P2288

ADDENDUM ENVIRONMENTAL IMPACT ASSESSMENT REPORT
VOLUME 3: APPENDICES

CHAPTER 12 ADDENDUM APPENDICES

RIVERINE COMMUNITY PARK

LIFFORD-STRABANE

APRIL 2022

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Appendix 12-1

Traffic Statement

HoyDorman

McAdam Design

Riverine Community Park

Traffic Statement

January 2022

Rev 1

HoyDorman

Document Information and History

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Client:	McAdam Design
Hoy Dorman Job Number:	201002
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1 EIAr Addendum

Below is a summary of the amendments to this Traffic Statement as a result of the An Bord Pleanála Further Information request and the relocation of the Car Park in the Strabane site, following unsuccessful Land Owner Negotiations.

Changes to EIAr due to the Relocation of the Car Park in Strabane Site

Proposed Development Summary (Strabane Proposals) - Relocation of the Car Park – Car Parking Numbers

The Strabane carpark location was relocated to the existing halting site, resulting in a minimal alteration to parking numbers (an additional 4 car spaces and 1 less bus space) in response to the following environmental constraints:

- Avoiding an area of Japanese Knotweed (to the south-eastern end of the halting site)
- Maintaining the original footprint of the halting site hardstanding area to maintain habitats.

As such, the proposed asphalt surfaced car park will now include 125 car park spaces and 11 disabled bays as well as the provision for two loading / bus bays.

The Flow Diagrams have been amended to reflect the changes above which amount to no material change to the original Traffic Statement assessment or mitigation measures.

The proposed change in parking numbers is considered nominal and to have no material difference to the traffic modelling outputs. As such, the traffic model was not re-simulated and therefore, within the report, the Traffic Generation and the Flow Diagrams may have negligible differences to the Modelling outputs.

Relocation of the Car Park – Emergency / Maintenance Access

The relocation of the Car Park in Strabane Site resulted in the removal of the emergency and maintenance access/exit from/to Park Road (as this access relied on private land acquisition which was subject to unsuccessful land owner negotiations). Emergency and maintenance access/exit will now be facilitated by the primary entrance and exit to the park, at an existing spur to the A5 Barnhill Roundabout.

Changes to EIAr due to ABP FI Request / Further Consideration of Construction Traffic

The indicative high level construction phase programme, developed in response to the Board's Further Information request, provides further clarity in the peak periods of construction traffic in relation to the indictive programme and duration of HGV movements in particular. Each of the other areas referred to within the Further Information request have been considered and addressed in under section heading, "Additional Temporary Construction Traffic".

The following appendix have been added to inform the ABP FI request.

- Appendix F - Indicative High Level Construction Phase Programme
- Appendix G - Cut Fill – Indicative Volumes / Areas

The construction of the proposed scheme has been highlighted within the original TS in terms of HGVs, LGVs, fuel deliveries, cranes, and oversized loads etc, a maximum of 30 HGV (one way) movements

in relation to crane ballast in preparation for the lift has been identified as the focused period of HGV traffic over a short period of time. Please refer to the indictive construction phase programme contained in Appendix F.

Predicted Daily Vehicle Trips

The predicted daily trips have been identified in section heading, '*Additional Temporary Construction Traffic'* which represents the most onerous predicted traffic generation movements during the construction phase. The indicative construction phase programme contained in Appendix F is helpful in considering the time periods of most likely HGV movements over likely 2month periods, October to December for mobilisation and July to September for bridge construction. The volume of fill to be imported during the above periods will amount to less than the predicted 30HGV (one way) movements assessed in the original TS. However, as the contractor will be required to submit a final Construction Environment Management Plan (CEMP) post award of contract the temporary traffic volumes can be raised within that document's construction programme.

Cut Fill Balance

It is expected the cut / fill balance will require the import of approximately 15,000 m^3 - 25,000m^3 of material. However, this is over the construction period of the scheme and can be programmed to ensure no concentrated HGV movements. That said, even with concentrated HGV movement this will amount to less than the original anticipated 30HGV (one way) vehicles considered in the original TS.

Appendix G contains a cut fill analysis of the proposed scheme. In reality it is expected the import material will be significantly less as the cut / fill analysis contained in Appendix G excludes excavations in relation to construction footprint for drainage, roads, carparks formation levels. Therefore, the actual impact is predicted to be significantly less in terms of traffic movements regarding import material.

Other Material Import

The compressive indictive construction programme is helpful in providing information relation to the construction sequence. The material in relation to the building, carparks, play parks etc are insignificant in relation to the ballast for the bridge and will occur over time, therefore the traffic impact will be modest over a longer period of time within the construction programme. The resulting factor of the latter is the traffic impact will be modest.

Trips Generated by Workers and Visitors to the Site

Traffic generation of workers and visitors, LGV's are estimated at 10 (one way) trips per day to the compound including workers within the LGV with 20 (one-way trips) for staff arriving at the compounds for work in vans. It is anticipated that contractor's staff will have a slight and temporary adverse local impact considering they are already on the surrounding road network, therefore diverted trip rather than new trips. Visitors to the site are expected to be out of peak hour traffic times and infrequent in nature, it is not expected visitors will have any meaningful implications in relation to the EIAr.

Vehicle Types and Distribution During Am & PM Traffic Peaks

Vehicle types have been described within the body of the original TS, the distribution will be subject to the awarded contractor but will likely have a balanced approach along the N14/N15 and therefore approach to the site. It is not expected that any significant HGV movements in particular will occur within the AM or PM peak periods. With exception to isolated periods of blacktopping roads the latter would be considered normal in relation to a project of this nature and scale.

Cumulative Impact and Permitted Development Either Side of Border

Please refer to Chapter 15 of the Addendum EIAR for full consideration of the potential for cumulative impacts arising from the Project in association with other development on both Strabane and Lifford sides of the Project, as well as the interaction between potential impacts on different environmental receptors arising from the proposed Project.

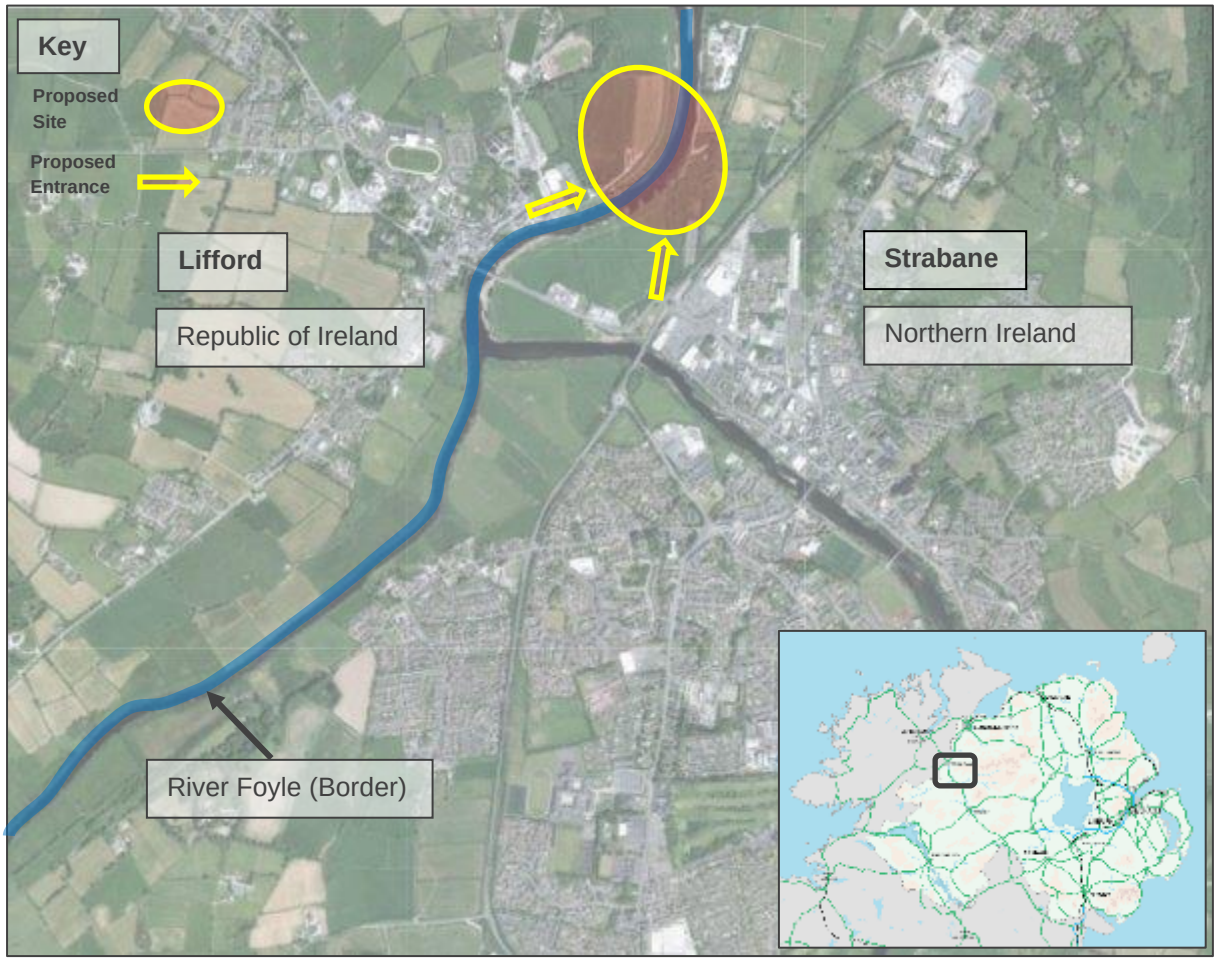
2 Introduction / Non-Technical Summary

Hoy Dorman have been commissioned by McAdam Design to prepare a Traffic Statement (TS) for the proposed Riverine Community Park (RCP). As this proposed scheme spans both Northern Ireland (NI) and the Republic of Ireland (ROI) this TS will be submitted to both jurisdictions Planning Offices for assessment. The TS has considered the scheme as a single project, where required the impacts on the Lifford, and Strabane sections have been separated to direct the approving Planning Offices to their respective elements of the document.

The Riverine Community Park project proposes to create circa thirty acres of new community park space and infrastructure at Lifford and Strabane. It proposes to create a neutral, shared space by utilising agricultural land on both sides of the border to accommodate some 200,000 users per year in combination with the Northern Greenway project in Strabane and the Strabane – Lifford Greenway. It will span both sides of the River Foyle and be connected by a new pedestrian and cycle bridge. The Councils propose that the diversity of this offering will make for a more inclusive and shared experience.

The proposed park on the Lifford site will be a designed landscape incorporating indoor and outdoor recreational features, complemented by a naturalised flood plain environment on the Strabane site that will be used for informal recreation and environmental education and conservation activities.

Figure 1: Proposed Project Location Plan



The Proposed A5 Improvements

The dualling of the A5 is currently progressing through planning. The alignment and design are fixed however there is no expected timeline for delivery.

Considering the proposed alignment and vesting boundary of the A5 upgrade, once complete, access arrangements to Riverine Community Park from the Strabane side will change. An option to maintain the vehicle; pedestrian; cycle entrance to the RCP in proximity to the entrance presented within this proposal has been supported by both the Riverine and A5WTC Project Teams.

Existing Conditions

Strabane (NI)

Strabane is a large town in Northern Ireland which according to the Northern Ireland 2011 Census has a population of circa 13,172 people. The A5 protected route runs along the frontage of the proposed Community Park which straddles the River Foyle. Strabane has excellent footway links from the residential areas to the various town amenities, footways are to a good standard which benefit from both street lighting and dropped kerbs with tactile paving.

The Strabane to Lifford Greenway has already been constructed to the south of the proposed RCP with a ghost pedestrian island to facilitate crossing of the A38 Lifford Road. The Strabane to Cloughcor greenway is currently being designed with proposals to link into the north of the RCP.

The proposed site will be constructed within a part brownfield and part greenfield site and will utilise a historic access and egress from the Asda roundabout, via Branch Road, which previously served Greenbrae Halting Site. The halting site was closed in May 2015, however, was not vacated until August 2016.

Lifford (ROI)

Lifford is a town in Donegal which according to the 2016 Republic of Ireland Census has a population on circa 1,626 people. There are excellent footway links from the residential areas to the various town amenities, these footway links benefit from both street lighting and dropped kerbs with tactile paving.

The proposed site on the Lifford side of the River Foyle is currently greenfield, access to the RCP will be from Station Road which currently serves as an access to a large carpark that serves a Cinema, The Donegal Council Offices and The Three Rivers Centre.

Proposed Use of the Riverine Community Park

It is proposed there will be circa 150,000 users of the park per year of which 28,985[1] users will be related to the community pavilion incorporating the refreshment area and community centre with programmed activities. Several major events are planned in the open space during a typical year, traffic and people management will be considered under an Event Management Plan specific to the events.

Non-Motorised Users Access

Non-Motorised Users (NMU) will benefit of RCP current and future Greenway projects in Strabane NI with the proposed upgrading of an existing uncontrolled road crossing on the A38 Lifford Road just south of ASDA roundabout. This crossing will be upgraded to a Toucan crossing to facilitate pedestrians and cyclists. Lifford currently benefits from a controlled crossing point across the N15 next to Bridge Street.

[1] *Shared Spaces Capital Development – 2nd Call Application, Economic Appraisal, April 2019 (Draft Final Report)*

Traffic Generation

Traffic generation has been estimated by surveying several community parks across Ireland with peak hour of use from 14:00 – 15:00 on a Sunday with 12:00 – 15:00 representing the peak period. Saturday followed a similar pattern with similar numbers with weekdays again similar pattern but with less volumes of footfall and vehicle use. The average stay at the parks for vehicles was 2 hours.

The TRICS database has no survey information for parks, therefore surveys were deemed an acceptable alternative. TRICS database was used to determine the vehicle use and peak hours for the refreshment area and community centre. The TRICS vehicle daily profile information for the community pavilion / refreshment area and community centre was then added to the park survey data to create a daily profile of traffic.

Traffic Counters

Permanent traffic counters were cross check the AADT's from the historic flow diagrams. The TII closest permanent counter (Station Id: TMU N14 020.0 N) was too far from Lifford so was discounted.

The Donegal County Council has a permanent counter however on leg C of Junction 2 (counter ID 206). This counter has an AADT of 18,024 which is comparable to the flow diagrams AADT on the same leg of Junction 2 of 18,991.

This cross checking of the permanent counters with the factored data demonstrates that the data used for the baseline traffic flows is reliable.

Traffic Attraction / Distribution

In terms of traffic attraction to the proposed RCP a gravity model based on population density and distance to the site was used to determine the likely approach direction to both the Lifford and Strabane accesses. The gravity model information combined with the traffic survey vehicle parking numbers was then used to predict the number of vehicles and direction of approach to Lifford and Strabane.

Proposed Car / Bus Parking

Strabane - it is proposed to provide an asphalt surfaced car park will include 125 car park spaces and 11 disabled bays. There will be provision for two loading / bus bays. The surface drainage is incorporated within a sustainable drainage strategy using attenuation ponds and swales.

Lifford – it is proposed to provide 68 car parking spaces with additional 6 disabled spaces totalling 74 parking spaces and 2 bus parking facilities. The proposed slipway on the Lifford side will have provision for parking of boat trailers.

East Donegal Coursing Club Facilities

The East Donegal Coursing Club (EDCC) currently uses the existing site for meetings. The traffic associated with the club is considered existing and will not change as part of the proposed development. The RCP proposes to provide new facilities for the club further north from the existing location as part of this project.

Currently, the Club is only accessible via the riverside access road from Station Road. Under the proposal, the Club will no longer have avail of riverside access, as this access will be implemented within the Riverine Community Park development. As there are no other access routes to the Club, or feasible alternatives, it is proposed that the access to the Club will be redirected via the new access

provisions to the Riverine Community Park, through which the club and its users will avail of a Right of Way. Refer to “Proposed Development Lifford” of this Chapter for details.

Summary of Assessment Methodology

This Document is a comprehensive review of the potential transport impacts of the proposed RCP, with an agreed plan to mitigate any adverse consequences. This document:

- Assesses the development proposals against National and Local Transport Policy for both NI and ROI.
- Provides details on the existing baseline traffic within the area of influence.
- Assesses sustainable travel modes to the RCP.
- Assesses the traffic generation associated with the development and the effect on the baseline network.
- Sets out any mitigation measures to facilitate the proposals.

The Contractor will produce a detailed Construction Management Plan to identify dates, durations, dependencies, and constraints for the construction phase.

The methodology is underpinned by current published guidance from both NI and ROI as outlined in Chapter 3.

Large events at the RCP will be supported by an Event Management Plan.

3 Statement of Authority

Martin Hoy has over twenty-five years' experience as a roads and transportation consultant with his career spanning both government and private practice. From an initial position within the Northern Ireland Government (DfI Roads), Martin progressed to private practice and started Scott Wilson PLC practice in N Ireland focusing on major road schemes, transportation and traffic modelling to public inquiries and expert witness.

In 2009 Martin launched Hoy & Dorman Limited (HD), a civil engineering, traffic, and expert witness consultancy service to the built environment. Martin is currently working on major developments relating to a range of aspects within civil engineering around the world and on a number of high profiles proposed developments within Ireland and the UK. Martin is a Chartered Engineer; a Fellow of Engineers Ireland; a Fellow of the Institution of Civil Engineers; and a Fellow of the Chartered Institution of Highways and Transportation. yes

4 Policy Context

Northern Ireland

Relevant Northern Ireland policy documents with regards to transport and planning include:

A review of each of these documents has been undertaken. Comments have been provided, where appropriate, on their relevant application to the proposed development. The guidance documents that have been used within this TS include:

- The Regional Development Strategy 2035
- Ensuring a Sustainable Transport Future – A new Approach to Regional Transportation (April 2012)
- Strategic Planning Policy Statement – Planning for Sustainable Development (September 2015)
- Planning Policy Statement 13: Transportation and Land Use Parking (February 2005).
- Transport Assessment Guidelines for Developments Proposals in Northern Ireland, November 2006.
- Guidelines for the Environmental Assessment of Road Traffic, Institute of Environmental Assessment, 1993.
- The IHT Guidelines for Traffic Impact Assessment, The Institute of Highways & Transportation, September 1994
- DCAN 11: Access for People with Disabilities, Department of Environment, 1991
- DCAN 15: Vehicular Access Standards, Planning Service and Road Service, 2nd Edition, August 1999.

Republic of Ireland

- Traffic and Transport Assessment Guidelines, National Roads Authority, May 2014.
- Design Manual for Urban Roads and Streets (DMURS), Department of Transport, Tourism and Sport (DTTAS), March 2013.
- Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, Environmental Protection Agency (EPA), August 2017.
- Pedestrian Crossing Specification and Guidance, NRA, April 2011.
- DN-GEO-03060: Geometric Design of Junctions, Transport Infrastructure Ireland (TII), June 2017.
- DN-GEO-03031: Rural Road Link Design, TII, June 2017.
- Shared Spaces Capital Development – 2nd Call Application, Economic Appraisal, April 2019 (Draft Final Report)

Predicted traffic generation figures for the construction and operational phases of the proposed development are based on information provided by Donegal County Council.

5 Existing Conditions / Receiving Environment

Methodology

To inform this study various site visits to both Strabane (NI) and Lifford (ROI) were conducted alongside desktop studies and looking at historical data. To enable the relevant jurisdictions to access the information relevant to themselves this chapter has been split into the existing conditions on the Strabane side of the proposed project and then the existing conditions on the Lifford side.

Site visits were conducted on both neutral weekdays and Sundays, as the visits were conducted during the COVID-19 pandemic queue lengths were observed but may not be representative of pre COVID-19 traffic. There is no comparable historic data for queue lengths. This is discussed further within this section of the report.

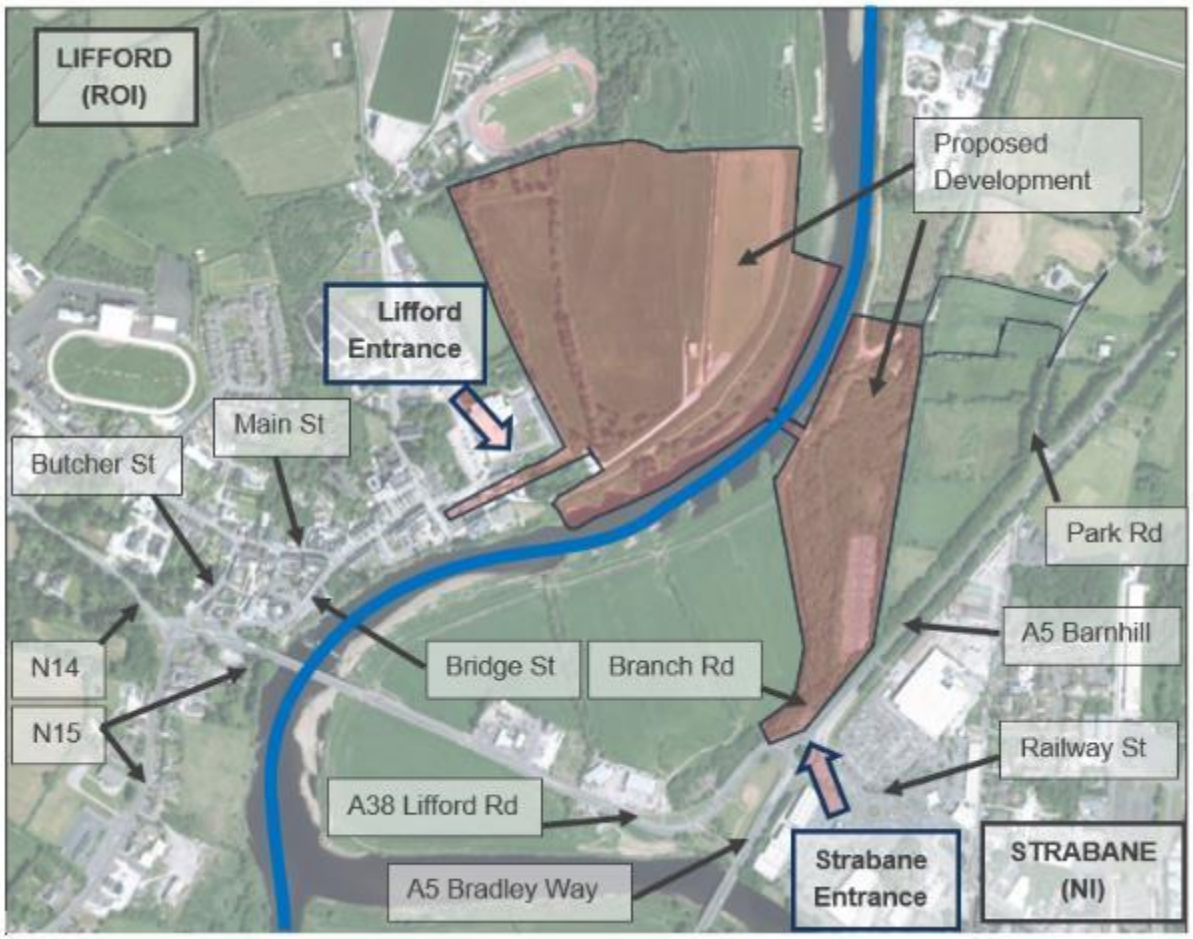
Manual Classified Turning Counts (MCTC) were obtained on the 13 May 2021 as this data was captured during the COVID-19 Pandemic the counts were compared to historic data obtained in 2013 for the since abandoned Three Rivers Project. This comparison determined that the MCTC data that was captured in 2021 showed a relatively low existing traffic baseline, particularly on the Lifford side of the River Foyle. Therefore, this study has used the historic data from the Three Rivers Project that had already been factored up to 2023 as a baseline. 2023 is the proposed opening year for this application.

To further check the accuracy of the previously factored 2023 flows permanent traffic counters were looked at to cross check the AADT's from the flow diagrams. The TII closest permanent counter Station Id: TMU N14 020.0 N was too far from Lifford so was discounted.

The Donegal County Council has a permanent counter however on leg C of Junction 2 Counter ID 206. This counter has an AADT of 18,024 which is comparable to the flow diagrams AADT on the same leg of Junction 2 of 18,991.

This cross checking of the permanent counters with the factored data demonstrates that the data used for the baseline traffic flows is reliable.

Figure 2: Schematic of Proposed Development and Local Area



Description of Junctions within Area of Influence

Strabane (NI)

Setting

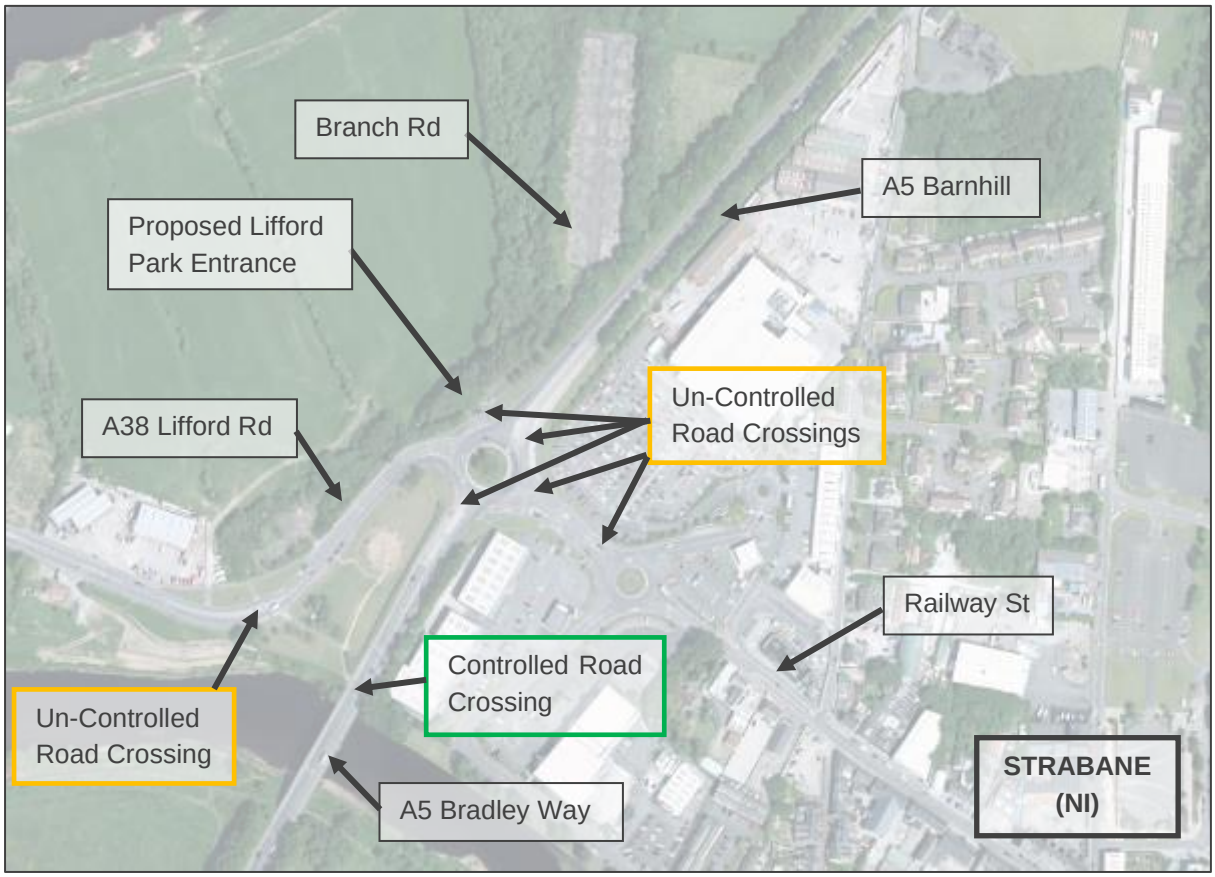
Strabane is a large town in Northern Ireland which according to the Northern Ireland 2011 Census has a population of circa 13,172 people. The A5 protected route runs along the frontage of the proposed Community Park which straddles the River Foyle. Strabane has excellent footway links from the residential areas to the various town amenities, footways are to a good standard which benefit from both street lighting and dropped kerbs with tactile paving.

ASDA Roundabout

The ASDA Roundabout is a strategic junction in Strabane which acts as a gateway to the ROI, Figure 3 illustrates the relationship between Strabane and the A5 strategic road network.

The figure shows the location of the controlled crossing on the A5 Bradley Way (part of the Strabane to Lifford Greenway); the uncontrolled crossings at ASDA Roundabout, A38 Lifford Road and Railway Street Roundabout.

Figure 3: ASDA Roundabout



Branch Road – Existing Junction of the ASDA Roundabout

The proposed site will be constructed within a part brownfield and part greenfield site, to will utilise a historic access and egress on the Asda roundabout, via Branch Road, which previously served Greenbrae Halting Site, which was closed in May 2015, however, was not vacated until August 2016.

The existing Branch Road Access/Egress will remain as is.

Branch Road Proposed Access/Egress onto ASDA Roundabout

A5 Bradley Way

The A5 is a protected route, at the ASDA Roundabout from the north is a dual carriageway in both directions with an additional left filter lane to bypass the roundabout onto railway Street. There are

ghost islands with dropped kerbs and tactile paving at the roundabout and a Toucan Crossing as part of the Strabane to Lifford Greenway.

A5 from the South Toucan Crossing Point to facilitate the Strabane to Lifford Greenway.

A38 Lifford Road

The A38 Lifford Road is a single lane carriageway heading to the southwest and a dual carriageway in the opposite direction, there is a ghost island with dropped kerbs and tactile paving already in situ.

A38 Lifford Road Showing Bus Layby and Entrance / Exit to the Strabane to Lifford Greenway

Railway Street

Railway Street is a dual carriageway in both directions with an additional left filter lane to bypass the roundabout and access the A5 heading south. There are two ghost islands with dropped kerbs and tactile paving already in situ. Queueing was noted leading onto the ASDA roundabout however it was freely moving causing little delay.

Railway Street Left Filter Lane onto the A5 Southbound

The Proposed A5 Improvements

The dualling of the A5 is currently progressing through procurement. The alignment and design are fixed however there is no expected timeline for delivery.

Considering the proposed alignment and vesting boundary of the A5 upgrade, once complete, access arrangements to Riverine Community Park from the Strabane side will change. An option to maintain the vehicle; pedestrian; cycle entrance to the RCP in proximity to the entrance presented within this proposal has been supported by both the Riverine and A5WTC Project Teams.

Lifford (ROI)

Setting

Lifford is a town in Donegal which according to the 2016 Republic of Ireland Census has a population on circa 1,626. There are excellent footway links from the residential areas to the various town amenities, these footway links benefit from both street lighting and dropped kerbs with tactile paving.

The proposed site on the Lifford side of the River Foyle is currently greenfield, access to the community park will be from Station Road which currently serves as an access for a carpark for a Cinema, Donegal District Council offices and The Three Rivers Centre.

Main Street

Main Street is a narrow carriageway which is bordered by shops and houses on both sides, on-street parking further narrows the road allowing only one car to pass in places. There are well maintained footways which benefit from street lighting.

Main Street heading Northeast – Butcher Street Junction on Left

Butcher Street

Butcher Street is a narrow carriageway which is bordered by shops and houses on both sides, on-street parking narrows this further allowing only one car to pass in places. There are well maintained footways which benefit from street lighting.

Butcher Street in Both Directions

Bridge Street/Foyle View

Bridge Street leads onto Foyle View, there are no centre white line markings along its entirety, there is on street parking with enough room for two vehicles to pass in both directions. There is a wide well-maintained footway on both sides of the carriageway which benefits from street lighting.

Bridge Street Priority T Junction onto the N15

Foyle View Leading to Bridge Street. Main Street on Right

N15 South

N15 South is a single lane carriageway with consistent well-maintained footways which benefit from street lighting and dropped kerbs.

N15 South from Three Coins Roundabout

N15 East

N15 East is a single lane carriageway in both directions, there is a pelican crossing with a central island prior to the roundabout, this benefits from dropped kerbs and tactile paving. There are consistent footways which are lit with street lighting

N15 East from The Coins Roundabout

Letterkenny Road

Letterkenny Road is a single carriageway in both directions with consistent well-maintained footways with dropped kerbs and street lighting. There is a ghost island at the roundabout for pedestrians.

N14 Letterkenny Road from Three Coins Roundabout

Strabane to Lifford Greenway

The Strabane to Lifford Greenway has already been constructed to the south of the proposed Riverine Community Park with a ghost pedestrian island to facilitate crossing of the A38 Lifford Road. The Strabane to Cloughcor greenway is currently being designed with proposals to link into the north of the Riverine Community Park.

The Strabane to Lifford Greenway crosses pedestrians over the N15 by way of a Toucan crossing which benefits from tactile paving.

N14 Crossing Point for Strabane to Lifford Greenway

Traffic & Surveys and Peak Hours

Traffic Surveys were undertaken on 13 May 2021 at the following locations:

- Junction 1 - Asda Roundabout – A5 Barnhill Road / Railway Street / A5 Bradley Way / A38 Lifford Road / Branch Road
- Junction 2 - Priority T-Junction - N15 / Bridge Street
- Junction 3 - Priority T-Junction - Main Street / Bridge Street
- Junction 4 - Priority T-Junction - Main Street / Butcher Street
- Junction 5 -Three Coins Roundabout - N14 / Butcher Street / N15 (to Strabane) / N15 (to Clady)

Park Road was also surveyed however the data was not used as the entrance and exit to the proposed development was decided to be from the Branch Road leg of the Asda Roundabout.

