

CS CONSULTING
GROUP

LIMERICK
LONDON
DUBLIN

Traffic and Transport Assessment

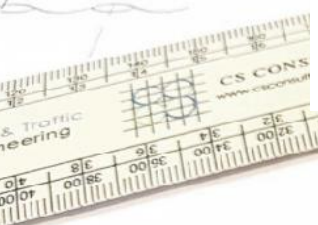
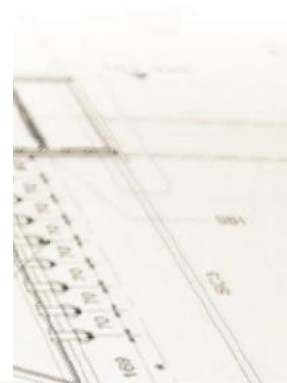
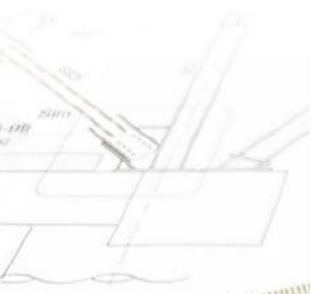
Proposed Residential Development

Bridgeway, Mulladrillen and Rathgory, Drogheda Road, Ardee, Co. Louth

Client: The Ardee Partnership

Job No. R086

February 2022



TRAFFIC AND TRANSPORT ASSESSMENT

PROPOSED RESIDENTIAL DEVELOPMENT, BRIDGEGATE, MULLADRILLEN AND RATHGORY, DROGHEDA ROAD, ARDEE, CO. LOUTH

CONTENTS

1.0	INTRODUCTION	1
2.0	SITE LOCATION AND PROPOSED DEVELOPMENT	5
3.0	RECEIVING ENVIRONMENT	10
4.0	TRAFFIC GENERATION AND TRIP DISTRIBUTION	21
5.0	OPERATIONAL ASSESSMENT	33
6.0	PARKING	40
7.0	ACCESS, LAYOUT, PUBLIC TRANSPORT, PEDESTRIANS AND CYCLISTS	45
8.0	COMMENTS RECEIVED FROM PLANNING AUTHORITIES	53
9.0	SUMMARY AND CONCLUSIONS	63

Appendix A: Traffic Survey Data

Appendix B: TRICS Data

Appendix C: Traffic Flow Matrices

Appendix D: Junction Modelling Results

Appendix E: Correspondence with TII

This Report has been prepared by CS Consulting for the benefit of its Client only. The contents of this Report are shared with interested parties for information only and without any warranty or guarantee, express or implied, as to their accuracy, reliability or completeness. This Report cannot be relied on by any party other than the party who commissioned it.

File Location: Job-R086\B_Documents\C_Civil\A_CS Reports\Planning Application\Traffic

BS 1192 FIELD **ARDEE-CSC-ZZ-XX-RP-C-0003-P10**

Job Ref.	Author	Reviewed By	Authorised By	Issue Date	Rev. No.
R086	FB	GF	NB	08.02.2022	P10
R086	FB	GF	NB	21.01.2022	P9
R086	FB	GF	NB	14.12.2021	P8
R086	FB	GF	NB	09.12.2021	P7
R086	FB	GF	NB	01.12.2021	P6
R086	FB	GF	NB	14.10.2021	P5
R086	FB	GF	NB	03.08.2021	P4
R086	FB	GF	NB	14.05.2021	P3
R086	FB	GF	NB	04.05.2021	P2
R086	FB	GF	NB	28.08.2020	P1

1.0 INTRODUCTION

1.1 Scope

Cronin & Sutton Consulting Engineers (CS Consulting) have been commissioned by The Ardee Partnership to prepare a Traffic and Transport Assessment for a proposed 272-unit residential development at Bridgegate, Mulladrillen and Rathgory, Drogheda Road, Ardee, County Louth.

In preparing this report, CS Consulting has made reference to the following:

- Louth County Development Plan 2021–2027
- Sustainable Urban Housing: Design Standards for New Apartments (Guidelines for Planning Authorities) 2020
- The Institute of Highways and Transportation Guidelines for Traffic Impact Assessments
- TII Project Appraisal Guidelines 2011
- TII Traffic and Transport Assessment Guidelines
- Trip Rate Information Computer System (TRICS) Database
- CSO 2016 Census Data
- National Cycle Manual 2011
- Design Manual for Urban Roads and Streets
- NTA Permeability Best Practice Guide 2015

1.2 Objective

The objective of this report is to examine the traffic implications associated with the proposed development, in terms of integration with existing traffic in the area. The report determines the impact of the proposed development on the existing road network, through the operational assessment of 2no. key junctions on the N2 national road in the vicinity of the development site.

The report also examines the proposed development's vehicular access arrangements, car parking provision, site layout, and facilities for pedestrians and cyclists.

1.3 Study Methodology

The methodology adopted for this report is summarised as follows:

- Traffic flow data – A 12-hour classified vehicular traffic count survey was undertaken on Thursday the 3rd of May 2018 by Nationwide Data Collection (NDC), on behalf of CS Consulting. This survey was conducted between 07:00 and 19:00, at 2no. junctions on the N2 national road. The surveyed traffic flows were then scaled up to baseline figures for the year 2022 by the application of TII growth factors.
- Trip generation – A trip generation assessment has been carried out using both recorded survey data and TRICS database data, to determine the potential vehicular trips to and from the proposed development site during peak hours, as well as to and from nearby committed developments.
- Trip distribution – Based upon existing traffic characteristics and the surrounding road network, an appropriate distribution has been assigned to site development vehicular trips across the road network. Suitable trip distributions were also assigned to nearby committed developments.
- Existing junction assessment – A spreadsheet model was created which contains the base year do-nothing traffic count data described above. The traffic count data was used to develop TRANSYT and PICADY models of two existing junctions on the N2 (one that was surveyed and one that has been constructed since the survey date).
- Future junction operation assessments – Future year traffic forecasts were derived from TII growth factors and development trip generation

figures. These traffic flows were applied to the PICADY junction models. The performances of these junctions were assessed for the baseline year (2022), the proposed year of opening (2024), 5 years after opening, and 15 years after opening (the Design Year Assessment).

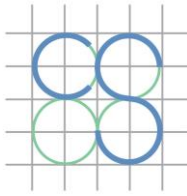
- Parking – Car parking and bicycle parking provisions within the proposed development have been assessed with reference to the parking standards set out in the Local Authority development plan and in the 2020 *Design Standards for New Apartments*.

1.4 Structure of Report

As outlined above, this Traffic and Transport Assessment report seeks to establish the traffic impact generated by the proposed development on the surrounding road network and subsequently ascertain the future operational performance of the local road network.

The structure of this report corresponds to the various stages outlined above, and the key tasks summarised below:

- Section 2 describes the proposed development location, existing land use and the development proposals.
- Section 3 provides an overview of the existing traffic conditions and the local road network, identifying any existing issues related to traffic flow or road infrastructure of particular relevance to this transport appraisal.
- Sections 4 and 5 detail the analysis as described in the study methodology above. The analysis examines trip generation, trip distribution and resulting junction operational performance with the development in place.
- Section 6 assesses the proposed car and bicycle parking provision for the development, with reference to Local Authority standards.



- Section 7 addresses the development's internal layout and access for motor vehicles, pedestrians and cyclists.
- Section 8 provides an overview of the relevant opinions and recommendations received from An Bord Pleanála and from Louth County Council in the course of the Strategic Housing Development application process to date, and details the measures taken in response to these comments.
- Section 9 presents the conclusions of the report.

2.0 SITE LOCATION AND PROPOSED DEVELOPMENT

2.1 Site Location

The site of the proposed development lies on the outskirts of Ardee in County Louth, approx. 800m to the south-east of the town centre, in the townland of Rathgory and Mulladrillen. The site has a total area of 13.03ha and is located in the operational area of Louth County Council.

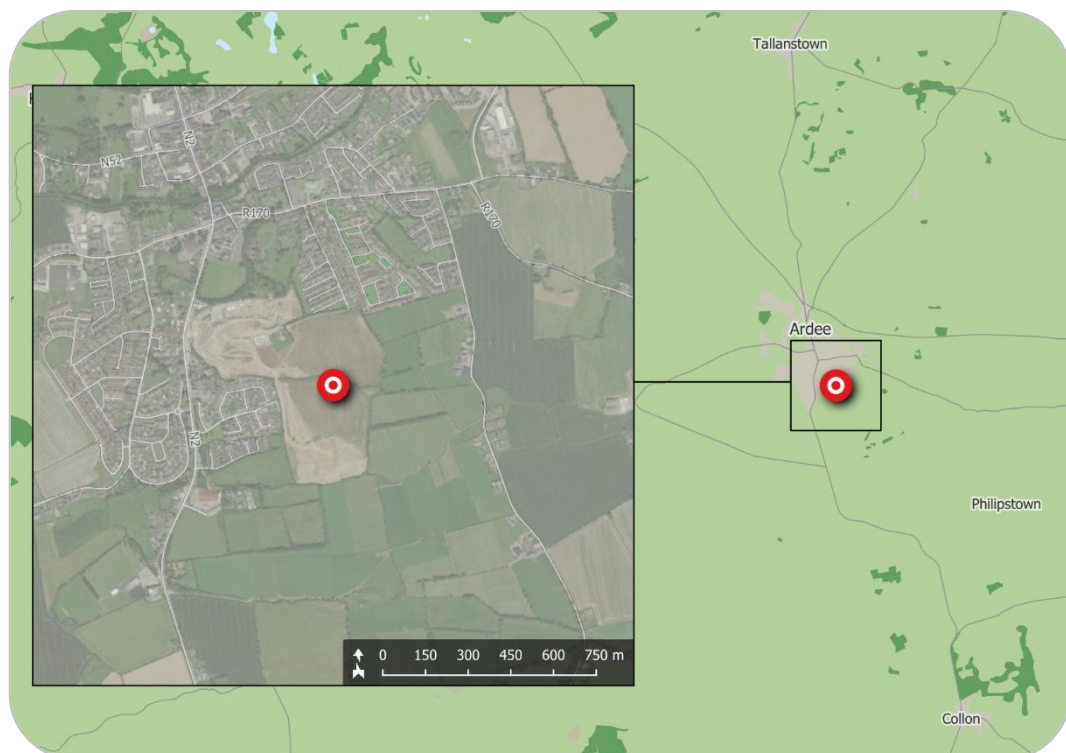


Figure 1 – Location of proposed development site
(map data & imagery: EPA, OSM Contributors, ESRI)

The location of the proposed development site is shown in Figure 1 above; the indicative extents of the development site, as well as relevant elements of the surrounding road network, are shown in more detail in Figure 2.

The site is bounded to the north and north-east by the existing De la Salle Crescent and Moorehall residential developments, to the west by the existing Cherrybrook residential estate and by lands currently under

development (planning ref. 10/174), and on all other sides by agricultural lands.



Figure 2 – Site extents, access, and transport infrastructure
(map data & imagery: NTA, OSM Contributors, Microsoft)

2.2 Existing Land Use

The subject site is greenfield and currently generates no vehicular traffic.

2.3 Description of Proposed Development

The proposed development site extends to c. 13.03 ha at Bridgegate, Rathgory & Mulladrillen, Drogheda Road, Ardee, County Louth and adjoins Phases 1-3 at Bridgegate (under construction) on lands to the west, accessed from the N2 Drogheda Road. The proposals overlap the boundary of permitted development Reg. Ref.: 10174; ABP Ref: PL15.238053 (as amended) at the western boundary and will supersede granted

development in this area which consists of 31 no. dwellings, crèche and community building and public open space.

The development will consist of:

- A) The construction of 272 no. residential units comprising a mix of 206 no. 2, 3 and 4 bedroom houses (all 2 storeys) including 50 no. 2-bedroom houses (Type 1), 145 no. 3-bedroom houses (Types 2, 3, 6) and 11 no. 4-bedroom houses (Types 4, 5) all with private open space and car parking, alongside 66 no. duplex units (all 3 storeys) including 17 no. 1-bedroom units (Types D5, D8), 24 no. 2-bedroom units (Types D1, D3, D6) and 25 no. 3-bedroom units (Types D2, D4, D7), all with private open space in the form of terrace at upper floor level and external garden space, with 499 sqm of communal open space serving Duplex Blocks A-B (48 no. units) (served by 2 no. bin and bike stores [each c. 51 sqm] adjacent) at Bridgegate Avenue, providing a total residential gross floor area of c. 28,168.9 sqm;
- B) A part 1, part 2 no. storey crèche (c. 484.1 sqm) and playground and a single storey community building (c. 165 sqm) located adjacent at a central community hub (with bin and bike store [c. 23 sqm]) accessed from Bridgegate Avenue served by car parking located on Bridgegate Green and Bridgegate Avenue;
- C) A landscaped Public Park located in the northern part of the site extending to c. 3.6 ha accessed from the community hub and between duplex Blocks B & C at Bridgegate Avenue, with 2 no. pedestrian links to permitted public park adjoining to the west and 1 no. pedestrian footpath extending to the northern perimeter at Hale Street, with a reservation for a future link road to lands to the east facilitated in the northern section of the park;
- D) Works to the Rathgory Tributary located to the south of Bridgegate Avenue comprising the realignment of the channel and regrading and

reprofiling of land (as required), implementation of 2 no. vehicular crossings (including culverts and mammal passes) and the provision of a riparian corridor based around the open watercourse comprising landscaping and planting with safe access to the watercourse provided for maintenance purposes and 1 no. pedestrian and cyclist crossing;

- E) A series of landscaped public open spaces provided throughout the site with Public Open Space 01 (c. 1.05 ha) and Public Open Space 2 (c. 0.43 ha) located within the linear park (including riparian corridor) adjacent to the Rathgory Tributary with Public Open Space 03 (c. 0.29 ha) centrally located in the southern part of the site; open spaces will provide a mix of hard and soft landscaping, pedestrian and cycle access (cycle lanes provided at POS 1 and POS 2) and a range of activities including fitness spaces, kickabout area, amphitheatre and nature based play areas;
- F) Provision of shared surfaces, landscaped streetscapes including planting and landscaping at two neighbourhood streets in the southern part of the site, with roads provided to site boundaries to the east, south and west to facilitate possible future connections;
- G) All landscaping including planting to consolidate treelines and hedgerows forming existing site boundaries with agricultural lands to the east and Cherrybrook residential development to the west and all boundary treatments;
- H) Roads and access infrastructure taken from Bridgegate Avenue (permitted under Reg. Ref.: 10/174; ABP Ref: PL15.238053 [as amended]), the provision of a bus stop on the south side of Bridgegate Avenue adjacent to community hub and provision of cycle lanes at this location (continued through Public Open Space 01); a total of 480 no. car parking spaces (362 no. serving houses, 84 no. serving duplexes, 23 no. serving crèche and community building and 11 no. visitor and

public open spaces), a total of 296 no. bicycle parking spaces (204 no. spaces serving duplexes [60 visitor spaces], 32 no. spaces at the community hub and 60 no. visitor spaces);

- I) Provision of 2 no. ESB substations, all associated drainage and services infrastructure (surface water, foul and water supply), public lighting, SUDS drainage and works to facilitate the development.

For the purposes of the present assessment, it is assumed that the subject development shall be completed and occupied by the year 2024.

3.0 RECEIVING ENVIRONMENT

3.1 Existing Traffic Flows

Full turning movement classified traffic counts were carried out by Nationwide Data Collection (NDC), on behalf of CS Consulting, over a 12-hour period (07:00–19:00) on Thursday the 3rd of May 2018. Count information was obtained at the following 2no. sites on the N2 (Drogheda Road / Bridge Street) and on the R170 (see Figure 3):

- J1. Bridge St (N2) / William St (R170) / Drogheda Rd (N2) / John St (existing 4-arm priority junction)
- J2. Drogheda Rd (N2) / Cherrybrook Estate (existing 3-arm priority junction)



Figure 3 – Surveyed road junction sites
(map data & imagery: OSM Contributors, Microsoft)

The peak hour traffic flows across these two survey sites were found to be between 08:30 and 09:30 (AM peak hour) and between 17:45 and 18:45

(PM peak hour). The 2018 surveyed traffic movements during the peak hours have been adjusted to produce baseline traffic flows for the year 2022 by:

- the application of TII growth factors (see sub-section 4.7); and
- the addition of vehicular traffic generated by nearby development completed between 2018 and 2022 (see sub-sections 3.6 and 4.4).

Raw data from this traffic survey are provided in Appendix A. The traffic movements at each surveyed junction during the peak hours have been abstracted from the count data and are included in the traffic flow matrices given in Appendix C. Total peak hour flows at the surveyed junctions are also given in Table 1.

Table 1 – Peak Hour Traffic Flows at Surveyed Junctions

Time Period	Total Junction Traffic Movements (Passenger Car Units)			
	2018 Surveyed Flows		2022 Baseline Flows	
	J1	J2	J1	J2
AM Peak Hour	1762	826	1949	888
PM Peak Hour	1576	986	1692	1048

3.2 Observed Traffic Conditions

An on-demand signalised pedestrian crossing is in place on Castle Street (N2), in Ardee town centre, opposite Ardee Castle and approx. 16m to the south of the N2/N52 junction. Onsite observations of traffic conditions have shown that traffic queueing can occur southward along the N2 from this pedestrian crossing, extending as far as the junction approx. 650m to the south (see Figure 2 and Figure 3) that provides access to the subject development via the adjacent development under construction (ref. 10/174).

The observed pattern of queueing is sporadic, arising from pedestrian demand at the signalised crossing, and it is therefore not possible to

effectively account for this in operational assessments of nearby road junctions.

3.3 Existing Road Network Characteristics

3.3.1 N2 (Drogheda Road / Bridge Street)



Figure 4 – Drogheda Rd (view to north from new access junction)



Figure 5 – Drogheda Rd (view to south from new access junction)



Figure 6 – Drogheda Rd (view to north into junction with R170)

- Single carriageway road with a pavement width of approx. 9m generally in the vicinity of the new access junction serving the subject site (via the adjacent development under construction).
- National road with a north-south alignment generally: passes through Ardee town centre to the north and continues towards Carrickmacross and Monaghan town; to the south, passes through Slane before joining the M2 motorway into Dublin at Ashbourne.
- Subject to a 50km/h speed limit through Ardee, including in the vicinity of the new access junction serving the subject site.
- Raised footpaths are present in the vicinity of the new access junction serving the subject site. No cycle tracks or bus lanes are present.
- On-street parking is not prohibited generally on the N2 in the vicinity of the new access junction serving the subject site.

3.3.2 R170 (William Street / Moorhall / Hale Street)



Figure 7 – William St (view to west into junction with N2 and John St)

- Single carriageway road with a pavement width of approx. 10m at its junction with the N2.
- Regional road with an east-west alignment generally, connecting to the N2 in the west and to the M1 motorway at Dunleer in the east, approx. 8km from Ardee. Also provides access (via a 500m-long link road) from Ardee to the N33 national road, which constitutes an alternative route to the M1 motorway.
- Subject to a 50km/h speed limit through Ardee.
- Raised footpaths are present along both sides of the R170 through Ardee. No cycle tracks or bus lanes are present.
- On-street parking is prohibited along most of the R170 within Ardee, with some exceptions.

3.3.3 John Street



Figure 8 – John St (view to east into junction with N2 and R170)

- Single carriageway road with a pavement width of approx. 12m generally in the vicinity of its junction with the N2.
- Local road with an east-west alignment locally, connecting to the N2 and R170 in the east and to the R165 in the south-west.
- Subject to a 50km/h speed limit in the vicinity of its junction with the N2.
- Raised footpaths are present along John Street for a distance of approx. 900m west of its junction with the N2. No cycle tracks or bus lanes are present.
- Significant on-street parking provision – in the form of marked bays – is in place on John Street in the vicinity of its junction with the N2.

3.4 Traffic Collision Data

Data on recorded road traffic collisions in the years 2005 to 2016, collated and presented by the Road Safety Authority, show that no serious or fatal collisions occurred in proximity to the development site (or its proposed access onto the existing road network) within that 12-year period. The locations of recorded collisions in the vicinity of the development site are shown in Figure 9.



Figure 9 – Recorded traffic collisions (2005-2016) on surrounding roads
(data & imagery sources: RSA, OSM Contributors, Microsoft)

The nearest serious collision occurred in 2015 on the N2, approx. 270m to the south of the new access to the adjacent committed development (which shall also function as the vehicular access to the subject development). One minor collision occurred in 2010 on the N2 approx. 30m to the north of this new access junction. Neither of these collisions involved pedestrians.

3.5 Potential Local Infrastructure Improvements

3.5.1 East-West Local Connector Road

The *Louth County Development Plan 2021–2027* includes as Strategic Settlement Strategy Policy Objective SS 42 the provision of “a new link road from Rathgory and Mulladrillen to Black Road”. This east-west connector road, to the south of Ardee town centre, would link the N2 Drogheda Road and Jumping Church Road (Black Road), bypassing William Street and Hale Street. This roads objective appears also to be included among the ‘Key Road and Bridge Projects’ (Table 7.4) listed in the *Louth County Development Plan 2021–2027*, in which it is referred to as ‘Link from N2 Rathgory to Clanmore’. No preferred alignment for this road objective is given in the *Louth County Development Plan 2021–2027* or shown on its associated maps.

The internal road layouts of both the subject development and the adjacent residential development currently under construction (ref. 10/174), which bounds the subject site to the north-west, allow for the potential future provision of such a connector road via these development lands, as described in sub-section 7.3.

3.5.2 N52 Ardee Bypass

Funding has been allocated for the construction of a 4.5km bypass to the north-west of Ardee town, linking the N2 at Mullanstown (to the north of Ardee) with the N52 at Mandistown (to the west, at the Louth/Meath boundary). The bypass is intended to relieve congestion on Castle Street and Market Street in Ardee town centre, by providing an alternative route for east-west traffic travelling between the Kells Road (N52) and Carrickmacross, Dundalk or the M1 motorway.

The N52 Ardee Bypass (TII Route ID: N52D1CM) is currently at planning stage, with land acquisition and detailed design ongoing, and no timeline has been published for construction works. The bypass is not

expected to impact directly upon traffic conditions in the vicinity of the subject development, but is likely to have an indirect beneficial impact by reducing vehicle queuing along Castle Street, which at present impacts sporadically upon the operation of the N2/R170 junction.

It should be noted that the above-mentioned infrastructure improvement proposals have not been factored in to the traffic distribution and junction performance modelling conducted as part of this assessment, as the future delivery of these objectives is not guaranteed. The present assessment of traffic impact therefore considers the local road network only in its current form.

No further relevant transport-related infrastructure objectives in the vicinity of the development site are given in the *Louth County Development Plan 2021–2027*.

3.6 Interim Development 2018-2022

At the time of the traffic survey conducted in May 2018, planning permission had been granted (ref. 15/670) for the removal of 490m² of existing prefabricated structures at Ardee Community School and the construction of a new 2,911m² standalone extension, with access to/from John Street (see Figure 10). These works have since been carried out in the intervening period. The operational traffic generated by this development has been included in the baseline year traffic flows and in all future year junction assessments, as described in sub-section 4.4 of this report.

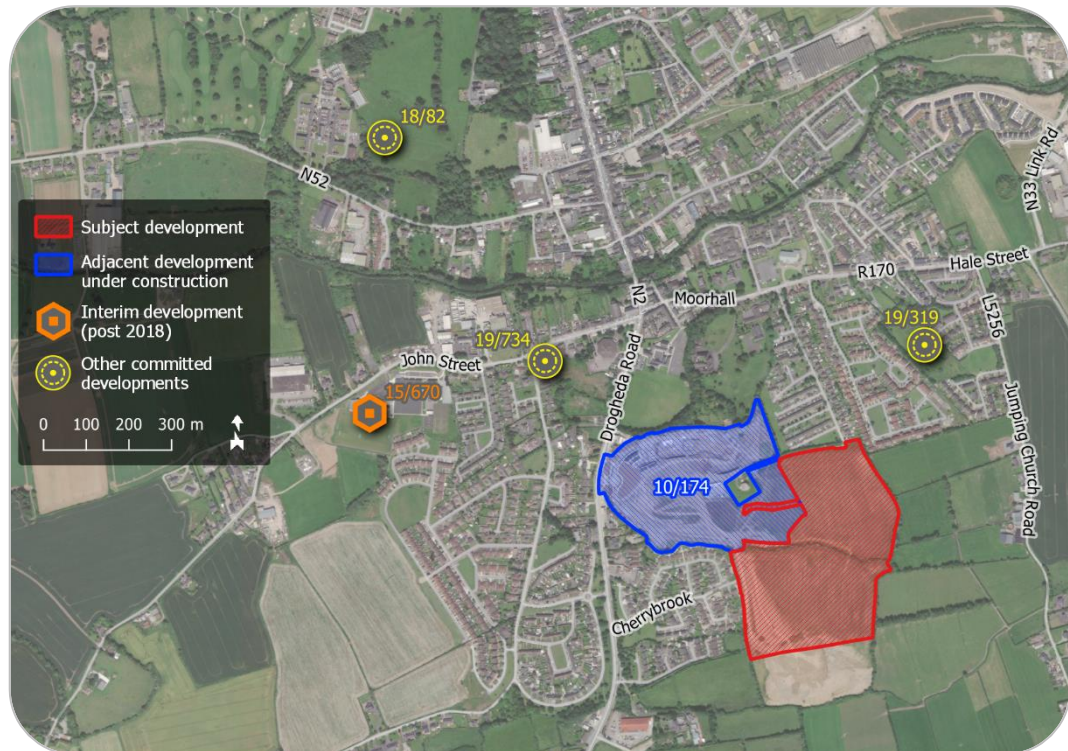


Figure 10 – Relevant other nearby developments
(map data & imagery: Louth Co. Co. / DoHPLG, OSM Contributors, Microsoft)

3.7 Adjacent Development Under Construction

As previously noted, the subject site is bounded to the north-west by a mixed residential development that is currently under construction and through which the subject development shall have vehicular access to/from the N2. Planning permission for this adjacent development was granted under register ref. 10/174 and has since been amended under refs. 19/336, 19/353, 19/549, and 19/875.

As currently permitted, the adjacent development comprises 158no. residential units, a 378m² creche, and a 176m² community facility. Vehicular access to/from this development is via a new priority-controlled access junction on N2, which has recently been constructed (see Figure 2 and Figure 10). The projected operational traffic to be generated by this

adjacent development has been included in all future year junction assessments, as described in sub-section 4.5 of this report.

3.8 Nearby Committed Developments

3no. further active planning permissions have been identified that are considered sufficiently close to the subject development site to have a potential impact on the traffic flows at the junctions considered in this report, if developed as permitted (see Figure 10):

(A) Ref. 19/319

Residential development of 55no. units at Dawson's Demesne, with vehicular access to/from Jumping Church Road via the existing Clonmore residential development.

(B) Refs. 15/670 & 19/734 (ABP ref. 307819-20)

Residential development of 26no. units on a site at the corner of John Street and Stoney Lane, with vehicular access to/from Stoney Lane.

(C) Ref. 18/82

Ardee Educate Together Primary School, comprising 10no. classrooms in total and with a GFA of 1,923m², with vehicular access to/from the N52 (Kells Road).

For the purposes of this Traffic Impact Assessment, it has been assumed that the above-listed permitted developments shall all proceed and shall be occupied by the year 2024. The projected operational traffic to be generated by these developments has been included in all future year junction assessments, as described in sub-section 4.6 of this report.

4.0 TRAFFIC GENERATION AND TRIP DISTRIBUTION

4.1 Subject Development Trip Generation

The subject development comprises the following elements:

- 206no. dwelling houses;
- 66no. duplex units;
- a crèche with a gross floor area of 484m²; and
- a community centre building with a gross floor area of 165m².

4.1.1 Residential Trip Generation

The predicted vehicular trip generation of the proposed development's residential elements has been calculated with reference to the nearby residential cul-de-sac of Cherrybrook. The access to the Cherrybrook development is located on the Drogheda Road (N2) and was one of the two junctions surveyed (see sub-section 3.1). The recorded arrivals and departures to/from Cherrybrook, for both the AM and PM peak hour periods, are given in Table 2.

Table 2 – Surveyed Arrivals and Departures at Cherrybrook

	Arrivals	Departures	Total Trips
AM Peak (08:30-09:30)	31	71	102
PM Peak (17:45-18:45)	76	54	130

The Cherrybrook estate comprises 109no. residential units, with a mix of detached and semidetached houses. Location-specific residential trip rates were derived through the division of the surveyed Cherrybrook arrival and departure trip numbers by the number of existing residential units. These derived trip rates are given in Table 3.

Table 3 – Survey-Derived Residential Trip Rates

Peak Hour	Arrivals per residential unit	Departures per residential unit
AM Peak	0.284	0.647
PM Peak	0.695	0.495

The predicted peak hour residential trip generation of the proposed development has been obtained by applying the total number of residential units within the development (272no.) to the trip rates given in Table 3. These final residential trip generation figures are given in Table 4.

Table 4 – Predicted Subject Development Residential Trips

Peak Hour	Arrivals	Departures	Total Trips
AM Peak	77	176	253
PM Peak	189	135	324

For reference, the survey-derived trip generation rates given in Table 3 have also been compared to trip rates drawn from the TRICS database under the sub-category '03 Residential / A – Houses Privately Owned'. These trip rates, provided in Table 5, were selected from among similar suburban and peripheral locations, and further refined with reference to 2016 CSO census data on the basis of:

- population within 1 mile of the development site (5,000 approx.);
- population within 5 miles of the development site (14,000 approx.);
- aggregate mean car ownership rate within 5 miles of the development site (1.5 cars per household).

As the survey-derived trip rates are higher than those selected from TRICS, and have the benefit of being highly location-specific, it has not been considered appropriate to apply the TRICS trip rates to the residential elements of the subject development.

Table 5 – TRICS Residential Trip Rates

Peak Hour	Arrivals per residential unit	Departures per residential unit
AM Peak	0.196	0.348
PM Peak	0.391	0.236

It should however be noted that the existing Cherrybrook estate, comprising established detached and semidetached houses, is likely to generate vehicular traffic at higher rates than the subject development. To ensure a robust assessment of traffic impact, however, the derived trip generation rates given in Table 3 have been applied with no alteration.

4.1.2 Non-Residential Trip Generation

The predicted vehicular trip generation of the proposed development's non-residential elements has been calculated from trip rates drawn from the TRICS database. The following TRICS sub-categories have been employed, being the most appropriate for the respective elements of this development:

- 04 Education / D – Nursery
- 07 Leisure / Q – Community Centre

These sub-categories are described in the TRICS land use category definitions as follows:

- Nursery
“Pre-school centres. Trip rates are calculated by Gross Floor Area, Pupils, or Employees.”
- Community Centre
“Dedicated centre for community activities. Trip rates are calculated by Gross Floor Area, Site Area, Employees, or Parking Spaces.”

The trip rates selected are given in Table 6. Full details of the TRICS information used in the assessments are provided in Appendix B.

Table 6 – Non-Residential TRICS Trip Generation Rates

Element	Direction	AM Peak	PM Peak
Crèche (trips per hour per 100m ² GFA)	Arrivals	4.107	0.774
	Departures	3.572	2.233
Community Centre (trips per hour per 100m ² GFA)	Arrivals	4.546	3.610
	Departures	0.802	1.872

The resultant trip generation for the non-residential elements of the subject development is given in Table 7.

Table 7 – Predicted Subject Development Non-Residential Trips

Element	Direction	AM Peak	PM Peak
Crèche	Arrivals	20	4
	Departures	17	11
Community Centre	Arrivals	8	6
	Departures	1	3

The development's proposed crèche and community centre are intended primarily to cater for residents of the subject development itself, and to a lesser extent also to residents of other adjacent residential areas. For this reason, it is expected that a significant proportion of trips to and from these development elements shall be made on foot or by bicycle. Of those vehicular trips that are made to and from the crèche and community centre during background traffic peak hours, it is expected that a majority shall be pass-by trips by residents (e.g. dropping off children on the way to work), which are already accounted for within the residential trip generation figure.

The true vehicular traffic generation of the subject development's non-residential elements is therefore likely to be lower than that given

in Table 7. To ensure a robust assessment of traffic impact, however, non-residential trip generation has been assessed on a stand-alone basis and no discount has been applied.

4.1.3 Total Development Trip Generation

The following trip generation figures are calculated for the proposed development as a whole:

Table 8 – Overall Development Trip Generation

Element	Direction	AM Peak	PM Peak
Residential Dwellings	Arrivals	77	189
	Departures	176	135
	Total Trips	253	324
Crèche	Arrivals	20	4
	Departures	17	11
	Total Trips	37	15
Community Centre	Arrivals	8	6
	Departures	1	3
	Total Trips	9	9
Development TOTALS	Arrivals	105	199
	Departures	194	149
	Total Trips	299	348

4.2 Subject Development Trip Distribution

Vehicular traffic to and from the subject development may arrive or depart along the Drogheda Road (N2) either from/to the north or from/to the south. It is assumed that vehicular traffic related to the development shall be distributed according to the directional splits currently observed at the surveyed access junction of Cherrybrook. These are given in Table 9.

Table 9 – Existing Surveyed Traffic Splits at Survey Junction 2
Drogheda Road (N2) / Cherrybrook Access

Arrivals TO Cherrybrook			
From	Drogheda Rd (N2) North	Drogheda Rd (N2) South	TOTAL
AM Peak	65%	35%	100%
PM Peak	61%	39%	100%
Departures FROM Cherrybrook			
To	Drogheda Rd (N2) North	Drogheda Rd (N2) South	TOTAL
AM Peak	79%	21%	100%
PM Peak	56%	44%	100%

At the other surveyed junction on the existing road network (that of the N2 with William Street and John Street), it is assumed that vehicular traffic to and from the subject development shall be distributed according to the directional splits currently observed at this location. These splits, for both the AM and PM peak periods, are given in Table 10.

Table 10 – Existing Surveyed Traffic Splits at Survey Junction 1
Bridge Street (N2) / William Street (R170) / Drogheda Road (N2) / John Street

Arrivals TO Drogheda Road (N2)				
From	Bridge St (N2 North)	William St (R170 East)	John Street (West)	TOTAL
AM Peak	70%	23%	7%	100%
PM Peak	72%	22%	6%	100%
Departures FROM Drogheda Road (N2)				
To	Bridge St (N2 North)	William St (R170 East)	John Street (West)	TOTAL
AM Peak	62%	23%	15%	100%
PM Peak	73%	23%	4%	100%

4.3 Proportional Increases in Traffic

As shown in Table 11, vehicular traffic generated by the proposed development shall result in a maximum increase of 36.3% in the current total peak hour traffic flows at the location of the future development access junction; total traffic flows shall however remain relatively low.

Table 11 – Increases in Traffic at Development Access Junction Location

Time Period	Baseline Traffic Flows along N2 ¹	Development Traffic Flows	Proportional Increase
AM Peak Hour	874	299	34.2%
PM Peak Hour	956	347	36.3%

As shown in Table 12, vehicular traffic generated by the proposed development shall result in a maximum increase of 12.3% in the current total peak hour traffic flows at the surveyed junction of the N2 with William Street and John Street.

Table 12 – Increases in Traffic at N2 / William St. / John St. Junction

Time Period	Baseline Traffic Movements ²	Development Traffic Flows	Proportional Increase
AM Peak Hour	1920	220	11.5%
PM Peak Hour	1665	204	12.3%

4.4 Interim Development Trip Generation and Distribution

The vehicular trips predicted to be generated by the interim school development identified in sub-section 3.6 have been included in all background traffic flows for the baseline year 2022, as well as for future

¹ Baseline (year 2022) mainline flows in PCU along Drogheda Road (N2) at location of development access junction.

² Baseline (year 2022) total traffic movements in PCU at existing junction.

assessment years. The predicted peak hour trip generation of this development, reproduced in Table 13, has been sourced from the Traffic and Transport Assessment report prepared by Duffy Consulting Engineers (DCE) and submitted in support of planning application ref. 15/670. These trips have also been distributed across the local road network as specified in the DCE Traffic and Transport Assessment.

Table 13 – Interim Development Trip Generation

Peak Hour	Arrivals	Departures	Total Trips
AM Peak	49	39	88
PM Peak	8	11	19

It should be noted that the DCE assessment considers a different PM peak hour (15:15-16:15) to that considered in the present assessment (17:45-18:45). The true trip generation of the interim development in the 17:45-18:45 period is likely to be significantly lower; to ensure a robust assessment, however, the interim development's trip generation and distribution have been adopted from the DCE Traffic and Transport Assessment without modification.

4.5 Adjacent Development Trip Generation and Distribution

As noted in sub-section 3.7, the subject site is bounded to the north-west by a mixed residential development that is currently under construction. Vehicular access to/from this development is via a new priority-controlled access junction on N2, which has recently been constructed and which shall also serve as the vehicular access for the subject development. As currently permitted, the adjacent development comprises:

- 158no. residential units;
- a 378m² creche; and
- a 176m² community facility.

The vehicular trip generation of the adjacent development, given in Table 14, has been calculated in the same manner as that of the subject development: the residential element has been determined based on surveyed trips to/from the existing Cherrybrook estate on the N2, while non-residential trips have been calculated from the TRICS trip rates given in Table 6. These trips have also been distributed across the local road network in the same manner as those of the subject development.

Table 14 – Adjacent Development Trip Generation

Peak Hour	Arrivals	Departures	Total Trips
AM Peak	68	117	185
PM Peak	119	90	209

While a limited number of residential units within the adjacent development have been completed and are in the process of being occupied, it is assumed for the purposes of the present assessment that no vehicular traffic related to this development is yet present on the local road network. It is however assumed that the full level of the adjacent development's operational trip generation shall be present from the year 2024 onward.

4.6 Committed Development Trip Generation and Distribution

Table 15 – Committed Development Trip Generation

Committed Development ³	Peak Period	Arrivals	Departures	Total Trips
(A)	AM	16	36	52
	PM	38	27	65
(B)	AM	7	17	24
	PM	18	13	31
(C)	AM	53	43	96
	PM	9	17	26

³ See Figure 10, page 16.

The vehicular trips predicted to be generated by the 3no. committed developments identified in sub-section 3.8 have been included in all background traffic flows for future assessment years.

Table 16 – Existing Surveyed Traffic Splits at Survey Junction 1
Bridge Street (N2) / William Street (R170) / Drogheda Road (N2) / John Street

Arrivals TO Bridge Street (N2)				
From	William St (R170 East)	Drogheda Rd (N2 South)	John Street (West)	TOTAL
AM Peak	21%	47%	32%	100%
PM Peak	17%	58%	25%	100%
Departures FROM Bridge Street (N2)				
To	William St (R170 East)	Drogheda Rd (N2 South)	John Street (West)	TOTAL
AM Peak	24%	44%	32%	100%
PM Peak	27%	52%	21%	100%
Arrivals TO William Street (R170)				
From	Bridge St (N2 North)	Drogheda Rd (N2 South)	John Street (West)	TOTAL
AM Peak	41%	28%	31%	100%
PM Peak	47%	32%	21%	100%
Departures FROM William Street (R170)				
To	Bridge St (N2 North)	Drogheda Rd (N2 South)	John Street (West)	TOTAL
AM Peak	37%	27%	36%	100%
PM Peak	36%	34%	30%	100%
Arrivals TO John Street				
From	Bridge St (N2 North)	William St (R170 East)	Drogheda Rd (N2 South)	TOTAL
AM Peak	51%	32%	17%	100%
PM Peak	55%	38%	7%	100%
Departures FROM John Street				
To	Bridge St (N2 North)	William St (R170 East)	Drogheda Rd (N2 South)	TOTAL
AM Peak	56%	36%	8%	100%
PM Peak	60%	29%	11%	100%

4.6.1 Committed Development (A) – Ref. 19/319

Trips to be generated by this committed development have been calculated in the same manner as the residential element of the subject development: based upon the recorded arrivals and departures to/from the Cherrybrook estate.

It has been assumed that approximately 50% of all vehicular trips to and from this development shall pass through the N2 / William Street / John Street junction, at which location it is assumed that they shall follow the directional splits currently observed (see Table 16).

4.6.2 Committed Development (B) – Ref. 15/670

Trips to be generated by this committed development have been calculated in the same manner as the residential element of the subject development: based upon the recorded arrivals and departures to/from the Cherrybrook estate.

It has been assumed that approximately 50% of all vehicular trips to and from this development shall pass through the N2 / William Street / John Street junction, at which location it is assumed that they shall follow the directional splits currently observed (see Table 16).

4.6.3 Committed Development (C) – Ref. 18/82

Trip generation factors from the TRICS database have been used to predict the trip generation to and from this committed development, for both the AM and PM peak hour periods. The TRICS sub-category '04 Education / A – Primary' has been employed, being the most appropriate for this type of development, with trips being calculated on the basis of the proposed total gross floor area (1,923m²). Details of the TRICS information used are included in Appendix B.

It has been assumed that 50% of all vehicular trips to and from this development shall pass through the N2 / William Street / John Street

junction, at which location it is assumed that they shall follow the directional splits currently observed (see Table 16).

4.7 Future Year Traffic Growth

The operational impact of traffic on the road network within the proposed development's area of influence has been assessed for the following years:

- 2022 Baseline year⁴
- 2024 Proposed opening year
- 2029 5 years after opening
- 2039 Design year (15 years after opening)

Unit 5.3 of the TII *Project Appraisal Guidelines* (PE-PAG-02017 *Travel Demand Projections*) has been used to apply growth factors to the 2018 surveyed traffic flows, for the baseline year and future year junction assessments. The TII annual growth rates applied are given in Table 17, and the resultant cumulative growth in background traffic for each assessment year is given in Table 18.

Table 17 – TII Central Growth Rates (Light Vehicles)

Geographic Area	Background Traffic Growth per Year		
	2016-2030	2030-2040	2040-2050
Louth County	+ 1.48%	+ 0.70%	+ 0.63%

Table 18 – Predicted Background Traffic Growth⁵

2022 Baseline year	2024 Year of opening	2029 Opening year + 5	2039 Opening year + 15
+ 6.1%	+ 9.3%	+ 17.5%	+ 26.9%

⁴ N2/R170 junction only.

