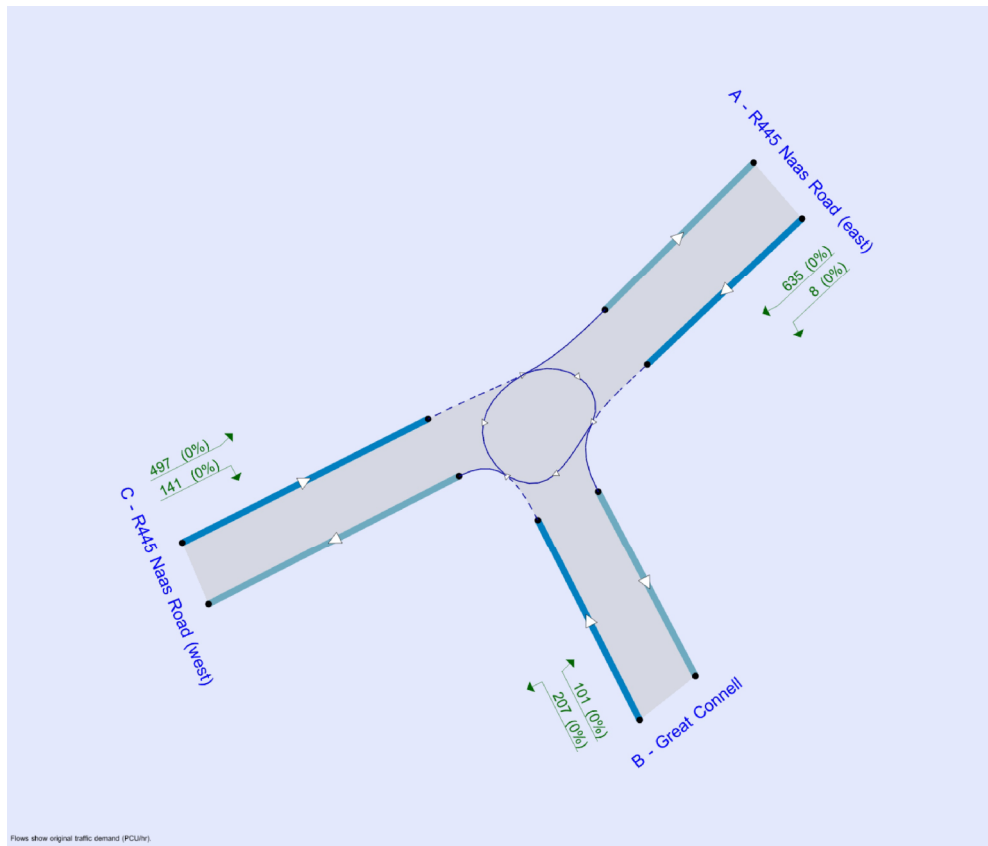
File summary

File Description

Title	
Location	
Site number	
Date	18/03/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MPPNET\socoileir
Description	

Units

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



Flows show original traffic demand (PCU/hr)
The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓
D8	2024 Scenario B Opening Year	PM	ONE HOUR	17:30	19:00	15	✓
D10	2029 Scenario B Design 5 Years	PM	ONE HOUR	17:30	19:00	15	✓
D12	2039 Scenario B Design 15 Years	PM	ONE HOUR	17:30	19:00	15	✓

Analysis Set Details

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

2024 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	14.94	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	R445 Naas Road (east)	
B	Great Connell	
C	R445 Naas Road (west)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - R445 Naas Road (east)	4.00	4.00	0.0	10.0	18.0	0.0	
B - Great Connell	3.00	3.50	3.0	10.0	18.0	0.0	
C - R445 Naas Road (west)	4.00	5.50	15.0	10.0	18.0	0.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)
A - R445 Naas Road (east)	Percentage	observed queuing	85.00
B - Great Connell	Percentage	observed queuing	90.00
C - R445 Naas Road (west)	Percentage	observed queuing	60.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - R445 Naas Road (east)	0.595	1087
B - Great Connell	0.551	957
C - R445 Naas Road (west)	0.671	985

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	643	100.000
B - Great Connell		ONE HOUR	✓	308	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	638	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	8	635
	B - Great Connell	101	0	207
	C - R445 Naas Road (west)	497	141	0

Vehicle Mix

Heavy Vehicle Percentages

To			

		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.71	12.52	2.4	B	590	885
B - Great Connell	0.59	15.41	1.4	C	283	424
C - R445 Naas Road (west)	0.77	17.14	3.2	C	585	878

2029 Do Nothing , PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	24.99	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	748	100.000
B - Great Connell		ONE HOUR	✓	315	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	722	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	8	740
	B - Great Connell	105	0	210
	C - R445 Naas Road (west)	571	151	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.83	21.37	4.7	C	686	1030
B - Great Connell	0.68	22.02	2.1	C	289	434
C - R445 Naas Road (west)	0.88	30.03	6.2	D	663	994

2039 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	47.00	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	802	100.000
B - Great Connell		ONE HOUR	✓	367	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	786	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	9	793
	B - Great Connell	119	0	248
	C - R445 Naas Road (west)	615	171	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.90	34.48	7.9	D	736	1104
B - Great Connell	0.84	44.31	4.6	E	337	505
C - R445 Naas Road (west)	0.96	61.04	13.9	F	721	1082

2024 Scenario B Opening Year, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	17.57	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2024 Scenario B Opening Year	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	651	100.000
B - Great Connell		ONE HOUR	✓	343	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	667	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	16	635
	B - Great Connell	109	0	234
	C - R445 Naas Road (west)	497	170	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.73	13.84	2.7	B	597	896
B - Great Connell	0.66	18.42	1.9	C	315	472
C - R445 Naas Road (west)	0.81	20.77	4.1	C	612	918

2029 Scenario B Design 5 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	48.65	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2029 Scenario B Design 5 Years	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	765	100.000
B - Great Connell		ONE HOUR	✓	401	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	790	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	25	740
	B - Great Connell	124	0	277
	C - R445 Naas Road (west)	574	216	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.89	31.49	6.9	D	702	1053
B - Great Connell	0.87	46.85	5.3	E	368	552
C - R445 Naas Road (west)	0.97	66.19	15.3	F	725	1087

2039 Scenario B Design 15 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	87.99	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2039 Scenario B Design 15 Years	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	819	100.000
B - Great Connell		ONE HOUR	✓	424	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	842	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	26	793
	B - Great Connell	132	0	292
	C - R445 Naas Road (west)	615	227	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.95	53.45	12.6	F	752	1127
B - Great Connell	0.97	89.91	11.2	F	389	584
C - R445 Naas Road (west)	1.04	120.61	32.5	F	773	1159

Junctions 9			
ARCADY 9 - Roundabout Module			
Version: 9.5.0.6896 © Copyright TRL Limited, 2018			
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Filename: 192229 - Buckleys Cross Roundabout - Scenario C - AM Modelled Queuing.j9