Due to the effects of COVID-19 the results of these surveys were compared to historic data and found to be very low especially in Lifford so therefore were inconclusive. It was decided to use the baseline traffic from a previous historic survey which was submitted for planning as part of the 3 Rivers Project. This historic data was recorded in 2013 and had already been factored up to 2023 using NRFT growth factor.

The Three Rivers Project flows demonstrated that the PM peak represented the more onerous peak hour in terms of baseline traffic, this historic PM peak data was therefore used to ensure a robust assessment, the development traffic was then added and factored up to 2028 and 2038 using TII Central growth factor.

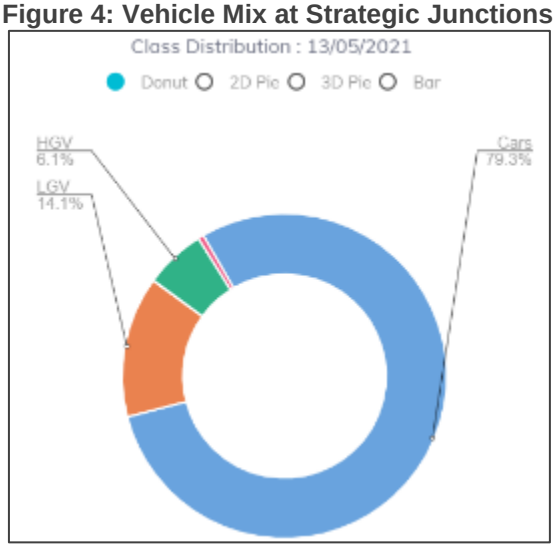
The peak hour for the proposed Riverine is 14:00-15:00 on a Sunday so in reality the proposed development traffic will be at its peak when the baseline traffic is significantly less than the PM peak that has been used on the flow diagrams.

A copy of the Three Rivers Project flow diagrams can be found within Appendix A

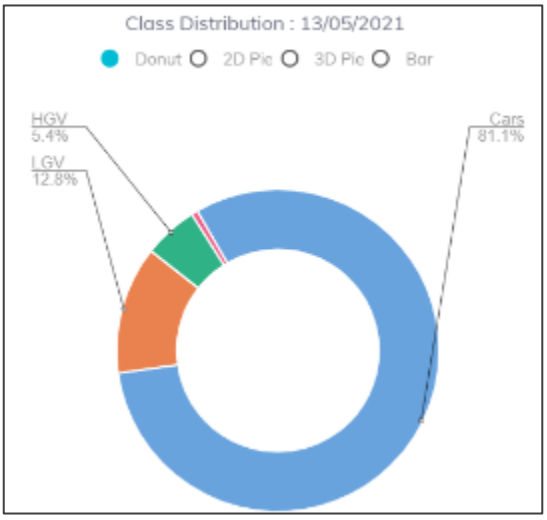
Vehicle Mix within Area of Influence

In terms of HGV's the surveys conducted has shown an average of 5.4% HGV use in the vicinity of ASDA Roundabout (Junction 1) in NI and 6.1% HGV for the Three Coins Roundabout (Junction 5) in ROI. The above are illustrated in Figure 4. This is consistent with counter information from traffic counter published information

Figure 4: Vehicle Mix at Strategic Junctions



Junction 1 – ASDA Roundabout in NI



Junction 5 - Three Coins Roundabout in ROI

Vehicle Delay / Existing Queuing

Methodology

COVID-19 has limited the available information in relation to queuing within the assessment area. Traffic and queue length surveys undertaken on 13 May 2021 were inconclusive as the volume of traffic surrounding areas were low with little to no queuing at all junctions during the PM peak hour (17:00 – 18:00) or a Sunday afternoon proposed park peak hour (14:00 – 15:00).

Therefore, a series of site visits and spot surveys were undertaken on Thursday 5, Saturday 7 & Sunday 6 August 2021 to provide a level of base line queuing. However, as the baseline traffic volumes was used from historic data from the Three Rivers Retail application in 2011 factored to 2023 there was no means to relate observed queuing to the baseline traffic data used. The additional surveys do provide information on the baseline queuing and can be considered with the proposed development traffic to predict impact.

Strabane (NI)

Junction 1 - A5 / ASDA Roundabout was also not considered further as the impact of the proposed development flows were so low ranging from 0.5% - 1.4%.

Lifford (ROI)

The following junctions have been modelled using Junction 10 software and therefore have been considered further in relation to queue lengths and delay.

- Junction 2 - N15 / Bridge Street
- Junction 3 - Main Street / Bridge Street
- Junction 4 - Main Street / Butcher Street

In advance of assessing queue lengths Figure 5 illustrates the 2023 base traffic within the Flow Diagrams on the Lifford side of the proposed development with Figure 6 illustrating the proposed development flows. This will provide some contrasting in relation to the proposed development flows compared to the existing baseline.

Figure 5: 2023 Baseline Existing Flows (Lifford)

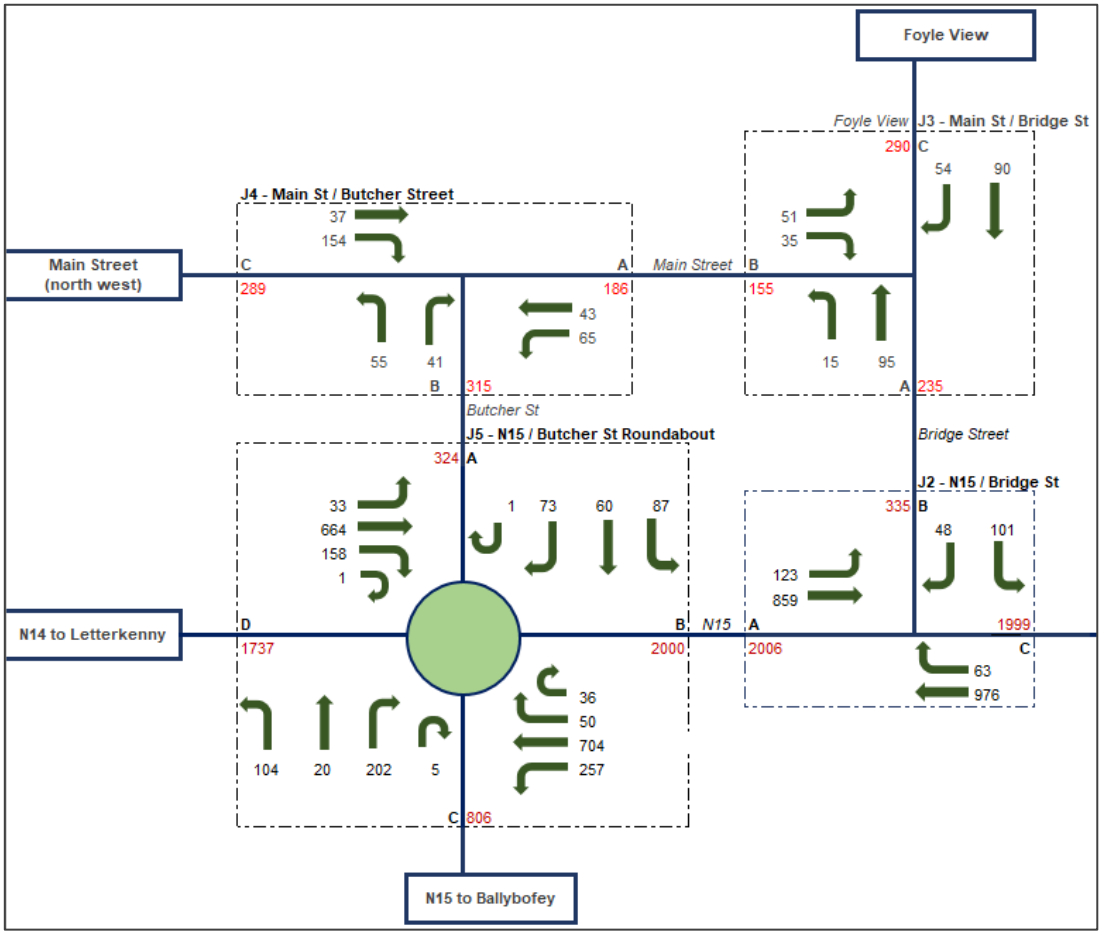


Figure 6: 2023 Propsoed Development Flows (Lifford)

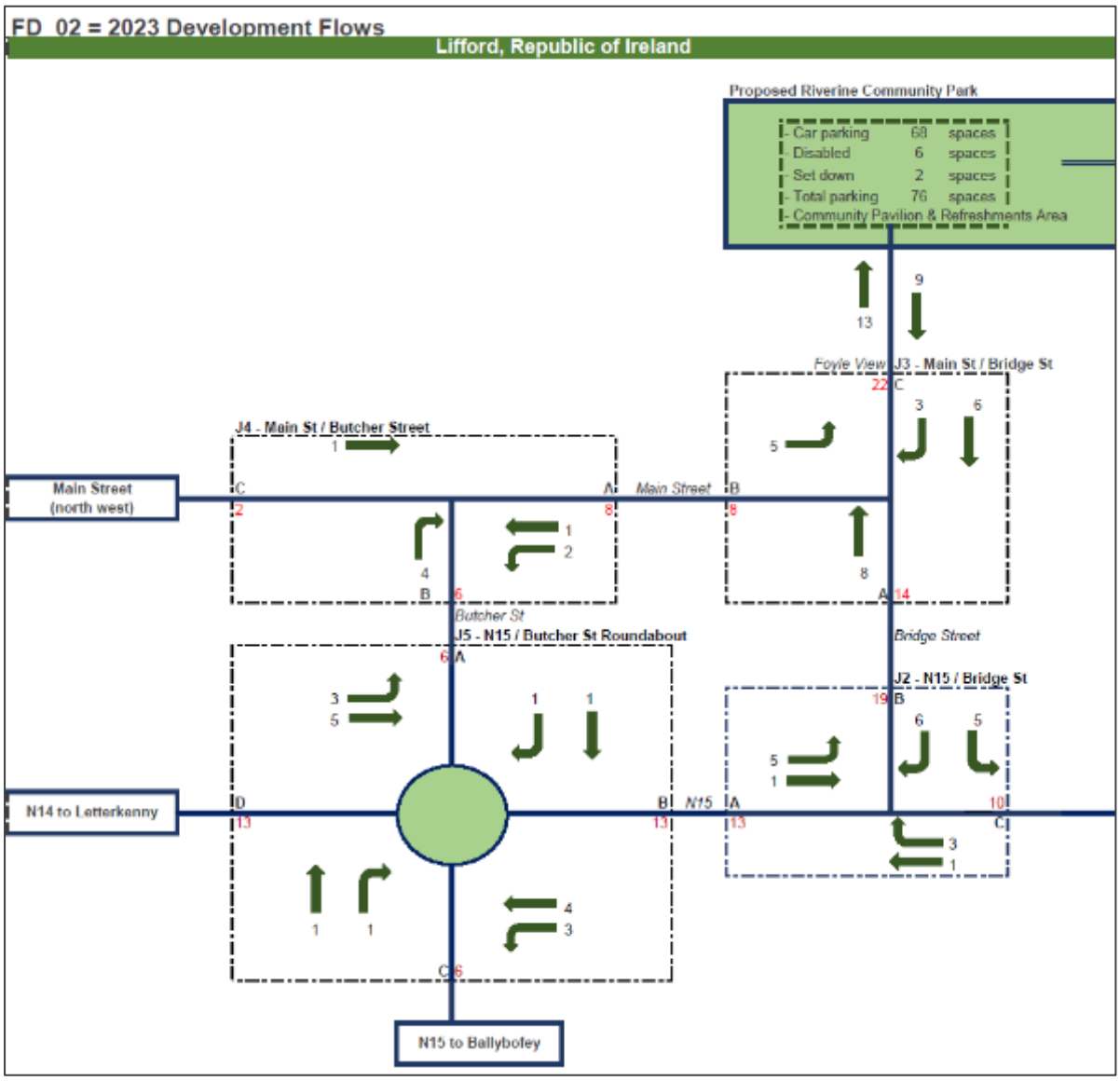


Figure 7: Queue Length & Delay Locations

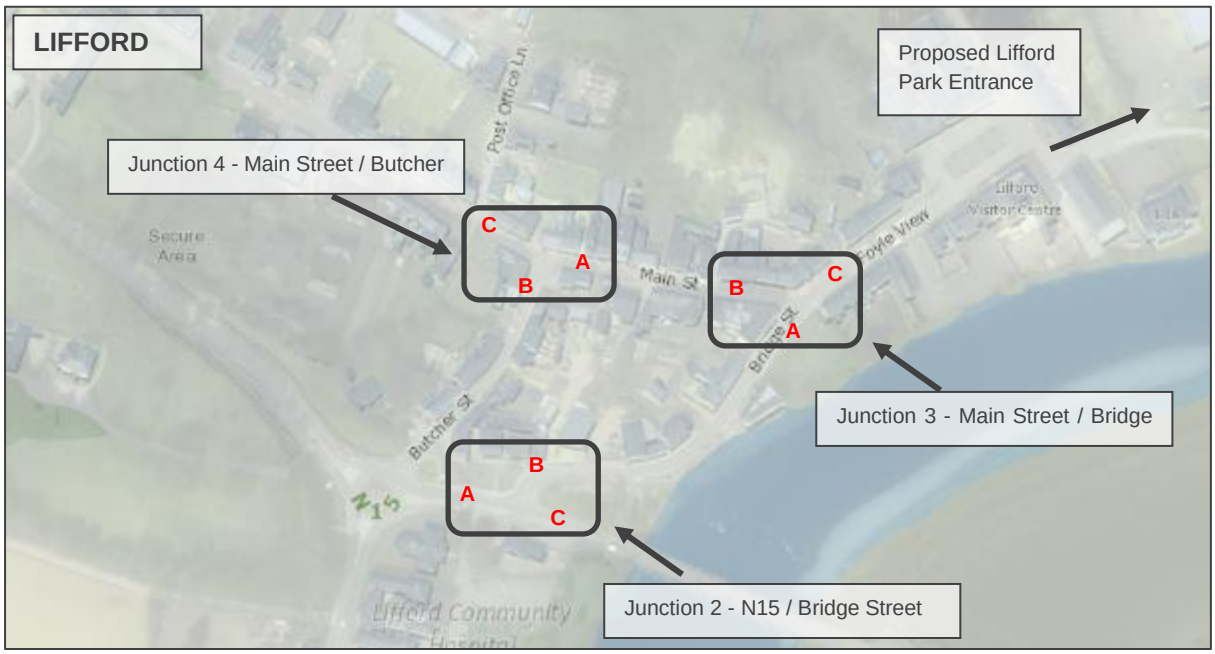


Table 1: Maximum Observed Queuing (Sunday)

	Junction 2 N15 / Bridge Street			Junction 3 Main Street / Bridge Street			Junction 4 Main Street / Butcher Street		
Time / Arms	**A**	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**
07:00-08:00	0	0	0	0	0	0	0	1	0
08:00-09:00	0	0	1	0	1	0	0	0	1
09:00-10:00	0	2	2	0	0	0	0	2	0
10:00-11:00	2	1	2	0	1	0	0	0	0
11:00-12:00	3	1	3	0	0	1	0	2	0
12:00-13:00	3	2	5	0	0	0	0	0	0
13:00-14:00	4	3	3	0	0	1	0	1	0
14:00-15:00	2	3	4	0	0	0	0	1	0
15:00-16:00	1	3	5	0	1	0	0	0	0
16:00-17:00	2	2	2	0	0	0	0	0	0
17:00-18:00	2	1	1	0	0	0	0	0	0
18:00-19:00	2	1	1	0	0	0	0	0	0

Observed queuing was very light at all three junctions on the Sunday and is consistent with observations within the area on occasions passing through Lifford over the years. It was noted that the controlled pedestrian crossing points between Bridge Street and the Three Coins Roundabout was causing the queues at Junction 2 on Arm A & C.

Table 2: Maximum Observed Queuing (Weekday)

	Junction 2 N15 / Bridge Street			Junction 3 Main Street / Bridge Street			Junction 4 Main Street / Butcher Street		
Time / Arms	**A**	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**
07:00-08:00	3	2	5	0	1	1	0	1	0
08:00-09:00	7	4	8	0	2	1	0	1	2
09:00-10:00	8	5	6	0	2	1	0	2	2
10:00-11:00	7	5	8	0	2	2	0	1	2
11:00-12:00	4	4	6	0	2	2	0	2	2
12:00-13:00	3	4	8	0	2	1	0	2	1
13:00-14:00	5	5	6	0	2	1	0	2	1
14:00-15:00	8	6	5	0	1	2	0	3	2
15:00-16:00	5	4	4	0	1	1	0	2	2
16:00-17:00	6	6	5	0	1	2	0	2	2
17:00-18:00	5	3	5	0	1	2	0	1	2
18:00-19:00	6	2	5	0	1	1	0	1	1

Observed queuing was very steady at Junction 2 but delay cleared quickly. There is a marked increase in weekday queuing compared to a Sunday which would be the peak day of use regarding the proposed development. This again is consistent with observations within the area on occasions passing through Lifford over the years. It was noted that the controlled pedestrian crossing points between Bridge Street and the Three Coins Roundabout was causing the queues at Junction 2 on Arm A & C.

Junction 5 - N15 E/Butcher St/ N14/ N15S (Three Coins Roundabout) was not considered further as percentage impact was well below 5%

Committed Development

This study is not aware of any significant committed development within the area of the proposed development.

6 Proposed Scheme

Introduction

The following scheme overview has been provided by McAdam Design:

Donegal County Council (DCC) and Derry City & Strabane District Council (DCSDC) are jointly planning the development of the Riverine Community Park (hereafter referred to as the 'Project') following the award of funding by the SEUPB PEACE IV Shared Space & Services, with DCC acting as the applicant. The Project will be transboundary in nature, being located on either side of the River Foyle, partly adjacent to Lifford, Co. Donegal and partly adjacent to Strabane, Co. Tyrone, with a pedestrian and footbridge connecting the two sides.

Figure 8: Site Location

(Source: Google Earth)

The site is partially located within the River Finn and the River Foyle and Tributaries Special Areas of Conservation (SAC). The proposed development will extend to a total of 22.7 hectares.

Bridge Proposal

The pedestrian and cycle bridge will be a transboundary structure, providing the iconic and symbolic connection between the two currently separated lands either side of the border.

The proposed bridge location is positioned to ensure best connection between both sides of the park. The bridge design takes inspiration from the historic railway proposing a steel truss design.
The pedestrian and cycle bridge will be a steel truss structure with an overall length of approximately 115m. It will have two spans. The larger span will extend across the river with a length of approximately 88m. The second span will extend over land from the Lifford riverbank to raised ground. The second span will have a length of 27m.

Accommodation Works Proposal

The operational boundary of the Riverine Community Park on the Lifford side is entirely located within lands belonging to East Donegal Coursing Club (EDCC), with the proposed Park boundary occupying approximately fifteen acres of this property, which is currently populated with existing infrastructure associated with Club activities. In order to facilitate the proposed development on the Lifford site, it is therefore necessary to relocate and/or replace all existing infrastructure belonging to the Club. These relocation and/or replacement works are defined as the Accommodation Works and are as follows:

- Demolition of the existing spectator stand and the construction of a new spectator stand to accommodate 123 spectators;
- Relocation of existing hare coursing track and the construction of greyhound training runs;
- Provision of an informal parking area to accommodate 8 cars; and,
- all ancillary development and site services; within the site extending to 6.5 hectares.

Lifford Summary

Development of the western portion of the new Riverine Community Park (i.e., the area of the development falling within the Donegal County Council area) and the creation of new community park infrastructure with multi-purpose community facilities and amenities. The development will include:

- Construction of a pedestrian and cycle bridge approximately 115m in length between Lifford and Strabane (the adjacent eastern section of the proposed community park at Strabane, County Tyrone);
- Construction of a single storey community resource building with a gross internal floor area circa 305m², for use as community space including office and refreshment use;
- Construction of a 300m2 maintenance compound, surround by 2.25m high ibex fencing to include installation of an approximate 4.0m high by 6.0m wide by 9.0m long prefabricated maintenance shed vehicle storage, washdown area and material storage, surround be ibex fence and access gates;
- Provision of a multi-functional outdoor space and external stage area to accommodate circa 3000 persons;
- Creation of play areas, a river walk and river access;
- Construction of walkways and cycleways;
- Associated landscaping inclusive of the wetlands of the River Foyle;
- Amenity lighting;
- Provision of car parking with 74 spaces and provisions for cycle parking;
- Site Security including estate style fencing, 2.4m high security fencing and lockable vehicle and pedestrian gates
- Construction of a 4.5-6.0 meter wide access road, circa265m in length and provided internally within the park;
- Demolition of the existing spectator stand and the construction of a new spectator stand to accommodate 123 spectators;
- Relocation of existing hare coursing track and the construction of greyhound training runs;
- Provision of an informal parking area to accommodate 8 cars;

- Provision of a new ESB Substation and diversion underground of existing ESB overhead cables traversing the site;
- Provision of ground mounted electrical kiosk;
- Provision of a new wastewater pumping station for onward transfer of foul wastewater to the local network;
- Reconfiguration of existing cinema drainage soakaway; and,
- all ancillary development, accommodation works and site services; on a site extending to 14.9 hectares.

Strabane Summary

Development of the eastern portion of the new Riverine Community Park (i.e., the area of the development falling within the Derry City & Strabane District Council area) and the creation of new community park infrastructure with multi-purpose community facilities and amenities. The development will include:

- a new area of open space;
- vehicle, cycle and pedestrian access;
- car parking area;
- amenity lighting; and,
- all ancillary development and site services; within the site extending to 6.7 hectares.

7 Trip Generation

Trip Generation - Methodology

This section considers the traffic generation associated with the RCP. The traffic associated with the proposed park / playpark is considered separately as surveys were undertaken at similar parks given TRICS did not contain sufficient database information.

The traffic generation relating to the community pavilion / refreshment area and community centre were considered using TRICS database with the hourly profiles throughout the day combined with the park / playpark traffic to generate an overall traffic generation model to determine the peak hour and associated traffic.

Traffic associated with a few large events will be subject to an Event Management Plan and therefore have not been considered as part of this assessment.

Riverine Community Park Flow Diagrams are contained in Appendix B

Traffic Generation Associated with Park/Playpark

The TRICS database has a single survey return under Country Park with no indication of the offerings within the park or how it could relate to the proposed development. This assessment therefore considered the best way to get a reflective traffic generation was to survey similar parks.

Lurgan Park (County Armagh) was selected together with Wallace Park in Lisburn (Co Down) as they both are next to (or within) centres of population and have very similar offerings to the Riverine Project including major events.

The surveys to determine the traffic generation were undertaken by surveying the number of parked cars within car parks and the surrounding road network. The surveys were undertaken over two weekends with the average hourly parking number used to provide a parking and vehicle generation profile for the peak use day (Sunday). Discussions were also undertaken with park users and officials to assist in creating a traffic generation profile. With an average of 2 hours stay the parking survey was then used to generate a traffic generation profile over a typical Sunday.

Lurgan has a population of circa 25,000 people with Lifford and Strabane combined circa 16,000 people so the likely person use of the Riverine project will be approximately 38% less based on population numbers. Lisburn has a population of 45,370 although Wallace Park is to the east of the city.

To ensure a robust traffic generation assessment no discount was applied in relation to population variants relating to Lifford and Strabane comparted to Lurgan or Lisburn. Both surveys were combined with the average used within the peak hour.

The results for Lurgan and Lisburn traffic generation are contained in Table 3, this is the traffic generation which will be carried forward onto the overall model for the Riverine Project and added to the café and community centre use from TRICS.

Table 3: Trip Rate, Traffic Generation and Parking Survey Results

PLAYPARK - SURVEY RESULTS

Calculated from survey of Lurgan Park & Wallace Park with average taken

Count Type: TOTAL VEHICLES GENERATION + PARKED VEHICLES

			ARRIVALS		DEPARTURES	
Time	**People**	**Parked Veh**	**Trip Rate**	**Veh/hour**	**Trip Rate**	**Veh/hour**
07:00-08:00	19	10	0.00	4	0.00	0
08:00-09:00	38	15	0.10	8	0.02	2
09:00-10:00	75	29	0.50	18	0.03	1
10:00-11:00	102	46	1.23	15	0.97	12
11:00-12:00	166	70	1.75	28	0.98	16
12:00-13:00	206	97	1.80	34	1.04	20
13:00-14:00	222	112	2.00	33	1.55	25
14:00-15:00	252	124	1.90	36	1.56	30
15:00-16:00	241	129	1.00	21	2.00	42
16:00-17:00	206	117	0.53	13	1.62	41
17:00-18:00	188	103	0.38	13	0.93	36
18:00-19:00	105	75	0.55	12	0.70	14
19:00-20:00	19	31	0.35	2	0.54	3
20:00-21:00	19	10	0.00	0	0.02	5
21:00-22:00	19	10	0.00	0	0.10	5
22:00-23:00	0	5	0.00	0	0.00	0
23:00-24:00	0	0	0.00	0	0.00	0
TOTALS	**1875**	**982**	**12**	**238**	**12**	**250**

Traffic Associated with Refreshment Area & Community Centre

The TRICS database was used in relation to the café use under land use (06 - HOTEL FOOD & DRINK/B – RESTAURANTS) as there is no specific land use for café.

TRICS land use (07 - LEISURE/Q - COMMUNITY CENTRE) was used to calculate the traffic generating for the community centre. Table 3 sets out the TRICS traffic generation in relation to the café and community centre use.

TRICS information relating to the café and the community centre is contained in Appendix C.

Table 4: TRICS Traffic Generation

TRIP RATE for Land Use
06 - HOTEL FOOD & DRINK/B - RESTAURANTS
Calculation Factor: 100 sqm
Count Type: TOTAL VEHICLES
Proposed development area - 90sqm

	ARRIVALS		DEPARTURES	
Time	Trip Rate	Veh/hour	Trip Rate	Veh/hour
07:00-08:00	0.0	0	0.0	0
08:00-09:00	1.0	1	0.8	1
09:00-10:00	2.1	2	0.7	1
10:00-11:00	2.2	2	0.9	1
11:00-12:00	2.3	2	1.6	1
12:00-13:00	4.6	4	2.1	2
13:00-14:00	3.6	3	3.9	4
14:00-15:00	1.8	2	2.9	3
15:00-16:00	1.2	1	1.9	2
16:00-17:00	1.8	2	1.6	1
17:00-18:00	3.4	3	1.7	2
18:00-19:00	4.1	4	3.4	3
19:00-20:00	4.1	4	3.8	3
20:00-21:00	2.4	2	3.5	3
21:00-22:00	2.0	2	2.5	2
22:00-23:00	0.8	1	2.3	2
23:00-24:00	0.2	0	1.9	2
TOTALS	**37.6**	**34**	**35.6**	**32**

TRIP RATE for Land Use
07 - LEISURE/Q - COMMUNITY CENTRE
Calculation Factor: 100 sqm
Count Type: TOTAL VEHICLES
Proposed development area - 120sqm

ARRIVALS		DEPARTURES	
Trip Rate	Veh/hour	Trip Rate	Veh/hour
0.1	0	0.0	0
0.7	1	0.3	0
1.1	1	0.6	1
0.4	1	0.5	1
0.5	1	0.6	1
0.7	1	0.5	1
0.5	1	0.6	1
0.5	1	0.4	1
1.0	1	1.3	2
0.4	0	0.8	1
2.1	3	1.3	2
3.0	4	1.7	2
2.7	3	3.1	4
0.9	1	1.4	2
0.0	0	2.3	3
0.0	0	0.0	0
0.0	0	0.0	0
14.5	**17**	**15.4**	**19**

Riverine Project Total Generated Traffic

Table 5 combination Tables 3 & 4 into an hourly traffic profile over a peak day period. This is the proposed traffic generation associated with this project. Please note, the traffic generation and parking numbers should be taken as a best estimation based on comparable surveys of similar parks.

Table 5: Total Traffic Generation & Parking (Sunday)

	ARR	DEP	TOTALS	
Time	Veh/hour	Veh/hour	Veh/hour	Parked Veh
07:00-08:00	4	0	4	9
08:00-09:00	10	3	13	25
09:00-10:00	22	2	24	48
10:00-11:00	17	13	31	61
11:00-12:00	31	18	48	97
12:00-13:00	39	22	61	123
13:00-14:00	37	30	66	133
14:00-15:00	**38**	**33**	**71**	**142**
15:00-16:00	23	45	69	137
16:00-17:00	15	44	58	116
17:00-18:00	19	39	58	115
18:00-19:00	19	19	38	76
19:00-20:00	9	10	19	38
20:00-21:00	3	10	13	26
21:00-22:00	2	10	12	23
22:00-23:00	1	2	3	6
23:00-24:00	0	2	2	4
TOTALS	**289**	**301**	**590**	**1179**

Other Parks / Play Parks Considered and Surveyed

Several other parks were surveyed including Moira Demesne & Hillsborough Forest Park in NI and Rossmore Forest Park in Monaghan ROI these however were discounted as they did not have similar profiles and rely on a very high dependence on vehicle trips as they are outside a centre of population.

Delivery Vehicles

The number of delivery vehicles impacting on the peak hours has not been considered as part of this study given that they arrive outside of peak periods and will be minimal in terms of traffic generation.

Flow Diagrams

Riverine Community Park Flow diagrams are contained in Appendix B the naming convention for each flow diagram is set out below

- FD_01 = 2023 Baseline Traffic - Obtained from Historic Data
- FD_02 = 2023 Development Flows
- FD_03 = 2023 Base + Development Flows
- FD_04 = 2023 Base Factored to 2028 (+5years)
- FD_05 = 2023 Base Factored to 2028 (+5years) + Development Flows
- FD_06 = 2023 Base Factored to 2038 (+15years)
- FD_07 = 2023 Base Factored to 2038 (+15years) + Development Flows

8 Traffic Distribution

Traffic Distribution to the Network - Methodology

To determine how the average generated traffic of the proposed land use is allocated to the surrounding road network a simple gravity model was used. This model uses factors divided from the relationship of centres of population and distance to the proposed site. The overall traffic numbers are then proportioned in accordance with its factor, from this the direction of travel and approximate number of vehicles is derived. A gravity model is a useful tool to indicate direction and number of vehicles but is reliant on assumptions, engineering judgement and local knowledge.

Gravity Model

The gravity model lists several towns throughout ROI and NI with populations within towns obtained from 2016 and 2011 census data respectively. The distances to RCP are taken from the approximately centre of each town to the respective entrances in Lifford and Strabane. The distance is then divided by the population to provide a factor which in turn is used to predict the likely volume of traffic from that centre of population. The number of vehicles approaching from the direction of respective towns can then be allocated to the road network.

There will also be vehicles crossing the Foyle in both directions to use the facilities and carpark, vehicles have been allocated in accordance with the Riverine Community Park Flow Diagrams contained within Appendix B. Figure 8 provides an illustration of the various approaches to RCP available to vehicles. The Gravity Model is shown in Table 6.

Figure 9: Various Approach Roads to RCP

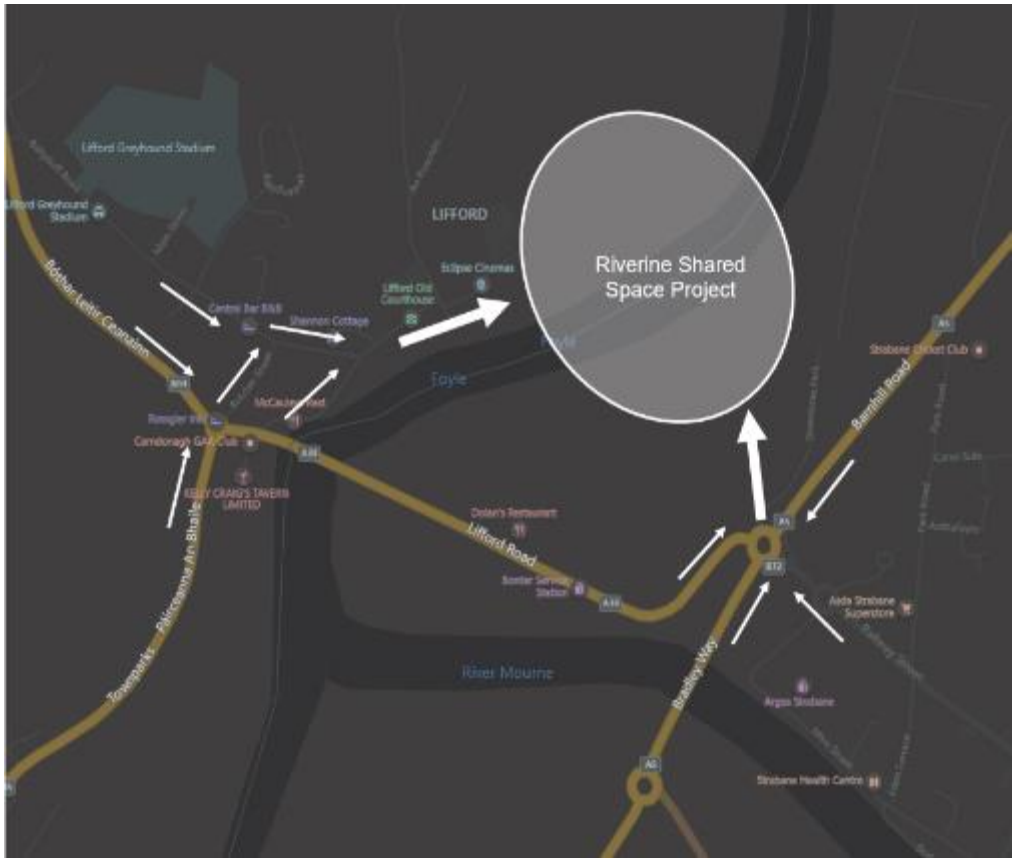


Table 6: Gravity Model with Approach Direction of Vehicles.