⁵ Cumulative percentage increases over 2018 surveyed traffic levels.

5.0 OPERATIONAL ASSESSMENT

5.1 Introduction

To determine the likely traffic impact of the proposed development, capacity assessments of the following existing junctions, for both the AM peak hour and the PM peak hour, have been undertaken using industry-standard TRANSYT and PICADY software:

- J1. Bridge St (N2) / William St (R170) / Drogheda Rd (N2) / John St (existing established 4-arm priority junction)
- J3. Drogheda Rd (N2) / development access (existing new 3-arm priority junction)



Figure 11 – Assessment junction locations
(map data & imagery: OSM Contributors, Microsoft)

The following tables summarise the performances of these junctions in 2022 (baseline conditions), in 2024 (the planned year of opening), in 2029 (five years after development completion), and in 2039 (the design year; fifteen

years after the completion of the development), using the existing and predicted traffic flows given in Appendix C. It is noted that the baseline traffic flows for the year 2022 have been scaled up from traffic survey data collected in 2018; they are therefore unaffected by subsequent changes in traffic patterns resulting from the current COVID-19 public health emergency.

Junction performance is assessed based upon the four metrics defined in the following sub-section. Full TRANSYT and PICADY outputs are provided in Appendix D.

Note: The assessment junctions have been numbered in accordance with the numbering of the surveyed junctions listed in sub-section 3.1; J2 therefore does not feature in this list, as this junction was surveyed but has not been modelled.

5.2 Definitions

Degree of Saturation:

The ratio of flow to capacity (also known as RFC) on a link or traffic stream. When calculating this value, account is taken of blocking effects and oversaturation effects.

Mean Maximum Queue:

The highest estimated mean number of Passenger Car Units (PCUs) queued in any lane of a junction approach link, averaged over the entire analysis period.

Mean Delay per PCU:

The average delay incurred by a vehicle on a junction approach link or traffic stream, as a result of having to queue at signals or having to give way at a priority junction.

Practical Reserve Capacity:

The percentage by which the arrival rate on a traffic stream could increase before the stream would be at practical capacity (i.e. 90% saturation).

Note: In the case of a multi-stream junction approach arm, the results in the following tables are those of the worst-performing traffic stream under each assessment criterion.

5.3 Junction 1 Assessment Results

The following tables give the TRANSYT modelling results, for each of the assessment scenarios, at the junction of the N2 (Drogheda Road / Bridge Street) with the R170 (William Street) and with John Street.

- Arm A: Bridge Street [N2] (to the north)
- Arm B: William Street [R170] (to the east)
- Arm C: Drogheda Road [N2] (to the south)
- Arm D: John Street (to the west)

The assessment results show that this junction currently slightly exceeds effective capacity on its northern approach during the AM peak hour but operates within effective capacity on all other approaches during both peak hour periods, with minor vehicle queues and delays.

By the opening year 2024, as a result of background traffic growth and trips generated by nearby committed developments, the junction's northern approach is predicted to exceed ultimate capacity during the AM peak hour. By the year 2029, without the addition of subject development traffic, the junction's eastern and southern approaches shall exceed effective capacity (90% saturation) during the AM peak hour but shall remain within ultimate capacity. By the design year 2039, all but the western junction approach are predicted to exceed ultimate capacity during the AM peak hour.

During the PM peak hour, without the addition of subject development traffic, all junction approaches are predicted to continue operating within effective capacity past the design year 2039. The addition of subject development traffic results in the northern and southern junction approaches exceeding effective capacity during the PM peak hour in the year 2039; all approaches shall however remain within ultimate capacity under this scenario.

Table 19 – Junction 1 Assessment Results

Junction Approach Arm	Degree of Saturation		Mean Maximum Queue (PCU)		Mean Delay per PCU (seconds)		Practical Reserve Capacity	
	AM	PM	AM	PM	AM	PM	AM	PM
2022 assessment (baseline conditions)								
N2 Bridge St	92%	66%	5	1	21	3	-2%	36%
R170 William St	59%	42%	0	0	11	5	53%	116%
N2 Drogheda Rd	75%	63%	1	1	5	3	20%	43%
John St	64%	43%	1	0	6	2	40%	108%
2024 – opening year assessment – WITHOUT subject development								
N2 Bridge St	104%	76%	26	1	106	6	-14%	18%
R170 William St	80%	52%	1	0	35	8	12%	73%
N2 Drogheda Rd	89%	73%	3	1	14	5	1%	23%
John St	73%	48%	1	0	9	3	23%	87%
2024 – opening year assessment – WITH subject development in place								
N2 Bridge St	113%	84%	57	2	218	9	-20%	7%
R170 William St	94%	62%	4	1	92	13	-5%	45%
N2 Drogheda Rd	103%	82%	25	2	87	8	-13%	9%
John St	78%	50%	1	0	13	4	15%	79%
2029 assessment – WITHOUT subject development								
N2 Bridge St	113%	82%	56	2	216	8	-20%	10%
R170 William St	96%	59%	4	0	100	12	-6%	52%
N2 Drogheda Rd	97%	80%	9	2	33	6	-7%	13%
John St	79%	53%	1	0	13	4	13%	71%

Table 20 – Junction 1 Assessment Results (continued)

Junction Approach Arm	Degree of Saturation		Mean Maximum Queue (PCU)		Mean Delay per PCU (seconds)		Practical Reserve Capacity	
	AM	PM	AM	PM	AM	PM	AM	PM
2029 assessment – WITH subject development in place								
N2 Bridge St	122%	90%	91	4	328	14	-26%	0%
R170 William St	105%	70%	8	1	180	23	-14%	28%
N2 Drogheda Rd	111%	89%	56	3	187	13	-19%	1%
John St	85%	55%	2	0	20	4	6%	63%
2039 – design year assessment – WITHOUT subject development								
N2 Bridge St	122%	89%	92	3	333	14	-26%	1%
R170 William St	112%	71%	12	1	259	23	-20%	27%
N2 Drogheda Rd	105%	87%	33	3	117	10	-15%	4%
John St	87%	58%	3	0	22	5	3%	56%
2039 – design year assessment – WITH subject development in place								
N2 Bridge St	132%	97%	129	10	437	35	-32%	-7%
R170 William St	118%	86%	16	2	324	57	-24%	5%
N2 Drogheda Rd	120%	96%	97	8	305	30	-25%	-6%
John St	93%	61%	5	0	40	6	-4%	49%

During the AM peak hour in the opening year of 2024, traffic generated by the subject development may be expected to result in a maximum increase of 31 PCU in mean vehicle queue length and a maximum increase of 111 seconds in mean vehicle delay. These effects are disproportionate to the actual trip generation of the subject development, and arise largely due to the junction's existing operational condition, the influence of background traffic growth, and the addition of traffic generated by other nearby committed developments.

During the PM peak hour in the opening year of 2024, subject development traffic may be expected to result in a maximum increase of 1 PCU in mean vehicle queue length and a maximum increase of 5 seconds in mean vehicle delay.

5.4 Junction 3 Assessment Results

The following tables give the PICADY modelling results, for each of the assessment scenarios, at the junction of Drogheda Road (N2) with the newly constructed access to the permitted 'Bridgegate' mixed residential development to the west of the subject site (ref. 10/174). This shall also serve as the access junction to the subject development.

- Arm A: Drogheda Road [N2] (to the north)
- Arm B: Bridgegate Access (to the east)
- Arm C: Drogheda Road [N2] (to the south)

The assessment results show that this junction shall operate well within effective capacity on all approaches during both the AM and PM peak hours in the subject development's opening year of 2024, with minimal mean vehicle queues and minor delays experienced on junction approaches. All junction approaches are shown to continue operating within their effective capacities past the year 2039, and vehicle queues on all junction approaches shall remain low.

Table 21 – Junction 3 Assessment Results

Junction Approach Arm	Degree of Saturation		Mean Maximum Queue (PCU)		Mean Delay per PCU (seconds)		Practical Reserve Capacity	
	AM	PM	AM	PM	AM	PM	AM	PM
2024 – opening year assessment – WITHOUT subject development								
N2 Drogheda Rd (N)	n/a	n/a	n/a	n/a	n/a	n/a		
Bridgegate Access	27%	17%	0	0	13	13	85%	97%
N2 Drogheda Rd (S)	4%	8%	0	0	6	6		
2024 – opening year assessment – WITH subject development in place								
N2 Drogheda Rd (N)	n/a	n/a	n/a	n/a	n/a	n/a		
Bridgegate Access	75%	50%	3	1	38	25	10%	26%
N2 Drogheda Rd (S)	11%	23%	0	0	6	8		

Table 22 – Junction 3 Assessment Results (continued)

Junction Approach Arm	Degree of Saturation		Mean Maximum Queue (PCU)		Mean Delay per PCU (seconds)		Practical Reserve Capacity	
	AM	PM	AM	PM	AM	PM	AM	PM
2029 assessment – WITHOUT subject development								
N2 Drogheda Rd (N)	n/a	n/a	n/a	n/a	n/a	n/a		
Bridgegate Access	28%	17%	0	0	13	14	77%	87%
N2 Drogheda Rd (S)	4%	8%	0	0	6	6		
2029 assessment – WITH subject development in place								
N2 Drogheda Rd (N)	n/a	n/a	n/a	n/a	n/a	n/a		
Bridgegate Access	78%	53%	3	1	45	27	7%	22%
N2 Drogheda Rd (S)	11%	23%	0	0	7	8		
2039 – design year assessment – WITHOUT subject development								
N2 Drogheda Rd (N)	n/a	n/a	n/a	n/a	n/a	n/a		
Bridgegate Access	29%	18%	0	0	14	14	70%	78%
N2 Drogheda Rd (S)	4%	9%	0	0	6	7		
2039 – design year assessment – WITH subject development in place								
N2 Drogheda Rd (N)	n/a	n/a	n/a	n/a	n/a	n/a		
Bridgegate Access	82%	56%	4	1	55	31	5%	18%
N2 Drogheda Rd (S)	11%	24%	0	0	7	8		

During the AM peak hour in the opening year of 2024, traffic generated by the subject development may be expected to result in a maximum increase of 2 PCU in mean vehicle queue length on any junction approach, and a maximum increase of 26 seconds in mean vehicle delay. During the PM peak hour in the same year, subject development traffic may be expected to result in a maximum increase of 1 PCU in mean vehicle queue length and a maximum increase of 12 seconds in mean vehicle delay.

6.0 PARKING

6.1 Overall Car Parking Provision

The subject development comprises the following elements:

- 50no. 2-bedroom houses;
- 145no. 3-bedroom houses;
- 11no. 4-bedroom houses;
- 17no. 1-bedroom duplex units;
- 24no. 2-bedroom duplex units;
- 25no. 3-bedroom duplex units;
- a crèche providing 100no. childcare places, with a staff complement of 17; and
- a community centre building with a gross floor area of 165m².

Table 23 – Overall Car Parking Provision

Land Use (Zone 3)	Car Parking Standard	Quantum	Standard Provision	Proposed Provision
Houses	2 spaces per dwelling	206 dwellings	412 spaces	362 spaces
Duplexes	2 spaces per dwelling	66 dwellings	132 spaces	84 spaces
Crèche	1 space per 6 children	100 children	17 spaces	23 spaces
Community Building	1 space per 30m ² GFA	165m ² GFA	6 spaces	
Public Open Space	Case-by-case basis			11 spaces
Visitor Parking	Case-by-case basis			
Total			567 spaces	480 spaces

The car parking provision of the proposed development has been assessed with respect to the *Louth County Development Plan 2021–2027*, which

defines the requirements for car parking provision in new residential developments. Table 23 shows the car parking standards applicable to the proposed development.

A total of 446no. parking spaces have been provided for the residential dwellings within the development, equating to an overall provision of 1.64 spaces per dwelling. 2016 CSO census data indicate that the average rate of car ownership in the established residential areas surrounding the subject site varies between 1.0 and 1.5 cars per household.

Parking has been allocated to dwellings based on the dwelling type and number of bedrooms. 2-bed houses have been allocated 1no. space each, while 3-bed and 4-bed houses have each been allocated 2no. spaces. Parking for 1-bed duplex units has been provided at a rate of 1no. space per unit, while parking for 2-bed and 3-bed duplex units has been provided at a rate of 1.2no. and 1.5no. spaces per unit, respectively.

23no. spaces have been provided to serve the proposed crèche and community building, while 11no. spaces have been provided to serve visitors and others using the public open space.

6.2 Transport Mobility Management Plan

It is noted that Section 13.16.12 of the *Louth County Development Plan 2021–2027* includes the stipulation that:

“A Transport Mobility Management Plan supporting any reduction in car parking shall be included with any application where the quantum of parking is significantly below that set out in the Car Parking Standards (Table 13.11).”

While the subject development's proposed car parking provision is acknowledged to be lower than the standard provision derived from the County Development Plan, this difference is not considered to represent a

significant shortfall. As previously noted, the development's overall residential car parking provision equates to 1.64 spaces per dwelling; this is at the upper end of the existing range of car ownership rates in the established residential areas surrounding the subject site, which vary between 1.0 and 1.5 cars per household. Accordingly, it is not considered necessary to implement a Transport Mobility Management Plan (or Residential Travel Plan) for the proposed development.

As the proposed development comprises for the most part single-occupancy houses, a Residential Travel Plan (RTP) would also be of very limited effectiveness in this case. Many mechanisms by which an RTP seeks to support and encourage sustainable travel habits among residents rely on an organisational structure (e.g. a Management Company) capable of overseeing such a Plan, allocating resources, and maintaining shared transport facilities. An RTP is therefore principally suited to residential developments consisting mostly or entirely of apartments, with common parking, storage, and maintenance facilities.

6.3 Disabled-Accessible Car Parking Provision

The *Louth County Development Plan 2021–2027* sets out the minimum requirement for the provision of disabled-accessible parking in new developments, as a proportion of the total development car parking provision. Table 24 applies this requirement to the proposed development.

Table 24 – Accessible Car Parking Provision

Proposed Car Parking Provision	Minimum Required Proportion	Accessible Spaces Required	Accessible Spaces Proposed
480 spaces	5%	24 spaces	152 spaces

144no. houses or duplex blocks in the proposed development shall each have at least 1no. in-curtilage car parking space with sufficient effective

dimensions for use by people with impaired mobility. An additional 2no. disabled-accessible spaces shall be provided in proximity to the crèche and community building, and a further 2no. disabled-accessible spaces shall be provided along the southern side of Bridgegate Avenue. The development's provision of disabled-accessible car parking is therefore deemed to meet Development Plan requirements.

6.4 Bicycle Parking Provision

The *Louth County Development Plan 2021–2027* sets out the requirements for bicycle parking provision in new developments by land use type. Table 25 shows the standards applicable to the proposed development and illustrates that the development's bicycle parking provision meets these requirements.

In the case of the houses within the proposed development, ample space for the secure storage of bicycles shall be available within the curtilage of each dwelling. At a minimum, it is assumed that 2no. bicycles can be accommodated within the curtilage of each house (1no. space for a resident and 1no. space for a visitor). This is considered to satisfy the Local Authority Development Plan's bicycle parking requirements for houses.

It is noted that the minimum bicycle parking standards for apartments set out in the *Louth County Development Plan 2021–2027* correspond to the cycle parking provision rates recommended by the 2020 policy document *Sustainable Urban Housing: Design Standards for New Apartments (Guidelines for Planning Authorities)*. The development's proposed duplex bicycle parking provision is therefore also in compliance with these Apartment Guidelines.

Table 25 – Bicycle Parking Provision – County Development Plan

Land Use	Cycle Parking Minimum	Quantum	Minimum Provision	Proposed Provision
Long-Term Cycle Parking Spaces				
Houses	1 space per unit	206 units	206 spaces	206 spaces (in-curtilage)
Apartments	1 space per bedroom	140 bedrooms	140 spaces	144 spaces
Crèche	1 space per 5 staff	17 staff	3 spaces	10 spaces
Community Buildings	1 space per 5 staff	n/a	n/a	2 spaces
Sub-Totals			349 spaces	362 spaces
Short Stay (Visitor) Cycle Parking Spaces				
Residential	1 space per 5 units	206 units	41 spaces	206 spaces (in-curtilage)
Apartments	1 space per 2 units	66 units	33 spaces	60 spaces
Crèche	1 space per 10 children	100 children	10 spaces	10 spaces
Community Buildings	1 space per 200m ² GFA	165m ² GFA	1 space	10 spaces
Public Parks & Open Spaces	n/a	n/a	n/a	60 spaces
Sub-Totals			85 spaces	346 spaces
Combined Cycle Parking Provision				
TOTALS			434 spaces	708 spaces

7.0 ACCESS, LAYOUT, PUBLIC TRANSPORT, PEDESTRIANS AND CYCLISTS

7.1 Development Access

Vehicular and pedestrian access to the development shall be via the internal roads of the adjacent permitted development to the northwest (planning ref. 10/174), which is currently under construction. The adjacent development in turn has vehicular and pedestrian access onto the N2 (Drogheda Road) to the west via a recently constructed simple priority junction (shown in Figure 12).



Figure 12 – New access junction on N2 (Drogheda Road)

The subject development's internal layout also makes provision for a potential future vehicular and pedestrian link via the neighbouring Cherrybrook residential estate, to the west of the site. Within the development, a pedestrian/cycle route also extends through the public park up to the site's northern boundary. In addition to this, the internal road

network of the subject development allows for potential future road connections to the lands to the east and to the south, if developed.

7.2 Internal Site Layout

The internal road layout of the proposed development comprises a network of local streets, connecting to a link street that traverses the development site along an east-west axis, as well as to a link street that runs through the adjacent permitted development (ref. 10/174 – currently under construction) This link street within the adjacent development in turn connects to the access junction on the N2 Drogheda Road, to the west, which constitutes the vehicular access to both developments from the public road network.

All internal roads have a carriageway width of 5.5m (with the exception of Bridgegate Avenue, which has a carriageway width of 6m) and junction corner radii do not exceed 6m. Turning heads are provided at cul-de-sacs and traffic calming measures are incorporated into the design of the internal local streets, in the form of raised tables at junctions and horizontal deflections. On-street car parking for the residential units is arranged along the internal roads.

The internal road layout of the proposed development is designed in accordance with the guidance provided in the *Design Manual for Urban Roads and Streets* (DMURS). As stated in the introduction to the DMURS:

“Better street design in urban areas will facilitate the implementation of policy on sustainable living by achieving a better balance between all modes of transport and road users. It will encourage more people to choose to walk, cycle or use public transport by making the experience safer and more pleasant.”

Dated design elements that reflect poor design standards (such as wide roads, long straights or sweeping curves, unnecessarily large junction corner radii, and large junction visibility splays) are omitted to the extent possible within the site layout, to reduce vehicle speeds within the development.

The objectives of the site layout design are:

- to keep vehicle speeds low;
- to minimise the intrusion of vehicle traffic;
- to encourage walking and cycling;
- to create short walking routes to shops, public transport, etc.;
- to create a safe, secure, and pleasant environment for people, particularly vulnerable road users (VRUs) such as children; and
- to ensure ease of access for emergency services and for refuse collection and servicing operations.

Traffic calming and VRU protection measures to be implemented in the design include:

- designated and marked pedestrian crossing points;
- smaller corner radii;
- the arrangement of on-street parking;
- horizontal alignment constraints to restrict vehicle speeds;
- vertical deflections (raised tables) at internal junctions; and
- implementation of raised local streets.

Refer to architect's drawings for full detail of site layout.

7.3 Provision for Potential Future Connector Road

As described in sub-section 3.5 of this report, there is the potential to construct a local connector road between the N2 (Drogheda Road) and the L5256 (Jumping Church Road / Black Road), providing an alternative

east-west traffic route that would bypass William Street and Hale Street (see Figure 13). This would traverse both the subject development and the adjacent residential development currently under construction (ref. 10/174) to the west. The internal layouts of both the permitted development and the subject development allow for the potential future provision of such a connector road via these development lands.



Figure 13 – Indicative alignment options for E-W connector road
(map data & imagery: NTA, OSM Contributors, Microsoft)

Within the permitted and subject developments, two potential alignments have been identified for the future provision of this link:

- a southern route, incorporating the street named Bridgegate Avenue in both developments; and
- a northern route, incorporating the street named Bridgegate Drive in the permitted development and continuing through the northern section of the subject development site.

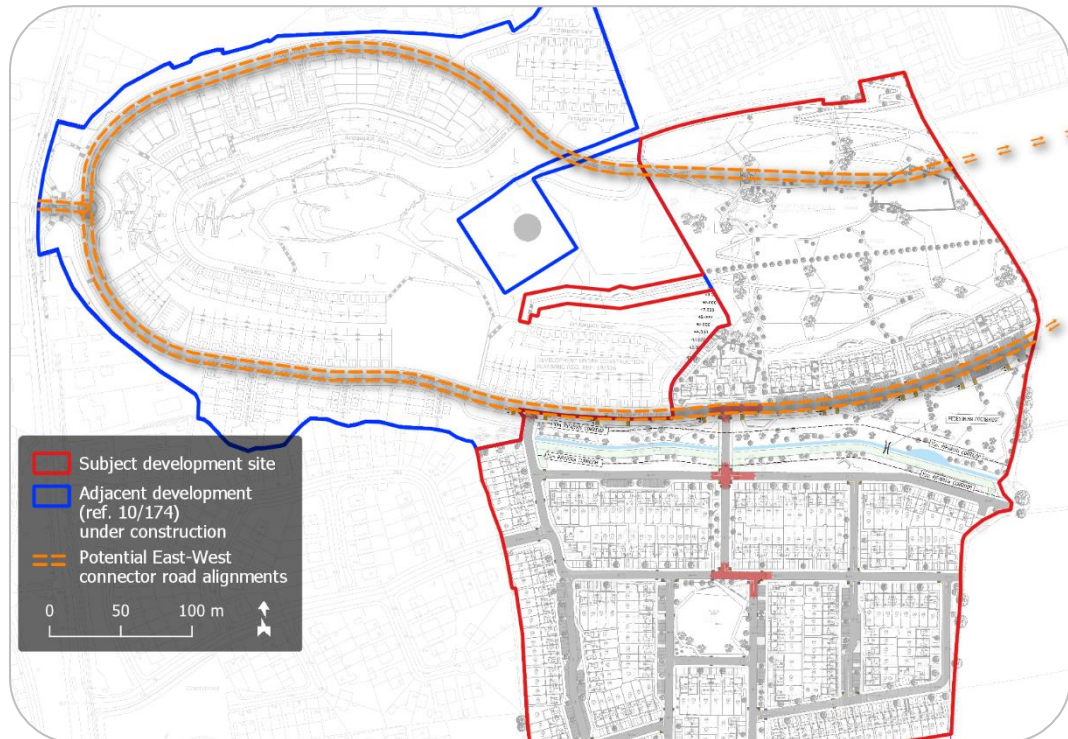


Figure 14 – Indicative alignment options for E-W connector road

In both developments, those streets with the potential to be incorporated into a future connector road have been designed to allow their use for this purpose. Within the subject development, Bridgegate Avenue is proposed to be continued up to the site's eastern boundary, while a road reservation corridor has been maintained through the northernmost section of the public park area to permit the future extension of Bridgegate Drive if required.

Lands to the east of the subject development site, which would be required for the full completion of this connector road under Objective SS 42 of the *Louth County Development Plan 2021–2027*, are in third-party ownership and are zoned 'Strategic Land Reserve'. The alignment options between the subject site and Jumping Church Road, illustrated in Figure 13 and Figure 14, are therefore indicative only and do not form part of this development proposal.

7.4 Pedestrians and Cyclists

Pedestrian and cyclist access to the proposed development shall initially be facilitated at 2no. locations:

- to/from the N2 Drogheda Road, via the access junction and internal road network of the adjacent permitted Bridgegate development to the north-west (currently under construction); and
- to/from Hale Street, at the subject site's northern boundary.

Provision is also made for a potential future additional access to the development via the existing adjacent Cherrybrook estate, to the west.

Raised footpaths are provided along all internal roads of the development. Further footpaths provide pedestrian connectivity between internal roads, as well as to the development's public open spaces and to the public park located at the centre of the development.

Cycle tracks are provided along the full length of Bridgegate Avenue, in order to provide suitable facilities for cyclists in the event that this forms part of an east-west connector road in the future. Marked pedestrian crossings of the internal roads are provided at several locations, with raised junctions, raised streets, and horizontal deflections to calm vehicular traffic.

7.5 Servicing and Waste Collection

All servicing of the residential units shall be conducted on the internal road network of the proposed development. Non-recyclable, recyclable, and organic waste (black, green, and brown bins) generated by houses within the development shall be collected directly by an authorised waste collector, in common with existing residential developments, subject to the requirements of Louth County Council.

7.6 Swept Path Analyses

Swept path analyses have been conducted of fire tenders and refuse collection vehicles accessing the development and manoeuvring within it. These analyses, provided on CS Consulting drawings ARDEE-CSC-ZZ-XX-C-DR-C-1014 and ARDEE-CSC-ZZ-XX-C-DR-C-1015, indicate that the development access design and internal roads layout can accommodate these vehicle movements where required, and that any vehicle accessing the site shall be able to turn within it and exit in a forward direction.

7.7 Public Transport

Bus stops located are served by 4no. bus routes, operated by Bus Éireann and by McConnors Buses, which connect Ardee to Dublin, Drogheda, Dundalk, Carrickmacross, and Monaghan town.

Bus stops located on the N2 (Drogheda Road) within a 10-minute walk of the development site's access junction are served by 4no. bus routes, operated by Bus Éireann and by McConnors Buses, which connect Ardee to Dublin, Drogheda, Dundalk, Carrickmacross, and Monaghan town. These include the no. 167 local service connecting to Ardee Lidl from the town centre, the no. 182 linking Monaghan bus station with Drogheda bus station, and the no. 182A service providing a connection between Ardee and Drogheda.

Any future connection from the proposed development through Cherrybrook to the west (subject to landowner agreement) would bring the western site boundary within approx. 300 metres of the nearest bus stops on the N2 Drogheda Road.

Within the subject development, a new bus stop shall be constructed on Bridgegate Avenue at a location within 400m of all dwellings within the site. This will facilitate the potential future provision of a local bus service through

the subject development. As shown on CS Consulting drawing ARDEE-CSC-00-XX-DR-C-1026, the development's internal road layout permits a bus of the type typically used by Local Link services to follow a looped route through the development, servicing this bus stop.

7.8 Independent Quality Audit

An independent Quality Audit of the proposed development layout and access arrangements has been conducted by PMCE Consulting Engineers on behalf of CS Consulting. This incorporates the following four components:

- access audit
- cycling audit
- walking audit
- road safety audit

The Quality Audit was completed in April 2021. Design changes have been made in response to the recommendations of the Quality Audit and the measures adopted have been accepted by the audit team. Refer to CS Consulting drawing ARDEE-CSC-00-XX-DR-C-1027 for details of these design changes.

The Quality Audit report document issued by PMCE, together with the audit response form, are provided as an appendix to the Road Infrastructure Design Report included under separate cover within this planning application.

8.0 COMMENTS RECEIVED FROM PLANNING AUTHORITIES

Both An Bord Pleanála and Louth County Council have reviewed the planning documentation submitted in respect of the proposed development during the pre-application consultation phase of the SHD process (including a previous version of the present Traffic and Transport Assessment, then titled 'Traffic Impact Assessment'). A tripartite pre-application consultation meeting has also been held with An Bord Pleanála and Louth County Council.

The relevant opinions of An Bord Pleanála that pertain to traffic and transport matters, as communicated to the applicant, are reproduced below; also examined in this section are the transport-related recommendations of Louth County Council, which were issued to An Bord Pleanála. In each case, we describe measures taken by the design team in response to these opinions and recommendations.

8.1 Opinion Issued by An Bord Pleanála

An Bord Pleanála has on the 11th of December 2020 issued an opinion enumerating the items of specific information that should be submitted with any application for permission. The following item among these is of relevance to this Traffic and Transport Assessment:

2. *"A layout plan and report that address and provides a clear rationale for connectivity and permeability within and through the site."*

The ABP opinion also notes that the final SHD application should include:

"Further consideration / amendment of the location of the link road as required by Objective INF13, having regard to the development potential of lands to the east of the site, which are zoned as Strategic Reserve and to the zoning objective of the northern portion of the site which seeks to provide a '12 acre' area of open space."

8.1.1 Response to ABP Opinion Items

Refer to the following CS Consulting drawings for details of vehicular, pedestrian, and cyclist connectivity and permeability within and through the site:

- ARDEE-CSC-00-XX-DR-C-1001 (Proposed Site Layout)
- ARDEE-CSC-00-XX-DR-C-1004 (Road Layout)
- ARDEE-CSC-00-XX-DR-C-1019 (Visibility Splays & Permeability)

Refer to sub-section 7.3 of this report for a description of the provisions made to accommodate a potential future link road satisfying Objective SS 42 of the *Louth County Development Plan 2021–2027* (corresponding to Infrastructure Objective INF 13 of the now-superseded *Ardee Local Area Plan 2010–2016*). As described therein, a road reservation corridor has been maintained through the northernmost section of the public park area, to permit the future extension of Bridgegate Drive if required as part of this link road.

8.2 **Recommendations of Louth County Council**

Louth County Council on the 23rd of October 2020 issued an opinion, informed by the internal report of its Infrastructure Section, requesting that further clarification or consideration be given to a number of transportation and roads infrastructure aspects of the subject development. These are addressed below.

8.2.1 LCC Point 3 – access from N2

“The development strategy for the site in so far as it relates to layout potential linkages for vehicular, pedestrian and cycle movements to the east, south and west of this development. As proposed there is only one access available to the development from the Drogheda Road (N2) through the newly developed entrance to the first phase of the Bridgegate development. The applicant should demonstrate

that the connections indicated will be delivered in a timely manner contiguous to the phased development of this site to provide for connectivity with the town and surrounding areas.”

8.2.2 Response to LCC Point 3

As described in sub-sections 7.1 and 7.4 of this report, vehicular access to the development shall initially be solely to from the recently constructed Bridgegate access junction on the N2, via the internal roads of the adjacent permitted development to the northwest (planning ref. 10/174) that is currently under construction. Pedestrian and cyclist access shall also be accommodated via this route.

A secondary pedestrian/cyclist-only access to the development is also provided from Hale Street, at the subject site's northern boundary, giving an alternative route to/from Ardee town centre. It is proposed that this access link be in place prior to occupation of any residential units within the subject development.

The subject development's internal layout does make provision for a potential future vehicular and pedestrian link via the neighbouring Cherrybrook residential estate, to the west of the site. The Cherrybrook estate is however not yet taken in charge by Louth County Council, and delivery of such a link in the short term is outside the control of the applicant.

In addition to this, the internal road network of the subject development allows for potential future road connections to the lands to the east and to the south, if developed.

8.2.3 LCC Point 4 – internal public transport infrastructure

“Demonstrate penetration of the development by public transport and provision for bus stop(s) in a location(s) where the majority of dwellings are at a maximum distance of 400 metres.”

8.2.4 Response to LCC Point 4

As described in sub-section 7.7 of this report, and as indicated on CS Consulting drawing ARDEE-CSC-00-XX-DR-C-1026, a new bus stop shall be constructed on Bridgegate Avenue at a location within 400m of all dwellings within the subject development. This will facilitate the potential future provision of a local bus service through the subject development. The development's internal road layout permits a bus of the type typically used by Local Link services to follow a looped route through the development, servicing this bus stop.

8.2.5 LCC Point 6(a) – consultation with TII

“Consult Transport Infrastructure Ireland as development traffic will access on National Primary Road, N2 and TII are a stakeholder in assessing planning applications that access and/or are developed along national roads.”

8.2.6 Response to LCC Point 6(a)

CS Consulting contacted Transport Infrastructure Ireland (TII) by email on the 17th of May 2021, inviting comment on the proposed development. TII responded with a request that all prescribed details relating to the SHD be provided as part of the statutory consultation process (i.e. once the SHD application has been lodged). CS Consulting replied to clarify that the application has not yet been submitted and to request the opportunity to consult with TII prior to lodgement. No subsequent response was received from TII.

Please refer to Appendix E for a record of email correspondence between CS Consulting and TII Land Use Planning.

8.2.7 LCC Point 6(b) – trip generation calculations

“Clarify anomaly in Section 4.0 [of the submitted Traffic Impact Assessment] – Traffic Generation & Trip Distribution where Predicted

Subject Development Residential Trips have been incorrectly factored up from Cherrybrook Estate figures and correct inaccuracies in Section 4.1.2 in respect of factoring up of Non Residential Trip Generation from Table 4 to Table 5."

8.2.8 Response to LCC Point 6(b)

The subject development trip generation calculations presented in sub-section 4.1 of this report have been revised and corrected.

8.2.9 LCC Point 6(c) – development impact on N2/R170 junction

"Address the conflict between the assertion in Section 5.3 of the TIA where it is stated that the addition of vehicular traffic generated by the proposed development will result in only minor increases in vehicle queues and delays to the N2/Bridge Street/William Street/John Street junction and with the assessment results presented in Table 16 of the TIA, whereby the Degree of Saturation, Mean Maximum Queue (PCU) and Mean Delay per PCU (secs) increase considerably for each of the assessment years when comparing Without Subject Development against With Subject Development."

8.2.10 Response to LCC Point 6(c)

As outlined in sub-section 5.3 of this report, it is acknowledged that vehicular traffic generated by the subject development shall result in an adverse impact upon the operation of the existing N2/R170 junction. It is however submitted that these effects are disproportionate to the actual trip generation of the subject development, and arise largely due to the junction's existing operational condition, the influence of background traffic growth, and the addition of traffic generated by other nearby committed developments.

8.2.11 LCC Point 6(d) – external infrastructure objectives

“Note that an assumption on the delivery of the proposed by pass to the south east of Ardee linking the N2 to the south of Ardee with the R170 and N52 to the east and how its delivery would significantly reduce traffic loading at the N2/Bridge Street/William Street/John Street junction in future years, referenced in Section 5.3, cannot form part of the TIA as no commitment for implementation of this major capital project has been given at this time.”

8.2.12 Response to LCC Point 6(d)

The proposed bypass to the south-east of Ardee has been described as an infrastructure development objective in this report purely for the purpose of providing context to the subject development. No assumptions have been made regarding funding or delivery of this objective, and it has not been factored in to the trip distribution or junction modelling conducted as part of this assessment. Additional clarification to this effect has been provided in sub-section 3.5 of this report.

8.2.13 LCC Point 6(e) – access junction modelling

“Demonstrate how the results presented in Table 18 for instance, the Mean Maximum Queue (PCU) for the Development Access Arm in the AM Peak is 1 at the junction of the N2 with the newly constructed access permitted under ref 10/174, have been arrived at. This appears very low when compared to other residential developments of similar size and scale.”

8.2.14 Response to LCC Point 6(e)

The subject development trip generation calculations presented in sub-section 4.1 of this report have been revised and corrected, and junction modelling conducted anew with the resulting traffic flows.

The updated modelling results for the Bridgegate access junction on the N2 (presented in sub-section 5.4) do show higher mean maximum queue and mean vehicle delay values than those previously presented; this junction is however shown to operate within effective capacity on all approaches past the design year 2039.

8.2.15 LCC Point 6(f) – car and cycle parking at public park

“Consider provision for car parking and cycle parking at the Public Park & Landscape Amenity Space.”

8.2.16 Response to LCC Point 6(f)

Increased quanta of car and bicycle parking have been provided to serve users of the development's public open space, as described in sub-sections 6.1 and 6.4 of this report.

8.2.17 LCC Point 6(g) – connector road alignment

“Address the anomaly where the indicative alignment of the proposed connector road in Figure 10 of the TIA shows Bridgegate Drive as forming part of the connector road and Section 7.3 make reference to future east-west connector road and how Bridgegate Avenue will receive cycle facilities in the event that it will form part of the connector road.”

8.2.18 Response to LCC Point 6(g)

Two indicative potential alignments have been identified for the provision of a future East-West connector road through the subject development site and the adjacent permitted development, one of which incorporates Bridgegate Avenue and the other Bridgegate Drive. This has now been clarified in sub-sections 3.5.1 and 7.3 of this report.

8.2.19 LCC Point 6(h) – connector road alignment

“Clearly identify the route of the connector route to Jumping Church Road (Black Road) and develop in a masterplan approach this link which will involve engagement with third parties. The junction assessments within the applicant's TIA documents clearly the adverse affect the additional traffic generated by the development will have on the surrounding road network, particularly the N2/Bridge Street/William Street/John Street junction. Louth County Council considers that the construction of the east-west connector road to be essential for the proper planning and sustainable development of these residential zoned lands and a prerequisite in the consideration of this planning application. The projected line of the connector road is shown as traversing the Public Park & Landscape Amenity Space, albeit the developer does not have control over a portion of land located between the subject site and the Jumping Church Road.”

8.2.20 Response to LCC Point 6(h)

As noted in sub-section 7.3, the lands separating the subject development site from Jumping Church Road (Black Road) lie outside the control of the applicant and are zoned 'Strategic Land Reserve' under the *Louth County Development Plan 2021–2027*. It is therefore not possible to deliver the entirety of this connector road objective as part of the subject development, or to commit to a precise alignment for the connector road beyond the applicant's lands.

A reservation corridor for such a route has however been maintained through the northern part of the subject development, and the development's internal road network design also allows for the extension of Bridgegate Avenue, located to the south of Mulladrillen Hill, if required to form part of such a connector route. This approach is informed by the topography of the subject site and adjacent lands,

and provides flexibility for the future completion of the connector road.

8.2.21 LCC Point 8(a) – internal crossroads

“Introduce staggered junctions in the layout where crossroads junctions are proposed to avoid driver indecisiveness and confusion regarding right of way.”

8.2.22 Response to LCC Point 8(a)

The internal road network of the subject development has undergone independent review as part of a Quality Audit, as described in subsection 7.8 of this report, and design changes have been made in response. The Quality Audit did not however recommend the replacement of crossroads by staggered junctions.

8.2.23 LCC Point 8(b) – perpendicular parking

“Avoid perpendicular parking along opposite sides of the carriageways within the development and along straight sections of carriageway.”

8.2.24 Response to LCC Point 8(b)

The internal road network of the subject development has undergone independent review as part of a Quality Audit, as described in subsection 7.8 of this report, and design changes have been made in response. The Quality Audit did not however recommend the omission of any perpendicular parking spaces.

8.2.25 LCC Point 8(c) – car and refuse vehicle movements

“Provide an Autotrack analysis of a scenario, whereby simultaneous traffic movements involving a car and refuse vehicle are negotiating

at all internal junctions. The kerb radiuses within the development appear tight."

8.2.26 Response to LCC Point 8(c)

CS Consulting drawing ARDEE-CSC-00-XX-DR-C-1015, showing the Autotrack swept path analysis of refuse vehicle movements within the development, has been amended to illustrate the ability of a car and a refuse vehicle to negotiate internal junctions simultaneously.

8.2.27 LCC Point 8(d) – link to existing Cherrybrook development

"Submitted drawings illustrates Road 3 having a direct link with an existing road within the adjacent Cherrybrook development and the overland flood Route map shows flood paths traversing the site boundary. Please note that the roads pertaining to Cherrybrook are within the ownership of a private entity and as such consent is required in this regard."

8.2.28 Response to LCC Point 8(d)

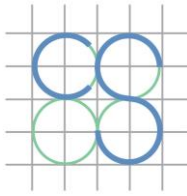
As described in sub-sections 7.1 and 7.4 of this report, it is not intended to provide a direct link from the outset between the subject development and the existing Cherrybrook estate to the west. It is acknowledged that the Cherrybrook estate has not yet been taken in charge by Louth County Council. The subject development's internal road network and pedestrian/cyclist infrastructure shall however extend up to the site's western boundary with Cherrybrook, so as to facilitate a potential vehicular and/or pedestrian link between the two developments, should this become possible in the future.

9.0 SUMMARY AND CONCLUSIONS

This report examines the impact of a proposed residential development at Bridgegate, Mulladrillen and Rathgory, Drogheda Road, Ardee, County Louth on the performance of the surrounding road network, and assesses the internal road layout, car parking provision, cyclist and pedestrian facilities, and public transport availability.

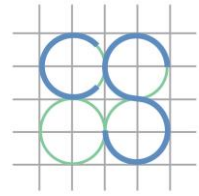
The main observations and conclusions of this study are as follows:

- The proposed development shall not generate excessive vehicular traffic flows. Total vehicle trips (arrivals and departures combined) of 299 PCU are predicted during the AM peak hour (08:30-09:30), and total vehicle trips of 348 PCU in the PM peak hour (17:45-18:45).
- The newly constructed priority-controlled junction on Drogheda Road (N2) that shall give access to the proposed development via the adjacent development under construction shall operate within effective capacity in both AM and PM peak hour periods in the development's opening year of 2024, and shall continue to do so past the design year 2039 with the subject development in place.
- The existing priority-controlled junction of the N2 (Drogheda Road and Bridge Street) with the R170 (William Street) and with John Street currently operates within effective capacity but is predicted to exceed ultimate capacity on its northern approach during the AM peak hour by the year 2024, principally under the influence of background traffic growth and trips generated by nearby committed developments. Traffic flows generated by the subject development shall make a relatively minor contribution to the decline in this junction's operational performance.
- The proposed provision of car parking and bicycle parking within the development has been assessed with reference to Local Authority standards.



- Swept path analyses have been conducted for a fire tender, a refuse vehicle, and a 'Local Link' bus. These indicate that the design of the development's internal layout can accommodate these vehicle movements where required.
- An independent Quality Audit of the proposed development layout and access arrangements has been conducted by PMCE Consulting Engineers on behalf of CS Consulting. Design changes have been made in response to the recommendations of the Quality Audit and the measures adopted have been accepted by the audit team. Refer to CS Consulting drawing ARDEE-CSC-00-XX-DR-C-1027 for details of these design changes.

