Proposed Mixed Use Development at Stillorgan Library Site, St. Laurence's Park, Stillorgan

Traffic and Transport Assessment

Quality information

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Revision History

Revision	Revision date	Name	Position
0	25/06/18	BMcM	Principal Engineer
1	27/06/18	DK	Associate Director
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4	31/07/20	BMcM	Associate Director

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1. Executive Summary

1.1.1 Background

This Traffic and Transport Assessment has been compiled in support of a planning application by Dun Laoghaire-Rathdown County Council for a mixed-use development including a residential development and redeveloped library in Stillorgan, Co Dublin.

The redevelopment of the site offers the opportunity to provide both a modern state-of-the-art library and cultural facility for Stillorgan, but also to substantially increase the provision of Council housing on the site.

1.1.2 Development Proposals

DRLCC proposes to redevelop the site to provide a modern library facility and housing scheme and to enhance permeability and accessibility to the new Library site.

The proposed development comprises of the demolition of 16 no. residential dwellings (maisonettes), 2 no. detached dwellings and the existing library and the provision of a mixed use development comprising of a library (1,010 sq. m) and 88 no. apartments (76 no. 1 bed, 11 no. 2 bed and 1 no. 3 bed) in the form of interlinked apartment blocks.

1.1.3 Location

The proposed site is located at a prominent position on the corner of the N11 and the Kilmacud Road Lower junction, close to Stillorgan Town Centre.

1.1.4 Policy Considerations

The proposed development has been designed to take account of the relevant design guidelines and planning policy framework. The recently published Sustainable Urban Housing: Design Standards for New Apartments (March 2018), provides guidance in relation to new apartments.

It is proposed to apply the specific guidelines within the Design Standards for New Apartment for the 'Central / Accessible Urban Locations', given cognisance to the accessibility of the site to high frequency bus stops, whilst also being situated within walking distance to significant employment locations i.e. Stillorgan. The key impacts the guidelines have in relation to the scheme design from a transport perspective is car and cycle parking provision, which is summarised as follows:

- Car Parking - "In large scale and higher density developments, comprising wholly of apartments in more central locations that are well served by public transport, the default policy is for car parking provision to be minimised, substantially reduced or wholly eliminated in certain circumstances; and

- Cycle Parking – a general minimum standard of 1 cycle storage space per bedroom shall be applied. For studio units, at last 1 cycle storage space shall be provided. Visitor cycle parking shall also be provided at a standard of 1 space per 2 residential units. Any deviation from these standards shall be at the discretion of the planning authority and shall be justified with respect to factors such as location, quality of facilities proposed, flexibility for future enhancement / enlargement."

- Designation of Parking (DSfNA Section 4.23) Where it is sought to eliminate or reduce car parking provision, it is necessary to ensure the provision of an appropriate number of drop off, service, visitor parking spaces and parking for mobility impaired; and

- Car Sharing Club (DSfNA Section 4.24) As well as showing that a site is sufficiently well located in relation to employment amenities and services, it is important that access to a car sharing club or other non-car based modes of transport are available and / or can be provided to meet the needs of residents.

1.1.5 Design Manual for Urban Roads and Streets (DMURS)

The development proposals for the new residential layout comply with the principles as set out in the 'Design Manual for Urban Roads and Streets' (DMURS, 2019) which focus on the needs of pedestrians, cyclists and public transport users. The vehicular access on St. Laurence's Park has been designed as

a shared space road, while, a dedicated pedestrian courtyard has also been provided. Pedestrian access to the site has been enhanced, with both a steps and a wheelchair access from Kilmacud Road Lower. Significant cycle parking has also been provided on site. The site is located adjacent to the N11 bus corridor, a high capacity urban public transport.

1.1.6 Pedestrian Facilities

Pedestrians can access the development via three routes including the following:

- Via the courtyard or shared space road carriageway on St. Laurence's Park;
- The new steps or ramp access from Lower Kilmacud Road; and
- The existing pedestrian underpass beneath the N11 to Patrician Villas.

1.1.7 Cycling Facilities

The proposed cycle parking provision has been designed to encourage cycling as a key mode of travel to and from the development. The proposed cycle parking provision takes accord of the '*Design Standards for New Apartments, Guidelines for Planning Authorities 2018*", with a minimum standard of 1 cycle storage space per bedroom. Additionally, 1 cycle space per 2 residential units has been provided for visitors. This results in a cycle parking provision of 145 cycle parking spaces for the 89 residential units. 126 cycle spaces have been provided in a purpose-built sheltered and secure cycle parking building.

In relation to the library, the DLRCC cycling policy standards set out in 'Standards for Cycle Parking and associated Cycling Facilities for New Developments' have been applied.

Cyclists can access the proposed site by St. Laurence's Park, Lower Kilmacud Road or via the pedestrian underpass.

1.1.8 Public Transport Accessibility

There are a number of bus routes (approximately 12 different routes) located in close proximity to the site (within a 5 minute walk).

Dublin bus routes 46a and 145 are high frequency routes which connect Stillorgan to the Dublin City Centre along the N11. The NTA's 'Greater Dublin Area Transport Strategy 2016-2035' and Dun Laoghaire-Rathdown Development Plan 2016-2022 have identified the Stillorgan Road (N11) as a Priority 1 Quality Bus Corridor. The site is situated within the immediate vicinity of the National Transport Authority's Bus Connects scheme which indicates a Radial Route No. 13 from Dublin City Centre to Bray along the N11.

The proposed site is located adjacent to the N11 Stillorgan Road with convenient pedestrian links.

1.1.9 Parking

The 'Design Standards for New Apartments (March 2018)' and DLRCC 'Development Plan 2016 – 2022' have been referenced in the TTA report. The proposed provision for car parking, mobility impaired spaces, cycle, motorcycle spaces and electric charging spaces has been identified.

The proposals comprises of 40 no. car parking spaces, 30 of which have been allocated to the residential apartments and 10 to the library.

As per the DLRCC Development Plan 2016 – 2022, more than 4% of the total number of car parking spaces have be allocated for disabled persons, with a total of 3 mobility impaired car parking spaces. A parent and child space is also proposed for the library development.

In compliance with the Design Standards for New Apartments, it is proposed to allocate a proportion of car parking for Car Sharing Club Vehicles. In total 4 No. car parking spaces will be allocated for Car Sharing Club Vehicles. This will ensure future residents will have access to a car sharing club scheme.

The DLRCC also recommends a provision of 1 Electric Charging Space per 10 publically available spaces. Given the proposed total of car parking spaces is 40, provision for 4 no. electric spaces will be meet or exceeded.

1.1.10 Servicing

The design of the scheme will facilitate for refuse trucks servicing the site. Refuse vehicles will be able to access the site and manoeuvre within the internal road network, and subsequently exit the site from the main access junction. The site layout will also accommodate emergency vehicles.

1.1.11 Trip Generation / Distribution

An analysis has been undertaken using the industry standard TRICS database. The results demonstrate the anticipated arrivals and departures for the Weekday AM and PM peak hours. The proposed trip generations have been distributed using existing turning counts at the relevant junctions.

1.1.12 Operational Assessment

The results of the junction analysis undertaken demonstrate that traffic from the proposed development result in a junction capacity which is well within the percentage limits and can therefore be accommodated on the surrounding road network.

1.2 Travel Plan

A Residential Travel Plan accompanies the planning application and will be adopted prior to operation of the residential development. The Travel Plan sets out a framework of measures to promote sustainable travel amongst future residents, whilst reducing the reliance on private car modes.

1.3 Conclusion

The TTA report considers the transport implications of the proposed development with regard to the Design Standards for New Apartments, DLRCC Development Plan 2016 – 2022, and DMURS.

The percentage impacts of the development proposal upon the Lower Kilmacud Road/Old Dublin Road/The Hill signalised crossroads junction and the Lower Kilmacud Road/N11 signalised crossroads junction are anticipated to be negligible i.e. less than 5% during the morning and evening peak hour period.

The St. Laurence's Park T-junction and the Old Dublin Road/St. Laurence's Park priority junction exceed the threshold stated by TII Guidelines for Transport Assessments and therefore a traffic impact analysis was carried out. This analysis confirmed that the existing network would continue to operate within capacity following the occupancy of the proposed development.

This Traffic and Transport Assessment demonstrates that the additional traffic to the site will have a negligible impact upon the existing base scenarios during the opening year, and future year scenarios.

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2. Introduction

2.1 Background

This Traffic and Transport Assessment has been prepared by AECOM to accompany an application for a proposed mixed use development at the existing Stillorgan Library in St. Laurence's Park, Stillorgan, Co. Dublin.

The existing development is currently accessed via St. Laurence's Park, a residential estate off the Old Dublin Road. The site is bound to the east by the N11, to the south by Kilmacud Road Lower, to the west by Leisureplex Stillorgan and to the north by St. Laurence Park residential estate.

The proposed development comprises of the demolition of 16 no. residential dwellings (maisonettes), 2 no. detached dwellings and the existing Stillorgan Library and the provision of a mixed use development comprising of a library (1,010 sq. m) and 88 no. apartments (76 no. 1 bed, 11 no. 2 bed and 1 no. 3 bed) in the form of interlinked apartment blocks. Figure 1.1 below indicates the site location.

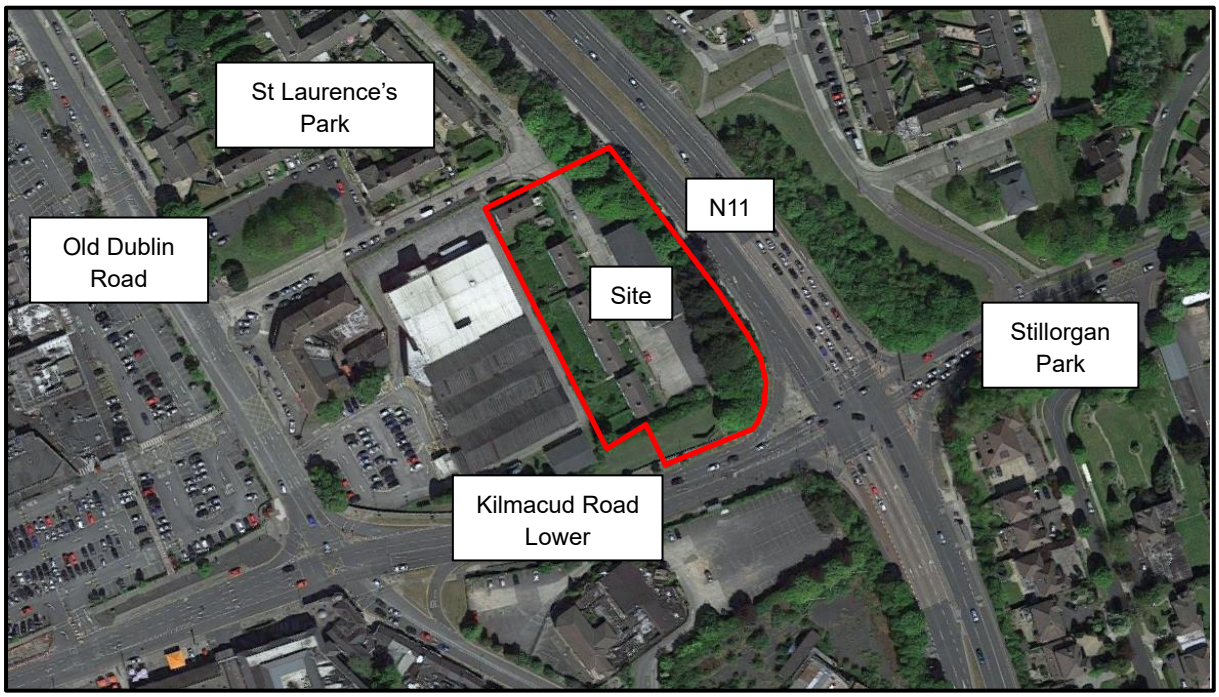

Figure 2.1 Site Location (Source: Google Maps)

This report describes the existing environment, presents the accessibility conditions of the site for pedestrians, cyclists, public transport users and private vehicles, describes the proposed development, estimates the future traffic generated by the proposed development and assesses the impact of the traffic on the transport networks.

2.2 DLRCC Consultation

Feedback was provided by Dun Laoghaire Rathdown County Council (DLRCC) for incorporation within this Traffic and Transport Assessment. The feedback provided an opportunity to scope out the key transportation items to be included within the report, the draft Stillorgan Village Area Movement Framework Plan (SVAMFP) and the methodology of traffic analysis.

3. Planning Context

A number of Strategic planning documents have been used to inform this TTA. Of particular relevance are the following:

3.1 Dun Laoghaire-Rathdown Development Plan 2016-2022

The DLRCC Development Plan (2016 – 2022) sets out the Authority's land use zoning objectives for the continuing sustainable development of DLRCC for the period 2016 to 2022.

Stillorgan is identified as a Secondary Centre as part of the Core Strategy in this Development Plan. The proposed development has a land use zoning objective of '*DC*', to "*protect, provide for and-or improve mixed-use district centre facilities*". See Figure 3.1 below.

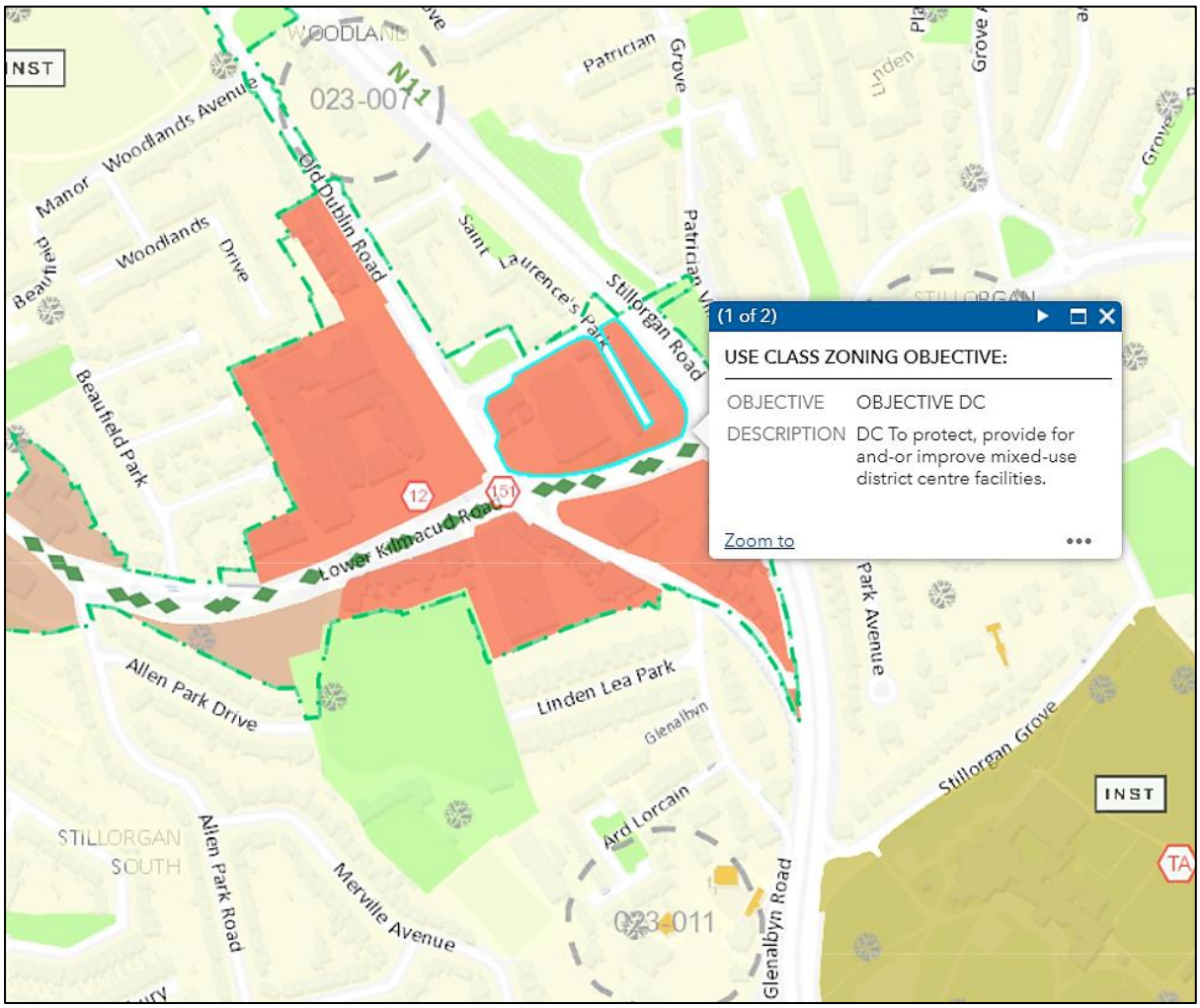

Figure 3.1: Zoning Objective of development site

3.2 Stillorgan Local Area Plan 2018-2024

A Local Area Plan (LAP) for Stillorgan was first adopted by Dún Laoghaire-Rathdown County Council in October 2007. This LAP was extended for a further five year period and expired in October 2017. The new LAP process affords the opportunity to review the policies and objectives of the original 2007 LAP, some ten years after the initial publication. A key objective of the 2007 Local Area Plan was for the preparation of a 'Village Area Movement Framework Plan' to set out transformative proposals for the public realm of Stillorgan.

The Stillorgan Local Area Plan (LAP) encompasses the lands around the junction at Lower Kilmacud Road, Old Dublin Road and The Hill and includes a number of strategic sites including the Stillorgan Shopping Centre, Leisureplex, the Stillorgan Shopping Centre overflow car park, Kilmacud Crokes GAA club lands and existing retail and commercial development on Lower Kilmacud Road.

The Plan seeks to address local issues facing Stillorgan including promoting a more pedestrian and cyclist friendly environment.

3.3 Stillorgan Village Area Movement Framework Plan

The purpose of the Stillorgan Village Area Movement Framework Plan (SVAMFP) is "*to provide improvements to the Public Realm, which when combined with inventive planning by private Developers/Businesses will ensure and sustain a rich and vibrant Stillorgan Village"* and *"to provide for an increase in walking, cycling and safer access to Public Transport*".

The Plan will build on information contained in the Stillorgan Local Area Plan 2007-2017 and in accordance with the objectives of the Dun Laoghaire-Rathdown County Development Plan 2016-2022.

The objectives in the SVAMFP include:

- Modal shift through improved access to public transport and better connectivity for pedestrians and cyclists; and
- To create multi-functional streets that balance 'movement' and 'place' and safety for all users within a traffic calmed environment.

The SVAMFP proposed changes around the proposed mixed development site including modifications to Old Dublin Road and the junction of Old Dublin Road / Lower Kilmacud Road.

These modifications include; a tree-lined central median on Old Dublin Road (Figure 3.2), road narrowing and surface treatment of Lower Kilmacud Road west of the junction, narrowing of Old Dublin Road, removal of the left-turn slip from Lower Kilmacud Road to The Hill and increased provision for cyclists at the junction and on Lower Kilmacud Road.

These changes use the principles set-out in DMURS in providing increased connectivity, comfort and safety for pedestrians and cyclists. These concepts are illustrated in Figure 3.3 to Figure 3.4. In Figure 3.2, a speed table is shown on the site access / St. Laurence's Park junction.