Northern Ireland - 2011 Census

Town / City	Population	Distance Km	Factor	% of Overall Traffic	Approach from	Vehicles Arriving	Vehicles Departing
Derry	27,884	23.3	1197	6.5%	Barnhill Road	2.5	2.1
Claudy	1,336	26.1	51	0.3%	Barnhill Road	0.1	0.1
Newtownstewart	1,551	16.5	94	0.5%	Bradley Way	0.2	0.2
Sion Mills	2,050	5.9	347	1.9%	Bradley Way	0.7	0.6
Castlederg	2,976	16.9	176	1.0%	Bradley Way	0.4	0.3
Strabane	13,172	1.2	10977	60.0%	Refer to text	22.9	19.6
Omagh	19,659	31.9	616	3.4%	Bradley Way	1.3	1.1
Donemana	586	12.1	48	0.3%	Barnhill Road	0.1	0.1
Artigarvan	603	5.8	105	0.6%	Barnhill Road	0.2	0.2
					Sub Total	**28**	**24**

Republic of Ireland - 2016 Census

Letterkenny	19,274	25.7	750	4.1%	N14	1.6	1.3
Ballybofey	4,852	28.9	168	0.9%	N15	0.4	0.3
Donegal	2,618	49.6	53	0.3%	N15	0.1	0.1
Lifford	1,626	0.5	3252	17.8%	N14 / Main Street	6.8	5.8
Convoy	1,526	15.3	100	0.5%	N14	0.2	0.2
Raphoe	1,089	10.0	109	0.6%	N14	0.2	0.2
Killygordon	614	15.5	40	0.2%	N15	0.1	0.1
Castlefin	750	9.4	80	0.4%	N15	0.2	0.1
St Johnston	523	12.4	42	0.2%	N14	0.1	0.1
Killea	534	23.7	23	0.1%	N14	0.0	0.0
Newtown Cunningham	1,080	24.5	44	0.2%	N14	0.1	0.1
Manorcunningham	675	19.0	36	0.2%	N14	0.1	0.1
TOTALS	**104,978**		**18306**	**100%**	**Sub Total**	**10**	**8**
	Total Vehicles Arriving and Departing During Peak Hour					**38**	**33**

The total number of vehicles arriving within the peak hour (14:00 – 15:00) are 38No arriving with 33No departing. Riverine Community Park Flow Diagrams contained within Appendix B set out the traffic distribution to respective approach roads. In Table 4 when vehicles arriving, and departing are shown as fractions of a whole number these have been added together and rounded to the nearest number to represent a vehicle.

Gravity Model Assumptions

A gravity model is a useful tool to indicate direction and number of vehicles but is reliant on assumptions, engineering judgement and local knowledge. To inform this assessment the assumptions contained within the gravity model are listed below.

1 A proportion of the population of Derry in NI has been used in the gravity modelling as the use of the full population was skewing the results as its population is significantly higher than the Lifford / Strabane area

2 The traffic associated with Strabane has been allocated to the ASDA roundabout on an engineering judgement basis considering the road networks within the town leading to the ASDA roundabout.

3 The gravity model is considered for an average day and may change in the event of a major event. However, a major event will be subject to an Event Management Plan which will consider traffic specific to that event.

9 Junction Operational Assessments

Methodology

In determining the impact of the generated vehicles on the surrounding road network the total peak hour of development flow traffic was determined in Section 7 then distributed to the road network as discussed in Section 8. The resulting baseline traffic and development traffic together with assessment years is highlighted in the RCP Flow Diagrams in Appendix B.

The most onerous peak hour of existing traffic in the PM was used as the basis for the assessment with the most onerous development flow (Sunday 14:00 – 15:00) used as the development flows.

The surrounding main road network is considered congested, therefore any junction with a degree of impact greater than 5% is presented for further assessment and modelling. Junctions 3 & 4 (Main Street / Bridge Street and Main Street / Butcher Street) were not considered congested but have been modelled. In addition, the other remaining junctions have been considered as part of this study for completeness.

COVID-19 has had an impact on the assessment as current baseline traffic surveys were not reflective of the known traffic levels or queuing within the area. Comments relating to each junction are contained with respective sections.

Junctions 10 software was used to model the respective junction's performance and informed this study of existing and proposed residual capacity remaining.

Flow Diagram Summary of Results & Impact Thresholds

RCP Flow Diagrams are contained in Appendix B with the summary results contained within Table 5. Section 3.1.5 of the Institute of Highways and Transportation guidelines for Traffic Impact Assessments (1994) recommends that a detailed impact analysis is required where one or other of the following thresholds are exceeded:

Traffic to and from the development exceeds 10% of the existing two-way traffic flow on the adjoining highway; or the development traffic exceeds 5% of the existing two-way traffic flow on the adjoining network where traffic congestion exists or will exist within the assessment period or in other sensitive locations.

Table 6 sets out the various percentages impacts on respective junctions and summarise the results of the Flow Diagrams.

Assessment Years

The TS will consider the operation of each junction with the base traffic conditions factored +5 & + 10-year assessment periods.

- 2023 – Estimated Opening Year Baseline Traffic (Historic Data)
- 2028 – Design Year (+5 years from estimated opening year)
- 2038 – Design years (+15 years from estimated opening year)

The proposed opening year for the development is anticipated to be 2023. In line with TII Guidelines design years of 2028 and 2038 have been used in this assessment to represent a 5-year and 15-year

design horizon for studying any identified impacts of the development on the existing surrounding roads network.

Traffic Growth Rates

The derived traffic growth used for the TA will be factored to the design years of 2028 and 2038, using the TII central growth rates.

- Assessment year + 5years - 2023 to 2028 TII factor of 0.0555 which equates to a factor of 1.055 this is rounded up on the flow diagrams and shown as 106%
- Assessment year + 15years - 2023 to 2038 TII factor of 0.1089 which equates to a factor of 1.1089 this is rounded up on the flow diagrams and shown as 110.9%

The redistributed traffic will be applied to the model junctions as per the methodology outlined in the previous section.

Assessment Time Period

The peak hour of 14:00 – 15:00 on a Sunday has been used in the assessments of the junctions. As the PM from the historic data was the more onerous in terms of existing traffic this was used to form the 2023 baseline.

Table 7: Flow Diagrams Summary Results

	Junction Impact Details - Peak Hour Assessment																	
	1					2			3			4			5			
	A5 / ASDA Roundabout					N15 / Bridge St			Main St / Bridge St			Main St / Butcher St			N15 / Butcher St Roundabout			
Junction Arm Reference	A	B	C	D	E	A	B	C	A	B	C	A	B	C	A	B	C	D
FD_01 = 2023 Baseline Traffic - Obtained from Historic PM Peak Data	1644	2018	2459	2101	0	2006	335	1999	235	155	290	186	315	289	324	2000	806	1737
FD_02 = 2023 Development Flows	8	29	21	11	51	13	19	10	14	8	22	8	6	2	6	13	6	13
FD_03 = 2023 Base + Development Flows	1652	2047	2480	2112	51	2019	354	2009	249	163	312	194	321	291	330	2013	812	1750
Percentage Change / Impact	0.5%	1.4%	0.8%	0.5%	100%	0.6%	5.4%	0.5%	5.6%	4.9%	7.1%	4.1%	1.9%	0.7%	1.8%	0.6%	0.7%	0.8%
FD_04 = 2023 Base Factored to 2028 (+5years)	1735	2130	2595	2218	0	2117	354	2110	248	164	306	196	332	305	342	2111	851	1833
FD_05 = 2023 Base Factored to 2028 (+5years) + Development Flows	1743	2159	2616	2229	51	2130	373	2120	262	172	328	204	338	307	348	2124	856	1847
FD_06 = 2023 Base Factored to 2038 (+15years)	1823	2238	2727	2330	0	2224	371	2217	261	172	322	206	349	320	359	2218	894	1926
FD_07 = 2023 Base Factored to 2038 (+15years) + Development Flows	1831	2267	2748	2341	51	2237	390	2227	275	180	344	214	355	322	365	2231	899	1939

Table 8: Junctions Modelled as Part of this Study

Ref	Impact Analysis Threshold	Assessed within the TIA Section	Notes
Junction 1 ASDA Roundabout Barnhill Rd A5 / Railway St / Bradley Way A5 / Lifford Rd	5%	No	The traffic surveys demonstrated no signs of capacity issues at this junction with the additional traffic generation impact maximum 1.4% on Arm B. Although Arm E is 100% as the proposed access route it should be noted that it has prior historic use and therefore this junction was not modelled
Junction 2 N15 / Bridge Street	5%	Yes	This junction demonstrates that Arm B has a maximum impact of 5.4% therefore this junction was modelled.
Junction 3 Main Street / Bridge Street	5%	Yes	Arm A and Arm C showed maximum impact of 5.6% and 7.1% respectively, therefore this junction was modelled.
Junction 4 Main Street / Butcher Street	5%	Yes	Arm A showed maximum impact of 4.1% but was modelled as considered closest junction to the Lifford proposed park entrance/ .
Junction 5 Three Coins Roundabout N15 E/Butcher St/ N14/ N15S	5%	No	This junction is showing a maximum impact of 1.8% on Arm A therefore no modelling was required.

Although none of the junctions listed above are congested a threshold of 5% was used throughout for completeness. Details of the traffic modelling and assessment are provided below with the detailed modelling outputs contained in Appendix D.

Junctions 10 Software

Junctions 10 was the traffic mathematical software used in the assessment of junctions 2, 3 & 4 as they are priority junctions rather than signalised which would have required LINSIG modelling.

The summary outputs from the traffic modelling are highlights below together with an assessment of the road traffic capacity network in the area for both existing traffic performance during Opening year, +5 years and +15 years.

Junctions 10 Modelling Terms

Firstly, the results provided look at how each "arm" or traffic flow stream of the junction would behave in terms of the following:

- Queue (PCU)
- Delay (s)
- Ratio of Flow to Capacity (RFC)

Secondly, the analysis then provides the operational performance information about how the whole junction would function in terms of the following:

- Junction Delay (s)
- Network residual capacity

Queue (PCU) – This is an estimate of the queue length that would be experienced at the junction. It is based on a default vehicle length of 5.75m i.e., 1 PCU or 1 car and represents the spacing of vehicles in a stationary queue from front bumper to front bumper.

Delay - This is an estimate of the delay that would be experienced at the junction in seconds.

Ratio to Flow to Capacity (RFC) - The RFC of a junction is one of the main factors influencing queues and delays. It is a measure of traffic intensity. As the RFC tends towards 1.00, it implies that the junction has reached its design capacity and would then be considered "saturated "and delays are then likely to occur. Typically, an RFC of less than 0.85 is considered to indicate satisfactory performance.

Junction Delay (s) - This is a measure of the overall junction delay in seconds.

Network Residual Capacity (NRC) – This is a measure of the how readily a network may accept an increase in traffic flow under its existing conditions. If the network residual capacity is high, the junction can easily accept an increase in traffic, if the this is low then the junction cannot easily accept an increase in traffic.

Junction 2 – N15 / Bridge Street

Table 9: Junction 2 - Modelling Summary

	PM								
	Set ID	Queue (Veh)	95% Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	J2 - N15 / Bridge St - 2023 - Baseline Traffic								
Stream B-C	D1	0.4	1.7	14.23	0.31	B	2.32	A	-10 % [Stream B-A]
Stream B-A		0.9	4.1	65.58	0.49	F			
Stream C-AB		0.3	1.3	7.81	0.19	A			
	J2 - N15 / Bridge St - 2023 - Development Traffic								
Stream B-C	D2	0.0	0.5	5.36	0.01	A	3.88	A	900 % []
Stream B-A		0.0	0.5	6.52	0.01	A			
Stream C-AB		0.0	~1	0.00	0.00	A			
	J2 - N15 / Bridge St - 2023 - Base + Development								
Stream B-C	D3	0.5	2.1	16.09	0.34	C	2.87	A	-12 % [Stream B-A]
Stream B-A		1.2	5.6	76.72	0.56	F			
Stream C-AB		0.4	1.3	7.80	0.20	A			
	J2 - N15 / Bridge St - 2028 - Factored Base Flows + 5 Years								
Stream B-C	D4	0.7	2.9	21.49	0.41	C	3.76	A	-15 % [Stream B-A]
Stream B-A		1.7	7.5	117.70	0.66	F			
Stream C-AB		0.4	1.4	7.83	0.21	A			
	J2 - N15 / Bridge St - 2028 - Factored Base Flows + 5 Years + Development Flows								
Stream B-C	D5	1.2	5.1	35.75	0.56	E	5.59	A	-17 % [Stream B-A]
Stream B-A		2.4	10.2	154.01	0.76	F			
Stream C-AB		0.5	1.4	7.82	0.22	A			
	J2 - N15 / Bridge St - 2038 - Factored Base Flows + 15 Years								
Stream B-C	D6	7.0	20.6	192.64	1.03	F	14.62	B	-19 % [Stream B-A]
Stream B-A		4.3	14.5	272.72	0.95	F			
Stream C-AB		0.5	1.4	7.84	0.22	A			
	J2 - N15 / Bridge St - 2028 - Factored Base Flows + 15 Years + Development Flows								
Stream B-C	D7	11.5	29.8	287.48	1.13	F	21.76	C	-21 % [Stream B-A]
Stream B-A		6.6	18.5	353.41	1.08	F			
Stream C-AB		0.5	1.5	7.83	0.24	A			
	J2 - N15 / Bridge St - 2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2								
Stream B-C	D8	16.6	37.0	381.15	1.25	F	29.72	D	-22 % [Stream B-A]
Stream B-A		9.5	22.5	443.65	1.22	F			
Stream C-AB		0.6	1.1	7.81	0.25	A			

The modelling of Junction 2 demonstrates that the junction is approaching saturation prior to the addition of the RCP generated traffic at opening year and throughout assessment years. As with any junction as the RFC on any leg approaches saturation (0.85) the junction becomes very sensitive to additional traffic as the junction is approaching a non-free flowing situation.

The results in Table 9 reflect this. Furthermore, as set out in the Section 1 of this document the above results should be taken as a guide only given the following.

- The traffic baseline surveys obtained in May 2021 were not considered reflective of the junction's usual baseline due to COVID-19 travel restrictions even when COVID-19 factors were applied.
- Given the above, historic traffic date was used from the Three Rivers retail development in 2011 with the Flow Diagrams factored in that study to 2023 opening year. The baseline traffic from the 2021 baseline traffic was significantly lower than the factored flows, however the historic factored flows was the only available information to base the traffic modelling on.
- Given the above, no available queue length information is available as this information was not obtained for Junction 2 - Bridge Street / N15 junction.
- Spot checks on baseline traffic and queue lengths were undertaken in August 2021 but again baseline traffic was significantly lower than the historic factored date available.

- The modelling has used the most onerous PM peak traffic and combined that with the proposed peak hour traffic of a Sunday afternoon for the proposed RCP development.

Based on engineering judgement and in reality (based on spot checks in August 2021) the actual Sunday baseline traffic of 14:00 – 15:00 is significantly lower than that used in the PM weekday modelling. Therefore, the actual junction capacity throughout the peak hours of the RCP use at Junction 2 from 14:00 – 15:00 will operate well within existing capacity.

Junction 3 – Main Street / Bridge Street

Table 10: Junction 3 - Modelling Summary

	PM								
	Set ID	Queue (Veh)	95% Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	J3 - Main St / Bridge St - 2023 - Baseline Traffic								
Stream B-AC	D1	0.2	0.5	7.65	0.17	A	2.88	A	258 %
Stream C-AB		0.1	0.5	6.50	0.10	A			[Stream B-AC]
	J3 - Main St / Bridge St - 2023 - Development Traffic								
Stream B-AC	D2	0.0	0.5	5.34	0.01	A	2.00	A	900 %
Stream C-AB		0.0	0.5	5.74	0.01	A			[]
	J3 - Main St / Bridge St - 2023 - Base + Development								
Stream B-AC	D3	0.2	0.9	7.72	0.18	A	2.89	A	241 %
Stream C-AB		0.1	0.5	6.55	0.10	A			[Stream B-AC]
	J3 - Main St / Bridge St - 2028 - Factored Base Flows + 5 Years								
Stream B-AC	D4	0.2	0.9	7.78	0.18	A	2.92	A	239 %
Stream C-AB		0.1	0.5	6.55	0.10	A			[Stream B-AC]
	J3 - Main St / Bridge St - 2028 - Factored Base Flows + 5 Years + Development Flows								
Stream B-AC	D5	0.2	1.1	7.86	0.19	A	2.93	A	224 %
Stream C-AB		0.1	0.5	6.60	0.11	A			[Stream B-AC]
	J3 - Main St / Bridge St - 2038 - Factored Base Flows + 15 Years								
Stream B-AC	D6	0.2	1.1	7.91	0.19	A	2.96	A	223 %
Stream C-AB		0.1	0.5	6.59	0.11	A			[Stream B-AC]
	J3 - Main St / Bridge St - 2028 - Factored Base Flows + 15 Years + Development Flows								
Stream B-AC	D7	0.2	1.2	7.99	0.20	A	2.98	A	209 %
Stream C-AB		0.1	0.5	6.64	0.12	A			[Stream B-AC]
	J3 - Main St / Bridge St - 2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2								
Stream B-AC	D8	0.3	1.2	8.08	0.21	A	2.99	A	197 %
Stream C-AB		0.1	0.5	6.69	0.12	A			[Stream B-AC]

The modelling of Junction 3 demonstrates that there is sufficient capacity on each of the junction arms the RFC of the 2023 Baseline traffic being 0.17 and 0.10. The theoretical scenario of double the development flows added to the factored 2028 baseline the RFC is 0.21 and 0.12 showing that even under this scenario there is still ample capacity at this junction.

It is not expected there will be any increase to existing queuing at this junction. For full results of Junction 10 modelling please refer to Appendix D.

Junction 4 – Main Street / Butcher Street

Table 11: Junction 4 - Modelling Summary

	PM								
	Set ID	Queue (Veh)	95% Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	J4 - Main St / Butcher Street - 2023 - Baseline Traffic								
Stream B-AC	D1	0.2	1.1	8.19	0.19	A	5.05	A	182 %
Stream C-AB		0.4	1.5	7.90	0.27	A			[Stream C-AB]
	J4 - Main St / Butcher Street - 2023 - Development Traffic								
Stream B-AC	D2	0.0	~1	0.00	0.00	A	0.00	F	900 %
Stream C-AB		0.0	~1	0.00	0.00	A			[]
	J4 - Main St / Butcher Street - 2023 - Base + Development								
Stream B-AC	D3	0.3	1.2	8.39	0.20	A	5.09	A	179 %
Stream C-AB		0.4	1.5	7.91	0.28	A			[Stream B-AC]
	J4 - Main St / Butcher Street - 2028 - Factored Base Flows + 5 Years								
Stream B-AC	D4	0.3	1.2	8.37	0.21	A	5.17	A	167 %
Stream C-AB		0.4	1.7	8.08	0.29	A			[Stream C-AB]
	J4 - Main St / Butcher Street - 2028 - Factored Base Flows + 5 Years + Development Flows								
Stream B-AC	D5	0.3	1.3	8.57	0.22	A	5.21	A	164 %
Stream C-AB		0.4	1.7	8.09	0.29	A			[Stream B-AC]
	J4 - Main St / Butcher Street - 2038 - Factored Base Flows + 15 Years								
Stream B-AC	D6	0.3	1.3	8.55	0.22	A	5.29	A	154 %
Stream C-AB		0.4	1.9	8.27	0.31	A			[Stream C-AB]
	J4 - Main St / Butcher Street - 2028 - Factored Base Flows + 15 Years + Development Flows								
Stream B-AC	D7	0.3	1.4	8.76	0.23	A	5.33	A	152 %
Stream C-AB		0.4	1.9	8.28	0.31	A			[Stream B-AC]
	J4 - Main St / Butcher Street - 2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2								
Stream B-AC	D8	0.3	1.4	8.96	0.24	A	5.37	A	144 %
Stream C-AB		0.5	1.9	8.29	0.31	A			[Stream B-AC]

This junction has significant residual capacity for current and future operating levels of traffic. The RFC for the 2023 baseline being 0.19 and 0.27. The theoretical scenario of double the development flows added to the factored 2028 baseline the RFC is 0.24 and 0.31 showing that even under this scenario there is still ample capacity at this junction.

It is not expected there will be any increase to existing queuing at this junction. For full results of Junction 10 modelling please refer to Appendix D.

Sensitivity Testing

Sensitivity testing of traffic modelling was accounted for by the following

- Within the traffic modelling, doubling the development traffic and adding this to the factored 2028 baseline flows.
- No reduction was made in relation to the population size of the baseline parks surveyed compared to the combined population of Lifford and Strabane. In reality the traffic generation is overestimated.

10 Construction Phase Assessment

Methodology

The section considers the potential impacts during construction phase of the project. Construction programme is considered and will be influenced by the final detailed design. The key elements of the proposed development together with oversized loads, transport routes, construction compounds are considered. Potential Impacts During the Construction Phase are highlighted, estimates of temporary construction HGV traffic are provided together with mitigation measures and construction phase conclusion.

Works Staging

The staging of the construction works will be subject to a detailed programme by the successful contractor in advance of commencement of works. It will be cognisant of a list of timeline constraints included in the Contract Documents.

The ES includes information on the following elements of the project construction:

- Outline Construction and Environmental Management Plan (OCEMP).
- Construction methodologies for each classification.
- Drainage works.
- Construction of temporary access roads/tracks and construction compounds.
- Works sequencing.
- Waste management.
- Construction programme.

Construction Programming

The aim is to have the entire project completed within 9months. This timescale has been used to assess the worst-case scenario in terms of the potential for traffic impacts. The construction timeline is dependent on the approach taken by the contractor, risk assessments and detailed design.

Several constraints have been identified which will impact upon the programme. These include:

- Minimising disruption to traffic on the A5 at all times
- Minimise disruption and nuisance to local businesses, traders and those living in residential properties close to any works area who could be adversely affected during the construction phase
- Ensuring all construction mitigation measures as identified in the Environmental Impact Assessment Report are implemented
- Phasing and timing of the River Foyle work to be in line with NIEA Guidance
- Archaeological assessment if deemed required
- Encountering areas with invasive species (Japanese Knotweed, Giant Rhubarb and Rhododendron). Refer to invasive species management plan
- Health and Safety – as in any works project Health and Safety will be specifically addressed.

The relevant constraints will be referenced in the Contract Documents and will form part of the procurement process.

The sequence of Works will broadly be as follows:

- Establish Compounds and environmental measures
- Cut back scrub and brush
- Construct temporary fencing and crossing points
- Construction and placing of the proposed pedestrian / cycleway bridge over the river Foyle
- Undertake excavation and drainage works
- Construction the park, buildings and paths
- Construct the EDCC accommodation works

- Bring pavement to formation and form verges
- Pavement construction
- Construct permanent fencing, remove temporary fencing, and install signage/fixtures

Working hours shall be 08:00 to 18:00 Monday to Friday and 13.00 on Saturday.

Construction Compounds

Two construction compounds will be established. In Strabane the compound will utilise the previous Halting Site with vehicular access of the existing leg of the ASADA Roundabout. In Lifford, the compound will be on the existing coursing grounds with access from the local road network i.e., Bridge Street, Main Street and Foyle View.

The purpose of the compounds is to provide adequate storage space and welfare facilities to allow the construction of Riverine Community Park in an efficient and safe manner. The compounds will have safe access to the public road network. The approach to all compound junctions will be adequately signed indicating construction traffic.

Further details of the compounds can be found within the CEMP submitted as part of the application package.

Potential Impacts During the Construction Phase

The Riverine Community Park construction works will lead to additional construction related traffic on the existing public road network over the duration of the construction works. These impacts will be associated with:

- HGV's transporting materials to and from the site compounds, including materials for the construction of drainage infrastructure, pavement construction, temporary hard standings, new structures, particular pavement construction elements such as board walk sections, pre-cast underpass structure components, structural elements for existing structure repair
- HGV's transporting conventional earthworks machinery such as excavators, dumper trucks, rollers etc.
- Fuel trucks transporting fuel (for plant) to each site compound during the works
- Light goods vehicles (LGVs) such as cars, 4x4s and vans used by the workers and supervisory staff involved in the construction works
- Cranes for lifting structure components

Without appropriate mitigation measures, the proposed works have the potential to lead to a negative impact on the road network including:

- Delay and disruption to road users
- Road safety issues should the works not be carried out in line with good traffic management practices
- Inappropriate parking of construction related vehicles along the route of the works
- Soiling of the public road leading to a general lack of cleanliness and poor skid resistance on roads

The construction of the following aspects of the proposed development have been identified as the sources of potential risks in terms of traffic and transportation during the construction phase of the development:

- Oversized Loads associated with the bridge being delivered
- Cranes for the bridge lift

Both the above points will be subject to oversized load procedures for each respective jurisdiction. Risk assessments will also be undertaken as part of this process.

Oversized Loads (Bridge Construction and Lifting into Place)

The bridge will be brought to the Lifford side of the site in several parts up to 30m in length, constructed on site then lifted into place. The crane will be similar to an AK 680 1,200T struct crane which is a large item of plant, please see image below. This crane will require an additional service crane of 200T to 300T capacity to load the ballast in preparation for the lift. The ballast would be around 300 tons and would be delivered on 30 – 35 trailers. The outrigger centres are approx. 14.5m x 14.5m with a jib length of circa 85-100m long.

The proposed route to the Lifford construction compound of the bridge sections will be subject to consultation with the Roads Authority in relation to the oversized load application and consultation with Garda Síochána and/or Police Service of Northern Ireland subject to the successful contractor for the bridge manufacture.

Image of an AK 680 1,200T Struct Crane

Additional Temporary Construction Traffic

The volume of additional traffic will vary over the 9-month period in accordance with the construction programme. The main elements of construction are the bridge, the community pavilion, the playparks, and cut/fill of material. These elements of construction are not large in terms of physical buildings or heavy civil engineering and will not require a large number of operatives during construction. However, there will be a requirement to import fill material and other construction material.

During the peak of construction, it is anticipated some 15HGV movements / day (one way) on average at the Lifford side of the park. There will also be a focused period of HGV movement with the arrival and erecting of the crane with some 30HGV (one way) movements in relation to crane ballast in preparation for the lift.

HGV levels on the Strabane side of the park are expected to be significantly lower with some 2-4 HGV / day except for the short period during import material for the car park where HGV numbers will increase to some 20-30HGV's / day for approximately a week.

On both sides of the project there will be the usual mix of vehicles associated with a construction site i.e., fuel trucks, light goods vehicles (LGVs) such as cars, 4x4s and vans used by the workers and supervisory staff involved in the construction works. These vehicle numbers are expected to be low as the number of operatives required will be relatively low during the normal operation of the construction phase.

The construction of the proposed scheme has been highlighted within the original TS in terms of HGVs, LGVs, fuel deliveries, cranes, and oversized loads etc, a maximum of 30 HGV (one way) movements in relation to crane ballast in preparation for the lift has been identified as the focused period of HGV traffic over a short period of time. Please refer to the indictive construction phase programme contained in Appendix F.

Predicted Daily Vehicle Trips

The predicted daily trips have been identified in section heading, '*Additional Temporary Construction Traffic'* which represents the most onerous predicted traffic generation movements during the construction phase. The indicative construction phase programme contained in Appendix F is helpful in considering the time periods of most likely HGV movements over likely 2month periods, October to December for mobilisation and July to September for bridge construction. The volume of fill to be imported during the above peak periods will amount to less than the predicted 30HGV (one way) movements assessed in the original TS. However, as the contractor will be required to submit a final Construction Environment Management Plan (CEMP) post award of contract the temporary traffic volumes can be raised within that document's construction programme.

Cut Fill Balance

It is expected the cut / fill balance will require the import of approximately 15,000 m^3 - 25,000m^3 of material. However, this is over the construction period of the scheme and can be programmed to ensure no concentrated HGV movements. That said, even with concentrated HGV movement this will amount to less than the original anticipated 30HGV (one way) vehicles considered in the original TS.

Appendix G contains a cut fill analysis of the proposed scheme. In reality it is expected the import material will be significantly less as the cut / fill analysis contained in Appendix G excludes excavations in relation to construction footprint for drainage, roads, carparks formation levels. Therefore, the actual impact is predicted to be significantly less in terms of traffic movements regarding import material.

Other Material Import
The compressive indictive construction programme is helpful in providing information relation to the construction sequence. The material in relation to the building, carparks, play parks etc are insignificant in relation to the ballast for the bridge and will occur over time, therefore the traffic impact will be modest over a longer period of time within the construction programme. The resulting factor of the latter is the traffic impact will be modest.

Trips Generated by Workers and Visitors to the Site
Traffic generation of workers and visitors, LGV's are estimated at 10 (one way) trips per day to the compound including workers within the LGV with 20 (one-way trips) for staff arriving at the compounds for work in vans. It is anticipated that contractor's staff will have a slight and temporary adverse local impact considering they are already on the surrounding road network, therefore diverted trip rather than new trips. Visitors to the site are expected to be out of peak hour traffic times and infrequent in nature, it is not expected visitors will have any meaningful implications in relation to the EIAr.

Vehicle Types and Distribution During Am & PM Traffic Peaks
Vehicle types have been described within the body of the original TS, the distribution will be subject to the awarded contractor but will likely have a balanced approach along the N14/N15 and therefore approach to the site. It is not expected that any significant HGV movements in particular will occur within the AM or PM peak periods. With exception to isolated periods of blacktopping roads the latter would be considered normal in relation to a project of this nature and scale.

Cumulative Impact and Permitted Development Either Side of Border
Please refer to Chapter 15 of the Addendum EIAR for full consideration of the potential for cumulative impacts arising from the Project in association with other development on both Strabane and Lifford sides of the Project, as well as the interaction between potential impacts on different environmental receptors arising from the proposed Project.

Construction Phase Mitigation

Dust and Dirt
During the construction phase the increase in dust and dirt will be minimised by effective site management. The construction routes will be discussed and agreed with respective roads departments and disruption will be mitigated. The construction routes and the phasing of the scheme will be agreed with respective roads departments.

Wheel washing facilities will be provided for all construction vehicles and construction areas will be fenced-off. It should be noted that a OCEMP has been undertaken and has been included as part of the planning submission.

Any impact will be ameliorated using best practice including damping down excavated material and haul roads when the roads are dry and covering loads of surplus material leaving and entering the site. Wheel washing will be provided on site.

Construction Days & Hours
Working hours shall be 08:00 to 18:00 Monday to Friday and 13.00 on Saturday.

Operatives Travel Behaviour
The Contractor will be required to develop a Construction Travel Plan to ensure operatives vehicles use are kept to a minimum with the use of mini-buses and shared vehicle trips.

Construction Phase Conclusion

On the basis of the ES, it is expected that the impact this activity will have on the surrounding road network will be ‘temporary’ to ‘short-term’ in duration, and ‘moderate’ in significance.

11 Non-Motorised User / Park Access

Methodology

This section sets out an appropriate understanding of relevant existing facilities for pedestrians, cyclists, public transport, it assesses suitable crossing points for pedestrians and cyclists. Equestrians in the Lifford or Strabane areas are not expected but have been considered. This section is split into respective towns of Lifford and Strabane for ease of reference.