In summary, the assessment indicates that the proposed development shall not impact significantly upon the operation of the existing surrounding road network, that an appropriate quantum of car parking is to be provided, and that the internal road layout of the proposed development is fit for purpose and in compliance with the *Design Manual for Urban Roads and Streets*.



CS CONSULTING
GROUP

Appendix A

Traffic Survey Data

Site No. 1
Location N2(N) / John Street / N2(S) / R170
Date Thursday 3 May 2018

Time	A to D - N2(N) to R170					Veh. Total	A to C - N2(N) to N2(S)					Veh. Total
	CAR	LGV	OGV1	OGV2	PSV		CAR	LGV	OGV1	OGV2	PSV	
07:00	7	6	1	0	1	15	31	16	4	8	0	59
07:15	8	3	0	1	0	12	38	12	2	7	2	61
07:30	17	4	0	0	0	21	33	13	2	1	3	52
07:45	32	6	0	0	1	39	39	13	1	8	1	62
Hour	64	19	1	1	2	87	141	54	9	24	6	234
08:00	21	5	2	2	0	30	40	19	3	3	3	68
08:15	18	3	0	5	0	26	38	11	2	1	1	53
08:30	24	6	1	0	0	31	37	15	0	3	0	55
08:45	14	2	1	1	0	18	37	13	4	4	0	58
Hour	77	16	4	8	0	105	152	58	9	11	4	234
09:00	40	4	2	1	1	48	49	10	3	8	1	71
09:15	47	4	1	0	0	52	46	17	3	1	3	70
09:30	22	3	1	2	0	28	24	13	3	3	1	44
09:45	27	3	0	2	0	32	38	10	2	0	1	51
Hour	136	14	4	5	1	160	157	50	11	12	6	236
10:00	35	5	1	1	0	42	38	9	2	3	3	55
10:15	22	3	1	1	0	27	36	6	3	2	0	47
10:30	30	3	1	0	0	34	35	6	3	4	0	48
10:45	24	2	1	0	0	27	43	6	1	4	1	55
Hour	111	13	4	2	0	130	152	27	9	13	4	205
11:00	30	5	2	0	0	37	33	7	3	4	0	47
11:15	28	3	0	3	0	34	41	7	1	3	2	54
11:30	23	4	0	0	0	27	46	8	6	4	0	64
11:45	20	5	0	2	0	27	56	5	1	1	0	63
Hour	101	17	2	5	0	125	176	27	11	12	2	228
12:00	31	4	0	0	0	35	52	5	2	4	1	64
12:15	35	4	0	0	0	39	38	5	3	5	3	54
12:30	26	3	1	0	0	30	44	5	2	6	0	57
12:45	32	9	1	0	0	42	43	9	1	6	1	60
Hour	124	20	2	0	0	146	177	24	8	21	5	235
13:00	28	3	0	1	0	32	63	6	3	2	0	74
13:15	23	4	1	0	0	28	50	8	1	2	1	62
13:30	26	3	1	1	0	31	46	13	4	3	0	66
13:45	44	3	2	0	0	49	46	6	2	3	0	57
Hour	121	13	4	2	0	140	205	33	10	10	1	259
14:00	30	2	0	0	0	32	56	6	5	4	1	72
14:15	26	2	0	1	0	29	46	6	2	2	0	56
14:30	21	5	0	2	0	28	49	6	1	4	0	60
14:45	43	5	0	1	0	49	42	11	1	1	0	55
Hour	120	14	0	4	0	138	193	29	9	11	1	243
15:00	27	3	0	1	0	31	40	13	1	3	3	60
15:15	25	5	1	0	0	31	50	11	5	3	0	69
15:30	20	4	2	1	0	27	40	7	5	4	0	56
15:45	21	5	0	0	0	26	43	10	0	2	0	55
Hour	93	17	3	2	0	115	173	41	11	12	3	240
16:00	27	4	0	0	0	31	42	9	3	1	1	56
16:15	23	5	0	1	0	29	47	11	2	3	0	63
16:30	30	2	0	0	0	32	44	9	0	5	0	58
16:45	29	6	1	0	0	36	42	11	1	1	4	59
Hour	109	17	1	1	0	128	175	40	6	10	5	236
17:00	37	3	2	0	0	42	57	3	4	4	0	68
17:15	38	5	0	0	0	43	52	7	2	5	1	67
17:30	34	7	1	0	0	42	65	6	3	5	2	81
17:45	37	4	0	0	0	41	56	5	0	0	0	61
Hour	146	19	3	0	0	168	230	21	9	14	3	277
18:00	25	6	0	3	1	35	68	14	0	0	1	83
18:15	34	7	2	0	0	43	59	8	2	3	0	72
18:30	27	7	0	0	0	34	69	7	3	4	1	84
18:45	22	5	1	0	0	28	59	0	1	2	2	64
Hour	108	25	3	3	1	140	255	29	6	9	4	303
Total	1310	204	31	33	4	1582	2186	433	108	159	44	2930

Site No. 1
Location N2(N) / John Street / N2(S) / R170
Date Thursday 3 May 2018

Time	A to B - N2(N) to John Street					Veh. Total	B to A - John Street to N2(N)					Veh. Total
	CAR	LGV	OGV1	OGV2	PSV		CAR	LGV	OGV1	OGV2	PSV	
07:00	8	1	0	0	0	9	7	6	1	0	0	14
07:15	6	4	1	0	0	11	6	3	1	0	0	10
07:30	9	6	1	0	0	16	19	5	1	0	0	25
07:45	24	6	0	0	0	30	18	7	0	0	0	25
Hour	47	17	2	0	0	66	50	21	3	0	0	74
08:00	27	3	0	0	1	31	35	4	1	0	0	40
08:15	42	5	0	1	2	50	37	13	0	1	3	54
08:30	79	5	0	1	0	85	47	5	2	1	0	55
08:45	56	3	1	0	0	60	48	6	0	0	0	54
Hour	204	16	1	2	3	226	167	28	3	2	3	203
09:00	22	1	0	0	0	23	28	6	1	0	0	35
09:15	29	1	1	0	0	31	36	3	0	0	0	39
09:30	21	3	1	0	0	25	33	7	0	0	0	40
09:45	25	2	1	0	0	28	19	6	2	0	0	27
Hour	97	7	3	0	0	107	116	22	3	0	0	141
10:00	19	3	1	0	0	23	14	2	0	0	0	16
10:15	22	5	1	1	0	29	36	6	0	2	0	44
10:30	21	5	1	1	0	28	23	1	0	0	0	24
10:45	21	3	0	0	0	24	16	3	0	1	0	20
Hour	83	16	3	2	0	104	89	12	0	3	0	104
11:00	38	0	2	0	0	40	17	5	0	1	0	23
11:15	22	5	2	0	0	29	23	2	1	0	0	26
11:30	20	2	0	0	0	22	17	4	1	0	0	22
11:45	20	7	1	0	0	28	33	3	1	0	0	37
Hour	100	14	5	0	0	119	90	14	3	1	0	108
12:00	19	3	0	0	0	22	16	1	0	0	0	17
12:15	22	4	1	0	0	27	32	5	1	0	0	38
12:30	15	7	1	1	0	24	36	2	2	0	0	40
12:45	21	5	0	0	0	26	27	5	1	1	0	34
Hour	77	19	2	1	0	99	111	13	4	1	0	129
13:00	22	6	0	0	0	28	29	3	0	0	0	32
13:15	27	5	0	0	0	32	19	2	0	0	0	21
13:30	23	1	0	0	0	24	20	4	0	0	0	24
13:45	27	2	0	0	0	29	26	3	1	0	0	30
Hour	99	14	0	0	0	113	94	12	1	0	0	107
14:00	24	7	2	0	0	33	23	4	0	1	0	28
14:15	15	7	1	0	0	23	33	5	1	0	0	39
14:30	19	5	0	0	0	24	34	4	0	1	0	39
14:45	39	2	0	0	0	41	32	5	0	0	0	37
Hour	97	21	3	0	0	121	122	18	1	2	0	143
15:00	35	6	1	0	0	42	52	6	0	0	0	58
15:15	13	3	0	0	1	17	34	1	0	0	0	35
15:30	12	3	0	0	0	15	19	6	0	0	0	25
15:45	28	8	0	0	1	37	18	5	0	0	0	23
Hour	88	20	1	0	2	111	123	18	0	0	0	141
16:00	26	2	1	0	0	29	15	10	0	0	0	25
16:15	28	5	3	0	0	36	22	7	0	0	0	29
16:30	19	2	1	1	0	23	25	5	2	0	0	32
16:45	28	5	0	0	0	33	26	6	0	0	0	32
Hour	101	14	5	1	0	121	88	28	2	0	0	118
17:00	31	3	1	0	0	35	32	3	0	0	0	35
17:15	30	4	1	0	0	35	20	5	1	0	0	26
17:30	33	4	0	0	0	37	29	6	0	0	0	35
17:45	25	5	2	2	0	34	31	7	1	1	0	40
Hour	119	16	4	2	0	141	112	21	2	1	0	136
18:00	30	6	0	0	0	36	24	5	0	1	0	30
18:15	23	4	1	0	0	28	37	6	0	0	0	43
18:30	19	3	0	0	0	22	25	5	0	0	0	30
18:45	20	0	0	0	0	20	31	5	0	0	0	36
Hour	92	13	1	0	0	106	117	21	0	1	0	139
Total	1204	187	30	8	5	1434	1279	228	22	11	3	1543

Site No. 1
Location N2(N) / John Street / N2(S) / R170
Date Thursday 3 May 2018

Time	B to D - John Street to R170					Veh. Total	B to C - John Street to N2(S)					Veh. Total
	CAR	LGV	OGV1	OGV2	PSV		CAR	LGV	OGV1	OGV2	PSV	
07:00	2	2	1	0	0	5	2	2	0	0	0	4
07:15	4	5	0	0	0	9	2	1	0	0	0	3
07:30	11	3	0	0	0	14	2	1	0	1	0	4
07:45	13	1	0	0	0	14	6	1	0	0	0	7
Hour	30	11	1	0	0	42	12	5	0	1	0	18
08:00	14	5	0	0	0	19	1	2	1	0	0	4
08:15	21	2	0	0	0	23	7	3	0	0	0	10
08:30	21	2	0	2	0	25	8	3	0	0	0	11
08:45	25	1	1	1	0	28	5	0	0	0	0	5
Hour	81	10	1	3	0	95	21	8	1	0	0	30
09:00	33	1	0	0	0	34	2	1	0	0	0	3
09:15	25	2	1	0	0	28	5	0	0	1	0	6
09:30	17	0	0	0	1	18	4	1	0	0	0	5
09:45	10	2	1	0	0	13	3	1	0	0	0	4
Hour	85	5	2	0	1	93	14	3	0	1	0	18
10:00	3	3	1	0	0	7	6	1	1	0	0	8
10:15	9	2	0	0	0	11	4	2	0	0	0	6
10:30	9	1	1	0	0	11	2	1	0	0	0	3
10:45	7	9	0	2	0	18	4	2	0	0	0	6
Hour	28	15	2	2	0	47	16	6	1	0	0	23
11:00	9	0	0	1	0	10	2	1	0	0	0	3
11:15	2	2	1	0	0	5	5	1	0	0	0	6
11:30	7	1	1	0	0	9	5	1	0	0	0	6
11:45	14	5	0	1	0	20	5	0	0	0	0	5
Hour	32	8	2	2	0	44	17	3	0	0	0	20
12:00	10	3	1	0	0	14	4	0	0	0	0	4
12:15	19	1	0	0	0	20	5	1	0	1	0	7
12:30	13	2	0	0	0	15	5	3	0	1	0	9
12:45	7	2	0	0	0	9	5	1	0	0	0	6
Hour	49	8	1	0	0	58	19	5	0	2	0	26
13:00	7	1	0	0	0	8	4	2	0	0	0	6
13:15	3	1	0	0	0	4	6	0	0	0	0	6
13:30	9	4	0	0	0	13	2	2	1	0	0	5
13:45	13	3	1	0	0	17	5	0	0	0	0	5
Hour	32	9	1	0	0	42	17	4	1	0	0	22
14:00	10	2	0	0	1	13	3	2	0	0	0	5
14:15	8	3	0	0	0	11	2	4	0	0	0	6
14:30	13	1	0	0	0	14	6	1	0	0	0	7
14:45	17	3	0	0	0	20	3	0	0	0	0	3
Hour	48	9	0	0	1	58	14	7	0	0	0	21
15:00	20	2	0	1	0	23	2	2	0	1	0	5
15:15	18	1	0	0	0	19	2	0	0	0	0	2
15:30	15	2	0	0	0	17	2	0	0	0	0	2
15:45	12	6	0	0	2	20	1	1	0	0	0	2
Hour	65	11	0	1	2	79	7	3	0	1	0	11
16:00	12	1	0	0	0	13	4	0	0	1	0	5
16:15	8	4	0	0	0	12	3	0	0	0	0	3
16:30	26	6	0	1	0	33	3	1	0	0	0	4
16:45	15	1	1	0	0	17	4	1	0	0	0	5
Hour	61	12	1	1	0	75	14	2	0	1	0	17
17:00	15	4	0	0	0	19	5	0	0	0	0	5
17:15	19	4	0	0	0	23	3	1	0	0	0	4
17:30	17	3	0	0	0	20	5	0	0	1	0	6
17:45	13	4	0	0	0	17	8	1	0	0	0	9
Hour	64	15	0	0	0	79	21	2	0	1	0	24
18:00	24	1	0	0	0	25	5	1	0	0	0	6
18:15	17	1	0	0	0	18	5	0	0	0	0	5
18:30	7	1	1	0	0	9	5	1	0	0	0	6
18:45	15	2	0	0	0	17	5	1	0	0	0	6
Hour	63	5	1	0	0	69	20	3	0	0	0	23
Total	638	118	12	9	4	781	192	51	3	7	0	253

Site No. 1
Location N2(N) / John Street / N2(S) / R170
Date Thursday 3 May 2018

Time	C to B - N2(S) to John Street					Veh. Total	C to A - N2(S) to N2(N)					Veh. Total
	CAR	LGV	OGV1	OGV2	PSV		CAR	LGV	OGV1	OGV2	PSV	
07:00	3	2	1	0	0	6	7	8	2	2	0	19
07:15	1	1	0	1	0	3	11	10	1	6	0	28
07:30	2	0	0	0	0	2	25	10	0	5	2	42
07:45	2	1	1	0	0	4	26	8	3	2	4	43
Hour	8	4	2	1	0	15	69	36	6	15	6	132
08:00	9	2	0	0	1	12	31	10	2	2	0	45
08:15	12	0	0	0	0	12	41	7	1	7	0	56
08:30	28	1	0	0	0	29	39	9	4	3	0	55
08:45	9	0	0	0	0	9	68	4	2	2	1	77
Hour	58	3	0	0	1	62	179	30	9	14	1	233
09:00	15	2	1	0	0	18	40	6	2	3	0	51
09:15	10	0	0	0	0	10	68	5	0	2	0	75
09:30	4	1	0	0	0	5	49	7	3	2	1	62
09:45	7	2	0	0	0	9	37	8	0	6	1	52
Hour	36	5	1	0	0	42	194	26	5	13	2	240
10:00	4	0	1	0	0	5	29	5	2	5	0	41
10:15	7	2	0	0	0	9	58	12	4	3	0	77
10:30	6	1	0	0	0	7	39	4	0	5	0	48
10:45	6	5	0	0	0	11	39	3	2	4	1	49
Hour	23	8	1	0	0	32	165	24	8	17	1	215
11:00	3	1	0	1	0	5	32	9	4	7	1	53
11:15	3	0	0	0	0	3	51	10	6	6	0	73
11:30	5	0	0	0	0	5	39	7	2	6	0	54
11:45	6	0	0	0	0	6	47	8	0	3	2	60
Hour	17	1	0	1	0	19	169	34	12	22	3	240
12:00	5	1	0	0	0	6	24	5	1	4	1	35
12:15	1	0	0	1	0	2	36	5	1	5	0	47
12:30	3	3	0	0	0	6	40	5	3	4	0	52
12:45	4	2	0	0	0	6	49	4	2	2	1	58
Hour	13	6	0	1	0	20	149	19	7	15	2	192
13:00	7	1	0	0	0	8	40	8	1	4	1	54
13:15	8	1	0	0	0	9	22	8	1	5	0	36
13:30	7	2	0	0	0	9	46	4	3	5	0	58
13:45	9	0	0	2	0	11	44	11	0	6	1	62
Hour	31	4	0	2	0	37	152	31	5	20	2	210
14:00	9	2	0	0	0	11	55	9	1	2	1	68
14:15	7	1	0	0	0	8	52	13	3	2	2	72
14:30	4	1	0	0	0	5	41	4	4	2	0	51
14:45	10	3	0	2	0	15	51	12	2	3	0	68
Hour	30	7	0	2	0	39	199	38	10	9	3	259
15:00	6	1	0	0	0	7	31	10	2	4	1	48
15:15	4	1	0	0	0	5	49	9	0	0	0	58
15:30	7	0	0	0	0	7	41	9	1	5	0	56
15:45	5	0	0	1	0	6	60	13	2	3	0	78
Hour	22	2	0	1	0	25	181	41	5	12	1	240
16:00	6	0	0	0	0	6	48	11	2	2	1	64
16:15	0	0	0	0	0	0	53	8	2	3	0	66
16:30	7	0	1	0	0	8	51	8	2	3	1	65
16:45	5	2	1	0	0	8	55	16	2	7	1	81
Hour	18	2	2	0	0	22	207	43	8	15	3	276
17:00	6	0	0	0	0	6	38	22	0	5	3	68
17:15	5	0	0	0	0	5	37	15	3	0	0	55
17:30	3	0	0	0	0	3	28	9	0	4	0	41
17:45	3	0	0	0	0	3	55	16	0	1	3	75
Hour	17	0	0	0	0	17	158	62	3	10	6	239
18:00	1	0	0	0	0	1	42	21	2	3	2	70
18:15	4	1	0	0	0	5	54	28	0	5	1	88
18:30	7	0	0	0	0	7	60	19	1	1	1	82
18:45	4	4	0	0	0	8	78	11	1	3	3	96
Hour	16	5	0	0	0	21	234	79	4	12	7	336
Total	289	47	6	8	1	351	2056	463	82	174	37	2812

Site No. 1
Location N2(N) / John Street / N2(S) / R170
Date Thursday 3 May 2018

Time	C to D - N2(S) to R170					Veh. Total	D to C - R170 to N2(S)					Veh. Total
	CAR	LGV	OGV1	OGV2	PSV		CAR	LGV	OGV1	OGV2	PSV	
07:00	2	4	0	1	0	7	8	4	0	0	0	12
07:15	4	2	0	0	0	6	4	2	0	0	1	7
07:30	10	2	0	0	0	12	8	1	0	0	0	9
07:45	13	7	0	0	0	20	16	4	0	0	0	20
Hour	29	15	0	1	0	45	36	11	0	0	1	48
08:00	9	5	0	0	0	14	12	5	0	0	0	17
08:15	9	0	0	1	0	10	19	3	0	0	0	22
08:30	14	1	0	0	0	15	11	4	1	1	0	17
08:45	26	3	0	0	0	29	21	4	1	0	0	26
Hour	58	9	0	1	0	68	63	16	2	1	0	82
09:00	27	5	0	0	0	32	17	3	0	0	1	21
09:15	23	3	2	0	0	28	23	2	0	0	0	25
09:30	17	1	1	0	0	19	21	5	1	0	0	27
09:45	11	1	0	0	0	12	19	3	0	1	0	23
Hour	78	10	3	0	0	91	80	13	1	1	1	96
10:00	14	2	0	0	0	16	14	4	1	0	0	19
10:15	14	4	0	0	0	18	7	2	1	0	0	10
10:30	19	0	1	0	0	20	16	2	0	0	1	19
10:45	19	0	0	0	0	19	10	0	1	0	0	11
Hour	66	6	1	0	0	73	47	8	3	0	1	59
11:00	10	2	1	0	0	13	14	4	2	0	0	20
11:15	11	4	1	0	0	16	12	2	1	0	0	15
11:30	6	3	0	0	0	9	14	4	0	1	0	19
11:45	14	3	0	0	1	18	19	5	1	0	0	25
Hour	41	12	2	0	1	56	59	15	4	1	0	79
12:00	12	0	2	0	0	14	13	1	0	0	0	14
12:15	26	3	0	0	0	29	24	0	2	0	0	26
12:30	30	4	0	0	0	34	16	5	0	0	0	21
12:45	16	2	0	0	0	18	28	2	0	0	0	30
Hour	84	9	2	0	0	95	81	8	2	0	0	91
13:00	15	2	0	0	0	17	20	6	0	0	0	26
13:15	15	0	0	0	0	15	14	0	1	0	0	15
13:30	13	1	0	0	0	14	11	3	1	0	0	15
13:45	14	1	2	1	0	18	10	0	0	0	0	10
Hour	57	4	2	1	0	64	55	9	2	0	0	66
14:00	10	1	0	0	0	11	16	4	1	0	0	21
14:15	10	0	0	0	0	10	27	1	1	0	0	29
14:30	24	2	0	0	0	26	25	2	0	0	0	27
14:45	20	4	0	0	0	24	13	2	1	0	0	16
Hour	64	7	0	0	0	71	81	9	3	0	0	93
15:00	15	2	0	0	0	17	31	3	1	0	0	35
15:15	18	3	0	0	0	21	27	5	1	0	0	33
15:30	21	3	0	1	0	25	27	5	0	0	0	32
15:45	17	0	0	0	1	18	18	3	2	0	0	23
Hour	71	8	0	1	1	81	103	16	4	0	0	123
16:00	22	4	0	1	0	27	14	4	2	0	0	20
16:15	17	4	0	0	0	21	14	2	1	0	1	18
16:30	14	5	0	0	0	19	17	4	2	0	0	23
16:45	11	4	2	0	1	18	19	3	0	0	0	22
Hour	64	17	2	1	1	85	64	13	5	0	1	83
17:00	24	6	0	0	0	30	2	3	1	0	0	6
17:15	5	0	0	0	0	5	19	4	2	0	0	25
17:30	3	0	0	0	0	3	27	2	2	0	0	31
17:45	21	3	0	0	0	24	21	2	0	0	0	23
Hour	53	9	0	0	0	62	69	11	5	0	0	85
18:00	21	5	0	1	0	27	19	7	1	0	0	27
18:15	23	4	0	0	0	27	20	1	0	0	0	21
18:30	25	2	0	0	0	27	18	4	0	1	0	23
18:45	23	2	0	0	0	25	22	2	0	0	0	24
Hour	92	13	0	1	0	106	79	14	1	1	0	95
Total	757	119	12	6	3	897	817	143	32	4	4	1000

Site No. 1
Location N2(N) / John Street / N2(S) / R170
Date Thursday 3 May 2018

Time	D to B - R170 to John Street					Veh. Total	D to A - R170 to N2(N)					Veh. Total
	CAR	LGV	OGV1	OGV2	PSV		CAR	LGV	OGV1	OGV2	PSV	
07:00	5	2	0	0	0	7	10	2	0	0	0	12
07:15	3	5	0	0	0	8	6	4	0	0	0	10
07:30	8	2	0	0	0	10	11	3	0	1	0	15
07:45	5	4	0	0	0	9	24	7	0	0	1	32
Hour	21	13	0	0	0	34	51	16	0	1	1	69
08:00	9	4	0	2	0	15	12	5	1	0	0	18
08:15	26	5	0	1	0	32	19	2	1	2	0	24
08:30	31	1	1	0	0	33	23	2	0	3	0	28
08:45	36	0	0	0	0	36	23	5	1	1	0	30
Hour	102	10	1	3	0	116	77	14	3	6	0	100
09:00	26	3	2	1	0	32	27	2	0	1	0	30
09:15	19	1	0	0	0	20	24	4	2	0	0	30
09:30	20	5	0	0	0	25	39	2	0	2	0	43
09:45	16	0	0	0	0	16	19	3	0	2	0	24
Hour	81	9	2	1	0	93	109	11	2	5	0	127
10:00	14	4	1	0	0	19	19	5	0	2	0	26
10:15	7	2	1	0	0	10	18	2	0	2	0	22
10:30	6	3	0	1	0	10	11	3	0	1	0	15
10:45	8	4	0	2	1	15	24	3	0	0	0	27
Hour	35	13	2	3	1	54	72	13	0	5	0	90
11:00	13	3	1	0	0	17	12	5	0	0	0	17
11:15	10	4	0	0	0	14	20	1	0	0	0	21
11:30	4	5	1	1	0	11	11	2	1	2	0	16
11:45	15	2	0	0	1	18	16	3	1	0	0	20
Hour	42	14	2	1	1	60	59	11	2	2	0	74
12:00	7	2	0	0	0	9	15	1	2	0	0	18
12:15	9	1	0	0	0	10	26	0	0	0	0	26
12:30	13	2	0	0	0	15	24	4	0	1	0	29
12:45	8	2	0	0	0	10	14	4	0	0	0	18
Hour	37	7	0	0	0	44	79	9	2	1	0	91
13:00	19	5	0	0	0	24	24	5	0	0	0	29
13:15	13	2	0	1	0	16	17	1	0	1	0	19
13:30	11	1	1	0	0	13	22	3	2	0	0	27
13:45	13	2	0	0	0	15	26	5	0	1	0	32
Hour	56	10	1	1	0	68	89	14	2	2	0	107
14:00	16	2	0	0	0	18	26	0	1	0	0	27
14:15	15	2	0	0	0	17	16	3	0	1	0	20
14:30	21	1	0	1	1	24	19	1	1	0	0	21
14:45	22	2	0	0	0	24	9	5	0	2	0	16
Hour	74	7	0	1	1	83	70	9	2	3	0	84
15:00	24	2	1	0	0	27	13	1	0	1	0	15
15:15	10	3	0	0	0	13	17	6	1	0	0	24
15:30	12	6	0	1	0	19	15	3	0	0	0	18
15:45	13	1	0	0	0	14	15	6	1	0	0	22
Hour	59	12	1	1	0	73	60	16	2	1	0	79
16:00	16	1	0	0	0	17	14	3	0	1	0	18
16:15	12	2	1	1	0	16	18	2	0	0	0	20
16:30	15	2	0	0	1	18	12	8	0	0	0	20
16:45	18	5	0	0	0	23	7	1	0	1	0	9
Hour	61	10	1	1	1	74	51	14	0	2	0	67
17:00	10	3	0	0	0	13	12	0	1	0	0	13
17:15	23	3	0	0	0	26	21	2	0	0	0	23
17:30	19	4	0	0	0	23	12	3	1	0	0	16
17:45	18	3	0	0	0	21	11	7	0	0	0	18
Hour	70	13	0	0	0	83	56	12	2	0	0	70
18:00	19	2	0	0	0	21	20	4	0	0	0	24
18:15	22	5	1	0	0	28	26	6	1	0	0	33
18:30	11	3	0	0	0	14	19	2	0	1	0	22
18:45	13	1	0	0	0	14	18	5	0	0	0	23
Hour	65	11	1	0	0	77	83	17	1	1	0	102
Total	703	129	11	12	4	859	856	156	18	29	1	1060



Site No. 1
 Location N2(N) / John Street / N2(S) / R170
 Date Thursday 3 May 2018

Time	To Arm A - N2(N)					Veh. Total	From Arm A - N2(N)					Veh. Total
	CAR	LGV	OGV1	OGV2	PSV		CAR	LGV	OGV1	OGV2	PSV	
07:00	24	16	3	2	0	45	46	23	5	8	1	83
07:15	23	17	2	6	0	48	52	19	3	8	2	84
07:30	55	18	1	6	2	82	59	23	3	1	3	89
07:45	68	22	3	2	5	100	95	25	1	8	2	131
Hour	170	73	9	16	7	275	252	90	12	25	8	387
08:00	78	19	4	2	0	103	88	27	5	5	4	129
08:15	97	22	2	10	3	134	98	19	2	7	3	129
08:30	109	16	6	7	0	138	140	26	1	4	0	171
08:45	139	15	3	3	1	161	107	18	6	5	0	136
Hour	423	72	15	22	4	536	433	90	14	21	7	565
09:00	95	14	3	4	0	116	111	15	5	9	2	142
09:15	128	12	2	2	0	144	122	22	5	1	3	153
09:30	121	16	3	4	1	145	67	19	5	5	1	97
09:45	75	17	2	8	1	103	90	15	3	2	1	111
Hour	419	59	10	18	2	508	390	71	18	17	7	503
10:00	62	12	2	7	0	83	92	17	4	4	3	120
10:15	112	20	4	7	0	143	80	14	5	4	0	103
10:30	73	8	0	6	0	87	86	14	5	5	0	110
10:45	79	9	2	5	1	96	88	11	2	4	1	106
Hour	326	49	8	25	1	409	346	56	16	17	4	439
11:00	61	19	4	8	1	93	101	12	7	4	0	124
11:15	94	13	7	6	0	120	91	15	3	6	2	117
11:30	67	13	4	8	0	92	89	14	6	4	0	113
11:45	96	14	2	3	2	117	96	17	2	3	0	118
Hour	318	59	17	25	3	422	377	58	18	17	2	472
12:00	55	7	3	4	1	70	102	12	2	4	1	121
12:15	94	10	2	5	0	111	95	13	4	5	3	120
12:30	100	11	5	5	0	121	85	15	4	7	0	111
12:45	90	13	3	3	1	110	96	23	2	6	1	128
Hour	339	41	13	17	2	412	378	63	12	22	5	480
13:00	93	16	1	4	1	115	113	15	3	3	0	134
13:15	58	11	1	6	0	76	100	17	2	2	1	122
13:30	88	11	5	5	0	109	95	17	5	4	0	121
13:45	96	19	1	7	1	124	117	11	4	3	0	135
Hour	335	57	8	22	2	424	425	60	14	12	1	512
14:00	104	13	2	3	1	123	110	15	7	4	1	137
14:15	101	21	4	3	2	131	87	15	3	3	0	108
14:30	94	9	5	3	0	111	89	16	1	6	0	112
14:45	92	22	2	5	0	121	124	18	1	2	0	145
Hour	391	65	13	14	3	486	410	64	12	15	1	502
15:00	96	17	2	5	1	121	102	22	2	4	3	133
15:15	100	16	1	0	0	117	88	19	6	3	1	117
15:30	75	18	1	5	0	99	72	14	7	5	0	98
15:45	93	24	3	3	0	123	92	23	0	2	1	118
Hour	364	75	7	13	1	460	354	78	15	14	5	466
16:00	77	24	2	3	1	107	95	15	4	1	1	116
16:15	93	17	2	3	0	115	98	21	5	4	0	128
16:30	88	21	4	3	1	117	93	13	1	6	0	113
16:45	88	23	2	8	1	122	99	22	2	1	4	128
Hour	346	85	10	17	3	461	385	71	12	12	5	485
17:00	82	25	1	5	3	116	125	9	7	4	0	145
17:15	78	22	4	0	0	104	120	16	3	5	1	145
17:30	69	18	1	4	0	92	132	17	4	5	2	160
17:45	97	30	1	2	3	133	118	14	2	2	0	136
Hour	326	95	7	11	6	445	495	56	16	16	3	586
18:00	86	30	2	4	2	124	123	26	0	3	2	154
18:15	117	40	1	5	1	164	116	19	5	3	0	143
18:30	104	26	1	2	1	134	115	17	3	4	1	140
18:45	127	21	1	3	3	155	101	5	2	2	2	112
Hour	434	117	5	14	7	577	455	67	10	12	5	549
Total	4191	847	122	214	41	5415	4700	824	169	200	53	5946



Site No. 1
 Location N2(N) / John Street / N2(S) / R170
 Date Thursday 3 May 2018

Time	To Arm B - John Street					Veh. Total	From Arm B - John Street					Veh. Total
	CAR	LGV	OGV1	OGV2	PSV		CAR	LGV	OGV1	OGV2	PSV	
07:00	16	5	1	0	0	22	11	10	2	0	0	23
07:15	10	10	1	1	0	22	12	9	1	0	0	22
07:30	19	8	1	0	0	28	32	9	1	1	0	43
07:45	31	11	1	0	0	43	37	9	0	0	0	46
Hour	76	34	4	1	0	115	92	37	4	1	0	134
08:00	45	9	0	2	2	58	50	11	2	0	0	63
08:15	80	10	0	2	2	94	65	18	0	1	3	87
08:30	138	7	1	1	0	147	76	10	2	3	0	91
08:45	101	3	1	0	0	105	78	7	1	1	0	87
Hour	364	29	2	5	4	404	269	46	5	5	3	328
09:00	63	6	3	1	0	73	63	8	1	0	0	72
09:15	58	2	1	0	0	61	66	5	1	1	0	73
09:30	45	9	1	0	0	55	54	8	0	0	1	63
09:45	48	4	1	0	0	53	32	9	3	0	0	44
Hour	214	21	6	1	0	242	215	30	5	1	1	252
10:00	37	7	3	0	0	47	23	6	2	0	0	31
10:15	36	9	2	1	0	48	49	10	0	2	0	61
10:30	33	9	1	2	0	45	34	3	1	0	0	38
10:45	35	12	0	2	1	50	27	14	0	3	0	44
Hour	141	37	6	5	1	190	133	33	3	5	0	174
11:00	54	4	3	1	0	62	28	6	0	2	0	36
11:15	35	9	2	0	0	46	30	5	2	0	0	37
11:30	29	7	1	1	0	38	29	6	2	0	0	37
11:45	41	9	1	0	1	52	52	8	1	1	0	62
Hour	159	29	7	2	1	198	139	25	5	3	0	172
12:00	31	6	0	0	0	37	30	4	1	0	0	35
12:15	32	5	1	1	0	39	56	7	1	1	0	65
12:30	31	12	1	1	0	45	54	7	2	1	0	64
12:45	33	9	0	0	0	42	39	8	1	1	0	49
Hour	127	32	2	2	0	163	179	26	5	3	0	213
13:00	48	12	0	0	0	60	40	6	0	0	0	46
13:15	48	8	0	1	0	57	28	3	0	0	0	31
13:30	41	4	1	0	0	46	31	10	1	0	0	42
13:45	49	4	0	2	0	55	44	6	2	0	0	52
Hour	186	28	1	3	0	218	143	25	3	0	0	171
14:00	49	11	2	0	0	62	36	8	0	1	1	46
14:15	37	10	1	0	0	48	43	12	1	0	0	56
14:30	44	7	0	1	1	53	53	6	0	1	0	60
14:45	71	7	0	2	0	80	52	8	0	0	0	60
Hour	201	35	3	3	1	243	184	34	1	2	1	222
15:00	65	9	2	0	0	76	74	10	0	2	0	86
15:15	27	7	0	0	1	35	54	2	0	0	0	56
15:30	31	9	0	1	0	41	36	8	0	0	0	44
15:45	46	9	0	1	1	57	31	12	0	0	2	45
Hour	169	34	2	2	2	209	195	32	0	2	2	231
16:00	48	3	1	0	0	52	31	11	0	1	0	43
16:15	40	7	4	1	0	52	33	11	0	0	0	44
16:30	41	4	2	1	1	49	54	12	2	1	0	69
16:45	51	12	1	0	0	64	45	8	1	0	0	54
Hour	180	26	8	2	1	217	163	42	3	2	0	210
17:00	47	6	1	0	0	54	52	7	0	0	0	59
17:15	58	7	1	0	0	66	42	10	1	0	0	53
17:30	55	8	0	0	0	63	51	9	0	1	0	61
17:45	46	8	2	2	0	58	52	12	1	1	0	66
Hour	206	29	4	2	0	241	197	38	2	2	0	239
18:00	50	8	0	0	0	58	53	7	0	1	0	61
18:15	49	10	2	0	0	61	59	7	0	0	0	66
18:30	37	6	0	0	0	43	37	7	1	0	0	45
18:45	37	5	0	0	0	42	51	8	0	0	0	59
Hour	173	29	2	0	0	204	200	29	1	1	0	231
Total	2196	363	47	28	10	2644	2109	397	37	27	7	2577



Site No. 1
 Location N2(N) / John Street / N2(S) / R170
 Date Thursday 3 May 2018

Time	To Arm C - N2(S)					Veh. Total	From Arm C - N2(S)					Veh. Total
	CAR	LGV	OGV1	OGV2	PSV		CAR	LGV	OGV1	OGV2	PSV	
07:00	41	22	4	8	0	75	12	14	3	3	0	32
07:15	44	15	2	7	3	71	16	13	1	7	0	37
07:30	43	15	2	2	3	65	37	12	0	5	2	56
07:45	61	18	1	8	1	89	41	16	4	2	4	67
Hour	189	70	9	25	7	300	106	55	8	17	6	192
08:00	53	26	4	3	3	89	49	17	2	2	1	71
08:15	64	17	2	1	1	85	62	7	1	8	0	78
08:30	56	22	1	4	0	83	81	11	4	3	0	99
08:45	63	17	5	4	0	89	103	7	2	2	1	115
Hour	236	82	12	12	4	346	295	42	9	15	2	363
09:00	68	14	3	8	2	95	82	13	3	3	0	101
09:15	74	19	3	2	3	101	101	8	2	2	0	113
09:30	49	19	4	3	1	76	70	9	4	2	1	86
09:45	60	14	2	1	1	78	55	11	0	6	1	73
Hour	251	66	12	14	7	350	308	41	9	13	2	373
10:00	58	14	4	3	3	82	47	7	3	5	0	62
10:15	47	10	4	2	0	63	79	18	4	3	0	104
10:30	53	9	3	4	1	70	64	5	1	5	0	75
10:45	57	8	2	4	1	72	64	8	2	4	1	79
Hour	215	41	13	13	5	287	254	38	10	17	1	320
11:00	49	12	5	4	0	70	45	12	5	8	1	71
11:15	58	10	2	3	2	75	65	14	7	6	0	92
11:30	65	13	6	5	0	89	50	10	2	6	0	68
11:45	80	10	2	1	0	93	67	11	0	3	3	84
Hour	252	45	15	13	2	327	227	47	14	23	4	315
12:00	69	6	2	4	1	82	41	6	3	4	1	55
12:15	67	6	5	6	3	87	63	8	1	6	0	78
12:30	65	13	2	7	0	87	73	12	3	4	0	92
12:45	76	12	1	6	1	96	69	8	2	2	1	82
Hour	277	37	10	23	5	352	246	34	9	16	2	307
13:00	87	14	3	2	0	106	62	11	1	4	1	79
13:15	70	8	2	2	1	83	45	9	1	5	0	60
13:30	59	18	6	3	0	86	66	7	3	5	0	81
13:45	61	6	2	3	0	72	67	12	2	9	1	91
Hour	277	46	13	10	1	347	240	39	7	23	2	311
14:00	75	12	6	4	1	98	74	12	1	2	1	90
14:15	75	11	3	2	0	91	69	14	3	2	2	90
14:30	80	9	1	4	0	94	69	7	4	2	0	82
14:45	58	13	2	1	0	74	81	19	2	5	0	107
Hour	288	45	12	11	1	357	293	52	10	11	3	369
15:00	73	18	2	4	3	100	52	13	2	4	1	72
15:15	79	16	6	3	0	104	71	13	0	0	0	84
15:30	69	12	5	4	0	90	69	12	1	6	0	88
15:45	62	14	2	2	0	80	82	13	2	4	1	102
Hour	283	60	15	13	3	374	274	51	5	14	2	346
16:00	60	13	5	2	1	81	76	15	2	3	1	97
16:15	64	13	3	3	1	84	70	12	2	3	0	87
16:30	64	14	2	5	0	85	72	13	3	3	1	92
16:45	65	15	1	1	4	86	71	22	5	7	2	107
Hour	253	55	11	11	6	336	289	62	12	16	4	383
17:00	64	6	5	4	0	79	68	28	0	5	3	104
17:15	74	12	4	5	1	96	47	15	3	0	0	65
17:30	97	8	5	6	2	118	34	9	0	4	0	47
17:45	85	8	0	0	0	93	79	19	0	1	3	102
Hour	320	34	14	15	3	386	228	71	3	10	6	318
18:00	92	22	1	0	1	116	64	26	2	4	2	98
18:15	84	9	2	3	0	98	81	33	0	5	1	120
18:30	92	12	3	5	1	113	92	21	1	1	1	116
18:45	86	3	1	2	2	94	105	17	1	3	3	129
Hour	354	46	7	10	4	421	342	97	4	13	7	463
Total	3195	627	143	170	48	4183	3102	629	100	188	41	4060