Figure 3.2: Old Dublin Road and St. Laurence's Park Potential Redevelopment (*source: Stillorgan Village Area Movement Framework Plan)*

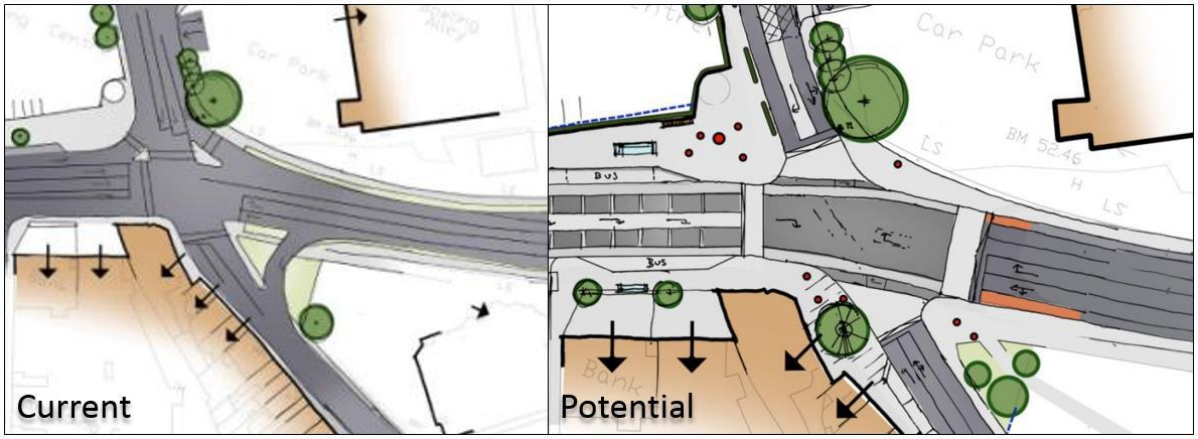

Figure 3.3: Old Dublin Road / Lower Kilmacud Road Junction (*source: Stillorgan Village Area Movement Framework Plan)*

Figure 3.4: Lower Kilmacud Road / The Hill Junction (*source: Stillorgan Village Area Movement Framework Plan)*

3.4 Design Standards for New Apartments - Guidelines for Planning Authorities (March 2018)

The proposed development has been designed to take account of the relevant design guidelines and planning policy framework. The recently published Sustainable Urban Housing: Design Standards for New Apartments (March 2018), provides guidance in relation to new apartments.

It is proposed to apply the specific guidelines within the Design Standards for New Apartment for the 'Central / Accessible Urban Locations', given cognisance to the accessibility of the site to high frequency bus stops, whilst also being situated within walking distance to significant employment locations i.e. Stillorgan. The key impacts the guidelines have in relation to the scheme design from a transport perspective is car and cycle parking provision, which is summarised as follows:

- *Car Parking - "In large scale and higher density developments, comprising wholly of apartments in more central locations that are well served by public transport, the default policy is for car parking provision to be minimised, substantially reduced or wholly eliminated in certain circumstances; and*
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4. Receiving Environment

4.1 Site Location

The Stillorgan Library is bounded to the north by St. Laurence's Park, to the east by the N11 – Stillorgan Road, to the west by Lesiureplex Stillorgan and to the south by Lower Kilmacud Road- see Figure 4.1 below. The site is located near Stillorgan Village, adjacent to Stillorgan Shopping Centre and Leisureplex. The site is located approximately 7km south of Dublin City Centre, 2.5km from University College Dublin (UCD) and less than 5km from Dun Laoghaire Town.

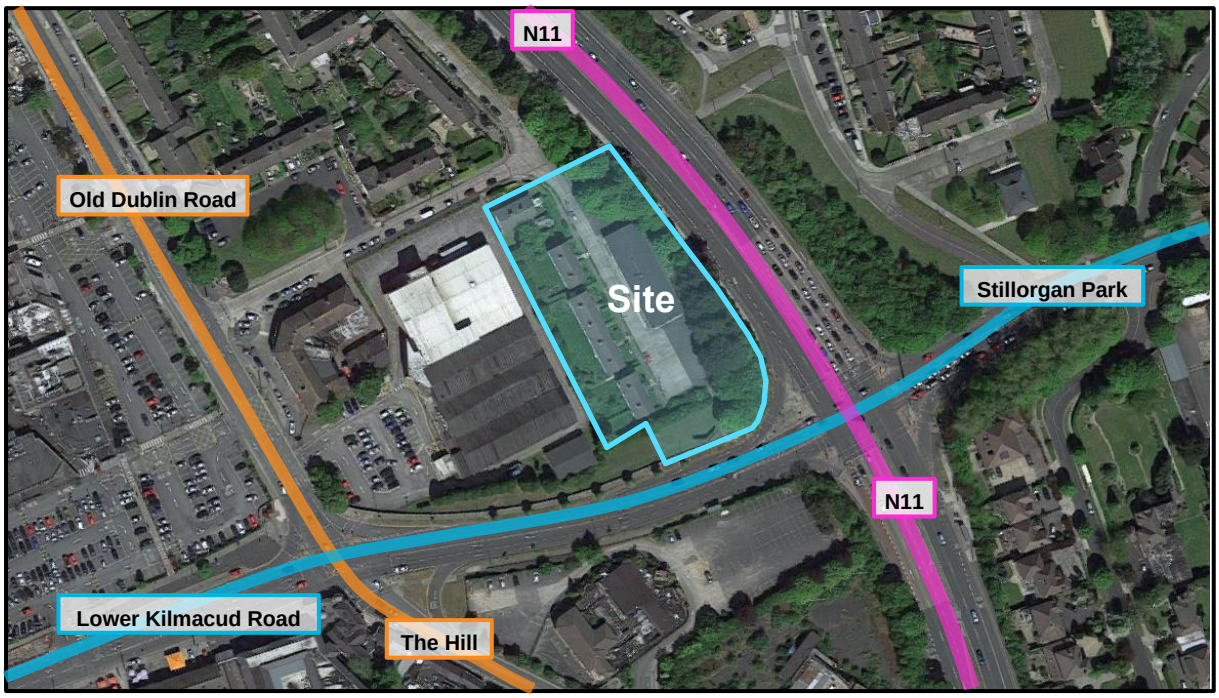


Figure 4.1: Site Location

4.2 Pedestrian Accessibility

Footpaths are provided either side of the road along St. Laurence's Park, Lower Kilmacud Road and Old Dublin Road. Controlled pedestrian crossings are provided at Lower Kilmacud Road / The Hill / Old Dublin Road and N11 / Lower Kilmacud Road. Pedestrian access to the proposed site is provided at the south of the site onto Lower Kilmacud Road (Figure 4.2), at the north via a path to the N11 and via the pedestrian underpass (to the north of the library) below the N11 between St. Laurence's Park and Patrician Villas (Figure 4.3). These facilities provide a high level of permeability for pedestrians and provide good access to the bus stops located on the N11 Quality Bus Corridor (QBC). Figure 4.4 shows the walking distances to the nearby bus stops and to the Stillorgan Shopping Centre.

Figure 4.2: Pedestrian access to Lower Kilmacud Road

Figure 4.3: Pedestrian underpass

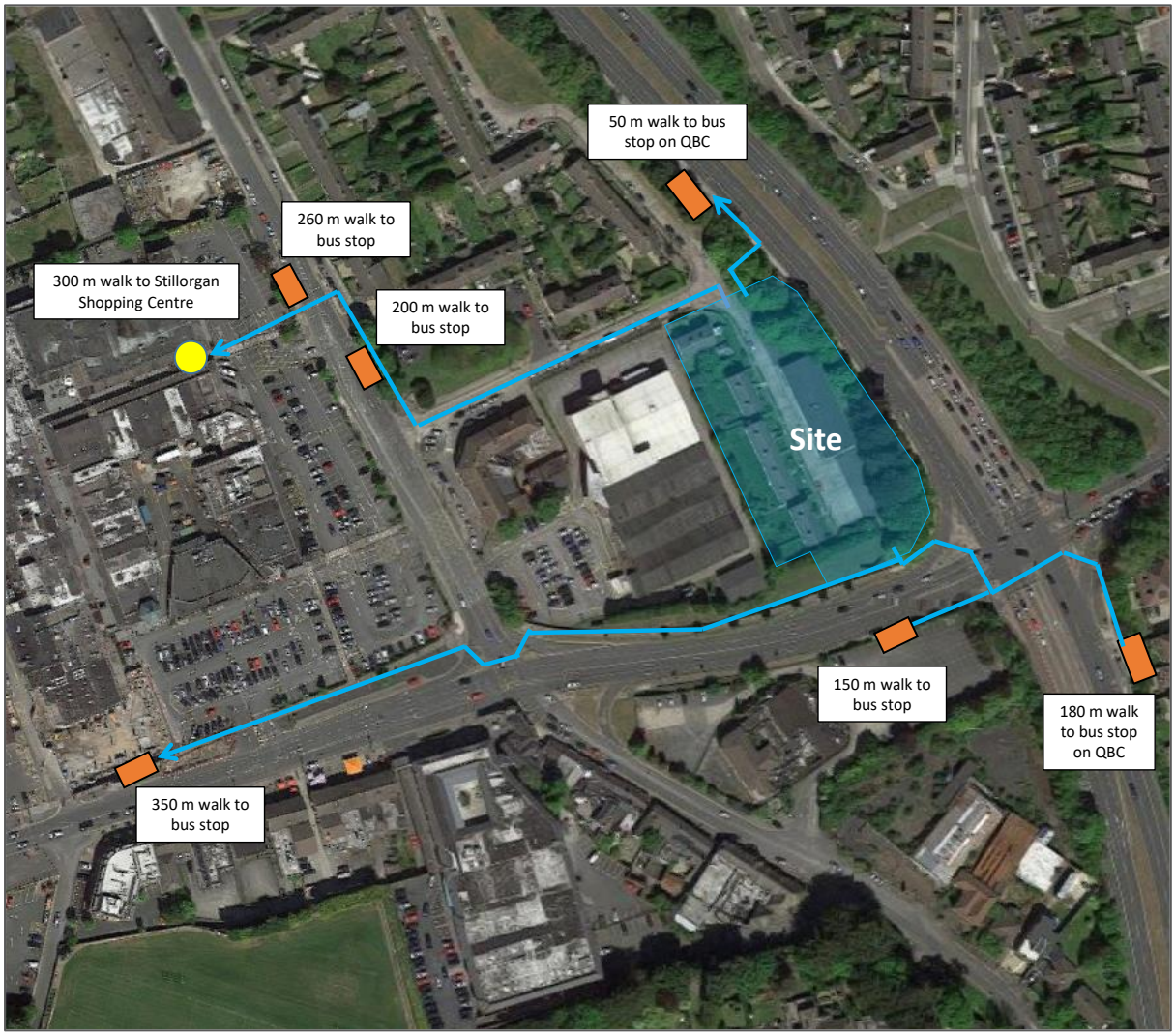


Figure 4.4: Walking distances to bus stops and Stillorgan Shopping Centre

The outermost isochrone contour in Figure 4.5 defines the perimeter pedestrians can reach in 15 minutes or less at a typical walking pace. There are in excess of 9,000 people living within a 15-minute walk from the proposed development. Local amenities including grocery shopping, leisure, banking and medical facilities are located within Stillorgan Village approximately a 5 minute walk from the proposed development.

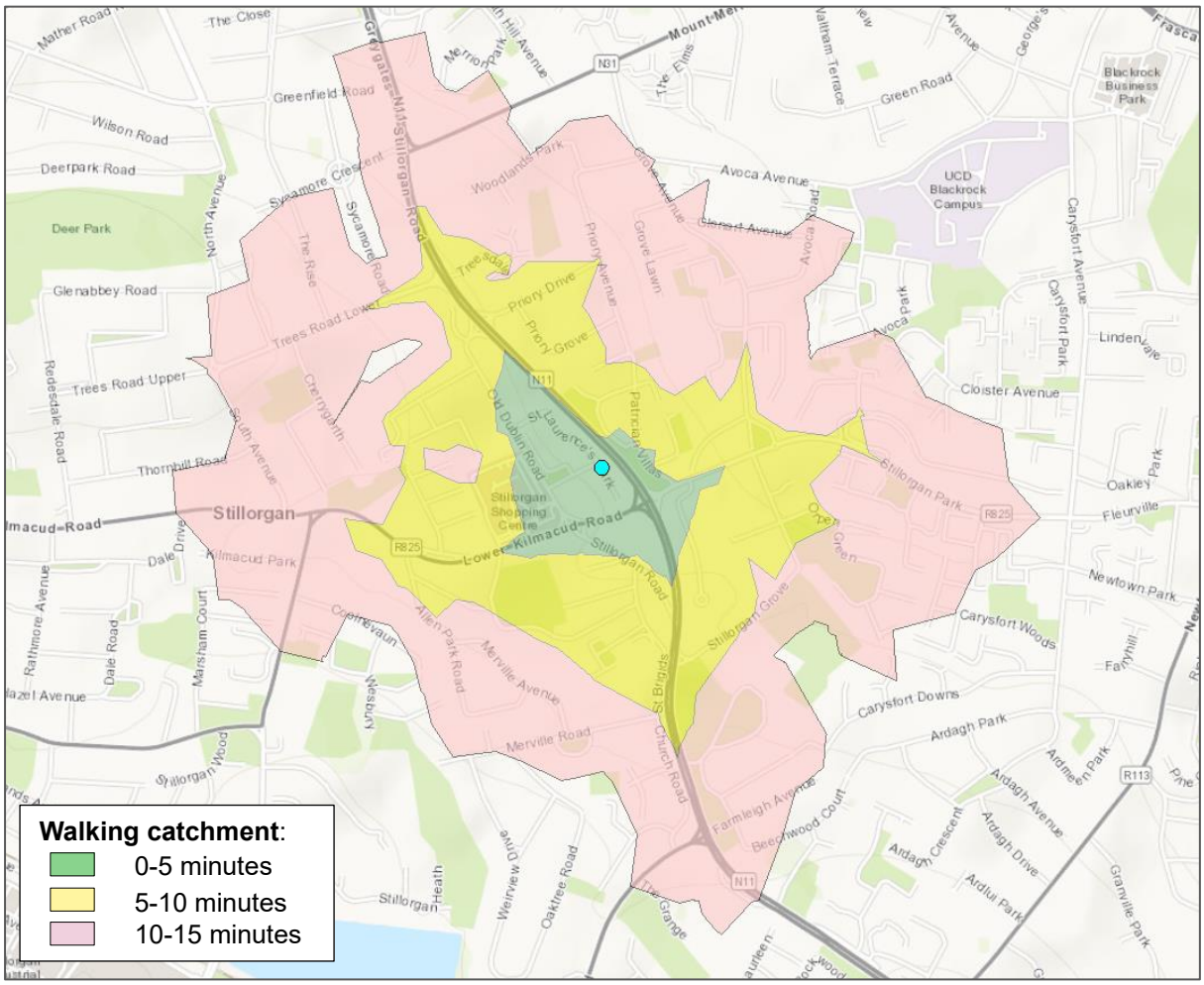


Figure 4.5: Walking Catchment

4.3 Cyclist Accessibility

The N11 runs to the east of the proposed mixed development and has segregated cycle tracks along its entire length. In addition, Stillorgan Park has segregated cycle facilities and shared cyclist / pedestrian facilities along its length. The existing and proposed cycle network is presented in Figure 4.6 and 4.7 below.

The proposed cycling network as per the Greater Dublin Area Cycle Network 2010 identifies the N11, Stillorgan Park and Lower Kilmacud Road as primary cycle routes. The N11 forms part of Route 12 which extends from St. Stephens Green to Cornelscourt (where it becomes Route 12A). Stillorgan Park and Lower Kilmacud Road form part of the SO5 primary cycle route which connects Dun Laoghaire, Stillorgan, Dundrum, Tallaght and Ronanstown.

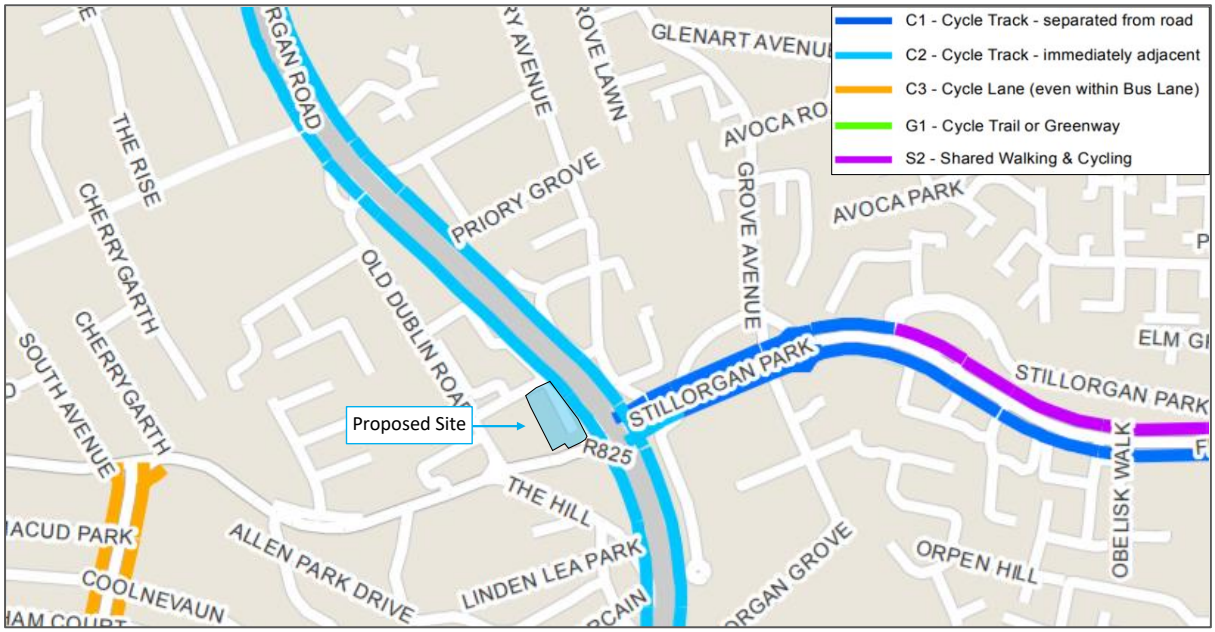


Figure 4.6: Existing cycle network (*NTA- GDA Cycle Network Plan)*

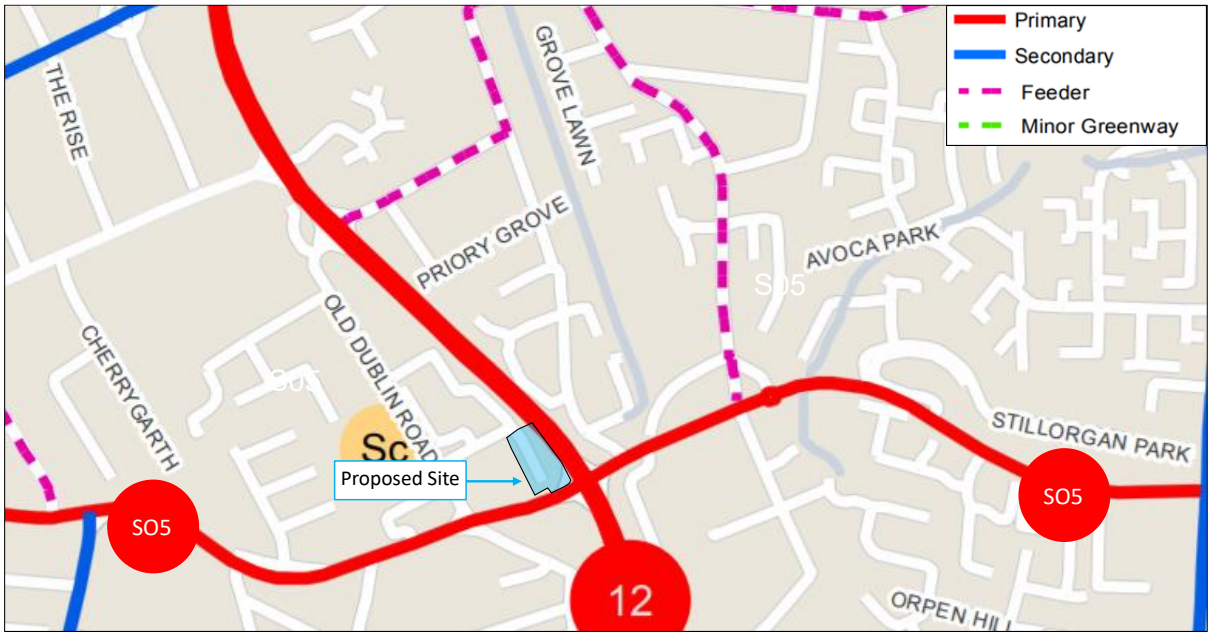


Figure 4.7: Proposed cycle network (*NTA- GDA Cycle Network Plan)*

The site provides good accessibility for pedestrians and cyclists to access employment areas and educational campuses. Within a 15 minute walk of the proposed mixed development, there are approximately 2,200 attending a place of work and 1,600 attending an educational institution. (These figures are based on the Census 2011 Small Area Population Statistics (SAPS)). Key existing and future employment and leisure facility areas include the city centre, Dun Laoghaire, Dundrum, Leopardstown/Sandyford and Cherrywood. The educational campuses of UCD and Dun Laoghaire IADT are within a 10 and 16 minute cycle, respectively.