Path: \\w2k19-dl-fs01\users\CAD\DWGS\192\201-250\192229\OfficeDocs\Reports\Planning\Planning Package\0004_TTA\Junction 9 Stage 3 final version\Scenario C- NSOOR open

Report generation date: 15/03/2022 15:28:38

»2024 Do Nothing, AM
 »2029 Do Nothing, AM
 »2039 Do Nothing, AM
 »2024 Scenario C Opening Year, AM
 »2029 Scenario C Design 5 Years, AM
 »2039 Scenario C Design 15 Years, AM

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
2024 Do Nothing				
A - R445 Naas Road (east)	1.1	11.42	0.52	B
B - Great Connell	0.5	7.84	0.33	A
C - R445 Naas Road (west)	3.9	19.56	0.80	C
2029 Do Nothing				
A - R445 Naas Road (east)	1.4	13.34	0.59	B
B - Great Connell	0.6	8.50	0.38	A
C - R445 Naas Road (west)	7.0	32.77	0.89	D
2039 Do Nothing				
A - R445 Naas Road (east)	1.7	15.37	0.64	C
B - Great Connell	0.7	9.10	0.41	A
C - R445 Naas Road (west)	13.5	58.79	0.96	F
2024 Scenario C Opening Year				
A - R445 Naas Road (east)	1.1	11.66	0.53	B
B - Great Connell	0.5	7.99	0.35	A
C - R445 Naas Road (west)	4.1	20.39	0.81	C
2029 Scenario C Design 5 Years				
A - R445 Naas Road (east)	1.5	13.77	0.60	B
B - Great Connell	0.7	8.94	0.41	A
C - R445 Naas Road (west)	7.8	36.72	0.90	E
2039 Scenario C Design 15 Years				
A - R445 Naas Road (east)	1.8	15.94	0.65	C
B - Great Connell	0.8	9.58	0.44	A
C - R445 Naas Road (west)	16.2	68.47	0.98	F

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

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

File summary

File Description

Title	
Location	
Site number	
Date	18/03/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MPPNET\socoileir
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓
D3	2029 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓
D5	2039 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓
D13	2024 Scenario C Opening Year	AM	ONE HOUR	08:15	09:45	15	✓
D15	2029 Scenario C Design 5 Years	AM	ONE HOUR	08:15	09:45	15	✓
D17	2039 Scenario C Design 15 Years	AM	ONE HOUR	08:15	09:45	15	✓

Analysis Set Details

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

2024 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	15.37	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	R445 Naas Road (east)	
B	Great Connell	
C	R445 Naas Road (west)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - R445 Naas Road (east)	4.00	4.00	0.0	10.0	18.0	0.0	
B - Great Connell	3.00	3.50	3.0	10.0	18.0	0.0	
C - R445 Naas Road (west)	4.00	5.50	15.0	10.0	18.0	0.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)
A - R445 Naas Road (east)	Percentage	observed queuing	60.00
B - Great Connell	Percentage	observed queuing	75.00
C - R445 Naas Road (west)	Percentage	observed queuing	60.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - R445 Naas Road (east)	0.595	767
B - Great Connell	0.551	798
C - R445 Naas Road (west)	0.671	985

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	315	100.000
B - Great Connell		ONE HOUR	✓	210	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	673	100.000

Origin-Destination Data

Demand (PCU/hr)

--	--

From	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
	A - R445 Naas Road (east)	0	138	177
	B - Great Connell	85	0	125
	C - R445 Naas Road (west)	512	161	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.52	11.42	1.1	B	289	434
B - Great Connell	0.33	7.84	0.5	A	193	289
C - R445 Naas Road (west)	0.80	19.56	3.9	C	618	926

2029 Do Nothing , AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	23.37	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2029 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	349	100.000
B - Great Connell		ONE HOUR	✓	232	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	739	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	153	196
	B - Great Connell	95	0	137
	C - R445 Naas Road (west)	565	174	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.59	13.34	1.4	B	320	480
B - Great Connell	0.38	8.50	0.6	A	213	319
C - R445 Naas Road (west)	0.89	32.77	7.0	D	678	1017

2039 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	38.56	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2039 Do Nothing	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	376	100.000
B - Great Connell		ONE HOUR	✓	249	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	794	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	165	211
	B - Great Connell	101	0	148
	C - R445 Naas Road (west)	609	185	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.64	15.37	1.7	C	345	518
B - Great Connell	0.41	9.10	0.7	A	228	343
C - R445 Naas Road (west)	0.96	58.79	13.5	F	729	1093

2024 Scenario C Opening Year, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	15.88	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	2024 Scenario C Opening Year	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	318	100.000
B - Great Connell		ONE HOUR	✓	218	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	678	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	141	177
	B - Great Connell	88	0	130
	C - R445 Naas Road (west)	512	166	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.53	11.66	1.1	B	292	438
B - Great Connell	0.35	7.99	0.5	A	200	300
C - R445 Naas Road (west)	0.81	20.39	4.1	C	622	933

2029 Scenario C Design 5 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	25.57	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D15	2029 Scenario C Design 5 Years	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	352	100.000
B - Great Connell		ONE HOUR	✓	251	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	747	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	156	196
	B - Great Connell	102	0	149
	C - R445 Naas Road (west)	565	182	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.60	13.77	1.5	B	323	485
B - Great Connell	0.41	8.94	0.7	A	230	345
C - R445 Naas Road (west)	0.90	36.72	7.8	E	685	1028

2039 Scenario C Design 15 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	43.88	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D17	2039 Scenario C Design 15 Years	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	379	100.000
B - Great Connell		ONE HOUR	✓	267	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	803	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	168	211
	B - Great Connell	108	0	159
	C - R445 Naas Road (west)	609	194	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.65	15.94	1.8	C	348	522
B - Great Connell	0.44	9.58	0.8	A	245	368
C - R445 Naas Road (west)	0.98	68.47	16.2	F	737	1105

Junctions 9			
ARCADY 9 - Roundabout Module			
Version: 9.5.0.6896 © Copyright TRL Limited, 2018			
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Filename: 192229 - Buckleys Cross Roundabout - Scenario C - PM Modelled Queuing.j9

Path: \\w2k19-dl-fs01\users\CAD\DWGS\192\201-250\192229\OfficeDocs\Reports\Planning\Planning Package\0004_TTA\Junction 9 Stage 3 final version\Scenario C- NSOOR open

Report generation date: 15/03/2022 15:30:37

»2024 Do Nothing, PM
 »2029 Do Nothing, PM
 »2039 Do Nothing, PM
 »2024 Scenario C Opening Year, PM
 »2029 Scenario C Design 5 Years, PM
 »2039 Scenario C Design 15 Years, PM