Site No. 1
Location N2(N) / John Street / N2(S) / R170
Date Thursday 3 May 2018

Time	To Arm D - R170					Veh. Total	From Arm D - R170					Veh. Total
	CAR	LGV	OGV1	OGV2	PSV		CAR	LGV	OGV1	OGV2	PSV	
07:00	11	12	2	1	1	27	23	8	0	0	0	31
07:15	16	10	0	1	0	27	13	11	0	0	1	25
07:30	38	9	0	0	0	47	27	6	0	1	0	34
07:45	58	14	0	0	1	73	45	15	0	0	1	61
Hour	123	45	2	2	2	174	108	40	0	1	2	151
08:00	44	15	2	2	0	63	33	14	1	2	0	50
08:15	48	5	0	6	0	59	64	10	1	3	0	78
08:30	59	9	1	2	0	71	65	7	2	4	0	78
08:45	65	6	2	2	0	75	80	9	2	1	0	92
Hour	216	35	5	12	0	268	242	40	6	10	0	298
09:00	100	10	2	1	1	114	70	8	2	2	1	83
09:15	95	9	4	0	0	108	66	7	2	0	0	75
09:30	56	4	2	2	1	65	80	12	1	2	0	95
09:45	48	6	1	2	0	57	54	6	0	3	0	63
Hour	299	29	9	5	2	344	270	33	5	7	1	316
10:00	52	10	2	1	0	65	47	13	2	2	0	64
10:15	45	9	1	1	0	56	32	6	2	2	0	42
10:30	58	4	3	0	0	65	33	8	0	2	1	44
10:45	50	11	1	2	0	64	42	7	1	2	1	53
Hour	205	34	7	4	0	250	154	34	5	8	2	203
11:00	49	7	3	1	0	60	39	12	3	0	0	54
11:15	41	9	2	3	0	55	42	7	1	0	0	50
11:30	36	8	1	0	0	45	29	11	2	4	0	46
11:45	48	13	0	3	1	65	50	10	2	0	1	63
Hour	174	37	6	7	1	225	160	40	8	4	1	213
12:00	53	7	3	0	0	63	35	4	2	0	0	41
12:15	80	8	0	0	0	88	59	1	2	0	0	62
12:30	69	9	1	0	0	79	53	11	0	1	0	65
12:45	55	13	1	0	0	69	50	8	0	0	0	58
Hour	257	37	5	0	0	299	197	24	4	1	0	226
13:00	50	6	0	1	0	57	63	16	0	0	0	79
13:15	41	5	1	0	0	47	44	3	1	2	0	50
13:30	48	8	1	1	0	58	44	7	4	0	0	55
13:45	71	7	5	1	0	84	49	7	0	1	0	57
Hour	210	26	7	3	0	246	200	33	5	3	0	241
14:00	50	5	0	0	1	56	58	6	2	0	0	66
14:15	44	5	0	1	0	50	58	6	1	1	0	66
14:30	58	8	0	2	0	68	65	4	1	1	1	72
14:45	80	12	0	1	0	93	44	9	1	2	0	56
Hour	232	30	0	4	1	267	225	25	5	4	1	260
15:00	62	7	0	2	0	71	68	6	2	1	0	77
15:15	61	9	1	0	0	71	54	14	2	0	0	70
15:30	56	9	2	2	0	69	54	14	0	1	0	69
15:45	50	11	0	0	3	64	46	10	3	0	0	59
Hour	229	36	3	4	3	275	222	44	7	2	0	275
16:00	61	9	0	1	0	71	44	8	2	1	0	55
16:15	48	13	0	1	0	62	44	6	2	1	1	54
16:30	70	13	0	1	0	84	44	14	2	0	1	61
16:45	55	11	4	0	1	71	44	9	0	1	0	54
Hour	234	46	4	3	1	288	176	37	6	3	2	224
17:00	76	13	2	0	0	91	24	6	2	0	0	32
17:15	62	9	0	0	0	71	63	9	2	0	0	74
17:30	54	10	1	0	0	65	58	9	3	0	0	70
17:45	71	11	0	0	0	82	50	12	0	0	0	62
Hour	263	43	3	0	0	309	195	36	7	0	0	238
18:00	70	12	0	4	1	87	58	13	1	0	0	72
18:15	74	12	2	0	0	88	68	12	2	0	0	82
18:30	59	10	1	0	0	70	48	9	0	2	0	59
18:45	60	9	1	0	0	70	53	8	0	0	0	61
Hour	263	43	4	4	1	315	227	42	3	2	0	274
Total	2705	441	55	48	11	3260	2376	428	61	45	9	2919



Site No. 2
 Location N2(N) / N2(S) / Cherrybrook
 Date Thursday 3 May 2018

Time	A to C - N2(N) to Cherrybrook					Veh. Total	A to B - N2(N) to N2(S)					Veh. Total
	CAR	LGV	OGV1	OGV2	PSV		CAR	LGV	OGV1	OGV2	PSV	
07:00	3	0	0	0	0	3	39	19	3	10	4	75
07:15	4	0	0	0	0	4	43	12	3	6	2	66
07:30	3	0	0	0	0	3	34	17	2	3	4	60
07:45	0	1	0	0	0	1	71	19	2	6	0	98
Hour	10	1	0	0	0	11	187	67	10	25	10	299
08:00	2	0	0	0	0	2	55	16	2	6	3	82
08:15	4	1	0	0	0	5	52	16	3	1	1	73
08:30	3	0	0	0	0	3	72	16	3	3	1	95
08:45	6	0	0	0	0	6	65	18	5	4	0	92
Hour	15	1	0	0	0	16	244	66	13	14	5	342
09:00	8	0	0	0	0	8	49	10	1	8	1	69
09:15	3	0	0	0	0	3	67	15	4	2	3	91
09:30	5	0	0	0	0	5	48	18	4	3	1	74
09:45	2	2	0	0	0	4	50	11	2	1	1	65
Hour	18	2	0	0	0	20	214	54	11	14	6	299
10:00	4	0	0	0	0	4	55	12	4	3	2	76
10:15	4	1	0	0	0	5	47	4	2	2	0	55
10:30	4	0	0	0	0	4	51	7	3	4	0	65
10:45	4	2	0	0	0	6	49	6	2	4	1	62
Hour	16	3	0	0	0	19	202	29	11	13	3	258
11:00	1	2	0	0	0	3	38	6	5	4	0	53
11:15	6	0	0	0	0	6	53	7	4	3	3	70
11:30	1	0	0	0	0	1	68	10	6	5	0	89
11:45	6	0	0	0	0	6	74	8	4	1	0	87
Hour	14	2	0	0	0	16	233	31	19	13	3	299
12:00	3	0	0	0	0	3	70	5	3	3	1	82
12:15	4	1	0	0	0	5	65	7	6	7	3	88
12:30	5	0	0	0	0	5	52	13	3	6	0	74
12:45	5	0	0	0	0	5	58	7	1	5	1	72
Hour	17	1	0	0	0	18	245	32	13	21	5	316
13:00	14	0	0	0	0	14	64	12	1	4	0	81
13:15	2	1	0	0	0	3	62	8	1	2	1	74
13:30	9	0	0	0	0	9	44	13	9	1	0	67
13:45	5	1	0	0	0	6	45	5	3	2	0	55
Hour	30	2	0	0	0	32	215	38	14	9	1	277
14:00	5	0	0	0	0	5	52	9	9	3	1	74
14:15	5	0	0	0	0	5	67	9	3	1	0	80
14:30	7	0	0	0	0	7	60	6	1	4	0	71
14:45	5	0	0	0	0	5	47	8	2	2	2	61
Hour	22	0	0	0	0	22	226	32	15	10	3	286
15:00	5	0	0	0	0	5	65	12	2	4	3	86
15:15	22	1	0	0	0	23	76	16	3	3	1	99
15:30	5	0	0	0	0	5	64	8	6	3	0	81
15:45	3	0	0	0	0	3	54	11	1	3	0	69
Hour	35	1	0	0	0	36	259	47	12	13	4	335
16:00	10	0	0	0	0	10	63	10	3	2	1	79
16:15	8	1	0	0	0	9	62	10	2	3	0	77
16:30	10	2	0	0	0	12	60	7	1	4	0	72
16:45	4	4	0	0	0	8	58	12	0	0	3	73
Hour	32	7	0	0	0	39	243	39	6	9	4	301
17:00	10	3	0	0	0	13	76	5	4	4	1	90
17:15	7	3	0	0	0	10	71	9	4	7	1	92
17:30	5	3	0	0	0	8	90	8	4	4	2	108
17:45	9	1	0	1	0	11	90	9	0	1	0	100
Hour	31	10	0	1	0	42	327	31	12	16	4	390
18:00	10	1	0	0	0	11	76	10	2	2	1	91
18:15	11	1	0	0	0	12	79	6	0	4	0	89
18:30	11	0	0	0	0	11	91	10	4	3	1	109
18:45	13	1	0	0	0	14	80	7	2	2	1	92
Hour	45	3	0	0	0	48	326	33	8	11	3	381
Total	285	33	0	1	0	319	2921	499	144	168	51	3783

Site No. 2
 Location N2(N) / N2(S) / Cherrybrook
 Date Thursday 3 May 2018

Time	B to A - N2(S) to N2(N)					Veh. Total	B to C - N2(S) to Cherrybrook					Veh. Total
	CAR	LGV	OGV1	OGV2	PSV		CAR	LGV	OGV1	OGV2	PSV	
07:00	7	8	2	3	0	20	0	1	0	0	0	1
07:15	8	10	1	7	0	26	0	0	0	0	0	0
07:30	32	10	0	5	3	50	0	1	0	0	0	1
07:45	28	9	6	1	3	47	1	0	0	0	0	1
Hour	75	37	9	16	6	143	1	2	0	0	0	3
08:00	38	11	5	1	1	56	1	0	0	0	0	1
08:15	54	5	2	8	0	69	2	0	0	0	0	2
08:30	70	9	6	3	0	88	1	1	0	0	0	2
08:45	70	7	2	2	1	82	3	0	0	0	0	3
Hour	232	32	15	14	2	295	7	1	0	0	0	8
09:00	69	12	0	5	0	86	3	0	0	0	0	3
09:15	56	5	3	2	0	66	3	0	0	0	0	3
09:30	44	7	2	1	1	55	1	0	0	0	0	1
09:45	47	11	0	6	1	65	2	0	0	0	0	2
Hour	216	35	5	14	2	272	9	0	0	0	0	9
10:00	44	8	3	7	0	62	1	1	0	0	0	2
10:15	59	9	2	6	1	77	1	0	0	0	0	1
10:30	49	5	0	3	1	58	1	1	0	0	0	2
10:45	51	5	2	5	0	63	2	0	0	0	0	2
Hour	203	27	7	21	2	260	5	2	0	0	0	7
11:00	42	9	5	7	1	64	1	0	0	0	0	1
11:15	55	7	7	6	0	75	2	0	0	0	0	2
11:30	52	6	3	5	1	67	1	1	0	0	0	2
11:45	53	8	1	3	1	66	2	0	0	0	0	2
Hour	202	30	16	21	3	272	6	1	0	0	0	7
12:00	48	6	5	3	1	63	2	0	0	0	0	2
12:15	45	7	2	6	0	60	2	0	0	0	0	2
12:30	46	11	2	4	0	63	2	0	0	0	0	2
12:45	56	5	3	2	1	67	3	0	0	0	0	3
Hour	195	29	12	15	2	253	9	0	0	0	0	9
13:00	51	11	2	4	1	69	2	1	0	0	0	3
13:15	42	6	1	5	0	54	1	0	0	0	0	1
13:30	50	5	3	6	1	65	3	1	0	0	0	4
13:45	48	11	2	9	0	70	0	0	0	0	0	0
Hour	191	33	8	24	2	258	6	2	0	0	0	8
14:00	56	7	1	1	2	67	3	0	0	0	0	3
14:15	50	12	2	3	2	69	1	0	0	0	0	1
14:30	69	5	5	1	0	80	3	1	0	0	0	4
14:45	75	16	3	4	1	99	1	1	0	0	0	2
Hour	250	40	11	9	5	315	8	2	0	0	0	10
15:00	56	16	3	4	1	80	2	0	0	0	0	2
15:15	50	6	1	2	0	59	1	1	0	0	0	2
15:30	61	13	0	5	0	79	2	1	0	0	0	3
15:45	51	12	0	5	1	69	3	0	0	0	0	3
Hour	218	47	4	16	2	287	8	2	0	0	0	10
16:00	61	12	3	2	1	79	1	0	0	0	0	1
16:15	83	11	1	4	0	99	2	0	0	0	0	2
16:30	49	12	2	2	1	66	4	0	0	0	0	4
16:45	61	21	3	7	3	95	7	0	0	0	0	7
Hour	254	56	9	15	5	339	14	0	0	0	0	14
17:00	66	29	0	5	2	102	1	0	0	0	0	1
17:15	60	29	5	1	0	95	3	1	0	0	0	4
17:30	58	19	0	2	1	80	4	1	0	0	0	5
17:45	73	25	2	3	1	104	3	0	0	0	0	3
Hour	257	102	7	11	4	381	11	2	0	0	0	13
18:00	77	31	0	1	2	111	8	0	1	0	0	9
18:15	86	23	1	5	1	116	7	2	0	0	0	9
18:30	84	15	0	1	0	100	8	0	0	0	0	8
18:45	77	14	1	3	4	99	6	1	0	0	0	7
Hour	324	83	2	10	7	426	29	3	1	0	0	33
Total	2617	551	105	186	42	3501	113	17	1	0	0	131

Site No. 2
Location N2(N) / N2(S) / Cherrybrook
Date Thursday 3 May 2018

Time	C to B - Cherrybrook to N2(S)					Veh. Total	C to A - Cherrybrook to N2(N)					Veh. Total
	CAR	LGV	OGV1	OGV2	PSV		CAR	LGV	OGV1	OGV2	PSV	
07:00	1	1	0	0	0	2	2	3	0	0	0	5
07:15	2	1	0	0	0	3	5	0	0	0	0	5
07:30	3	2	0	0	0	5	6	2	0	0	0	8
07:45	1	0	0	0	0	1	7	1	1	0	0	9
Hour	7	4	0	0	0	11	20	6	1	0	0	27
08:00	3	0	0	0	0	3	1	0	0	0	0	1
08:15	1	0	0	0	0	1	6	3	0	0	0	9
08:30	4	0	0	0	0	4	9	0	0	0	0	9
08:45	5	0	0	0	0	5	16	1	1	0	0	18
Hour	13	0	0	0	0	13	32	4	1	0	0	37
09:00	2	0	0	0	0	2	18	1	0	0	0	19
09:15	4	0	0	0	0	4	9	0	0	0	0	9
09:30	1	0	0	0	0	1	4	0	0	0	0	4
09:45	3	1	0	0	0	4	2	1	0	0	0	3
Hour	10	1	0	0	0	11	33	2	0	0	0	35
10:00	0	0	0	0	0	0	2	0	0	0	0	2
10:15	2	1	0	0	0	3	4	0	0	0	0	4
10:30	2	0	0	0	0	2	3	1	0	0	0	4
10:45	3	1	0	0	0	4	6	1	0	0	0	7
Hour	7	2	0	0	0	9	15	2	0	0	0	17
11:00	1	0	0	0	0	1	2	0	0	0	0	2
11:15	2	0	0	0	0	2	7	2	0	0	0	9
11:30	1	1	0	0	0	2	4	0	0	0	0	4
11:45	2	0	0	0	0	2	1	0	0	0	0	1
Hour	6	1	0	0	0	7	14	2	0	0	0	16
12:00	3	1	0	0	0	4	4	1	0	0	0	5
12:15	0	1	0	0	0	1	8	0	0	0	0	8
12:30	2	0	0	0	0	2	1	0	0	0	0	1
12:45	2	0	0	0	0	2	4	0	0	0	0	4
Hour	7	2	0	0	0	9	17	1	0	0	0	18
13:00	1	0	0	0	0	1	6	0	0	0	0	6
13:15	2	0	0	0	0	2	2	1	0	0	0	3
13:30	0	1	0	0	0	1	7	0	0	0	0	7
13:45	3	0	0	0	0	3	9	1	0	0	0	10
Hour	6	1	0	0	0	7	24	2	0	0	0	26
14:00	2	0	0	0	0	2	5	0	0	0	0	5
14:15	1	0	0	0	0	1	3	0	0	0	0	3
14:30	2	1	0	0	0	3	5	0	0	0	0	5
14:45	0	2	0	0	0	2	7	0	0	0	0	7
Hour	5	3	0	0	0	8	20	0	0	0	0	20
15:00	1	0	0	0	0	1	6	0	0	0	0	6
15:15	4	0	0	0	0	4	9	1	0	0	0	10
15:30	3	0	0	0	0	3	9	0	0	0	0	9
15:45	1	1	0	0	0	2	6	0	0	0	0	6
Hour	9	1	0	0	0	10	30	1	0	0	0	31
16:00	1	0	0	0	0	1	10	1	0	0	0	11
16:15	3	0	0	0	0	3	4	0	0	0	0	4
16:30	2	1	0	0	0	3	6	1	0	0	0	7
16:45	4	1	0	0	0	5	5	0	0	0	0	5
Hour	10	2	0	0	0	12	25	2	0	0	0	27
17:00	5	1	0	0	0	6	9	3	0	0	0	12
17:15	2	0	0	0	0	2	9	1	0	0	0	10
17:30	3	0	0	0	0	3	3	0	0	0	0	3
17:45	5	0	0	0	0	5	8	2	0	0	0	10
Hour	15	1	0	0	0	16	29	6	0	0	0	35
18:00	6	0	0	0	0	6	4	1	0	0	0	5
18:15	7	0	0	0	0	7	6	1	0	0	0	7
18:30	6	0	0	0	0	6	8	0	0	0	0	8
18:45	6	0	0	0	0	6	10	0	0	0	0	10
Hour	25	0	0	0	0	25	28	2	0	0	0	30
Total	120	18	0	0	0	138	287	30	2	0	0	319

Site No. 2
Location N2(N) / N2(S) / Cherrybrook
Date Thursday 3 May 2018

Time	To Arm A - N2(N)					Veh. Total	From Arm A - N2(N)					Veh. Total
	CAR	LGV	OGV1	OGV2	PSV		CAR	LGV	OGV1	OGV2	PSV	
07:00	9	11	2	3	0	25	42	19	3	10	4	78
07:15	13	10	1	7	0	31	47	12	3	6	2	70
07:30	38	12	0	5	3	58	37	17	2	3	4	63
07:45	35	10	7	1	3	56	71	20	2	6	0	99
Hour	95	43	10	16	6	170	197	68	10	25	10	310
08:00	39	11	5	1	1	57	57	16	2	6	3	84
08:15	60	8	2	8	0	78	56	17	3	1	1	78
08:30	79	9	6	3	0	97	75	16	3	3	1	98
08:45	86	8	3	2	1	100	71	18	5	4	0	98
Hour	264	36	16	14	2	332	259	67	13	14	5	358
09:00	87	13	0	5	0	105	57	10	1	8	1	77
09:15	65	5	3	2	0	75	70	15	4	2	3	94
09:30	48	7	2	1	1	59	53	18	4	3	1	79
09:45	49	12	0	6	1	68	52	13	2	1	1	69
Hour	249	37	5	14	2	307	232	56	11	14	6	319
10:00	46	8	3	7	0	64	59	12	4	3	2	80
10:15	63	9	2	6	1	81	51	5	2	2	0	60
10:30	52	6	0	3	1	62	55	7	3	4	0	69
10:45	57	6	2	5	0	70	53	8	2	4	1	68
Hour	218	29	7	21	2	277	218	32	11	13	3	277
11:00	44	9	5	7	1	66	39	8	5	4	0	56
11:15	62	9	7	6	0	84	59	7	4	3	3	76
11:30	56	6	3	5	1	71	69	10	6	5	0	90
11:45	54	8	1	3	1	67	80	8	4	1	0	93
Hour	216	32	16	21	3	288	247	33	19	13	3	315
12:00	52	7	5	3	1	68	73	5	3	3	1	85
12:15	53	7	2	6	0	68	69	8	6	7	3	93
12:30	47	11	2	4	0	64	57	13	3	6	0	79
12:45	60	5	3	2	1	71	63	7	1	5	1	77
Hour	212	30	12	15	2	271	262	33	13	21	5	334
13:00	57	11	2	4	1	75	78	12	1	4	0	95
13:15	44	7	1	5	0	57	64	9	1	2	1	77
13:30	57	5	3	6	1	72	53	13	9	1	0	76
13:45	57	12	2	9	0	80	50	6	3	2	0	61
Hour	215	35	8	24	2	284	245	40	14	9	1	309
14:00	61	7	1	1	2	72	57	9	9	3	1	79
14:15	53	12	2	3	2	72	72	9	3	1	0	85
14:30	74	5	5	1	0	85	67	6	1	4	0	78
14:45	82	16	3	4	1	106	52	8	2	2	2	66
Hour	270	40	11	9	5	335	248	32	15	10	3	308
15:00	62	16	3	4	1	86	70	12	2	4	3	91
15:15	59	7	1	2	0	69	98	17	3	3	1	122
15:30	70	13	0	5	0	88	69	8	6	3	0	86
15:45	57	12	0	5	1	75	57	11	1	3	0	72
Hour	248	48	4	16	2	318	294	48	12	13	4	371
16:00	71	13	3	2	1	90	73	10	3	2	1	89
16:15	87	11	1	4	0	103	70	11	2	3	0	86
16:30	55	13	2	2	1	73	70	9	1	4	0	84
16:45	66	21	3	7	3	100	62	16	0	0	3	81
Hour	279	58	9	15	5	366	275	46	6	9	4	340
17:00	75	32	0	5	2	114	86	8	4	4	1	103
17:15	69	30	5	1	0	105	78	12	4	7	1	102
17:30	61	19	0	2	1	83	95	11	4	4	2	116
17:45	81	27	2	3	1	114	99	10	0	2	0	111
Hour	286	108	7	11	4	416	358	41	12	17	4	432
18:00	81	32	0	1	2	116	86	11	2	2	1	102
18:15	92	24	1	5	1	123	90	7	0	4	0	101
18:30	92	15	0	1	0	108	102	10	4	3	1	120
18:45	87	14	1	3	4	109	93	8	2	2	1	106
Hour	352	85	2	10	7	456	371	36	8	11	3	429
Total	2904	581	107	186	42	3820	3206	532	144	169	51	4102

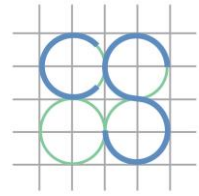
Site No. 2
Location N2(N) / N2(S) / Cherrybrook
Date Thursday 3 May 2018

Time	To Arm B - N2(S)					Veh. Total	From Arm B - N2(S)					Veh. Total
	CAR	LGV	OGV1	OGV2	PSV		CAR	LGV	OGV1	OGV2	PSV	
07:00	40	20	3	10	4	77	7	9	2	3	0	21
07:15	45	13	3	6	2	69	8	10	1	7	0	26
07:30	37	19	2	3	4	65	32	11	0	5	3	51
07:45	72	19	2	6	0	99	29	9	6	1	3	48
Hour	194	71	10	25	10	310	76	39	9	16	6	146
08:00	58	16	2	6	3	85	39	11	5	1	1	57
08:15	53	16	3	1	1	74	56	5	2	8	0	71
08:30	76	16	3	3	1	99	71	10	6	3	0	90
08:45	70	18	5	4	0	97	73	7	2	2	1	85
Hour	257	66	13	14	5	355	239	33	15	14	2	303
09:00	51	10	1	8	1	71	72	12	0	5	0	89
09:15	71	15	4	2	3	95	59	5	3	2	0	69
09:30	49	18	4	3	1	75	45	7	2	1	1	56
09:45	53	12	2	1	1	69	49	11	0	6	1	67
Hour	224	55	11	14	6	310	225	35	5	14	2	281
10:00	55	12	4	3	2	76	45	9	3	7	0	64
10:15	49	5	2	2	0	58	60	9	2	6	1	78
10:30	53	7	3	4	0	67	50	6	0	3	1	60
10:45	52	7	2	4	1	66	53	5	2	5	0	65
Hour	209	31	11	13	3	267	208	29	7	21	2	267
11:00	39	6	5	4	0	54	43	9	5	7	1	65
11:15	55	7	4	3	3	72	57	7	7	6	0	77
11:30	69	11	6	5	0	91	53	7	3	5	1	69
11:45	76	8	4	1	0	89	55	8	1	3	1	68
Hour	239	32	19	13	3	306	208	31	16	21	3	279
12:00	73	6	3	3	1	86	50	6	5	3	1	65
12:15	65	8	6	7	3	89	47	7	2	6	0	62
12:30	54	13	3	6	0	76	48	11	2	4	0	65
12:45	60	7	1	5	1	74	59	5	3	2	1	70
Hour	252	34	13	21	5	325	204	29	12	15	2	262
13:00	65	12	1	4	0	82	53	12	2	4	1	72
13:15	64	8	1	2	1	76	43	6	1	5	0	55
13:30	44	14	9	1	0	68	53	6	3	6	1	69
13:45	48	5	3	2	0	58	48	11	2	9	0	70
Hour	221	39	14	9	1	284	197	35	8	24	2	266
14:00	54	9	9	3	1	76	59	7	1	1	2	70
14:15	68	9	3	1	0	81	51	12	2	3	2	70
14:30	62	7	1	4	0	74	72	6	5	1	0	84
14:45	47	10	2	2	2	63	76	17	3	4	1	101
Hour	231	35	15	10	3	294	258	42	11	9	5	325
15:00	66	12	2	4	3	87	58	16	3	4	1	82
15:15	80	16	3	3	1	103	51	7	1	2	0	61
15:30	67	8	6	3	0	84	63	14	0	5	0	82
15:45	55	12	1	3	0	71	54	12	0	5	1	72
Hour	268	48	12	13	4	345	226	49	4	16	2	297
16:00	64	10	3	2	1	80	62	12	3	2	1	80
16:15	65	10	2	3	0	80	85	11	1	4	0	101
16:30	62	8	1	4	0	75	53	12	2	2	1	70
16:45	62	13	0	0	3	78	68	21	3	7	3	102
Hour	253	41	6	9	4	313	268	56	9	15	5	353
17:00	81	6	4	4	1	96	67	29	0	5	2	103
17:15	73	9	4	7	1	94	63	30	5	1	0	99
17:30	93	8	4	4	2	111	62	20	0	2	1	85
17:45	95	9	0	1	0	105	76	25	2	3	1	107
Hour	342	32	12	16	4	406	268	104	7	11	4	394
18:00	82	10	2	2	1	97	85	31	1	1	2	120
18:15	86	6	0	4	0	96	93	25	1	5	1	125
18:30	97	10	4	3	1	115	92	15	0	1	0	108
18:45	86	7	2	2	1	98	83	15	1	3	4	106
Hour	351	33	8	11	3	406	353	86	3	10	7	459
Total	3041	517	144	168	51	3921	2730	568	106	186	42	3632



Site No. 2
 Location N2(N) / N2(S) / Cherrybrook
 Date Thursday 3 May 2018

Time	To Arm C - Cherrybrook					Veh. Total	From Arm C - Cherrybrook					Veh. Total
	CAR	LGV	OGV1	OGV2	PSV		CAR	LGV	OGV1	OGV2	PSV	
07:00	3	1	0	0	0	4	3	4	0	0	0	7
07:15	4	0	0	0	0	4	7	1	0	0	0	8
07:30	3	1	0	0	0	4	9	4	0	0	0	13
07:45	1	1	0	0	0	2	8	1	1	0	0	10
Hour	11	3	0	0	0	14	27	10	1	0	0	38
08:00	3	0	0	0	0	3	4	0	0	0	0	4
08:15	6	1	0	0	0	7	7	3	0	0	0	10
08:30	4	1	0	0	0	5	13	0	0	0	0	13
08:45	9	0	0	0	0	9	21	1	1	0	0	23
Hour	22	2	0	0	0	24	45	4	1	0	0	50
09:00	11	0	0	0	0	11	20	1	0	0	0	21
09:15	6	0	0	0	0	6	13	0	0	0	0	13
09:30	6	0	0	0	0	6	5	0	0	0	0	5
09:45	4	2	0	0	0	6	5	2	0	0	0	7
Hour	27	2	0	0	0	29	43	3	0	0	0	46
10:00	5	1	0	0	0	6	2	0	0	0	0	2
10:15	5	1	0	0	0	6	6	1	0	0	0	7
10:30	5	1	0	0	0	6	5	1	0	0	0	6
10:45	6	2	0	0	0	8	9	2	0	0	0	11
Hour	21	5	0	0	0	26	22	4	0	0	0	26
11:00	2	2	0	0	0	4	3	0	0	0	0	3
11:15	8	0	0	0	0	8	9	2	0	0	0	11
11:30	2	1	0	0	0	3	5	1	0	0	0	6
11:45	8	0	0	0	0	8	3	0	0	0	0	3
Hour	20	3	0	0	0	23	20	3	0	0	0	23
12:00	5	0	0	0	0	5	7	2	0	0	0	9
12:15	6	1	0	0	0	7	8	1	0	0	0	9
12:30	7	0	0	0	0	7	3	0	0	0	0	3
12:45	8	0	0	0	0	8	6	0	0	0	0	6
Hour	26	1	0	0	0	27	24	3	0	0	0	27
13:00	16	1	0	0	0	17	7	0	0	0	0	7
13:15	3	1	0	0	0	4	4	1	0	0	0	5
13:30	12	1	0	0	0	13	7	1	0	0	0	8
13:45	5	1	0	0	0	6	12	1	0	0	0	13
Hour	36	4	0	0	0	40	30	3	0	0	0	33
14:00	8	0	0	0	0	8	7	0	0	0	0	7
14:15	6	0	0	0	0	6	4	0	0	0	0	4
14:30	10	1	0	0	0	11	7	1	0	0	0	8
14:45	6	1	0	0	0	7	7	2	0	0	0	9
Hour	30	2	0	0	0	32	25	3	0	0	0	28
15:00	7	0	0	0	0	7	7	0	0	0	0	7
15:15	23	2	0	0	0	25	13	1	0	0	0	14
15:30	7	1	0	0	0	8	12	0	0	0	0	12
15:45	6	0	0	0	0	6	7	1	0	0	0	8
Hour	43	3	0	0	0	46	39	2	0	0	0	41
16:00	11	0	0	0	0	11	11	1	0	0	0	12
16:15	10	1	0	0	0	11	7	0	0	0	0	7
16:30	14	2	0	0	0	16	8	2	0	0	0	10
16:45	11	4	0	0	0	15	9	1	0	0	0	10
Hour	46	7	0	0	0	53	35	4	0	0	0	39
17:00	11	3	0	0	0	14	14	4	0	0	0	18
17:15	10	4	0	0	0	14	11	1	0	0	0	12
17:30	9	4	0	0	0	13	6	0	0	0	0	6
17:45	12	1	0	1	0	14	13	2	0	0	0	15
Hour	42	12	0	1	0	55	44	7	0	0	0	51
18:00	18	1	1	0	0	20	10	1	0	0	0	11
18:15	18	3	0	0	0	21	13	1	0	0	0	14
18:30	19	0	0	0	0	19	14	0	0	0	0	14
18:45	19	2	0	0	0	21	16	0	0	0	0	16
Hour	74	6	1	0	0	81	53	2	0	0	0	55
Total	398	50	1	1	0	450	407	48	2	0	0	457



CS CONSULTING
GROUP

Appendix B

TRICS Data

Calculation Reference: AUDIT-656801-200821-0853

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION
 Category : D - NURSERY
 VEHICLES

Selected regions and areas:

06	WEST MIDLANDS	
	WK WARWICKSHIRE	1 days
12	CONNAUGHT	
	RO ROSCOMMON	1 days

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

Primary Filtering selection:

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

Parameter: Gross floor area
 Actual Range: 340 to 500 (units: sqm)
 Range Selected by User: 109 to 2350 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/12 to 27/09/19

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

Selected survey days:

Friday 2 days

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

Selected survey types:

Manual count 2 days
 Directional ATC Count 0 days

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

Selected Locations:

Edge of Town 2

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

Selected Location Sub Categories:

Residential Zone 2

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

Secondary Filtering selection:

Use Class:

D1 2 days

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

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days

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

Population within 5 miles:

5,001 to 25,000	1 days
50,001 to 75,000	1 days

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

Car ownership within 5 miles:

1.1 to 1.5	2 days
------------	--------

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

Travel Plan:

No	2 days
----	--------

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

PTAL Rating:

No PTAL Present	2 days
-----------------	--------

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

LIST OF SITES relevant to selection parameters

1	RO-04-D-01	NURSERY	ROSCOMMON
	PARK VIEW ROSCOMMON CRUBY HILL Edge of Town Residential Zone Total Gross floor area: 500 sqm <i>Survey date: FRIDAY 26/09/14</i>		
2	WK-04-D-01	NURSERY	WARWICKSHIRE
	THE RIDGEWAY STRATFORD UPON AVON Edge of Town Residential Zone Total Gross floor area: 340 sqm <i>Survey date: FRIDAY 29/06/18</i>		
			<i>Survey Type: MANUAL</i>

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

TRIP RATE for Land Use 04 - EDUCATION/D - NURSERY
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									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	420	2.024	2	420	0.238	2	420	2.262
08:00 - 09:00	2	420	5.000	2	420	3.214	2	420	8.214
09:00 - 10:00	2	420	3.214	2	420	3.929	2	420	7.143
10:00 - 11:00	2	420	0.357	2	420	0.714	2	420	1.071
11:00 - 12:00	2	420	0.952	2	420	0.357	2	420	1.309
12:00 - 13:00	2	420	2.500	2	420	3.214	2	420	5.714
13:00 - 14:00	2	420	2.024	2	420	1.667	2	420	3.691
14:00 - 15:00	2	420	2.619	2	420	1.548	2	420	4.167
15:00 - 16:00	2	420	0.833	2	420	1.905	2	420	2.738
16:00 - 17:00	2	420	1.667	2	420	1.429	2	420	3.096
17:00 - 18:00	2	420	3.095	2	420	4.643	2	420	7.738
18:00 - 19:00	2	420	0.000	2	420	1.429	2	420	1.429
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			24.285			24.287			48.572

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.*

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected: 340 - 500 (units: sqm)
 Survey date range: 01/01/12 - 27/09/19
 Number of weekdays (Monday-Friday): 2
 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.

Calculation Reference: AUDIT-656801-200821-0816

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 07 - LEISURE
 Category : Q - COMMUNITY CENTRE
 VEHICLES

Selected regions and areas:

06	WEST MIDLANDS	
	SH SHROPSHIRE	1 days
16	ULSTER (REPUBLIC OF IRELAND)	
	CV CAVAN	1 days

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

Primary Filtering selection:

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

Parameter: Site area
 Actual Range: 0.15 to 1.72 (units: hect)
 Range Selected by User: 0.04 to 2.50 (units: hect)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/12 to 24/05/19

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

Selected survey days:

Wednesday	1 days
Thursday	1 days

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

Selected survey types:

Manual count	2 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	1
Edge of Town	1

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

Selected Location Sub Categories:

Residential Zone	2
------------------	---

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

Secondary Filtering selection:

Use Class:

D2	2 days
----	--------

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

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days

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

Population within 5 miles:

5,001 to 25,000	2 days
-----------------	--------

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

Car ownership within 5 miles:

1.1 to 1.5	2 days
------------	--------

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

Travel Plan:

No	2 days
----	--------

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

PTAL Rating:

No PTAL Present	2 days
-----------------	--------

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

LIST OF SITES relevant to selection parameters

1	CV-07-Q-01 KILLYMOONEY DRIVE CAVAN	COMMUNITY CENTRE CAVAN	CAVAN
	Suburban Area (PPS6 Out of Centre) Residential Zone		
	Total Site area:	1.72 hect	
	Survey date: WEDNESDAY	19/12/12	Survey Type: MANUAL
2	SH-07-Q-01 SOUTHGATE TELFORD SUTTON HILL	COMMUNITY CENTRE SOUTHGATE TELFORD SUTTON HILL	SHROPSHIRE
	Edge of Town Residential Zone		
	Total Site area:	0.15 hect	
	Survey date: THURSDAY	24/10/13	Survey Type: MANUAL

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

TRIP RATE for Land Use 07 - LEISURE/Q - COMMUNITY CENTRE
VEHICLES

Calculation factor: 1 hect

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. AREA	Trip Rate	No. Days	Ave. AREA	Trip Rate	No. Days	Ave. AREA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00	2	0.93	3.743	2	0.93	0.000	2	0.93	3.743
09:00 - 10:00	2	0.93	5.348	2	0.93	1.604	2	0.93	6.952
10:00 - 11:00	2	0.93	0.535	2	0.93	4.278	2	0.93	4.813
11:00 - 12:00	2	0.93	2.139	2	0.93	3.209	2	0.93	5.348
12:00 - 13:00	2	0.93	2.674	2	0.93	6.952	2	0.93	9.626
13:00 - 14:00	2	0.93	2.674	2	0.93	5.348	2	0.93	8.022
14:00 - 15:00	2	0.93	2.674	2	0.93	0.535	2	0.93	3.209
15:00 - 16:00	2	0.93	2.139	2	0.93	0.000	2	0.93	2.139
16:00 - 17:00	2	0.93	1.604	2	0.93	0.535	2	0.93	2.139
17:00 - 18:00	2	0.93	1.604	2	0.93	4.278	2	0.93	5.882
18:00 - 19:00	2	0.93	4.278	2	0.93	1.070	2	0.93	5.348
19:00 - 20:00	2	0.93	0.000	2	0.93	0.000	2	0.93	0.000
20:00 - 21:00	2	0.93	0.000	2	0.93	1.604	2	0.93	1.604
21:00 - 22:00	1	0.15	0.000	1	0.15	0.000	1	0.15	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			29.412			29.413			58.825

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.*

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected: 0.15 to 1.72 (units: hect)
 Survey date range: 01/01/12 - 24/05/19
 Number of weekdays (Monday-Friday): 2
 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.

Calculation Reference: AUDIT-656801-200821-0844

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION
 Category : A - PRIMARY
 VEHICLES

Selected regions and areas:

03	SOUTH WEST DV DEVON	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE NE NORTH EAST LINCOLNSHIRE	1 days
11	SCOTLAND FI FIFE	1 days
12	CONNAUGHT RO ROSCOMMON	1 days

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

Primary Filtering selection:

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

Parameter: Gross floor area
 Actual Range: 450 to 1300 (units: sqm)
 Range Selected by User: 450 to 9000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/12 to 25/11/19

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

Selected survey days:

Tuesday	2 days
Wednesday	1 days
Thursday	1 days

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

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town	2
Neighbourhood Centre (PPS6 Local Centre)	2

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

Selected Location Sub Categories:

Residential Zone	2
Village	2

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

Secondary Filtering selection:

Use Class:

D1 4 days

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

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000 4 days

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

Population within 5 miles:

5,000 or Less 1 days
5,001 to 25,000 3 days

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

Car ownership within 5 miles:

1.1 to 1.5 3 days
1.6 to 2.0 1 days

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

Travel Plan:

Yes 2 days
No 2 days

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

PTAL Rating:

No PTAL Present 4 days

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

LIST OF SITES relevant to selection parameters

1	DV-04-A-04 CHURCH LANE CHERITON BISHOP	PRIMARY SCHOOL	DEVON
	Neighbourhood Centre (PPS6 Local Centre) Village		
	Total Gross floor area:	450 sqm	
	Survey date: WEDNESDAY	12/07/17	Survey Type: MANUAL
2	FI-04-A-02 RINTOUL AVENUE NEAR DUNFERMLINE BLAIRHALL	PRIMARY SCHOOL	FIFE
	Neighbourhood Centre (PPS6 Local Centre) Village		
	Total Gross floor area:	1300 sqm	
	Survey date: TUESDAY	22/03/16	Survey Type: MANUAL
3	NE-04-A-01 SUNNINGDALE ROAD SCUNTHORPE	PRIMARY SCHOOL	NORTH EAST LINCOLNSHIRE
	Edge of Town Residential Zone		
	Total Gross floor area:	625 sqm	
	Survey date: TUESDAY	20/05/14	Survey Type: MANUAL
4	RO-04-A-01 WARREN ROAD BOYLE	PRIMARY SCHOOL	ROSCOMMON
	Edge of Town Residential Zone		
	Total Gross floor area:	1100 sqm	
	Survey date: THURSDAY	25/09/14	Survey Type: MANUAL

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

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY
 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									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	869	0.518	4	869	0.115	4	869	0.633
08:00 - 09:00	4	869	4.115	4	869	3.079	4	869	7.194
09:00 - 10:00	4	869	1.410	4	869	1.439	4	869	2.849
10:00 - 11:00	4	869	0.086	4	869	0.086	4	869	0.172
11:00 - 12:00	4	869	0.719	4	869	0.719	4	869	1.438
12:00 - 13:00	4	869	0.432	4	869	0.288	4	869	0.720
13:00 - 14:00	4	869	0.345	4	869	0.432	4	869	0.777
14:00 - 15:00	4	869	0.835	4	869	0.317	4	869	1.152
15:00 - 16:00	4	869	2.791	4	869	3.655	4	869	6.446
16:00 - 17:00	4	869	0.748	4	869	1.209	4	869	1.957
17:00 - 18:00	4	869	1.266	4	869	1.065	4	869	2.331
18:00 - 19:00	4	869	0.230	4	869	0.806	4	869	1.036
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			13.495			13.210			26.705

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.*

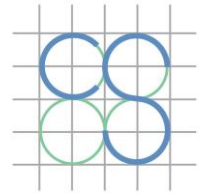
The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected: 450 - 1300 (units: sqm)
 Survey date range: 01/01/12 - 25/11/19
 Number of weekdays (Monday-Friday): 4
 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.