4.4 Public Transport Accessibility

There are a number of bus stops located in close proximity to the site (5 minute walk) - see Figure 4.8. The different bus routes serving these bus stops are listed in Table 4.1.

Table 4.1: Local bus routes

Details Number	Operator	Peak Frequency (2-way services per hour)	To / From
7b	Dublin Bus	1	From Mountjoy Sq. to/from Dalkey
7d	Dublin Bus	4	From Mountjoy Sq. to/from Shankill
46a	Dublin Bus	12	Dun Laoghaire to/from Phoenix Park
46e	Dublin Bus	1	Blackrock Rail Station to/from Mountjoy Sq.
47	Dublin Bus	2	Poolbeg to/from Belarmine
75	Go-Ahead	4	Square Tallaght to/from Dun Laoghaire
84x	Dublin Bus	4	Hawkins St. to/from Newcastle/Kilcoole
116	Dublin Bus	1	Parnell St. to/from Ashtown Rail Station
118	Dublin Bus	1	Kilternan to/from D'Olier St.
133	Bus Éireann	1	Gorey to/from Dublin
145	Dublin Bus	6	Ballywaltrim to/from Heuston Rail Station
700	Aircoach	4	Dublin Airport to/from Leopardstown/Sandyford

Figure 4.8: Bus stops in close proximity to the proposed mixed development site

Dublin bus routes 46a and 145 are high frequency routes which connect Stillorgan to the City Centre along the N11. The NTA's 'Greater Dublin Area Transport Strategy 2016-2035' and Dun Laoghaire-Rathdown Development Plan 2016-2022 have identified the Stillorgan Road (N11) as a Priority 1 Quality Bus Corridor with the potential to upgrade to a Core Bus Corridor (see section 4.7.1). Core Bus Corridors represent the most important bus routes in the Greater Dublin Area, which are generally characterised by a high frequency of bus services, high passenger volumes and with significant trip attractors located along the route.

4.4.1 N11 Bus Stops

The N11 Bus Stops are easily accessible from and to the proposed development. As shown in Figure 4.4, the N11 northbound bus stop is located approximately 50m from the proposed development. Figures 4.9 and 4.10 show the existing pedestrian link from St. Laurence's Park to the N11, and the N11 bus stop, highlighting the convenient and easily accessible link between the development and the main bus link into Dublin City Centre.

Figure 4.9: Existing Pedestrians Link from St. Laurence's Park on the N11 (Google Maps)

Figure 4.10: Existing N11 Bus Stop beside St. Laurence's Park (Google Maps)

As shown in Figure 4.4, the N11 southbound bus stop is located approximately 180m from the proposed development. Figures 4.11 and 4.12 show the southbound N11 bus stop and the dedicated pedestrian crossing on the N11 junction.

Figure 4.11: Existing Pedestrians Link from St. Laurence's Park on the N11 (Google Maps)

Figure 4.12: Existing Pedestrians Link from St. Laurence's Park on the N11 (Google Maps)

Furthermore, DLRCC have proposals to upgrade the N11 beside the proposed development in order to provide an improved pedestrian access to new improved bus facilities. This is set out in further detail in section 4.7.2.

4.5 Vehicular Accessibility

4.5.1 Existing Road Network

There are a number of local and national roads surrounding the proposed mixed development site, including:

St. Laurence's Park: The proposed site is located on St. Laurence's Park, which is a two-way residential street (cul-de-sac) with wide footpaths and no existing cycle facilities. The street is lightly trafficked and is appropriate for shared use by vehicles and cyclists. Free parking is available along the street and the area south of the library. The speed limit is 30 km/h. There is a pedestrian link to the N11 bus stop at the end of St. Laurence's Park, as well as a pedestrian underpass between St. Laurence's Park and Patrician Villas.

Figure 4.13: St. Laurence's Park

N11 – Stillorgan Road: the N11 is a national dual-carriageway connecting Dublin city to the M11 at Loughlinstown. The N11 is identified as a Quality Bus Corridor (QBC) with a speed limit of 60 km/h which has footpaths and segregated cycle facilities along most of its length.

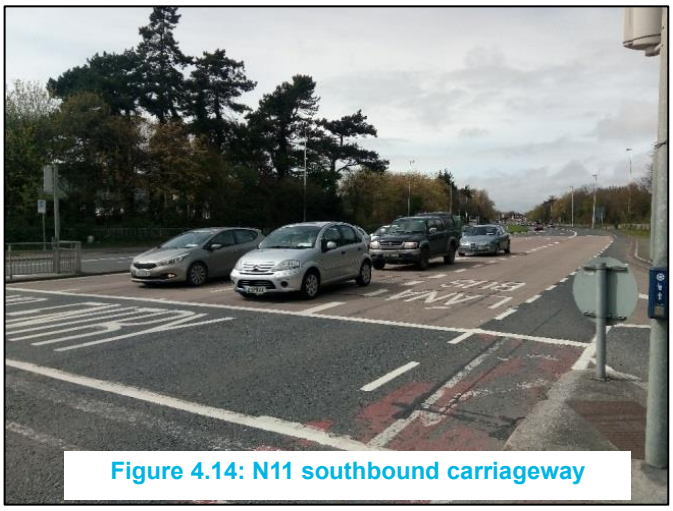


Figure 4.14: N11 southbound carriageway

R825 - Lower Kilmacud Road: the Lower Kilmacud Road is a single lane regional road (R825) between the N11 and Dundrum which has a speed limit of 50 km/h. In proximity to the development the carriageway is separated into different turning lanes (see Section 3.5.2). Footpaths are provided either side of the road but there are no cycle facilities.

Figure 4.15: Lower Kilmacud Road (to the west of the development)

R825 - Stillorgan Park: Stillorgan Park road connects Monkstown, Blackrock and Dun Laoghaire and also has a speed limit of 50 km/h. The carriageway is split into turning lanes, as described in section 3.5.2. Pedestrians are catered for by the provision of footpaths while off-road cycle facilities are provided for cyclists.

Figure 4.16: Stillorgan Park Road

The Hill: the Hill is a local two-way road which provides a single lane egress from the N11 only. The speed limit is 50 km/h. A turning area is provided at this point as no entry onto the N11 is permitted. Pedestrians are catered for with footpaths of variable width along the road. No cycle facilities are provided.

Figure 4.17: The Hill (two way flow at the junction)

Old Dublin Road: the Old Dublin Road is a local road which has a speed limit of 50 km/h and provides access to retail, leisure, secondary and third level education and residential developments. Pedestrian footpaths are provided along its length. No cycle facilities are provided.

Figure 4.19: Pedestrian crossing on Old Dublin Road

Figure 4.18: Old Dublin Road at the access junction

4.5.2 Existing Junctions

Lower Kilmacud Road / The Hill / Old Dublin Road Signal Controlled Junction: The existing signalised junction provides one straight-ahead lane, a right-turn lane and a left-turn signalised slip lane on the Old Dublin Road southbound approach. The Lower Kilmacud Road eastbound approach has two straight-ahead lanes, a left-turn signalised slip lane and a right-turn flare at the junction. On the westbound approach the Lower Kilmacud Road provides a straight ahead lane and a right turn lane. A

left-turn slip lane is provided off the straight ahead lane before the signalised junction. The Hill provides a wide all movement lane catering for all traffic movements. Pedestrian crossings are provided on Old Dublin Road, The Hill and across the Lower Kilmacud Road western arm only. There is an all-red phase to allow pedestrians to cross.

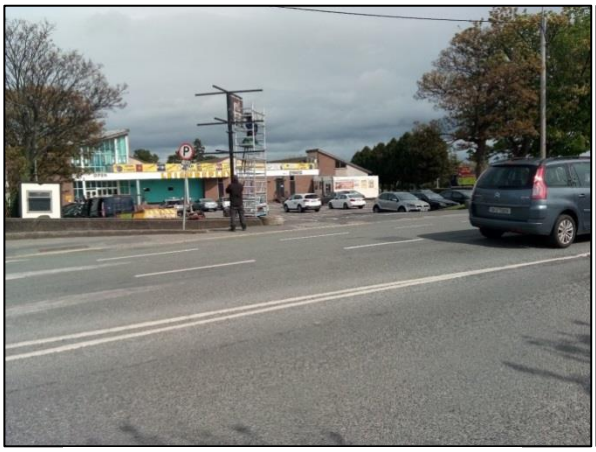


Figure 4.20: Old Dublin Road, 3 lanes on approach to Lower Kilmacud Road junction

Figure 4.21: Old Dublin Road. Island to prevent right turn on egress from shopping centre car park

Figure 4.22: Left turn slip on Lower Kilmacud Road (east of junction). Straight ahead lane and right turn only lane

Figure 4.23: Kilamcud Road Lower (west of junction). Left slip lane, 2 straight ahead lanes, one right turn lane

Lower Kilmacud Road / N11 / Stillorgan Park Road Crossroads Junction:

A left-turn signalised slip lane, a combined straight ahead/right turn lane and a right turn only lane is provided on the Lower Kilmacud Road approaching the Lower Kilmacud Road / N11 / Stillorgan Park Road crossroads junction. Each arm on the junction provides a left-turn signalised slip lane. The N11 is compiled of a bus lane (shared with the left turn slip), 2 straight lanes and one right turn lane. Pedestrian crossings are provided on each arm.

Figure 4.24: Lower Kilmacud Road / N11 / Stillorgan Park Road Crossroads Junction, facing Lower Kilmacud Road

Old Dublin Road/St Laurence's Park T-Junction: The St Laurence's Park/Old Dublin Road is a non-signalised priority junction. The Old Dublin Road has 3 lanes in total at the junction; one north bound lane, and 2 lanes southbound; a left turn lane and a combined right turn lane and straight ahead lane, which then separates closer to the junction.

Figure 4.25: Old Dublin Road/St Laurence's Park junction

St Laurence's Park T-Junction: The T-junction in the residential area at St. Laurence's Park provides access to the library on the southern arm and Stillorgan Institute of Further Education on the northern arm. Due to parked cars, the lane width is narrowed and there is only one lane width available to traffic.

Figure 4.26: St. Laurence's Park Western arm

Figure 4.27: St. Laurence's Park T-Junction

4.5.3 Future Junction Arrangement

The Lower Kilmacud Road / The Hill / Old Dublin Road junction is proposed to be redesigned as part of the draft SVAMFP as described in Section 2.3 by; removing the left turn slip lane from Lower Kilmacud Road westbound to The Hill, providing a shared straight ahead/right turn lane from the Hill in addition to a left turn only lane, reducing the road width on all arms and improving the pedestrian and cyclist crossings. Figures 4.28 and 4.29 illustrate the proposed upgraded junction following the implementation of the measures included for in the SVAMFP.

The Lower Kilmacud Road / N11 / Stillorgan Park is proposed to be redesigned as part of the draft SVAMFP as described in Section 2.3 by; removing the left turn slip on the Lower Kilmacud Road (and providing a plaza at the junction) and on the Stillorgan Park Road. The access to The Hill from the N11 will be closed and instead a left turn lane separate from the bus lane will be provided at the Lower Kilmacud Road / N11 / Stillorgan Park junction.

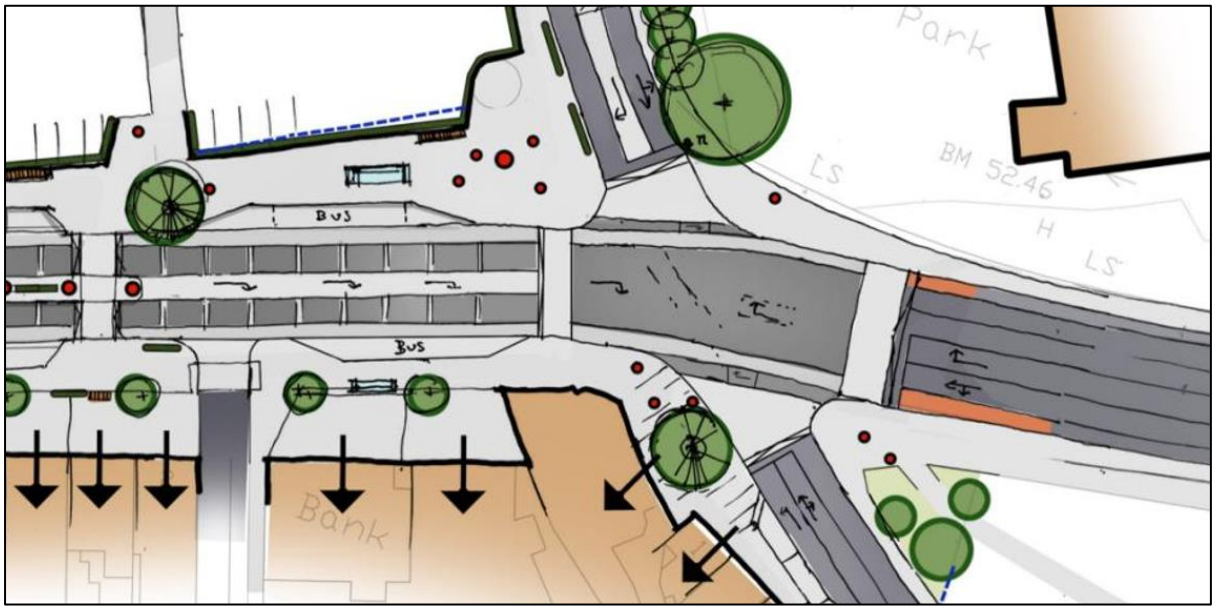


Figure 4.28: Future Junction Layout – The Hill / Lower Kilmacud Road / Old Dublin Road

Figure 4.29: Future Junction Layout – Lower Kilmacud Road / N11 / Stillorgan Park Road. Removal of The Hill access from the N11

4.5.4 Existing Traffic Patterns

In order to assess the impact of the generated traffic on the surrounding road network, an examination of the existing traffic flows was carried-out. A traffic survey was undertaken by Tracsis on behalf of Dun Laoghaire Rathdown County Council to establish the morning and evening peak hour traffic volumes at key locations as presented in Figure 4.30. 12-hour two-way link flow traffic counts were carried-out on the 21st March 2018 at these locations. The peak periods were identified as being between 08:00 and 09:00 during the AM peak and 17:00 and 18:00 during the PM peak. Traffic surveys of the Lower Kilmacud Road (E) / N11 / Stillorgan Park Road junction were provided by DLRCC, from their SCATS count at the junction on Monday 13th November 2017.

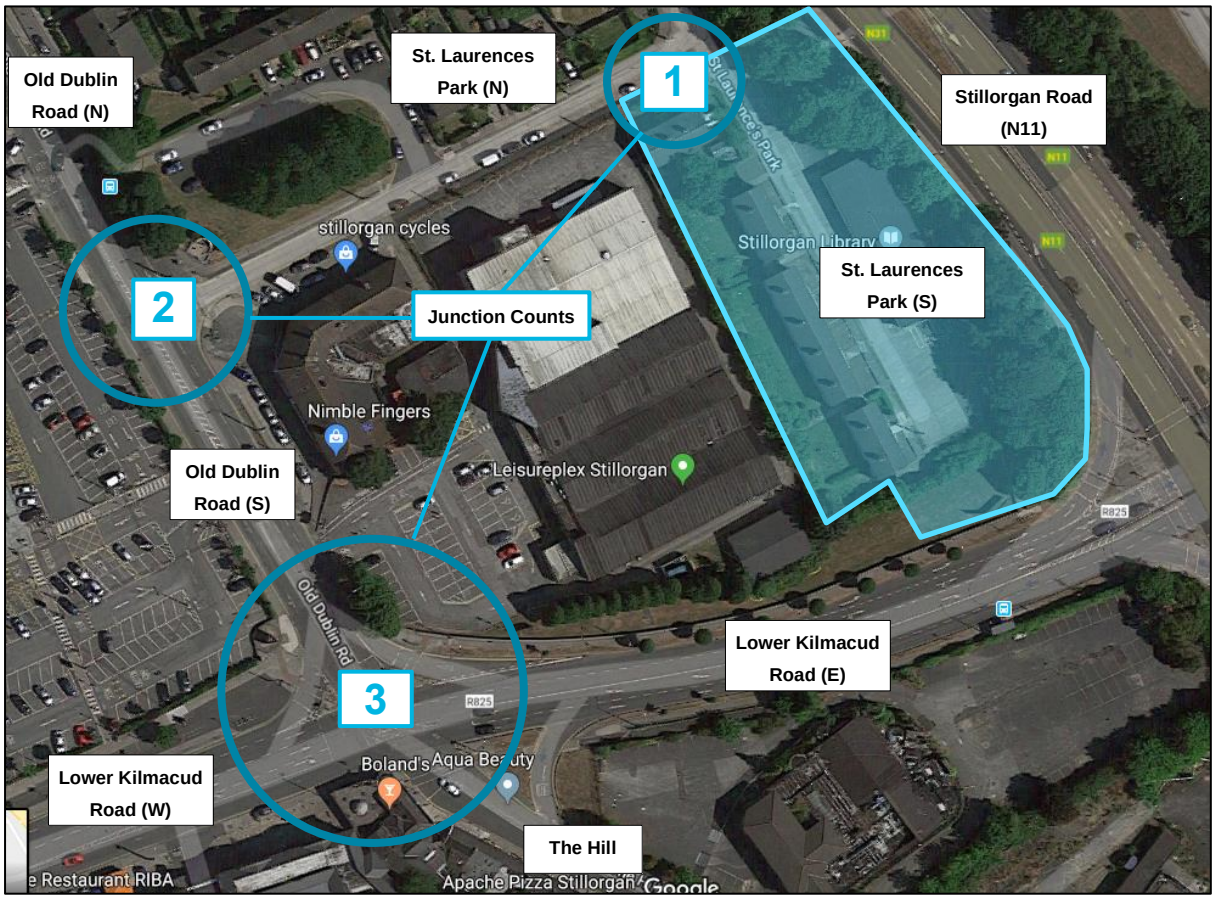


Figure 4.30: Location of Traffic Counts

The resultant peak hour two-way traffic flows for these links are presented in Table 4.2 below. The network traffic flow diagrams are provided in Appendix B.