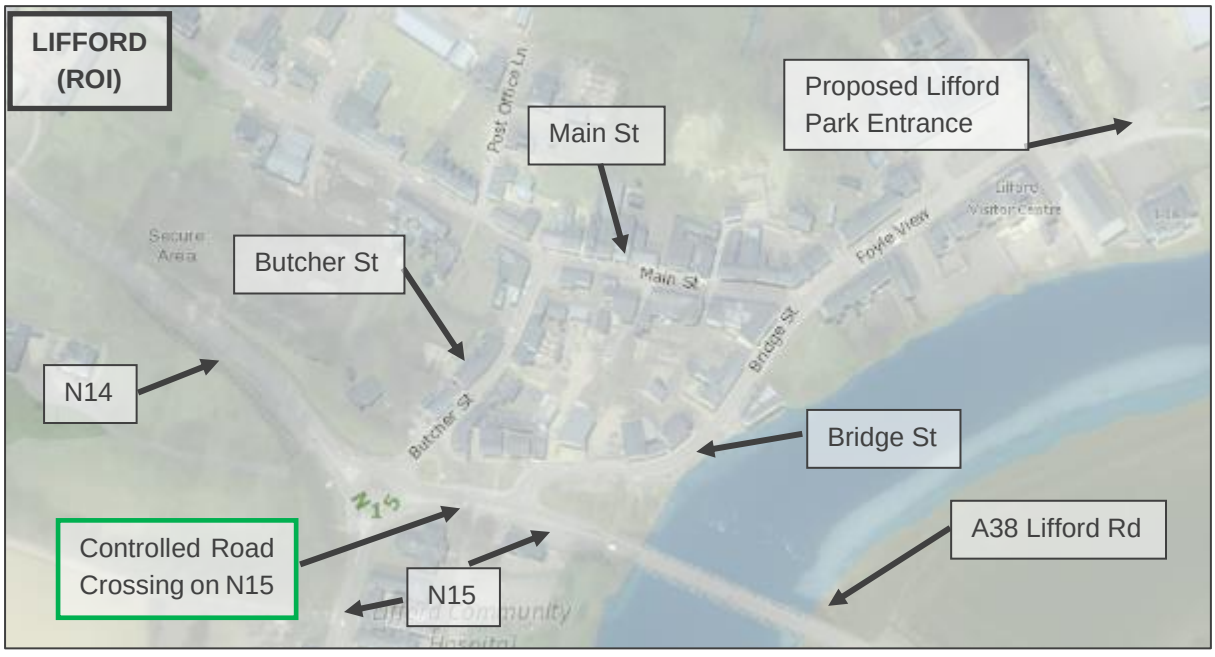
Lifford (Pedestrian & Cycling)

Lifford town centre with Bridge Street, Main Street and Butcher Street will be the main roads leading to Foyle View then into the proposed park. The surrounding footways are narrow in areas but do provide segregation for pedestrians.

The streets are relatively quiet in terms of traffic volumes and therefore provide rood conditions for cyclists. The approach roads to the proposed development benefit from street lighting. There is also an existing pedestrian use next to the proposed park entrance in relation to the cinema and Three Rivers Centre.

In terms of desire lines for non-motorised users there are multiple approaches within Lifford equally as desirable then ultimately is Foyle View and into the proposed park.

Figure 10: Lifford Link Roads / Footways



Pedestrian Controlled Crossing on N15 (Bridge Street on the left)

Butcher Street

Main Street

Foyle View

Proposed Site Entrance (right)

Wider Footway / Cycleway Network

In terms of the wider footway connections Lifford benefits from good footway infrastructure particularly the national road network within the town linking the various populated and rural areas. There is also the Strabane to Lifford Greenway (Route 3) and the proposed Northern Greenway linking into the RCP project to the northern side of the Strabane section. This will have the benefit of the new footbridge as part of the proposed development.

Figure 11: Strabane to Lifford Greenway (Route 3)

In terms of cycling the North West Trail passes through Lifford & Strabane providing a well-publicised and integral route for wider cycling connections to the RCP proposed scheme.

Figure 12: North West Cycle Trail

Equestrians

The nature of narrow streets within Lifford and the proximity of the National Road network N14 & N15 may discourage equestrian use in relation to accessing the RCP development. However, as with cycling the local streets are lightly trafficked and could provide an access for equestrian users.

Lifford NMU Mitigation Measures

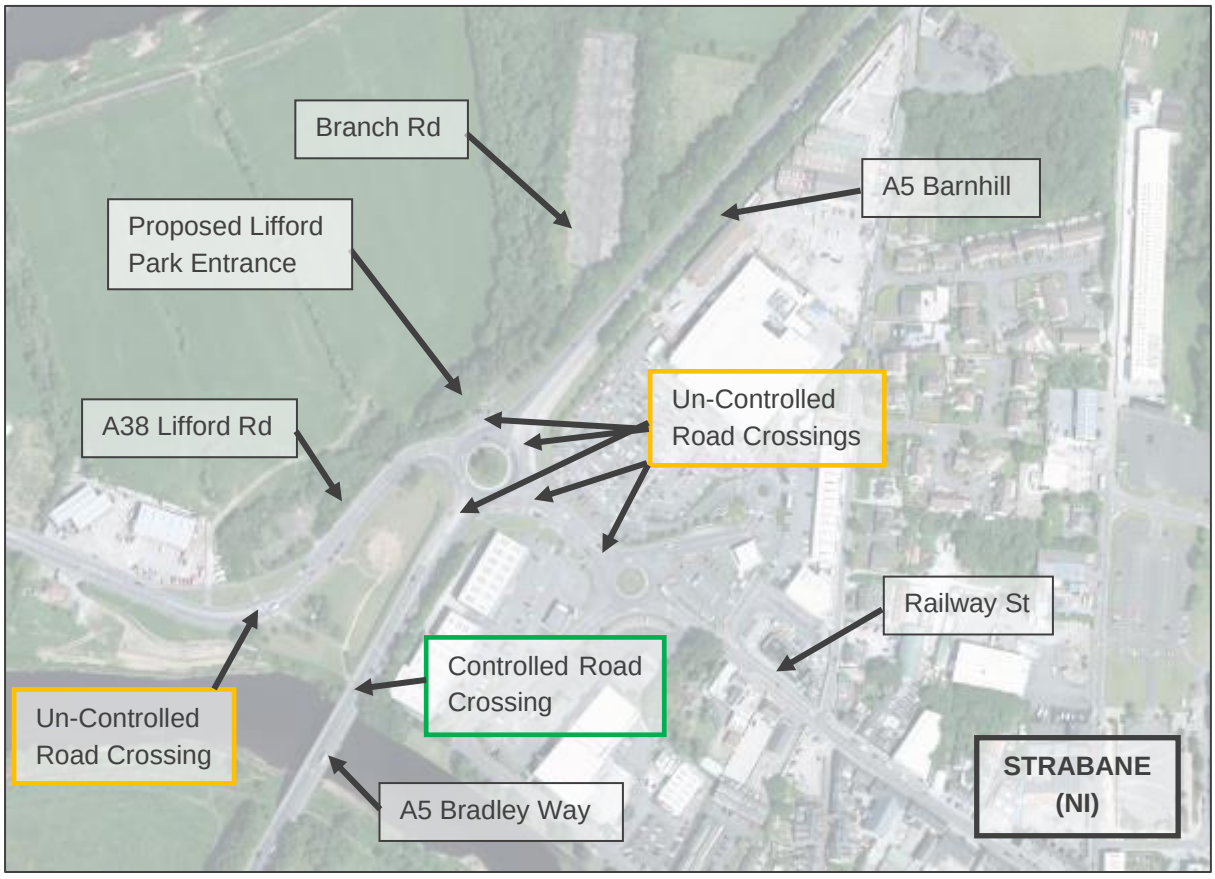
It is considered non-motorised users will have a safe environment in which to enjoy safe access to both the Lifford and Strabane entrances to the proposed park. As there is already provision of a controlled crossing point on the N15 between Bridge Street and the Three Coins Roundabout combined with relatively low levels of traffic within the town of Lifford no mitigation measures are proposed.

Strabane (Pedestrian & Cycling)

The footway network within Strabane is well catered for in relation to pedestrian facilities. Dropped kerbs, tactile paving, and street lighting as well as uncontrolled crossings point on the A38 Lifford Rd are already available extensively throughout the surrounding pedestrian network.

In terms of design lines for NMU users within Strabane they will ultimately be approaching from the east and will require to cross the A5 safely to enter the proposed park. Please refer to Figure 12 which illustrates the relationship between Strabane and the A5 strategic road network. The figure shows the location of the controlled crossing on the A5 Bradley Way (part of the Strabane to Lifford Greenway); refer to Figure 10 & 11); the uncontrolled crossings at ASDA Roundabout, A38 Lifford Road and Railway Street Roundabout.

Figure 13: Lifford Link Roads / Footways



A38 Lifford Road Roundabout Uncontrolled Crossing & Uncontrolled Crossings to circa 150m Southwest of ASDA Roundabout on the Lifford Road

Uncontrolled Crossing at Railway Street & A5 Barnhill Road Legs of the ASDA Roundabout

Proposed Site Entrance with Uncontrolled Crossing

Wider Footway / Cycleway Network

In terms of the wider footway connections like Strabane, Lifford benefits from good footway infrastructure through the town linking the various populated and rural areas. There is also the Strabane to Lifford Greenway (Route 3) and the proposed Northern Greenway linking into the RCP project to the northern side of the Strabane section. This will have the benefit of the new footbridge as part of the proposed development.

In terms of cycling the North West Trail passes through Lifford & Strabane providing a well-publicised and integral route for wider cycling connections to the RCP proposed scheme.

Image of North Greenway can be found within the application package.

Equestrians

The nature of strategic roads and town centre may discourage equestrian use in relation to accessing the RCP development. However, their use has been considered in the mitigation measures in relation to Strabane NMU assessment.

Strabane Public Transport

DfI Roads have asked for a GG-142 WCHAR study to be undertaken, this process normally applies to road scheme developments and in this instance has been combined with the NAU Section of this report with the exception of the public transport consideration which are highlighted below. The following information has been provided by the A5WTC consultants and also comments on future development, pedestrian & cycle routes

Bus Services:

- Ulsterbus Service 100/101 provides a route between Strabane and Clady via Sion Mills and Glebe, operating between Monday and Saturday
- Ulsterbus Service 102a provides a route between Londonderry and Strabane, operating 7 days per week
- Goldline Express Service 273 provides a route between Belfast and Londonderry via Dungannon, Strabane and Omagh. The service operates 7 days per week
- Bus Service X3 Goldline Express provides a route between Londonderry and Dublin via Dublin Airport, operating on weekdays only.

Future Development

- Strabane Canal Towpath
- Strabane Pedestrian Project
- Strahans Road School
- Carricklee Landfill Regeneration
- DfI Western Division Park & Ride/Share Sites

Pedestrian Routes

WalkNI (https://walkni.com/) has a number of walking routes around Northern Ireland, varying in distance from 1 mile to over 20 miles. A short walk is classified as up to 5 miles, a medium walk is between 5 and 20 miles and a long walk is over 20 miles.

Mourneside Walk is a short walk from Sion Mills at the Mourne River, with the footpath following the outer perimeter of Herdman's Mill and giving panoramic views of the 19th century weir. The path is a loop around the weir and back to the starting point.

Strabane Towpath is a short walk (up to 5 miles) from the village of Ballymagorry. The route uses the Strabane Canal which is in the process of being restored. Pedestrians can access excellent views of the River Foyle and across to Donegal.

The Ulster Way is a 675-mile-long distance circular route promoted by WalkNI.

Cycle Routes
NCR92 is routed along the A38 as it crosses the River Foyle from Lifford to Strabane, continuing through Strabane town centre before running south along the lower eastern valley slopes of the Mourne River and River Strule as far as Newtownstewart.

Sperrin's Cycle Route: The Derg Valley (SCR6) is promoted by CycleNI, offering cyclists a 30-mile round trip from Newtownstewart. It follows the lower eastern slopes of the Strule Valley as far as Sion Mills, before climbing the western slopes of the valley to the south-west of the town along Garden Road and Peacock Road. It descends into Castlederg and then returns along the southern slopes of the Derg River valley, where it joins NCR 95 at Castlebane Road, and follows the national route through the Baronscourt Estate before descending into Newtownstewart.

The North West Trail, a 326km circular cycle route, travels through a wide variety of scenic landscapes, utilising quiet country roads with some traffic-free sections in urban areas.

Strabane NMU Mitigation Measures
In terms of desire lines from to safely cross pedestrians and cyclists across the A5 Strategic Road and the A38 Lifford road the introduction of controlled crossings will be provided. The location on the A5 crossing will be some 100m north of the ASADA Roundabout Details. The existing uncontrolled crossing on the A38 Lifford Road will be upgraded to a controlled Toucan crossing. The proposed locations can be found in the Project Description and drawing package.

Mobility Impaired

Mobility impaired users of the NMU network will benefit from ramped access to the buildings together with dropped kerbs and tactile paving at crossings and entrances.

12 Mitigation Measures

Pedestrians Crossings of Strategic Roads (Strabane)

The existing pedestrian crossing on the A38 Lifford Road will be upgraded to a controlled toucan crossing. A new toucan crossing will be introduced on the A5 Barnhill Road some 100m north of the ADSA Roundabout. Both measures will facilitate the safe movement of pedestrians / cyclists to the proposed RCP and the northern greenway. Both crossings will be subject to the detailed design post planning to disability standards.

Construction Phase Mitigation (NI & ROI)

Dust and Dirt

During the construction phase the increase in dust and dirt will be minimised by effective site management. The construction routes will be discussed and agreed with respective roads departments and disruption will be mitigated. The construction routes and the phasing of the scheme will be agreed with respective roads departments.

Wheel washing facilities will be provided for all construction vehicles and construction areas will be fenced-off. It should be noted that a OCEMP has been undertaken and has been included as part of the planning submission.

Any impact will be ameliorated using best practice including damping down excavated material and haul roads when the roads are dry and covering loads of surplus material leaving and entering the site. Wheel washing will be provided on site.

Construction Days & Hours

Working hours shall be 08:00 to 18:00 Monday to Friday and 13.00 on Saturday.

Operatives Travel Behaviour

The Contractor will be required to develop a Construction Travel Plan to ensure operatives vehicles use are kept to a minimum with the use of mini-buses and shared vehicle trips.

East Donegal Coursing Club (ROI)

Although there is to be no increase with traffic already associated with the EDCC there will be no events associated with the RCP that will occur on the same day as events at the EDCC. This will be outlined in the Event Management Plan associated with the RCP.

13 Residual Impacts

The TA concludes that the proposed mitigation measures (outlined above) will ensure that the surrounding highway network operates no worse than the existing network with the proposed development constructed and operational and therefore it is anticipated that the proposed development will have a negligible impact upon the surrounding highway network.

14 Conclusions

The creation of the Riverine Community Park will encourage the use of the greenways that have been built or are under construction within the area of Strabane and Lifford thus helping to increase the number of cycling tourists and locals to utilise the off-road routes to access the cross-community park.

The creation of two controlled Toucan crossings will enable the safe crossing of pedestrians across the A38 Lifford Road and the A5 Barnhill Road on the Strabane side of the proposed development.

The modelling demonstrates that the local road network can accommodate the RCP without significant detriment to existing conditions. Although there will be a modest impact on Junction 2 (N15/Bridge Street) this junction is already at or nearing capacity so the additional traffic associated with the park will be negligible in terms of cumulative impact. When considering the above on a Sunday which is the peak hour for the proposed development there is little to no impact on the junction's capacity.

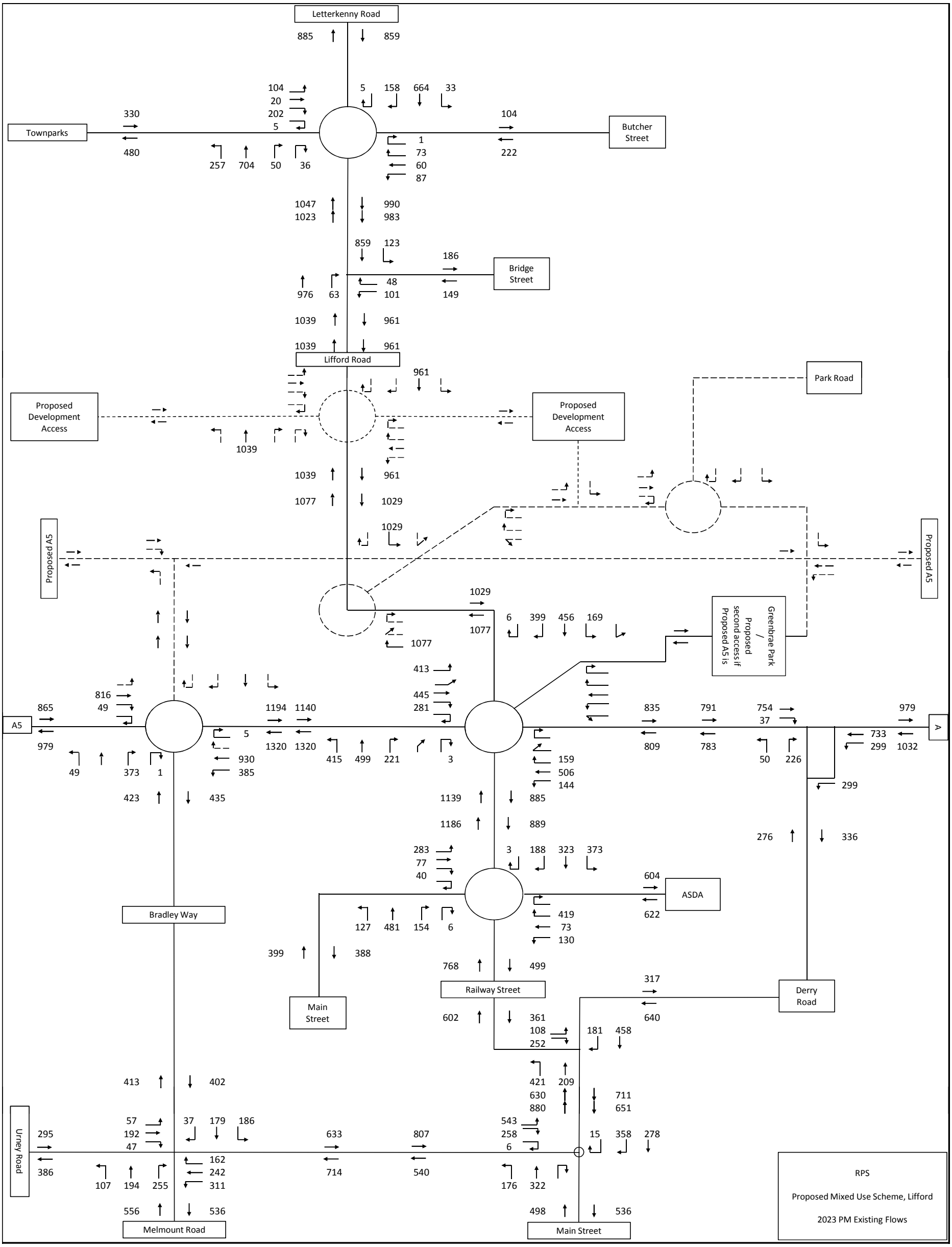
All significant events to be held at the RCP will be subject to an Event Management Plan which will contain mitigation measures to reduce the traffic impact on the local road network within the area or Lifford and Strabane.

It is expected that construction will have a minimal impact on the local road network and will be ongoing for only 9 months, any oversized loads will be subject to risk assessments that the contractor will carry out and communication with the relevant authorities in each jurisdiction to minimalize any delay within the local area. Any impact associated with construction on the surrounding road network will be 'temporary' to 'short-term' in duration, and 'moderate' in significance.

In conclusion the Transport study confirms there are no residual impacts relating to the proposed development.

Regarding the EIAr Addendum assessment there are no changes to the TS Mitigation Measures or Residual Impact

Appendix A: Three Rivers Report Flow Diagrams


Letterkenny Road
885
859
104
20
202
5
5
158
664
33
330
480
Townparks
257
704
50
36
104
222
Butcher Street
1
73
60
87
1047
1023
990
983
859
123
186
Bridge Street
48
976
63
101
149
1039
961
1039
961
Lifford Road
961
Park Road
Proposed Development Access
1039
Proposed Development Access
1039
961
1077
1029
1029
Proposed A5
Proposed A5
1029
1077
6
399
456
169
1077
Greenbrae Park / Proposed second access if Proposed A5 is
413
445
281
816
49
865
979
A5
1194
1140
1320
1320
5
930
385
415
499
221
3
835
791
754
37
809
783
50
226
979
733
299
1032
A
159
506
144
49
373
1
423
435
1139
885
1186
889
299
276
336
283
77
40
3
188
323
373
604
622
ASDA
419
73
130
Bradley Way
127
481
154
6
399
388
768
499
317
Railway Street
Derry Road
Main Street
602
361
640
108
252
181
458
421
209
630
880
711
651
413
402
543
258
6
57
192
47
295
386
37
179
186
162
242
311
633
714
807
540
15
358
278
107
194
255
176
322
556
536
498
536
Urney Road
Melmount Road
Main Street
RPS
Proposed Mixed Use Scheme, Lifford
2023 PM Existing Flows

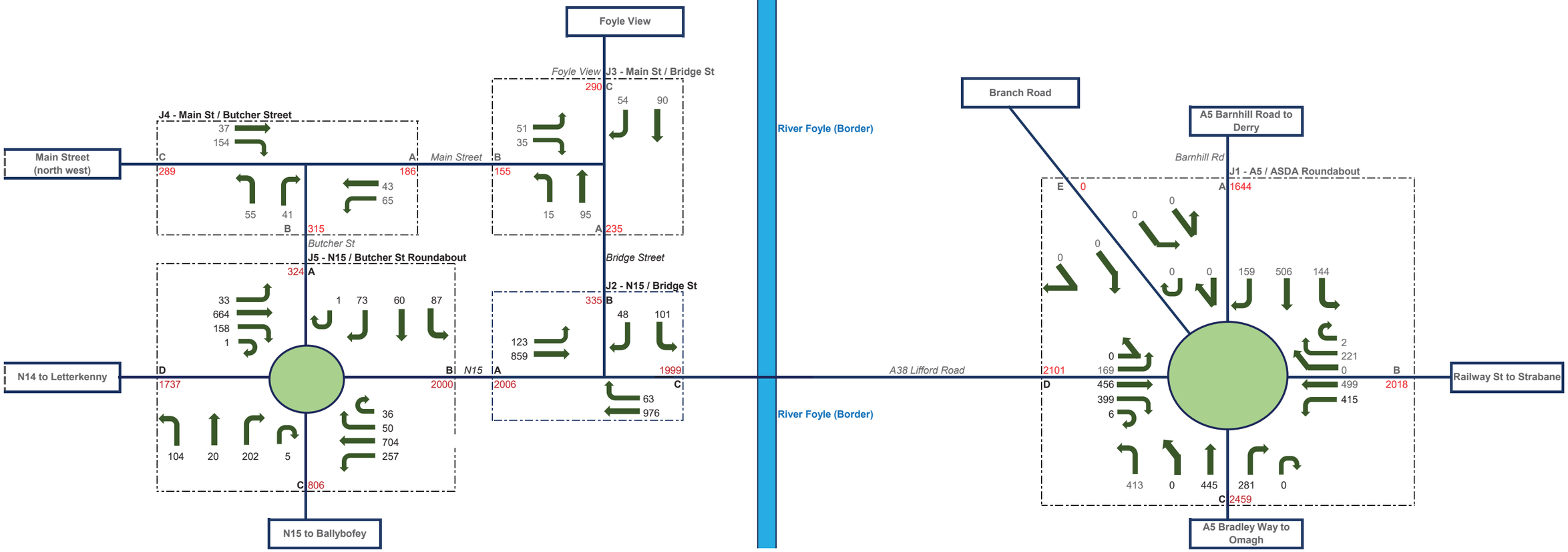
Appendix B: Riverine Community Park Flow Diagrams

HoyDorman

RIVERINE COMMUNITY PARK - TRAFFIC FLOW DIAGRAMS - OPERATIONAL TRAFFIC (PEAK HOUR SUNDAY 14:00 - 15:00)

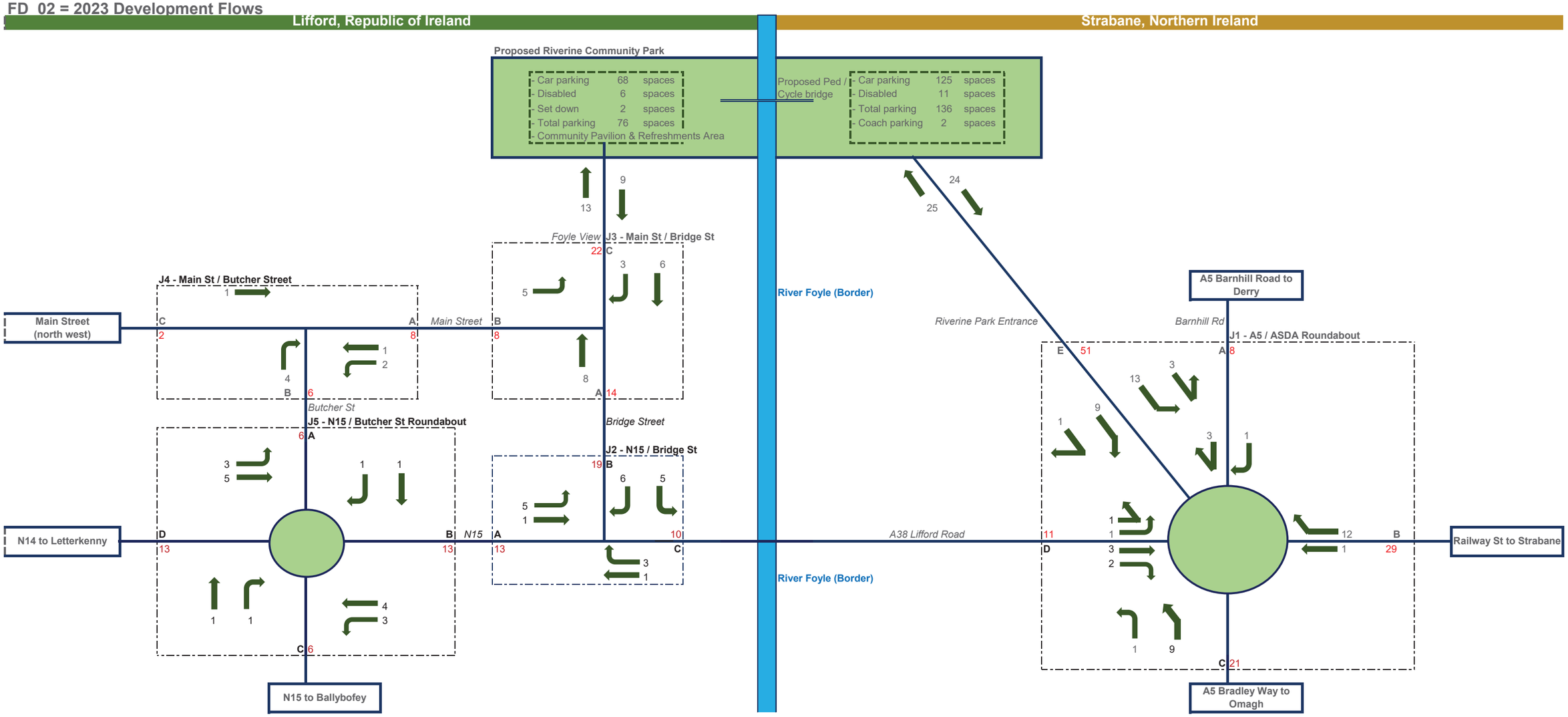
FD_01 = 2023 Baseline Traffic - Obtained from Historic PM Peak Data

Lifford, Republic of Ireland | **Strabane, Northern Ireland**



Junction Impact Details - Peak Hour Assessment																			
	1					2			3			4			5				
	A5 / ASDA Roundabout					N15 / Bridge St			Main St / Bridge St			Main St / Butcher St			N15 / Butcher St Roundabout			
Junction Arm Reference	A	B	C	D	E	A	B	C	A	B	C	A	B	C	A	B	C	D
FD_01 = 2023 Baseline Traffic - Obtained from Historic PM Peak Data	1644	2018	2459	2101	0	2006	335	1999	235	155	290	186	315	289	324	2000	806	1737

FD_02 = 2023 Development Flows



Junction Impact Details - Peak Hour Assessment																			
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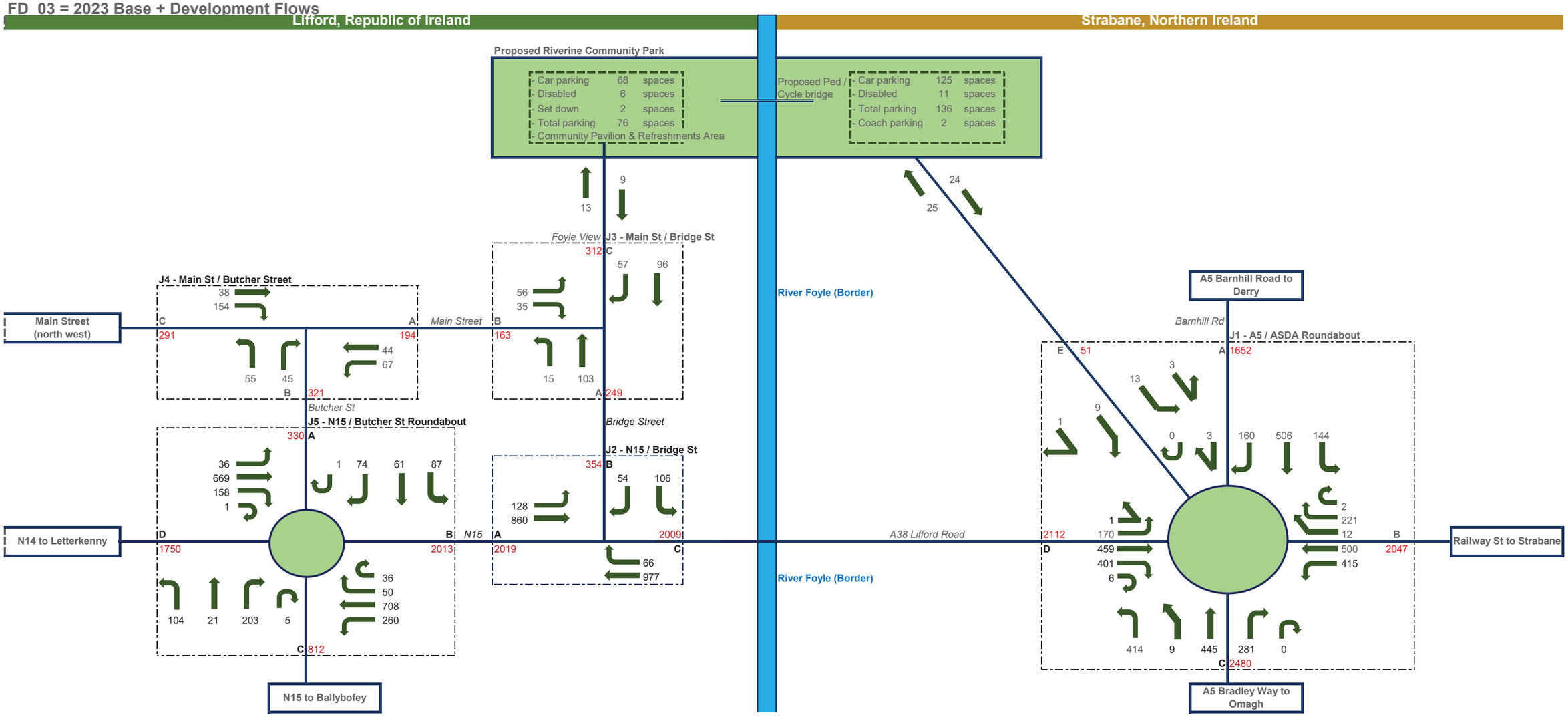
Junction Arm Reference	A	B	C	D	E	A	B	C	A	B	C	A	B	C	A	B	C	D
FD_01 = 2023 Baseline Traffic - Obtained from Historic PM Peak Data	1644	2018	2459	2101	0	2006	335	1999	235	155	290	186	315	289	324	2000	806	1737
FD_02 = 2023 Development Flows	8	29	21	11	51	13	19	10	14	8	22	8	6	2	6	13	6	13