CS CONSULTING
GROUP

Appendix C

Traffic Flow Matrices

Junction 1 - Peak Hour Traffic Flow Matrices (Passenger Car Units)

2018 AM Peak (08:30-09:30) SURVEYED TRAFFIC FLOWS

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	155	284	201	640
William St (R170)	126	0	92	124	342
Drogheda Rd (N2 South)	276	105	0	67	448
John Street	186	120	26	0	332
TOTALS	588	380	402	392	1762

2018 PM Peak (17:45-18:45) SURVEYED TRAFFIC FLOWS

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	159	314	124	597
William St (R170)	99	0	96	85	279
Drogheda Rd (N2 South)	337	106	0	16	459
John Street	146	70	26	0	242
TOTALS	581	335	435	225	1576

2022 AM Peak Interim development flows

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	0	0	23	23
William St (R170)	0	0	0	14	14
Drogheda Rd (N2 South)	0	0	0	8	8
John Street	20	13	3	0	36
TOTALS	20	13	3	45	81

2022 PM Peak Interim development flows

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	0	0	4	4
William St (R170)	0	0	0	3	3
Drogheda Rd (N2 South)	0	0	0	1	1
John Street	5	3	1	0	9
TOTALS	5	3	1	8	17

2022 AM Peak BASELINE TRAFFIC FLOWS (surveyed flows + TII growth factor + interim flows)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	164	301	236	701
William St (R170)	134	0	98	145	377
Drogheda Rd (N2 South)	293	111	0	79	483
John Street	217	140	31	0	388
TOTALS	644	415	430	460	1949

2022 PM Peak BASELINE TRAFFIC FLOWS (surveyed flows + TII growth factor + interim flows)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	169	333	136	638
William St (R170)	105	0	102	93	300
Drogheda Rd (N2 South)	357	113	0	18	488
John Street	160	77	29	0	266
TOTALS	622	359	464	247	1692

2024 AM Peak Other committed development flows

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	8	41	9	58
William St (R170)	13	0	15	7	35
Drogheda Rd (N2 South)	69	24	0	15	108
John Street	13	5	4	0	22
TOTALS	95	37	60	31	223

2024 PM Peak Other committed development flows

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	11	56	7	74
William St (R170)	6	0	21	7	34
Drogheda Rd (N2 South)	40	18	0	3	61
John Street	5	6	5	0	16
TOTALS	51	35	82	17	185

2024 AM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth factor + interim dev. + committed dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	177	351	252	780
William St (R170)	151	0	116	156	423
Drogheda Rd (N2 South)	370	139	0	96	605
John Street	236	149	36	0	421
TOTALS	757	465	503	504	2229

2024 PM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth factor + interim dev. + committed dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	185	398	147	730
William St (R170)	114	0	126	102	342
Drogheda Rd (N2 South)	408	134	0	21	563
John Street	170	85	34	0	289
TOTALS	692	404	558	270	1924

2024 AM Peak SUBJECT DEVELOPMENT FLOWS

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	0	48	0	48
William St (R170)	0	0	15	0	15
Drogheda Rd (N2 South)	94	36	0	23	153
John Street	0	0	4	0	4
TOTALS	94	36	67	23	220

2024 PM Peak SUBJECT DEVELOPMENT FLOWS

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	0	87	0	87
William St (R170)	0	0	27	0	27
Drogheda Rd (N2 South)	61	19	0	3	83
John Street	0	0	7	0	7
TOTALS	61	19	121	3	204

2024 AM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim dev. + committed dev. + subject dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	177	399	252	828
William St (R170)	151	0	131	156	438
Drogheda Rd (N2 South)	464	175	0	119	758
John Street	236	149	40	0	425
TOTALS	851	501	570	527	2449

2024 PM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim dev. + committed dev. + subject dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	185	485	147	817
William St (R170)	114	0	153	102	369
Drogheda Rd (N2 South)	469	153	0	24	646
John Street	170	85	41	0	296
TOTALS	753	423	679	273	2128

2029 AM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth factor + interim dev. + committed dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	190	375	269	834
William St (R170)	161	0	123	167	451
Drogheda Rd (N2 South)	393	147	0	101	641
John Street	251	159	38	0	448
TOTALS	805	496	536	537	2374

2029 PM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth factor + interim dev. + committed dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	198	425	157	780
William St (R170)	122	0	134	109	365
Drogheda Rd (N2 South)	436	143	0	23	602
John Street	182	91	37	0	310
TOTALS	740	432	596	289	2057

2029 AM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim dev. + committed dev. + subject dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	190	423	269	882
William St (R170)	161	0	138	167	466
Drogheda Rd (N2 South)	487	183	0	124	794
John Street	251	159	42	0	452
TOTALS	899	532	603	560	2594

2029 PM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim dev. + committed dev. + subject dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	198	512	157	867
William St (R170)	122	0	161	109	392
Drogheda Rd (N2 South)	497	162	0	26	685
John Street	182	91	44	0	317
TOTALS	801	451	717	292	2261

2039 AM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth factor + interim dev. + committed dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	205	401	288	894
William St (R170)	173	0	132	178	483
Drogheda Rd (N2 South)	420	157	0	107	684
John Street	269	170	40	0	479
TOTALS	862	532	573	573	2540

2039 PM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth factor + interim dev. + committed dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	213	454	169	836
William St (R170)	131	0	143	117	391
Drogheda Rd (N2 South)	467	153	0	24	644
John Street	196	97	39	0	332
TOTALS	794	463	636	310	2203

2039 AM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim dev. + committed dev. + subject dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	205	449	288	942
William St (R170)	173	0	147	178	498
Drogheda Rd (N2 South)	514	193	0	130	837
John Street	269	170	44	0	483
TOTALS	956	568	640	596	2760

2039 PM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim dev. + committed dev. + subject dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	213	541	169	923
William St (R170)	131	0	170	117	418
Drogheda Rd (N2 South)	528	172	0	27	727
John Street	196	97	46	0	339
TOTALS	855	482	757	313	2407

Junction 1 - AADT Traffic Flow Matrices (Light and Heavy Vehicles)

2018 Light Vehicles AADT SURVEYED TRAFFIC FLOWS

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	1791	3098	1646	6535
William St (R170)	1197	0	1136	984	3317
Drogheda Rd (N2 South)	2980	1036	0	397	4413
John Street	1783	894	287	0	2964
TOTALS	5960	3721	4521	3027	17229

2018 Heavy Vehicles AADT SURVEYED TRAFFIC FLOWS

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	80	368	51	499
William St (R170)	57	0	47	32	136
Drogheda Rd (N2 South)	347	25	0	18	390
John Street	43	30	12	0	85
TOTALS	447	135	427	101	1110

2022 Light Vehicles Interim development flows

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	0	0	114	114
William St (R170)	0	0	0	68	68
Drogheda Rd (N2 South)	0	0	0	27	27
John Street	121	61	19	0	201
TOTALS	121	61	19	209	410

2022 Heavy Vehicles Interim development flows

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	0	0	3	3
William St (R170)	0	0	0	2	2
Drogheda Rd (N2 South)	0	0	0	1	1
John Street	3	2	1	0	6
TOTALS	3	2	1	6	12

2022 Light Vehicles BASELINE TRAFFIC FLOWS (surveyed flows + TII growth factor + interim flows)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	1899	3286	1860	7045
William St (R170)	1269	0	1205	1112	3586
Drogheda Rd (N2 South)	3160	1099	0	448	4707
John Street	2012	1009	323	0	3344
TOTALS	6441	4007	4814	3420	18682

2022 Heavy Vehicles BASELINE TRAFFIC FLOWS (surveyed flows + TII growth factor + interim flows)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	92	424	62	578
William St (R170)	66	0	54	39	159
Drogheda Rd (N2 South)	400	29	0	22	451
John Street	53	37	15	0	105
TOTALS	519	158	493	123	1293

2024 Light Vehicles Other committed development flows

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	89	745	57	891
William St (R170)	67	0	304	61	432
Drogheda Rd (N2 South)	725	275	0	99	1099
John Street	65	51	71	0	187
TOTALS	857	415	1120	217	2609

2024 Heavy Vehicles Other committed development flows

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	0	5	0	5
William St (R170)	0	0	0	0	0
Drogheda Rd (N2 South)	7	0	0	0	7
John Street	0	0	0	0	0
TOTALS	7	0	5	0	12

2024 Light Vehicles WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth factor + interim dev. + committed dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	2045	4128	1969	8142
William St (R170)	1374	0	1545	1204	4123
Drogheda Rd (N2 South)	3980	1406	0	560	5946
John Street	2133	1088	403	0	3624
TOTALS	7487	4539	6076	3733	21835

2024 Heavy Vehicles WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth factor + interim dev. + committed dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	99	461	66	626
William St (R170)	71	0	58	42	171
Drogheda Rd (N2 South)	437	31	0	23	491
John Street	56	39	16	0	111
TOTALS	564	169	535	131	1399

2024 Light Vehicles SUBJECT DEVELOPMENT FLOWS

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	0	711	0	711
William St (R170)	0	0	261	0	261
Drogheda Rd (N2 South)	688	239	0	92	1019
John Street	0	0	66	0	66
TOTALS	688	239	1038	92	2057

2024 Heavy Vehicles SUBJECT DEVELOPMENT FLOWS

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	0	3	0	3
William St (R170)	0	0	0	0	0
Drogheda Rd (N2 South)	5	0	0	0	5
John Street	0	0	0	0	0
TOTALS	5	0	3	0	8

2024 Light Vehicles WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim dev. + committed dev. + subject dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	2045	4839	1969	8853
William St (R170)	1374	0	1806	1204	4384
Drogheda Rd (N2 South)	4668	1645	0	652	6965
John Street	2133	1088	469	0	3690
TOTALS	8175	4778	7114	3825	23892

2024 Heavy Vehicles WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim dev. + committed dev. + subject dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	99	464	66	629
William St (R170)	71	0	58	42	171
Drogheda Rd (N2 South)	442	31	0	23	496
John Street	56	39	16	0	111
TOTALS	569	169	538	131	1407

2029 Light Vehicles WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth factor + interim dev. + committed dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	2194	4386	2106	8686
William St (R170)	1474	0	1639	1286	4399
Drogheda Rd (N2 South)	4228	1493	0	593	6314
John Street	2282	1163	427	0	3872
TOTALS	7984	4850	6452	3985	23271

2029 Heavy Vehicles WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth factor + interim dev. + committed dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	118	550	78	746
William St (R170)	84	0	70	49	203
Drogheda Rd (N2 South)	521	37	0	28	586
John Street	67	46	19	0	132
TOTALS	672	201	639	155	1667

2029 Light Vehicles WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim dev. + committed dev. + subject dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	2194	5097	2106	9397
William St (R170)	1474	0	1900	1286	4660
Drogheda Rd (N2 South)	4916	1732	0	685	7333
John Street	2282	1163	493	0	3938
TOTALS	8672	5089	7490	4077	25328

2029 Heavy Vehicles WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim dev. + committed dev. + subject dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	118	553	78	749
William St (R170)	84	0	70	49	203
Drogheda Rd (N2 South)	526	37	0	28	591
John Street	67	46	19	0	132
TOTALS	677	201	642	155	1675

2039 Light Vehicles WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth factor + interim dev. + committed dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	2364	4680	2262	9306
William St (R170)	1587	0	1747	1379	4713
Drogheda Rd (N2 South)	4510	1591	0	630	6731
John Street	2451	1247	455	0	4153
TOTALS	8548	5202	6882	4271	24903

2039 Heavy Vehicles WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth factor + interim dev. + committed dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	143	664	94	901
William St (R170)	102	0	84	59	245
Drogheda Rd (N2 South)	629	45	0	33	707
John Street	80	56	22	0	158
TOTALS	811	244	770	186	2011

2039 Light Vehicles WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim dev. + committed dev. + subject dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	2364	5391	2262	10017
William St (R170)	1587	0	2008	1379	4974
Drogheda Rd (N2 South)	5198	1830	0	722	7750
John Street	2451	1247	521	0	4219
TOTALS	9236	5441	7920	4363	26960

2039 Heavy Vehicles WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim dev. + committed dev. + subject dev.)

From \ To	Bridge Street (N2 North)	William St (R170)	Drogheda Rd (N2 South)	John Street	TOTALS
Bridge Street (N2 North)	0	143	667	94	904
William St (R170)	102	0	84	59	245
Drogheda Rd (N2 South)	634	45	0	33	712
John Street	80	56	22	0	158
TOTALS	816	244	773	186	2019

Junction 2 - Peak Hour Traffic Flow Matrices (Passenger Car Units)

2018 AM Peak (08:30-09:30) SURVEYED TRAFFIC FLOWS					2018 PM Peak (17:45-18:45) SURVEYED TRAFFIC FLOWS						
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS	From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS
Drogheda Rd (N2 North)		0	20	381	401	Drogheda Rd (N2 North)		0	46	407	453
Cherrybrook Estate		56	0	15	71	Cherrybrook Estate		30	0	24	54
Drogheda Rd (N2 South)		344	11	0	355	Drogheda Rd (N2 South)		450	30	0	479
TOTALS		400	31	396	826	TOTALS		480	76	431	986
2022 AM Peak Interim development flows					2022 PM Peak Interim development flows						
Drogheda Rd (N2 North)		0	0	3	3	Drogheda Rd (N2 North)		0	0	1	1
Cherrybrook Estate		0	0	0	0	Cherrybrook Estate		0	0	0	0
Drogheda Rd (N2 South)		8	0	0	8	Drogheda Rd (N2 South)		1	0	0	1
TOTALS		8	0	3	11	TOTALS		1	0	1	2
2022 AM Peak BASELINE TRAFFIC FLOWS (surveyed flows + TII growth factor + interim flows)					2022 PM Peak BASELINE TRAFFIC FLOWS (surveyed flows + TII growth factor + interim flows)						
Drogheda Rd (N2 North)		0	21	407	428	Drogheda Rd (N2 North)		0	49	433	482
Cherrybrook Estate		59	0	16	75	Cherrybrook Estate		32	0	25	57
Drogheda Rd (N2 South)		373	12	0	385	Drogheda Rd (N2 South)		478	31	0	509
TOTALS		432	33	423	888	TOTALS		510	80	458	1048
2024 AM Peak Other committed development flows					2024 PM Peak Other committed development flows						
Drogheda Rd (N2 North)		0	0	41	41	Drogheda Rd (N2 North)		0	0	50	50
Cherrybrook Estate		0	0	0	0	Cherrybrook Estate		0	0	0	0
Drogheda Rd (N2 South)		39	0	0	39	Drogheda Rd (N2 South)		56	0	0	56
TOTALS		39	0	41	80	TOTALS		56	0	50	106
2024 AM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)					2024 PM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)						
Drogheda Rd (N2 North)		0	22	460	482	Drogheda Rd (N2 North)		0	51	496	547
Cherrybrook Estate		61	0	16	77	Cherrybrook Estate		33	0	26	59
Drogheda Rd (N2 South)		423	12	0	435	Drogheda Rd (N2 South)		548	32	0	580
TOTALS		484	34	476	994	TOTALS		581	83	522	1186
2024 AM Peak SUBJECT DEVELOPMENT FLOWS					2024 PM Peak SUBJECT DEVELOPMENT FLOWS						
Drogheda Rd (N2 North)		0	0	41	41	Drogheda Rd (N2 North)		0	0	66	66
Cherrybrook Estate		0	0	0	0	Cherrybrook Estate		0	0	0	0
Drogheda Rd (N2 South)		37	0	0	37	Drogheda Rd (N2 South)		77	0	0	77
TOTALS		37	0	41	78	TOTALS		77	0	66	143
2024 AM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)					2024 PM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)						
Drogheda Rd (N2 North)		0	22	501	523	Drogheda Rd (N2 North)		0	51	562	613
Cherrybrook Estate		61	0	16	77	Cherrybrook Estate		33	0	26	59
Drogheda Rd (N2 South)		460	12	0	472	Drogheda Rd (N2 South)		625	32	0	657
TOTALS		521	34	517	1072	TOTALS		658	83	588	1329
2029 AM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)					2029 PM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)						
Drogheda Rd (N2 North)		0	24	491	515	Drogheda Rd (N2 North)		0	54	529	583
Cherrybrook Estate		65	0	18	83	Cherrybrook Estate		35	0	28	63
Drogheda Rd (N2 South)		451	13	0	464	Drogheda Rd (N2 South)		585	35	0	620
TOTALS		516	37	509	1062	TOTALS		620	89	557	1266
2029 AM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)					2029 PM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)						
Drogheda Rd (N2 North)		0	24	532	556	Drogheda Rd (N2 North)		0	54	595	649
Cherrybrook Estate		65	0	18	83	Cherrybrook Estate		35	0	28	63
Drogheda Rd (N2 South)		488	13	0	501	Drogheda Rd (N2 South)		662	35	0	697
TOTALS		553	37	550	1140	TOTALS		697	89	623	1407
2039 AM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)					2039 PM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)						
Drogheda Rd (N2 North)		0	25	527	552	Drogheda Rd (N2 North)		0	59	568	627
Cherrybrook Estate		70	0	19	89	Cherrybrook Estate		38	0	30	68
Drogheda Rd (N2 South)		484	14	0	498	Drogheda Rd (N2 South)		628	37	0	665
TOTALS		554	39	546	1139	TOTALS		666	96	598	1360
2039 AM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)					2039 PM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)						
Drogheda Rd (N2 North)		0	25	568	593	Drogheda Rd (N2 North)		0	59	634	693
Cherrybrook Estate		70	0	19	89	Cherrybrook Estate		38	0	30	68
Drogheda Rd (N2 South)		521	14	0	535	Drogheda Rd (N2 South)		705	37	0	742
TOTALS		591	39	587	1217	TOTALS		743	96	664	1503

Junction 2 - AADT Traffic Flow Matrices (Light and Heavy Vehicles)

2018		Light Vehicles	AADT		SURVEYED TRAFFIC FLOWS			
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	376	4046	4422			
Cherrybrook Estate		375	0	163	538			
Drogheda Rd (N2 South)		3748	154	0	3902			
TOTALS		4123	530	4209	8862			

2018		Heavy Vehicles	AADT		SURVEYED TRAFFIC FLOWS			
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	1	429	430			
Cherrybrook Estate		2	0	0	2			
Drogheda Rd (N2 South)		394	1	0	395			
TOTALS		396	2	429	827			

2022		Light Vehicles	Interim development flows					
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	0	19	19			
Cherrybrook Estate		0	0	0	0			
Drogheda Rd (N2 South)		27	0	0	27			
TOTALS		27	0	19	46			

2022		Heavy Vehicles	Interim development flows					
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	0	1	1			
Cherrybrook Estate		0	0	0	0			
Drogheda Rd (N2 South)		1	0	0	1			
TOTALS		1	0	1	2			

2022		Light Vehicles	BASELINE TRAFFIC FLOWS		(surveyed flows + TI growth factor + interim flows)			
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	399	4310	4709			
Cherrybrook Estate		398	0	173	571			
Drogheda Rd (N2 South)		4002	163	0	4165			
TOTALS		4400	562	4483	9445			

2022		Heavy Vehicles	BASELINE TRAFFIC FLOWS		(surveyed flows + TI growth factor + interim flows)			
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	1	496	497			
Cherrybrook Estate		2	0	0	2			
Drogheda Rd (N2 South)		455	1	0	456			
TOTALS		457	2	496	955			

2024		Light Vehicles	Other committed development flows					
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	0	532	532			
Cherrybrook Estate		0	0	0	0			
Drogheda Rd (N2 South)		510	0	0	510			
TOTALS		510	0	532	1042			

2024		Heavy Vehicles	Other committed development flows					
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	0	2	2			
Cherrybrook Estate		0	0	0	0			
Drogheda Rd (N2 South)		5	0	0	5			
TOTALS		5	0	2	7			

2024		Light Vehicles	WITHOUT SUBJECT DEVELOPMENT		(surveyed flows + TI growth + interim dev. + committed dev.)			
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	411	4970	5381			
Cherrybrook Estate		410	0	178	588			
Drogheda Rd (N2 South)		4630	168	0	4798			
TOTALS		5040	579	5148	10767			

2024		Heavy Vehicles	WITHOUT SUBJECT DEVELOPMENT		(surveyed flows + TI growth + interim dev. + committed dev.)			
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	1	534	535			
Cherrybrook Estate		2	0	0	2			
Drogheda Rd (N2 South)		494	1	0	495			
TOTALS		496	2	534	1032			

2024		Light Vehicles	SUBJECT DEVELOPMENT FLOWS					
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	0	443	443			
Cherrybrook Estate		0	0	0	0			
Drogheda Rd (N2 South)		425	0	0	425			
TOTALS		425	0	443	868			

2024		Heavy Vehicles	SUBJECT DEVELOPMENT FLOWS					
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	0	0	0			
Cherrybrook Estate		0	0	0	0			
Drogheda Rd (N2 South)		3	0	0	3			
TOTALS		3	0	0	3			

2024		Light Vehicles	WITH SUBJECT DEVELOPMENT IN PLACE		(surveyed + TI growth + interim + committed + subject dev.)			
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	411	5413	5824			
Cherrybrook Estate		410	0	178	588			
Drogheda Rd (N2 South)		5055	168	0	5223			
TOTALS		5465	579	5591	11635			

2024		Heavy Vehicles	WITH SUBJECT DEVELOPMENT IN PLACE		(surveyed + TI growth + interim + committed + subject dev.)			
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	1	534	535			
Cherrybrook Estate		2	0	0	2			
Drogheda Rd (N2 South)		497	1	0	498			
TOTALS		499	2	534	1035			

2029		Light Vehicles	WITHOUT SUBJECT DEVELOPMENT		(surveyed flows + TI growth + interim dev. + committed dev.)			
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	442	5307	5749			
Cherrybrook Estate		441	0	192	633			
Drogheda Rd (N2 South)		4942	181	0	5123			
TOTALS		5383	623	5499	11505			

2029		Heavy Vehicles	WITHOUT SUBJECT DEVELOPMENT		(surveyed flows + TI growth + interim dev. + committed dev.)			
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	1	638	639			
Cherrybrook Estate		3	0	0	3			
Drogheda Rd (N2 South)		589	1	0	590			
TOTALS		592	2	638	1232			

2029		Light Vehicles	WITH SUBJECT DEVELOPMENT IN PLACE		(surveyed + TI growth + interim + committed + subject dev.)			
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	442	5750	6192			
Cherrybrook Estate		441	0	192	633			
Drogheda Rd (N2 South)		5367	181	0	5548			
TOTALS		5808	623	5942	12373			

2029		Heavy Vehicles	WITH SUBJECT DEVELOPMENT IN PLACE		(surveyed + TI growth + interim + committed + subject dev.)			
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	1	638	639			
Cherrybrook Estate		3	0	0	3			
Drogheda Rd (N2 South)		592	1	0	593			
TOTALS		595	2	638	1235			

2039		Light Vehicles	WITHOUT SUBJECT DEVELOPMENT		(surveyed flows + TI growth + interim dev. + committed dev.)			
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	478	5690	6168			
Cherrybrook Estate		476	0	207	683			
Drogheda Rd (N2 South)		5297	196	0	5493			
TOTALS		5773	674	5897	12344			

2039		Heavy Vehicles	WITHOUT SUBJECT DEVELOPMENT		(surveyed flows + TI growth + interim dev. + committed dev.)			
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	2	772	774			
Cherrybrook Estate		4	0	0	4			
Drogheda Rd (N2 South)		712	2	0	714			
TOTALS		716	4	772	1492			

2039		Light Vehicles	WITH SUBJECT DEVELOPMENT IN PLACE		(surveyed + TI growth + interim + committed + subject dev.)			
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	478	6133	6611			
Cherrybrook Estate		476	0	207	683			
Drogheda Rd (N2 South)		5722	196	0	5918			
TOTALS		6198	674	6340	13212			

2039		Heavy Vehicles	WITH SUBJECT DEVELOPMENT IN PLACE		(surveyed + TI growth + interim + committed + subject dev.)			
From	To	Drogheda Rd (N2 North)	Cherrybrook Estate	Drogheda Rd (N2 South)	TOTALS			
Drogheda Rd (N2 North)		0	2	772	774			
Cherrybrook Estate		4	0	0	4			
Drogheda Rd (N2 South)		715	2	0	717			
TOTALS		719	4	772	1495			

Junction 3 - Peak Hour Traffic Flow Matrices (Passenger Car Units)

2018 AM Peak (08:30-09:30) SURVEYED TRAFFIC FLOWS					2018 PM Peak (17:45-18:45) SURVEYED TRAFFIC FLOWS						
From	To	Drogheda Rd (N2 North)	Bridgewater Access	Drogheda Rd (N2 South)	TOTALS	From	To	Drogheda Rd (N2 North)	Bridgewater Access	Drogheda Rd (N2 South)	TOTALS
Drogheda Rd (N2 North)		0	0	402	402	Drogheda Rd (N2 North)		0	0	444	444
Bridgewater Access		0	0	0	0	Bridgewater Access		0	0	0	0
Drogheda Rd (N2 South)		424	0	0	424	Drogheda Rd (N2 South)		469	0	0	469
TOTALS		424	0	402	825	TOTALS		469	0	444	914
2022 AM Peak Interim development flows					2022 PM Peak Interim development flows						
Drogheda Rd (N2 North)		0	0	3	3	Drogheda Rd (N2 North)		0	0	1	1
Bridgewater Access		0	0	0	0	Bridgewater Access		0	0	0	0
Drogheda Rd (N2 South)		8	0	0	8	Drogheda Rd (N2 South)		1	0	0	1
TOTALS		8	0	3	11	TOTALS		1	0	1	2
2022 AM Peak BASELINE TRAFFIC FLOWS (surveyed flows + TII growth factor + interim flows)					2022 PM Peak BASELINE TRAFFIC FLOWS (surveyed flows + TII growth factor + interim flows)						
Drogheda Rd (N2 North)		0	0	429	429	Drogheda Rd (N2 North)		0	0	472	472
Bridgewater Access		0	0	0	0	Bridgewater Access		0	0	0	0
Drogheda Rd (N2 South)		457	0	0	457	Drogheda Rd (N2 South)		499	0	0	499
TOTALS		457	0	429	886	TOTALS		499	0	472	971
2024 AM Peak Other committed development flows					2024 PM Peak Other committed development flows						
Drogheda Rd (N2 North)		0	44	16	60	Drogheda Rd (N2 North)		0	73	10	83
Bridgewater Access		92	0	25	117	Bridgewater Access		50	0	40	90
Drogheda Rd (N2 South)		15	24	0	39	Drogheda Rd (N2 South)		10	46	0	56
TOTALS		107	68	41	216	TOTALS		60	119	50	229
2024 AM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)					2024 PM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)						
Drogheda Rd (N2 North)		0	44	457	501	Drogheda Rd (N2 North)		0	73	496	569
Bridgewater Access		92	0	25	117	Bridgewater Access		50	0	40	90
Drogheda Rd (N2 South)		486	24	0	510	Drogheda Rd (N2 South)		523	46	0	569
TOTALS		578	68	482	1128	TOTALS		573	119	536	1228
2024 AM Peak SUBJECT DEVELOPMENT FLOWS					2024 PM Peak SUBJECT DEVELOPMENT FLOWS						
Drogheda Rd (N2 North)		0	68	0	68	Drogheda Rd (N2 North)		0	121	0	121
Bridgewater Access		153	0	41	194	Bridgewater Access		83	0	66	149
Drogheda Rd (N2 South)		0	37	0	37	Drogheda Rd (N2 South)		0	77	0	77
TOTALS		153	105	41	299	TOTALS		83	198	66	347
2024 AM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)					2024 PM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)						
Drogheda Rd (N2 North)		0	112	457	569	Drogheda Rd (N2 North)		0	194	496	690
Bridgewater Access		245	0	66	311	Bridgewater Access		133	0	106	239
Drogheda Rd (N2 South)		486	61	0	547	Drogheda Rd (N2 South)		523	123	0	646
TOTALS		731	173	523	1427	TOTALS		656	317	602	1575
2029 AM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)					2029 PM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)						
Drogheda Rd (N2 North)		0	44	491	535	Drogheda Rd (N2 North)		0	73	533	606
Bridgewater Access		92	0	25	117	Bridgewater Access		50	0	40	90
Drogheda Rd (N2 South)		521	24	0	545	Drogheda Rd (N2 South)		562	46	0	608
TOTALS		613	68	516	1197	TOTALS		612	119	573	1304
2029 AM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)					2029 PM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)						
Drogheda Rd (N2 North)		0	112	491	603	Drogheda Rd (N2 North)		0	194	533	727
Bridgewater Access		245	0	66	311	Bridgewater Access		133	0	106	239
Drogheda Rd (N2 South)		521	61	0	582	Drogheda Rd (N2 South)		562	123	0	685
TOTALS		766	173	557	1496	TOTALS		695	317	639	1651
2039 AM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)					2039 PM Peak WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)						
Drogheda Rd (N2 North)		0	44	529	573	Drogheda Rd (N2 North)		0	73	575	648
Bridgewater Access		92	0	25	117	Bridgewater Access		50	0	40	90
Drogheda Rd (N2 South)		561	24	0	585	Drogheda Rd (N2 South)		607	46	0	653
TOTALS		653	68	554	1275	TOTALS		657	119	615	1391
2039 AM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)					2039 PM Peak WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)						
Drogheda Rd (N2 North)		0	112	529	641	Drogheda Rd (N2 North)		0	194	575	769
Bridgewater Access		245	0	66	311	Bridgewater Access		133	0	106	239
Drogheda Rd (N2 South)		561	61	0	622	Drogheda Rd (N2 South)		607	123	0	730
TOTALS		806	173	595	1574	TOTALS		740	317	681	1738

Junction 3 - AADT Traffic Flow Matrices (Light and Heavy Vehicles)

2018 Light Vehicles AADT SURVEYED TRAFFIC FLOWS					2018 Heavy Vehicles AADT SURVEYED TRAFFIC FLOWS						
From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS	From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS
Drogheda Rd (N2 North)		0	0	4472	4472	Drogheda Rd (N2 North)		0	0	429	429
Bridgegate Access		0	0	0	0	Bridgegate Access		0	0	0	0
Drogheda Rd (N2 South)		4268	0	0	4268	Drogheda Rd (N2 South)		393	0	0	393
TOTALS		4268	0	4472	8740	TOTALS		393	0	429	822

2022 Light Vehicles Interim development flows					2022 Heavy Vehicles Interim development flows						
From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS	From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS
Drogheda Rd (N2 North)		0	0	19	19	Drogheda Rd (N2 North)		0	0	1	1
Bridgegate Access		0	0	0	0	Bridgegate Access		0	0	0	0
Drogheda Rd (N2 South)		27	0	0	27	Drogheda Rd (N2 South)		1	0	0	1
TOTALS		27	0	19	46	TOTALS		1	0	1	2

2022 Light Vehicles BASELINE TRAFFIC FLOWS (surveyed flows + TII growth factor + interim flows)					2022 Heavy Vehicles BASELINE TRAFFIC FLOWS (surveyed flows + TII growth factor + interim flows)						
From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS	From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS
Drogheda Rd (N2 North)		0	0	4761	4761	Drogheda Rd (N2 North)		0	0	495	495
Bridgegate Access		0	0	0	0	Bridgegate Access		0	0	0	0
Drogheda Rd (N2 South)		4553	0	0	4553	Drogheda Rd (N2 South)		454	0	0	454
TOTALS		4553	0	4761	9314	TOTALS		454	0	495	949

2024 Light Vehicles Other committed development flows					2024 Heavy Vehicles Other committed development flows						
From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS	From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS
Drogheda Rd (N2 North)		0	1026	94	1120	Drogheda Rd (N2 North)		0	3	2	5
Bridgegate Access		1009	0	438	1447	Bridgegate Access		6	0	0	6
Drogheda Rd (N2 South)		90	420	0	510	Drogheda Rd (N2 South)		2	3	0	5
TOTALS		1099	1446	532	3077	TOTALS		8	6	2	16

2024 Light Vehicles WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)					2024 Heavy Vehicles WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)						
From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS	From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS
Drogheda Rd (N2 North)		0	1026	4997	6023	Drogheda Rd (N2 North)		0	3	534	537
Bridgegate Access		1009	0	438	1447	Bridgegate Access		6	0	0	6
Drogheda Rd (N2 South)		4778	420	0	5198	Drogheda Rd (N2 South)		490	3	0	493
TOTALS		5787	1446	5435	12668	TOTALS		496	6	534	1036

2024 Light Vehicles SUBJECT DEVELOPMENT FLOWS					2024 Heavy Vehicles SUBJECT DEVELOPMENT FLOWS						
From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS	From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS
Drogheda Rd (N2 North)		0	1037	0	1037	Drogheda Rd (N2 North)		0	3	0	3
Bridgegate Access		1019	0	443	1462	Bridgegate Access		6	0	0	6
Drogheda Rd (N2 South)		0	425	0	425	Drogheda Rd (N2 South)		0	3	0	3
TOTALS		1019	1462	443	2924	TOTALS		6	6	0	12

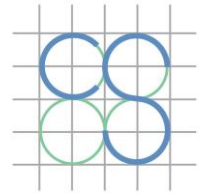
2024 Light Vehicles WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)					2024 Heavy Vehicles WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)						
From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS	From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS
Drogheda Rd (N2 North)		0	2063	4997	7060	Drogheda Rd (N2 North)		0	6	534	540
Bridgegate Access		2028	0	881	2909	Bridgegate Access		12	0	0	12
Drogheda Rd (N2 South)		4778	845	0	5623	Drogheda Rd (N2 South)		490	6	0	496
TOTALS		6806	2908	5878	15592	TOTALS		502	12	534	1048

2029 Light Vehicles WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)					2029 Heavy Vehicles WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)						
From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS	From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS
Drogheda Rd (N2 North)		0	1026	5369	6395	Drogheda Rd (N2 North)		0	3	637	640
Bridgegate Access		1009	0	438	1447	Bridgegate Access		6	0	0	6
Drogheda Rd (N2 South)		5134	420	0	5554	Drogheda Rd (N2 South)		585	3	0	588
TOTALS		6143	1446	5807	13396	TOTALS		591	6	637	1234

2029 Light Vehicles WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)					2029 Heavy Vehicles WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)						
From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS	From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS
Drogheda Rd (N2 North)		0	2063	5369	7432	Drogheda Rd (N2 North)		0	6	637	643
Bridgegate Access		2028	0	881	2909	Bridgegate Access		12	0	0	12
Drogheda Rd (N2 South)		5134	845	0	5979	Drogheda Rd (N2 South)		585	6	0	591
TOTALS		7162	2908	6250	16320	TOTALS		597	12	637	1246

2039 Light Vehicles WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)					2039 Heavy Vehicles WITHOUT SUBJECT DEVELOPMENT (surveyed flows + TII growth + interim dev. + committed dev.)						
From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS	From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS
Drogheda Rd (N2 North)		0	1026	5792	6818	Drogheda Rd (N2 North)		0	3	771	774
Bridgegate Access		1009	0	438	1447	Bridgegate Access		6	0	0	6
Drogheda Rd (N2 South)		5538	420	0	5958	Drogheda Rd (N2 South)		707	3	0	710
TOTALS		6547	1446	6230	14223	TOTALS		713	6	771	1490

2039 Light Vehicles WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)					2039 Heavy Vehicles WITH SUBJECT DEVELOPMENT IN PLACE (surveyed + TII growth + interim + committed + subject dev.)						
From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS	From	To	Drogheda Rd (N2 North)	Bridgegate Access	Drogheda Rd (N2 South)	TOTALS
Drogheda Rd (N2 North)		0	2063	5792	7855	Drogheda Rd (N2 North)		0	6	771	777
Bridgegate Access		2028	0	881	2909	Bridgegate Access		12	0	0	12
Drogheda Rd (N2 South)		5538	845	0	6383	Drogheda Rd (N2 South)		707	6	0	713
TOTALS		7566	2908	6673	17147	TOTALS		719	12	771	1502



CS CONSULTING
GROUP

Appendix D

Junction Modelling Results

TRANSYT 16

Version: 16.0.1.8473
© Copyright TRL Limited, 2019

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

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	3.00	999	200	-1	3	60	✓			0	0	0.00

Filename: R086 Junction 1 TRANSYT Model Existing 20220121.t16
 Path: J:\R_JOB\Job-R086\B_Documents\C_Civil\A_CS Reports\Planning Application\TrafficModelling
 Report generation date: 21/01/2022 17:50:12

- »A1 - : D1 - 2022 Baseline, AM :
- »A1 - : D2 - 2022 Baseline, PM :
- »A1 - : D3 - 2024 W/O Subj Dev, AM :
- »A1 - : D4 - 2024 W/O Subj Dev, PM :
- »A1 - : D5 - 2024 With Subj Dev, AM :
- »A1 - : D6 - 2024 With Subj Dev, PM :
- »A1 - : D7 - 2029 W/O Subj Dev, AM :
- »A1 - : D8 - 2029 W/O Subj Dev, PM :
- »A1 - : D9 - 2029 With Subj Dev, AM :
- »A1 - : D10 - 2029 With Subj Dev, PM :
- »A1 - : D11 - 2039 W/O Subj Dev, AM :
- »A1 - : D12 - 2039 W/O Subj Dev, PM :
- »A1 - : D13 - 2039 With Subj Dev, AM :
- »A1 - : D14 - 2039 With Subj Dev, PM :

Summary of network performance

	AM				PM					
	Set ID	PI (£ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated	Set ID	PI (£ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
2022 Baseline										
Network	D1	102.31	7.20	92% (TS 1S/1)	1 (7%)	D2	25.69	1.81	66% (TS 1S/1)	0 (0%)
2024 W/O Subj Dev										
Network	D3	474.69	32.96	104% (TS 1S/1)	1 (7%)	D4	45.74	3.22	78% (TS 1S/1)	0 (0%)
2024 With Subj Dev										
Network	D5	1271.40	88.55	113% (TS 1S/1)	3 (20%)	D6	78.53	5.53	84% (TS 1S/1)	0 (0%)
2029 W/O Subj Dev										
Network	D7	1039.43	72.61	113% (TS 1S/1)	3 (20%)	D8	67.66	4.76	82% (TS 1S/1)	0 (0%)
2029 With Subj Dev										
Network	D9	2293.03	160.24	122% (TS 1S/1)	3 (20%)	D10	133.02	9.37	90% (TS 1S/1)	1 (7%)
2039 W/O Subj Dev										
Network	D11	2058.33	143.76	122% (TS 1S/1)	3 (20%)	D12	116.19	8.18	89% (TS 1S/1)	0 (0%)
2039 With Subj Dev										
Network	D13	3603.28	252.46	132% (TS 1S/1)	5 (33%)	D14	317.43	22.35	97% (TS 1S/1)	2 (13%)

File summary

File description

File title	Ardee
Location	Co. Louth
Site number	
UTCRegion	
Driving side	Left
Date	21/01/2022
Version	
Status	Existing configuration
Identifier	
Client	
Jobnumber	R086
Enumerator	GF
Description	

Model and Results

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

Units

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

Sorting

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

A1 - D1 - 2022 Baseline, AM

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Info	Optimisation Order	Advanced	Because the optimisation list is blank, no optimisation will occur.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	21/01/2022 17:50:01	21/01/2022 17:50:01	0.98	08:30	120	102.31	7.20	91.89	1S/1	1	7		1S/1	1S/1	

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2022 Baseline	AM				08:30	<input type="checkbox"/>	<input checked="" type="checkbox"/>

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
1a			<input checked="" type="checkbox"/>	TrafficStream	Two-Way	1A/1	1A/1	1Ax/1	Two-Way	1B/2	1B/1/1	1Bx/1	Two-Way	1N/1	1N/1	1S/1	<input checked="" type="checkbox"/>
1b			<input checked="" type="checkbox"/>	TrafficStream	Two-Way	1C/1	1C/1	1Cx/1	Two-Way	1D/2	1D/1/1	1Dx/1/1	Two-Way	1S/1	1S/1	1N/1	<input checked="" type="checkbox"/>

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
1a	7.70	7.70	0.00	2.20	250.00
1b	10.00	10.00	0.00	2.20	125.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
1a	3.00	3.00	24.00	31.00
1b	3.00	3.00	27.00	61.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC-aBSlope	BC-aCSlope	BAIntercept (PCU/hr)	BA-aBSlope	BA-aCSlope	BA-cASlope	BA-cBSlope	CBIntercept (PCU/hr)	CB-aBSlope	CB-aCSlope
1a	643	0.09	0.23	501	0.08	0.21	0.13	0.30	719	0.26	0.26
1b	662	0.08	0.21	516	0.08	0.20	0.12	0.28	646	0.21	0.21

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Path Equalisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	164	301	236
	1-2	134	0	98	145
	1-3	293	111	0	79
	1-4	217	140	31	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	1-1		1A/1	1Ax/1	#0000FF

1	1-2		1B2/1	1Bx/1	#FF0000
	1-3		1C/1	1Cx/1	#00FF00
	1-4		1D2/1	1Dx2/1	#FFFFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path Items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-1	1-2	1A/1, 1Bx/1	Normal	164
	2		1-1	1-4	1A/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	236
	3		1-1	1-3	1A/1, 1S/1, 1Cx/1	Normal	301
	4		1-2	1-4	1B2/1, 1B/1/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	145
	5		1-2	1-3	1B2/1, 1B/1/1, 1S/1, 1Cx/1	Normal	98
	6		1-2	1-1	1B2/1, 1B/1/2, 1Ax/1	Normal	134
	7		1-3	1-4	1C/1, 1Dx1/1, 1Dx2/1	Normal	79
	8		1-3	1-1	1C/1, 1N/1, 1Ax/1	Normal	293
	9		1-3	1-2	1C/1, 1N/1, 1Bx/1	Normal	111
	10		1-4	1-1	1D2/1, 1D1/1, 1N/1, 1Ax/1	Normal	217
	11		1-4	1-2	1D2/1, 1D1/1, 1N/1, 1Bx/1	Normal	140
	12		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	31

Signal Timings

Network Default: 120s cycle time; 120 steps

No Controller Streams present.