Table 4.2- Existing Traffic Flows (veh/hr), 21st March 2018

Existing Two-way Traffic Flows	AM Peak(08:00–09:00)	PM Peak(17:00–18:00)
St. Laurence's Park (N)	8	19
St. Laurence's Park (S)	13	42
St. Laurence's Park (E)	40	144
Old Dublin Road (N)	668	686
Old Dublin Road (S)	1442	1485
Lower Kilmacud Road (W)	1296	1391
Lower Kilmacud Road (E)	1018	961
The Hill	464	512
N11 (N)	1132	1450

N11 (S)	1388	1412
N11 (E)	479	454
N11 (W)	410	451

4.6 Road Safety

The RSA database of personal injury collisions was examined to establish if there are any existing safety issues within the site that were not evident from the site visit.

The database provides collision records for the period 2005 to 2016, with Figure 4.31 below outlining the recorded collisions over the twelve year period.

- 25 minor collisions were also recorded within the study area, with the majority of these at the N11 Junction.
- 16 collisions were recorded at the N11 / Lower Kilmacud Road Junction / Stillorgan Park Junction.
    - 12 of the recorded collisions occurred at the N11 Junction were minor collisions; two involved a pedestrian and car; one involved a pedestrian and bus; and the remainder involved direct vehicle collisions.
    - Four fatal collisions were recorded at the N11 Junction.
- 6 of the recorded collisions occurred on the Lower Kilmacud Road Junction; 3 collisions involved a pedestrian, with a serious cyclists collision occurring in 2015.
- 3 of the recorded collisions occurred on the Old Dublin Road.
    - 1 minor collision was recorded on the Old Dublin Road / St. Laurence's Park in 2016 and involved a cyclist between 19:00 and 23:00.
    - 1 serious collision was recorded on the Old Dublin Road / St. Laurence's Park in 2009 and involved a pedestrian and car between 03:00 and 07:00.
    - 1 minor collision was recorded on the Old Dublin Road involved a pedestrian and a car.
- The analysis identifies a potential hotspot of collisions at the N11 Junction within the direct study area.

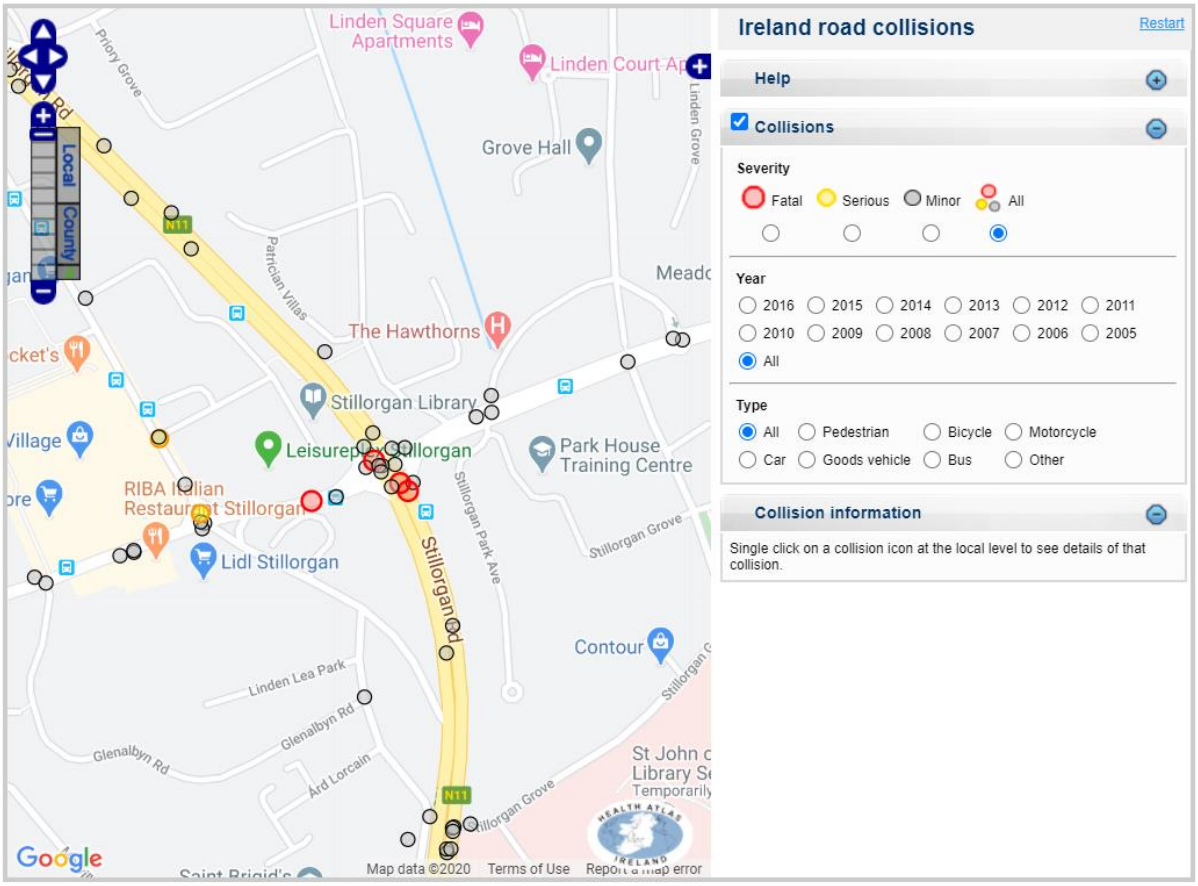


Figure 4.31: Road Collision Statistics (Source: RSA Website)

4.7 Future Transport Enhancements

4.7.1 Bus Connects

The site is situated within the immediate vicinity of the National Transport Authority's Bus Connects scheme which indicates a Radial Route No. 13 from Dublin City Centre to Bray along the N11, as illustrated in Figure 4.32. The proposed objectives of Bus Connects is to "provide a continuous bus lane in each direction as well as maintaining two general lanes, in addition to providing a dedicated cycle track on each side of the road, providing safe cycling facilities, segregated from other vehicular traffic. The benefits of the scheme are noted as follows:

- *Journey Time Savings;*
- *Enhancing bus prioritisation to improve efficient;*
- *Improve walking and cycling facilities."*

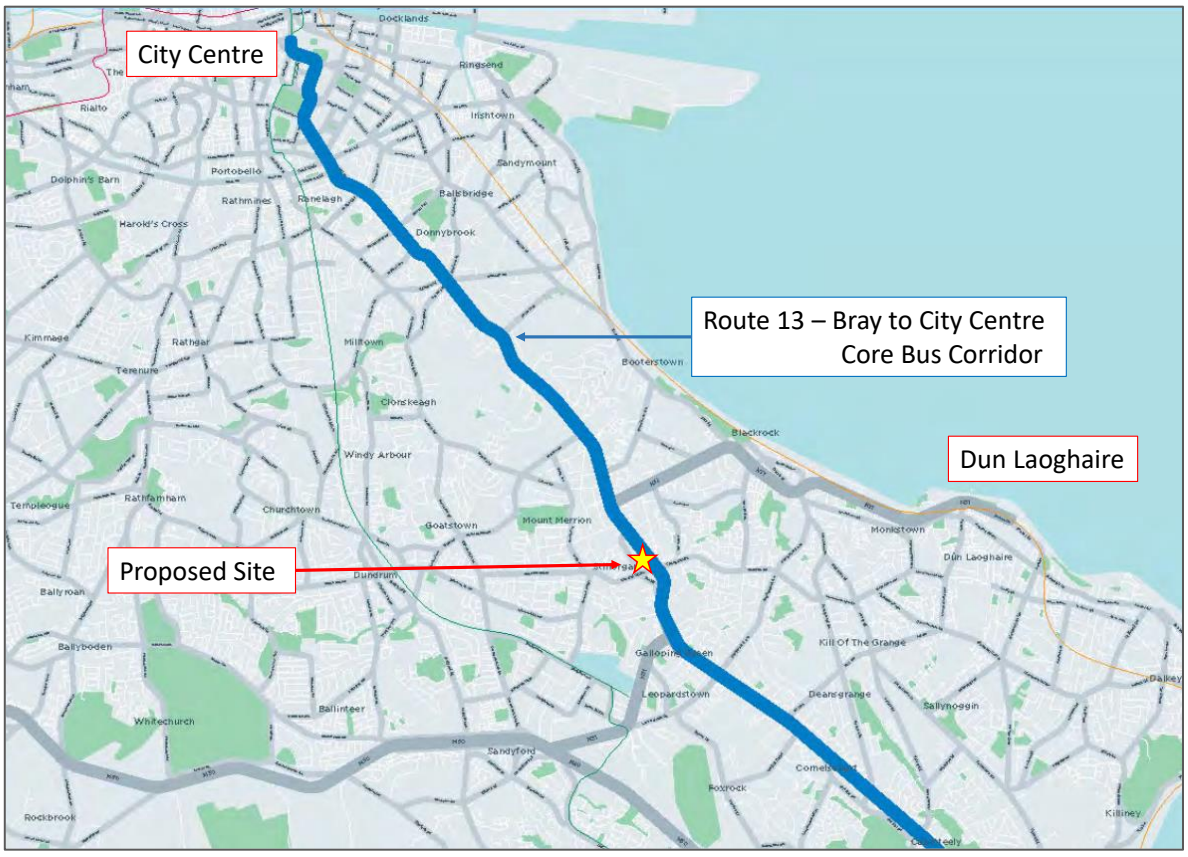


Figure 4.32: Bus Connects Proposals (Source: NTA)

4.7.2 Bus Connection Upgrades

As part of the SVAMFS, it is proposed to upgrade the existing public transport facilities on the N11 and the pedestrian connects to them. From the SVAMFS Options Assessment Report the following were key interventions were proposed:

- Establish strong pedestrian link along upgraded streetscape from shopping centre eastwards directly to QBC bus stop on N11;
- Enhance steps and ramps leading to bus stop;
- Re-location of southbound N11 bus stop northwards to be opposite the northbound bus stop, and incorporating an at-grade pedestrian crossing as an alternative to the underpass.

The proposals above are set out in the SVAMFS drawings, shown in Figure 4.33 below.

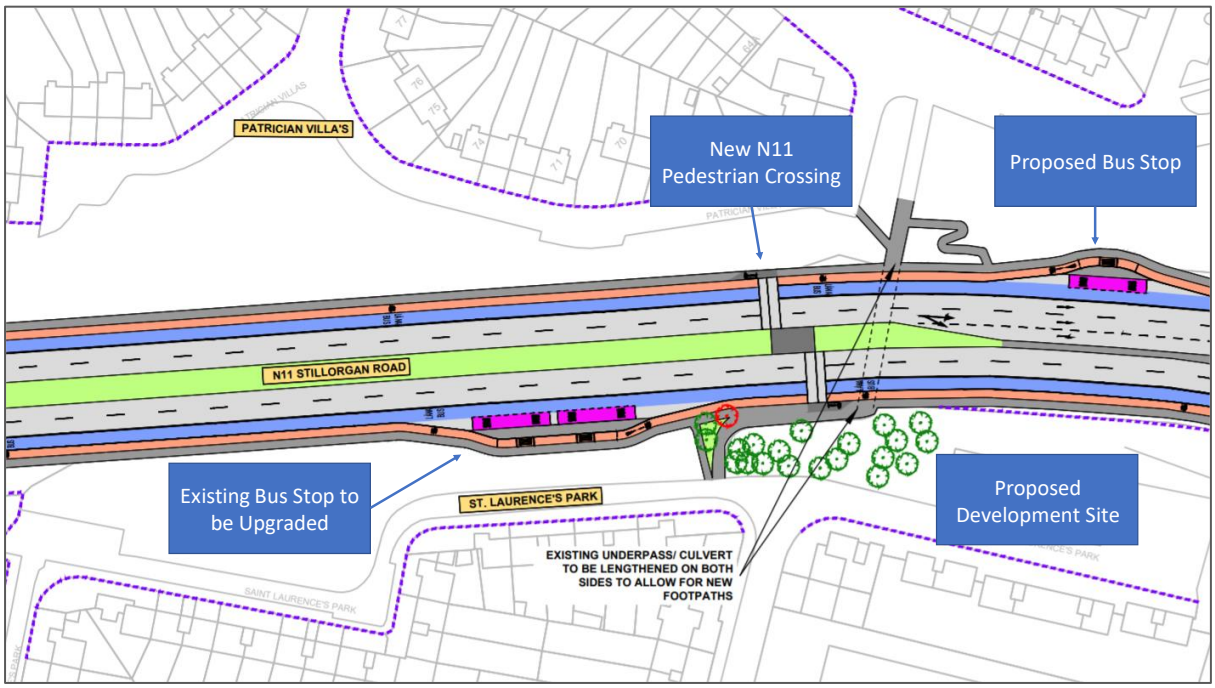


Figure 4.33: BusConnects Proposals on the N11 in Stillorgan (Source: busconnects.ie)

5. Proposed Development

5.1 Development Details

The proposed development will be mixed use and will comprise of a library (1,010 sq. m), 88 no. apartments (76 no. 1 bed, 11 no. 2 bed and 1 no. 3 bed) in the form of interlinked apartment blocks, 30 no. car parking spaces for the apartments (including 2 no. accessible spaces) and 10 no. spaces for the library (including 1 no. accessible space). It will require the demolition of 16 no. residential dwellings (maisonettes), 2 no. detached dwellings and the existing Stillorgan Library.

Figure 5.1 below illustrates the development proposals; please refer to the Architect's drawings for further detail.

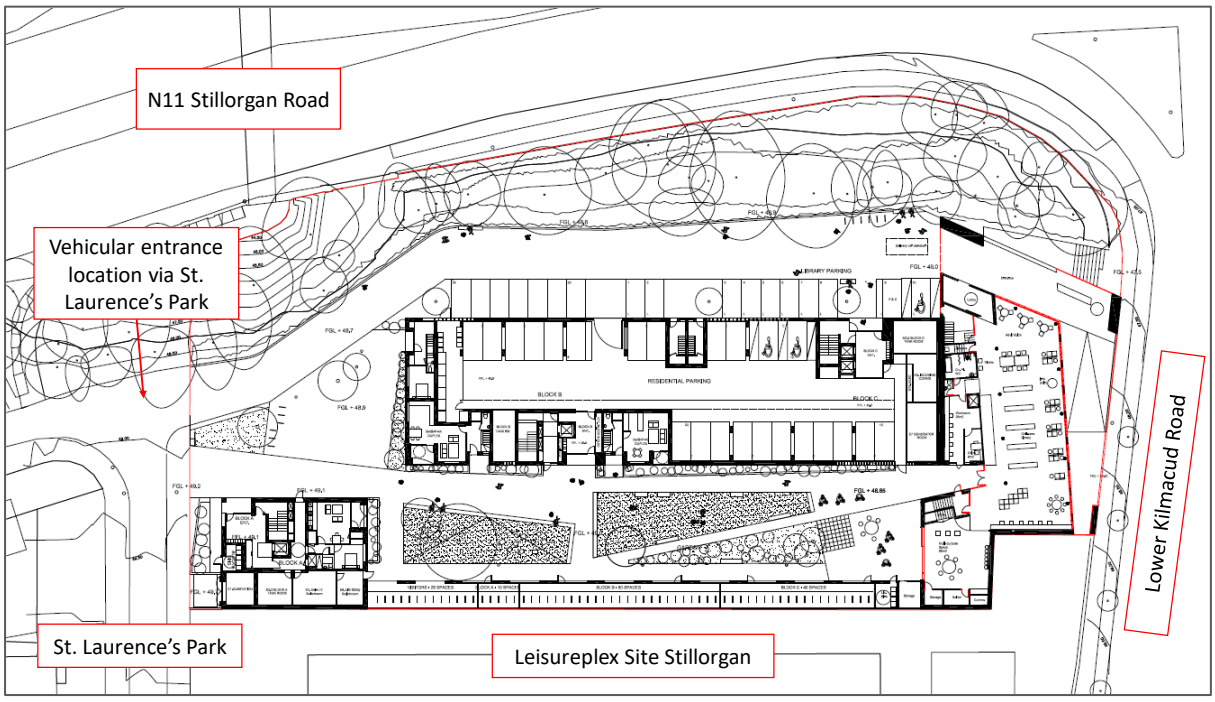


Figure 5.1: Site Layout (Architect's Layout)

5.2 Pedestrian and Cyclist Access Arrangements

Pedestrians can access the development via 3 no. locations, at St. Laurence's Park pedestrian link, at the access from Lower Kilmacud Road and at the existing pedestrian underpass beneath the N11 to Patrician Villas. Cyclists can also access the proposed site by St. Laurence's Park or via the pedestrian underpass.