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
2024 Do Nothing				
A - R445 Naas Road (east)	0.8	6.38	0.45	A
B - Great Connell	0.2	5.68	0.16	A
C - R445 Naas Road (west)	1.3	8.68	0.57	A
2029 Do Nothing				
A - R445 Naas Road (east)	1.0	7.21	0.50	A
B - Great Connell	0.3	6.37	0.23	A
C - R445 Naas Road (west)	1.8	10.75	0.65	B
2039 Do Nothing				
A - R445 Naas Road (east)	1.2	7.93	0.55	A
B - Great Connell	0.3	6.69	0.25	A
C - R445 Naas Road (west)	2.2	12.59	0.70	B
2024 Scenario C Opening Year				
A - R445 Naas Road (east)	0.8	6.54	0.46	A
B - Great Connell	0.3	6.07	0.21	A
C - R445 Naas Road (west)	1.4	9.32	0.59	A
2029 Scenario C Design 5 Years				
A - R445 Naas Road (east)	1.0	7.40	0.51	A
B - Great Connell	0.3	6.55	0.25	A
C - R445 Naas Road (west)	1.9	11.28	0.66	B
2039 Scenario C Design 15 Years				
A - R445 Naas Road (east)	1.2	8.14	0.55	A
B - Great Connell	0.4	6.88	0.27	A
C - R445 Naas Road (west)	2.4	13.29	0.71	B

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

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

File summary

File Description

Title	
Location	
Site number	
Date	18/03/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MPPNET\socoileir
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓
D14	2024 Scenario C Opening Year	PM	ONE HOUR	17:30	19:00	15	✓
D16	2029 Scenario C Design 5 Years	PM	ONE HOUR	17:30	19:00	15	✓
D18	2039 Scenario C Design 15 Years	PM	ONE HOUR	17:30	19:00	15	✓

Analysis Set Details

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

2024 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	7.42	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	R445 Naas Road (east)	
B	Great Connell	
C	R445 Naas Road (west)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - R445 Naas Road (east)	4.00	4.00	0.0	10.0	18.0	0.0	
B - Great Connell	3.00	3.50	3.0	10.0	18.0	0.0	
C - R445 Naas Road (west)	4.00	5.50	15.0	10.0	18.0	0.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)
A - R445 Naas Road (east)	Percentage	observed queuing	85.00
B - Great Connell	Percentage	observed queuing	90.00
C - R445 Naas Road (west)	Percentage	observed queuing	60.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - R445 Naas Road (east)	0.595	1087
B - Great Connell	0.551	957
C - R445 Naas Road (west)	0.671	985

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	413	100.000
B - Great Connell		ONE HOUR	✓	109	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	489	100.000

Origin-Destination Data

Demand (PCU/hr)

--	--

From	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
	A - R445 Naas Road (east)	0	77	336
	B - Great Connell	44	0	65
	C - R445 Naas Road (west)	385	104	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.45	6.38	0.8	A	379	568
B - Great Connell	0.16	5.68	0.2	A	100	150
C - R445 Naas Road (west)	0.57	8.68	1.3	A	449	673

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	311	78	78	1041	0.299	309	321	0.0	0.4	4.910	A
B - Great Connell	82	21	252	819	0.100	82	135	0.0	0.1	4.882	A
C - R445 Naas Road (west)	368	92	33	963	0.382	366	300	0.0	0.6	6.001	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	371	93	93	1032	0.360	371	385	0.4	0.6	5.443	A
B - Great Connell	98	24	302	791	0.124	98	162	0.1	0.1	5.194	A
C - R445 Naas Road (west)	440	110	40	959	0.458	439	360	0.6	0.8	6.910	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	455	114	114	1019	0.446	454	471	0.6	0.8	6.357	A
B - Great Connell	120	30	369	754	0.159	120	199	0.1	0.2	5.677	A
C - R445 Naas Road (west)	538	135	48	953	0.565	537	441	0.8	1.3	8.611	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	455	114	114	1019	0.446	455	472	0.8	0.8	6.380	A
B - Great Connell	120	30	370	753	0.159	120	199	0.2	0.2	5.683	A
C - R445 Naas Road (west)	538	135	48	953	0.565	538	441	1.3	1.3	8.682	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	371	93	94	1031	0.360	372	387	0.8	0.6	5.470	A
B - Great Connell	98	24	303	790	0.124	98	163	0.2	0.1	5.202	A
C - R445 Naas Road (west)	440	110	40	959	0.459	441	361	1.3	0.9	6.979	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	311	78	78	1040	0.299	311	324	0.6	0.4	4.942	A
B - Great Connell	82	21	253	818	0.100	82	137	0.1	0.1	4.897	A
C - R445 Naas Road (west)	368	92	33	963	0.382	369	302	0.9	0.6	6.071	A

2029 Do Nothing , PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	8.78	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2029 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	460	100.000
B - Great Connell		ONE HOUR	✓	151	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	553	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	88	372
	B - Great Connell	57	0	94
	C - R445 Naas Road (west)	429	124	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.50	7.21	1.0	A	422	633
B - Great Connell	0.23	6.37	0.3	A	139	208
C - R445 Naas Road (west)	0.65	10.75	1.8	B	507	761

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	346	87	93	1032	0.336	344	363	0.0	0.5	5.221	A
B - Great Connell	114	28	278	804	0.141	113	159	0.0	0.2	5.208	A
C - R445 Naas Road (west)	416	104	43	957	0.435	413	349	0.0	0.8	6.588	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	414	103	111	1021	0.405	413	436	0.5	0.7	5.915	A
B - Great Connell	136	34	334	773	0.176	136	190	0.2	0.2	5.644	A
C - R445 Naas Road (west)	497	124	51	951	0.523	496	418	0.8	1.1	7.887	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	506	127	136	1006	0.503	505	533	0.7	1.0	7.167	A
B - Great Connell	166	42	409	732	0.227	166	233	0.2	0.3	6.356	A
C - R445 Naas Road (west)	609	152	63	943	0.645	606	512	1.1	1.8	10.586	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	506	127	137	1006	0.504	506	535	1.0	1.0	7.208	A
B - Great Connell	166	42	410	732	0.227	166	233	0.3	0.3	6.367	A
C - R445 Naas Road (west)	609	152	63	943	0.645	609	513	1.8	1.8	10.752	B

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	414	103	112	1020	0.405	415	439	1.0	0.7	5.959	A
B - Great Connell	136	34	335	772	0.176	136	191	0.3	0.2	5.660	A
C - R445 Naas Road (west)	497	124	51	951	0.523	500	420	1.8	1.1	8.029	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	346	87	94	1031	0.336	347	367	0.7	0.5	5.266	A
B - Great Connell	114	28	281	803	0.142	114	160	0.2	0.2	5.228	A
C - R445 Naas Road (west)	416	104	43	957	0.435	418	352	1.1	0.8	6.699	A

2039 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	9.99	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2039 Do Nothing	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	496	100.000
B - Great Connell		ONE HOUR	✓	160	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	595	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	95	401
	B - Great Connell	61	0	99
	C - R445 Naas Road (west)	462	133	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.55	7.93	1.2	A	455	683
B - Great Connell	0.25	6.69	0.3	A	147	220
C - R445 Naas Road (west)	0.70	12.59	2.2	B	546	819