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	FLOWS				PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES	P.I.
				Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s per cycle)	Wasted time total (s per cycle)	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Mean end of red queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (£ per hr)			
1A	1	S / L	1a	701	1800	120	120.00	39	131	6.28	0.64	0.00	0.12			100	100	0.00	1.76	
1Ax	1			644	Unrestricted	120	0.00	0	Unrestricted	5.88	0.00	0.00	0.00			100	100	0.00	0.00	
1Bx	1			415	Unrestricted	120	0.00	0	Unrestricted	4.44	0.00	0.00	0.00			100	100	0.00	0.00	
1C	1	S / L	1b	483	1800	120	0.00	27	235	6.73	0.37	0.00	0.05			100	100	0.00	0.70	
1Cx	1			430	Unrestricted	120	0.00	0	Unrestricted	7.20	0.00	0.00	0.00			100	100	0.00	0.00	
1N	1	S / R	1a	761	1015	120	0.00	75	20	6.24	5.24	0.00	1.11			100	100	0.00	15.73	
1S	1	S / R	1b	780 <	849	120	0.00	92	-2	21.76	20.76	0.00	4.50 +			100	100	0.00	63.88	
1B1	1	L	1a	243	431	120	0.00	56	7.04	5.38	0.00	0.36			100	100	0.00	5.13		
	2	R	1a	134	228	120	0.00	59	53	12.65	11.09	0.00	0.41			100	100	0.00	5.86	
1D1	1	L	1b	357	554	120	0.00	64	40	7.01	5.81	0.00	0.58			100	100	0.00	8.19	
	2	R	1b	31	274	120	0.00	11	697	1.91	0.83	0.00	0.01			100	100	0.00	0.10	
1Dx1	1	1e	460	3600	120	0.00	13	604	2.59	0.07	0.00	0.01			100	100	0.00	0.13		
1B2	1	1c	377	1800	120	0.00	21	330	2.90	0.26	0.00	0.03			100	100	0.00	0.39		
1D2	1	1d	388	1800	120	0.00	22	318	5.55	0.27	0.00	0.03			100	100	0.00	0.42		
1Dx2	1			460	Unrestricted	120	0.00	0	Unrestricted	3.48	0.00	0.00	0.00			100	100	0.00	0.00	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	200.18	13.92	14.38	0.00	7.20	102.31	0.00	0.00	102.31
Bus									
Tram									
Pedestrians									
TOTAL	200.18	13.92	14.38	0.00	7.20	102.31	0.00	0.00	102.31

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

A1 - D2 - 2022 Baseline, PM

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Info	Optimisation Order	Advanced	Because the optimisation list is blank, no optimisation will occur.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	21/10/2022 17:50:02	21/10/2022 17:50:02	0.53	17:45	120	25.69	1.81	66.15	1S/1	0	0	1S/1	1S/1	1S/1	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2022 Baseline	PM				17:45		✓

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
1a			✓	TrafficStream	Two-Way	1A/1	1A/1	1Ax/1	Two-Way	1B/1/2	1B/1/1	1Bx/1	Two-Way	1N/1	1N/1	1S/1/1	✓
1b			✓	TrafficStream	Two-Way	1C/1	1C/1	1Cx/1	Two-Way	1D/1/2	1D/1/1	1Dx/1/1	Two-Way	1S/1	1S/1	1N/1/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
1a	7.70	7.70	0.00	2.20	250.00
1b	10.00	10.00	0.00	2.20	125.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
1a	3.00	3.00	24.00	31.00
1b	3.00	3.00	27.00	61.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC-aBSlope	BC-aCSlope	BAIntercept (PCU/hr)	BA-aBSlope	BA-aCSlope	BA-cASlope	BA-cBSlope	CBIntercept (PCU/hr)	CB-aBSlope	CB-aCSlope
1a	643	0.09	0.23	501	0.08	0.21	0.13	0.30	719	0.26	0.26
1b	662	0.08	0.21	516	0.08	0.20	0.12	0.28	646	0.21	0.21

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation											

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	169	333	136
	1-2	105	0	102	93
	1-3	357	113	0	18
	1-4	160	77	29	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	1-1		1A/1	1Ax/1	#0000FF

1	1-2	1B2/1	1Bx/1	#FF0000
	1-3	1C/1	1Cx/1	#00FF00
	1-4	1D2/1	1Dx2/1	#FFFF00

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path Items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-1	1-2	1A/1, 1Bx/1	Normal	169
	2		1-1	1-4	1A/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	136
	3		1-1	1-3	1A/1, 1S/1, 1Cx/1	Normal	333
	4		1-2	1-4	1B2/1, 1B/1/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	95
	5		1-2	1-3	1B2/1, 1B/1/1, 1S/1, 1Cx/1	Normal	102
	6		1-2	1-1	1B2/1, 1B/1/2, 1Ax/1	Normal	105
	7		1-3	1-4	1C/1, 1Dx1/1, 1Dx2/1	Normal	18
	8		1-3	1-1	1C/1, 1N/1, 1Ax/1	Normal	357
	9		1-3	1-2	1C/1, 1N/1, 1Bx/1	Normal	113
	10		1-4	1-1	1D2/1, 1D1/1, 1N/1, 1Ax/1	Normal	160
	11		1-4	1-2	1D2/1, 1D1/1, 1N/1, 1Bx/1	Normal	77
	12		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	29

Signal Timings

Network Default: 120s cycle time; 120 steps

No Controller Streams present.

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	FLOWS				PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES	P.I.
				Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s per cycle)	Wasted time total (s per cycle)	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Mean end of red queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (£ per hr)			
1A	1	S / L	1a	638	1800	120	0.00	35	154	6.19	0.55	0.00	0.10	100	100	0.00	0.00	0.00	0.00	
1Ax	1			622	Unrestricted	120	0.00	0	Unrestricted	5.88	0.00	0.00	0.00	100	100	0.00	0.00	0.00	0.00	
1Bx	1			359	Unrestricted	120	0.00	0	Unrestricted	4.44	0.00	0.00	0.00	100	100	0.00	0.00	0.00	0.00	
1C	1	S / L	1b	488	1800	120	0.00	27	232	6.73	0.37	0.00	0.05	100	100	0.00	0.00	0.72	0.00	
1Cx	1			464	Unrestricted	120	0.00	0	Unrestricted	7.20	0.00	0.00	0.00	100	100	0.00	0.00	0.00	0.00	
1N	1	S / R	1a	707	1122	120	0.00	63	43	3.72	2.72	0.00	0.53	100	100	0.00	0.53	7.58	0.00	
1S	1	S / R	1b	664	1004	120	0.00	66	36	4.48	3.48	0.00	0.64	100	100	0.00	0.64	9.11	0.00	
1B1	1	L	1a	195	467	120	0.00	42	116	4.43	2.75	0.00	0.15	100	100	0.00	0.15	2.11	0.00	
	2	R	1a	105	259	120	0.00	40	122	6.25	4.69	0.00	0.14	100	100	0.00	0.14	1.94	0.00	
1D1	1	L	1b	237	548	120	0.00	43	108	3.69	2.49	0.00	0.16	100	100	0.00	0.16	2.33	0.00	
	2	R	1b	29	304	120	120.00	10	845	1.70	0.62	0.00	0.01	100	100	0.00	0.01	0.07	0.00	
1Dx1	1		1e	247	3600	120	0.00	7	1212	2.56	0.04	0.00	0.00	100	100	0.00	0.00	0.04	0.00	
1B2	1		1c	300	1800	120	0.00	17	440	2.84	0.20	0.00	0.02	100	100	0.00	0.02	0.24	0.00	
1D2	1		1d	266	1800	120	0.00	15	509	5.45	0.17	0.00	0.01	100	100	0.00	0.01	0.18	0.00	
1Dx2	1			247	Unrestricted	120	0.00	0	Unrestricted	3.48	0.00	0.00	0.00	100	100	0.00	0.00	0.00	0.00	

Network Results

Normal traffic	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Bus	175.09	7.68	22.78	0.00	1.81	25.69	0.00	0.00	25.69
Tram									
Pedestrians									
TOTAL	175.09	7.68	22.78	0.00	1.81	25.69	0.00	0.00	25.69

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

A1 - D3 - 2024 W/O Subj Dev, AM

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Info	Optimisation Order	Advanced	Because the optimisation list is blank, no optimisation will occur.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	21/01/2022 17:50:02	21/01/2022 17:50:03	1.08	08:30	120	474.69	32.96	104.31	1S/1	1	7		1S/1	1S/1	

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2024 W/O Subj Dev	AM				08:30		✓

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
1a			✓	TrafficStream	Two-Way	1A/1	1A/1	1Ax/1	Two-Way	1B/1/2	1B/1/1	1Bx/1	Two-Way	1N/1	1N/1	1S/1/1	✓
1b			✓	TrafficStream	Two-Way	1C/1	1C/1	1Cx/1	Two-Way	1D/1/2	1D/1/1	1Dx/1/1	Two-Way	1S/1	1S/1	1N/1/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
1a	7.70	7.70	0.00	2.20	250.00
1b	10.00	10.00	0.00	2.20	125.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
1a	3.00	3.00	24.00	31.00
1b	3.00	3.00	27.00	61.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC-aBSlope	BC-aCSlope	BAIntercept (PCU/hr)	BA-aBSlope	BA-aCSlope	BA-cASlope	BA-cBSlope	CBIntercept (PCU/hr)	CB-aBSlope	CB-aCSlope
1a	643	0.09	0.23	501	0.08	0.21	0.13	0.30	719	0.26	0.26
1b	662	0.08	0.21	516	0.08	0.20	0.12	0.28	646	0.21	0.21

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation											

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	177	352	252
	1-2	151	0	116	156
	1-3	371	139	0	96
	1-4	236	149	36	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	1-1		1A/1	1Ax/1	#0000FF

1	1-2		1B2/1	1Bx/1	#FF0000
	1-3		1C/1	1Cx/1	#00FF00
	1-4		1D2/1	1Dx2/1	#FFFF00

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path Items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-1	1-2	1A/1, 1Bx/1	Normal	177
	2		1-1	1-4	1A/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	252
	3		1-1	1-3	1A/1, 1S/1, 1Cx/1	Normal	352
	4		1-2	1-4	1B2/1, 1B/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	156
	5		1-2	1-3	1B2/1, 1B/1, 1S/1, 1Cx/1	Normal	116
	6		1-2	1-1	1B2/1, 1B/1/2, 1Ax/1	Normal	151
	7		1-3	1-4	1C/1, 1Dx1/1, 1Dx2/1	Normal	96
	8		1-3	1-1	1C/1, 1N/1, 1Ax/1	Normal	371
	9		1-3	1-2	1C/1, 1N/1, 1Bx/1	Normal	139
	10		1-4	1-1	1D2/1, 1D1/1, 1N/1, 1Ax/1	Normal	236
	11		1-4	1-2	1D2/1, 1D1/1, 1N/1, 1Bx/1	Normal	149
	12		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	36

Signal Timings

Network Default: 120s cycle time; 120 steps

No Controller Streams present.

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	FLOWS				PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES		P.I.
				Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s per cycle)	Wasted time total (per cycle)	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Mean end of red queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (£ per hr)	P.I.			
1A	1	S / L	1a	781	1800	120	120.00	43	107	6.41	0.77	0.00	0.17	100	100	0.00	0.00	2.36			
1Ax	1			758	Unrestricted	120	0.00	0	Unrestricted	5.88	0.00	0.00	0.00	100	100	0.00	0.00	0.00			
1Bx	1			465	Unrestricted	120	0.00	0	Unrestricted	4.44	0.00	0.00	0.00	100	100	0.00	0.00	1.21			
1C	1	S / L	1b	606	1800	120	120.00	34	167	6.87	0.51	0.00	0.09	100	100	0.00	0.00	0.00			
1Cx	1			485	Unrestricted	120	0.00	0	Unrestricted	7.20	0.00	0.00	0.00	100	100	0.00	0.00	0.00			
1N	1	S / R	1a	895 <	1001	120	0.00	89	1	15.00	14.00	0.00	3.48 +	100	100	0.00	0.00	49.42			
1S	1	S / R	1b	876 <	840	120	0.00	104	-14	107.47	106.47	68.88	25.91 +	100	100	0.00	0.00	374.56			
1B1	1	L	1a	272	391	120	120.00	70	29	11.98	10.30	0.00	0.78	100	100	0.00	0.00	11.06			
	2	R	1a	151	188	120	0.00	80	12	36.53	34.97	0.00	1.47	100	100	0.00	0.00	20.83			
1D1	1	L	1b	385	526	120	120.00	73	23	10.36	9.16	0.00	0.98	100	100	0.00	0.00	13.91			
	2	R	1b	36	243	120	120.00	15	508	2.36	1.28	0.00	0.01	100	100	0.00	0.00	0.18			
1Dx1	1	1e	487	3600	120	0.00	14	365	2.60	0.08	0.00	0.01	100	100	0.00	0.00	0.15				
1B2	1	1c	423	1800	120	0.00	24	283	2.95	0.31	0.00	0.04	100	100	0.00	0.00	0.51				
1D2	1	1d	421	1800	120	0.00	23	285	5.59	0.31	0.00	0.04	100	100	0.00	0.00	0.51				
1Dx2	1			487	Unrestricted	120	0.00	0	Unrestricted	3.48	0.00	0.00	0.00	100	100	0.00	0.00	0.00			

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	227.66	40.60	5.61	0.00	32.96	468.01	6.68	0.00	474.69
Bus									
Tram									
Pedestrians									
TOTAL	227.66	40.60	5.61	0.00	32.96	468.01	6.68	0.00	474.69

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

A1 - D4 - 2024 W/O Subj Dev, PM

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Info	Optimisation Order	Advanced	Because the optimisation list is blank, no optimisation will occur.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (E per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	21/10/2022 17:50:03	21/10/2022 17:50:03	0.59	17:45	120	45.74	3.22	76.16	1S/1	0	0	1S/1	1S/1	1S/1	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2024 W/O Subj Dev	PM				17:45		✓

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
1a			✓	TrafficStream	Two-Way	1A/1	1A/1	1Ax/1	Two-Way	1B/2	1B/1/1	1Bx/1	Two-Way	1N/1	1N/1	1S/1	✓
1b			✓	TrafficStream	Two-Way	1C/1	1C/1	1Cx/1	Two-Way	1D/2	1D/1/1	1Dx/1/1	Two-Way	1S/1	1S/1	1N/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
1a	7.70	7.70	0.00	2.20	250.00
1b	10.00	10.00	0.00	2.20	125.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
1a	3.00	3.00	24.00	31.00
1b	3.00	3.00	27.00	61.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC-aBSlope	BC-aCSlope	BAIntercept (PCU/hr)	BA-aBSlope	BA-aCSlope	BA-cASlope	BA-cBSlope	CBIntercept (PCU/hr)	CB-aBSlope	CB-aCSlope
1a	643	0.09	0.23	501	0.08	0.21	0.13	0.30	719	0.26	0.26
1b	662	0.08	0.21	516	0.08	0.20	0.12	0.28	646	0.21	0.21

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation											

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	185	399	147
	1-2	114	0	126	102
	1-3	408	134	0	21
	1-4	170	85	34	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	1-1		1A/1	1Ax/1	#0000FF

1	1-2	1B2/1	1Bx/1	#FF0000
	1-3	1C/1	1Cx/1	#00FF00
	1-4	1D2/1	1Dx2/1	#FFFFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path Items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-1	1-2	1A/1, 1Bx/1	Normal	185
	2		1-1	1-4	1A/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	147
	3		1-1	1-3	1A/1, 1S/1, 1Cx/1	Normal	399
	4		1-2	1-4	1B2/1, 1B/1/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	102
	5		1-2	1-3	1B2/1, 1B/1/1, 1S/1, 1Cx/1	Normal	126
	6		1-2	1-1	1B2/1, 1B/1/2, 1Ax/1	Normal	114
	7		1-3	1-4	1C/1, 1Dx1/1, 1Dx2/1	Normal	21
	8		1-3	1-1	1C/1, 1N/1, 1Ax/1	Normal	408
	9		1-3	1-2	1C/1, 1N/1, 1Bx/1	Normal	134
	10		1-4	1-1	1D2/1, 1D1/1, 1N/1, 1Ax/1	Normal	170
	11		1-4	1-2	1D2/1, 1D1/1, 1N/1, 1Bx/1	Normal	85
	12		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	34

Signal Timings

Network Default: 120s cycle time; 120 steps

No Controller Streams present.

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	FLOWS				PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES	P.I.
				Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s per cycle)	Wasted time total (s per cycle)	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Mean end of red queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (£ per hr)			
1A	1	S / L	1a	731	1800	120	0.00	41	122	6.32	0.68	0.00	0.14	100	100	0.00	1.97			
1Ax	1			892	Unrestricted	120	0.00	0	Unrestricted	5.88	0.00	0.00	0.00	100	100	0.00	0.00			
1Bx	1			404	Unrestricted	120	0.00	0	Unrestricted	4.44	0.00	0.00	0.00	100	100	0.00	0.00			
1C	1	S / L	1b	563	1800	120	0.00	31	188	6.81	0.45	0.00	0.07	100	100	0.00	1.01			
1Cx	1			559	Unrestricted	120	0.00	0	Unrestricted	7.20	0.00	0.00	0.00	100	100	0.00	0.00			
1N	1	S / R	1a	797	1086	120	0.00	73	23	5.52	4.52	0.00	1.00	100	100	0.00	14.22			
1S	1	S / R	1b	774	1016	120	0.00	76	18	6.57	5.57	0.00	1.20	100	100	0.00	17.00			
1B1	1	L	1a	228	437	120	0.00	52	73	6.13	4.45	0.00	0.28	100	100	0.00	4.00			
	2	R	1a	114	224	120	0.00	51	77	9.72	8.16	0.00	0.26	100	100	0.00	3.67			
1D1	1	L	1b	255	529	120	0.00	48	87	4.35	3.15	0.00	0.22	100	100	0.00	3.17			
	2	R	1b	34	273	120	120.00	12	623	2.01	0.93	0.00	0.01	100	100	0.00	0.13			
1Dx1	1		1e	270	3600	120	0.00	8	1100	2.56	0.04	0.00	0.00	100	100	0.00	0.04			
1B2	1		1c	342	1800	120	0.00	19	374	2.87	0.23	0.00	0.02	100	100	0.00	0.32			
1D2	1		1d	289	1800	120	0.00	16	461	5.47	0.19	0.00	0.02	100	100	0.00	0.22			
1Dx2	1			270	Unrestricted	120	0.00	0	Unrestricted	3.48	0.00	0.00	0.00	100	100	0.00	0.00			

Network Results

Normal traffic	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Bus	199.63	9.92	20.12	0.00	3.22	45.74	0.00	0.00	45.74
Tram									
Pedestrians									
TOTAL	199.63	9.92	20.12	0.00	3.22	45.74	0.00	0.00	45.74

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

A1 - D5 - 2024 With Subj Dev, AM

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Info	Optimisation Order	Advanced	Because the optimisation list is blank, no optimisation will occur.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	21/01/2022 17:50:03	21/01/2022 17:50:04	1.39	08:30	120	1271.40	88.55	112.78	1S/1	3	20		1S/1	1S/1	

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2024 With Subj Dev	AM				08:30	<input type="checkbox"/>	<input checked="" type="checkbox"/>

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
1a			<input checked="" type="checkbox"/>	TrafficStream	Two-Way	1A/1	1A/1	1Ax/1	Two-Way	1B/2	1B/1/1	1Bx/1	Two-Way	1N/1	1N/1	1S/1	<input checked="" type="checkbox"/>
1b			<input checked="" type="checkbox"/>	TrafficStream	Two-Way	1C/1	1C/1	1Cx/1	Two-Way	1D/2	1D/1/1	1Dx/1/1	Two-Way	1S/1	1S/1	1N/1	<input checked="" type="checkbox"/>

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
1a	7.70	7.70	0.00	2.20	250.00
1b	10.00	10.00	0.00	2.20	125.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
1a	3.00	3.00	24.00	31.00
1b	3.00	3.00	27.00	61.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC-aBSlope	BC-aCSlope	BAIntercept (PCU/hr)	BA-aBSlope	BA-aCSlope	BA-cASlope	BA-cBSlope	CBIntercept (PCU/hr)	CB-aBSlope	CB-aCSlope
1a	643	0.09	0.23	501	0.08	0.21	0.13	0.30	719	0.26	0.26
1b	662	0.08	0.21	516	0.08	0.20	0.12	0.28	646	0.21	0.21

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Path Equalisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	177	399	252
	1-2	151	0	131	156
	1-3	464	175	0	119
	1-4	236	149	40	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	1-1		1A/1	1Ax/1	#0000FF

1	1-2	1B/2	1Bx/1	#FF0000
	1-3	1C/1	1Cx/1	#00FF00
	1-4	1D/2	1Dx/1	#FFFF00

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path Items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-1	1-2	1A/1, 1Bx/1	Normal	177
	2		1-1	1-4	1A/1, 1S/1, 1Dx/1/1, 1Dx/2/1	Normal	252
	3		1-1	1-3	1A/1, 1S/1, 1Cx/1	Normal	399
	4		1-2	1-4	1B/2/1, 1B/1/1, 1S/1, 1Dx/1/1, 1Dx/2/1	Normal	156
	5		1-2	1-3	1B/2/1, 1B/1/1, 1S/1, 1Cx/1	Normal	131
	6		1-2	1-1	1B/2/1, 1B/1/2, 1Ax/1	Normal	151
	7		1-3	1-4	1C/1, 1Dx/1/1, 1Dx/2/1	Normal	119
	8		1-3	1-1	1C/1, 1N/1, 1Ax/1	Normal	464
	9		1-3	1-2	1C/1, 1N/1, 1Bx/1	Normal	175
	10		1-4	1-1	1D/2/1, 1D/1/1, 1N/1, 1Ax/1	Normal	236
	11		1-4	1-2	1D/2/1, 1D/1/1, 1N/1, 1Bx/1	Normal	149
	12		1-4	1-3	1D/2/1, 1D/1/2, 1Cx/1	Normal	40

Signal Timings

Network Default: 120s cycle time; 120 steps

No Controller Streams present.

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	FLOWS				PERFORMANCE				PER PCU				QUEUES		WEIGHTS		PENALTIES		P.I.
				Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s per cycle)	Wasted time total (per cycle)	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Mean end of red queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (£ per hr)	P.I.				
1A	1	S / L	1a	828	1800	120	120.00	46	96	6.49	0.85	0.00	0.20			100	100	0.00	0.00	2.78		
1Ax	1			830	Unrestricted	120	0.00	0	Unrestricted	5.88	0.00	0.00	0.00			100	100	0.00	0.00	0.00		
1Bx	1			492	Unrestricted	120	0.00	0	Unrestricted	4.44	0.00	0.00	0.00			100	100	0.00	0.00	0.00		
1C	1	S / L	1b	758	1800	120	120.00	42	114	7.09	0.73	0.00	0.15			100	100	0.00	0.00	2.17		
1Cx	1			510	Unrestricted	120	0.00	0	Unrestricted	7.20	0.00	0.00	0.00			100	100	0.00	0.00	0.00		
1N	1	S / R	1a	1024 <	994	120	0.00	103	-13	87.79	86.79	62.69	24.69 +			100	100	0.00	0.00	356.07		
1S	1	S / R	1b	938 <	832	120	0.00	113	-20	218.85	217.85	88.02	56.76 +			100	100	0.00	0.00	814.49		
1B1	1	L	1a	267	362	120	120.00	79	13	19.76	18.08	0.00	1.44			100	100	0.00	0.00	20.47		
2	R	1a	151 <	160	120	0.00	94	-5	93.20	91.64	0.00	3.84 +			100	100	0.00	0.00	54.58			
1D1	1	L	1b	385	491	120	120.00	78	15	13.93	12.73	0.00	1.36			100	100	0.00	0.00	19.34		
2	R	1b	40	222	120	120.00	18	399	2.86	1.78	0.00	0.02			100	100	0.00	0.00	0.28			
1Dx1	1	1e	481	3600	120	0.00	13	574	2.60	0.08	0.00	0.01			100	100	0.00	0.00	0.15			
1B2	1	1c	438	1800	120	120.00	24	270	2.96	0.32	0.00	0.04			100	100	0.00	0.00	0.56			
1D2	1	1d	425	1800	120	0.00	24	281	5.59	0.31	0.00	0.04			100	100	0.00	0.00	0.52			
1Dx2	1		481	Unrestricted	120	0.00	0	Unrestricted	3.48	0.00	0.00	0.00			100	100	0.00	0.00	0.00			

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	245.80	96.80	2.54	0.00	88.55	1257.43	13.97	0.00	1271.40
Bus									
Tram									
Pedestrians									
TOTAL	245.80	96.80	2.54	0.00	88.55	1257.43	13.97	0.00	1271.40

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

A1 - D6 - 2024 With Subj Dev, PM

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Info	Optimisation Order	Advanced	Because the optimisation list is blank, no optimisation will occur.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	21/10/2022 17:50:04	21/10/2022 17:50:05	1.11	17:45	120	78.53	5.53	84.01	1S/1	0	0		1S/1	1S/1	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2024 With Subj Dev	PM				17:45		✓

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
1a			✓	TrafficStream	Two-Way	1A/1	1A/1	1Ax/1	Two-Way	1B/2	1B/1/1	1Bx/1	Two-Way	1N/1	1N/1	1S/1	✓
1b			✓	TrafficStream	Two-Way	1C/1	1C/1	1Cx/1	Two-Way	1D/2	1D/1/1	1Dx/1	Two-Way	1S/1	1S/1	1N/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
1a	7.70	7.70	0.00	2.20	250.00
1b	10.00	10.00	0.00	2.20	125.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
1a	3.00	3.00	24.00	31.00
1b	3.00	3.00	27.00	61.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC-aBSlope	BC-aCSlope	BAIntercept (PCU/hr)	BA-aBSlope	BA-aCSlope	BA-cASlope	BA-cBSlope	CBIntercept (PCU/hr)	CB-aBSlope	CB-aCSlope
1a	643	0.09	0.23	501	0.08	0.21	0.13	0.30	719	0.26	0.26
1b	662	0.08	0.21	516	0.08	0.20	0.12	0.28	646	0.21	0.21

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation											

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	185	485	147
	1-2	114	0	153	102
	1-3	489	153	0	24
	1-4	170	85	41	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	1-1		1A/1	1Ax/1	#0000FF

1	1-2		1B2/1	1Bx/1	#FF0000
	1-3		1C/1	1Cx/1	#00FF00
	1-4		1D2/1	1Dx2/1	#FFFFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path Items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-1	1-2	1A/1, 1Bx/1	Normal	185
	2		1-1	1-4	1A/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	147
	3		1-1	1-3	1A/1, 1S/1, 1Cx/1	Normal	485
	4		1-2	1-4	1B2/1, 1B/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	102
	5		1-2	1-3	1B2/1, 1B/1, 1S/1, 1Cx/1	Normal	153
	6		1-2	1-1	1B2/1, 1B/2, 1Ax/1	Normal	114
	7		1-3	1-4	1C/1, 1Dx1/1, 1Dx2/1	Normal	24
	8		1-3	1-1	1C/1, 1N/1, 1Ax/1	Normal	469
	9		1-3	1-2	1C/1, 1N/1, 1Bx/1	Normal	153
	10		1-4	1-1	1D2/1, 1D1/1, 1N/1, 1Ax/1	Normal	170
	11		1-4	1-2	1D2/1, 1D1/1, 1N/1, 1Bx/1	Normal	85
	12		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	41

Signal Timings

Network Default: 120s cycle time; 120 steps

No Controller Streams present.

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	FLOWS				PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES	P.I.
				Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s per cycle)	Wasted time total (s per cycle)	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Mean end of red queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (£ per hr)			
1A	1	S / L	1a	817	1800	120	120.00	45	98	6.47	0.83	0.00	0.19			100	100	0.00	2.67	
1Ax	1			753	Unrestricted	120	0.00	0	Unrestricted	5.88	0.00	0.00			100	100	0.00	0.00		
1Bx	1			423	Unrestricted	120	0.00	0	Unrestricted	4.44	0.00	0.00			100	100	0.00	0.00		
1C	1	S / L	1b	646	1800	120	120.00	36	151	6.92	0.98	0.00	0.10			100	100	0.00	1.43	
1Cx	1			678	Unrestricted	120	0.00	0	Unrestricted	7.20	0.00	0.00			100	100	0.00	0.00		
1N	1	S / R	1a	877 <	1065	120	0.00	82	9	6.66	7.66	0.00	1.87 +			100	100	0.00	26.51	
1S	1	S / R	1b	887 <	1056	120	0.00	84	7	9.65	8.65	0.00	2.13 +			100	100	0.00	30.27	
1B1	1	L	1a	255	410	120	120.00	62	45	8.81	7.13	0.00	0.50			100	100	0.00	7.17	
	2	R	1a	114	192	120	0.00	59	52	14.88	13.32	0.00	0.42			100	100	0.00	5.99	
1D1	1	L	1b	255	506	120	120.00	50	79	4.78	3.58	0.00	0.25			100	100	0.00	3.61	
	2	R	1b	41	243	120	120.00	17	434	2.58	1.50	0.00	0.02			100	100	0.00	0.24	
1Dx1	1		1e	273	3600	120	0.00	8	1087	2.56	0.04	0.00	0.00			100	100	0.00	0.04	
1B2	1		1c	369	1800	120	0.00	21	339	2.90	0.26	0.00	0.03			100	100	0.00	0.38	
1D2	1		1d	296	1800	120	0.00	16	447	5.48	0.20	0.00	0.02			100	100	0.00	0.23	
1Dx2	1			273	Unrestricted	120	0.00	0	Unrestricted	3.48	0.00	0.00	0.00			100	100	0.00	0.00	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	221.92	12.98	17.10	0.00	5.53	78.53	0.00	0.00	78.53
Bus									
Tram									
Pedestrians									
TOTAL	221.92	12.98	17.10	0.00	5.53	78.53	0.00	0.00	78.53

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

A1 - D7 - 2029 W/O Subj Dev, AM

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Info	Optimisation Order	Advanced	Because the optimisation list is blank, no optimisation will occur.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	21/01/2022 17:50:05	21/01/2022 17:50:05	0.64	08:30	120	1039.43	72.61	112.62	1S/1	3	20		1S/1	1S/1	

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2029 W/O Subj Dev	AM				08:30		✓

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
1a			✓	TrafficStream	Two-Way	1A/1	1A/1	1Ax/1	Two-Way	1B/2	1B/1/1	1Bx/1	Two-Way	1N/1	1N/1	1S/1	✓
1b			✓	TrafficStream	Two-Way	1C/1	1C/1	1Cx/1	Two-Way	1D/2	1D/1/1	1Dx/1/1	Two-Way	1S/1	1S/1	1N/1	✓

T-Junction Majors

T-junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
1a	7.70	7.70	0.00	2.20	250.00
1b	10.00	10.00	0.00	2.20	125.00

T-Junction Minors

T-junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
1a	3.00	3.00	24.00	31.00
1b	3.00	3.00	27.00	61.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC-aBSlope	BC-aCSlope	BAIntercept (PCU/hr)	BA-aBSlope	BA-aCSlope	BA-cASlope	BA-cBSlope	CBIntercept (PCU/hr)	CB-aBSlope	CB-aCSlope
1a	643	0.09	0.23	501	0.08	0.21	0.13	0.30	719	0.26	0.26
1b	662	0.08	0.21	516	0.08	0.20	0.12	0.28	646	0.21	0.21

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation											

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	190	376	269
	1-2	161	0	123	167
	1-3	394	147	0	101
	1-4	251	159	38	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	1-1		1A/1	1Ax/1	#0000FF

1	1-2		1B2/1	1Bx/1	#FF0000
	1-3		1C/1	1Cx/1	#00FF00
	1-4		1D2/1	1Dx2/1	#FFFF00

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path Items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-1	1-2	1A/1, 1Bx/1	Normal	190
	2		1-1	1-4	1A/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	269
	3		1-1	1-3	1A/1, 1S/1, 1Cx/1	Normal	376
	4		1-2	1-4	1B2/1, 1B/1/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	167
	5		1-2	1-3	1B2/1, 1B/1/1, 1S/1, 1Cx/1	Normal	123
	6		1-2	1-1	1B2/1, 1B/2, 1Ax/1	Normal	161
	7		1-3	1-4	1C/1, 1Dx1/1, 1Dx2/1	Normal	101
	8		1-3	1-1	1C/1, 1N/1, 1Ax/1	Normal	394
	9		1-3	1-2	1C/1, 1N/1, 1Bx/1	Normal	147
	10		1-4	1-1	1D2/1, 1D/1/1, 1N/1, 1Ax/1	Normal	251
	11		1-4	1-2	1D2/1, 1D/1/1, 1N/1, 1Bx/1	Normal	159
	12		1-4	1-3	1D2/1, 1D/2, 1Cx/1	Normal	38

Signal Timings

Network Default: 120s cycle time; 120 steps

No Controller Streams present.

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	FLOWS				PERFORMANCE				PER PCU		QUEUES		WEIGHTS		PENALTIES		P.I.
				Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s per cycle)	Wasted time total (per cycle)	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Mean end of red queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (£ per hr)	P.I.		
1A	1	S / L	1a	835	1800	120	120.00	46	94	6.50	0.86	0.00	0.20	100	100	0.00	0.00	2.85		
1Ax	1			806	Unrestricted	120	0.00	0	Unrestricted	5.88	0.00	0.00	0.00	100	100	0.00	0.00	0.00		
1Bx	1			496	Unrestricted	120	0.00	0	Unrestricted	4.44	0.00	0.00	0.00	100	100	0.00	0.00	1.40		
1C	1	S / L	1b	642	1800	120	120.00	36	152	6.91	0.55	0.00	0.10	100	100	0.00	0.00	1.40		
1Cx	1			461	Unrestricted	120	0.00	0	Unrestricted	7.20	0.00	0.00	0.00	100	100	0.00	0.00	0.00		
1N	1	S / R	1a	951 <	984	120	0.00	97	-7	34.03	33.03	0.00	8.73 +	100	100	0.00	0.00	123.91		
1S	1	S / R	1b	935 <	830	120	0.00	113	-20	216.73	215.73	87.88	56.03 +	100	100	0.00	0.00	804.05		
1B1	1	L	1a	290	364	120	120.00	80	13	20.05	18.37	0.00	1.48	100	100	0.00	0.00	21.02		
	2	R	1a	161 <	167	120	0.00	96	-6	101.88	100.32	0.00	4.49 +	100	100	0.00	0.00	63.71		
1D1	1	L	1b	410	516	120	120.00	79	13	14.15	12.95	0.00	1.48	100	100	0.00	0.00	20.95		
	2	R	1b	38	239	120	120.00	16	465	2.51	1.43	0.00	0.02	100	100	0.00	0.00	0.21		
1Dx1	1	1e	468	3600	120	0.00	14	564	2.60	0.08	0.00	0.01	100	100	0.00	0.00	0.15			
1B2	1	1c	451	1800	120	120.00	25	259	2.97	0.33	0.00	0.04	100	100	0.00	0.00	0.59			
1D2	1	1d	448	1800	120	0.00	25	262	5.61	0.33	0.00	0.04	100	100	0.00	0.00	0.59			
1Dx2	1		468	Unrestricted	120	0.00	0	Unrestricted	3.48	0.00	0.00	0.00	100	100	0.00	0.00	0.00			

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	238.75	80.62	2.96	0.00	72.61	1031.00	8.43	0.00	1039.43
Bus									
Tram									
Pedestrians									
TOTAL	238.75	80.62	2.96	0.00	72.61	1031.00	8.43	0.00	1039.43

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

A1 - D8 - 2029 W/O Subj Dev, PM

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Info	Optimisation Order	Advanced	Because the optimisation list is blank, no optimisation will occur.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (E per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	21/10/2022 17:50:05	21/10/2022 17:50:06	1.37	17:45	120	67.66	4.76	82.09	1S/1	0	0		1S/1	1S/1	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2029 W/O Subj Dev	PM				17:45		✓

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
1a			✓	TrafficStream	Two-Way	1A/1	1A/1	1Ax/1	Two-Way	1B/2	1B/1/1	1Bx/1	Two-Way	1N/1	1N/1	1S/1	✓
1b			✓	TrafficStream	Two-Way	1C/1	1C/1	1Cx/1	Two-Way	1D/2	1D/1/1	1Dx/1/1	Two-Way	1S/1	1S/1	1N/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
1a	7.70	7.70	0.00	2.20	250.00
1b	10.00	10.00	0.00	2.20	125.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
1a	3.00	3.00	24.00	31.00
1b	3.00	3.00	27.00	61.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC-aBSlope	BC-aCSlope	BAIntercept (PCU/hr)	BA-aBSlope	BA-aCSlope	BA-cASlope	BA-cBSlope	CBIntercept (PCU/hr)	CB-aBSlope	CB-aCSlope
1a	643	0.09	0.23	501	0.08	0.21	0.13	0.30	719	0.26	0.26
1b	662	0.08	0.21	516	0.08	0.20	0.12	0.28	646	0.21	0.21

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation											

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	198	426	157
	1-2	122	0	134	109
	1-3	436	143	0	23
	1-4	182	91	37	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	1-1		1A/1	1Ax/1	#0000FF

1	1-2		1B2/1	1Bx/1	#FF0000
	1-3		1C/1	1Cx/1	#00FF00
	1-4		1D2/1	1Dx2/1	#FFFFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path Items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-1	1-2	1A/1, 1Bx/1	Normal	198
	2		1-1	1-4	1A/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	157
	3		1-1	1-3	1A/1, 1S/1, 1Cx/1	Normal	426
	4		1-2	1-4	1B2/1, 1B/1/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	109
	5		1-2	1-3	1B2/1, 1B/1/1, 1S/1, 1Cx/1	Normal	134
	6		1-2	1-1	1B2/1, 1B/1/2, 1Ax/1	Normal	122
	7		1-3	1-4	1C/1, 1Dx1/1, 1Dx2/1	Normal	23
	8		1-3	1-1	1C/1, 1N/1, 1Ax/1	Normal	436
	9		1-3	1-2	1C/1, 1N/1, 1Bx/1	Normal	143
	10		1-4	1-1	1D2/1, 1D1/1, 1N/1, 1Ax/1	Normal	182
	11		1-4	1-2	1D2/1, 1D1/1, 1N/1, 1Bx/1	Normal	91
	12		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	37

Signal Timings

Network Default: 120s cycle time; 120 steps

No Controller Streams present.

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	FLOWS				PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES	P.I.
				Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s per cycle)	Wasted time total (s per cycle)	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Mean end of red queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (£ per hr)			
1A	1	S / L	1a	781	1800	120	120.00	43	107	6.41	0.77	0.00	0.17			100	100	0.00	2.36	
1Ax	1			740	Unrestricted	120	0.00	0	Unrestricted	5.88	0.00	0.00	0.00			100	100	0.00	0.00	
1Bx	1			432	Unrestricted	120	0.00	0	Unrestricted	4.44	0.00	0.00	0.00			100	100	0.00	0.00	
1C	1	S / L	1b	602	1800	120	120.00	33	169	6.86	0.50	0.00	0.08			100	100	0.00	1.19	
1Cx	1			597	Unrestricted	120	0.00	0	Unrestricted	7.20	0.00	0.00	0.00			100	100	0.00	0.00	
1N	1	S / R	1a	852 <	1071	120	0.00	80	13	7.41	6.41	0.00	1.52 +			100	100	0.00	21.54	
1S	1	S / R	1b	826 <	1006	120	0.00	82	10	8.96	7.96	0.00	1.83 +			100	100	0.00	25.94	
1B1	1	L	1a	243	418	120	120.00	58	55	7.57	5.89	0.00	0.40			100	100	0.00	5.65	
	2	R	1a	122	206	120	0.00	59	52	14.04	12.48	0.00	0.42			100	100	0.00	6.01	
1D1	1	L	1b	273	518	120	120.00	53	71	5.04	3.84	0.00	0.29			100	100	0.00	4.13	
	2	R	1b	37	257	120	120.00	14	525	2.26	1.18	0.00	0.01			100	100	0.00	0.17	
1Dx1	1	1e		289	3600	120	0.00	8	1021	2.56	0.04	0.00	0.00			100	100	0.00	0.05	
1B2	1	1c		365	1800	120	0.00	20	344	2.89	0.25	0.00	0.03			100	100	0.00	0.37	
1D2	1	1d		310	1800	120	0.00	17	423	5.49	0.21	0.00	0.02			100	100	0.00	0.25	
1Dx2	1			289	Unrestricted	120	0.00	0	Unrestricted	3.48	0.00	0.00	0.00			100	100	0.00	0.00	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	213.42	11.93	17.90	0.00	4.76	67.66	0.00	0.00	67.66
Bus									
Tram									
Pedestrians									
TOTAL	213.42	11.93	17.90	0.00	4.76	67.66	0.00	0.00	67.66

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

A1 - D9 - 2029 With Subj Dev, AM

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Info	Optimisation Order	Advanced	Because the optimisation list is blank, no optimisation will occur.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	21/01/2022 17:50:06	21/01/2022 17:50:06	0.94	08:30	120	2293.03	160.24	121.60	1S/1	3	20		1S/1	1S/1	

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2029 With Subj Dev	AM				08:30		✓

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
1a			✓	TrafficStream	Two-Way	1A/1	1A/1	1Ax/1	Two-Way	1B/2	1B/1/1	1Bx/1	Two-Way	1N/1	1N/1	1S/1	✓
1b			✓	TrafficStream	Two-Way	1C/1	1C/1	1Cx/1	Two-Way	1D/2	1D/1/1	1Dx/1/1	Two-Way	1S/1	1S/1	1N/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
1a	7.70	7.70	0.00	2.20	250.00
1b	10.00	10.00	0.00	2.20	125.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
1a	3.00	3.00	24.00	31.00
1b	3.00	3.00	27.00	61.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC-aBSlope	BC-aCSlope	BAIntercept (PCU/hr)	BA-aBSlope	BA-aCSlope	BA-cASlope	BA-cBSlope	CBIntercept (PCU/hr)	CB-aBSlope	CB-aCSlope
1a	643	0.09	0.23	501	0.08	0.21	0.13	0.30	719	0.26	0.26
1b	662	0.08	0.21	516	0.08	0.20	0.12	0.28	646	0.21	0.21

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation											

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	190	423	269
	1-2	161	0	138	167
	1-3	487	183	0	124
	1-4	251	159	42	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	1-1		1A/1	1Ax/1	#0000FF

1	1-2		1B2/1	1Bx/1	#FF0000
	1-3		1C/1	1Cx/1	#00FF00
	1-4		1D2/1	1Dx2/1	#FFFF00

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path Items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-1	1-2	1A/1, 1Bx/1	Normal	190
	2		1-1	1-4	1A/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	269
	3		1-1	1-3	1A/1, 1S/1, 1Cx/1	Normal	423
	4		1-2	1-4	1B2/1, 1B/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	167
	5		1-2	1-3	1B2/1, 1B/1, 1S/1, 1Cx/1	Normal	138
	6		1-2	1-1	1B2/1, 1B/2, 1Ax/1	Normal	161
	7		1-3	1-4	1C/1, 1Dx1/1, 1Dx2/1	Normal	124
	8		1-3	1-1	1C/1, 1N/1, 1Ax/1	Normal	487
	9		1-3	1-2	1C/1, 1N/1, 1Bx/1	Normal	183
	10		1-4	1-1	1D2/1, 1D/1/1, 1N/1, 1Ax/1	Normal	251
	11		1-4	1-2	1D2/1, 1D/1/1, 1N/1, 1Bx/1	Normal	159
	12		1-4	1-3	1D2/1, 1D/2, 1Cx/1	Normal	42

Signal Timings

Network Default: 120s cycle time; 120 steps

No Controller Streams present.