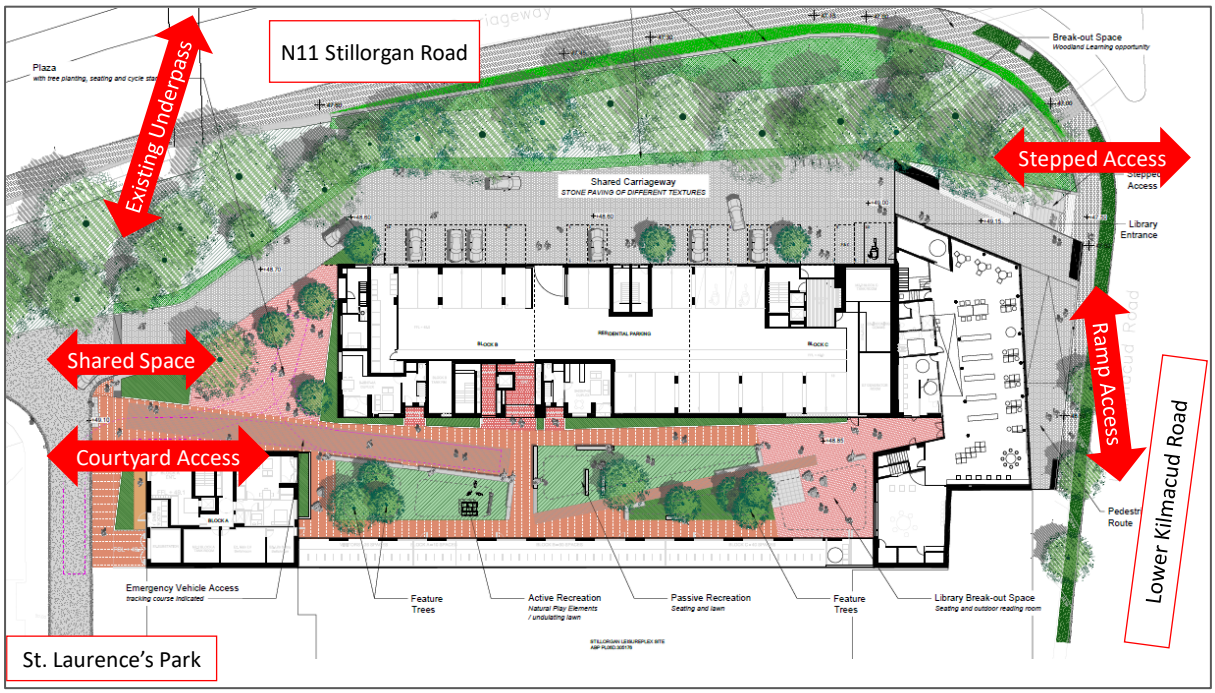


Figure 5.2: Site Layout (Landscape Architect Layout)

5.3 Vehicular Access Arrangements

Vehicular access to the site car park site will be via the north western corner of the site along St. Laurence's Park. The location of the access is broadly consistent with the existing access arrangement. The vehicular access and circulation is presented Figure 5.3 Service and emergency vehicles will also access via St. Laurence's Park, but the fire tender can also access the pedestrian courtyard.

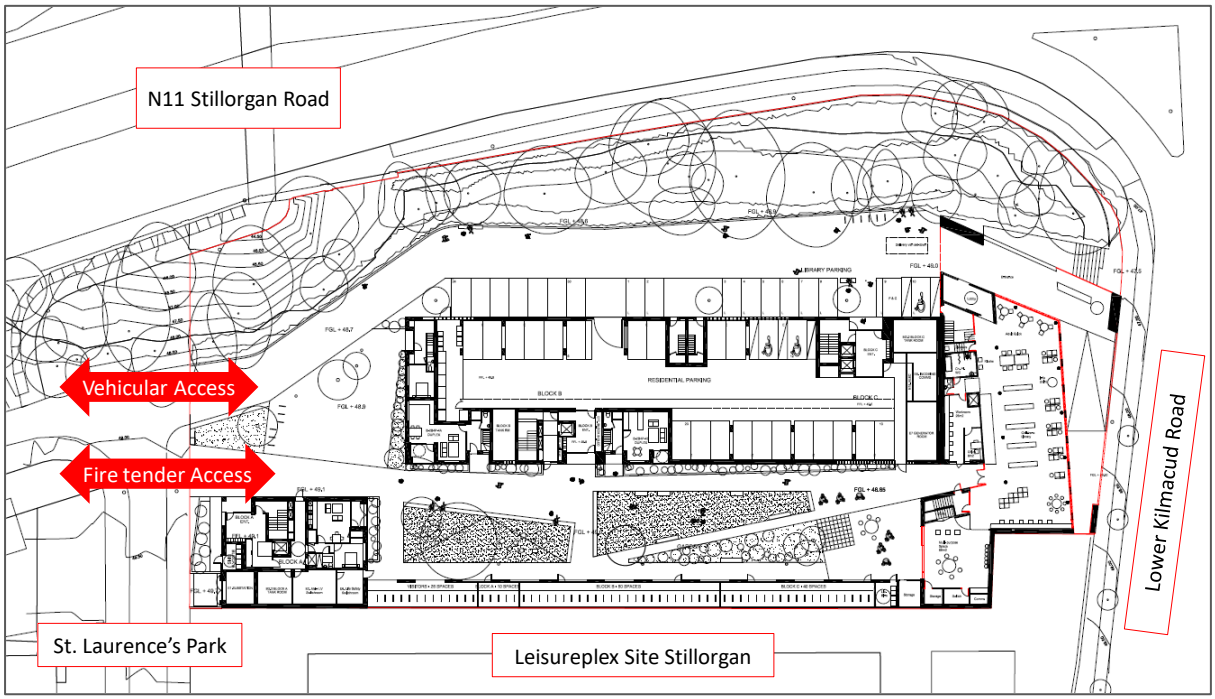


Figure 5.3: Vehicular Access and Circulation

5.4 Bicycle Parking Provision

The proposed cycle parking provision has been designed to encourage cycling as a key mode of travel to and from the development. The proposed cycle parking provision takes accord of the '*Design Standards for New Apartments, Guidelines for Planning Authorities 2018'*, which identifies that quantum of cycle parking for apartment developments will be 1 cycle space per bedroom (long-stay) and 1 cycle space per 2 residential units (short-stay/visitor).

In relation to the library, the DLRCC cycling policy standards set out in '*Standards for Cycle Parking and associated Cycling Facilities for New Developments*' have been applied.

Both standards provide a guide on the number of bicycle parking spaces to be provided for new developments in terms of visitor and long stay parking. The cycle parking standards are summarised for the proposed land uses in Table 5.1, while Table 5.2 presents the cycle parking requirements for the proposed scale of the development.

Table 5.1 Cycle Parking Standards

Land Use	Visitor Cycle Parking Standard	Long Stay Cycle Parking Standard
Apartment / Flats*	1 per 2 units	1 per bedroom
Library**	1 per 100 sq. m GFA	1 per 5 staff

*based on Design Standards for New Apartments

**Based on DLRCC cycle parking standards

Table 5.2 Cycle Parking Requirements

Proposed Development	Visitor Cycle Parking Requirement	Long Stay Cycle Parking Requirement
Apartment / Flats	44 spaces (22 cycle stands)	101 (51 cycle stands)
Library	10 (5 cycle stands)	2 (1 cycle stands)
Total	157 cycle parking spaces (79 cycle stands)	

Based on the standards referred to above, the development will meet the DLRCC minimum number of cycle spaces required. It is proposed to provide a cycle store with 63 no. Sheffield Stands which will be located in a sheltered and secure cycle parking building. 50 of these stands are dedicated for the residents of the apartment blocks, while 13 are designated for visitor cycle parking. A further 7 no. stands are provided adjacent to the main car park for visitor cycle parking, while 9 stands are provided close to the library. This, in total, equates to 158 spaces (i.e. 2 bicycles per rack) which will meet the spaces required.

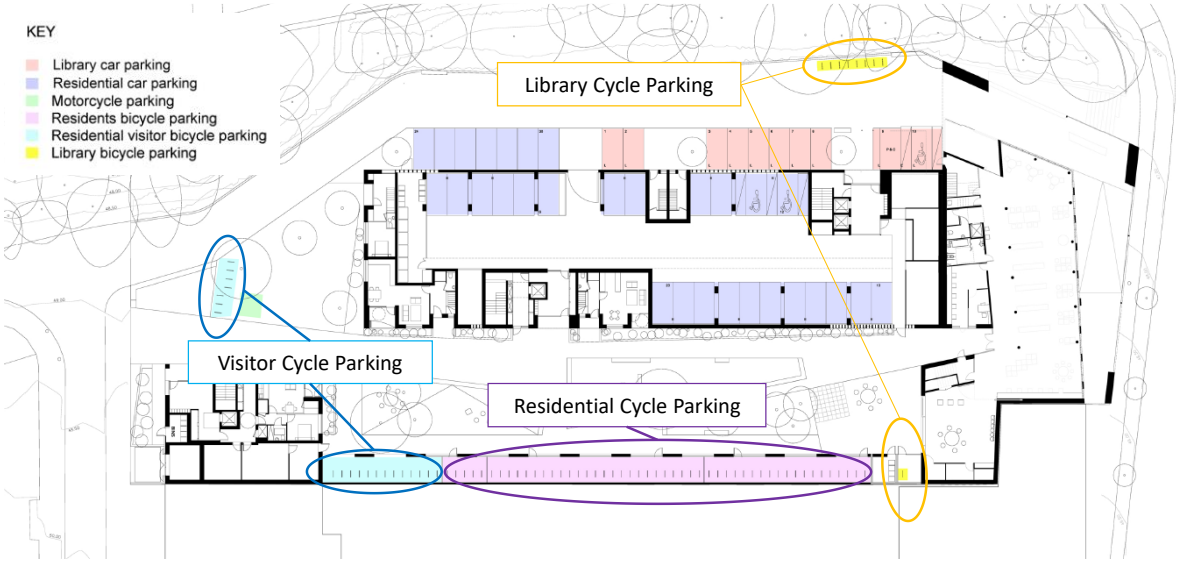


Figure 5.4: Proposed Cycle Parking

5.5 Car Parking Assessment

It is proposed to provide a total of 40 no. car parking spaces to cater for the proposed development. The proposed car parking provision takes accord of the recently published *'Design Standards for New Apartments, Guidelines for Planning Authorities 2018'*, which identifies that quantum of car parking for apartment developments will vary having regard to the types, location and accessibility criteria.

Of note, in large scale and higher density developments, comprising wholly of apartments in more central locations that are well served by public transport, the default policy is for:

- car parking provision to be minimised;
- substantially reduced; or,
- wholly eliminated in certain circumstances.

It is proposed to apply the specific guidelines within the 'Design Standards for New Apartments' for the '*Intermediate Urban Locations'*, given cognisance to the accessibility of the site to high frequency bus stops, whilst also being situated within walking distance to significant employment locations i.e. Stillorgan. The key impacts the guidelines have in relation to the scheme design from a transport perspective is car and cycle parking provision.

We note that the site benefits from a high level of accessibility to high frequency sustainable transport and several factors to promote a reduced car parking rationale as per the' Design Standards for New Apartments'. The following subsection provides an overview of how the site complies with several accessibility factors to promote a reduced car parking rationale on the site.

5.5.1 Rationale for Proposed Parking Provision

Section 4.21 of the 'Design Standards for New Apartment Guidelines' states that:

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

We note that the DLRCC Development Plan 2016 – 2022 (Section 8.2.4.5) states:

"*Reduced car parking standards for any development (residential and non-residential) may be acceptable dependant on:*

- *The location of the proposed development and specifically its proximity to Town Centres and District Centres and high density commercial / business areas;*

- *The proximity of the proposed development to public transport;*
- *Appropriate mix of land uses within and surrounding the proposed development;*
- *The availability of on-street parking controls in the immediate area;*
- *The implementation of a Travel Plan for the proposed development where a significant modal shift towards sustainable travel modes can be achieved;*
- *Other circumstances where it can be justified on sustainability grounds. "*

The development plan also indicates that *"in very limited circumstances, the Council may also consider the development of car-free housing on small scale sites with high levels of public transport accessibility, have convenient and safe access to local shops and community facilities and / or are located very close to Town Centres."*

AECOM have undertaken a review of the above criteria for reducing the car parking standards in relation to the proposed residential development and this is presented in Table 5.3 below.

Table 5.3 DLRCC Parking Requirements

Criteria	AECOM Response	Criteria Met
Proximity to Town Centre	The proposed development is in the heart of Stillorgan Village, within the proposed Stillorgan Village Area Movement Framework and the Stillorgan Local Area Plan (LAP) which aims to improve pedestrian and cycling facilities in the village. As highlighted in Figure 4.4, the site is a 300m walk to Stillorgan Shopping Centre.	Yes
Proximity to Public Transport	The proposed development is approximately 50m to high frequency bus corridor along Stillorgan Road (N11), where services connect the site to Dublin City Centre, Blackrock (incl. DART station), Dun Laoghaire & Houston Rail Station. Less than 5 minute walking distance to high frequency bus corridor along Old Dublin Road, where services connect the site to Dublin Airport and Leopardstown/Sandyford. Less than 5 minute walking distance to high frequency bus corridor along Lower Kilmacud Road, where services connect the development to Tallaght, Parnell Street and Ashtown Rail Station.	Yes
Nature of the Development	The proposed development comprises of residential land uses where opportunity from promoting sustainable travel and modal shift for future occupants will be high. A management company will be responsible for ensuring parking enforcement will be undertaken for the proposed car park. The car park will be used by site user only.	Yes
Approximate Mix of Land Uses surrounding the development	The site is situated within approximately 200m from Stillorgan Village Centre where a mix of land uses is situated including retail, financial institutions, medical, leisure facilities, restaurants and major employers. The proposed site will therefore benefit from being situated within walking and cycling distance to an array of different land uses which will reduce the requirement for private car use.	Yes
Availability of On Street Parking Controls	Parking Wardens operate within Stillorgan Village and the wider area. This will ensure that parking enforcement will occur between Monday – Saturday 08:00hrs – 19:00hrs. The parking enforcement will therefore reduce the potential for overspill parking on the surrounding estate roads.	Yes
Implementation of a Travel Plan	An initial Residential Travel Plan has been prepared to accompany the planning application and will be adopted prior to operation of the residential development. The Travel Plan will set out a framework of measures to promote sustainable travel amongst future residents, whilst reducing the reliance on private car modes.	Yes
Other Circumstances	Walking and cycling facilities within the vicinity of the site. A cycle lane/track connects Stillorgan to Dublin City. There is an array of	Yes

existing walking and cycling facilities within the vicinity of the site. Of note, pedestrian footpaths connect the site to Stillorgan Village Centre and also to nearby Dublin Bus stops. An off road cycle lane is located along Stillorgan Road, which connects into a wider cycle route linking to Dublin City.

5.5.2 Car Parking Allocation

Whilst the proposed car parking provision complies with the 'Design Standards for New Apartments', it will be necessary to set out how the proposed car parking spaces will be designated and managed amongst the future residents and visitors and staff associated with the library. Paragraph 4.23 states that '*For all types of location, where it is sought to eliminate or reduce car parking provision, it is necessary to ensure, where possible, the provision of an appropriate number of drop off, service, visitor parking spaces and parking for the mobility impaired'.*

It is proposed to dedicate the proposed 40 no. car parking spaces to the following uses:

- 30 no. car parking spaces to the residential units (including 2 no. accessible spaces);
- 10 no. spaces to the library (including 1 no. accessible spaces);
- 4 no. car parking spaces dedicated to Car Sharing Club Vehicles (i.e for example Go Car).

Out of the 30 no. spaces allocated to the apartments, 12 will be allocated to the 3 and 2 bed apartments (1 no. space per unit), 13 will be allocated to the 1 bed apartments, a further 1 no. space will be for visitors and the remaining 4 will be dedicated to Car Sharing Club Vehicles.

Out of the 10 no. spaces allocated to the library, 8 no. spaces will be allocated to visitors and 2 no. spaces for staff. One of the eight visitor spaces is proposed as a parent and child space, while another is proposed will be allocated for mobility impaired persons.

In compliance with the Design Standards for New Apartments, it is proposed to allocate a proportion of car parking for Car Sharing Club Vehicles. In total 4 No. car parking spaces will be allocated for Car Sharing Club Vehicles. This will ensure future residents will have access to a car sharing club scheme. Whilst it is proposed to initially provide a total of 4 no. spaces, the usage of the car club spaces is proposed to be reviewed by the future management company of the scheme, as identified within the Residential Travel Plan objectives. Should the future Car Sharing Club scheme prove popular amongst future residents, then the number of spaces dedicated for car club can be increased to cater for future demand.

A total of 3 no. car parking spaces (2 for the apartments and 1 for the library) will be allocated for mobility impaired persons, which complies with the DLRCC Development Plan requirements.

The proposed development will also include the provision of electric charging facilities for 4 no. car parking spaces (3 for the apartments and 1 for the library) in accordance with DLRCC Development Plan requirements. This is to demonstrate that the proposed car parking area will be designed to cater for future electric vehicle use on the site.

2 no. motorcycle parking spaces have been provided to the north of the proposed development building.

5.5.3 Car Club Sharing Scheme

Research has been undertaken in relation to the benefits of car clubs across Europe in terms of the potential to reduce the reliance on private vehicular travel. The benefits of Car Club Sharing schemes are to reduce car ownership, car dependency, congestion, noise and air pollution. The Car Club research identifies that each Car Club vehicle has the potential to replace up to 20 private cars subject to location.

It is proposed to provide a total of 4 no. dedicated Car Club parking spaces within the proposed development. The car club spaces will be located within the communal space area, to ensure the car club spaces are clearly visible to future residents, which will assist to promote their uptake and usage. Based on the Car Club research, the provision of 4 no. car club spaces has the potential to replace up to 80 car parking spaces on site.

5.6 DMURS Statement of Compliance

5.6.1 General

This section has considered how the proposed development complies with the DMURS guidelines in compliance with Section 7.1.2 to ABP's guidelines for Strategic Housing Developments, which is as follows:

Please submit a statement indicating, in the prospective applicant's opinion, the proposal is consistent with the Design Manual for Urban Roads and Streets (Department of Transport, Tourism and Sport & Department of Environment, Community and Local Government, 2013)."

5.6.2 Statement of Compliance

The internal layout design has been informed by the DMURS guidelines. The following measures are examples of where compliance with the DMURS guidelines has been demonstrated:

- Internal footpaths have been provided at a minimum width of 1.8m, which is the space required to allow two wheelchair users to pass each other;
- Pedestrian crossings are proposed which comprise of tactile paving and dropped kerbs to facilitate pedestrian movements;
- Car parking provision is proposed off street, which is compliant with the required dimensions i.e. 2.4m x 4.8m for a standard parking space. The standard length of the parallel parking spaces is 6m.
- The refuse collections are proposed to be undertaken internally within the site to minimise disruption to the local road network;
- The visibility splay for the main site entrance has been demonstrated in compliance of the DMURS guidelines for a 30km/h design speed;
- The proposed 3m corner radii for the main entrance has been designed as per the DMURS guidelines;
- The site has designed for high quality pedestrian links and catering for pedestrian permeability onto St. Laurence's Park, the N11 and the Kilmacud Road Lower.

6. Trip Generation and Distribution

6.1 General

The purpose of this section is to determine the overall number of trips that will be generated by the proposed development in terms of vehicular traffic. Following quantification of the trip generation, these flows will be distributed onto the adjoining road network to allow a robust traffic assessment of the local network.

6.2 Vehicular Trip Generation

To understand the potential vehicular trip generation associated with the site, AECOM have undertaken a review of the existing road network, outlined in the subsequent sections.

6.3 Existing Trip Generation

The site is currently occupied by the existing Dun Laoghaire - Rathdown County Council library. The traffic surveys carried out in March 2018 (illustrated in Appendix B), identifies approximately 13 two-way traffic flows in the AM Peak hour and 42 two-way traffic flows in the PM Peak hour on St. Laurence's Park (S).

For the purpose of a robust assessment AECOM have not applied any discount to the existing flows which would arise from the overlapping trips associated with the proposed development site. Therefore there is an element of double counting involved in the Base + Development flows.

6.4 Committed Developments

Former Blakes Site

An application (ref. ABP30052017) for a strategic housing development has been approved by An Bord Pleanála at the former Blakes and Esmonde Motors site on Lower Kilmacud Road opposite the development site. This will consist of 179 student units, student amenities, 103 residential apartments and 907 sq.m of retail/restaurant/cafe/co-working spaces and a community hall.