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	373	93	99	1028	0.363	371	391	0.0	0.6	5.463	A
B - Great Connell	120	30	300	792	0.152	120	170	0.0	0.2	5.351	A
C - R445 Naas Road (west)	448	112	46	955	0.469	444	374	0.0	0.9	7.008	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	446	111	119	1016	0.439	445	469	0.6	0.8	6.295	A
B - Great Connell	144	36	360	759	0.190	144	204	0.2	0.2	5.850	A
C - R445 Naas Road (west)	535	134	55	949	0.564	533	449	0.9	1.3	8.634	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	546	137	146	1000	0.546	544	573	0.8	1.2	7.867	A
B - Great Connell	176	44	440	715	0.247	176	250	0.2	0.3	6.676	A
C - R445 Naas Road (west)	655	164	67	940	0.697	651	549	1.3	2.2	12.292	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	546	137	146	1000	0.546	546	576	1.2	1.2	7.928	A
B - Great Connell	176	44	441	714	0.247	176	251	0.3	0.3	6.693	A
C - R445 Naas Road (west)	655	164	67	940	0.697	655	550	2.2	2.2	12.592	B

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	446	111	120	1015	0.439	447	473	1.2	0.8	6.356	A
B - Great Connell	144	36	362	758	0.190	144	206	0.3	0.2	5.869	A
C - R445 Naas Road (west)	535	134	55	948	0.564	539	451	2.2	1.3	8.860	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	373	93	101	1027	0.364	374	395	0.8	0.6	5.520	A
B - Great Connell	120	30	303	790	0.152	121	172	0.2	0.2	5.376	A
C - R445 Naas Road (west)	448	112	46	954	0.469	450	377	1.3	0.9	7.156	A

2024 Scenario C Opening Year, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	7.80	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2024 Scenario C Opening Year	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	417	100.000
B - Great Connell		ONE HOUR	✓	146	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	508	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	81	336
	B - Great Connell	54	0	92
	C - R445 Naas Road (west)	389	119	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.46	6.54	0.8	A	383	574
B - Great Connell	0.21	6.07	0.3	A	134	201
C - R445 Naas Road (west)	0.59	9.32	1.4	A	466	699

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	314	78	89	1034	0.304	312	331	0.0	0.4	4.975	A
B - Great Connell	110	27	252	819	0.134	109	150	0.0	0.2	5.071	A
C - R445 Naas Road (west)	382	96	40	958	0.399	380	320	0.0	0.7	6.197	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	375	94	107	1024	0.366	374	397	0.4	0.6	5.540	A
B - Great Connell	131	33	302	791	0.166	131	179	0.2	0.2	5.454	A
C - R445 Naas Road (west)	457	114	48	953	0.479	456	384	0.7	0.9	7.226	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	459	115	131	1009	0.455	458	486	0.6	0.8	6.519	A
B - Great Connell	161	40	369	754	0.213	160	220	0.2	0.3	6.065	A
C - R445 Naas Road (west)	559	140	59	946	0.592	557	470	0.9	1.4	9.222	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	459	115	131	1009	0.455	459	488	0.8	0.8	6.545	A
B - Great Connell	161	40	370	753	0.213	161	220	0.3	0.3	6.074	A
C - R445 Naas Road (west)	559	140	59	945	0.592	559	471	1.4	1.4	9.316	A

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	375	94	107	1023	0.366	376	400	0.8	0.6	5.569	A
B - Great Connell	131	33	303	790	0.166	132	180	0.3	0.2	5.468	A
C - R445 Naas Road (west)	457	114	49	953	0.479	459	386	1.4	0.9	7.317	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	314	78	90	1034	0.304	315	334	0.6	0.4	5.012	A
B - Great Connell	110	27	253	818	0.134	110	151	0.2	0.2	5.089	A
C - R445 Naas Road (west)	382	96	41	958	0.399	383	323	0.9	0.7	6.276	A

2029 Scenario C Design 5 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	9.11	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D16	2029 Scenario C Design 5 Years	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	465	100.000
B - Great Connell		ONE HOUR	✓	165	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	564	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	93	372
	B - Great Connell	62	0	103
	C - R445 Naas Road (west)	429	135	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.51	7.40	1.0	A	427	640
B - Great Connell	0.25	6.55	0.3	A	151	227
C - R445 Naas Road (west)	0.66	11.28	1.9	B	518	776

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	350	88	101	1027	0.341	348	367	0.0	0.5	5.286	A
B - Great Connell	124	31	278	804	0.155	123	170	0.0	0.2	5.286	A
C - R445 Naas Road (west)	425	106	46	954	0.445	421	356	0.0	0.8	6.719	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	418	105	121	1015	0.412	417	440	0.5	0.7	6.015	A
B - Great Connell	148	37	334	773	0.192	148	205	0.2	0.2	5.758	A
C - R445 Naas Road (west)	507	127	56	948	0.535	506	426	0.8	1.1	8.113	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	512	128	148	999	0.512	511	538	0.7	1.0	7.350	A
B - Great Connell	182	45	408	732	0.248	181	250	0.2	0.3	6.531	A
C - R445 Naas Road (west)	621	155	68	940	0.661	618	522	1.1	1.9	11.084	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	512	128	149	999	0.513	512	541	1.0	1.0	7.397	A
B - Great Connell	182	45	410	732	0.248	182	251	0.3	0.3	6.546	A
C - R445 Naas Road (west)	621	155	68	940	0.661	621	523	1.9	1.9	11.283	B

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	418	105	122	1014	0.412	419	444	1.0	0.7	6.065	A
B - Great Connell	148	37	335	772	0.192	149	206	0.3	0.2	5.777	A
C - R445 Naas Road (west)	507	127	56	948	0.535	510	428	1.9	1.2	8.277	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	350	88	102	1026	0.341	351	371	0.7	0.5	5.336	A
B - Great Connell	124	31	281	803	0.155	124	172	0.2	0.2	5.310	A
C - R445 Naas Road (west)	425	106	47	954	0.445	426	358	1.2	0.8	6.839	A

2039 Scenario C Design 15 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Buckley's Cross Roundabout	Standard Roundabout		A, B, C	10.41	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D18	2039 Scenario C Design 15 Years	PM	ONE HOUR	17:30	19:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - R445 Naas Road (east)		ONE HOUR	✓	500	100.000
B - Great Connell		ONE HOUR	✓	173	100.000
C - R445 Naas Road (west)		ONE HOUR	✓	606	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	99	401
	B - Great Connell	65	0	108
	C - R445 Naas Road (west)	462	144	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - R445 Naas Road (east)	B - Great Connell	C - R445 Naas Road (west)
From	A - R445 Naas Road (east)	0	0	0
	B - Great Connell	0	0	0
	C - R445 Naas Road (west)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - R445 Naas Road (east)	0.55	8.14	1.2	A	459	688
B - Great Connell	0.27	6.88	0.4	A	159	238
C - R445 Naas Road (west)	0.71	13.29	2.4	B	556	834