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	FLOWS				PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES		P.I.
				Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s per cycle)	Wasted time total (s per cycle)	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Mean end of red queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (£ per hr)	P.I.			
1A	1	S / L	1a	882	1800	120	120.00	49	84	6.60	0.96	0.00	0.24	100	100	0.00	0.00	3.34			
1Ax	1			821	Unrestricted	120	0.00	0	Unrestricted	5.88	0.00	0.00	0.00	100	100	0.00	0.00	0.00			
1Bx	1			499	Unrestricted	120	0.00	0	Unrestricted	4.44	0.00	0.00	0.00	100	100	0.00	0.00	0.00			
1C	1	S / L	1b	794	1800	120	120.00	44	104	7.15	0.79	0.00	0.17	100	100	0.00	0.00	2.47			
1Cx	1			503	Unrestricted	120	0.00	0	Unrestricted	7.20	0.00	0.00	0.00	100	100	0.00	0.00	0.00			
1N	1	S / R	1a	1080 <	976	120	0.00	111	-19	187.96	186.96	87.23	56.09 +	100	100	0.00	0.00	803.96			
1S	1	S / R	1b	997 <	820	120	0.00	122	-26	328.82	327.82	92.35	90.79 +	100	100	0.00	0.00	1297.95			
1B1	1	L	1a	305 <	351	120	120.00	87	3	31.53	29.85	0.00	2.53 +	100	100	0.00	0.00	35.92			
2	R	1a	161 <	153	120	0.00	105	-14	181.34	179.78	71.22	8.04 +	100	100	0.00	0.00	115.54				
1D1	1	L	1b	410 <	481	120	120.00	85	6	21.08	19.88	0.00	2.26 +	100	100	0.00	0.00	32.14			
2	R	1b	42	217	120	120.00	19	366	3.06	1.98	0.00	0.02	0.02	100	100	0.00	0.00	0.33			
1Dx1	1	1e	483	3600	120	0.00	13	571	2.60	0.08	0.00	0.01	100	100	0.00	0.00	0.15				
1B2	1	1c	466	1800	120	120.00	26	248	2.99	0.35	0.00	0.05	100	100	0.00	0.00	0.64				
1D2	1	1d	452	1800	120	120.00	25	258	5.62	0.34	0.00	0.04	100	100	0.00	0.00	0.60				
1Dx2	1		483	Unrestricted	120	0.00	0	Unrestricted	3.48	0.00	0.00	0.00	100	100	0.00	0.00	0.00				

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	253.06	168.73	1.50	0.00	160.24	2275.38	17.65	0.00	2293.03
Bus									
Tram									
Pedestrians									
TOTAL	253.06	168.73	1.50	0.00	160.24	2275.38	17.65	0.00	2293.03

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

A1 - D10 - 2029 With Subj Dev, PM

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Info	Optimisation Order	Advanced	Because the optimisation list is blank, no optimisation will occur.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (E per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	21/10/2022 17:50:07	21/10/2022 17:50:07	0.67	17:45	120	133.02	9.37	90.10	1S/1	1	7		1S/1	1S/1	

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2029 With Subj Dev	PM				17:45		✓

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
1a			✓	TrafficStream	Two-Way	1A/1	1A/1	1Ax/1	Two-Way	1B/2	1B/1/1	1Bx/1	Two-Way	1N/1	1N/1	1S/1	✓
1b				TrafficStream	Two-Way	1C/1	1C/1	1Cx/1	Two-Way	1D/2	1D/1/1	1Dx/1/1	Two-Way	1S/1	1S/1	1N/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
1a	7.70	7.70	0.00	2.20	250.00
1b	10.00	10.00	0.00	2.20	125.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
1a	3.00	3.00	24.00	31.00
1b	3.00	3.00	27.00	61.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC-aBSlope	BC-aCSlope	BAIntercept (PCU/hr)	BA-aBSlope	BA-aCSlope	BA-cASlope	BA-cBSlope	CBIntercept (PCU/hr)	CB-aBSlope	CB-aCSlope
1a	643	0.09	0.23	501	0.08	0.21	0.13	0.30	719	0.26	0.26
1b	662	0.08	0.21	516	0.08	0.20	0.12	0.28	646	0.21	0.21

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation											

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	198	512	157
	1-2	122	0	161	109
	1-3	497	162	0	28
	1-4	182	91	44	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	1-1		1A/1	1Ax/1	#0000FF

1	1-2		1B2/1	1Bx/1	#FF0000
	1-3		1C/1	1Cx/1	#00FF00
	1-4		1D2/1	1Dx2/1	#FFFFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path Items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-1	1-2	1A/1, 1Bx/1	Normal	198
	2		1-1	1-4	1A/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	157
	3		1-1	1-3	1A/1, 1S/1, 1Cx/1	Normal	512
	4		1-2	1-4	1B2/1, 1B/1/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	109
	5		1-2	1-3	1B2/1, 1B/1/1, 1S/1, 1Cx/1	Normal	161
	6		1-2	1-1	1B2/1, 1B/1/2, 1Ax/1	Normal	122
	7		1-3	1-4	1C/1, 1Dx1/1, 1Dx2/1	Normal	26
	8		1-3	1-1	1C/1, 1N/1, 1Ax/1	Normal	497
	9		1-3	1-2	1C/1, 1N/1, 1Bx/1	Normal	162
	10		1-4	1-1	1D2/1, 1D1/1, 1N/1, 1Ax/1	Normal	182
	11		1-4	1-2	1D2/1, 1D1/1, 1N/1, 1Bx/1	Normal	91
	12		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	44

Signal Timings

Network Default: 120s cycle time; 120 steps

No Controller Streams present.

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	FLOWS				PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES	P.I.
				Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s per cycle)	Wasted time total (s per cycle)	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Mean end of red queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (£ per hr)			
1A	1	S / L	1a	867	1800	120	120.00	48	87	6.57	0.93	0.00	0.22		100	100	0.00	0.00	3.17	
1Ax	1			801	Unrestricted	120	0.00	0	Unrestricted	5.88	0.00	0.00	0.00		100	100	0.00	0.00	0.00	
1Bx	1			451	Unrestricted	120	0.00	0	Unrestricted	4.44	0.00	0.00	0.00		100	100	0.00	0.00	0.00	
1C	1	S / L	1b	665	1800	120	120.00	38	136	6.97	0.61	0.00	0.12		100	100	0.00	0.00	1.66	
1Cx	1			717	Unrestricted	120	0.00	0	Unrestricted	7.20	0.00	0.00	0.00		100	100	0.00	0.00	0.00	
1N	1	S / R	1a	932 <	1049	120	0.00	89	1	13.72	12.72	0.00	3.29 +		100	100	0.00	46.75		
1S	1	S / R	1b	939 <	1042	120	0.00	90	0	15.41	14.41	0.00	3.76 +		100	100	0.00	53.39		
1B1	1	L	1a	270	389	120	120.00	66	30	11.96	10.28	0.00	0.77		100	100	0.00	10.95		
1B2	2	R	1a	122	173	120	0.00	70	28	24.95	23.39	0.00	0.79		100	100	0.00	11.26		
1D1	1	L	1b	273	495	120	120.00	55	63	5.62	4.42	0.00	0.34		100	100	0.00	4.76		
1Dx1	2	R	1b	44	227	120	120.00	19	364	2.98	1.90	0.00	0.02		100	100	0.00	0.33		
1Dx1	1	1e	1a	292	3600	120	0.00	8	1010	2.56	0.04	0.00	0.00		100	100	0.00	0.05		
1B2	1	1c	392	1800	120	0.00	22	313	2.92	0.28	0.00	0.03		100	100	0.00	0.43			
1D2	1	1d	317	1800	120	0.00	18	411	5.49	0.21	0.00	0.02		100	100	0.00	0.27			
1Dx2	1		292	Unrestricted	120	0.00	0	Unrestricted	3.48	0.00	0.00	0.00		100	100	0.00	0.00			

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	235.71	17.28	13.64	0.00	9.37	133.02	0.00	0.00	133.02
Bus									
Tram									
Pedestrians									
TOTAL	235.71	17.28	13.64	0.00	9.37	133.02	0.00	0.00	133.02

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

A1 - D11 - 2039 W/O Subj Dev, AM

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Info	Optimisation Order	Advanced	Because the optimisation list is blank, no optimisation will occur.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	21/01/2022 17:50:07	21/01/2022 17:50:08	1.22	08:30	120	2058.33	143.76	122.01	1S/1	3	20		1S/1	1S/1	

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2039 W/O Subj Dev	AM				08:30		✓

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
1a			✓	TrafficStream	Two-Way	1A/1	1A/1	1Ax/1	Two-Way	1B/2	1B/1/1	1Bx/1	Two-Way	1N/1	1N/1	1S/1	✓
1b			✓	TrafficStream	Two-Way	1C/1	1C/1	1Cx/1	Two-Way	1D/2	1D/1/1	1Dx/1/1	Two-Way	1S/1	1S/1	1N/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
1a	7.70	7.70	0.00	2.20	250.00
1b	10.00	10.00	0.00	2.20	125.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
1a	3.00	3.00	24.00	31.00
1b	3.00	3.00	27.00	61.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC-aBSlope	BC-aCSlope	BAIntercept (PCU/hr)	BA-aBSlope	BA-aCSlope	BA-cASlope	BA-cBSlope	CBIntercept (PCU/hr)	CB-aBSlope	CB-aCSlope
1a	643	0.09	0.23	501	0.08	0.21	0.13	0.30	719	0.26	0.26
1b	662	0.08	0.21	516	0.08	0.20	0.12	0.28	646	0.21	0.21

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation											

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	205	402	288
	1-2	173	0	132	178
	1-3	421	157	0	107
	1-4	269	170	40	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	1-1		1A/1	1Ax/1	#0000FF

1	1-2		1B2/1	1Bx/1	#FF0000
	1-3		1C/1	1Cx/1	#00FF00
	1-4		1D2/1	1Dx2/1	#FFFF00

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path Items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-1	1-2	1A/1, 1Bx/1	Normal	205
	2		1-1	1-4	1A/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	288
	3		1-1	1-3	1A/1, 1S/1, 1Cx/1	Normal	402
	4		1-2	1-4	1B2/1, 1B/1/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	178
	5		1-2	1-3	1B2/1, 1B/1/1, 1S/1, 1Cx/1	Normal	132
	6		1-2	1-1	1B2/1, 1B/1/2, 1Ax/1	Normal	173
	7		1-3	1-4	1C/1, 1Dx1/1, 1Dx2/1	Normal	107
	8		1-3	1-1	1C/1, 1N/1, 1Ax/1	Normal	421
	9		1-3	1-2	1C/1, 1N/1, 1Bx/1	Normal	157
	10		1-4	1-1	1D2/1, 1D1/1, 1N/1, 1Ax/1	Normal	269
	11		1-4	1-2	1D2/1, 1D1/1, 1N/1, 1Bx/1	Normal	170
	12		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	40

Signal Timings

Network Default: 120s cycle time; 120 steps

No Controller Streams present.

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	FLOWS				PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES		P.I.
				Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s per cycle)	Wasted time total (s per cycle)	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Mean end of red queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (£ per hr)	P.I.			
1A	1	S / L	1a	895	1800	120	120.00	50	81	6.63	0.99	0.00	0.25	100	100	0.00	0.00	0.00	3.49		
	1Ax	1		809	Unrestricted	120	0.00	0	Unrestricted	5.88	0.00	0.00	0.00	100	100	0.00	0.00	0.00	0.00		
	1Bx	1		515	Unrestricted	120	0.00	0	Unrestricted	4.44	0.00	0.00	0.00	100	100	0.00	0.00	0.00	0.00		
1C	1	S / L	1b	685	1800	120	120.00	38	136	6.97	0.61	0.00	0.12	100	100	0.00	0.00	1.66			
	1Cx	1		478	Unrestricted	120	0.00	0	Unrestricted	7.20	0.00	0.00	0.00	100	100	0.00	0.00	0.00			
1IN	1	S / R	1a	1017 <	965	120	0.00	105	-15	117.59	116.59	76.07	32.94 +	100	100	0.00	0.00	474.20			
	1IS	1	S / R	1b	1000 <	820	120	0.00	122	-26	333.56	332.56	92.46 +	100	100	0.00	0.00	1320.54			
1B1	1	L	1a	310 <	350	120	120.00	89	2	35.28	33.60	0.00	2.89 +	100	100	0.00	0.00	41.08			
	2	R	1a	173 <	154	120	0.00	112	-20	260.30	258.74	87.32	12.43 +	100	100	0.00	0.00	178.25			
1D1	1	L	1b	439 <	505	120	120.00	87	3	22.76	21.56	0.00	2.63 +	100	100	0.00	0.25	37.33			
	2	R	1b	40	233	120	120.00	17	424	2.68	1.60	0.00	0.02	100	100	0.00	0.00	0.25			
1Dx1	1	1e		489	3600	120	0.00	14	563	2.60	0.08	0.00	0.01	100	100	0.00	0.00	0.15			
	1D2	1	1c	483	1800	120	120.00	27	235	3.01	0.37	0.00	0.05	100	100	0.00	0.00	0.70			
1B2	1	1d		479	1800	120	120.00	27	238	5.64	0.36	0.00	0.05	100	100	0.00	0.00	0.68			
	1Dx2	1		489	Unrestricted	120	0.00	0	Unrestricted	3.48	0.00	0.00	0.00	100	100	0.00	0.00	0.00			

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	248.34	152.09	1.63	0.00	143.76	2041.39	16.94	0.00	2058.33
Bus									
Tram									
Pedestrians									
TOTAL	248.34	152.09	1.63	0.00	143.76	2041.39	16.94	0.00	2058.33

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

A1 - D12 - 2039 W/O Subj Dev, PM

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Info	Optimisation Order	Advanced	Because the optimisation list is blank, no optimisation will occur.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (E per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	21/01/2022 17:50:08	21/01/2022 17:50:08	0.69	17:45	120	116.19	8.18	88.96	1S/1	0	0	1S/1	1S/1	1S/1	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2039 W/O Subj Dev	PM				17:45		✓

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
1a			✓	TrafficStream	Two-Way	1A/1	1A/1	1Ax/1	Two-Way	1B/2	1B/1/1	1Bx/1	Two-Way	1N/1	1N/1	1S/1	✓
1b			✓	TrafficStream	Two-Way	1C/1	1C/1	1Cx/1	Two-Way	1D/2	1D/1/1	1Dx/1	Two-Way	1S/1	1S/1	1N/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
1a	7.70	7.70	0.00	2.20	250.00
1b	10.00	10.00	0.00	2.20	125.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
1a	3.00	3.00	24.00	31.00
1b	3.00	3.00	27.00	61.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC-aBSlope	BC-aCSlope	BAIntercept (PCU/hr)	BA-aBSlope	BA-aCSlope	BA-cASlope	BA-cBSlope	CBIntercept (PCU/hr)	CB-aBSlope	CB-aCSlope
1a	643	0.09	0.23	501	0.08	0.21	0.13	0.30	719	0.26	0.26
1b	662	0.08	0.21	516	0.08	0.20	0.12	0.28	646	0.21	0.21

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation											

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	213	455	169
	1-2	131	0	143	117
	1-3	467	153	0	24
	1-4	196	97	39	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	1-1		1A/1	1Ax/1	#0000FF

1	1-2		1B2/1	1Bx/1	#FF0000
	1-3		1C/1	1Cx/1	#00FF00
	1-4		1D2/1	1Dx2/1	#FFFFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path Items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-1	1-2	1A/1, 1Bx/1	Normal	213
	2		1-1	1-4	1A/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	169
	3		1-1	1-3	1A/1, 1S/1, 1Cx/1	Normal	455
	4		1-2	1-4	1B2/1, 1B/1/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	117
	5		1-2	1-3	1B2/1, 1B/1/1, 1S/1, 1Cx/1	Normal	143
	6		1-2	1-1	1B2/1, 1B/1/2, 1Ax/1	Normal	131
	7		1-3	1-4	1C/1, 1Dx1/1, 1Dx2/1	Normal	24
	8		1-3	1-1	1C/1, 1N/1, 1Ax/1	Normal	467
	9		1-3	1-2	1C/1, 1N/1, 1Bx/1	Normal	153
	10		1-4	1-1	1D2/1, 1D1/1, 1N/1, 1Ax/1	Normal	196
	11		1-4	1-2	1D2/1, 1D1/1, 1N/1, 1Bx/1	Normal	97
	12		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	39

Signal Timings

Network Default: 120s cycle time; 120 steps

No Controller Streams present.

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	FLOWS				PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES	P.I.
				Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s per cycle)	Wasted time total (s per cycle)	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Mean end of red queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (£ per hr)			
1A	1	S / L	1a	837	1800	120	120.00	47	94	6.51	0.87	0.00	0.20			100	100	0.00	2.87	
1Ax	1			794	Unrestricted	120	0.00	0	Unrestricted	5.88	0.00	0.00	0.00			100	100	0.00	0.00	
1Bx	1			463	Unrestricted	120	0.00	0	Unrestricted	4.44	0.00	0.00	0.00			100	100	0.00	0.00	
1C	1	S / L	1b	644	1800	120	120.00	36	152	6.92	0.98	0.00	0.10			100	100	0.00	1.41	
1Cx	1			637	Unrestricted	120	0.00	0	Unrestricted	7.20	0.00	0.00	0.00			100	100	0.00	0.00	
1N	1	S / R	1a	913 <	1055	120	0.00	87	4	11.46	10.46	0.00	2.65 +			100	100	0.00	37.66	
1S	1	S / R	1b	884 <	994	120	0.00	89	1	14.55	13.55	0.00	3.33 +			100	100	0.00	47.25	
1B1	1	L	1a	260	395	120	120.00	66	37	10.25	8.57	0.00	0.62			100	100	0.00	8.79	
	2	R	1a	131	185	120	0.00	71	27	24.10	22.54	0.00	0.82			100	100	0.00	11.65	
1D1	1	L	1b	293	507	120	120.00	58	56	6.00	4.80	0.00	0.39			100	100	0.00	5.55	
	2	R	1b	39	238	120	120.00	16	450	2.55	1.47	0.00	0.02			100	100	0.00	0.23	
1Dx1	1		1e	310	3600	120	0.00	9	945	2.57	0.05	0.00	0.00			100	100	0.00	0.06	
1B2	1		1c	391	1800	120	0.00	22	314	2.92	0.28	0.00	0.03			100	100	0.00	0.43	
1D2	1		1d	332	1800	120	0.00	18	388	5.51	0.23	0.00	0.02			100	100	0.00	0.30	
1Dx2	1			310	Unrestricted	120	0.00	0	Unrestricted	3.48	0.00	0.00	0.00			100	100	0.00	0.00	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	228.53	15.85	14.42	0.00	8.18	116.19	0.00	0.00	116.19
Bus									
Tram									
Pedestrians									
TOTAL	228.53	15.85	14.42	0.00	8.18	116.19	0.00	0.00	116.19

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

A1 - D13 - 2039 With Subj Dev, AM

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Info	Optimisation Order	Advanced	Because the optimisation list is blank, no optimisation will occur.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	21/01/2022 17:50:08	21/01/2022 17:50:09	1.22	08:30	120	3603.28	252.46	131.59	1S/1	5	33		1S/1	1S/1	

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2039 With Subj Dev	AM				08:30		✓

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
1a			✓	TrafficStream	Two-Way	1A/1	1A/1	1Ax/1	Two-Way	1B/2	1B/1/1	1Bx/1	Two-Way	1N/1	1N/1	1S/1	✓
1b			✓	TrafficStream	Two-Way	1C/1	1C/1	1Cx/1	Two-Way	1D/2	1D/1/1	1Dx/1/1	Two-Way	1S/1	1S/1	1N/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
1a	7.70	7.70	0.00	2.20	250.00
1b	10.00	10.00	0.00	2.20	125.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
1a	3.00	3.00	24.00	31.00
1b	3.00	3.00	27.00	61.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC-aBSlope	BC-aCSlope	BAIntercept (PCU/hr)	BA-aBSlope	BA-aCSlope	BA-cASlope	BA-cBSlope	CBIntercept (PCU/hr)	CB-aBSlope	CB-aCSlope
1a	643	0.09	0.23	501	0.08	0.21	0.13	0.30	719	0.26	0.26
1b	662	0.08	0.21	516	0.08	0.20	0.12	0.28	646	0.21	0.21

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation											

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	205	449	288
	1-2	173	0	147	178
	1-3	514	193	0	130
	1-4	269	170	44	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	1-1		1A/1	1Ax/1	#0000FF

1	1-2		1B2/1	1Bx/1	#FF0000
	1-3		1C/1	1Cx/1	#00FF00
	1-4		1D2/1	1Dx2/1	#FFFF00

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path Items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-1	1-2	1A/1, 1Bx/1	Normal	205
	2		1-1	1-4	1A/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	288
	3		1-1	1-3	1A/1, 1S/1, 1Cx/1	Normal	449
	4		1-2	1-4	1B2/1, 1B/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	178
	5		1-2	1-3	1B2/1, 1B/1, 1S/1, 1Cx/1	Normal	147
	6		1-2	1-1	1B2/1, 1B/2, 1Ax/1	Normal	173
	7		1-3	1-4	1C/1, 1Dx1/1, 1Dx2/1	Normal	130
	8		1-3	1-1	1C/1, 1N/1, 1Ax/1	Normal	514
	9		1-3	1-2	1C/1, 1N/1, 1Bx/1	Normal	193
	10		1-4	1-1	1D2/1, 1D1/1, 1N/1, 1Ax/1	Normal	269
	11		1-4	1-2	1D2/1, 1D1/1, 1N/1, 1Bx/1	Normal	170
	12		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	44

Signal Timings

Network Default: 120s cycle time; 120 steps

No Controller Streams present.

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	FLOWS				PERFORMANCE			PER PCU		QUEUES		WEIGHTS		PENALTIES		P.I.
				Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s per cycle)	Wasted time total (s per cycle)	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean end of red queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (£ per hr)	P.I.		
1A	1	S / L	1a	942	1800	120	120.00	52	72	6.74	1.10	0.00	0.29	100	100	0.00	0.00	4.07	
	1Ax	1		800	Unrestricted	120	0.00	0	Unrestricted	5.88	0.00	0.00	0.00	100	100	0.00	0.00	0.00	
	1Bx	1		508	Unrestricted	120	0.00	0	Unrestricted	4.44	0.00	0.00	0.00	100	100	0.00	0.00	2.87	
1C	1	S / L	1b	837	1800	120	120.00	47	94	7.23	0.87	0.00	0.20	100	100	0.00	0.00	2.87	
	1Cx	1		497	Unrestricted	120	0.00	0	Unrestricted	7.20	0.00	0.00	0.00	100	100	0.00	0.00	0.00	
1N	1	S / R	1a	1146 <	957	120	0.00	120	-25	306.03	305.03	92.58	97.10 +	100	100	0.00	0.00	1386.67	
	1S	1	S / R	1b	1062 <	807	120	0.00	132	-32	438.33	437.33	94.33	129.01 +	100	100	0.00	0.00	1840.78
1B1	1	L	1a	325 <	342	120	120.00	95	-5	60.53	58.85	0.00	5.31 +	100	100	0.00	0.00	75.44	
	2	R	1a	173 <	146	120	0.00	118	-24	325.74	324.18	90.92	15.58 +	100	100	0.00	0.00	222.88	
1D1	1	L	1b	439 <	470	120	120.00	93	-4	40.81	39.61	0.00	4.83 +	100	100	0.00	0.00	68.59	
	2	R	1b	44	212	120	120.00	21	333	3.30	2.22	0.00	0.03	100	100	0.00	0.00	0.39	
1Dx1	1	1e	484	3600	120	0.00	13	569	2.60	0.08	0.00	0.01	100	100	0.00	0.00	0.15		
	1B2	1	1c	498	1800	120	120.00	28	225	3.02	0.38	0.00	0.05	100	100	0.00	0.00	0.75	
1D2	1	1d	483	1800	120	120.00	27	235	5.65	0.37	0.00	0.05	100	100	0.00	0.00	0.70		
	1Dx2	1		484	Unrestricted	120	0.00	0	Unrestricted	3.48	0.00	0.00	0.00	100	100	0.00	0.00	0.00	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	260.96	261.22	1.00	0.00	252.46	3584.98	18.30	0.00	3603.28
Bus									
Tram									
Pedestrians									
TOTAL	260.96	261.22	1.00	0.00	252.46	3584.98	18.30	0.00	3603.28

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

A1 - D14 - 2039 With Subj Dev, PM

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Info	Optimisation Order	Advanced	Because the optimisation list is blank, no optimisation will occur.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (E per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network capacity
1	21/01/2022 17:50:09	21/01/2022 17:50:09	0.72	17:45	120	317.43	22.35	97.16	1S/1	2	13		1S/1	1S/1	

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2039 With Subj Dev	PM				17:45	<input type="checkbox"/>	<input checked="" type="checkbox"/>

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
1a			<input checked="" type="checkbox"/>	TrafficStream	Two-Way	1A/1	1A/1	1Ax/1	Two-Way	1B/2	1B/1/1	1Bx/1	Two-Way	1N/1	1N/1	1S/1	<input checked="" type="checkbox"/>
1b			<input checked="" type="checkbox"/>	TrafficStream	Two-Way	1C/1	1C/1	1Cx/1	Two-Way	1D/2	1D/1/1	1Dx/1/1	Two-Way	1S/1	1S/1	1N/1	<input checked="" type="checkbox"/>

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
1a	7.70	7.70	0.00	2.20	250.00
1b	10.00	10.00	0.00	2.20	125.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
1a	3.00	3.00	24.00	31.00
1b	3.00	3.00	27.00	61.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC-aBSlope	BC-aCSlope	BAIntercept (PCU/hr)	BA-aBSlope	BA-aCSlope	BA-cASlope	BA-cBSlope	CBIntercept (PCU/hr)	CB-aBSlope	CB-aCSlope
1a	643	0.09	0.23	501	0.08	0.21	0.13	0.30	719	0.26	0.26
1b	662	0.08	0.21	516	0.08	0.20	0.12	0.28	646	0.21	0.21

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Path Equalisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	213	541	169
	1-2	131	0	170	117
	1-3	528	172	0	27
	1-4	196	97	46	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	1-1		1A/1	1Ax/1	#0000FF

1	1-2	1B2/1	1Bx/1	#FF0000
	1-3	1C/1	1Cx/1	#00FF00
	1-4	1D2/1	1Dx2/1	#FFFFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path Items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-1	1-2	1A/1, 1Bx/1	Normal	213
	2		1-1	1-4	1A/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	169
	3		1-1	1-3	1A/1, 1S/1, 1Cx/1	Normal	541
	4		1-2	1-4	1B2/1, 1B/1/1, 1S/1, 1Dx1/1, 1Dx2/1	Normal	117
	5		1-2	1-3	1B2/1, 1B/1/1, 1S/1, 1Cx/1	Normal	170
	6		1-2	1-1	1B2/1, 1B/1/2, 1Ax/1	Normal	131
	7		1-3	1-4	1C/1, 1Dx1/1, 1Dx2/1	Normal	27
	8		1-3	1-1	1C/1, 1N/1, 1Ax/1	Normal	528
	9		1-3	1-2	1C/1, 1N/1, 1Bx/1	Normal	172
	10		1-4	1-1	1D2/1, 1D1/1, 1N/1, 1Ax/1	Normal	196
	11		1-4	1-2	1D2/1, 1D1/1, 1N/1, 1Bx/1	Normal	97
	12		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	46

Signal Timings

Network Default: 120s cycle time; 120 steps

No Controller Streams present.

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	FLOWS				PERFORMANCE				PER PCU			QUEUES		WEIGHTS		PENALTIES	P.I.
				Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s per cycle)	Wasted time total (s per cycle)	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Mean end of red queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (£ per hr)			
1A	1	S / L	1a	923	1800	120	120.00	51	76	6.69	1.05	0.00	0.27	100	100	0.00	0.00	3.82		
1Ax	1			855	Unrestricted	120	0.00	0	Unrestricted	5.88	0.00	0.00	0.00	100	100	0.00	0.00	0.00		
1Bx	1			482	Unrestricted	120	0.00	0	Unrestricted	4.44	0.00	0.00	0.00	100	100	0.00	0.00	0.00		
1C	1	S / L	1b	727	1800	120	120.00	40	123	7.04	0.68	0.00	0.14	100	100	0.00	0.00	1.94		
1Cx	1			757	Unrestricted	120	0.00	0	Unrestricted	7.20	0.00	0.00	0.00	100	100	0.00	0.00	0.00		
1N	1	S / R	1a	993 <	1032	120	0.00	96	-5	30.93	29.93	0.00	8.25 +	100	100	0.00	0.00	117.21		
1S	1	S / R	1b	897 <	1026	120	0.00	97	-7	35.78	34.78	0.00	8.63 +	100	100	0.00	0.00	136.78		
1B1	1	L	1a	287	362	120	120.00	79	14	19.63	17.95	0.00	1.43	100	100	0.00	0.00	20.32		
1B2	2	R	1a	131	152	120	0.00	86	5	58.66	57.10	0.00	2.08	100	100	0.00	0.00	29.50		
1D1	1	L	1b	293	484	120	120.00	61	49	6.86	5.66	0.00	0.46	100	100	0.00	0.00	6.54		
1D2	2	R	1b	46	208	120	120.00	22	308	3.52	2.44	0.00	0.03	100	100	0.00	0.00	0.44		
1Dx1	1	1e	1e	313	3600	120	0.00	9	935	2.57	0.05	0.00	0.00	100	100	0.00	0.00	0.06		
1B2	1	1c	1c	418	1800	120	0.00	23	288	2.94	0.30	0.00	0.04	100	100	0.00	0.00	0.50		
1D2	1	1d	1d	339	1800	120	0.00	19	378	5.51	0.23	0.00	0.02	100	100	0.00	0.00	0.31		
1Dx2	1			313	Unrestricted	120	0.00	0	Unrestricted	3.48	0.00	0.00	0.00	100	100	0.00	0.00	0.00		

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	250.82	30.77	8.15	0.00	22.35	317.43	0.00	0.00	317.43
Bus									
Tram									
Pedestrians									
TOTAL	250.82	30.77	8.15	0.00	22.35	317.43	0.00	0.00	317.43

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

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.3.332 [14595.13/11/2013]
© Copyright TRL Limited, 2022

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://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: R086 Junction 3 PICADY Model 20220124.arc8
 Path: J:\R_JOBS\Job-R086\B_Documents\C_Civil\A_CS Reports\Planning Application\TrafficModelling
 Report generation date: 24/01/2022 12:18:01

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	Network Residual Capacity
Standard - 2022 Baseline								
Stream B-C	0.00	0.00	0.00	900 % []	0.00	0.00	0.00	900 % []
Stream B-A	0.00	0.00	0.00		0.00	0.00	0.00	
Stream C-AB	0.00	0.00	0.00		0.00	0.00	0.00	
Stream C-A	-	-	-		-	-	-	
Stream A-B	-	-	-		-	-	-	
Stream A-C	-	-	-		-	-	-	
Standard - 2024 No Dev								
Stream B-C	0.07	8.56	0.06	85 % [Stream B-A]	0.10	7.92	0.09	97 % [Stream B-C]
Stream B-A	0.36	12.62	0.27		0.20	12.88	0.17	
Stream C-AB	0.04	5.83	0.04		0.09	6.27	0.08	
Stream C-A	-	-	-		-	-	-	
Stream A-B	-	-	-		-	-	-	
Stream A-C	-	-	-		-	-	-	
Standard - 2024 With Dev								
Stream B-C	0.42	21.23	0.30	10 % [Stream B-A]	0.41	12.82	0.29	26 % [Stream B-A]
Stream B-A	2.74	38.46	0.75		0.98	24.69	0.50	
Stream C-AB	0.12	6.44	0.11		0.29	7.86	0.23	
Stream C-A	-	-	-		-	-	-	
Stream A-B	-	-	-		-	-	-	
Stream A-C	-	-	-		-	-	-	
Standard - 2029 No Dev								
Stream B-C	0.07	8.74	0.06	77 % [Stream B-A]	0.10	8.08	0.09	87 % [Stream B-C]
Stream B-A	0.38	13.26	0.28		0.21	13.55	0.17	
Stream C-AB	0.05	5.92	0.04		0.09	6.38	0.08	
Stream C-A	-	-	-		-	-	-	
Stream A-B	-	-	-		-	-	-	
Stream A-C	-	-	-		-	-	-	
Standard - 2029 With Dev								
Stream B-C	0.49	25.03	0.34	7 % [Stream B-A]	0.44	13.65	0.31	22 % [Stream B-A]
Stream B-A	3.16	44.83	0.78		1.08	27.36	0.53	
Stream C-AB	0.12	6.55	0.11		0.30	8.04	0.23	
Stream C-A	-	-	-		-	-	-	
Stream A-B	-	-	-		-	-	-	
Stream A-C	-	-	-		-	-	-	
Standard - 2039 No Dev								
Stream B-C	0.07	8.95	0.06	70 % [Stream B-A]	0.10	8.28	0.09	78 % [Stream B-C]
Stream B-A	0.40	14.05	0.29		0.22	14.40	0.18	
Stream C-AB	0.05	6.02	0.04		0.09	6.51	0.09	
Stream C-A	-	-	-		-	-	-	
Stream A-B	-	-	-		-	-	-	
Stream A-C	-	-	-		-	-	-	
Standard - 2039 With Dev								
Stream B-C	0.63	32.45	0.40	5 % [Stream B-A]	0.47	14.85	0.33	18 % [Stream B-A]
Stream B-A	3.82	54.76	0.82		1.23	31.21	0.56	
Stream C-AB	0.12	6.67	0.11		0.31	8.25	0.24	
Stream C-A	-	-	-		-	-	-	
Stream A-B	-	-	-		-	-	-	
Stream A-C	-	-	-		-	-	-	

Stream A-B	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-

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

- *D1 - 2022 Baseline, AM* model duration: 08:15 - 09:45
- *D2 - 2022 Baseline, PM* model duration: 17:30 - 19:00
- *D3 - 2024 No Dev, AM* model duration: 08:15 - 09:45
- *D4 - 2024 No Dev, PM* model duration: 17:30 - 19:00
- *D5 - 2024 With Dev, AM* model duration: 08:15 - 09:45
- *D6 - 2024 With Dev, PM* model duration: 17:30 - 19:00
- *D7 - 2029 No Dev, AM* model duration: 08:15 - 09:45
- *D8 - 2029 No Dev, PM* model duration: 17:30 - 19:00
- *D9 - 2029 With Dev, AM* model duration: 08:15 - 09:45
- *D10 - 2029 With Dev, PM* model duration: 17:30 - 19:00
- *D11 - 2039 No Dev, AM* model duration: 08:15 - 09:45
- *D12 - 2039 No Dev, PM* model duration: 17:30 - 19:00
- *D13 - 2039 With Dev, AM* model duration: 08:15 - 09:45
- *D14 - 2039 With Dev, PM* model duration: 17:30 - 19:00

Run using Junctions 8.0.3.332 at 24/01/2022 12:17:54

File summary

File Description

Title	Ardee
Location	
Site Number	3
Date	24/01/2022
Version	
Status	Existing Bridgegate access junction
Identifier	
Client	
Jobnumber	R086
Enumerator	GF
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75		✓	RFC	0.90	36.00	20.00

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

Drogheda Rd (N2) / Bridgegate	T-Junction	Two-way	A,B,C	0.00	F
-------------------------------	------------	---------	-------	------	---

Junction Network Options

Driving Side	Lighting	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	900	

Arms

Arms

Name	Name	Description	Arm Type
Drogheda Rd (N2) North	Drogheda Rd (N2) North		Major
Bridgegate Access	Bridgegate Access		Minor
Drogheda Rd (N2) South	Drogheda Rd (N2) South		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Drogheda Rd (N2) South	10.20		0.00	✓	3.00	250.00	✓	6.00

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Bridgegate Access	One lane plus flare				8.80	6.00	4.40	4.00	3.90	✓	1.00	49	44

Pedestrian Crossings

Name	Crossing Type
Drogheda Rd (N2) North	None
Bridgegate Access	None
Drogheda Rd (N2) South	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
3	B-A	525.505	0.078	0.198	0.124	0.282
3	B-C	664.684	0.083	0.210	-	-
3	C-B	781.320	0.247	0.247	-	-

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

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

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

Traffic Flows

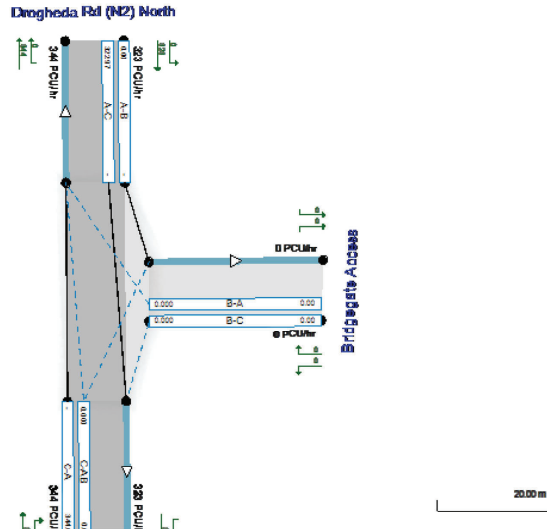
Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Drogheda Rd (N2) North	ONE HOUR	✓	429.00	100.000



Text overlays show modelled flow through the junction (entry and exit flows, PCU/hr). Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC (l).
 Drogheda Rd (N2) South
 Time Segment: (08:15-08:30)
 Showing Analysis Set "A1 - Standard"; Demand Set "D1 - 2022 Baseline, AM"

The junction diagram reflects the last run of ARCADY.