FD_03 = 2023 Base + Development Flows



Junction Impact Details - Peak Hour Assessment																		
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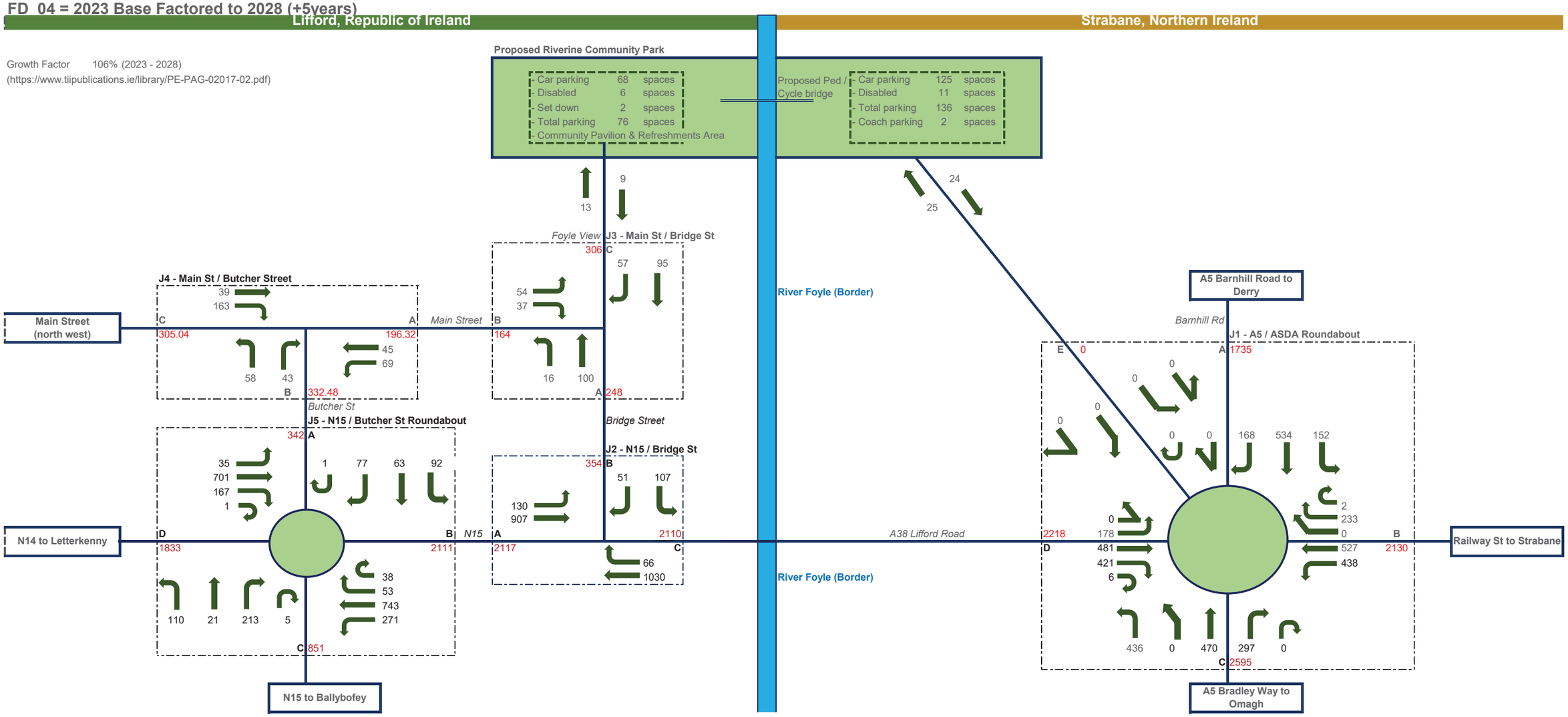
FD_02 = 2023 Development Flows	8	29	21	11	51	13	19	10	14	8	22	8	6	2	6	13	6	13
FD_03 = 2023 Base + Development Flows	1652	2047	2480	2112	51	2019	354	2009	249	163	312	194	321	291	330	2013	812	1750
Percentage Change / Impact	0.5%	1.4%	0.8%	0.5%	100.0%	0.6%	5.4%	0.5%	5.6%	4.9%	7.1%	4.1%	1.9%	0.7%	1.8%	0.6%	0.7%	0.8%

FD_04 = 2023 Base Factored to 2028 (+5years)

Lifford, Republic of Ireland | Strabane, Northern Ireland

Growth Factor 106% (2023 - 2028)
(https://www.tiipublications.ie/library/PE-PAG-02017-02.pdf)



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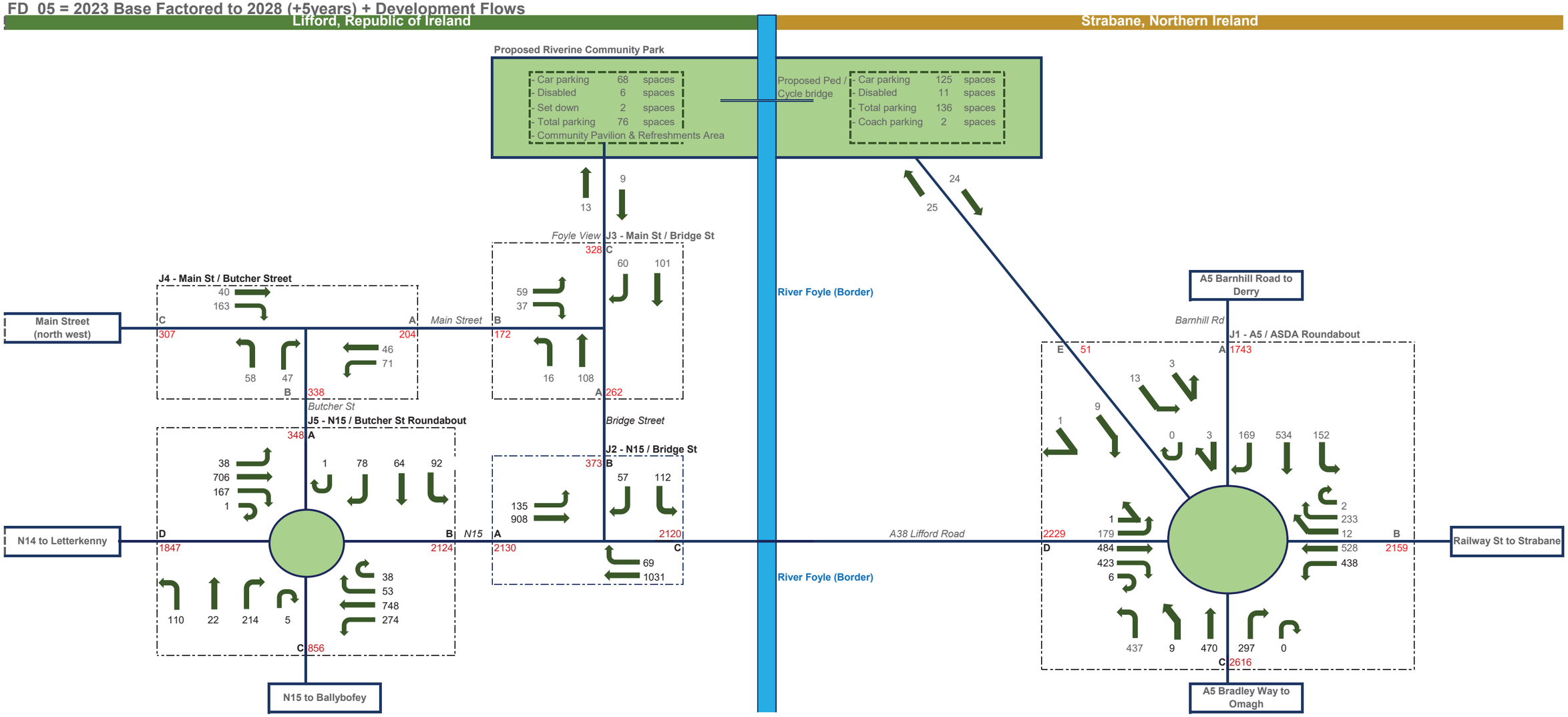
Percentage Change / Impact	0.5%	1.4%	0.8%	0.5%	100.0%	0.6%	5.4%	0.5%	5.6%	4.9%	7.1%	4.1%	1.9%	0.7%	1.8%	0.6%	0.7%	0.8%
FD_04 = 2023 Base Factored to 2028 (+5years)	1735	2130	2595	2218	0	2117	354	2110	248	164	306	196	332	305	342	2111	851	1833

FD_05 = 2023 Base Factored to 2028 (+5years) + Development Flows



Junction Impact Details - Peak Hour Assessment																			
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Junction Arm Reference	A	B	C	D	E	A	B	C	A	B	C	A	B	C	A	B	C	D
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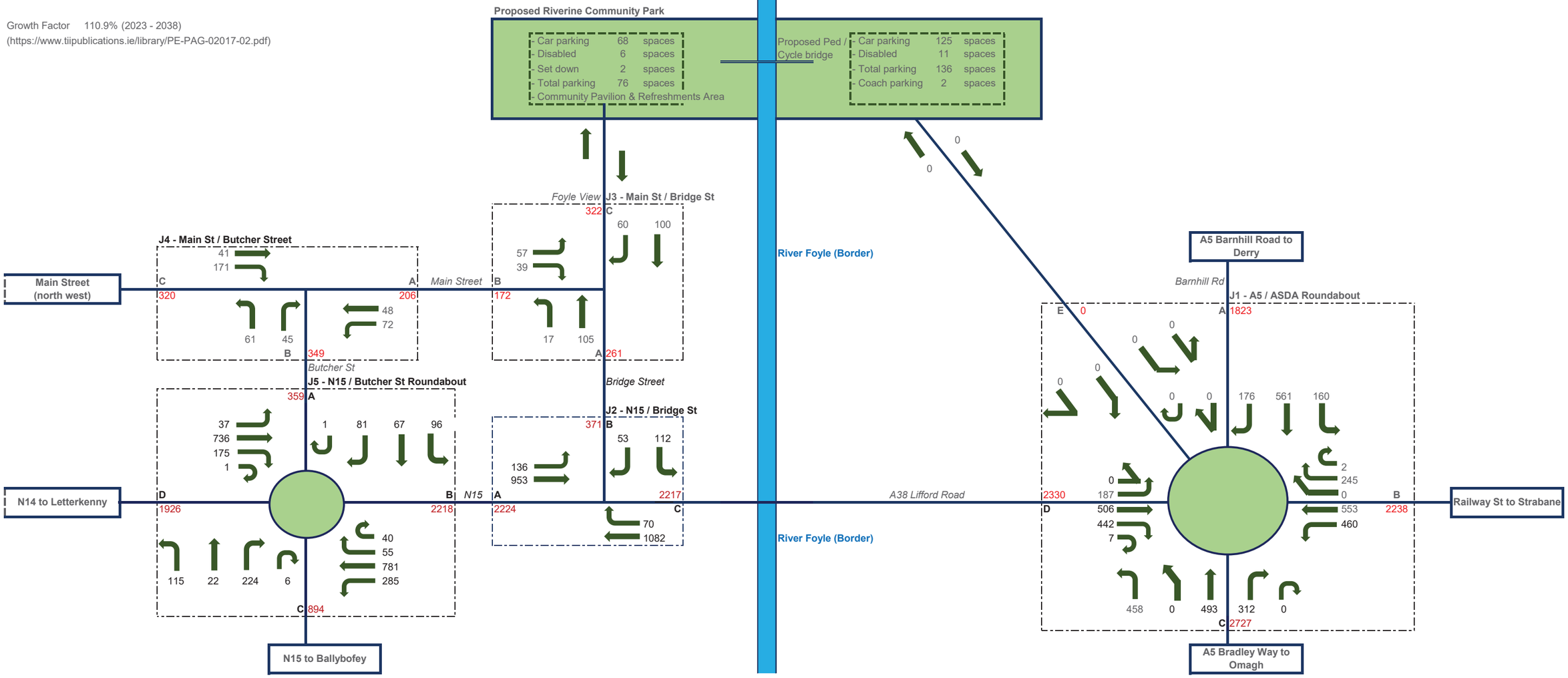
Percentage Change / Impact	0.5%	1.4%	0.8%	0.5%	100.0%	0.6%	5.4%	0.5%	5.6%	4.9%	7.1%	4.1%	1.9%	0.7%	1.8%	0.6%	0.7%	0.8%
FD_04 = 2023 Base Factored to 2028 (+5years)	1735	2130	2595	2218	0	2117	354	2110	248	164	306	196	332	305	342	2111	851	1833
FD_05 = 2023 Base Factored to 2028 (+5years) + Development Flows	1743	2159	2616	2229	51	2130	373	2120	262	172	328	204	338	307	348	2124	856	1847

FD_06 = 2023 Base Factored to 2038 (+15years)

Lifford, Republic of Ireland | Strabane, Northern Ireland

Growth Factor 110.9% (2023 - 2038)
(https://www.tiipublications.ie/library/PE-PAG-02017-02.pdf)



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FD_03 = 2023 Base + Development Flows	1652	2047	2480	2112	51	2019	354	2009	249	163	312	194	321	291	330	2013	812	1750
Percentage Change / Impact	0.5%	1.4%	0.8%	0.5%	100.0%	0.6%	5.4%	0.5%	5.6%	4.9%	7.1%	4.1%	1.9%	0.7%	1.8%	0.6%	0.7%	0.8%
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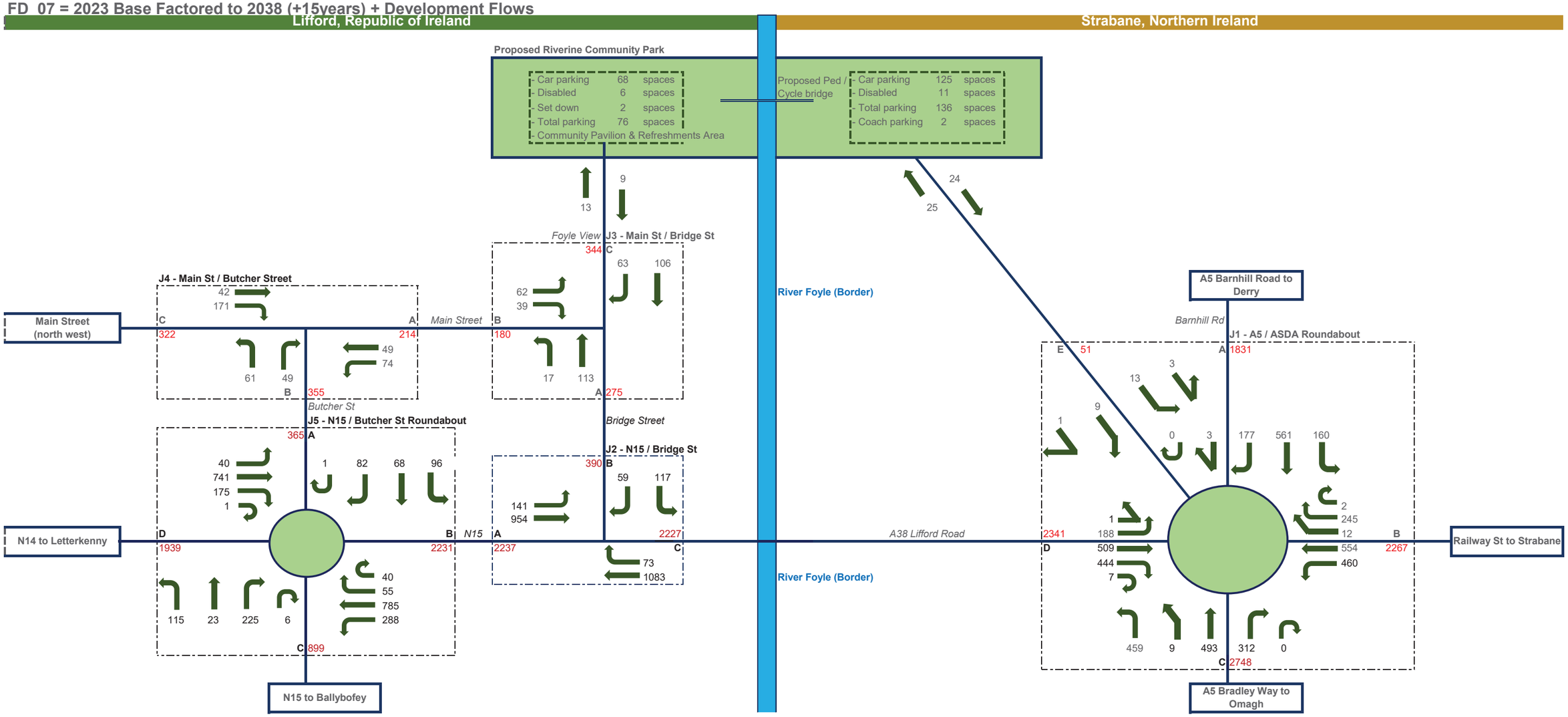
FD_05 = 2023 Base Factored to 2028 (+5years) + Development Flows	1743	2159	2616	2229	51	2130	373	2120	262	172	328	204	338	307	348	2124	856	1847
FD_06 = 2023 Base Factored to 2038 (+15years)	1823	2238	2727	2330	0	2224	371	2217	261	172	322	206	349	320	359	2218	894	1926

FD_07 = 2023 Base Factored to 2038 (+15years) + Development Flows



Junction Impact Details - Peak Hour Assessment																			
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Junction Arm Reference	A	B	C	D	E	A	B	C	A	B	C	A	B	C	A	B	C	D
FD_01 = 2023 Baseline Traffic - Obtained from Historic PM Peak Data	1644	2018	2459	2101	0	2006	335	1999	235	155	290	186	315	289	324	2000	806	1737
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FD_07 = 2023 Base Factored to 2038 (+15years) + Development Flows	1831	2267	2748	2341	51	2237	390	2227	275	180	344	214	355	322	365	2231	899	1939

Junction Impact Details - AADT																			
	1					2			3			4			5				
	A5 / ASDA Roundabout					N15 / Bridge St			Main St / Bridge St			Main St / Butcher St			N15 / Butcher St Roundabout			
Junction Arm Reference	A	B	C	D	E	A	B	C	A	B	C	A	B	C	A	B	C	D
FD_01 = 2023 Baseline Traffic - Obtained from Historic PM Peak Data	15618	19171	23361	19960	0	19057	3183	18991	2233	1473	2755	1767	2993	2746	3078	19000	7657	16502
FD_02 = 2023 Development Flows	59	215	155	81	377	96	141	74	104	59	163	59	44	15	44	96	41	99
FD_03 = 2023 Base + Development Flows	15677	19386	23516	20041	377	19153	3323	19065	2336	1532	2918	1826	3037	2760	3122	19096	7698	16601
Percentage Change / Impact	0.4%	1.1%	0.7%	0.4%	100.0%	0.5%	4.2%	0.4%	4.4%	3.9%	5.6%	3.2%	1.5%	0.5%	1.4%	0.5%	0.5%	0.6%

Appendix C: TRICS

Calculation Reference: AUDIT-304901-210701-0714

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
Category : B - RESTAURANTS
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	HC	HAMPSHIRE	1 days
	WS	WEST SUSSEX	1 days
04	EAST ANGLIA		
	NF	NORFOLK	1 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	2 days
06	WEST MIDLANDS		
	ST	STAFFORDSHIRE	1 days
	WM	WEST MIDLANDS	2 days
08	NORTH WEST		
	CH	CHESHIRE	2 days
09	NORTH		
	CB	CUMBRIA	1 days
10	WALES		
	CF	CARDIFF	1 days
11	SCOTLAND		
	RF	RENFREWSHIRE	1 days
17	ULSTER (NORTHERN IRELAND)		
	AN	ANTRIM	2 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: 75 to 400 (units: sqm)
Range Selected by User: 75 to 400 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/13 to 25/09/19

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:

Monday	1 days
Tuesday	1 days
Wednesday	1 days
Thursday	4 days
Friday	3 days
Saturday	4 days
Sunday	1 days

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

Selected survey types:

Manual count	15 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 undertaking using machines.

Selected Locations:

Town Centre	5
Suburban Area (PPS6 Out of Centre)	2
Edge of Town	3
Neighbourhood Centre (PPS6 Local Centre)	5

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:

Development 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:

E(b)	15 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	1 days
10,001 to 15,000	1 days
15,001 to 20,000	2 days
20,001 to 25,000	2 days
25,001 to 50,000	6 days
50,001 to 100,000	1 days

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

Population within 5 miles:

25,001 to 50,000	1 days
75,001 to 100,000	6 days
125,001 to 250,000	1 days
250,001 to 500,000	7 days

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

Car ownership within 5 miles:

0.6 to 1.0	6 days
1.1 to 1.5	9 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	15 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	15 days

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

LIST OF SITES relevant to selection parameters

1 AN-06-B-02 FRANKIE & BENNY'S ANTRIM
HILSBOROUGH ROAD
LISBURN

Edge of Town
Retail Zone
Total Gross floor area: 275 sqm
Survey date: FRIDAY *19/06/15* *Survey Type: MANUAL*

2 AN-06-B-03 MODERN CUISINE ANTRIM
LISBURN ROAD
BELFAST

Suburban Area (PPS6 Out of Centre)
High Street
Total Gross floor area: 320 sqm
Survey date: FRIDAY *25/09/15* *Survey Type: MANUAL*

3 CB-06-B-01 ITALIAN RESTAURANT CUMBRIA
MARKET STREET
CARLISLE

Town Centre
Built-Up Zone
Total Gross floor area: 150 sqm
Survey date: SATURDAY *25/06/16* *Survey Type: MANUAL*

4 CF-06-B-02 FRANKIE & BENNY'S CARDIFF
NEWPORT ROAD
CARDIFF

Edge of Town
Development Zone
Total Gross floor area: 400 sqm
Survey date: SUNDAY *19/10/14* *Survey Type: MANUAL*

5 CH-06-B-02 ITALIAN RESTAURANT CHESHIRE
MILL STREET
MACCLESFIELD

Town Centre
Built-Up Zone
Total Gross floor area: 75 sqm
Survey date: SATURDAY *17/09/16* *Survey Type: MANUAL*

6 CH-06-B-03 PIZZA EXPRESS CHESHIRE
MARKET PLACE
MACCLESFIELD

Town Centre
Built-Up Zone
Total Gross floor area: 321 sqm
Survey date: SATURDAY *11/11/17* *Survey Type: MANUAL*

7 DS-06-B-03 BRITISH RESTAURANT DERBYSHIRE
THORNHILL ROAD
DERBY
LITTLEOVER
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Gross floor area: 350 sqm
Survey date: THURSDAY *12/07/18* *Survey Type: MANUAL*

8 DS-06-B-04 FRENCH RESTAURANT DERBYSHIRE
FRIAR GATE
DERBY

Town Centre
High Street
Total Gross floor area: 180 sqm
Survey date: WEDNESDAY *25/09/19* *Survey Type: MANUAL*

9 HC-06-B-01 PIZZA HUT HAMPSHIRE
BINNACLE WAY
PORTSMOUTH
COSHAM
Suburban Area (PPS6 Out of Centre)
Development Zone
Total Gross floor area: 325 sqm
Survey date: MONDAY *23/11/15* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

10 NF-06-B-01 INDIAN RESTAURANT NORFOLK
KING STREET
GREAT YARMOUTH

Town Centre
High Street
Total Gross floor area: 160 sqm
Survey date: THURSDAY *14/09/17* *Survey Type: MANUAL*

11 RF-06-B-01 INDIAN RESTAURANT RENFREWSHIRE
LINWOOD ROAD
PAISLEY
PHOENIX LEISURE PARK
Neighbourhood Centre (PPS6 Local Centre)
No Sub Category
Total Gross floor area: 175 sqm
Survey date: FRIDAY *20/06/14* *Survey Type: MANUAL*

12 ST-06-B-01 RESTAURANT STAFFORDSHIRE
STONE ROAD
STOKE-ON-TRENT
TRENTHAM
Edge of Town
Retail Zone
Total Gross floor area: 259 sqm
Survey date: THURSDAY *24/10/13* *Survey Type: MANUAL*

13 WM-06-B-06 ITALIAN RESTAURANT WEST MIDLANDS
EARLSDON STREET
COVENTRY

Neighbourhood Centre (PPS6 Local Centre)
High Street
Total Gross floor area: 175 sqm
Survey date: THURSDAY *24/11/16* *Survey Type: MANUAL*

14 WM-06-B-07 INDIAN RESTAURANT WEST MIDLANDS
AUDNAM
STOURBRIDGE
AUDNAM
Neighbourhood Centre (PPS6 Local Centre)
High Street
Total Gross floor area: 370 sqm
Survey date: TUESDAY *28/11/17* *Survey Type: MANUAL*

15 WS-06-B-02 BRITISH FINE DINING WEST SUSSEX
ARUNDEL ROAD
NEAR CHICHESTER
TANGMERE
Neighbourhood Centre (PPS6 Local Centre)
Village
Total Gross floor area: 130 sqm
Survey date: SATURDAY *04/10/14* *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 06 - HOTEL, FOOD & DRINK/B - RESTAURANTS
TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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									
08:00 - 09:00	1	400	1.000	1	400	0.750	1	400	1.750
09:00 - 10:00	2	288	2.087	2	288	0.696	2	288	2.783
10:00 - 11:00	12	233	2.182	12	233	0.894	12	233	3.076
11:00 - 12:00	14	235	2.307	14	235	1.578	14	235	3.885
12:00 - 13:00	14	235	4.643	14	235	2.124	14	235	6.767
13:00 - 14:00	14	235	3.612	14	235	3.915	14	235	7.527
14:00 - 15:00	14	235	1.760	14	235	2.853	14	235	4.613
15:00 - 16:00	15	244	1.228	15	244	1.910	15	244	3.138
16:00 - 17:00	15	244	1.801	15	244	1.583	15	244	3.384
17:00 - 18:00	15	244	3.411	15	244	1.719	15	244	5.130
18:00 - 19:00	15	244	4.065	15	244	3.383	15	244	7.448
19:00 - 20:00	15	244	4.120	15	244	3.820	15	244	7.940
20:00 - 21:00	15	244	2.374	15	244	3.547	15	244	5.921
21:00 - 22:00	15	244	1.965	15	244	2.538	15	244	4.503
22:00 - 23:00	15	244	0.819	15	244	2.347	15	244	3.166
23:00 - 24:00	11	252	0.216	11	252	1.946	11	252	2.162
Total Rates:			37.590			35.603			73.193

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

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

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Parameter summary

Trip rate parameter range selected:	75 - 400 (units: sqm)
Survey date date range:	01/01/13 - 25/09/19
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	4
Number of Sundays:	1
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 show. 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-304901-210701-0719

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	1 days
08	NORTH WEST		
	CH	CHESHIRE	1 days
09	NORTH		
	TW	TYNE & WEAR	1 days
10	WALES		
	PS	POWYS	1 days
	SW	SWANSEA	1 days
11	SCOTLAND		
	FA	FALKIRK	1 days
17	ULSTER (NORTHERN IRELAND)		
	DO	DOWN	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: 100 to 500 (units: sqm)
Range Selected by User: 100 to 500 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/13 to 07/11/17

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

Selected survey days:

Monday	1 days
Tuesday	3 days
Wednesday	1 days
Friday	2 days

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

Selected survey types:

Manual count	7 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 undertaking using machines.

Selected Locations:

Edge of Town Centre	2
Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	4

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

Selected Location Sub Categories:

Residential Zone	1
Village	2
High Street	1
No Sub Category	3

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:

F2(b)	7 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	2 days
5,001 to 10,000	1 days
15,001 to 20,000	1 days
25,001 to 50,000	2 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	2 days
75,001 to 100,000	1 days
125,001 to 250,000	2 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	3 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	7 days

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

PTAL Rating:

No PTAL Present	7 days

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

LIST OF SITES relevant to selection parameters

1 CH-07-Q-01 COMMUNITY CENTRE CHESHIRE
WARRINGTON ROAD
MERE

Neighbourhood Centre (PPS6 Local Centre)
Village
Total Gross floor area: 100 sqm
Survey date: TUESDAY *07/11/17* *Survey Type: MANUAL*

2 DO-07-Q-01 COMMUNITY CENTRE DOWN
CHURCH ROAD
NEAR BELFAST
MONEYREAGH
Neighbourhood Centre (PPS6 Local Centre)
Village
Total Gross floor area: 450 sqm
Survey date: FRIDAY *19/06/15* *Survey Type: MANUAL*

3 FA-07-Q-02 COMMUNITY CENTRE FALKIRK
PARKHALL DRIVE
FALKIRK
MADDISTON
Edge of Town
Residential Zone
Total Gross floor area: 400 sqm
Survey date: MONDAY *03/06/13* *Survey Type: MANUAL*

4 NY-07-Q-01 COMMUNITY CENTRE NORTH YORKSHIRE
SHUTE ROAD
CATTERRICK GARRISON

Neighbourhood Centre (PPS6 Local Centre)
No Sub Category
Total Gross floor area: 316 sqm
Survey date: WEDNESDAY *10/05/17* *Survey Type: MANUAL*

5 PS-07-Q-01 COMMUNITY CENTRE POWYS
HOWELL ROAD
WELSHPOOL

Edge of Town Centre
No Sub Category
Total Gross floor area: 350 sqm
Survey date: TUESDAY *12/05/15* *Survey Type: MANUAL*

6 SW-07-Q-01 COMMUNITY CENTRE SWANSEA
HIGH STREET
SWANSEA

Edge of Town Centre
High Street
Total Gross floor area: 500 sqm
Survey date: TUESDAY *22/10/13* *Survey Type: MANUAL*

7 TW-07-Q-01 COMMUNITY CENTRE TYNE & WEAR
HIGH STREET
GATESHEAD
WREKENTON
Neighbourhood Centre (PPS6 Local Centre)
No Sub Category
Total Gross floor area: 450 sqm
Survey date: FRIDAY *04/10/13* *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
TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	5	343	0.117	5	343	0.000	5	343	0.117
08:00 - 09:00	7	367	0.740	7	367	0.273	7	367	1.013
09:00 - 10:00	7	367	1.052	7	367	0.585	7	367	1.637
10:00 - 11:00	7	367	0.429	7	367	0.546	7	367	0.975
11:00 - 12:00	7	367	0.468	7	367	0.585	7	367	1.053
12:00 - 13:00	7	367	0.701	7	367	0.507	7	367	1.208
13:00 - 14:00	7	367	0.468	7	367	0.585	7	367	1.053
14:00 - 15:00	7	367	0.468	7	367	0.429	7	367	0.897
15:00 - 16:00	7	367	0.974	7	367	1.286	7	367	2.260
16:00 - 17:00	6	375	0.356	6	375	0.844	6	375	1.200
17:00 - 18:00	6	375	2.133	6	375	1.289	6	375	3.422
18:00 - 19:00	6	375	2.978	6	375	1.689	6	375	4.667
19:00 - 20:00	6	375	2.667	6	375	3.067	6	375	5.734
20:00 - 21:00	6	375	0.933	6	375	1.422	6	375	2.355
21:00 - 22:00	3	300	0.000	3	300	2.333	3	300	2.333
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			14.484			15.440			29.924

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

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

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Parameter summary

Trip rate parameter range selected:	100 - 500 (units: sqm)
Survey date date range:	01/01/13 - 07/11/17
Number of weekdays (Monday-Friday):	7
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 show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Appendix D: Modelling

Junctions 10

PICADY 10 - Priority Intersection Module

Version: 10.0.0.1499
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Filename: 210809_J2_N15_Bridge St.j10
Path: C:\Users\MartinHoy\Hoy Dorman\Hoy Dorman - Documents\Civils\2021002_Riverine\Traffic\Modelling
Report generation date: 10/08/2021 21:38:06

»J2 - N15 / Bridge St - 2023 - Baseline Traffic, PM
»J2 - N15 / Bridge St - 2023 - Development Traffic, PM
»J2 - N15 / Bridge St - 2023 - Base + Development, PM
»J2 - N15 / Bridge St - 2028 - Factored Base Flows + 5 Years, PM
»J2 - N15 / Bridge St - 2028 - Factored Base Flows + 5 Years + Development Flows, PM
»J2 - N15 / Bridge St - 2038 - Factored Base Flows + 15 Years, PM
»J2 - N15 / Bridge St - 2028 - Factored Base Flows + 15 Years + Development Flows, PM
»J2 - N15 / Bridge St - 2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2, PM

Summary of junction performance

	PM								
	Set ID	Queue (Veh)	95% Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	J2 - N15 / Bridge St - 2023 - Baseline Traffic								
Stream B-C	D1	0.4	1.7	14.23	0.31	B	2.32	A	-10 % [Stream B-A]
Stream B-A		0.9	4.1	65.58	0.49	F			
Stream C-AB		0.3	1.3	7.81	0.19	A			
	J2 - N15 / Bridge St - 2023 - Development Traffic								
Stream B-C	D2	0.0	0.5	5.36	0.01	A	3.88	A	900 % []
Stream B-A		0.0	0.5	6.52	0.01	A			
Stream C-AB		0.0	~1	0.00	0.00	A			
	J2 - N15 / Bridge St - 2023 - Base + Development								
Stream B-C	D3	0.5	2.1	16.09	0.34	C	2.87	A	-12 % [Stream B-A]
Stream B-A		1.2	5.6	76.72	0.56	F			
Stream C-AB		0.4	1.3	7.80	0.20	A			
	J2 - N15 / Bridge St - 2028 - Factored Base Flows + 5 Years								
Stream B-C	D4	0.7	2.9	21.49	0.41	C	3.76	A	-15 % [Stream B-A]
Stream B-A		1.7	7.5	117.70	0.66	F			
Stream C-AB		0.4	1.4	7.83	0.21	A			
	J2 - N15 / Bridge St - 2028 - Factored Base Flows + 5 Years + Development Flows								
Stream B-C	D5	1.2	5.1	35.75	0.56	E	5.59	A	-17 % [Stream B-A]
Stream B-A		2.4	10.2	154.01	0.76	F			
Stream C-AB		0.5	1.4	7.82	0.22	A			
	J2 - N15 / Bridge St - 2038 - Factored Base Flows + 15 Years								
Stream B-C	D6	7.0	20.6	192.64	1.03	F	14.62	B	-19 % [Stream B-A]
Stream B-A		4.3	14.5	272.72	0.95	F			
Stream C-AB		0.5	1.4	7.84	0.22	A			
	J2 - N15 / Bridge St - 2028 - Factored Base Flows + 15 Years + Development Flows								
Stream B-C	D7	11.5	29.8	287.48	1.13	F	21.76	C	-21 % [Stream B-A]
Stream B-A		6.6	18.5	353.41	1.08	F			
Stream C-AB		0.5	1.5	7.83	0.24	A			
	J2 - N15 / Bridge St - 2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2								
Stream B-C	D8	16.6	37.0	381.15	1.25	F	29.72	D	-22 % [Stream B-A]
Stream B-A		9.5	22.5	443.65	1.22	F			
Stream C-AB		0.6	1.1	7.81	0.25	A			

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

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

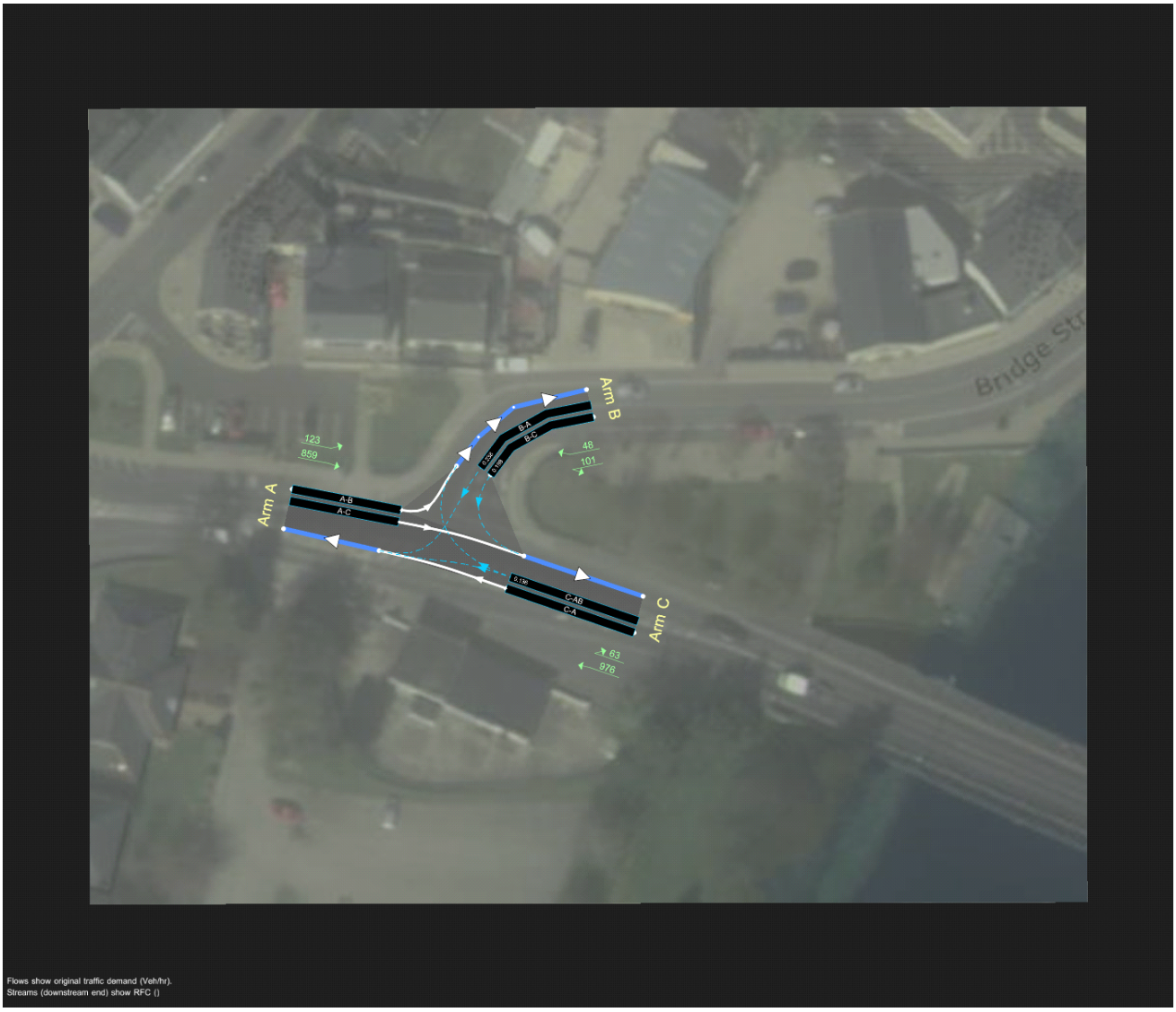
File summary

File Description

Title	
Location	
Site number	
Date	05/05/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	AzureAD\MartinHoy
Description	

Units

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



The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75	✓				✓	Delay	0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	R
D1	2023 - Baseline Traffic	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D2	2023 - Development Traffic	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D3	2023 - Base + Development	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D4	2028 - Factored Base Flows + 5 Years	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D5	2028 - Factored Base Flows + 5 Years + Development Flows	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D6	2038 - Factored Base Flows + 15 Years	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D7	2028 - Factored Base Flows + 15 Years + Development Flows	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D8	2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2	PM	ONE HOUR	14:00	15:30	15	✓	✓	

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	Assessment Year 2023 to 2028 = +5		1.0555
G2	Assessment Year 2023 to 2038 = +15		1.1089

Growth factors are only active if the Demand Set references them in a Relationship.

Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	J2 - N15 / Bridge St	✓	100.000	100.000

J2 - N15 / Bridge St - 2023 - Baseline Traffic, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Demand Sets	D1 - 2023 - Baseline Traffic, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.32	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-10	Stream B-A	2.32	A

Arms

Arms

Arm	Name	Description	Arm type
A	N15 (west)		Major
B	Bridge Street		Minor
C	N15 (east)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	8.00			80.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	9.30	6.00	3.50	3.50	3.50		2.00	22	36

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	508	0.085	0.214	0.134	0.305
B-C	706	0.099	0.250	-	-
C-B	620	0.219	0.219	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2023 - Baseline Traffic	PM	ONE HOUR	14:00	15:30	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	982	100.000
B		ONE HOUR	✓	149	100.000
C		ONE HOUR	✓	1039	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	123	859
	B	48	0	101
	C	976	63	0

Proportions

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.32	0.00	0.68
	C	0.94	0.06	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	6
	B	0	0	0
	C	6	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.061
	B	1.000	1.000	1.000
	C	1.061	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	739	779
	B	112	112
	C	782	827
14:15-14:30	A	883	930
	B	134	134
	C	934	988
14:30-14:45	A	1081	1139
	B	164	164
	C	1144	1210
14:45-15:00	A	1081	1139
	B	164	164
	C	1144	1210
15:00-15:15	A	883	930
	B	134	134
	C	934	988
15:15-15:30	A	739	779
	B	112	112
	C	782	827

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.31	14.23	0.4	1.7	B	101	101
B-A	0.49	65.58	0.9	4.1	F	48	48
C-AB	0.19	7.81	0.3	1.3	A	90	90
C-A						949	949
A-B						123	123
A-C						859	859

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	91	23	459	0.198	91	0.2	0.2	9.753	A
B-A	43	11	181	0.238	43	0.2	0.3	25.895	D
C-AB	73	18	535	0.136	73	0.1	0.2	7.777	A
C-A	861	215			861				
A-B	111	28			111				
A-C	772	193			772				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	111	28	369	0.301	110	0.2	0.4	13.864	B
B-A	53	13	107	0.494	51	0.3	0.9	61.646	F
C-AB	107	27	570	0.188	106	0.2	0.3	7.745	A
C-A	1037	259			1037				
A-B	135	34			135				
A-C	946	236			946				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	111	28	364	0.305	111	0.4	0.4	14.229	B
B-A	53	13	107	0.494	53	0.9	0.9	65.584	F
C-AB	107	27	572	0.187	107	0.3	0.3	7.764	A
C-A	1037	259			1037				
A-B	135	34			135				
A-C	946	236			946				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	91	23	457	0.199	92	0.4	0.3	9.880	A
B-A	43	11	182	0.238	46	0.9	0.3	26.869	D
C-AB	73	18	538	0.135	73	0.3	0.2	7.806	A
C-A	861	215			861				
A-B	111	28			111				
A-C	772	193			772				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.24	0.00	0.00	0.24	0.24			N/A	N/A
B-A	0.30	0.00	0.00	0.30	0.30			N/A	N/A
C-AB	0.20	0.00	0.00	0.20	0.20			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.42	0.03	0.26	0.46	0.49			N/A	N/A
B-A	0.86	0.03	0.29	1.29	3.77			N/A	N/A
C-AB	0.34	0.03	0.26	0.47	0.52			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.43	0.03	0.32	1.37	1.66			N/A	N/A
B-A	0.91	0.04	0.35	2.20	4.15			N/A	N/A
C-AB	0.35	0.03	0.31	0.99	1.25			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.25	0.00	0.00	0.25	0.25			N/A	N/A
B-A	0.32	0.03	0.31	1.01	1.26			N/A	N/A
C-AB	0.21	0.00	0.00	0.21	0.21			N/A	N/A

J2 - N15 / Bridge St - 2023 - Development Traffic, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Demand Sets	D2 - 2023 - Development Traffic, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		3.88	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	900		3.88	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2023 - Development Traffic	PM	ONE HOUR	14:00	15:30	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	6	100.000
B		ONE HOUR	✓	11	100.000
C		ONE HOUR	✓	4	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	5	1
	B	6	0	5
	C	1	3	0

Proportions

		To		
		A	B	C
From	A	0.00	0.83	0.17
	B	0.55	0.00	0.45
	C	0.25	0.75	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Average PCU Per Veh

		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

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	5	5
	B	8	8
	C	0	0
14:15-14:30	A	5	5
	B	10	10
	C	0	0
14:30-14:45	A	7	7
	B	12	12
	C	0	0
14:45-15:00	A	7	7
	B	12	12
	C	0	0
15:00-15:15	A	5	5
	B	10	10
	C	0	0
15:15-15:30	A	5	5
	B	8	8
	C	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.01	5.36	0.0	0.5	A	5	5
B-A	0.01	6.52	0.0	0.5	A	6	6
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						0	0
A-B						5	5
A-C						1	1

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	4	1	678	0.007	4	0.0	0.0	5.348	A
B-A	5	1	559	0.010	5	0.0	0.0	6.502	A
C-AB	0	0	1238	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	4	1			4				
A-C	0.90	0.22			0.90				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	6	1	677	0.008	5	0.0	0.0	5.360	A
B-A	7	2	559	0.012	7	0.0	0.0	6.518	A
C-AB	0	0	1238	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	6	1			6				
A-C	1	0.28			1				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	6	1	677	0.008	6	0.0	0.0	5.360	A
B-A	7	2	559	0.012	7	0.0	0.0	6.518	A
C-AB	0	0	1238	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	6	1			6				
A-C	1	0.28			1				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	4	1	677	0.007	5	0.0	0.0	5.348	A
B-A	5	1	559	0.010	5	0.0	0.0	6.505	A
C-AB	0	0	1238	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	4	1			4				
A-C	0.90	0.22			0.90				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.01	0.25	0.45	0.48			N/A	N/A
B-A	0.01	0.01	0.25	0.45	0.48			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.01	0.00	0.00	0.01	0.01			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.01	0.00	0.00	0.01	0.01			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.01	0.00	0.00	0.01	0.01			N/A	N/A
B-A	0.01	0.00	0.00	0.01	0.01			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

J2 - N15 / Bridge St - 2023 - Base + Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Demand Sets	D3 - 2023 - Base + Development, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.87	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-12	Stream B-A	2.87	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	Relationship type	Relationship
D3	2023 - Base + Development	PM	ONE HOUR	14:00	15:30	15	✓	✓	Simple	D1+D2

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	988	100.000
B		ONE HOUR	✓	160	100.000
C		ONE HOUR	✓	1043	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	128	860
	B	54	0	106
	C	977	66	0

Proportions

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.34	0.00	0.66
	C	0.94	0.06	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	6
	B	0	0	0
	C	6	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.061
	B	1.000	1.000	1.000
	C	1.061	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	744	783
	B	120	120
	C	785	830
14:15-14:30	A	888	935
	B	144	144
	C	938	991
14:30-14:45	A	1088	1146
	B	176	176
	C	1148	1214
14:45-15:00	A	1088	1146
	B	176	176
	C	1148	1214
15:00-15:15	A	888	935
	B	144	144
	C	938	991
15:15-15:30	A	744	783
	B	120	120
	C	785	830

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.34	16.09	0.5	2.1	C	106	106
B-A	0.56	76.72	1.2	5.6	F	54	54
C-AB	0.20	7.80	0.4	1.3	A	96	96
C-A						947	947
A-B						128	128
A-C						860	860

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	95	24	453	0.210	95	0.2	0.3	10.034	B
B-A	49	12	180	0.269	48	0.2	0.4	27.057	D
C-AB	77	19	540	0.143	77	0.1	0.2	7.767	A
C-A	860	215			860				
A-B	115	29			115				
A-C	773	193			773				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	117	29	349	0.334	116	0.3	0.5	15.367	C
B-A	59	15	105	0.565	56	0.4	1.1	70.099	F
C-AB	114	29	579	0.198	114	0.2	0.4	7.715	A
C-A	1034	258			1034				
A-B	141	35			141				
A-C	947	237			947				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	117	29	340	0.343	117	0.5	0.5	16.085	C
B-A	59	15	105	0.565	59	1.1	1.2	76.722	F
C-AB	114	29	581	0.197	114	0.4	0.4	7.736	A
C-A	1034	258			1034				
A-B	141	35			141				
A-C	947	237			947				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	95	24	450	0.212	96	0.5	0.3	10.215	B
B-A	49	12	181	0.268	52	1.2	0.4	28.498	D
C-AB	77	19	543	0.142	78	0.4	0.2	7.798	A
C-A	860	215			860				
A-B	115	29			115				
A-C	773	193			773				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.26	0.00	0.00	0.26	0.26			N/A	N/A
B-A	0.35	0.00	0.00	0.35	0.35			N/A	N/A
C-AB	0.21	0.00	0.00	0.21	0.21			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.49	0.03	0.26	0.49	0.49			N/A	N/A
B-A	1.10	0.03	0.31	1.99	5.61			N/A	N/A
C-AB	0.37	0.03	0.26	0.47	0.52			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.51	0.03	0.32	1.50	2.06			N/A	N/A
B-A	1.19	0.04	0.37	2.97	5.62			N/A	N/A
C-AB	0.38	0.03	0.33	1.10	1.30			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.27	0.00	0.00	0.27	0.27			N/A	N/A
B-A	0.38	0.03	0.34	1.20	1.41			N/A	N/A
C-AB	0.22	0.00	0.00	0.22	0.22			N/A	N/A

J2 - N15 / Bridge St - 2028 - Factored Base Flows + 5 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Demand Sets	D4 - 2028 - Factored Base Flows + 5 Years, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		3.76	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-15	Stream B-A	3.76	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	Relationship type	Relationship
D4	2028 - Factored Base Flows + 5 Years	PM	ONE HOUR	14:00	15:30	15	✓	✓	Simple	D1*G1

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1037	100.000
B		ONE HOUR	✓	157	100.000
C		ONE HOUR	✓	1097	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	130	907
	B	51	0	107
	C	1030	66	0

Proportions

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.32	0.00	0.68
	C	0.94	0.06	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	6
	B	0	0	0
	C	6	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.061
	B	1.000	1.000	1.000
	C	1.061	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	780	822
	B	118	118
	C	826	873
14:15-14:30	A	932	982
	B	141	141
	C	986	1042
14:30-14:45	A	1141	1202
	B	173	173
	C	1207	1277
14:45-15:00	A	1141	1202
	B	173	173
	C	1207	1277
15:00-15:15	A	932	982
	B	141	141
	C	986	1042
15:15-15:30	A	780	822
	B	118	118
	C	826	873

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.41	21.49	0.7	2.9	C	107	107
B-A	0.66	117.70	1.7	7.5	F	51	51
C-AB	0.21	7.83	0.4	1.4	A	101	101
C-A						996	996
A-B						130	130
A-C						907	907

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	96	24	442	0.217	96	0.2	0.3	10.375	B
B-A	46	11	163	0.280	45	0.2	0.4	30.320	D
C-AB	80	20	540	0.148	80	0.2	0.2	7.795	A
C-A	906	226			906				
A-B	117	29			117				
A-C	815	204			815				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	117	29	306	0.384	116	0.3	0.6	18.845	C
B-A	56	14	84	0.663	51	0.4	1.5	99.716	F
C-AB	121	30	587	0.206	120	0.2	0.4	7.682	A
C-A	1086	272			1086				
A-B	143	36			143				
A-C	998	250			998				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	117	29	284	0.413	117	0.6	0.7	21.490	C
B-A	56	14	84	0.663	55	1.5	1.7	117.700	F
C-AB	121	30	589	0.205	121	0.4	0.4	7.704	A
C-A	1086	272			1086				
A-B	143	36			143				
A-C	998	250			998				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	96	24	436	0.220	97	0.7	0.3	10.684	B
B-A	46	11	164	0.278	51	1.7	0.4	33.065	D
C-AB	80	20	544	0.147	81	0.4	0.2	7.831	A
C-A	906	226			906				
A-B	117	29			117				
A-C	815	204			815				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.27	0.00	0.00	0.27	0.27			N/A	N/A
B-A	0.37	0.03	0.26	0.47	0.52			N/A	N/A
C-AB	0.23	0.00	0.00	0.23	0.23			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.60	0.03	0.26	0.60	0.60			N/A	N/A
B-A	1.47	0.04	0.38	3.81	7.12			N/A	N/A
C-AB	0.41	0.03	0.26	0.48	0.71			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.68	0.03	0.34	1.58	2.93			N/A	N/A
B-A	1.66	0.04	0.43	4.44	7.49			N/A	N/A
C-AB	0.42	0.04	0.36	1.18	1.35			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.29	0.03	0.25	0.45	0.48			N/A	N/A
B-A	0.40	0.03	0.33	1.30	1.32			N/A	N/A
C-AB	0.24	0.00	0.00	0.24	0.24			N/A	N/A

J2 - N15 / Bridge St - 2028 - Factored Base Flows + 5 Years + Development Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Demand Sets	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		5.59	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-17	Stream B-A	5.59	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	Relationship type	Relationshi
D5	2028 - Factored Base Flows + 5 Years + Development Flows	PM	ONE HOUR	14:00	15:30	15	✓	✓	Simple	D4+D2

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1043	100.000
B		ONE HOUR	✓	168	100.000
C		ONE HOUR	✓	1101	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	135	908
	B	57	0	112
	C	1031	69	0

Proportions

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.34	0.00	0.66
	C	0.94	0.06	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	6
	B	0	0	0
	C	6	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.061
	B	1.000	1.000	1.000
	C	1.061	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	785	826
	B	127	127
	C	829	876
14:15-14:30	A	937	987
	B	151	151
	C	989	1046
14:30-14:45	A	1148	1209
	B	185	185
	C	1212	1281
14:45-15:00	A	1148	1209
	B	185	185
	C	1212	1281
15:00-15:15	A	937	987
	B	151	151
	C	989	1046
15:15-15:30	A	785	826
	B	127	127
	C	829	876

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.56	35.75	1.2	5.1	E	112	112
B-A	0.76	154.01	2.4	10.2	F	57	57
C-AB	0.22	7.82	0.5	1.4	A	107	107
C-A						994	994
A-B						135	135
A-C						908	908

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	100	25	435	0.230	100	0.2	0.3	10.718	B
B-A	51	13	162	0.314	50	0.2	0.4	31.945	D
C-AB	85	21	546	0.155	84	0.2	0.2	7.782	A
C-A	905	226			905				
A-B	121	30			121				
A-C	816	204			816				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	123	31	262	0.468	121	0.3	0.8	25.036	D
B-A	62	16	82	0.760	56	0.4	2.0	119.850	F
C-AB	129	32	598	0.216	128	0.2	0.4	7.647	A
C-A	1083	271			1083				
A-B	148	37			148				
A-C	999	250			999				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	123	31	221	0.557	122	0.8	1.2	35.753	E
B-A	62	16	82	0.763	61	2.0	2.4	154.014	F
C-AB	129	32	600	0.216	129	0.4	0.5	7.674	A
C-A	1083	271			1083				
A-B	148	37			148				
A-C	999	250			999				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	100	25	426	0.236	104	1.2	0.3	11.296	B
B-A	51	13	163	0.313	59	2.4	0.5	36.702	E
C-AB	85	21	550	0.154	85	0.5	0.3	7.819	A
C-A	905	226			905				
A-B	121	30			121				
A-C	816	204			816				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.29	0.00	0.00	0.29	0.29			N/A	N/A
B-A	0.44	0.04	0.36	1.18	1.34			N/A	N/A
C-AB	0.24	0.00	0.00	0.24	0.24			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.84	0.03	0.27	0.84	1.47			N/A	N/A
B-A	2.00	0.05	0.50	5.34	8.47			N/A	N/A
C-AB	0.44	0.03	0.26	0.48	0.73			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	1.17	0.04	0.40	2.94	5.07			N/A	N/A
B-A	2.39	0.05	0.61	6.47	10.22			N/A	N/A
C-AB	0.45	0.04	0.39	1.24	1.38			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.31	0.03	0.27	0.48	0.80			N/A	N/A
B-A	0.48	0.03	0.32	1.44	1.91			N/A	N/A
C-AB	0.25	0.00	0.00	0.25	0.25			N/A	N/A

J2 - N15 / Bridge St - 2038 - Factored Base Flows + 15 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Demand Sets	D6 - 2038 - Factored Base Flows + 15 Years, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		14.62	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-19	Stream B-A	14.62	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	Relationship type	Relationship
D6	2038 - Factored Base Flows + 15 Years	PM	ONE HOUR	14:00	15:30	15	✓	✓	Simple	D1*G2

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1089	100.000
B		ONE HOUR	✓	165	100.000
C		ONE HOUR	✓	1152	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	136	953
	B	53	0	112
	C	1082	70	0

Proportions

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.32	0.00	0.68
	C	0.94	0.06	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	6
	B	0	0	0
	C	6	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.061
	B	1.000	1.000	1.000
	C	1.061	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	820	864
	B	124	124
	C	867	917
14:15-14:30	A	979	1031
	B	149	149
	C	1036	1095
14:30-14:45	A	1199	1263
	B	182	182
	C	1269	1341
14:45-15:00	A	1199	1263
	B	182	182
	C	1269	1341
15:00-15:15	A	979	1031
	B	149	149
	C	1036	1095
15:15-15:30	A	820	864
	B	124	124
	C	867	917

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	1.03	192.64	7.0	20.6	F	112	112
B-A	0.95	272.72	4.3	14.5	F	53	53
C-AB	0.22	7.84	0.5	1.4	A	112	112
C-A						1040	1040
A-B						136	136
A-C						953	953

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	101	25	424	0.238	100	0.2	0.3	11.113	B
B-A	48	12	145	0.329	47	0.2	0.5	36.246	E
C-AB	88	22	548	0.160	87	0.2	0.3	7.797	A
C-A	948	237			948				
A-B	123	31			123				
A-C	856	214			856				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	123	31	138	0.891	110	0.3	3.7	100.987	F
B-A	59	15	62	0.951	48	0.5	3.1	196.935	F
C-AB	137	34	608	0.225	136	0.3	0.5	7.599	A
C-A	1132	283			1132				
A-B	150	38			150				
A-C	1049	262			1049				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	123	31	120	1.029	110	3.7	7.0	192.639	F
B-A	59	15	62	0.949	54	3.1	4.3	272.725	F
C-AB	137	34	610	0.224	137	0.5	0.5	7.630	A
C-A	1132	283			1132				
A-B	150	38			150				
A-C	1049	262			1049				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	101	25	402	0.250	127	7.0	0.3	14.348	B
B-A	48	12	145	0.331	63	4.3	0.5	51.031	F
C-AB	88	22	552	0.158	88	0.5	0.3	7.841	A
C-A	948	237			948				
A-B	123	31			123				
A-C	856	214			856				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.31	0.03	0.31	1.03	1.30			N/A	N/A
B-A	0.46	0.04	0.39	1.27	1.42			N/A	N/A
C-AB	0.26	0.00	0.00	0.26	0.26			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	3.68	0.07	1.31	9.93	14.93			N/A	N/A
B-A	3.12	0.12	1.45	7.22	9.85			N/A	N/A
C-AB	0.49	0.03	0.27	0.49	0.93			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	6.96	0.34	4.28	15.69	20.64			N/A	N/A
B-A	4.33	0.13	1.96	10.52	14.51			N/A	N/A
C-AB	0.50	0.04	0.42	1.29	1.42			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.34	0.03	0.29	0.98	1.44			N/A	N/A
B-A	0.53	0.03	0.30	1.30	2.46			N/A	N/A
C-AB	0.27	0.00	0.00	0.27	0.27			N/A	N/A

J2 - N15 / Bridge St - 2028 - Factored Base Flows + 15 Years + Development Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Demand Sets	D7 - 2028 - Factored Base Flows + 15 Years + Development Flows, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		21.76	C

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-21	Stream B-A	21.76	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	Relationship type	Relationsh
D7	2028 - Factored Base Flows + 15 Years + Development Flows	PM	ONE HOUR	14:00	15:30	15	✓	✓	Simple	D6+D2

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1095	100.000
B		ONE HOUR	✓	176	100.000
C		ONE HOUR	✓	1156	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	141	954
	B	59	0	117
	C	1083	73	0

Proportions

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.34	0.00	0.66
	C	0.94	0.06	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	6
	B	0	0	0
	C	6	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.061
	B	1.000	1.000	1.000
	C	1.061	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	824	868
	B	133	133
	C	870	920
14:15-14:30	A	984	1037
	B	158	158
	C	1039	1099
14:30-14:45	A	1206	1270
	B	194	194
	C	1273	1346
14:45-15:00	A	1206	1270
	B	194	194
	C	1273	1346
15:00-15:15	A	984	1037
	B	158	158
	C	1039	1099
15:15-15:30	A	824	868
	B	133	133
	C	870	920

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	1.13	287.48	11.5	29.8	F	117	117
B-A	1.08	353.41	6.6	18.5	F	59	59
C-AB	0.24	7.83	0.5	1.5	A	119	119
C-A						1037	1037
A-B						141	141
A-C						954	954

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	105	26	416	0.253	105	0.2	0.3	11.556	B
B-A	53	13	144	0.369	52	0.3	0.5	38.605	E
C-AB	93	23	554	0.167	92	0.2	0.3	7.779	A
C-A	947	237			947				
A-B	127	32			127				
A-C	857	214			857				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	129	32	116	1.106	103	0.3	6.9	170.973	F
B-A	65	16	60	1.081	50	0.5	4.3	240.606	F
C-AB	146	36	620	0.236	145	0.3	0.5	7.562	A
C-A	1127	282			1127				
A-B	156	39			156				
A-C	1050	262			1050				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	129	32	114	1.125	110	6.9	11.5	287.481	F
B-A	65	16	60	1.082	56	4.3	6.6	353.412	F
C-AB	146	36	622	0.235	146	0.5	0.5	7.593	A
C-A	1127	282			1127				
A-B	156	39			156				
A-C	1050	262			1050				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	105	26	375	0.280	150	11.5	0.4	19.312	C
B-A	53	13	142	0.375	77	6.6	0.7	71.409	F
C-AB	93	23	558	0.166	94	0.5	0.3	7.827	A
C-A	947	237			947				
A-B	127	32			127				
A-C	857	214			857				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.33	0.03	0.30	1.11	1.31			N/A	N/A
B-A	0.55	0.04	0.39	1.45	1.56			N/A	N/A
C-AB	0.27	0.00	0.00	0.27	0.27			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	6.88	0.49	4.53	14.81	19.12			N/A	N/A
B-A	4.28	0.31	2.69	8.94	11.59			N/A	N/A
C-AB	0.53	0.03	0.27	0.53	0.98			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	11.48	1.25	8.49	23.63	29.75			N/A	N/A
B-A	6.59	0.45	4.30	14.25	18.47			N/A	N/A
C-AB	0.54	0.04	0.45	1.34	1.46			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.40	0.03	0.27	0.49	1.43			N/A	N/A
B-A	0.66	0.03	0.29	1.25	2.94			N/A	N/A
C-AB	0.29	0.00	0.00	0.29	0.29			N/A	N/A

J2 - N15 / Bridge St - 2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Demand Sets	D8 - 2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		29.72	D

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-22	Stream B-A	29.72	D

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	R
D8	2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2	PM	ONE HOUR	14:00	15:30	15	✓	✓	

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1101	100.000
B		ONE HOUR	✓	187	100.000
C		ONE HOUR	✓	1160	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	146	955
	B	65	0	122
	C	1084	76	0

Proportions

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.35	0.00	0.65
	C	0.93	0.07	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	6
	B	0	0	0
	C	6	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.061
	B	1.000	1.000	1.000
	C	1.061	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	829	873
	B	141	141
	C	873	923
14:15-14:30	A	990	1042
	B	168	168
	C	1043	1102
14:30-14:45	A	1212	1276
	B	206	206
	C	1277	1350
14:45-15:00	A	1212	1276
	B	206	206
	C	1277	1350
15:00-15:15	A	990	1042
	B	168	168
	C	1043	1102
15:15-15:30	A	829	873
	B	141	141
	C	873	923

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	1.25	381.15	16.6	37.0	F	122	122
B-A	1.22	443.65	9.5	22.5	F	65	65
C-AB	0.25	7.81	0.6	1.1	A	127	127
C-A						1034	1034
A-B						146	146
A-C						955	955

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	110	27	407	0.269	109	0.2	0.4	12.067	B
B-A	59	15	143	0.410	57	0.3	0.6	41.314	E
C-AB	98	24	560	0.175	97	0.2	0.3	7.763	A
C-A	945	236			945				
A-B	132	33			132				
A-C	858	215			858				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	134	34	108	1.245	98	0.4	9.3	223.267	F
B-A	72	18	59	1.214	52	0.6	5.7	291.068	F
C-AB	155	39	631	0.246	154	0.3	0.6	7.529	A
C-A	1122	280			1122				
A-B	161	40			161				
A-C	1051	263			1051				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	134	34	107	1.254	105	9.3	16.6	381.151	F
B-A	72	18	59	1.218	57	5.7	9.5	443.645	F
C-AB	155	39	633	0.245	155	0.6	0.6	7.565	A
C-A	1122	280			1122				
A-B	161	40			161				
A-C	1051	263			1051				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	110	27	331	0.332	174	16.6	0.5	34.150	D
B-A	59	15	137	0.427	93	9.5	0.9	117.274	F
C-AB	98	24	565	0.173	99	0.6	0.3	7.814	A
C-A	945	236			945				
A-B	132	33			132				
A-C	858	215			858				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.36	0.03	0.29	0.90	1.56			N/A	N/A
B-A	0.65	0.04	0.38	1.43	2.28			N/A	N/A
C-AB	0.29	0.00	0.00	0.29	0.29			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	9.34	1.49	7.22	18.02	22.26			N/A	N/A
B-A	5.67	0.77	4.13	10.95	13.67			N/A	N/A
C-AB	0.57	0.03	0.27	0.57	1.04			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	16.60	3.05	13.81	30.63	36.99			N/A	N/A
B-A	9.46	1.02	7.34	18.24	22.50			N/A	N/A
C-AB	0.59	0.05	0.47	1.09	1.09			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.51	0.03	0.27	0.51	1.32			N/A	N/A
B-A	0.85	0.03	0.29	1.35	3.81			N/A	N/A
C-AB	0.31	0.00	0.00	0.31	0.31			N/A	N/A

Junctions 10

PICADY 10 - Priority Intersection Module

Version: 10.0.0.1499
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Filename: 210809_J3_Main_St_Bridge_St.j10
Path: C:\Users\MartinHoy\Hoy Dorman\Hoy Dorman - Documents\Civils\2021002_Riverine\Traffic\Modelling
Report generation date: 10/08/2021 16:28:05

»J3 - Main St / Bridge St - 2023 - Baseline Traffic, PM
»J3 - Main St / Bridge St - 2023 - Development Traffic, PM
»J3 - Main St / Bridge St - 2023 - Base + Development, PM
»J3 - Main St / Bridge St - 2028 - Factored Base Flows + 5 Years, PM
»J3 - Main St / Bridge St - 2028 - Factored Base Flows + 5 Years + Development Flows, PM
»J3 - Main St / Bridge St - 2038 - Factored Base Flows + 15 Years, PM
»J3 - Main St / Bridge St - 2028 - Factored Base Flows + 15 Years + Development Flows, PM
»J3 - Main St / Bridge St - 2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2, PM

Summary of junction performance

	PM								
	Set ID	Queue (Veh)	95% Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	J3 - Main St / Bridge St - 2023 - Baseline Traffic								
Stream B-AC	D1	0.2	0.5	7.65	0.17	A	2.88	A	258 %
Stream C-AB		0.1	0.5	6.50	0.10	A			[Stream B-AC]
	J3 - Main St / Bridge St - 2023 - Development Traffic								
Stream B-AC	D2	0.0	0.5	5.34	0.01	A	2.00	A	900 %
Stream C-AB		0.0	0.5	5.74	0.01	A			[]
	J3 - Main St / Bridge St - 2023 - Base + Development								
Stream B-AC	D3	0.2	0.9	7.72	0.18	A	2.89	A	241 %
Stream C-AB		0.1	0.5	6.55	0.10	A			[Stream B-AC]
	J3 - Main St / Bridge St - 2028 - Factored Base Flows + 5 Years								
Stream B-AC	D4	0.2	0.9	7.78	0.18	A	2.92	A	239 %
Stream C-AB		0.1	0.5	6.55	0.10	A			[Stream B-AC]
	J3 - Main St / Bridge St - 2028 - Factored Base Flows + 5 Years + Development Flows								
Stream B-AC	D5	0.2	1.1	7.86	0.19	A	2.93	A	224 %
Stream C-AB		0.1	0.5	6.60	0.11	A			[Stream B-AC]
	J3 - Main St / Bridge St - 2038 - Factored Base Flows + 15 Years								
Stream B-AC	D6	0.2	1.1	7.91	0.19	A	2.96	A	223 %
Stream C-AB		0.1	0.5	6.59	0.11	A			[Stream B-AC]
	J3 - Main St / Bridge St - 2028 - Factored Base Flows + 15 Years + Development Flows								
Stream B-AC	D7	0.2	1.2	7.99	0.20	A	2.98	A	209 %
Stream C-AB		0.1	0.5	6.64	0.12	A			[Stream B-AC]
	J3 - Main St / Bridge St - 2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2								
Stream B-AC	D8	0.3	1.2	8.08	0.21	A	2.99	A	197 %
Stream C-AB		0.1	0.5	6.69	0.12	A			[Stream B-AC]

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

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

File summary

File Description

Title	
Location	
Site number	
Date	05/05/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	AzureAD\MartinHoy
Description	

Units

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

The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75	✓				✓	Delay	0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	R
D1	2023 - Baseline Traffic	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D2	2023 - Development Traffic	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D3	2023 - Base + Development	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D4	2028 - Factored Base Flows + 5 Years	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D5	2028 - Factored Base Flows + 5 Years + Development Flows	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D6	2038 - Factored Base Flows + 15 Years	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D7	2028 - Factored Base Flows + 15 Years + Development Flows	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D8	2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2	PM	ONE HOUR	14:00	15:30	15	✓	✓	

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	Assessment Year 2023 to 2028 = +5		1.0555
G2	Assessment Year 2023 to 2038 = +15		1.1089

Growth factors are only active if the Demand Set references them in a Relationship.

Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	J3 - Main St / Bridge St	✓	100.000	100.000

J3 - Main St / Bridge St - 2023 - Baseline Traffic, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2023 - Baseline Traffic, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.88	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	258	Stream B-AC	2.88	A

Arms

Arms

Arm	Name	Description	Arm type
A	Bridge St (south)		Major
B	Main St		Minor
C	Bridge St (north)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	8.60			100.5	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.72	27	18

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	531	0.086	0.217	0.136	0.310
B-C	681	0.093	0.234	-	-
C-B	632	0.217	0.217	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2023 - Baseline Traffic	PM	ONE HOUR	14:00	15:30	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	110	100.000
B		ONE HOUR	✓	86	100.000
C		ONE HOUR	✓	144	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	15	95
	B	35	0	51
	C	90	54	0

Proportions

		To		
		A	B	C
From	A	0.00	0.14	0.86
	B	0.41	0.00	0.59
	C	0.63	0.38	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	7
	B	0	0	0
	C	7	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.067
	B	1.000	1.000	1.000
	C	1.067	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	83	88
	B	65	65
	C	108	113
14:15-14:30	A	99	105
	B	77	77
	C	129	135
14:30-14:45	A	121	128
	B	95	95
	C	159	165
14:45-15:00	A	121	128
	B	95	95
	C	159	165
15:00-15:15	A	99	105
	B	77	77
	C	129	135
15:15-15:30	A	83	88
	B	65	65
	C	108	113

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.17	7.65	0.2	0.5	A	86	86
C-AB	0.10	6.50	0.1	0.5	A	55	55
C-A						89	89
A-B						15	15
A-C						95	95

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	77	19	574	0.135	77	0.1	0.2	7.248	A
C-AB	49	12	616	0.080	49	0.1	0.1	6.350	A
C-A	80	20			80				
A-B	13	3			13				
A-C	85	21			85				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	95	24	565	0.168	95	0.2	0.2	7.647	A
C-AB	60	15	614	0.098	60	0.1	0.1	6.501	A
C-A	98	25			98				
A-B	17	4			17				
A-C	105	26			105				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	95	24	565	0.168	95	0.2	0.2	7.649	A
C-AB	60	15	614	0.098	60	0.1	0.1	6.501	A
C-A	98	25			98				
A-B	17	4			17				
A-C	105	26			105				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	77	19	574	0.135	77	0.2	0.2	7.256	A
C-AB	49	12	616	0.080	49	0.1	0.1	6.355	A
C-A	80	20			80				
A-B	13	3			13				
A-C	85	21			85				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.15	0.00	0.00	0.15	0.15			N/A	N/A
C-AB	0.09	0.03	0.26	0.47	0.50			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.20	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.11	0.03	0.26	0.47	0.49			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.20	0.03	0.26	0.47	0.51			N/A	N/A
C-AB	0.11	0.03	0.25	0.45	0.48			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.16	0.00	0.00	0.16	0.16			N/A	N/A
C-AB	0.09	0.00	0.00	0.09	0.09			N/A	N/A

J3 - Main St / Bridge St - 2023 - Development Traffic, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2023 - Development Traffic, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.00	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	900		2.00	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2023 - Development Traffic	PM	ONE HOUR	14:00	15:30	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	8	100.000
B		ONE HOUR	✓	5	100.000
C		ONE HOUR	✓	9	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	0	8
	B	0	0	5
	C	6	3	0

Proportions

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.00	0.00	1.00
	C	0.67	0.33	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Average PCU Per Veh

		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

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	6	6
	B	4	4
	C	7	7
14:15-14:30	A	7	7
	B	4	4
	C	8	8
14:30-14:45	A	9	9
	B	6	6
	C	10	10
14:45-15:00	A	9	9
	B	6	6
	C	10	10
15:00-15:15	A	7	7
	B	4	4
	C	8	8
15:15-15:30	A	6	6
	B	4	4
	C	7	7

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.01	5.34	0.0	0.5	A	5	5
C-AB	0.01	5.74	0.0	0.5	A	3	3
C-A						6	6
A-B						0	0
A-C						8	8

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	4	1	680	0.007	4	0.0	0.0	5.332	A
C-AB	3	0.67	631	0.004	3	0.0	0.0	5.732	A
C-A	5	1			5				
A-B	0	0			0				
A-C	7	2			7				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	6	1	679	0.008	5	0.0	0.0	5.343	A
C-AB	3	0.83	630	0.005	3	0.0	0.0	5.741	A
C-A	7	2			7				
A-B	0	0			0				
A-C	9	2			9				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	6	1	679	0.008	6	0.0	0.0	5.343	A
C-AB	3	0.83	630	0.005	3	0.0	0.0	5.741	A
C-A	7	2			7				
A-B	0	0			0				
A-C	9	2			9				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	4	1	680	0.007	5	0.0	0.0	5.334	A
C-AB	3	0.67	631	0.004	3	0.0	0.0	5.732	A
C-A	5	1			5				
A-B	0	0			0				
A-C	7	2			7				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.01	0.01	0.25	0.45	0.48			N/A	N/A
C-AB	0.00	0.00	0.25	0.45	0.48			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.01	0.00	0.00	0.01	0.01			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.01	0.00	0.00	0.01	0.01			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.01	0.00	0.00	0.01	0.01			N/A	N/A
C-AB	0.00	0.00	0.00	0.00	0.00			N/A	N/A

J3 - Main St / Bridge St - 2023 - Base + Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D3 - 2023 - Base + Development, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.89	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	241	Stream B-AC	2.89	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	Relationship type	Relationship
D3	2023 - Base + Development	PM	ONE HOUR	14:00	15:30	15	✓	✓	Simple	D1+D2

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	118	100.000
B		ONE HOUR	✓	91	100.000
C		ONE HOUR	✓	153	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	15	103
	B	35	0	56
	C	96	57	0

Proportions

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.38	0.00	0.62
	C	0.63	0.37	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	6
	B	0	0	0
	C	6	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.062
	B	1.000	1.000	1.000
	C	1.063	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	89	94
	B	69	69
	C	115	120
14:15-14:30	A	106	112
	B	82	82
	C	138	143
14:30-14:45	A	130	137
	B	100	100
	C	168	175
14:45-15:00	A	130	137
	B	100	100
	C	168	175
15:00-15:15	A	106	112
	B	82	82
	C	138	143
15:15-15:30	A	89	94
	B	69	69
	C	115	120

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.18	7.72	0.2	0.9	A	91	91
C-AB	0.10	6.55	0.1	0.5	A	58	58
C-A						95	95
A-B						15	15
A-C						103	103

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	82	20	575	0.142	82	0.1	0.2	7.291	A
C-AB	52	13	615	0.084	52	0.1	0.1	6.390	A
C-A	86	21			86				
A-B	13	3			13				
A-C	93	23			93				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	100	25	566	0.177	100	0.2	0.2	7.716	A
C-AB	64	16	613	0.104	64	0.1	0.1	6.550	A
C-A	105	26			105				
A-B	17	4			17				
A-C	113	28			113				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	100	25	566	0.177	100	0.2	0.2	7.722	A
C-AB	64	16	613	0.104	64	0.1	0.1	6.553	A
C-A	105	26			105				
A-B	17	4			17				
A-C	113	28			113				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	82	20	575	0.142	82	0.2	0.2	7.299	A
C-AB	52	13	615	0.084	52	0.1	0.1	6.392	A
C-A	86	21			86				
A-B	13	3			13				
A-C	93	23			93				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.16	0.00	0.00	0.16	0.16			N/A	N/A
C-AB	0.09	0.03	0.25	0.46	0.48			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.21	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.12	0.03	0.26	0.47	0.49			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.21	0.03	0.27	0.49	0.87			N/A	N/A
C-AB	0.12	0.03	0.25	0.45	0.48			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.17	0.00	0.00	0.17	0.17			N/A	N/A
C-AB	0.09	0.00	0.00	0.09	0.09			N/A	N/A

J3 - Main St / Bridge St - 2028 - Factored Base Flows + 5 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D4 - 2028 - Factored Base Flows + 5 Years, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.92	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	239	Stream B-AC	2.92	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	Relationship type	Relationship
D4	2028 - Factored Base Flows + 5 Years	PM	ONE HOUR	14:00	15:30	15	✓	✓	Simple	D1*G1

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	116	100.000
B		ONE HOUR	✓	91	100.000
C		ONE HOUR	✓	152	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	16	100
	B	37	0	54
	C	95	57	0

Proportions

		To		
		A	B	C
From	A	0.00	0.14	0.86
	B	0.41	0.00	0.59
	C	0.63	0.38	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	7
	B	0	0	0
	C	7	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.067
	B	1.000	1.000	1.000
	C	1.067	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	87	92
	B	68	68
	C	114	119
14:15-14:30	A	104	110
	B	82	82
	C	137	142
14:30-14:45	A	128	135
	B	100	100
	C	167	174
14:45-15:00	A	128	135
	B	100	100
	C	167	174
15:00-15:15	A	104	110
	B	82	82
	C	137	142
15:15-15:30	A	87	92
	B	68	68
	C	114	119

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.18	7.78	0.2	0.9	A	91	91
C-AB	0.10	6.55	0.1	0.5	A	58	58
C-A						94	94
A-B						16	16
A-C						100	100

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	82	20	572	0.143	81	0.1	0.2	7.342	A
C-AB	52	13	615	0.084	52	0.1	0.1	6.387	A
C-A	85	21			85				
A-B	14	4			14				
A-C	90	23			90				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	100	25	563	0.178	100	0.2	0.2	7.773	A
C-AB	64	16	614	0.104	64	0.1	0.1	6.547	A
C-A	103	26			103				
A-B	17	4			17				
A-C	110	28			110				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	100	25	563	0.178	100	0.2	0.2	7.779	A
C-AB	64	16	614	0.104	64	0.1	0.1	6.547	A
C-A	103	26			103				
A-B	17	4			17				
A-C	110	28			110				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	82	20	572	0.143	82	0.2	0.2	7.354	A
C-AB	52	13	616	0.084	52	0.1	0.1	6.389	A
C-A	85	21			85				
A-B	14	4			14				
A-C	90	23			90				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.17	0.00	0.00	0.17	0.17			N/A	N/A
C-AB	0.09	0.03	0.25	0.46	0.48			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.21	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.12	0.03	0.26	0.47	0.49			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.21	0.03	0.27	0.49	0.89			N/A	N/A
C-AB	0.12	0.03	0.25	0.45	0.48			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.17	0.00	0.00	0.17	0.17			N/A	N/A
C-AB	0.09	0.00	0.00	0.09	0.09			N/A	N/A

J3 - Main St / Bridge St - 2028 - Factored Base Flows + 5 Years + Development Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.93	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	224	Stream B-AC	2.93	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	Relationship type	Relationshi
D5	2028 - Factored Base Flows + 5 Years + Development Flows	PM	ONE HOUR	14:00	15:30	15	✓	✓	Simple	D4+D2

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	124	100.000
B		ONE HOUR	✓	96	100.000
C		ONE HOUR	✓	161	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	16	108
	B	37	0	59
	C	101	60	0

Proportions

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.39	0.00	0.61
	C	0.63	0.37	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	6
	B	0	0	0
	C	6	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.062
	B	1.000	1.000	1.000
	C	1.063	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	93	98
	B	72	72
	C	121	126
14:15-14:30	A	112	118
	B	86	86
	C	145	150
14:30-14:45	A	137	144
	B	105	105
	C	177	184
14:45-15:00	A	137	144
	B	105	105
	C	177	184
15:00-15:15	A	112	118
	B	86	86
	C	145	150
15:15-15:30	A	93	98
	B	72	72
	C	121	126

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.19	7.86	0.2	1.1	A	96	96
C-AB	0.11	6.60	0.1	0.5	A	61	61
C-A						100	100
A-B						16	16
A-C						108	108

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	86	22	573	0.150	86	0.1	0.2	7.389	A
C-AB	55	14	615	0.089	55	0.1	0.1	6.427	A
C-A	90	23			90				
A-B	14	4			14				
A-C	97	24			97				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	105	26	564	0.187	105	0.2	0.2	7.851	A
C-AB	67	17	613	0.110	67	0.1	0.1	6.596	A
C-A	110	27			110				
A-B	17	4			17				
A-C	119	30			119				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	105	26	564	0.187	105	0.2	0.2	7.857	A
C-AB	67	17	613	0.110	67	0.1	0.1	6.598	A
C-A	110	27			110				
A-B	17	4			17				
A-C	119	30			119				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	86	22	573	0.150	86	0.2	0.2	7.401	A
C-AB	55	14	615	0.089	55	0.1	0.1	6.429	A
C-A	90	23			90				
A-B	14	4			14				
A-C	97	24			97				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.18	0.00	0.00	0.18	0.18			N/A	N/A
C-AB	0.10	0.03	0.25	0.45	0.48			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.23	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.12	0.03	0.26	0.46	0.49			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.23	0.03	0.28	0.60	1.06			N/A	N/A
C-AB	0.13	0.03	0.25	0.45	0.48			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.18	0.00	0.00	0.18	0.18			N/A	N/A
C-AB	0.10	0.00	0.00	0.10	0.10			N/A	N/A

J3 - Main St / Bridge St - 2038 - Factored Base Flows + 15 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2038 - Factored Base Flows + 15 Years, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.96	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	223	Stream B-AC	2.96	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	Relationship type	Relationship
D6	2038 - Factored Base Flows + 15 Years	PM	ONE HOUR	14:00	15:30	15	✓	✓	Simple	D1*G2

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	122	100.000
B		ONE HOUR	✓	95	100.000
C		ONE HOUR	✓	160	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	17	105
	B	39	0	57
	C	100	60	0

Proportions

		To		
		A	B	C
From	A	0.00	0.14	0.86
	B	0.41	0.00	0.59
	C	0.63	0.38	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	7
	B	0	0	0
	C	7	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.067
	B	1.000	1.000	1.000
	C	1.067	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	92	97
	B	72	72
	C	120	125
14:15-14:30	A	110	116
	B	86	86
	C	144	150
14:30-14:45	A	134	142
	B	105	105
	C	176	183
14:45-15:00	A	134	142
	B	105	105
	C	176	183
15:00-15:15	A	110	116
	B	86	86
	C	144	150
15:15-15:30	A	92	97
	B	72	72
	C	120	125

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.19	7.91	0.2	1.1	A	95	95
C-AB	0.11	6.59	0.1	0.5	A	61	61
C-A						99	99
A-B						17	17
A-C						105	105

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	86	21	570	0.151	86	0.1	0.2	7.435	A
C-AB	55	14	615	0.089	54	0.1	0.1	6.423	A
C-A	89	22			89				
A-B	15	4			15				
A-C	95	24			95				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	105	26	560	0.187	105	0.2	0.2	7.902	A
C-AB	67	17	613	0.110	67	0.1	0.1	6.591	A
C-A	109	27			109				
A-B	18	5			18				
A-C	116	29			116				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	105	26	560	0.187	105	0.2	0.2	7.908	A
C-AB	67	17	613	0.110	67	0.1	0.1	6.594	A
C-A	109	27			109				
A-B	18	5			18				
A-C	116	29			116				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	86	21	570	0.151	86	0.2	0.2	7.448	A
C-AB	55	14	615	0.089	55	0.1	0.1	6.425	A
C-A	89	22			89				
A-B	15	4			15				
A-C	95	24			95				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.18	0.00	0.00	0.18	0.18			N/A	N/A
C-AB	0.10	0.03	0.25	0.45	0.48			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.23	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.12	0.03	0.26	0.46	0.49			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.23	0.03	0.28	0.61	1.07			N/A	N/A
C-AB	0.13	0.03	0.25	0.45	0.48			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.18	0.00	0.00	0.18	0.18			N/A	N/A
C-AB	0.10	0.00	0.00	0.10	0.10			N/A	N/A

J3 - Main St / Bridge St - 2028 - Factored Base Flows + 15 Years + Development Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D7 - 2028 - Factored Base Flows + 15 Years + Development Flows, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.98	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	209	Stream B-AC	2.98	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	Relationship type	Relationsh
D7	2028 - Factored Base Flows + 15 Years + Development Flows	PM	ONE HOUR	14:00	15:30	15	✓	✓	Simple	D6+D2

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	130	100.000
B		ONE HOUR	✓	100	100.000
C		ONE HOUR	✓	169	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	17	113
	B	39	0	62
	C	106	63	0

Proportions

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.39	0.00	0.61
	C	0.63	0.37	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	6
	B	0	0	0
	C	6	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.062
	B	1.000	1.000	1.000
	C	1.063	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	98	103
	B	76	76
	C	127	132
14:15-14:30	A	117	123
	B	90	90
	C	152	158
14:30-14:45	A	143	151
	B	111	111
	C	186	193
14:45-15:00	A	143	151
	B	111	111
	C	186	193
15:00-15:15	A	117	123
	B	90	90
	C	152	158
15:15-15:30	A	98	103
	B	76	76
	C	127	132

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.20	7.99	0.2	1.2	A	100	100
C-AB	0.12	6.64	0.1	0.5	A	64	64
C-A						105	105
A-B						17	17
A-C						113	113

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	90	23	571	0.158	90	0.1	0.2	7.486	A
C-AB	57	14	614	0.093	57	0.1	0.1	6.463	A
C-A	94	24			94				
A-B	15	4			15				
A-C	102	25			102				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	111	28	561	0.197	110	0.2	0.2	7.983	A
C-AB	71	18	613	0.116	71	0.1	0.1	6.637	A
C-A	115	29			115				
A-B	18	5			18				
A-C	125	31			125				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	111	28	561	0.197	110	0.2	0.2	7.991	A
C-AB	71	18	613	0.116	71	0.1	0.1	6.640	A
C-A	115	29			115				
A-B	18	5			18				
A-C	125	31			125				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	90	23	571	0.158	90	0.2	0.2	7.496	A
C-AB	57	14	614	0.093	57	0.1	0.1	6.468	A
C-A	94	24			94				
A-B	15	4			15				
A-C	102	25			102				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.19	0.00	0.00	0.19	0.19			N/A	N/A
C-AB	0.10	0.00	0.00	0.10	0.10			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.24	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.13	0.03	0.26	0.46	0.49			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.24	0.03	0.29	0.78	1.16			N/A	N/A
C-AB	0.13	0.03	0.25	0.45	0.48			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.19	0.00	0.00	0.19	0.19			N/A	N/A
C-AB	0.11	0.00	0.00	0.11	0.11			N/A	N/A

J3 - Main St / Bridge St - 2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D8 - 2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.99	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	197	Stream B-AC	2.99	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	R
D8	2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2	PM	ONE HOUR	14:00	15:30	15	✓	✓	

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	138	100.000
B		ONE HOUR	✓	105	100.000
C		ONE HOUR	✓	178	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	17	121
	B	39	0	67
	C	112	66	0

Proportions

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.37	0.00	0.63
	C	0.63	0.37	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	6
	B	0	0	0
	C	6	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.058
	B	1.000	1.000	1.000
	C	1.060	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	104	109
	B	79	79
	C	134	139
14:15-14:30	A	124	130
	B	95	95
	C	160	166
14:30-14:45	A	152	160
	B	116	116
	C	196	203
14:45-15:00	A	152	160
	B	116	116
	C	196	203
15:00-15:15	A	124	130
	B	95	95
	C	160	166
15:15-15:30	A	104	109
	B	79	79
	C	134	139

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.21	8.08	0.3	1.2	A	105	105
C-AB	0.12	6.69	0.1	0.5	A	67	67
C-A						110	110
A-B						17	17
A-C						121	121

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	95	24	572	0.166	95	0.2	0.2	7.541	A
C-AB	60	15	614	0.098	60	0.1	0.1	6.503	A
C-A	100	25			100				
A-B	15	4			15				
A-C	109	27			109				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	116	29	561	0.207	116	0.2	0.3	8.073	A
C-AB	74	19	612	0.121	74	0.1	0.1	6.687	A
C-A	121	30			121				
A-B	18	5			18				
A-C	134	33			134				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	116	29	561	0.207	116	0.3	0.3	8.081	A
C-AB	74	19	612	0.121	74	0.1	0.1	6.690	A
C-A	121	30			121				
A-B	18	5			18				
A-C	134	33			134				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	95	24	572	0.166	95	0.3	0.2	7.555	A
C-AB	60	15	614	0.098	60	0.1	0.1	6.508	A
C-A	100	25			100				
A-B	15	4			15				
A-C	109	27			109				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.20	0.00	0.00	0.20	0.20			N/A	N/A
C-AB	0.11	0.00	0.00	0.11	0.11			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.26	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.14	0.03	0.26	0.46	0.49			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.26	0.03	0.30	0.89	1.22			N/A	N/A
C-AB	0.14	0.03	0.25	0.45	0.48			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.20	0.00	0.00	0.20	0.20			N/A	N/A
C-AB	0.11	0.00	0.00	0.11	0.11			N/A	N/A

Junctions 10

PICADY 10 - Priority Intersection Module

Version: 10.0.0.1499
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Filename: 210809_J4_Main_St_Butcher_St.j10
Path: C:\Users\MartinHoy\Hoy Dorman\Hoy Dorman - Documents\Civils\2021002_Riverine\Traffic\Modelling
Report generation date: 10/08/2021 16:23:52

»J4 - Main St / Butcher Street - 2023 - Baseline Traffic, PM
»J4 - Main St / Butcher Street - 2023 - Development Traffic, PM
»J4 - Main St / Butcher Street - 2023 - Base + Development, PM
»J4 - Main St / Butcher Street - 2028 - Factored Base Flows + 5 Years, PM
»J4 - Main St / Butcher Street - 2028 - Factored Base Flows + 5 Years + Development Flows, PM
»J4 - Main St / Butcher Street - 2038 - Factored Base Flows + 15 Years, PM
»J4 - Main St / Butcher Street - 2028 - Factored Base Flows + 15 Years + Development Flows, PM
»J4 - Main St / Butcher Street - 2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2, PM

Summary of junction performance

	PM								
	Set ID	Queue (Veh)	95% Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	J4 - Main St / Butcher Street - 2023 - Baseline Traffic								
Stream B-AC	D1	0.2	1.1	8.19	0.19	A	5.05	A	182 %
Stream C-AB		0.4	1.5	7.90	0.27	A			[Stream C-AB]
	J4 - Main St / Butcher Street - 2023 - Development Traffic								
Stream B-AC	D2	0.0	~1	0.00	0.00	A	0.00	F	900 %
Stream C-AB		0.0	~1	0.00	0.00	A			[]
	J4 - Main St / Butcher Street - 2023 - Base + Development								
Stream B-AC	D3	0.3	1.2	8.39	0.20	A	5.09	A	179 %
Stream C-AB		0.4	1.5	7.91	0.28	A			[Stream B-AC]
	J4 - Main St / Butcher Street - 2028 - Factored Base Flows + 5 Years								
Stream B-AC	D4	0.3	1.2	8.37	0.21	A	5.17	A	167 %
Stream C-AB		0.4	1.7	8.08	0.29	A			[Stream C-AB]
	J4 - Main St / Butcher Street - 2028 - Factored Base Flows + 5 Years + Development Flows								
Stream B-AC	D5	0.3	1.3	8.57	0.22	A	5.21	A	164 %
Stream C-AB		0.4	1.7	8.09	0.29	A			[Stream B-AC]
	J4 - Main St / Butcher Street - 2038 - Factored Base Flows + 15 Years								
Stream B-AC	D6	0.3	1.3	8.55	0.22	A	5.29	A	154 %
Stream C-AB		0.4	1.9	8.27	0.31	A			[Stream C-AB]
	J4 - Main St / Butcher Street - 2028 - Factored Base Flows + 15 Years + Development Flows								
Stream B-AC	D7	0.3	1.4	8.76	0.23	A	5.33	A	152 %
Stream C-AB		0.4	1.9	8.28	0.31	A			[Stream B-AC]
	J4 - Main St / Butcher Street - 2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2								
Stream B-AC	D8	0.3	1.4	8.96	0.24	A	5.37	A	144 %
Stream C-AB		0.5	1.9	8.29	0.31	A			[Stream B-AC]

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

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

File summary

File Description

Title	
Location	
Site number	
Date	05/05/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	AzureAD\MartinHoy
Description	

Units

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

The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75	✓				✓	Delay	0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	R
D1	2023 - Baseline Traffic	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D2	2023 - Development Traffic	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D3	2023 - Base + Development	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D4	2028 - Factored Base Flows + 5 Years	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D5	2028 - Factored Base Flows + 5 Years + Development Flows	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D6	2038 - Factored Base Flows + 15 Years	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D7	2028 - Factored Base Flows + 15 Years + Development Flows	PM	ONE HOUR	14:00	15:30	15	✓	✓	
D8	2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2	PM	ONE HOUR	14:00	15:30	15	✓	✓	

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	Assessment Year 2023 to 2028 = +5		1.0555
G2	Assessment Year 2023 to 2038 = +15		1.1089

Growth factors are only active if the Demand Set references them in a Relationship.

Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	J4 - Main St / Butcher Street	✓	100.000	100.000

J4 - Main St / Butcher Street - 2023 - Baseline Traffic, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2023 - Baseline Traffic, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		5.05	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	182	Stream C-AB	5.05	A

Arms

Arms

Arm	Name	Description	Arm type
A	Main St (east)		Major
B	Butcher St		Minor
C	Main St west		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.10			127.5	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.68	18	20

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	527	0.096	0.242	0.152	0.345
B-C	680	0.104	0.262	-	-
C-B	648	0.250	0.250	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2023 - Baseline Traffic	PM	ONE HOUR	14:00	15:30	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	108	100.000
B		ONE HOUR	✓	96	100.000
C		ONE HOUR	✓	191	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	65	43
	B	41	0	55
	C	37	154	0

Proportions

		To		
		A	B	C
From	A	0.00	0.60	0.40
	B	0.43	0.00	0.57
	C	0.19	0.81	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	7
	B	0	0	0
	C	7	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.067
	B	1.000	1.000	1.000
	C	1.067	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	81	83
	B	72	72
	C	144	146
14:15-14:30	A	97	100
	B	86	86
	C	172	174
14:30-14:45	A	119	122
	B	106	106
	C	210	213
14:45-15:00	A	119	122
	B	106	106
	C	210	213
15:00-15:15	A	97	100
	B	86	86
	C	172	174
15:15-15:30	A	81	83
	B	72	72
	C	144	146

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.19	8.19	0.2	1.1	A	96	96
C-AB	0.27	7.90	0.4	1.5	A	156	156
C-A						35	35
A-B						65	65
A-C						43	43

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	86	22	556	0.155	86	0.1	0.2	7.652	A
C-AB	140	35	630	0.222	140	0.2	0.3	7.337	A
C-A	32	8			32				
A-B	58	15			58				
A-C	39	10			39				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	106	26	545	0.194	105	0.2	0.2	8.185	A
C-AB	173	43	628	0.275	172	0.3	0.4	7.884	A
C-A	38	9			38				
A-B	72	18			72				
A-C	47	12			47				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	106	26	545	0.194	106	0.2	0.2	8.194	A
C-AB	173	43	628	0.275	173	0.4	0.4	7.897	A
C-A	38	9			38				
A-B	72	18			72				
A-C	47	12			47				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	86	22	556	0.155	87	0.2	0.2	7.664	A
C-AB	140	35	630	0.222	140	0.4	0.3	7.354	A
C-A	32	8			32				
A-B	58	15			58				
A-C	39	10			39				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.18	0.00	0.00	0.18	0.18			N/A	N/A
C-AB	0.29	0.00	0.00	0.29	0.29			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.24	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.38	0.03	0.25	0.46	0.48			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.24	0.03	0.29	0.74	1.13			N/A	N/A
C-AB	0.38	0.03	0.31	1.26	1.48			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.19	0.00	0.00	0.19	0.19			N/A	N/A
C-AB	0.29	0.00	0.00	0.29	0.29			N/A	N/A

J4 - Main St / Butcher Street - 2023 - Development Traffic, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2023 - Development Traffic, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.00	F

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	900		0.00	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2023 - Development Traffic	PM	ONE HOUR	14:00	15:30	15	✓	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	3	100.000
B		ONE HOUR	✓	4	100.000
C		ONE HOUR	✓	1	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	2	1
	B	4	0	0
	C	1	0	0

Proportions

		To		
		A	B	C
From	A	0.00	0.67	0.33
	B	1.00	0.00	0.00
	C	1.00	0.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Average PCU Per Veh

		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

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	0	0
	B	0	0
	C	0	0
14:15-14:30	A	0	0
	B	0	0
	C	0	0
14:30-14:45	A	0	0
	B	0	0
	C	0	0
14:45-15:00	A	0	0
	B	0	0
	C	0	0
15:00-15:15	A	0	0
	B	0	0
	C	0	0
15:15-15:30	A	0	0
	B	0	0
	C	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.00	0.00	0.0	~1	A	0	0
C-AB	0.00	0.00	0.0	~1	A	0	0
C-A						0	0
A-B						0	0
A-C						0	0

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	0	594	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	1296	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	0	0			0				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	0	594	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	1296	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	0	0			0				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	0	594	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	1296	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	0	0			0				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	0	594	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	1296	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	0	0			0				
A-C	0	0			0				

Queue Variation Results for each time segment

14:15 - 14:30

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

14:30 - 14:45

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

14:45 - 15:00

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

15:00 - 15:15

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

J4 - Main St / Butcher Street - 2023 - Base + Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D3 - 2023 - Base + Development, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		5.09	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	179	Stream B-AC	5.09	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	Relationship type	Relationship
D3	2023 - Base + Development	PM	ONE HOUR	14:00	15:30	15	✓	✓	Simple	D1+D2

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	111	100.000
B		ONE HOUR	✓	100	100.000
C		ONE HOUR	✓	192	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	67	44
	B	45	0	55
	C	38	154	0

Proportions

		To		
		A	B	C
From	A	0.00	0.60	0.40
	B	0.45	0.00	0.55
	C	0.20	0.80	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	7
	B	0	0	0
	C	7	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.065
	B	1.000	1.000	1.000
	C	1.065	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	84	86
	B	75	75
	C	145	146
14:15-14:30	A	100	102
	B	90	90
	C	173	175
14:30-14:45	A	122	125
	B	110	110
	C	211	214
14:45-15:00	A	122	125
	B	110	110
	C	211	214
15:00-15:15	A	100	102
	B	90	90
	C	173	175
15:15-15:30	A	84	86
	B	75	75
	C	145	146

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.20	8.39	0.3	1.2	A	100	100
C-AB	0.28	7.91	0.4	1.5	A	156	156
C-A						36	36
A-B						67	67
A-C						44	44

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	90	22	551	0.163	90	0.2	0.2	7.798	A
C-AB	140	35	630	0.223	140	0.2	0.3	7.345	A
C-A	32	8			32				
A-B	60	15			60				
A-C	40	10			40				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	110	28	539	0.204	110	0.2	0.3	8.377	A
C-AB	173	43	628	0.275	172	0.3	0.4	7.895	A
C-A	39	10			39				
A-B	74	18			74				
A-C	48	12			48				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	110	28	539	0.204	110	0.3	0.3	8.386	A
C-AB	173	43	628	0.275	173	0.4	0.4	7.909	A
C-A	39	10			39				
A-B	74	18			74				
A-C	48	12			48				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	90	22	551	0.163	90	0.3	0.2	7.813	A
C-AB	140	35	630	0.222	140	0.4	0.3	7.365	A
C-A	32	8			32				
A-B	60	15			60				
A-C	40	10			40				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.19	0.00	0.00	0.19	0.19			N/A	N/A
C-AB	0.29	0.00	0.00	0.29	0.29			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.25	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.38	0.03	0.25	0.46	0.48			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.26	0.03	0.30	0.87	1.21			N/A	N/A
C-AB	0.38	0.03	0.31	1.26	1.49			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.20	0.00	0.00	0.20	0.20			N/A	N/A
C-AB	0.29	0.00	0.00	0.29	0.29			N/A	N/A