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	376	94	108	1023	0.368	374	394	0.0	0.6	5.529	A
B - Great Connell	130	33	300	792	0.164	129	182	0.0	0.2	5.431	A
C - R445 Naas Road (west)	456	114	49	953	0.479	453	381	0.0	0.9	7.147	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	449	112	129	1010	0.445	449	472	0.6	0.8	6.410	A
B - Great Connell	156	39	360	759	0.205	155	218	0.2	0.3	5.960	A
C - R445 Naas Road (west)	545	136	58	946	0.576	543	457	0.9	1.3	8.892	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	551	138	158	993	0.554	549	577	0.8	1.2	8.068	A
B - Great Connell	190	48	440	715	0.267	190	266	0.3	0.4	6.856	A
C - R445 Naas Road (west)	667	167	71	937	0.712	663	559	1.3	2.4	12.925	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	551	138	158	993	0.555	550	580	1.2	1.2	8.137	A
B - Great Connell	190	48	441	714	0.267	190	267	0.4	0.4	6.876	A
C - R445 Naas Road (west)	667	167	72	937	0.712	667	560	2.4	2.4	13.286	B

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	449	112	130	1009	0.445	451	477	1.2	0.8	6.469	A
B - Great Connell	156	39	362	758	0.205	156	220	0.4	0.3	5.987	A
C - R445 Naas Road (west)	545	136	59	946	0.576	549	459	2.4	1.4	9.154	A

18:45 - 19:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - R445 Naas Road (east)	376	94	109	1022	0.368	377	398	0.8	0.6	5.589	A
B - Great Connell	130	33	303	790	0.165	130	184	0.3	0.2	5.456	A
C - R445 Naas Road (west)	456	114	49	952	0.479	458	384	1.4	0.9	7.307	A

Appendix L Buckley's Cross Signalised Junction Layout



LEGEND:

CARRIAGEWAY

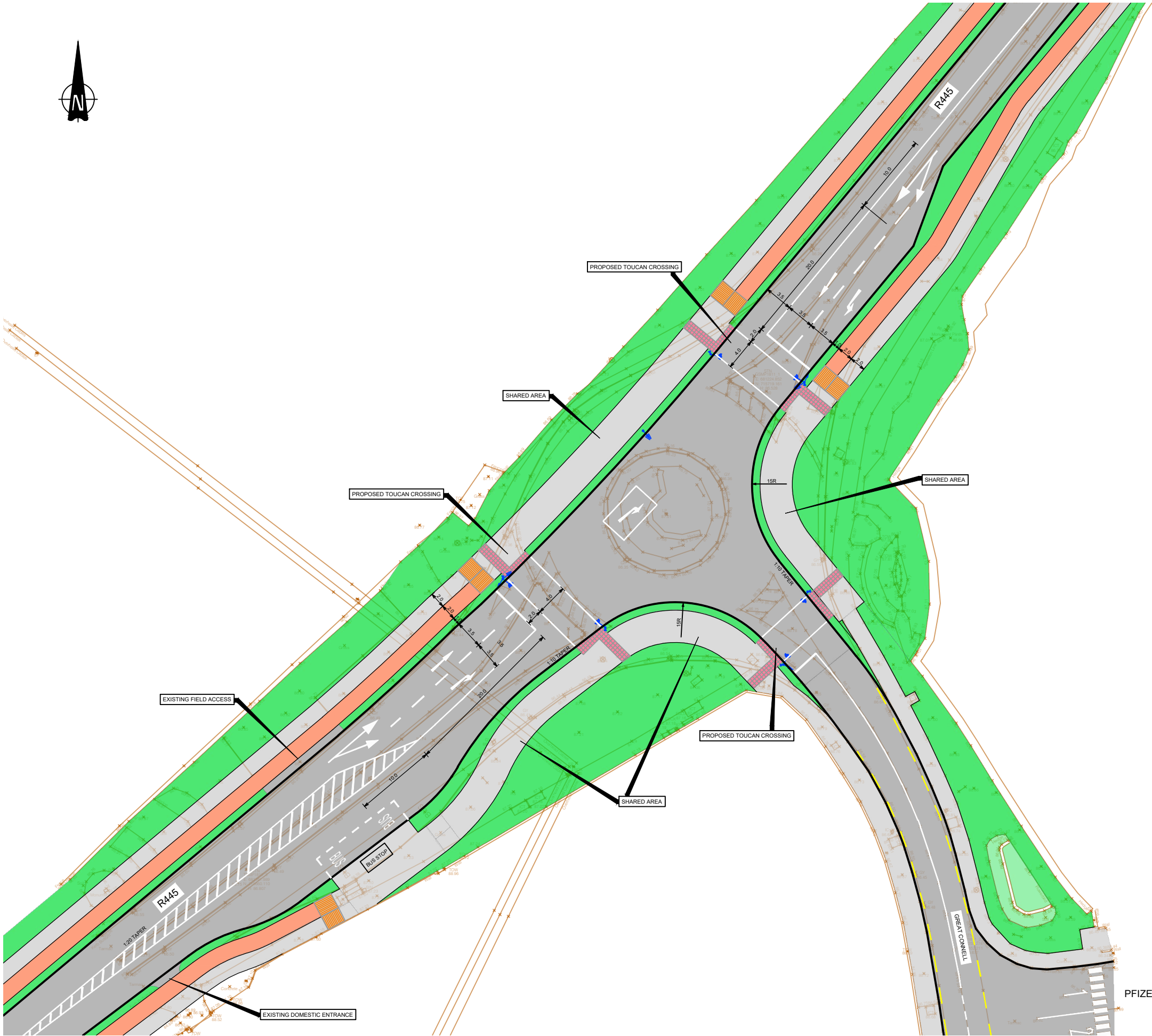
CYCLE LANE TRACK

FOOTPATH

GRASSED AREA

TACTILE PAVING (RED)

CORDUROY HAZARD WARNING PAVING



Note:
This drawing does not form part of the SHD Planning Submission Ref: ABP-311390-21.
The drawing is provided to demonstrate that a Signalised Junction compliant with the requirements of "TII document DN-GEO-03044-02 Signal Controlled Junctions and Roundabouts" can be delivered as agreed with Kildare County Council within publicly available lands