Former Leisureplex Site

An application (ref. ABP-305176-19) for a strategic housing development has been approved by An Bord Pleanála at the Leisureplex site on the Old Dublin Road adjacent to the development site. This will consist of 232 residential apartments and 1,855 sq.m of retail/restaurant/cafe/.

These committed developments have been included within the analysis which results in a more robust traffic analsyis of the proposed developments impact on the surrounding road network.

6.5 Proposed Development Trip Generation

The latest version of the Trip Rate Information Computer System (TRICS v 7.5.1) was used to calculate the quantum of vehicle trips likely to be generated by a development of the scale and type proposed – 88 residential units and 1,010 sq. m of library space. Sites selected in the United Kingdom and Ireland (excluding Greater London) was applied within the analysis.

The TRICS source data used for this analysis has eliminated any sites surveyed within the region of the "Greater London" or located within a "Town Centre". This is to ensure a robust analysis with realistic vehicular arrival and departure rates. The full outputs from the TRICS analysis is included within Appendix C of this report, whilst the trip rates and the resulting trip generations for the peak periods are illustrated in Tables 6.1 and 6.2 below.

Table 6.1 Proposed Trip Rates

Development	TRICs Land Use	AM Peak Hour (08:00 – 09:00)		PM Peak Hour (17:00 – 18:00)	
		Arrivals	Departures	Arrivals	Departures
Library	07 V - Library	0	0	0.524	1.032
Apartments	03 C – Flats Privately Owned	0.053	0.209	0.194	0.071

Table 6.2 Proposed Trip Generations

Development	Development Size	AM Peak Hour (08:00 – 09:00)		PM Peak Hour (17:00 – 18:00)	
		Arrivals	Departures	Arrivals	Departures
Library	1010 sq. m	0	0	5	10
Apartments	88 units	5	19	17	6
Peak Hour Totals		24		38	

Table 6.2 demonstrates that the anticipated trip generations associated with the development are 24 and 38 trips respectively during the morning (08:00 – 09:00) and evening (17:00 – 18:00) peak hour periods.

6.6 Trip Distribution

To understand the potential distribution of the trips arriving and departing the site, the base traffic survey results have been examined. The base traffic surveys indicate the direction that motorists are currently travelling from when arriving onto the immediate road network during the typical peak period. Figure 6.1 and 6.2 illustrate the proposed trip distribution patterns, during the AM and PM peak hour, respectively. The majority of trips are made toward and from Lower Kilmacud Road (W).

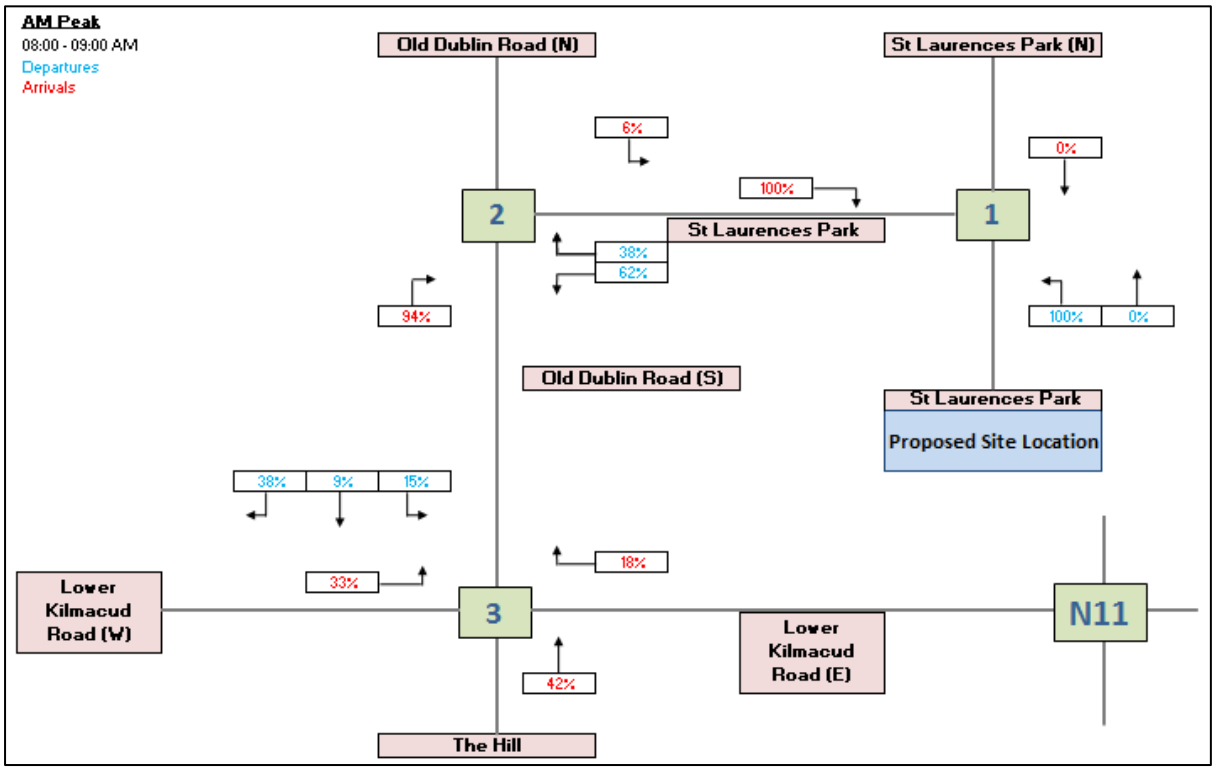


Figure 6.1: AM Peak - Trip Distribution

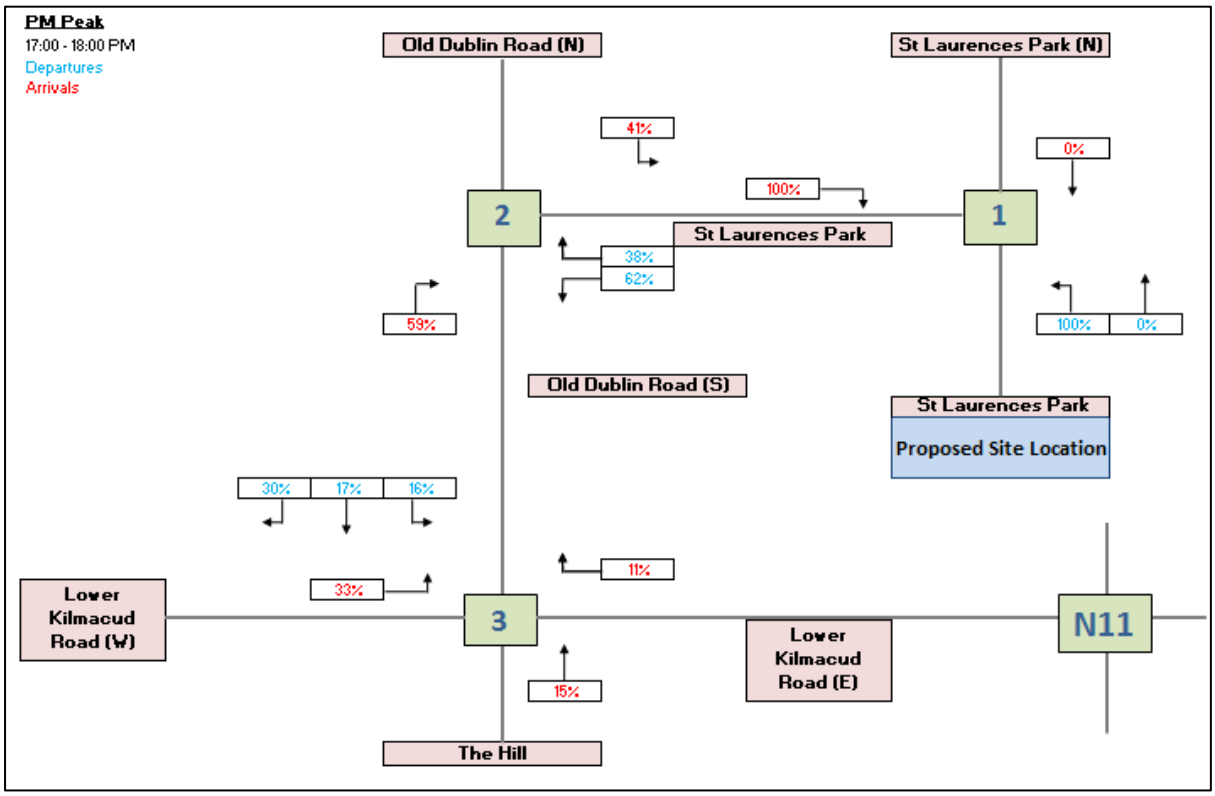


Figure 6.2 PM Peak - Trip Distribution

6.7 Vehicular Traffic Growth

The Transport Infrastructure Ireland (TII) '*Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections (October 2016*)' provides guidance on the preparation of future travel demand projects for use in scheme modelling and appraisal. The guidelines presents in Table 5.3.2 Growth Rates based on an annual factor per region.

The guidelines have been interrogated by AECOM to determine a suitable growth factor for the proposed opening year (assumed 2023) and the horizon assessment years, which are the Opening Year + 5 Years (2028) and + 15 Years (2038) as per the TII Traffic Assessment Guidelines.

Given the site is located within Region 1 'Dublin' it is proposed to apply a Central Growth Annual Factor to the base traffic flows (2018). It is proposed to apply the 'LV' (light vehicles) growth factor given the characteristics of the surrounding road network which typically serves car and light vehicular traffic associated with residential and commuting journeys.

The Central Growth Rate for the Dublin Region is projected as 1.0134 (1.34%) growth per annum from 2013 – 2030, and 1.0038 (0.3%) per annum from 2030 – 2050. The applied growth rates to the base traffic surveys are summarised as follows:

- 2023 Opening Year; Growth Rate: 7%
- 2028 (Opening Year + 5 Years); Growth Rate: 14%
- 2038 (Opening Year + 15 Years); Growth Rate: 20%.

Application of the growth rates result in a 7% growth from 2018 to 2023, 14% total growth from 2018 to 2028, and 20% growth from 2018-2038. The factored background flows are included in Appendix B.

6.8 Vehicular Percentage Impact of Development

The TII Guidelines for Transport Assessments state that the thresholds for junction analysis in Transport Assessments are as follows:

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

The new primary trips associated with the development have been reviewed against the base flows on the local road network, and the resulting percentage impact is shown in Table 6.3 below.

Table 6.3: Percentage Impacts

Junction	Traffic Flows	AM Peak (08:00 – 09:00)	PM Peak (17:00 – 18:00)
1 Site Access / St Laurence's Park (E) / St Laurence's Park (N)	Base Flows at Junction	25	67
	Development	24	38
	% Impact	96%	56%
2 Old Dublin Road (N) / Old Dublin Road (S) / St Laurence's Park	Base Flows at Junction	707	760
	Development	24	38
	% Impact	3%	5%
3 Lower Kilmacud Road (W) / Lower Kilmacud Road (E) / The Hill	Base Flows at Junction	1534	1814
	Development	16	23
	% Impact	1%	1%
4 Lower Kilmacud Road (E) / N11 / Stillorgan Park Road	Base Flows at Junction	3468	3605
	Development	4	5
	% Impact	0.1%	0.1%

Table 6.3 demonstrates that the increase in traffic volumes at Junction 3 (Lower Kilmacud Road (W) / Lower Kilmacud Road (E) / The Hill Signalised Junction) and Junction 4 (Lower Kilmacud Road (E) / N11 / Stillorgan Park Road) during the peak hours are below the 5% threshold and therefore no further analysis of the junction is required on the basis of TII's assessment guidelines.

The development impact upon Junction 1 (Site Access / St Laurence's Park / St Laurence's Park (N) non-signalised T-junction) is above 5% during the AM and PM peak scenarios and the development impact upon Junction 2 (Old Dublin Road (N) / Old Dublin Road (S) / St Laurence's Park non-signalised junction) is above 5% during the PM peak scenario. Therefore these junctions were subsequently assessed in greater detail, as described in Section 7.3.

7. Traffic Impact Analysis

7.1 Introduction

This chapter presents the impact analysis to identify the potential effects of the proposed development upon the operation of the surrounding junctions and the site access.

7.2 Scenario Testing

It is proposed to perform traffic analysis for the weekday morning and evening peak hour periods. Analysis has been undertaken for the following scenarios:

- 2023 Opening Year: Base + Committed Without and With Proposed Development;
- 2028 Opening Year (+ 5 years): Base + Committed Without and With Proposed Development; and
- 2038 Opening Year (+ 15 years): Base + Committed Without and With Proposed Development.

7.3 Site Access Junction

The impact of the proposed development on the existing 3-arm T-junction (Site Access/St Laurence's Park) is analysed below in Table 7.1 and the existing priority junction (St. Laurence's Park/Old Dublin Road) is analysed in Table 7.2.

The industry standard junction modelling package Junctions 9 was used to model the existing priority junction (PICADY). The results of the analysis package are expressed in terms of Ratio of Flow to Capacity (RFC) and Queue Lengths (vehicles). An RFC value of 0.85 is generally regarded as the practical limit for approach roads at a junction. Junctions operating below this threshold should operate efficiently and within capacity.

Table 7.1: Impact on T-junction (Site Access/St Laurence's Park)

Assessment Year	Peak Period	Junction Arm and Link	Base + Committed		Base + Committed + Development	
			RFC	MMQ	RFC	MMQ
2023 (Opening Year)	Weekday AM Peak Hour	St. Laurence's Park (WA)	0.03	0	0.04	0.1
		St. Laurence's Park (NA)	0.00	0	0.00	0
	Weekday PM Peak Hour	St. Laurence's Park (WA)	0.06	0.1	0.11	0.1
		St. Laurence's Park (NA)	0.02	0	0.02	0
2028 (Opening Year + 5)	Weekday AM Peak Hour	St. Laurence's Park (WA)	0.04	0	0.05	0.1
		St. Laurence's Park (NA)	0.00	0	0.00	0
	Weekday PM Peak Hour	St. Laurence's Park (WA)	0.06	0.1	0.11	0.1
		St. Laurence's Park (NA)	0.02	0	0.02	0
2038 (Opening Year + 15)	Weekday AM Peak Hour	St. Laurence's Park (WA)	0.04	0	0.05	0.1
		St. Laurence's Park (NA)	0.00	0	0.00	0
	Weekday PM Peak Hour	St. Laurence's Park (WA)	0.07	0.1	0.11	0.1
		St. Laurence's Park (NA)	0.02	0	0.02	0

The results of the analysis demonstrate that the existing junction will continue to operate well within capacity during the base and base + development scenario for the opening year and the future horizon years.

Table 7.2: Impact on Priority junction (St. Laurence's Park/Old Dublin Road)

Assessment Year	Peak Period	Junction Arm and Link	Base + Committed		Base + Committed + Development	
			RFC	MMQ	RFC	MMQ
2023 (Opening Year)	Weekday AM Peak Hour	St. Laurence's Park (WA)	0.13	0.1	0.17	0.2
		Old Dublin Road (NA)	0.14	0.4	0.15	0.4
	Weekday PM Peak Hour	St. Laurence's Park (WA)	0.26	0.4	0.30	0.5
		Old Dublin Road (NA)	0.15	0.4	0.19	0.4
2028 (Opening Year + 5)	Weekday AM Peak Hour	St. Laurence's Park (WA)	0.13	0.2	0.18	0.2
		Old Dublin Road (NA)	0.15	0.4	0.16	0.5
	Weekday PM Peak Hour	St. Laurence's Park (WA)	0.28	0.4	0.32	0.5
		Old Dublin Road (NA)	0.16	0.4	0.20	0.5
2038 (Opening Year + 15)	Weekday AM Peak Hour	St. Laurence's Park (WA)	0.13	0.2	0.18	0.2
		Old Dublin Road (NA)	0.16	0.5	0.17	0.5
	Weekday PM Peak Hour	St. Laurence's Park (WA)	0.29	0.4	0.33	0.5
		Old Dublin Road (NA)	0.17	0.4	0.21	0.5

7.4 Summary

The proposed development is anticipated to generate 24 and 38 vehicular trips respectively during the morning (08:00 – 09:00) and evening (17:00 – 18:00) peak hour periods. Please refer to Appendix D for the full traffic analysis outputs. The results of the impact analysis demonstrate:

- The proposed trips will have a negligible impact upon the existing base volumes at the Site Access/St Laurence's Park T-junction and St. Laurence's Park/Old Dublin Road Priority junction,
- The junctions are anticipated to operate well within capacity during the opening year (2023) and future year scenarios (2028 and 2038) when the development trips are applied to the base conditions.

8. Conclusion

8.1 Executive Summary

This Traffic and Transport Assessment has been compiled in support of a planning application by Dun Laoghaire-Rathdown County Council for a mixed use development including a residential development and redeveloped library in Stillorgan, Co Dublin. The redevelopment of the site offers the opportunity to provide both a modern state-of-the-art library and cultural facility for Stillorgan, but also to substantially increase the provision of Council housing on the site.

This report has been undertaken to quantify the impact that traffic generated by the proposed development will have on the study area road network. The main conclusions of the report can be summarised as follows:

8.1.1 Development Proposals

The proposed development comprises of the demolition of 16 no. residential dwellings (maisonettes), 2 no. detached dwellings and the existing library and the provision of a mixed use development comprising of a library (1,010 sq. m) and 88 no. apartments (76 no. 1 bed, 11 no. 2 bed and 1 no. 3 bed) in the form of interlinked apartment blocks.

The scheme also proposes a carpark with 40 no. spaces and 157 cycle spaces (79 cycle stands).

8.1.2 Vehicular Access

It is proposed that the site would be accessed by the existing vehicular access off St. Laurence's Park. The junction design has been undertaken to comply with the DMURS guidelines in relation to design, sightlines and swept path analysis.

8.1.3 Pedestrian and Cycling Facilities

Pedestrians can access the development via 3 no. locations, at St. Laurence's Park pedestrian link, at the access from Lower Kilmacud Road and at the existing pedestrian underpass beneath the N11 to Patrician Villas.

Cyclists can access the proposed site by St. Laurence's Park or via the pedestrian underpass.

8.1.4 Design Manual for Urban Roads and Streets (DMURS)

The development proposals for the new residential layout comply with the principles as set out in the 'Design Manual for Urban Roads and Streets' (DMURS, 2013) which focus on the needs of pedestrians, cyclists and public transport users.

8.1.5 Parking

The '*Design Standards for New Apartments (March 2018)' and DLRCC 'Development Plan 2016 – 2022*' have been referenced in the TA report. The proposed provision for car parking, mobility impaired spaces, cycle, motorcycle spaces and electric charging spaces has been identified.

The proposals comprises of 40 no. car parking spaces and 157 bicycle spaces (79 Sheffield Cycle Stands).

8.1.6 Servicing

The design of the scheme will facilitate for refuse lorries servicing the site. Refuse vehicles will be able to access the site and manoeuvre within the internal road network, and subsequently exit the site. The site layout will also accommodate emergency vehicles.

8.1.7 Trip Generation / Distribution

An analysis has been undertaken using the industry standard TRICS database. The results demonstrate the anticipated arrivals and departures for the Weekday AM and PM peak hours. The proposed trip generations have been distributed using existing turning counts at the relevant junctions.

8.1.8 Operational Assessment

The results of the junction analysis undertaken demonstrate that traffic from the proposed development result in a junction capacity which is well within the percentage limits and can therefore be accommodated on the surrounding road network.