J4 - Main St / Butcher Street - 2028 - Factored Base Flows + 5 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D4 - 2028 - Factored Base Flows + 5 Years, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		5.17	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	167	Stream C-AB	5.17	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	Relationship type	Relationship
D4	2028 - Factored Base Flows + 5 Years	PM	ONE HOUR	14:00	15:30	15	✓	✓	Simple	D1*G1

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	114	100.000
B		ONE HOUR	✓	101	100.000
C		ONE HOUR	✓	202	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	69	45
	B	43	0	58
	C	39	163	0

Proportions

		To		
		A	B	C
From	A	0.00	0.60	0.40
	B	0.43	0.00	0.57
	C	0.19	0.81	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	7
	B	0	0	0
	C	7	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.067
	B	1.000	1.000	1.000
	C	1.067	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	86	88
	B	76	76
	C	152	154
14:15-14:30	A	102	105
	B	91	91
	C	181	184
14:30-14:45	A	126	129
	B	112	112
	C	222	225
14:45-15:00	A	126	129
	B	112	112
	C	222	225
15:00-15:15	A	102	105
	B	91	91
	C	181	184
15:15-15:30	A	86	88
	B	76	76
	C	152	154

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.21	8.37	0.3	1.2	A	101	101
C-AB	0.29	8.08	0.4	1.7	A	165	165
C-A						36	36
A-B						69	69
A-C						45	45

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	91	23	554	0.165	91	0.2	0.2	7.777	A
C-AB	148	37	630	0.235	148	0.2	0.3	7.466	A
C-A	33	8			33				
A-B	62	15			62				
A-C	41	10			41				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	112	28	542	0.206	111	0.2	0.3	8.364	A
C-AB	183	46	628	0.291	182	0.3	0.4	8.066	A
C-A	39	10			39				
A-B	76	19			76				
A-C	50	12			50				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	112	28	541	0.206	112	0.3	0.3	8.373	A
C-AB	183	46	628	0.291	183	0.4	0.4	8.082	A
C-A	39	10			39				
A-B	76	19			76				
A-C	50	12			50				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	91	23	554	0.165	91	0.3	0.2	7.792	A
C-AB	148	37	630	0.235	148	0.4	0.3	7.488	A
C-A	33	8			33				
A-B	62	15			62				
A-C	41	10			41				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.19	0.00	0.00	0.19	0.19			N/A	N/A
C-AB	0.31	0.00	0.00	0.31	0.31			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.26	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.41	0.03	0.25	0.46	0.48			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.26	0.03	0.30	0.89	1.22			N/A	N/A
C-AB	0.42	0.03	0.31	1.31	1.73			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.20	0.00	0.00	0.20	0.20			N/A	N/A
C-AB	0.31	0.00	0.00	0.31	0.31			N/A	N/A

J4 - Main St / Butcher Street - 2028 - Factored Base Flows + 5 Years + Development Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		5.21	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	164	Stream B-AC	5.21	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	Relationship type	Relationshi
D5	2028 - Factored Base Flows + 5 Years + Development Flows	PM	ONE HOUR	14:00	15:30	15	✓	✓	Simple	D4+D2

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	117	100.000
B		ONE HOUR	✓	105	100.000
C		ONE HOUR	✓	203	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	71	46
	B	47	0	58
	C	40	163	0

Proportions

		To		
		A	B	C
From	A	0.00	0.60	0.40
	B	0.45	0.00	0.55
	C	0.20	0.80	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	7
	B	0	0	0
	C	7	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.066
	B	1.000	1.000	1.000
	C	1.065	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	88	90
	B	79	79
	C	153	154
14:15-14:30	A	105	108
	B	95	95
	C	182	184
14:30-14:45	A	129	132
	B	116	116
	C	223	226
14:45-15:00	A	129	132
	B	116	116
	C	223	226
15:00-15:15	A	105	108
	B	95	95
	C	182	184
15:15-15:30	A	88	90
	B	79	79
	C	153	154

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.22	8.57	0.3	1.3	A	105	105
C-AB	0.29	8.09	0.4	1.7	A	165	165
C-A						37	37
A-B						71	71
A-C						46	46

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	95	24	549	0.173	95	0.2	0.2	7.928	A
C-AB	148	37	629	0.235	148	0.2	0.3	7.474	A
C-A	34	9			34				
A-B	63	16			63				
A-C	42	10			42				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	116	29	536	0.216	116	0.2	0.3	8.558	A
C-AB	183	46	627	0.291	182	0.3	0.4	8.077	A
C-A	40	10			40				
A-B	78	19			78				
A-C	51	13			51				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	116	29	536	0.216	116	0.3	0.3	8.570	A
C-AB	183	46	628	0.291	183	0.4	0.4	8.093	A
C-A	40	10			40				
A-B	78	19			78				
A-C	51	13			51				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	95	24	548	0.173	95	0.3	0.2	7.942	A
C-AB	148	37	629	0.235	149	0.4	0.3	7.493	A
C-A	34	9			34				
A-B	63	16			63				
A-C	42	10			42				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.21	0.00	0.00	0.21	0.21			N/A	N/A
C-AB	0.31	0.00	0.00	0.31	0.31			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.27	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.41	0.03	0.25	0.46	0.48			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.27	0.03	0.30	0.97	1.29			N/A	N/A
C-AB	0.42	0.03	0.31	1.31	1.73			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.21	0.00	0.00	0.21	0.21			N/A	N/A
C-AB	0.32	0.00	0.00	0.32	0.32			N/A	N/A

J4 - Main St / Butcher Street - 2038 - Factored Base Flows + 15 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2038 - Factored Base Flows + 15 Years, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		5.29	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	154	Stream C-AB	5.29	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	Relationship type	Relationship
D6	2038 - Factored Base Flows + 15 Years	PM	ONE HOUR	14:00	15:30	15	✓	✓	Simple	D1*G2

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	120	100.000
B		ONE HOUR	✓	106	100.000
C		ONE HOUR	✓	212	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	72	48
	B	45	0	61
	C	41	171	0

Proportions

		To		
		A	B	C
From	A	0.00	0.60	0.40
	B	0.43	0.00	0.57
	C	0.19	0.81	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	7
	B	0	0	0
	C	7	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.067
	B	1.000	1.000	1.000
	C	1.067	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	90	93
	B	80	80
	C	159	162
14:15-14:30	A	108	111
	B	96	96
	C	190	193
14:30-14:45	A	132	135
	B	117	117
	C	233	236
14:45-15:00	A	132	135
	B	117	117
	C	233	236
15:00-15:15	A	108	111
	B	96	96
	C	190	193
15:15-15:30	A	90	93
	B	80	80
	C	159	162

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.22	8.55	0.3	1.3	A	106	106
C-AB	0.31	8.27	0.4	1.9	A	174	174
C-A						38	38
A-B						72	72
A-C						48	48

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	96	24	551	0.174	96	0.2	0.2	7.904	A
C-AB	156	39	629	0.248	155	0.3	0.3	7.595	A
C-A	35	9			35				
A-B	65	16			65				
A-C	43	11			43				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	117	29	538	0.218	117	0.2	0.3	8.541	A
C-AB	192	48	628	0.306	192	0.3	0.4	8.249	A
C-A	41	10			41				
A-B	79	20			79				
A-C	52	13			52				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	117	29	538	0.218	117	0.3	0.3	8.553	A
C-AB	192	48	628	0.306	192	0.4	0.4	8.265	A
C-A	41	10			41				
A-B	79	20			79				
A-C	52	13			52				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	96	24	551	0.174	96	0.3	0.2	7.920	A
C-AB	156	39	629	0.247	156	0.4	0.3	7.616	A
C-A	35	9			35				
A-B	65	16			65				
A-C	43	11			43				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.21	0.00	0.00	0.21	0.21			N/A	N/A
C-AB	0.33	0.00	0.00	0.33	0.33			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.28	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.45	0.03	0.26	0.46	0.48			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.28	0.03	0.30	0.98	1.29			N/A	N/A
C-AB	0.45	0.03	0.31	1.34	1.92			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.21	0.00	0.00	0.21	0.21			N/A	N/A
C-AB	0.34	0.00	0.00	0.34	0.34			N/A	N/A

J4 - Main St / Butcher Street - 2028 - Factored Base Flows + 15 Years + Development Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D7 - 2028 - Factored Base Flows + 15 Years + Development Flows, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		5.33	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	152	Stream B-AC	5.33	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	Relationship type	Relationsh
D7	2028 - Factored Base Flows + 15 Years + Development Flows	PM	ONE HOUR	14:00	15:30	15	✓	✓	Simple	D6+D2

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	123	100.000
B		ONE HOUR	✓	110	100.000
C		ONE HOUR	✓	213	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	74	49
	B	49	0	61
	C	42	171	0

Proportions

		To		
		A	B	C
From	A	0.00	0.60	0.40
	B	0.45	0.00	0.55
	C	0.20	0.80	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	7
	B	0	0	0
	C	7	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.066
	B	1.000	1.000	1.000
	C	1.065	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	92	95
	B	83	83
	C	160	162
14:15-14:30	A	110	113
	B	99	99
	C	191	194
14:30-14:45	A	135	139
	B	122	122
	C	234	237
14:45-15:00	A	135	139
	B	122	122
	C	234	237
15:00-15:15	A	110	113
	B	99	99
	C	191	194
15:15-15:30	A	92	95
	B	83	83
	C	160	162

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.23	8.76	0.3	1.4	A	110	110
C-AB	0.31	8.28	0.4	1.9	A	174	174
C-A						39	39
A-B						74	74
A-C						49	49

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	99	25	546	0.182	99	0.2	0.2	8.051	A
C-AB	156	39	629	0.248	156	0.3	0.3	7.603	A
C-A	35	9			35				
A-B	67	17			67				
A-C	44	11			44				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	122	30	533	0.228	121	0.2	0.3	8.741	A
C-AB	192	48	627	0.307	192	0.3	0.4	8.260	A
C-A	42	10			42				
A-B	82	20			82				
A-C	54	13			54				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	122	30	533	0.228	122	0.3	0.3	8.756	A
C-AB	192	48	627	0.307	192	0.4	0.4	8.278	A
C-A	42	10			42				
A-B	82	20			82				
A-C	54	13			54				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	99	25	546	0.182	100	0.3	0.2	8.070	A
C-AB	156	39	629	0.248	156	0.4	0.3	7.624	A
C-A	35	9			35				
A-B	67	17			67				
A-C	44	11			44				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.22	0.00	0.00	0.22	0.22			N/A	N/A
C-AB	0.33	0.00	0.00	0.33	0.33			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.29	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.45	0.03	0.26	0.46	0.48			N/A	N/A

14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.29	0.03	0.31	1.05	1.36			N/A	N/A
C-AB	0.45	0.03	0.31	1.34	1.93			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.22	0.00	0.00	0.22	0.22			N/A	N/A
C-AB	0.34	0.00	0.00	0.34	0.34			N/A	N/A

J4 - Main St / Butcher Street - 2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D8 - 2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Demand Set Relationship	D5 - 2028 - Factored Base Flows + 5 Years + Development Flows, PM	Demand Set relationships are chained. This may slow down the file.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		5.37	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	144	Stream B-AC	5.37	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically	R
D8	2028 - Theoretical Scenario - Factored Base Flows + 15 Years + Development Flows x 2	PM	ONE HOUR	14:00	15:30	15	✓	✓	

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	126	100.000
B		ONE HOUR	✓	114	100.000
C		ONE HOUR	✓	214	100.000

Origin-Destination Data

Demand (Veh/hr)

From \ To	A	B	C
A	0	76	50
B	53	0	61
C	43	171	0

Proportions

From \ To	A	B	C
A	0.00	0.60	0.40
B	0.47	0.00	0.53
C	0.20	0.80	0.00

Vehicle Mix

Heavy Vehicle Percentages

From \ To	A	B	C
A	0	0	6
B	0	0	0
C	6	0	0

Average PCU Per Veh

From \ To	A	B	C
A	1.000	1.000	1.064
B	1.000	1.000	1.000
C	1.064	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
14:00-14:15	A	95	97
	B	86	86
	C	161	163
14:15-14:30	A	113	116
	B	103	103
	C	192	195
14:30-14:45	A	138	142
	B	126	126
	C	235	238
14:45-15:00	A	138	142
	B	126	126
	C	235	238
15:00-15:15	A	113	116
	B	103	103
	C	192	195
15:15-15:30	A	95	97
	B	86	86
	C	161	163

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.24	8.96	0.3	1.4	A	114	114
C-AB	0.31	8.29	0.5	1.9	A	174	174
C-A						40	40
A-B						76	76
A-C						50	50

Main Results for each time segment

14:15 - 14:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	103	26	541	0.190	103	0.2	0.2	8.201	A
C-AB	156	39	628	0.248	156	0.3	0.3	7.611	A
C-A	36	9			36				
A-B	68	17			68				
A-C	45	11			45				

14:30 - 14:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	126	32	528	0.239	126	0.2	0.3	8.936	A
C-AB	192	48	627	0.307	192	0.3	0.4	8.271	A
C-A	43	11			43				
A-B	84	21			84				
A-C	55	14			55				

14:45 - 15:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	126	32	528	0.239	126	0.3	0.3	8.959	A
C-AB	192	48	627	0.307	192	0.4	0.5	8.288	A
C-A	43	11			43				
A-B	84	21			84				
A-C	55	14			55				

15:00 - 15:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	103	26	541	0.190	103	0.3	0.2	8.223	A
C-AB	156	39	629	0.248	156	0.5	0.3	7.635	A
C-A	36	9			36				
A-B	68	17			68				
A-C	45	11			45				

Queue Variation Results for each time segment

14:15 - 14:30

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.23	0.00	0.00	0.23	0.23			N/A	N/A
C-AB	0.33	0.00	0.00	0.33	0.33			N/A	N/A

14:30 - 14:45

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.31	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.45	0.03	0.26	0.46	0.48			N/A	N/A

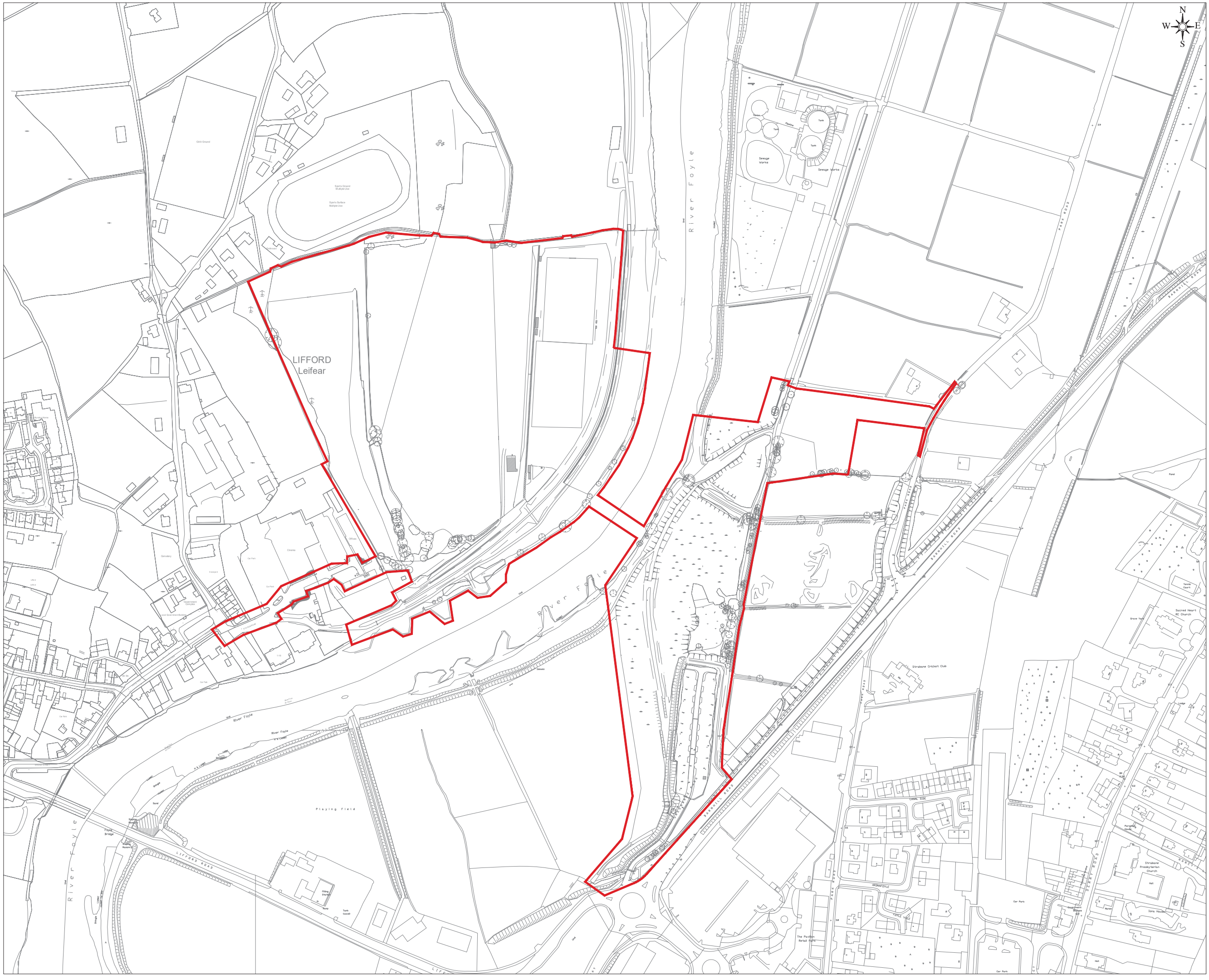
14:45 - 15:00

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.31	0.03	0.31	1.10	1.42			N/A	N/A
C-AB	0.45	0.03	0.31	1.34	1.93			N/A	N/A

15:00 - 15:15

Stream	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.24	0.00	0.00	0.24	0.24			N/A	N/A
C-AB	0.34	0.00	0.00	0.34	0.34			N/A	N/A

Appendix E: Site Location Plan



NOTES

1. All measurements shown are in metres, and all levels are to ordnance datum unless otherwise indicated

2. All Coordinates are to Irish Grid (TM65), unless otherwise noted.

LEGEND

Site Boundary

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Rev	Date	Description	App
P01	???	Preliminary - not for issue	??

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Peace
Northern Ireland - Ireland
European Regional Development Fund

Client
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Donegal County Council
Derry City & Strabane District Council
Comhairle Chathair Dhoire & Cheantar an tSratha Báin
Derry Cittie & Strábane Destrick Council

Project Status: STAGE 2 - CONCEPT DESIGN

Project: RIVERINE COMMUNITY PARK

Drawing: Site Location Plan
Lifford & Strabane

Scale: 1:2000 @ A1

Drawn	DSA	Checked	CM	Approved	KOS
Date	15.04.21	Date	15.04.21	Date	15.04.21

Project	Organisation	Zone	Level	Type	Role	Number	Revision
RVCP	MCA	Z0	XX	DR	CE	1000	P01

Project Number: E2256

Status code & Description: S1 For Information

All dimensions are in metres. Figured dimensions to be taken in preference to scaled dimensions. Dimensions to be checked on site. © 2021 McAdam Design Ltd.

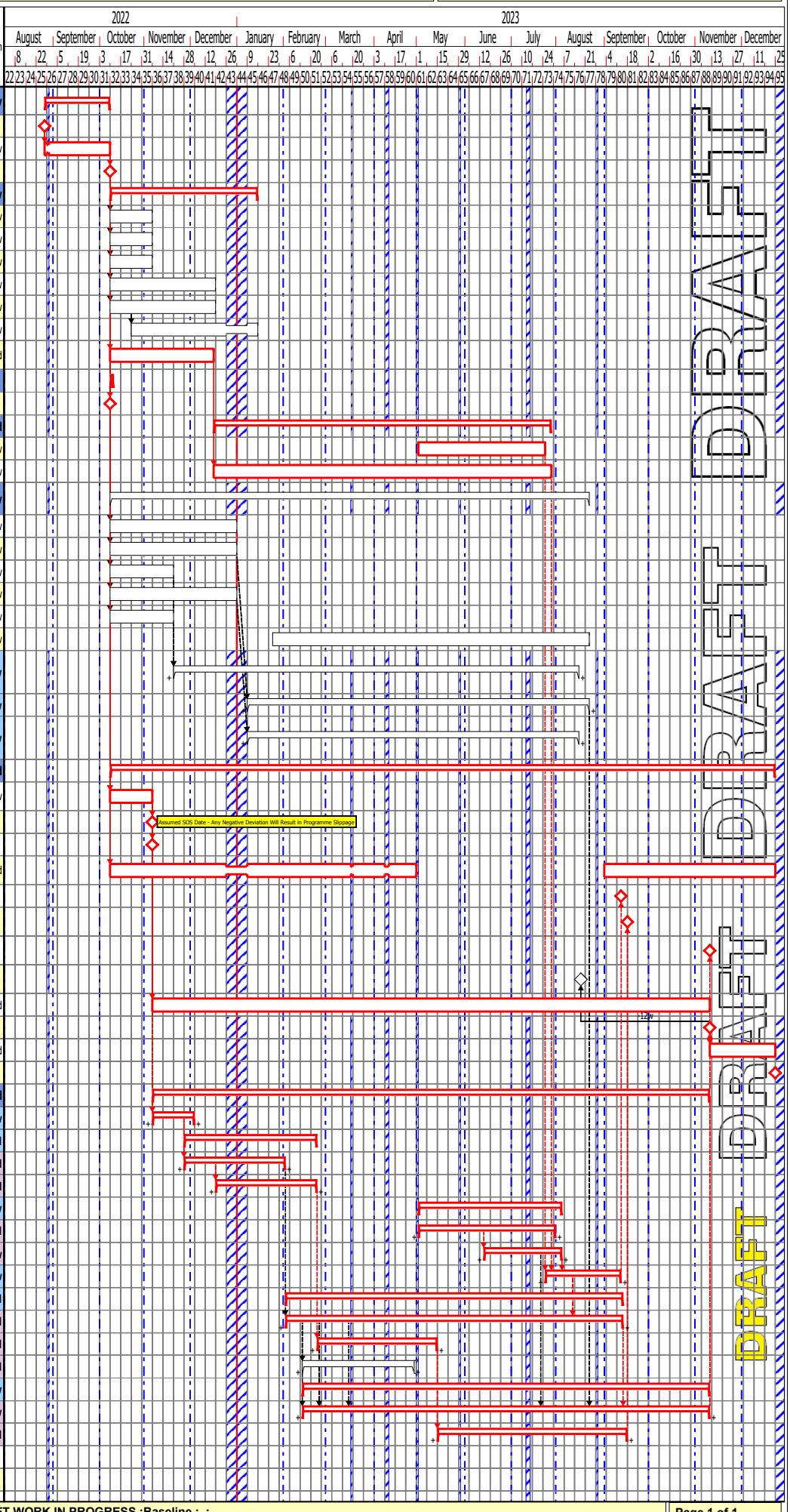
Appendix F: Indictive Construction Phase Programme

DRAFT
Work in Progress

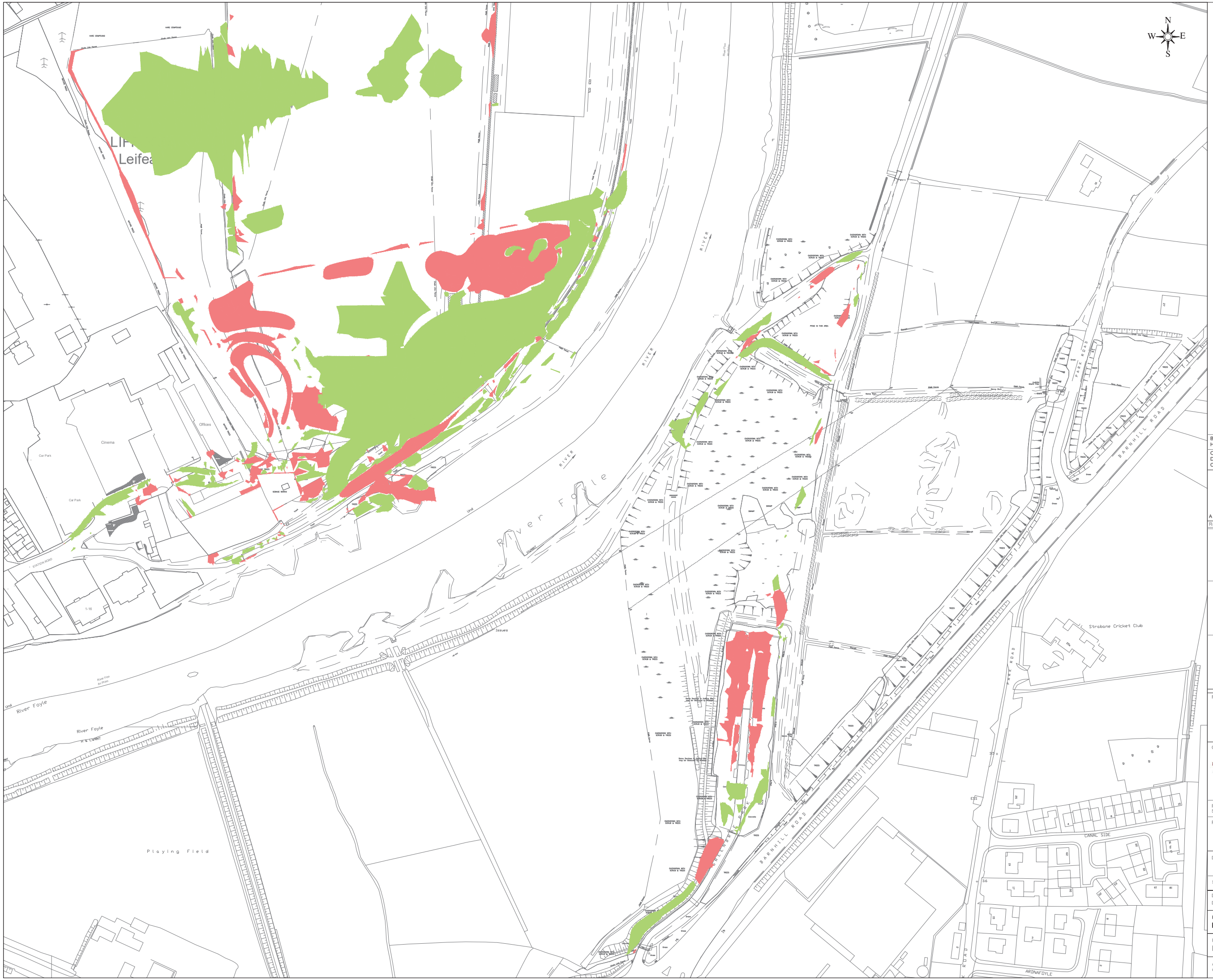
Riverine
Indicative Works Programme

Programme No: TP00.01 :
Revision No: Rev # : DRAFT
Date of Issue: 14/04/2022

Line	Name	Start	Finish	Duration
1	**Tender Stage**	**25/08/2022**	**10/10/2022**	**6w**
2	Tender Return	25/08/2022	25/08/2022	
3	Tender Evaluation	26/08/2022	07/10/2022	6w
4	Contract Award (Assumed)	10/10/2022	10/10/2022	
5	**Design Development**	**10/10/2022**	**13/01/2023**	**12w**
6	Piling Platform	10/10/2022	04/11/2022	4w
7	Pile Design	10/10/2022	04/11/2022	4w
8	Crane Platform	10/10/2022	04/11/2022	4w
9	Structural	10/10/2022	16/12/2022	10w
10	Civils	10/10/2022	16/12/2022	10w
11	M & E	24/10/2022	13/01/2023	10w
12	Steel Bridge - Final Drawings for Approval	10/10/2022	15/12/2022	9w 4d
13	**Planning**	**10/10/2022**	**10/10/2022**	
14	Planning Assumed Approved	10/10/2022	10/10/2022	
15	**Procurement**	**16/12/2022**	**27/07/2023**	**28w 3d**
16	Crane Lead-in Time	02/05/2023	24/07/2023	12w
17	Bridge Lead-in Time	16/12/2022	27/07/2023	32w
18	**Ultilities Interface / Design**	**10/10/2022**	**23/08/2023**	**42w**
19	BT / Telecomms	10/10/2022	30/12/2022	12w
20	Gas	10/10/2022	30/12/2022	12w
21	NIE	10/10/2022	18/11/2022	6w
22	NIW	10/10/2022	30/12/2022	12w
23	ESB	10/10/2022	18/11/2022	6w
24	Fibre Optic Lead-in Time	25/01/2023	22/08/2023	30w
25	**Electrical Power On - LV Connection & Substation Procurement**	**21/11/2022**	**15/08/2023**	**35w**
26	**New Gas Connection**	**09/01/2023**	**23/08/2023**	**31w**
27	**New Mains Water Connection (Mains Water or Fire)**	**09/01/2023**	**16/08/2023**	**30w**
28	**Key Dates**	**10/10/2022**	**22/12/2023**	**59w 2d**
29	Contractor Mobilisation Period	10/10/2022	04/11/2022	4w
30	SOS Date	07/11/2022	07/11/2022	
31	Site Access Date	07/11/2022	07/11/2022	
32	Seasonal Constraint - In River Works	10/10/2022	22/12/2023	42w 3d
33	Bridge Complete	13/09/2023	13/09/2023	
34	Strabane Public Realm Works Complete	18/09/2023	18/09/2023	
35	Lifford Public Realm Works Complete	09/11/2023	09/11/2023	
36	Finishing Programme issued to Client	17/08/2023	17/08/2023	
37	Works Period	07/11/2022	09/11/2023	52w 4d
38	Planned Completion Date	09/11/2023	09/11/2023	
39	CTTRA	10/11/2023	22/12/2023	6w 1d
40	Contract Completion Date	22/12/2023	22/12/2023	
41	**Construction Programme**	**07/11/2022**	**09/11/2023**	**49w 1d**
42	**Site Set-up**	**07/11/2022**	**02/12/2022**	**4w**
43	**Enabling Works**	**28/11/2022**	**22/02/2023**	**10w 3d**
44	**Lifford**	**28/11/2022**	**01/02/2023**	**7w 3d**
45	**Strabane**	**19/12/2022**	**22/02/2023**	**7w 3d**
46	**RC Abutments and Piers**	**02/05/2023**	**04/08/2023**	**13w**
47	**Lifford**	**02/05/2023**	**31/07/2023**	**12w 2d**
48	**Strabane**	**14/06/2023**	**04/08/2023**	**7w**
49	**Steel Bridge**	**25/07/2023**	**12/09/2023**	**7w**
50	**Internal Roads**	**02/02/2023**	**13/09/2023**	**30w 2d**
51	**Lifford**	**02/02/2023**	**13/09/2023**	**30w 2d**
52	**Strabane**	**23/02/2023**	**12/05/2023**	**10w 3d**
53	**Drainage**	**14/02/2023**	**28/04/2023**	**10w 1d**
54	**Public Realm**	**14/02/2023**	**09/11/2023**	**37w**
55	**Lifford**	**14/02/2023**	**09/11/2023**	**37w**
56	**Strabane**	**15/05/2023**	**15/09/2023**	**17w 1d**



Appendix G: Cut Fill – Indictive Volumes / Areas



NOTES

1. All measurements shown are in metres, and all levels are to ordnance datum unless otherwise indicated

2. All Coordinates are to Irish Grid (TM65), unless otherwise noted.

LEGEND

CUT

FILL

CUT / FILL STATISTICS

Area	Cut Vol ** ******	Fill Vol ** ******	Balance ** ******
Accommodation Works	566	7,480	6,914 [fill]
Lifford Riverine	5,997	20,136	14,139 [fill]
Strabane Riverine	1,046	1,159	113 [fill]
Overall	7,609	28,775	21,166 [fill]

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Rev	Issue Date	Description	App
A	04.02.22	Amended Lifford Accom. Works & Strabane layouts	DSA

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Donegal County Council

Derry City & Strabane District Council
Comhairle Chathair Dhoire & Cheantar an tSratha Báin
Derry Cittie & Strábane Destrick Cooncil

Project Status: STAGE 3 - DEVELOPED DESIGN

Project: RIVERINE COMMUNITY PARK

Drawing: CUT / FILL ANALYSIS

Scale: 1:1250 @ A1

Drawn	Checked	Approved
DSA	CM	KOS
Date 06.08.21	Date 06.08.21	Date 06.08.21

Project - Organisation - Zone - Level - Type - Role - Number: E2256 - - - - - - SK-142

Revision: A

Project Number: E2256

Status code & Description: - -

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