PFIZER NEWBRIDGE

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COLOUR DRAWING

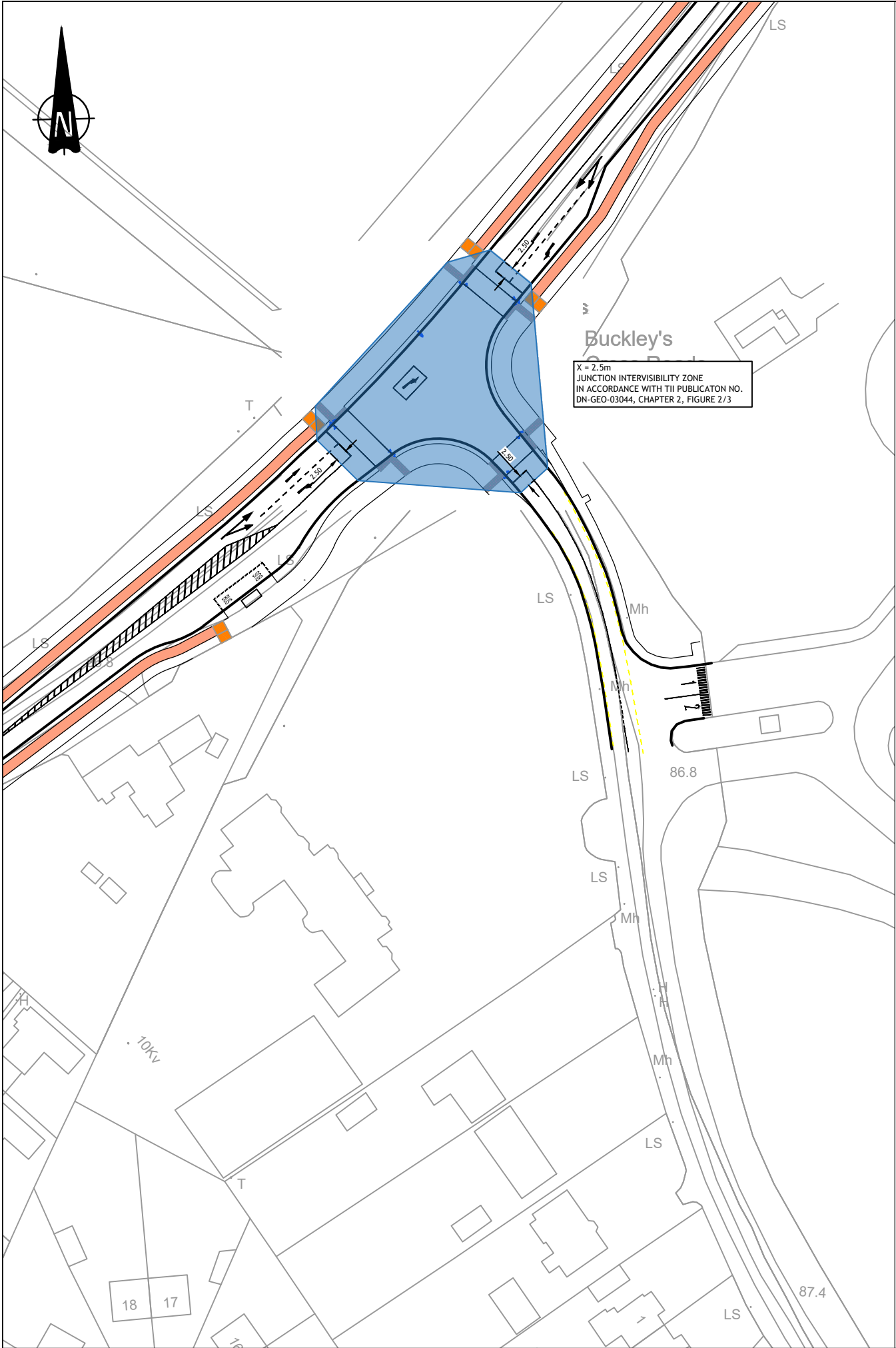


Rev	Amendment	By	Date	Rev	Amendment	By	Date	Client:

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Project: ASTON ROAD & BRIDGE, GREAT CONNELL, NEWBRIDGE CO. KILDARE			
Title: BUCKLEY'S CROSS - SIGNALISED JUNCTION			
Drawn: S Buckley	Date drawn: February 2022	Technician Check: S Buckley	Engineer Check: J Tiernan
Project No: 192229	Model Ref: 192229-PUNCH-XX-XX-M2-C-0432	Drawing Status: S2 (Information)	
Scale @ A1: 1:250	Document No: 192229-PUNCH-XX-XX-DR-C-0432	Revision No: P01	



NOTES:
1. VISIBILITY INTERVISIBILITY ZONES BASED ON TII PUBLICATION 'THE GEOMETRIC LAYOUT OF SIGNAL-CONTROLLED JUNCTIONS AND SIGNALISED ROUNDABOUTS DN-GEO-03044, CHAPTER 2, FIGURE 2/3.

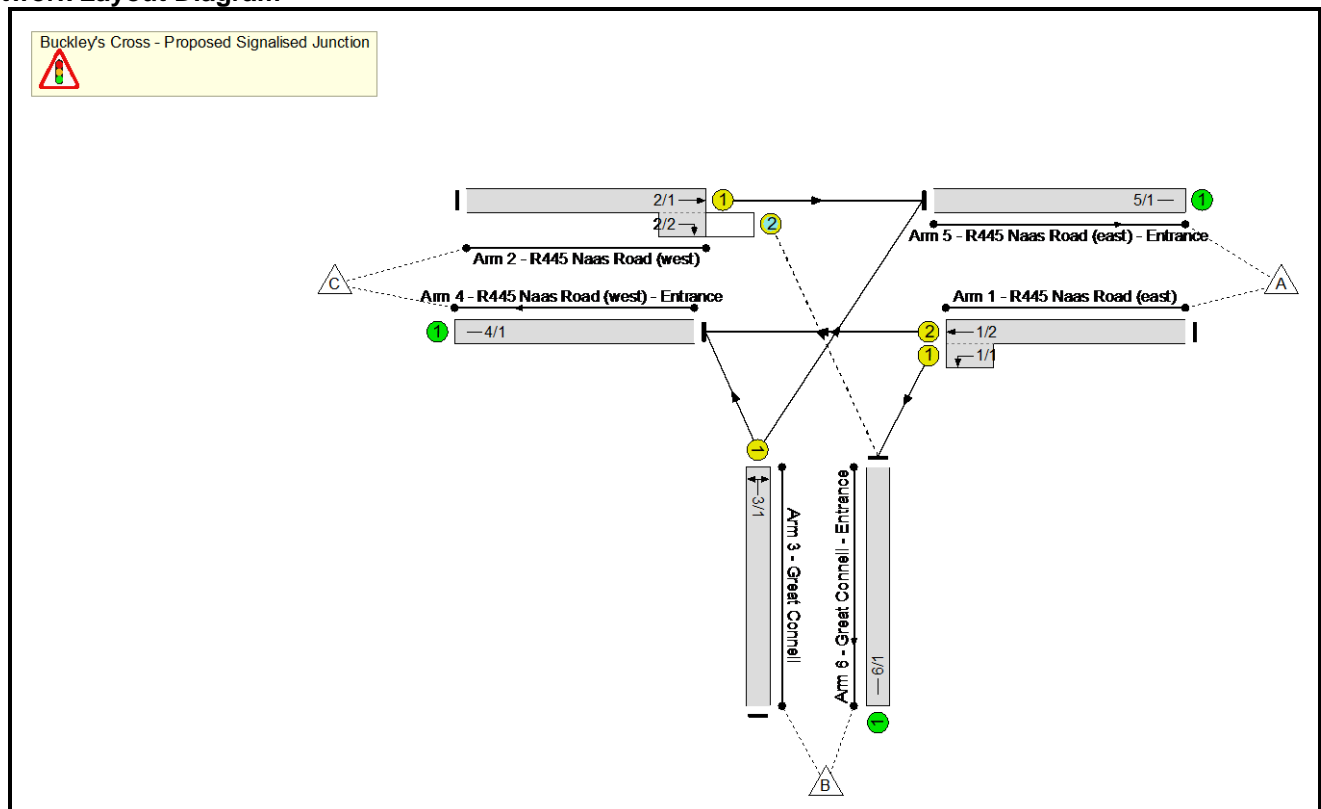
Appendix M Buckley's Cross Signalised Junction Linsig Results Output