8.2 Travel Plan

A Residential Travel Plan accompanies the planning application and will be adopted prior to operation of the residential development. The Travel Plan sets out a framework of measures to promote sustainable travel amongst future residents, whilst reducing the reliance on private car modes.

8.3 Conclusion

The above assessments have considered the transport implications of the proposed development with regard to the Design Standards for New Apartments, DLRCC Development Plan, DMURS, and the items raised in the pre-consultation feedback from DLRCC.

The percentage impacts of the development proposal upon the Lower Kilmacud Road/Old Dublin Road/The Hill signalised crossroads junction and the Lower Kilmacud Road/N11 signalised crossroads junction are anticipated to be negligible i.e. less than 5% during the morning and evening peak hour period.

The St. Laurence's Park T-junction and the Old Dublin Road/St. Laurence's Park priority junction exceed the threshold stated by TII Guidelines for Transport Assessments and therefore a traffic impact analysis was carried out. This analysis confirmed that the existing network would continue to operate within capacity following the occupancy of the proposed development.

This Traffic and Transport Assessment demonstrates that the additional traffic to the site will have a negligible impact upon the existing base scenarios during the opening year, and future year scenarios.

Appendix A Architects Layout

FGL + 48.6

FGL + 48.9

FGL + 48.7

FGL + 48.9

FGL + 49.2

FGL + 49.1

FGL + 49.7

FGL + 49.0

FGL + 48.85

FGL + 47.5

LIBRARY PARKING

RESIDENTIAL PARKING

BLOCK B

BLOCK C

BLOCK A

GARDEN

Delivery van set-down

Entrance

Lobby

Adult Quick

Kiosks

Children's Library

Info point

Lockers

Ch. Pl. WC

P & C

M2.2 BLOCK C TANK ROOM

BLOCK C ENT.

ESB INCOMING COMMS

E7 GENERATOR ROOM

Workroom 26m2

Office 9m2

Multi-purpose Space 65m2

Store

Storage

Storage

Switch

Comms

Lib. Bins

BLOCK B TANK RM

BLOCK B ENT.

B-2B4P-4A DUPLEX

B-2B4P-4B DUPLEX

ETA BLOCK B SERV

BLOCK A ENT.

BLOCK A TANK RM

E1,SUBSTATION

M2.2 BLOCK A TANK ROOM

E2. Main LV Switchroom

E6. Life Safety Switchroom

VISITORS - 26 SPACES

BLOCK A - 10 SPACES

BLOCK B - 50 SPACES

BLOCK C - 40 SPACES

Rev	Date	Description	By	Chk
00	14.05.2019	Issued to DLR	MM	RD
01	28.05.2019	Issued to DLR	MM	RD
02	31.05.2019	Issued to DLR	MM	RD
03	18.06.2019	Issued to DLR	MM	RD
04	21.06.2019	Issued to DLR	MM	RD
05	09.09.2019	Issued to DLR	MM	RD
06	11.03.2020	Issued to DLR	MM	RD
07	01.04.2020	Issued to DLR	MM	RD

STATUS OF DRAWING

PLANNING APPLICATION PART VIII

ALL DIMENSIONS TO BE TAKEN FROM ARCHITECTS DRAWINGS

DISCREPANCIES TO BE REFERRED TO THE ARCHITECT FOR CLARIFICATION

Key Plan

ABK architects
34 Lower Leeson Street, Dublin 2
t: + 353 1 678 9822
f: + 353 1 678 9298
www.abk.ie

Title: GROUND FLOOR PLAN

Scale: 1:200 @ A1

By: MM Chk: RD

Project: St Laurence's Park
Stillorgan, Co. Dublin

Drawing number: 776 / PA 04

Status/Rev 07

Appendix B Trip Generation & Network Flow Diagrams

Peak Period Trip Generation								
Library Trips								
TRICS 7.5.1								
Trip Rate Parameter:	Gross Floor Area							
TRIP RATE for Land Use 07 - LEISURE/V - LIBRARY						1010	sq. m	
Calculation Factor: 100 sqm								
Count Type: VEHICLES								
		ARRIVALS			DEPARTURES			TOTALS
Time Range		Trip Rate	Trip Gen		Trip Rate	Trip Gen		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		0	0		0	0		0
08:00-09:00		0	0		0	0		0
09:00-10:00		0.449	5		0.194	2		0.643
10:00-11:00		0.838	8		0.509	5		1.347
11:00-12:00		0.823	8		0.898	9		1.721
12:00-13:00		0.598	6		0.569	6		1.167
13:00-14:00		0.853	9		0.808	8		1.661
14:00-15:00		0.718	7		0.778	8		1.496
15:00-16:00		0.853	9		0.718	7		1.571
16:00-17:00		1.002	10		0.913	9		1.915
17:00-18:00		0.524	5		1.032	10		1.556
18:00-19:00		0.333	3		0.523	5		0.856
19:00-20:00		0.269	3		0.269	3		0.538
20:00-21:00		0	0		0.231	2		0.231
21:00-22:00								
22:00-23:00								
23:00-24:00								
Daily Trip Rates:		7.26			7.442			14.702

Peak Period Trip Generation									
TRICS 7.5.1									
Trip Rate Parameter:	Number of dwellings								
TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED								88	
Calculation Factor: 1 DWELLS									
Count Type: VEHICLES									
		ARRIVALS			DEPARTURES			TOTALS	
		Trip Rate	Trip Gen		Trip Rate	Trip Gen		Trip Rate	
Time Range									
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		0.045	4		0.166	15		0.211	
08:00-09:00		0.053	5		0.209	19		0.262	
09:00-10:00		0.065	6		0.104	9		0.169	
10:00-11:00		0.053	5		0.071	6		0.124	
11:00-12:00		0.064	6		0.065	6		0.129	
12:00-13:00		0.081	7		0.072	6		0.153	
13:00-14:00		0.078	7		0.085	7		0.163	
14:00-15:00		0.082	7		0.078	7		0.16	
15:00-16:00		0.095	8		0.068	6		0.163	
16:00-17:00		0.111	10		0.072	6		0.183	
17:00-18:00		0.194	17		0.071	6		0.265	
18:00-19:00		0.153	13		0.081	7		0.234	
19:00-20:00		0.333	29		0.2	18		0.533	
20:00-21:00		0.1	9		0.033	3		0.133	
21:00-22:00		0.133	12		0.1	9		0.233	
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			1.64			1.475			3.115

Peak Period Trip Generation			
	Arrivals	Departures	Total
AM (08:00 - 09:00)	5	19	24
PM (17:00 - 18:00)	22	17	39

Table 5.3.2 Link-Based Growth Rates: Annual Growth Factors

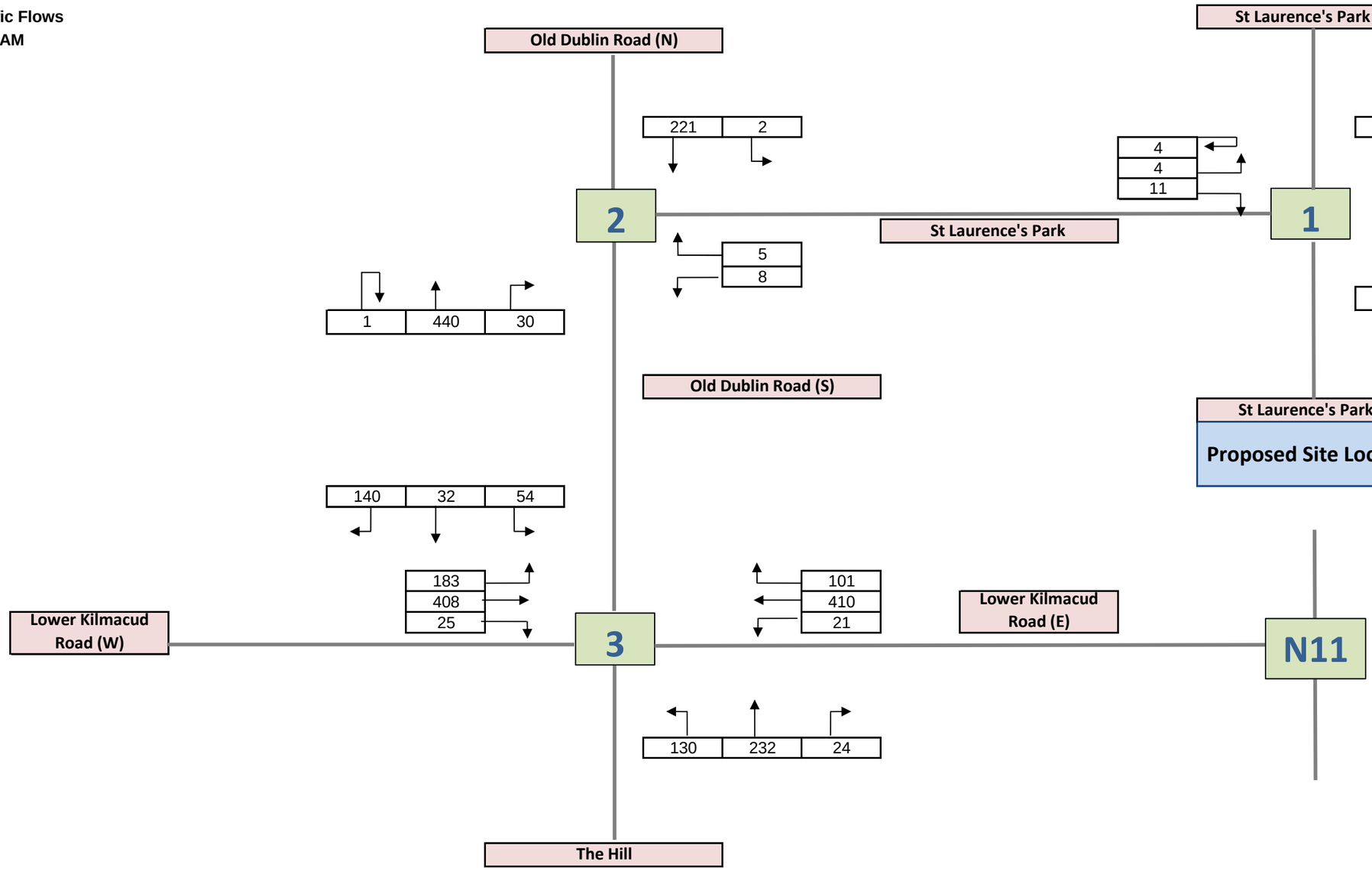
	2013 - 2030	2030 - 2050
Light Vehicles	1.0134	1.0038
2018 - 2023	1.07	
2018 - 2028	1.14	
2018 - 2038	1.20	

TII Publications *PE-PAG-02017*
Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections *October 2016*

Table 5.3.2: Link-Based Growth Rates: Annual Growth Factors

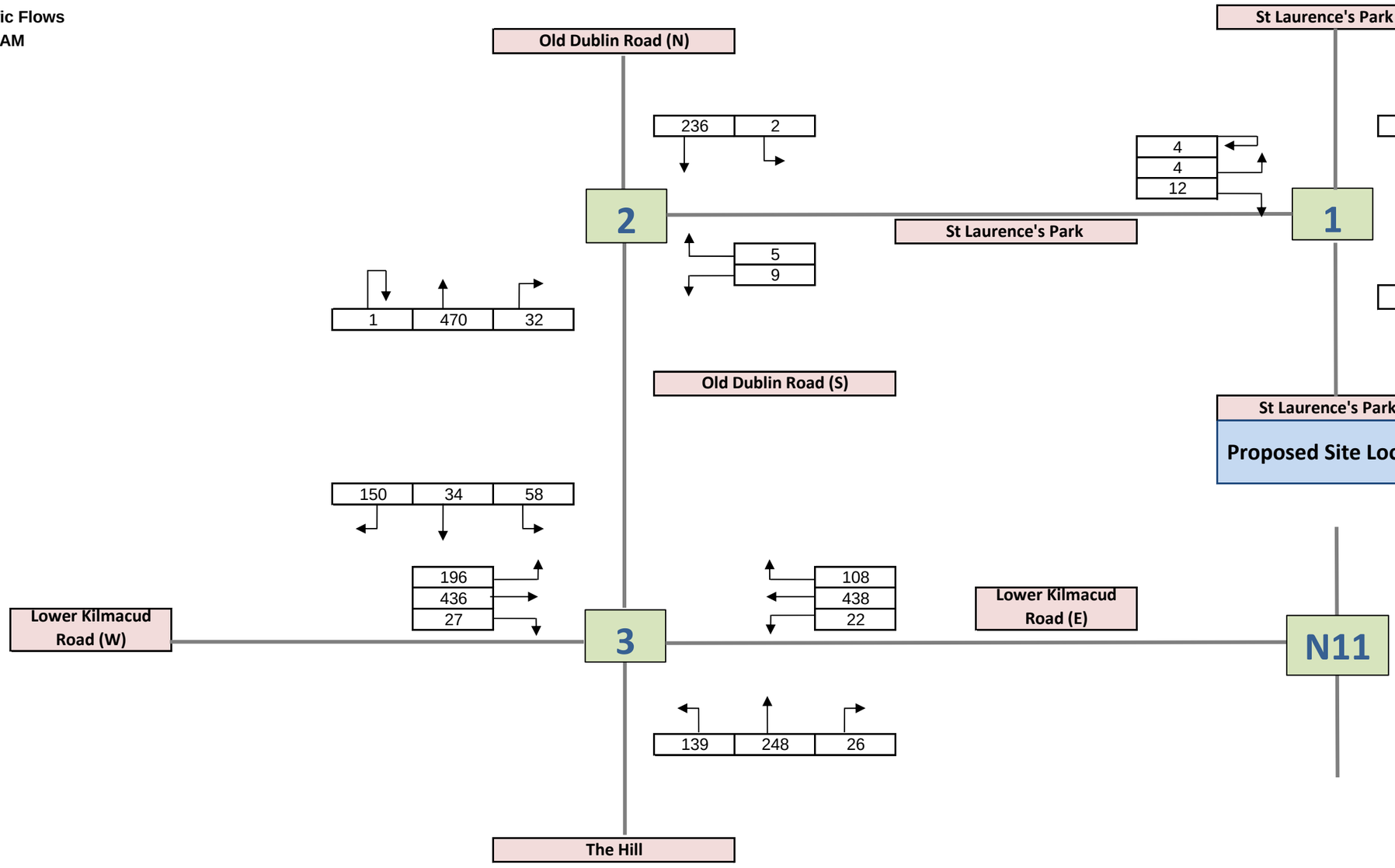
Region		Low Sensitivity Growth				Central Growth				High Sensitivity Growth			
		2013 - 2030		2030 - 2050		2013 - 2030		2030 - 2050		2013 - 2030		2030 - 2050	
		LV	*HV*	*LV*	*HV*	*LV*	*HV*	*LV*	*HV*	*LV*	*HV*	*LV*	*HV*
1	**Dublin**	1.0089	1.0221	1.0004	1.0135	1.0134	1.0237	1.0038	1.0176	1.0149	1.0242	1.0054	1.0195
2	**Mid-East** *Kildare Meath*	1.0109	1.0221	1.0018	1.0135	1.0140	1.0237	1.0048	1.0176	1.0154	1.0242	1.0054	1.0195