Standard - 2022 Baseline, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D1 - 2022 Baseline, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Standard	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2022 Baseline, AM	2022 Baseline	AM		ONE HOUR	08:15	09:45	90	15	✓			✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
------	---------------	----------------------	-----------	--------------------	--------------------	--------------

Bridgegate Access	ONE HOUR	✓	0.00	100.000
Drogheda Rd (N2) South	ONE HOUR	✓	457.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Name	Direct Demand Entry Flow (PCU/hr)	Direct Demand Entry Flow in PCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:30-08:45	Drogheda Rd (N2) North	385.66	385.66		
08:30-08:45	Bridgegate Access	0.00	0.00		
08:30-08:45	Drogheda Rd (N2) South	410.83	410.83		
08:45-09:00	Drogheda Rd (N2) North	472.34	472.34		
08:45-09:00	Bridgegate Access	0.00	0.00		
08:45-09:00	Drogheda Rd (N2) South	503.17	503.17		
09:00-09:15	Drogheda Rd (N2) North	472.34	472.34		
09:00-09:15	Bridgegate Access	0.00	0.00		
09:00-09:15	Drogheda Rd (N2) South	503.17	503.17		
09:15-09:30	Drogheda Rd (N2) North	385.66	385.66		
09:15-09:30	Bridgegate Access	0.00	0.00		
09:15-09:30	Drogheda Rd (N2) South	410.83	410.83		

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Drogheda Rd (N2) / Bridgegate (for whole period)

From	To		
	A	B	C
A	0.000	0.000	429.000
B	0.000	0.000	0.000
C	457.000	0.000	0.000

Turning Proportions (PCU) - Drogheda Rd (N2) / Bridgegate (for whole period)

From	To		
	A	B	C
A	0.00	0.00	1.00
B	0.33	0.33	0.33
C	1.00	0.00	0.00

Vehicle Mix

Average PCU Per Vehicle - Drogheda Rd (N2) / Bridgegate (for whole period)

From	To		
	A	B	C
A	1.000	1.000	1.000
B	1.000	1.000	1.000
C	1.000	1.000	1.000

Heavy Vehicle Percentages - Drogheda Rd (N2) / Bridgegate (for whole period)

From	To		
	A	B	C
A	0.000	0.000	0.000
B	0.000	0.000	0.000
C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queuing Delay (PCU-min)	Average Queuing Delay (s)	Rate Of Queuing Delay (PCU-min/min)	Inclusive Total Queuing Delay (PCU-min)	Inclusive Average Queuing Delay (s)
B-C	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B-A	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-AB	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-A	-	-	-	-	457.00	457.00	-	-	-	-	-
A-B	-	-	-	-	0.00	0.00	-	-	-	-	-
A-C	-	-	-	-	429.00	429.00	-	-	-	-	-

Standard - 2022 Baseline, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D2 - 2022 Baseline, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Standard	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2022 Baseline, PM	2022 Baseline	PM		ONE HOUR	17:30	19:00	90	15	✓			✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
Drogheda Rd (N2) / Bridgegate	T-Junction	Two-way	A,B,C		0.00	F

Junction Network Options

Driving Side	Lighting	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	900	

Arms

Arms

Name	Name	Description	Arm Type
Drogheda Rd (N2) North	Drogheda Rd (N2) North		Major
Bridgegate Access	Bridgegate Access		Minor
Drogheda Rd (N2) South	Drogheda Rd (N2) South		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Drogheda Rd (N2) South	10.20		0.00	✓	3.00	250.00	✓	6.00

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

Minor Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Bridgeway Access	One lane plus flare				8.80	6.00	4.40	4.00	3.90	✓	1.00	49	44

Pedestrian Crossings

Name	Crossing Type
Drogheda Rd (N2) North	None
Bridgeway Access	None
Drogheda Rd (N2) South	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
3	B-A	525.505	0.078	0.198	0.124	0.282
3	B-C	664.684	0.083	0.210	-	-
3	C-B	781.320	0.247	0.247	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments. Streams may be combined, in which case capacity will be adjusted. Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Drogheda Rd (N2) North	ONE HOUR	✓	472.00	100.000
Bridgeway Access	ONE HOUR	✓	0.00	100.000
Drogheda Rd (N2) South	ONE HOUR	✓	499.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Name	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
17:45-18:00	Drogheda Rd (N2) North	424.32	424.32		
17:45-18:00	Bridgeway Access	0.00	0.00		
17:45-18:00	Drogheda Rd (N2) South	448.59	448.59		
18:00-18:15	Drogheda Rd (N2) North	519.68	519.68		
18:00-18:15	Bridgeway Access	0.00	0.00		
18:00-18:15	Drogheda Rd (N2) South	549.41	549.41		
18:15-18:30	Drogheda Rd (N2) North	519.68	519.68		
18:15-18:30	Bridgeway Access	0.00	0.00		
18:15-18:30	Drogheda Rd (N2) South	549.41	549.41		
18:30-18:45	Drogheda Rd (N2) North	424.32	424.32		
18:30-18:45	Bridgeway Access	0.00	0.00		

18:30-18:45	Drogheda Rd (N2) South	448.59	448.59		
-------------	------------------------	--------	--------	--	--

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Drogheda Rd (N2) / Bridgeway (for whole period)

From	To		
	A	B	C
A	0.000	0.000	472.000
B	0.000	0.000	0.000
C	499.000	0.000	0.000

Turning Proportions (PCU) - Drogheda Rd (N2) / Bridgeway (for whole period)

From	To		
	A	B	C
A	0.00	0.00	1.00
B	0.33	0.33	0.33
C	1.00	0.00	0.00

Vehicle Mix

Average PCU Per Vehicle - Drogheda Rd (N2) / Bridgeway (for whole period)

From	To		
	A	B	C
A	1.000	1.000	1.000
B	1.000	1.000	1.000
C	1.000	1.000	1.000

Heavy Vehicle Percentages - Drogheda Rd (N2) / Bridgeway (for whole period)

From	To		
	A	B	C
A	0.000	0.000	0.000
B	0.000	0.000	0.000
C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B-A	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-AB	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-A	-	-	-	-	499.00	499.00	-	-	-	-	-
A-B	-	-	-	-	0.00	0.00	-	-	-	-	-
A-C	-	-	-	-	472.00	472.00	-	-	-	-	-

Standard - 2024 No Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D3 - 2024 No Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Analysis Set Details

--	--	--	--	--	--	--	--	--	--	--

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Standard	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2024 No Dev, AM	2024 No Dev	AM		ONE HOUR	08:15	09:45	90	15	✓			✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
Drogheda Rd (N2) / Bridgegate	T-Junction	Two-way	A,B,C		10.74	B

Junction Network Options

Driving Side	Lighting	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/Unknown	85	Stream B-A

Arms

Arms

Name	Name	Description	Arm Type
Drogheda Rd (N2) North	Drogheda Rd (N2) North		Major
Bridgegate Access	Bridgegate Access		Minor
Drogheda Rd (N2) South	Drogheda Rd (N2) South		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Drogheda Rd (N2) South	10.20		0.00	✓	3.00	250.00	✓	6.00

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Bridgegate Access	One lane plus flare				8.80	6.00	4.40	4.00	3.90	✓	1.00	49	44

Pedestrian Crossings

Name	Crossing Type
Drogheda Rd (N2) North	None
Bridgegate Access	None
Drogheda Rd (N2) South	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
3	B-A	587.660	0.087	0.221	0.139	0.316
3	B-C	586.067	0.073	0.186	-	-
3	C-B	781.320	0.247	0.247	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Drogheda Rd (N2) North	ONE HOUR	✓	502.00	100.000
Bridgegate Access	ONE HOUR	✓	119.00	100.000
Drogheda Rd (N2) South	ONE HOUR	✓	511.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Name	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:30-08:45	Drogheda Rd (N2) North	451.29	451.29		
08:30-08:45	Bridgegate Access	106.98	106.98		
08:30-08:45	Drogheda Rd (N2) South	459.38	459.38		
08:45-09:00	Drogheda Rd (N2) North	552.71	552.71		
08:45-09:00	Bridgegate Access	131.02	131.02		
08:45-09:00	Drogheda Rd (N2) South	562.62	562.62		
09:00-09:15	Drogheda Rd (N2) North	552.71	552.71		
09:00-09:15	Bridgegate Access	131.02	131.02		
09:00-09:15	Drogheda Rd (N2) South	562.62	562.62		
09:15-09:30	Drogheda Rd (N2) North	451.29	451.29		
09:15-09:30	Bridgegate Access	106.98	106.98		
09:15-09:30	Drogheda Rd (N2) South	459.38	459.38		

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Drogheda Rd (N2) / Bridgegate (for whole period)

		To		
		A	B	C
From	A	0.000	45.000	457.000
	B	94.000	0.000	25.000
	C	486.000	25.000	0.000

Turning Proportions (PCU) - Drogheda Rd (N2) / Bridgegate (for whole period)

		To		
		A	B	C
From	A	0.00	0.09	0.91
	B	0.79	0.00	0.21
	C	0.95	0.05	0.00

Vehicle Mix

Average PCU Per Vehicle - Drogheda Rd (N2) / Bridgegate (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Drogheda Rd (N2) / Bridgegate (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.06	8.56	0.07	A	25.00	25.00	3.41	8.18	0.04	4.58	7.99
B-A	0.27	12.62	0.36	B	94.00	94.00	17.99	11.48	0.20	23.53	10.91
C-AB	0.04	5.83	0.04	A	25.00	25.00	2.38	5.71	0.03	3.22	5.61
C-A	-	-	-	-	486.00	486.00	-	-	-	-	-
A-B	-	-	-	-	45.00	45.00	-	-	-	-	-
A-C	-	-	-	-	457.00	457.00	-	-	-	-	-

Standard - 2024 No Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D4 - 2024 No Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Standard	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2024 No Dev, PM	2024 No Dev	PM		ONE HOUR	17:30	19:00	90	15	✓			✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
Drogheda Rd (N2) / Bridgegate	T-Junction	Two-way	A,B,C		9.18	A

Junction Network Options

Driving Side	Lighting	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/Unknown	97	Stream B-C

Arms

Arms

Name	Name	Description	Arm Type
Drogheda Rd (N2) North	Drogheda Rd (N2) North		Major
Bridgegate Access	Bridgegate Access		Minor
Drogheda Rd (N2) South	Drogheda Rd (N2) South		Major

Major Arm Geometry

Name	Width of carrieway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Drogheda Rd (N2) South	10.20		0.00	✓	3.00	250.00	✓	6.00

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Bridgegate Access	One lane plus flare				8.80	6.00	4.40	4.00	3.90	✓	1.00	49	44

Pedestrian Crossings

Name	Crossing Type
Drogheda Rd (N2) North	None
Bridgegate Access	None
Drogheda Rd (N2) South	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
3	B-A	543.446	0.081	0.204	0.129	0.292
3	B-C	641.992	0.080	0.203	-	-
3	C-B	781.320	0.247	-	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Drogheda Rd (N2) North	ONE HOUR	✓	570.00	100.000
Bridgegate Access	ONE HOUR	✓	92.00	100.000
Drogheda Rd (N2) South	ONE HOUR	✓	570.00	100.000

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Bridgeway Access	One lane plus flare				8.80	6.00	4.40	4.00	3.90	✓	1.00	49	44

Pedestrian Crossings

Name	Crossing Type
Drogheda Rd (N2) North	None
Bridgeway Access	None
Drogheda Rd (N2) South	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
3	B-A	587.279	0.087	0.221	0.139	0.316
3	B-C	586.550	0.073	0.186	-	-
3	C-B	781.320	0.247	0.247	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments. Streams may be combined, in which case capacity will be adjusted. Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Drogheda Rd (N2) North	ONE HOUR	✓	569.00	100.000
Bridgeway Access	ONE HOUR	✓	311.00	100.000
Drogheda Rd (N2) South	ONE HOUR	✓	547.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Name	Direct Demand Entry Flow (PCU/hr)	Direct Demand Entry Flow in PCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:30-08:45	Drogheda Rd (N2) North	511.52	511.52		
08:30-08:45	Bridgeway Access	279.58	279.58		
08:30-08:45	Drogheda Rd (N2) South	491.74	491.74		
08:45-09:00	Drogheda Rd (N2) North	626.48	626.48		
08:45-09:00	Bridgeway Access	342.42	342.42		
08:45-09:00	Drogheda Rd (N2) South	602.26	602.26		
09:00-09:15	Drogheda Rd (N2) North	626.48	626.48		
09:00-09:15	Bridgeway Access	342.42	342.42		
09:00-09:15	Drogheda Rd (N2) South	602.26	602.26		
09:15-09:30	Drogheda Rd (N2) North	511.52	511.52		
09:15-09:30	Bridgeway Access	279.58	279.58		

09:15-09:30	Drogheda Rd (N2) South	491.74	491.74		
-------------	------------------------	--------	--------	--	--

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Drogheda Rd (N2) / Bridgeway (for whole period)

		To		
		A	B	C
From	A	0.000	112.000	457.000
	B	245.000	0.000	66.000
	C	486.000	61.000	0.000

Turning Proportions (PCU) - Drogheda Rd (N2) / Bridgeway (for whole period)

		To		
		A	B	C
From	A	0.00	0.20	0.80
	B	0.79	0.00	0.21
	C	0.89	0.11	0.00

Vehicle Mix

Average PCU Per Vehicle - Drogheda Rd (N2) / Bridgeway (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Drogheda Rd (N2) / Bridgeway (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.30	21.23	0.42	C	66.00	66.00	17.53	15.93	0.19	21.44	14.16
B-A	0.75	38.46	2.74	E	245.00	245.00	109.79	26.89	1.22	131.70	23.43
C-AB	0.11	6.44	0.12	A	61.00	61.00	6.34	6.23	0.07	8.52	6.09
C-A	-	-	-	-	486.00	486.00	-	-	-	-	-
A-B	-	-	-	-	112.00	112.00	-	-	-	-	-
A-C	-	-	-	-	457.00	457.00	-	-	-	-	-

Standard - 2024 With Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D6 - 2024 With Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Analysis Set Details

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Standard	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2024 With Dev, PM	2024 With Dev	PM		ONE HOUR	17:30	19:00	90	15	✓			✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
Drogheda Rd (N2) / Bridgegate	T-Junction	Two-way	A,B,C		15.50	C

Junction Network Options

Driving Side	Lighting	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/Unknown	26	Stream B-A

Arms

Arms

Name	Name	Description	Arm Type
Drogheda Rd (N2) North	Drogheda Rd (N2) North		Major
Bridgegate Access	Bridgegate Access		Minor
Drogheda Rd (N2) South	Drogheda Rd (N2) South		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Drogheda Rd (N2) South	10.20		0.00	✓	3.00	250.00	✓	6.00

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Bridgegate Access	One lane plus flare				8.80	6.00	4.40	4.00	3.90	✓	1.00	49	44

Pedestrian Crossings

Name	Crossing Type
Drogheda Rd (N2) North	None
Bridgegate Access	None
Drogheda Rd (N2) South	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
3	B-A	544.151	0.081	0.205	0.129	0.292
3	B-C	641.099	0.080	0.203	-	-
3	C-B	781.320	0.247	0.247	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Drogheda Rd (N2) North	ONE HOUR	✓	690.00	100.000
Bridgegate Access	ONE HOUR	✓	239.00	100.000
Drogheda Rd (N2) South	ONE HOUR	✓	646.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Name	Direct Demand Entry Flow (PCU/hr)	Direct Demand Entry Flow in PCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
17:45-18:00	Drogheda Rd (N2) North	620.30	620.30		
17:45-18:00	Bridgegate Access	214.86	214.86		
17:45-18:00	Drogheda Rd (N2) South	580.74	580.74		
18:00-18:15	Drogheda Rd (N2) North	759.70	759.70		
18:00-18:15	Bridgegate Access	263.14	263.14		
18:00-18:15	Drogheda Rd (N2) South	711.26	711.26		
18:15-18:30	Drogheda Rd (N2) North	759.70	759.70		
18:15-18:30	Bridgegate Access	263.14	263.14		
18:15-18:30	Drogheda Rd (N2) South	711.26	711.26		
18:30-18:45	Drogheda Rd (N2) North	620.30	620.30		
18:30-18:45	Bridgegate Access	214.86	214.86		
18:30-18:45	Drogheda Rd (N2) South	580.74	580.74		

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Drogheda Rd (N2) / Bridgegate (for whole period)

		To		
		A	B	C
From	A	0.000	194.000	496.000
	B	133.000	0.000	106.000
	C	523.000	123.000	0.000

Turning Proportions (PCU) - Drogheda Rd (N2) / Bridgegate (for whole period)

		To		
		A	B	C
From	A	0.00	0.28	0.72
	B	0.56	0.00	0.44
	C	0.81	0.19	0.00

Vehicle Mix

Average PCU Per Vehicle - Drogheda Rd (N2) / Bridgegate (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Drogheda Rd (N2) / Bridgegate (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.29	12.82	0.41	B	106.00	106.00	19.63	11.11	0.22	25.21	10.37
B-A	0.50	24.69	0.98	C	133.00	133.00	44.13	19.91	0.49	54.98	18.02
C-AB	0.23	7.86	0.29	A	123.01	123.01	15.25	7.44	0.17	20.19	7.15
C-A	-	-	-	-	522.99	522.99	-	-	-	-	-
A-B	-	-	-	-	194.00	194.00	-	-	-	-	-
A-C	-	-	-	-	496.00	496.00	-	-	-	-	-

Standard - 2029 No Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D7 - 2029 No Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Standard	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2029 No Dev, AM	2029 No Dev	AM		ONE HOUR	08:15	09:45	90	15	✓			✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
Drogheda Rd (N2) / Bridgegate	T-Junction	Two-way	A,B,C		11.20	B

Junction Network Options

Driving Side	Lighting	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/Unknown	77	Stream B-A

Arms

Arms

Name	Name	Description	Arm Type
Drogheda Rd (N2) North	Drogheda Rd (N2) North		Major
Bridgegate Access	Bridgegate Access		Minor
Drogheda Rd (N2) South	Drogheda Rd (N2) South		Major

Major Arm Geometry

Name	Width of carrieway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Drogheda Rd (N2) South	10.20		0.00	✓	3.00	250.00	✓	6.00

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Bridgegate Access	One lane plus flare				8.80	6.00	4.40	4.00	3.90	✓	1.00	49	44

Pedestrian Crossings

Name	Crossing Type
Drogheda Rd (N2) North	None
Bridgegate Access	None
Drogheda Rd (N2) South	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
3	B-A	587.660	0.087	0.221	0.139	0.316
3	B-C	586.067	0.073	0.186	-	-
3	C-B	781.320	0.247	-	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Drogheda Rd (N2) North	ONE HOUR	✓	536.00	100.000
Bridgegate Access	ONE HOUR	✓	119.00	100.000
Drogheda Rd (N2) South	ONE HOUR	✓	546.00	100.000

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Bridgeway Access	One lane plus flare				8.80	6.00	4.40	4.00	3.90	✓	1.00	49	44

Pedestrian Crossings

Name	Crossing Type
Drogheda Rd (N2) North	None
Bridgeway Access	None
Drogheda Rd (N2) South	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
3	B-A	543.446	0.081	0.204	0.129	0.292
3	B-C	641.992	0.080	0.203	-	-
3	C-B	781.320	0.247	0.247	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments. Streams may be combined, in which case capacity will be adjusted. Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Drogheda Rd (N2) North	ONE HOUR	✓	607.00	100.000
Bridgeway Access	ONE HOUR	✓	92.00	100.000
Drogheda Rd (N2) South	ONE HOUR	✓	609.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Name	Direct Demand Entry Flow (PCU/hr)	Direct Demand Entry Flow in PCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
17:45-18:00	Drogheda Rd (N2) North	545.68	545.68		
17:45-18:00	Bridgeway Access	82.71	82.71		
17:45-18:00	Drogheda Rd (N2) South	547.48	547.48		
18:00-18:15	Drogheda Rd (N2) North	668.32	668.32		
18:00-18:15	Bridgeway Access	101.29	101.29		
18:00-18:15	Drogheda Rd (N2) South	670.52	670.52		
18:15-18:30	Drogheda Rd (N2) North	668.32	668.32		
18:15-18:30	Bridgeway Access	101.29	101.29		
18:15-18:30	Drogheda Rd (N2) South	670.52	670.52		
18:30-18:45	Drogheda Rd (N2) North	545.68	545.68		
18:30-18:45	Bridgeway Access	82.71	82.71		

18:30-18:45	Drogheda Rd (N2) South	547.48	547.48		
-------------	------------------------	--------	--------	--	--

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Drogheda Rd (N2) / Bridgeway (for whole period)

		To		
		A	B	C
From	A	0.000	74.000	533.000
	B	51.000	0.000	41.000
	C	562.000	47.000	0.000

Turning Proportions (PCU) - Drogheda Rd (N2) / Bridgeway (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.55	0.00	0.45
	C	0.92	0.08	0.00

Vehicle Mix

Average PCU Per Vehicle - Drogheda Rd (N2) / Bridgeway (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Drogheda Rd (N2) / Bridgeway (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.09	8.08	0.10	A	41.00	41.00	5.27	7.71	0.06	7.08	7.52
B-A	0.17	13.55	0.21	B	51.00	51.00	10.49	12.34	0.12	13.73	11.73
C-AB	0.08	6.38	0.09	A	47.00	47.00	4.84	6.18	0.05	6.51	6.04
C-A	-	-	-	-	562.00	562.00	-	-	-	-	-
A-B	-	-	-	-	74.00	74.00	-	-	-	-	-
A-C	-	-	-	-	533.00	533.00	-	-	-	-	-

Standard - 2029 With Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D9 - 2029 With Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Analysis Set Details

--	--	--	--	--	--	--	--	--	--	--

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Standard	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2029 With Dev, AM	2029 With Dev, AM	AM		ONE HOUR	08:15	09:45	90	15	✓			✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
Drogheda Rd (N2) / Bridgegate	T-Junction	Two-way	A,B,C		35.04	E

Junction Network Options

Driving Side	Lighting	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/Unknown	7	Stream B-A

Arms

Arms

Name	Name	Description	Arm Type
Drogheda Rd (N2) North	Drogheda Rd (N2) North		Major
Bridgegate Access	Bridgegate Access		Minor
Drogheda Rd (N2) South	Drogheda Rd (N2) South		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Drogheda Rd (N2) South	10.20		0.00	✓	3.00	250.00	✓	6.00

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Bridgegate Access	One lane plus flare				8.80	6.00	4.40	4.00	3.90	✓	1.00	49	44

Pedestrian Crossings

Name	Crossing Type
Drogheda Rd (N2) North	None
Bridgegate Access	None
Drogheda Rd (N2) South	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
3	B-A	587.279	0.087	0.221	0.139	0.316
3	B-C	586.550	0.073	0.186	-	-
3	C-B	781.320	0.247	0.247	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Drogheda Rd (N2) North	ONE HOUR	✓	603.00	100.000
Bridgegate Access	ONE HOUR	✓	311.00	100.000
Drogheda Rd (N2) South	ONE HOUR	✓	582.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Name	Direct Demand Entry Flow (PCU/hr)	Direct Demand Entry Flow in PCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:30-08:45	Drogheda Rd (N2) North	542.08		542.08	
08:30-08:45	Bridgegate Access	279.58		279.58	
08:30-08:45	Drogheda Rd (N2) South	523.21		523.21	
08:45-09:00	Drogheda Rd (N2) North	663.92		663.92	
08:45-09:00	Bridgegate Access	342.42		342.42	
08:45-09:00	Drogheda Rd (N2) South	640.79		640.79	
09:00-09:15	Drogheda Rd (N2) North	663.92		663.92	
09:00-09:15	Bridgegate Access	342.42		342.42	
09:00-09:15	Drogheda Rd (N2) South	640.79		640.79	
09:15-09:30	Drogheda Rd (N2) North	542.08		542.08	
09:15-09:30	Bridgegate Access	279.58		279.58	
09:15-09:30	Drogheda Rd (N2) South	523.21		523.21	

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Drogheda Rd (N2) / Bridgegate (for whole period)

		To		
		A	B	C
From	A	0.000	112.000	491.000
	B	245.000	0.000	66.000
	C	521.000	61.000	0.000

Turning Proportions (PCU) - Drogheda Rd (N2) / Bridgegate (for whole period)

		To		
		A	B	C
From	A	0.00	0.19	0.81
	B	0.79	0.00	0.21
	C	0.90	0.10	0.00

Vehicle Mix

Average PCU Per Vehicle - Drogheda Rd (N2) / Bridgegate (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Drogheda Rd (N2) / Bridgegate (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.34	25.03	0.49	D	66.00	66.00	19.52	17.74	0.22	23.51	15.52
B-A	0.78	44.83	3.16	E	245.00	245.00	122.27	29.94	1.36	145.04	25.81
C-AB	0.11	6.55	0.12	A	61.00	61.00	6.43	6.33	0.07	8.63	6.17
C-A	-	-	-	-	521.00	521.00	-	-	-	-	-
A-B	-	-	-	-	112.00	112.00	-	-	-	-	-
A-C	-	-	-	-	491.00	491.00	-	-	-	-	-

Standard - 2029 With Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D10 - 2029 With Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Standard	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2029 With Dev, PM	2029 With Dev	PM		ONE HOUR	17:30	19:00	90	15	✓			✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
Drogheda Rd (N2) / Bridgegate	T-Junction	Two-way	A,B,C		16.78	C

Junction Network Options

Driving Side	Lighting	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/Unknown	22	Stream B-A

Arms

Arms

Name	Name	Description	Arm Type
Drogheda Rd (N2) North	Drogheda Rd (N2) North		Major
Bridgegate Access	Bridgegate Access		Minor
Drogheda Rd (N2) South	Drogheda Rd (N2) South		Major

Major Arm Geometry

Name	Width of carrieway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Drogheda Rd (N2) South	10.20		0.00	✓	3.00	250.00	✓	6.00

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Bridgegate Access	One lane plus flare				8.80	6.00	4.40	4.00	3.90	✓	1.00	49	44

Pedestrian Crossings

Name	Crossing Type
Drogheda Rd (N2) North	None
Bridgegate Access	None
Drogheda Rd (N2) South	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
3	B-A	544.151	0.081	0.205	0.129	0.292
3	B-C	641.099	0.080	0.203	-	-
3	C-B	781.320	0.247	-	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Drogheda Rd (N2) North	ONE HOUR	✓	727.00	100.000
Bridgegate Access	ONE HOUR	✓	239.00	100.000
Drogheda Rd (N2) South	ONE HOUR	✓	685.00	100.000

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Bridgeway Access	One lane plus flare				8.80	6.00	4.40	4.00	3.90	✓	1.00	49	44

Pedestrian Crossings

Name	Crossing Type
Drogheda Rd (N2) North	None
Bridgeway Access	None
Drogheda Rd (N2) South	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
3	B-A	587.660	0.087	0.221	0.139	0.316
3	B-C	586.067	0.073	0.186	-	-
3	C-B	781.320	0.247	0.247	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments. Streams may be combined, in which case capacity will be adjusted. Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Drogheda Rd (N2) North	ONE HOUR	✓	574.00	100.000
Bridgeway Access	ONE HOUR	✓	119.00	100.000
Drogheda Rd (N2) South	ONE HOUR	✓	586.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Name	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:30-08:45	Drogheda Rd (N2) North	516.01	516.01		
08:30-08:45	Bridgeway Access	106.98	106.98		
08:30-08:45	Drogheda Rd (N2) South	526.80	526.80		
08:45-09:00	Drogheda Rd (N2) North	631.99	631.99		
08:45-09:00	Bridgeway Access	131.02	131.02		
08:45-09:00	Drogheda Rd (N2) South	645.20	645.20		
09:00-09:15	Drogheda Rd (N2) North	631.99	631.99		
09:00-09:15	Bridgeway Access	131.02	131.02		
09:00-09:15	Drogheda Rd (N2) South	645.20	645.20		
09:15-09:30	Drogheda Rd (N2) North	516.01	516.01		
09:15-09:30	Bridgeway Access	106.98	106.98		

09:15-09:30	Drogheda Rd (N2) South	526.80	526.80		
-------------	------------------------	--------	--------	--	--

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Drogheda Rd (N2) / Bridgeway (for whole period)

		To		
		A	B	C
From	A	0.000	45.000	529.000
	B	94.000	0.000	25.000
	C	561.000	25.000	0.000

Turning Proportions (PCU) - Drogheda Rd (N2) / Bridgeway (for whole period)

		To		
		A	B	C
From	A	0.00	0.08	0.92
	B	0.79	0.00	0.21
	C	0.96	0.04	0.00

Vehicle Mix

Average PCU Per Vehicle - Drogheda Rd (N2) / Bridgeway (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Drogheda Rd (N2) / Bridgeway (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.06	8.95	0.07	A	25.00	25.00	3.54	8.49	0.04	4.74	8.26
B-A	0.29	14.05	0.40	B	94.00	94.00	19.69	12.57	0.22	25.54	11.84
C-AB	0.04	6.02	0.05	A	25.00	25.00	2.45	5.87	0.03	3.31	5.76
C-A	-	-	-	-	561.00	561.00	-	-	-	-	-
A-B	-	-	-	-	45.00	45.00	-	-	-	-	-
A-C	-	-	-	-	529.00	529.00	-	-	-	-	-

Standard - 2039 No Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D12 - 2039 No Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Analysis Set Details

--	--	--	--	--	--	--	--	--	--	--

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Standard	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2039 No Dev, PM	2039 No Dev	PM		ONE HOUR	17:30	19:00	90	15	✓			✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
Drogheda Rd (N2) / Bridgegate	T-Junction	Two-way	A,B,C		9.93	A

Junction Network Options

Driving Side	Lighting	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/Unknown	78	Stream B-C

Arms

Arms

Name	Name	Description	Arm Type
Drogheda Rd (N2) North	Drogheda Rd (N2) North		Major
Bridgegate Access	Bridgegate Access		Minor
Drogheda Rd (N2) South	Drogheda Rd (N2) South		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Drogheda Rd (N2) South	10.20		0.00	✓	3.00	250.00	✓	6.00

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Bridgegate Access	One lane plus flare				8.80	6.00	4.40	4.00	3.90	✓	1.00	49	44

Pedestrian Crossings

Name	Crossing Type
Drogheda Rd (N2) North	None
Bridgegate Access	None
Drogheda Rd (N2) South	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
3	B-A	543.446	0.081	0.204	0.129	0.292
3	B-C	641.992	0.080	0.203	-	-
3	C-B	781.320	0.247	0.247	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Drogheda Rd (N2) North	ONE HOUR	✓	649.00	100.000
Bridgegate Access	ONE HOUR	✓	92.00	100.000
Drogheda Rd (N2) South	ONE HOUR	✓	654.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Name	Direct Demand Entry Flow (PCU/hr)	Direct Demand Entry Flow in PCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
17:45-18:00	Drogheda Rd (N2) North	583.44	583.44		
17:45-18:00	Bridgegate Access	82.71	82.71		
17:45-18:00	Drogheda Rd (N2) South	587.93	587.93		
18:00-18:15	Drogheda Rd (N2) North	714.56	714.56		
18:00-18:15	Bridgegate Access	101.29	101.29		
18:00-18:15	Drogheda Rd (N2) South	720.07	720.07		
18:15-18:30	Drogheda Rd (N2) North	714.56	714.56		
18:15-18:30	Bridgegate Access	101.29	101.29		
18:15-18:30	Drogheda Rd (N2) South	720.07	720.07		
18:30-18:45	Drogheda Rd (N2) North	583.44	583.44		
18:30-18:45	Bridgegate Access	82.71	82.71		
18:30-18:45	Drogheda Rd (N2) South	587.93	587.93		

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Drogheda Rd (N2) / Bridgegate (for whole period)

		To		
		A	B	C
From	A	0.000	74.000	575.000
	B	51.000	0.000	41.000
	C	607.000	47.000	0.000

Turning Proportions (PCU) - Drogheda Rd (N2) / Bridgegate (for whole period)

		To		
		A	B	C
From	A	0.00	0.11	0.89
	B	0.55	0.00	0.45
	C	0.93	0.07	0.00

Vehicle Mix

Average PCU Per Vehicle - Drogheda Rd (N2) / Bridgegate (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Drogheda Rd (N2) / Bridgegate (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.09	8.28	0.10	A	41.00	41.00	5.38	7.87	0.06	7.21	7.66
B-A	0.18	14.40	0.22	B	51.00	51.00	11.05	13.00	0.12	14.39	12.30
C-AB	0.09	6.51	0.09	A	47.00	47.00	4.93	6.30	0.05	6.62	6.14
C-A	-	-	-	-	607.00	607.00	-	-	-	-	-
A-B	-	-	-	-	74.00	74.00	-	-	-	-	-
A-C	-	-	-	-	575.00	575.00	-	-	-	-	-

Standard - 2039 With Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D13 - 2039 With Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Standard	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2039 With Dev, AM	2039 With Dev	AM		ONE HOUR	08:15	09:45	90	15	✓			✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
Drogheda Rd (N2) / Bridgegate	T-Junction	Two-way	A,B,C		42.92	E

Junction Network Options

Driving Side	Lighting	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/Unknown	5	Stream B-A

Arms

Arms

Name	Name	Description	Arm Type
Drogheda Rd (N2) North	Drogheda Rd (N2) North		Major
Bridgegate Access	Bridgegate Access		Minor
Drogheda Rd (N2) South	Drogheda Rd (N2) South		Major

Major Arm Geometry

Name	Width of carrieway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Drogheda Rd (N2) South	10.20		0.00	✓	3.00	250.00	✓	6.00

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Bridgegate Access	One lane plus flare				8.80	6.00	4.40	4.00	3.90	✓	1.00	49	44

Pedestrian Crossings

Name	Crossing Type
Drogheda Rd (N2) North	None
Bridgegate Access	None
Drogheda Rd (N2) South	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
3	B-A	587.279	0.087	0.221	0.139	0.316
3	B-C	586.550	0.073	0.186	-	-
3	C-B	781.320	0.247	-	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Drogheda Rd (N2) North	ONE HOUR	✓	641.00	100.000
Bridgegate Access	ONE HOUR	✓	311.00	100.000
Drogheda Rd (N2) South	ONE HOUR	✓	622.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Name	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:30-08:45	Drogheda Rd (N2) North	576.25	576.25		
08:30-08:45	Bridgewater Access	279.58	279.58		
08:30-08:45	Drogheda Rd (N2) South	559.17	559.17		
08:45-09:00	Drogheda Rd (N2) North	705.75	705.75		
08:45-09:00	Bridgewater Access	342.42	342.42		
08:45-09:00	Drogheda Rd (N2) South	684.83	684.83		
09:00-09:15	Drogheda Rd (N2) North	705.75	705.75		
09:00-09:15	Bridgewater Access	342.42	342.42		
09:00-09:15	Drogheda Rd (N2) South	684.83	684.83		
09:15-09:30	Drogheda Rd (N2) North	576.25	576.25		
09:15-09:30	Bridgewater Access	279.58	279.58		
09:15-09:30	Drogheda Rd (N2) South	559.17	559.17		

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Drogheda Rd (N2) / Bridgewater (for whole period)

		To		
		A	B	C
From	A	0.000	112.000	529.000
	B	245.000	0.000	66.000
	C	561.000	61.000	0.000

Turning Proportions (PCU) - Drogheda Rd (N2) / Bridgewater (for whole period)

		To		
		A	B	C
From	A	0.00	0.17	0.83
	B	0.79	0.00	0.21
	C	0.90	0.10	0.00

Vehicle Mix

Average PCU Per Vehicle - Drogheda Rd (N2) / Bridgewater (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Drogheda Rd (N2) / Bridgewater (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queuing Delay (PCU-min)	Average Queuing Delay (s)	Rate Of Queuing Delay (PCU-min/min)	Inclusive Total Queuing Delay (PCU-min)	Inclusive Average Queuing Delay (s)
B-C	0.40	32.45	0.63	D	66.00	66.00	22.97	20.89	0.26	27.06	17.87
B-A	0.82	54.76	3.82	F	245.00	245.00	140.47	34.40	1.56	164.30	29.23
C-AB	0.11	6.67	0.12	A	61.00	61.00	6.54	6.43	0.07	8.77	6.27
C-A	-	-	-	-	561.00	561.00	-	-	-	-	-
A-B	-	-	-	-	112.00	112.00	-	-	-	-	-
A-C	-	-	-	-	529.00	529.00	-	-	-	-	-

Standard - 2039 With Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D14 - 2039 With Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Standard	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2039 With Dev, PM	2039 With Dev	PM		ONE HOUR	17:30	19:00	90	15	✓			✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
Drogheda Rd (N2) / Bridgewater	T-Junction	Two-way	A,B,C		18.62	C

Junction Network Options

Driving Side	Lighting	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	18	Stream B-A

Arms

Arms

Name	Name	Description	Arm Type
Drogheda Rd (N2) North	Drogheda Rd (N2) North		Major
Bridgewater Access	Bridgewater Access		Minor
Drogheda Rd (N2) South	Drogheda Rd (N2) South		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Drogheda Rd (N2) South	10.20		0.00	✓	3.00	250.00	✓	6.00

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

Minor Arm Geometry

--	--	--	--	--	--	--	--	--

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Bridgeway Access	One lane plus flare				8.80	6.00	4.40	4.00	3.90	✓	1.00	49	44

Pedestrian Crossings

Name	Crossing Type
Drogheda Rd (N2) North	None
Bridgeway Access	None
Drogheda Rd (N2) South	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
3	B-A	544.151	0.081	0.205	0.129	0.292
3	B-C	641.099	0.080	0.203	-	-
3	C-B	781.320	0.247	0.247	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments. Streams may be combined, in which case capacity will be adjusted. Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Drogheda Rd (N2) North	ONE HOUR	✓	769.00	100.000
Bridgeway Access	ONE HOUR	✓	239.00	100.000
Drogheda Rd (N2) South	ONE HOUR	✓	730.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Name	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
17:45-18:00	Drogheda Rd (N2) North	691.32	691.32		
17:45-18:00	Bridgeway Access	214.86	214.86		
17:45-18:00	Drogheda Rd (N2) South	656.26	656.26		
18:00-18:15	Drogheda Rd (N2) North	846.68	846.68		
18:00-18:15	Bridgeway Access	263.14	263.14		
18:00-18:15	Drogheda Rd (N2) South	803.74	803.74		
18:15-18:30	Drogheda Rd (N2) North	846.68	846.68		
18:15-18:30	Bridgeway Access	263.14	263.14		
18:15-18:30	Drogheda Rd (N2) South	803.74	803.74		
18:30-18:45	Drogheda Rd (N2) North	691.32	691.32		
18:30-18:45	Bridgeway Access	214.86	214.86		

18:30-18:45	Drogheda Rd (N2) South	656.26	656.26		
-------------	------------------------	--------	--------	--	--

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Drogheda Rd (N2) / Bridgeway (for whole period)

From	To		
	A	B	C
A	0.000	194.000	575.000
B	133.000	0.000	106.000
C	607.000	123.000	0.000

Turning Proportions (PCU) - Drogheda Rd (N2) / Bridgeway (for whole period)

From	To		
	A	B	C
A	0.00	0.25	0.75
B	0.56	0.00	0.44
C	0.83	0.17	0.00

Vehicle Mix

Average PCU Per Vehicle - Drogheda Rd (N2) / Bridgeway (for whole period)

From	To		
	A	B	C
A	1.000	1.000	1.000
B	1.000	1.000	1.000
C	1.000	1.000	1.000

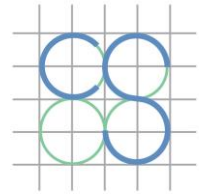
Heavy Vehicle Percentages - Drogheda Rd (N2) / Bridgeway (for whole period)

From	To		
	A	B	C
A	0.000	0.000	0.000
B	0.000	0.000	0.000
C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.33	14.85	0.47	B	106.00	106.00	21.83	12.36	0.24	27.61	11.36
B-A	0.56	31.21	1.23	D	133.00	133.00	52.70	23.77	0.59	64.42	21.11
C-AB	0.24	8.25	0.31	A	123.02	123.02	15.91	7.76	0.18	20.98	7.43
C-A	-	-	-	-	606.98	606.98	-	-	-	-	-
A-B	-	-	-	-	194.00	194.00	-	-	-	-	-
A-C	-	-	-	-	575.00	575.00	-	-	-	-	-



CS CONSULTING
GROUP

Appendix E

Correspondence with TII

Gordon Finn

From: Gordon Finn
Sent: Tuesday 25 May 2021 10:23
To: Landuse Planning
Cc: Owen Sullivan; Niall Barrett
Subject: RE: R086 Ardee SHD - access via N2

Dear Ms Dineen,

The planning application for a proposed 278-unit Strategic Housing Development at Bridgegate, Ardee, Co. Louth, has not been lodged for planning yet.

We have only by way of consultation with the Local Authority been advised to contact you before we lodge the planning application.

We understand full planning application details (including web portal address which includes application form and entire schedule of drawings/reports for the proposed SHD) will be issued to TII as part of the statutory consultation process following lodgement. However, we have been asked by Louth County Council to speak to you before we lodge the application.

Can we consult with you before we submit our application on the above mentioned scheme?

Kind Regards,

Gordon Finn

From: Landuse Planning <LandUsePlanning@tii.ie>
Sent: Tuesday 18 May 2021 08:41
To: Gordon Finn <gordon.finn@csconsulting.ie>
Cc: Owen Sullivan <owen.sullivan@csconsulting.ie>; Niall Barrett <niall.barrett@csconsulting.ie>
Subject: RE: R086 Ardee SHD - access via N2

Dear Mr. Finn,

TII is a statutory consultee and as such must be consulted as per prescribed process with respect to SHD applications.

Please be advised that the details you have furnished TII with are insufficient and do not meet prescribed requirements.

It is not clear if you have, at this juncture, lodged the SHD application.

Please furnish TII with the prescribed details, full planning application details including web portal address which includes application form and entire schedule of drawings/reports for the proposed SHD along with a cover letter requiring TII's observation as part of the statutory consultation process.

Kind regards,

Aisling Dineen.
Land Use Planner, TII.

From: Gordon Finn <gordon.finn@csconsulting.ie>
Sent: Monday 17 May 2021 11:00
To: Landuse Planning <LandUsePlanning@tii.ie>
Cc: Owen Sullivan <owen.sullivan@csconsulting.ie>; Niall Barrett <niall.barrett@csconsulting.ie>
Subject: R086 Ardee SHD - access via N2

CAUTION: This email originated from outside of TII. Do not click links or open attachments unless you recognise the sender and are sure that the content is safe.

Dear Sir/Madam,

We are civil engineering consultants for a proposed 278-unit Strategic Housing Development at Bridgegate, Ardee, Co. Louth, for which an application is shortly to be submitted to An Bord Pleanála. The subject development is to be accessed via the adjacent Bridgegate development (planning ref. 10/174), currently under construction, and its recently completed priority junction on the N2 Drogheda Road on the southern side of Ardee. A location map is attached for reference.

Our assessments indicate that the subject development shall result in a moderate impact on the operation of the existing Bridgegate access junction on the N2, and that this junction shall continue to operate within effective capacity past the year 2039.

In the course of the SHD application process, Louth County Council has requested that we consult TII in relation to the subject development's proposed vehicular access arrangements. While such consultation would in our experience typically be initiated via the Local Authority, Louth Co. Co. has advised us that this is not possible in this instance.

I am at your disposal to answer any queries you may have regarding these development proposals, and would welcome any comment that TII wishes to make in respect of these. Should TII have no particular observation to make on the subject development, a brief response to this effect would be most appreciated.

Sincerely,

Gordon Finn Roads & Traffic Engineer

BA, BAI (Hons), MAI (St), MIEI

T 01-5480863 M +353 87 7383175

E gordon.finn@csconsulting.ie W www.csconsulting.ie



CS CONSULTING GROUP
CIVIL & STRUCTURAL ENGINEERS
DUBLIN - LONDON - LIMERICK

[VIEW OUR PROJECTS](#)

[CURRENT VACANCIES](#)

DUBLIN

Cronin & Sutton Consulting
19-22 Dame Street
Dublin 2
D02 E267, Ireland
T: + 353 1 5480863
E: info@csconsulting.ie

LONDON

CS Consulting Engineers
Centralpoint
45 Beech Street, London
EC2Y 8AD, UK
T: +44 (0) 207 070 3660
E: info@csconsultinguk.com

LIMERICK

Cronin Sutton Cotter
45 O'Connell Street
Limerick
V94 XE19, Ireland
T: +353 61 594988
E: info@csconsulting.ie

It may suit our Team to send emails at various times of day but we do not expect a response or action outside of normal working hours.

PRIVATE, CONFIDENTIAL AND PRIVILEGED COMMUNICATION: This e-mail and any files transmitted with it are confidential and/or privileged. They are intended solely for the use of the intended recipient. The content of this e-mail and any files transmitted with it may have been changed or altered without the consent of the author. If you are not the intended recipient please note that any review, dissemination, disclosure, alteration, printing, copying or transmission of this e-mail and/ or any file transmitted with it is prohibited and may be unlawful. If you have received this e-mail and any file transmitted with it in error, please notify us at info@csconsulting.ie or +353 1 5480863. Please review our latest data protection policy [HERE](#).

Cyber Crime Alert: Please do not reply to emails sent to or received from this office detailing bank account or other payment details without direct verbal confirmation from ourselves. We accept no responsibility for funds being sent to the wrong account, should you make a payment in reliance on such an email.

TII processes personal data provided to it in accordance with its Data Protection Notice available at <http://www.tii.ie/about/> Próiseálann

Próiseálann BIÉ sonraí pearsanta a sholáthraítear dó i gcomhréir lena Fhógra ar Chosaint Sonraí atá ar fáil ag <http://www.tii.ie/about/>

TII E-mail system: This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to whom they are addressed. If you have received this email in error then please notify postmaster@tii.ie and delete the original including attachments.

Córas r-phoist BIE: Tá an ríomhphost seo agus aon chomhaid a tharchuirtear leis faoi rún agus beartaithe lena n-úsáid ag an duine aonair nó ag an eintiteas a bhfuil siad dírithe chuige/chuici amháin. Más rud é go bhfuair tú an ríomhphost seo trí bhotún, cuir sin in iúil do postmaster@tii.ie, le do thoil, agus scrios an ríomhphost bunaidh agus aon cheangaltáin.