Full Input Data And Results
Full Input Data And Results

User and Project Details

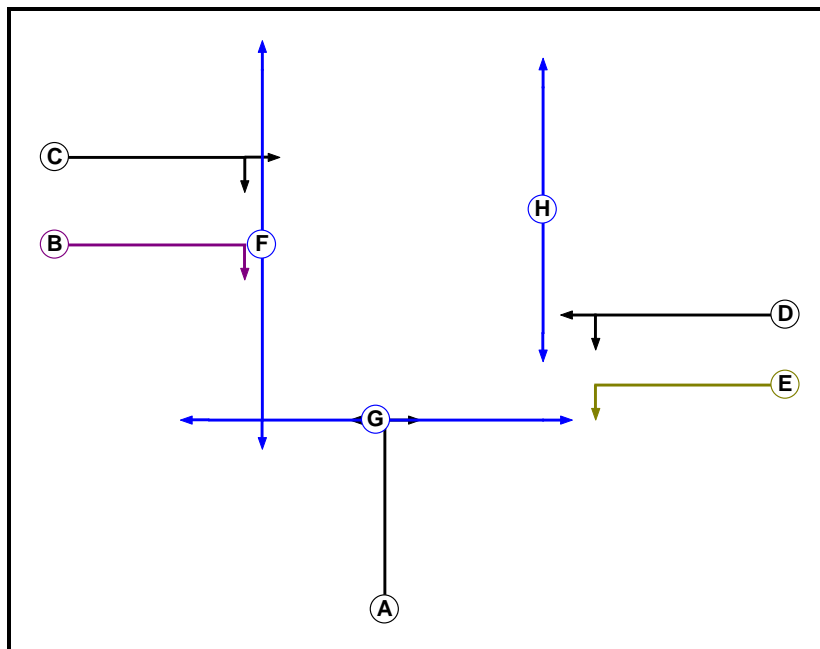
Project:	192229
Title:	Newbridge SHD
Location:	
Client:	Aston Ltd
Date Started:	May 2021
Checked By:	J Tiernan
Additional detail:	
File name:	192229 - Buckley's Cross Proposed Signalised Junction on survey.lsg3x
Author:	S O'Coileir
Company:	PUNCH Consulting Engineers
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Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Ind. Arrow	C	4	4
C	Traffic		7	7
D	Traffic		7	7
E	Filter	D	4	4
F	Pedestrian		7	7
G	Pedestrian		7	7
H	Pedestrian		7	7

Phase Intergreens Matrix

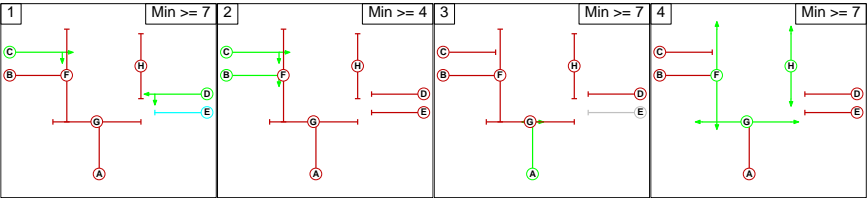
Phase Interference Matrix									
Terminating Phase	Starting Phase								
		A	B	C	D	E	F	G	H
	A		5	5	6	-	9	5	9
	B	6		-	7	7	5	10	10
	C	6	-		-	-	5	10	-
	D	6	5	-		-	10	8	5
	E	-	5	-	-		-	8	5
	F	13	13	13	13	-		-	-
	G	10	10	10	10	10	-		-
	H	13	13	-	13	13	-	-	

Phases in Stage

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

Full Input Data And Results

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

From Stage	To Stage				
		1	2	3	4
	1		5	6	10
	2	7		6	10
	3	6	5		9
	4	13	13	13	

Give-Way Lane Input Data

Junction: Buckley's Cross - Proposed Signalised Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
2/2 (R445 Naas Road (west))	6/1 (Right)	1439	0	1/1	1.09	All	3.00	-	0.50	3	2.00
				1/2	1.09	All					

Full Input Data And Results

Lane Input Data

Junction: Buckley's Cross - Proposed Signalised Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (R445 Naas Road (east))	U	D E	2	3	3.0	Geom	-	3.50	0.00	Y	Arm 6 Left	15.00
1/2 (R445 Naas Road (east))	U	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 4 Ahead	Inf
2/1 (R445 Naas Road (west))	U	C	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 5 Ahead	Inf
2/2 (R445 Naas Road (west))	O	C B	2	3	3.0	Geom	-	3.50	0.00	Y	Arm 6 Right	24.00
3/1 (Great Connell)	U	A	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 4 Left	15.00
											Arm 5 Right	27.00
4/1 (R445 Naas Road (west) - Entrance)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (R445 Naas Road (east) - Entrance)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (Great Connell - Entrance)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Scenario B 2024 DS AM'	08:30	09:30	01:00	
2: 'Scenario B 2024 DS PM'	17:45	18:45	01:00	
3: 'Scenario B 2029 DS AM'	08:30	09:30	01:00	
4: 'Scenario B 2029 DS PM'	17:45	18:45	01:00	
5: 'Scenario B 2039 DS AM'	08:30	09:30	01:00	
6: 'Scenario B 2039 DS PM'	17:45	18:45	01:00	
7: 'Scenario C 2024 DS AM'	08:30	09:30	01:00	
8: 'Scenario C 2024 DS PM'	17:45	18:45	01:00	
9: 'Scenario C 2029 DS AM'	08:30	09:30	01:00	
10: 'Scenario C 2029 DS PM'	17:45	18:45	01:00	
11: 'Scenario C 2039 DS AM'	08:30	09:30	01:00	
12: 'Scenario C 2039 DS PM'	17:45	18:45	01:00	

Full Input Data And Results

Traffic Flows, Desired

Scenario 1: 'Scenario B 2024 DS AM' (FG1: 'Scenario B 2024 DS AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination				
Origin		A	B	C	Tot.
	A	0	92	413	505
	B	62	0	241	303
	C	658	222	0	880
	Tot.	720	314	654	1688

Scenario 2: 'Scenario B 2024 DS PM' (FG2: 'Scenario B 2024 DS PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination				
Origin		A	B	C	Tot.
	A	0	16	635	651
	B	109	0	234	343
	C	497	170	0	667
	Tot.	606	186	869	1661

Scenario 3: 'Scenario B 2029 DS AM' (FG3: 'Scenario B 2029 DS AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination				
Origin		A	B	C	Tot.
	A	0	104	473	577
	B	75	0	292	367
	C	764	258	0	1022
	Tot.	839	362	765	1966

Scenario 4: 'Scenario B 2029 DS PM' (FG4: 'Scenario B 2029 DS PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination				
Origin		A	B	C	Tot.
	A	0	25	740	765
	B	124	0	277	401
	C	574	216	0	790
	Tot.	698	241	1017	1956

Scenario 5: 'Scenario B 2039 DS AM' (FG5: 'Scenario B 2039 DS AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination				
Origin		A	B	C	Tot.
	A	0	111	508	619
	B	79	0	310	389
	C	818	272	0	1090
	Tot.	897	383	818	2098

Full Input Data And Results

Scenario 6: 'Scenario B 2039 DS PM' (FG6: 'Scenario B 2039 DS PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination				
		A	B	C	Tot.
Origin	A	0	26	793	819
	B	132	0	292	424
	C	615	227	0	842
	Tot.	747	253	1085	2085

Scenario 7: 'Scenario C 2024 DS AM' (FG7: 'Scenario C 2024 DS AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination				
		A	B	C	Tot.
Origin	A	0	141	177	318
	B	88	0	130	218
	C	512	166	0	678
	Tot.	600	307	307	1214

Scenario 8: 'Scenario C 2024 DS PM' (FG8: 'Scenario C 2024 DS PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination				
		A	B	C	Tot.
Origin	A	0	81	336	417
	B	54	0	92	146
	C	389	119	0	508
	Tot.	443	200	428	1071

Scenario 9: 'Scenario C 2029 DS AM' (FG9: 'Scenario C 2029 DS AM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination				
		A	B	C	Tot.
Origin	A	0	156	196	352
	B	102	0	149	251
	C	565	182	0	747
	Tot.	667	338	345	1350

Scenario 10: 'Scenario C 2029 DS PM' (FG10: 'Scenario C 2029 DS PM', Plan 1: 'Network Control Plan 1')

Desired Flow :

	Destination				
		A	B	C	Tot.
Origin	A	0	93	372	465
	B	62	0	103	165
	C	429	135	0	564
	Tot.	491	228	475	1194

Full Input Data And Results

Scenario 11: 'Scenario C 2039 DS AM' (FG11: 'Scenario C 2039 DS AM', Plan 1: 'Network Control Plan 1')
Desired Flow :

Origin	Destination				
		A	B	C	Tot.
	A	0	168	211	379
	B	108	0	159	267
	C	609	194	0	803
	Tot.	717	362	370	1449

Scenario 12: 'Scenario C 2039 DS PM' (FG12: 'Scenario C 2039 DS PM', Plan 1: 'Network Control Plan 1')
Desired Flow :

Origin	Destination				
		A	B	C	Tot.
	A	0	99	401	500
	B	65	0	108	173
	C	462	144	0	606
	Tot.	527	243	509	1279

Scenario 1: 'Scenario B 2024 DS AM' (FG1: 'Scenario B 2024 DS AM', Plan 1: 'Network Control Plan 1')

Scenario 2: 'Scenario B 2024 DS PM' (FG2: 'Scenario B 2024 DS PM', Plan 1: 'Network Control Plan 1')

Scenario 3: 'Scenario B 2029 DS AM' (FG3: 'Scenario B 2029 DS AM', Plan 1: 'Network Control Plan 1')

Full Input Data And Results

Scenario 4: 'Scenario B 2029 DS PM' (FG4: 'Scenario B 2029 DS PM', Plan 1: 'Network Control Plan 1')

[illegible]

Scenario 5: 'Scenario B 2039 DS AM' (FG5: 'Scenario B 2039 DS AM', Plan 1: 'Network Control Plan 1')

Scenario 6: 'Scenario B 2039 DS PM' (FG6: 'Scenario B 2039 DS PM', Plan 1: 'Network Control Plan 1')

Scenario 7: 'Scenario C 2024 DS AM' (FG7: 'Scenario C 2024 DS AM', Plan 1: 'Network Control Plan 1')

Scenario 8: 'Scenario C 2024 DS PM' (FG8: 'Scenario C 2024 DS PM', Plan 1: 'Network Control Plan 1')

Scenario 8: 'Scenario C 2024 DS PM' (FG8: 'Scenario C 2024 DS PM', Plan 1: 'Network Control Plan 1')

Scenario 9: 'Scenario C 2029 DS AM' (FG9: 'Scenario C 2029 DS AM', Plan 1: 'Network Control Plan 1')

Scenario 10: 'Scenario C 2029 DS PM' (FG10: 'Scenario C 2029 DS PM', Plan 1: 'Network Control Plan 1')

Scenario 11: 'Scenario C 2039 DS AM' (FG11: 'Scenario C 2039 DS AM', Plan 1: 'Network Control Plan 1')

Scenario 12: 'Scenario C 2039 DS PM' (FG12: 'Scenario C 2039 DS PM', Plan 1: 'Network Control Plan 1')

Appendix N KCC Letter Buckley's Cross Signalised Junction

Comhairle Contae Chill Dara
Kildare County Council



Date: 6th April 2022

By email

Mr. Michael Durkin

Aston Ltd.

Re: Proposed Strategic Housing Development at Great Connell, Newbridge, County Kildare (ABP Ref. 311390-21)

Dear Mr. Durkin,

Kildare County Council has engaged with Aston Ltd. in respect of a proposed Strategic Housing Development at Great Connell, Newbridge, County Kildare, and confirms the following in respect of proposed upgrades to Buckley's Cross junction:

1. Kildare County Council has approved a proposed layout and design for a signalised junction at Buckley's Cross.
2. The proposed works can be carried out and completed within the existing road reservation and on lands within the control of KCC.
3. The works to upgrade the junction to a signalised junction will be undertaken by Kildare County Council under its own powers or by agreement with the developer.
4. The contribution of Aston Ltd. to the cost of funding the works has been agreed.
5. Kildare County Council has agreed to completing the works within 3 years of the grant of planning permission for the proposed SHD, should permission be granted.

I trust that this is in order.

Yours sincerely,

DocuSigned by:

Evelyn Wright

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Evelyn Wright

Director of Services

Roads, Transportation & Public Safety