2018 Network Traffic Flows
AM Peak: 8 AM - 9 AM



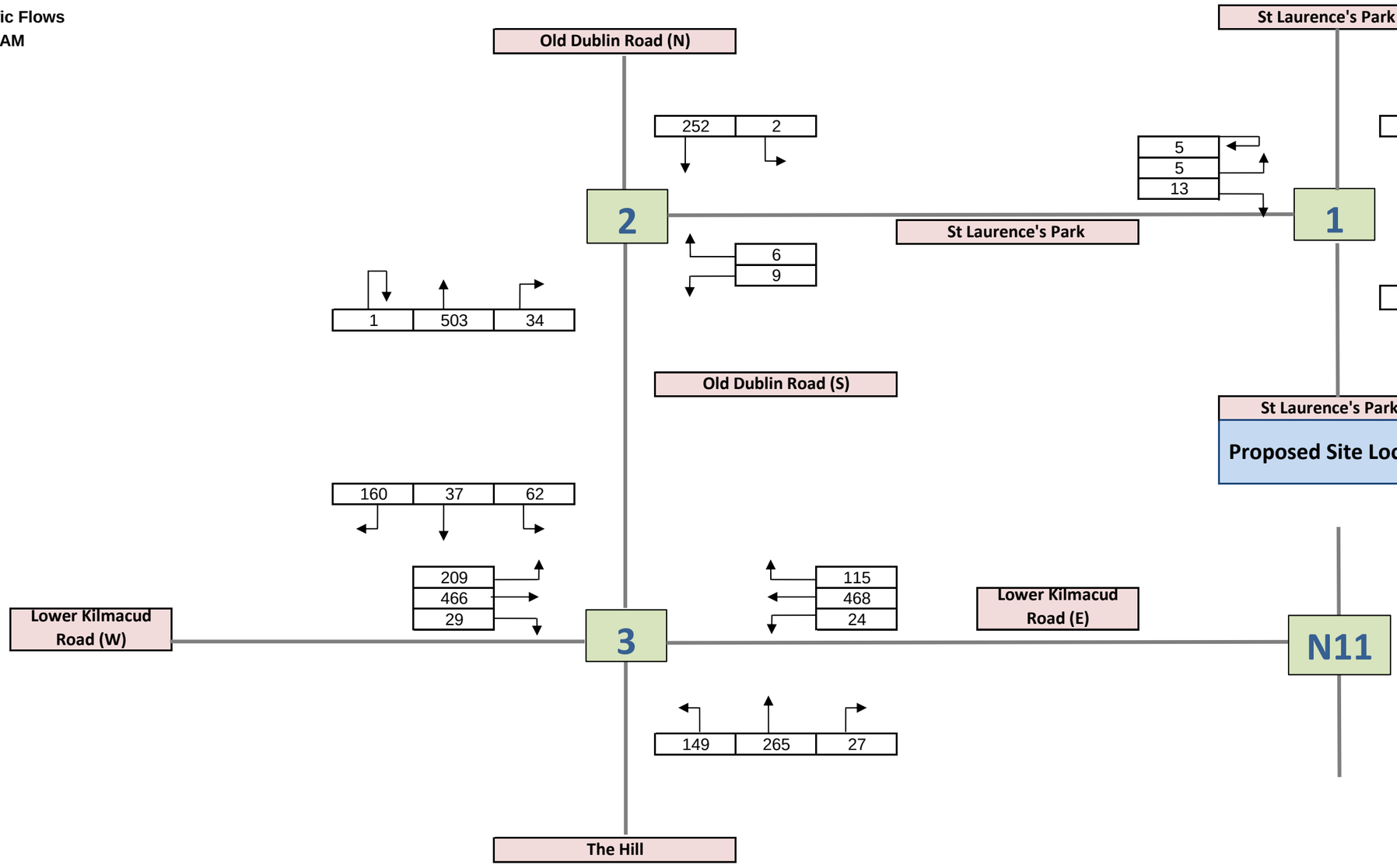
Network Flow Diagrams

2023 Network Traffic Flows
AM Peak: 8 AM - 9 AM



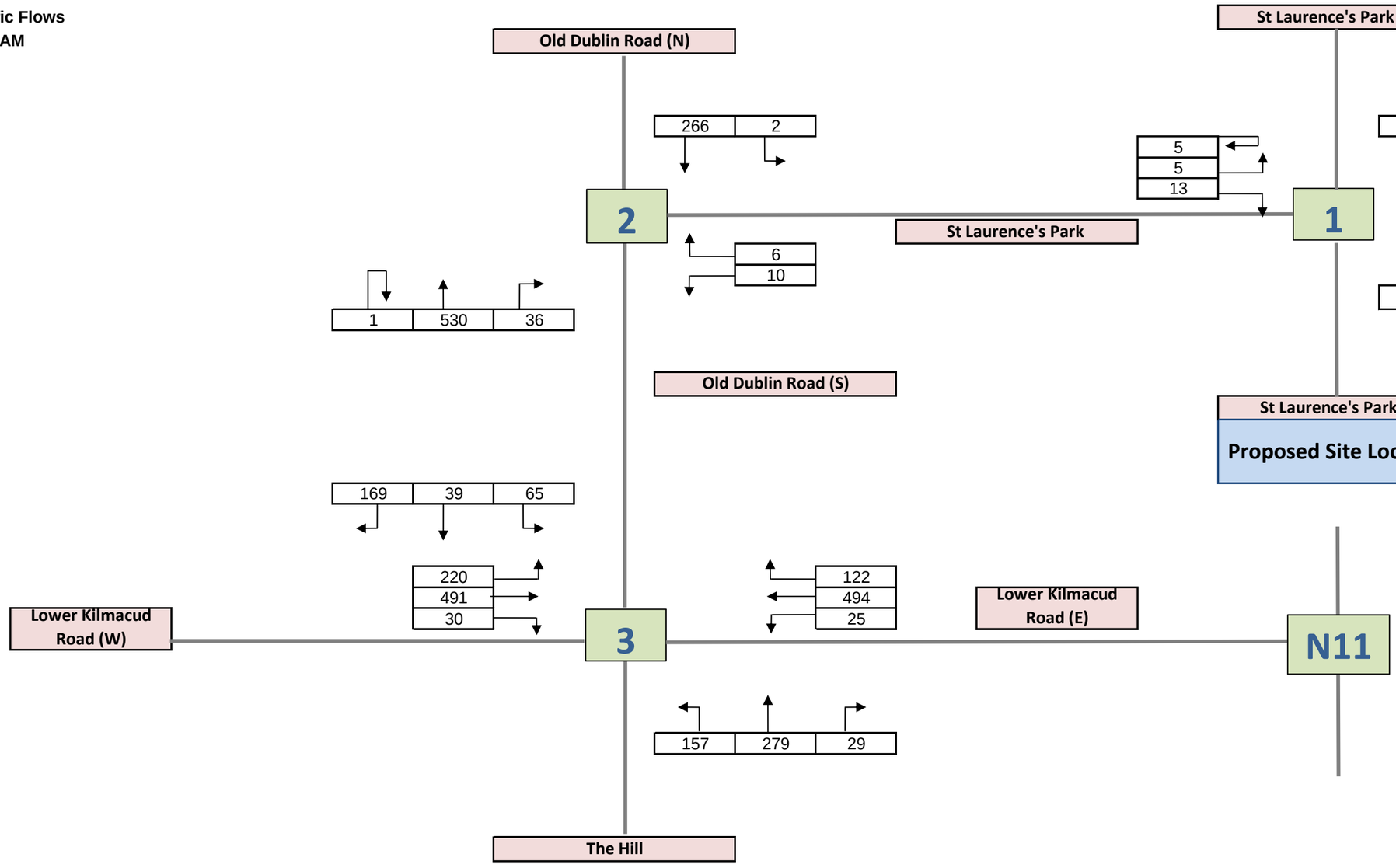
Network Flow Diagrams

2028 Network Traffic Flows
AM Peak: 8 AM - 9 AM



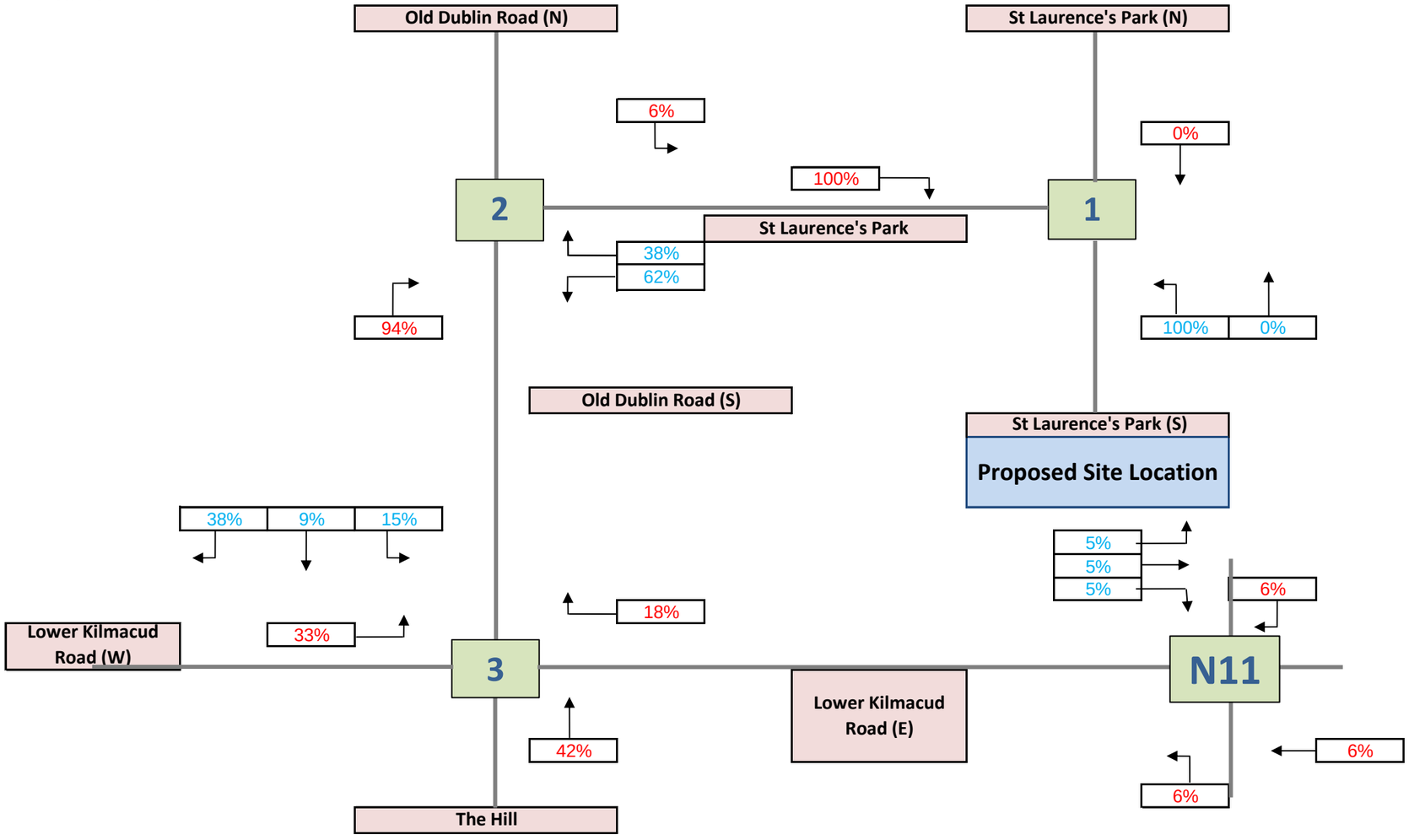
Network Flow Diagrams

2038 Network Traffic Flows
AM Peak: 8 AM - 9 AM

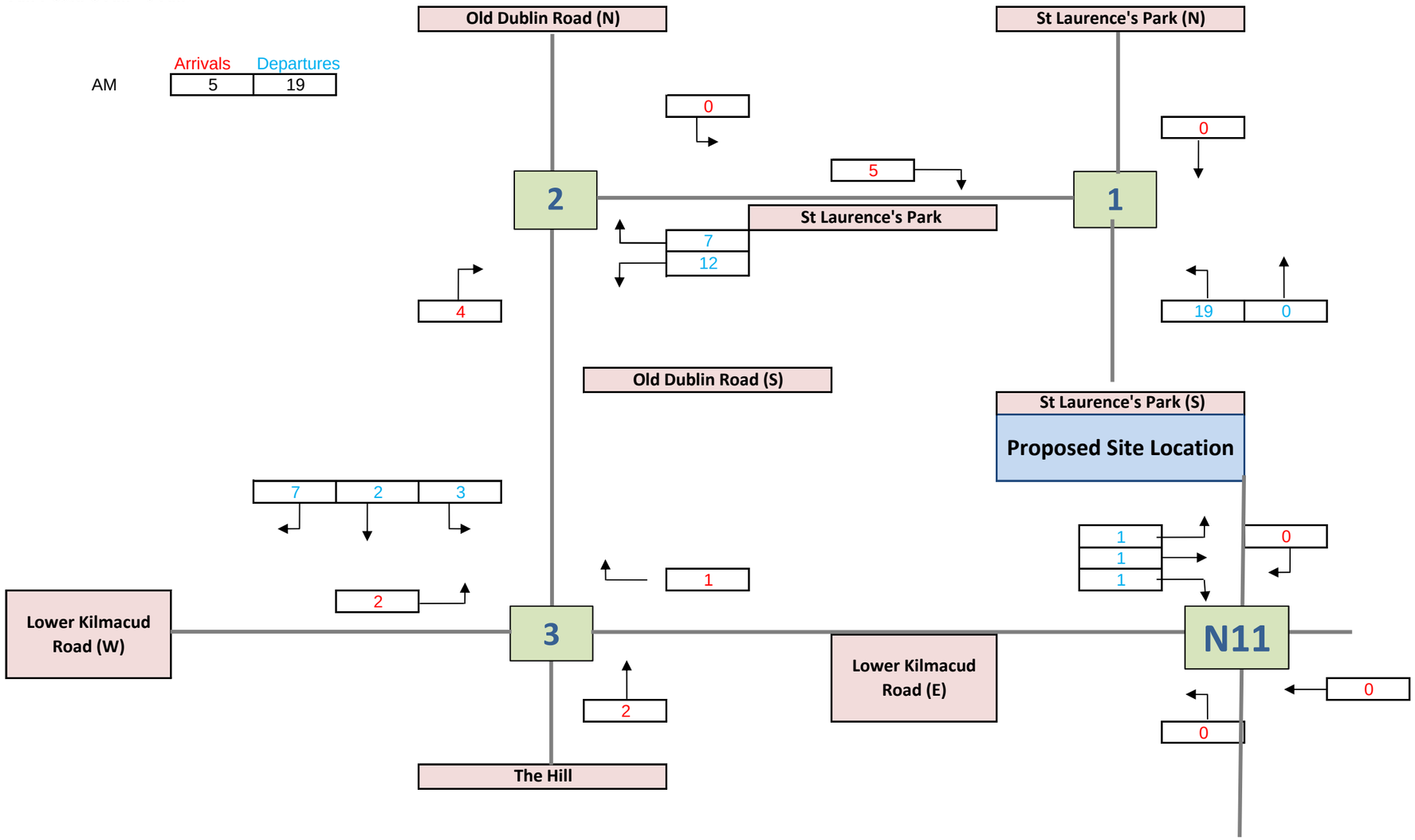


Network Flow Diagrams

Trip Distribution
AM Peak: 8 AM - 9 AM

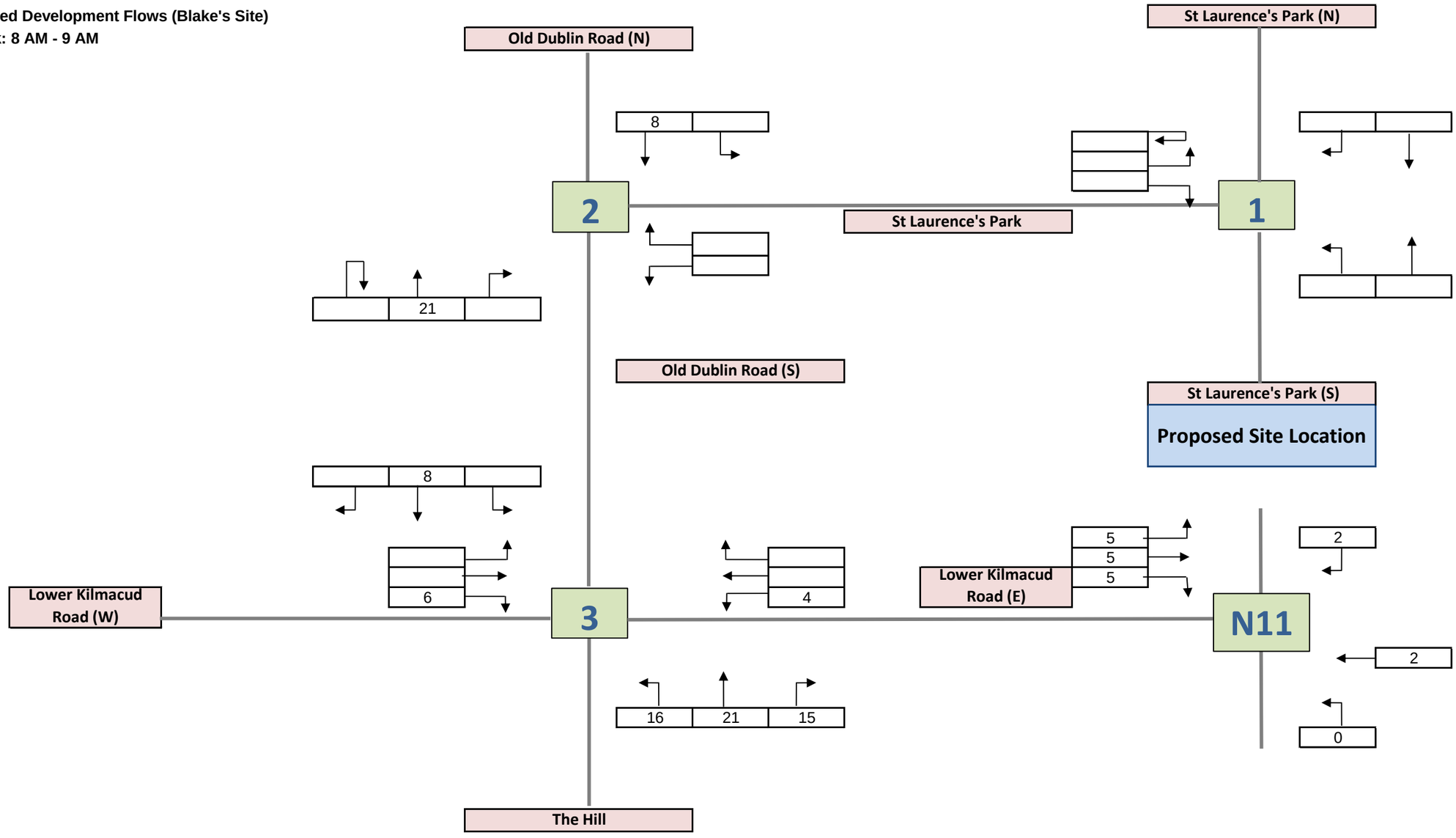


Trip Generation
AM Peak: 8 AM - 9 AM

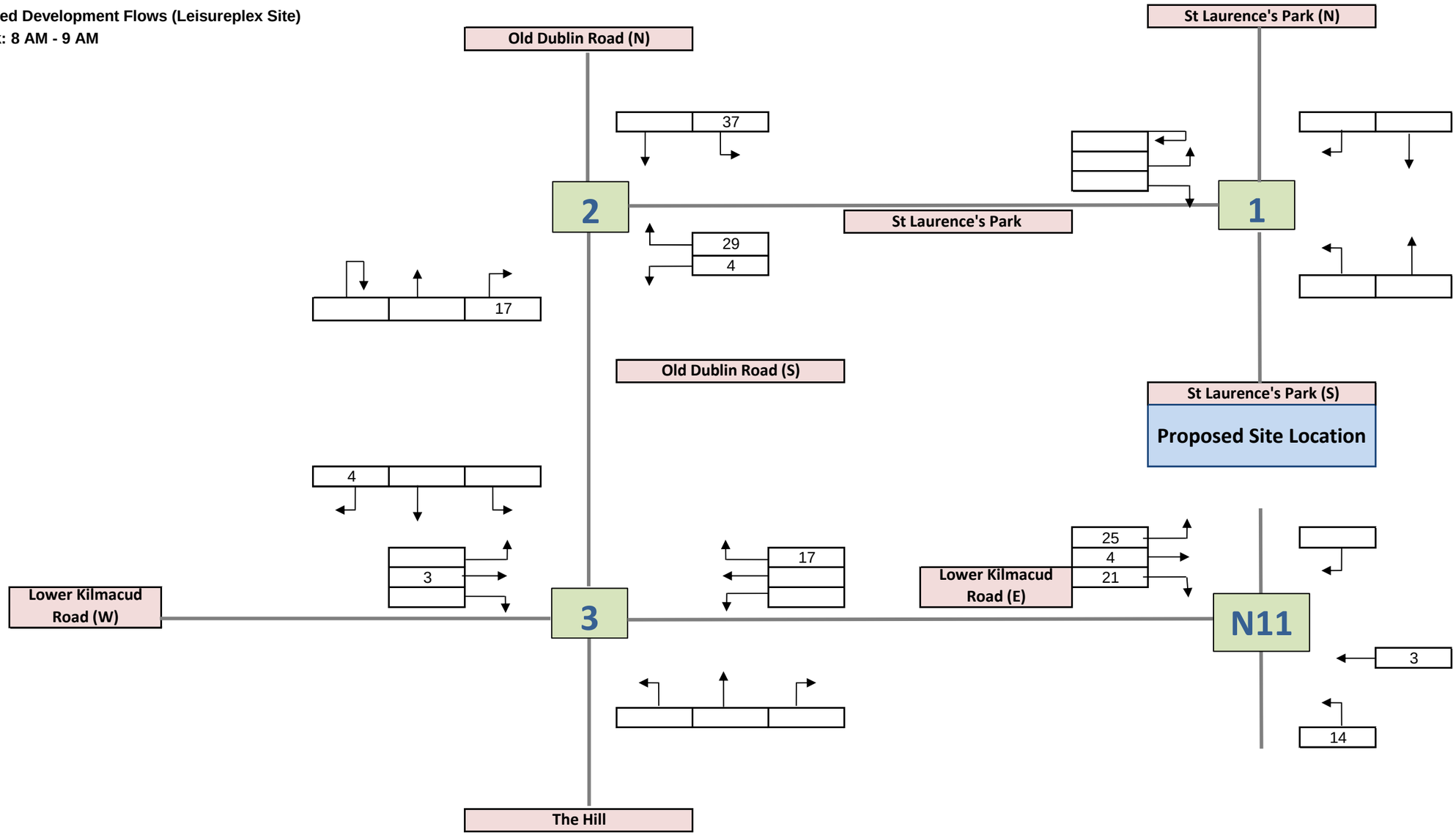


Network Flow Diagrams

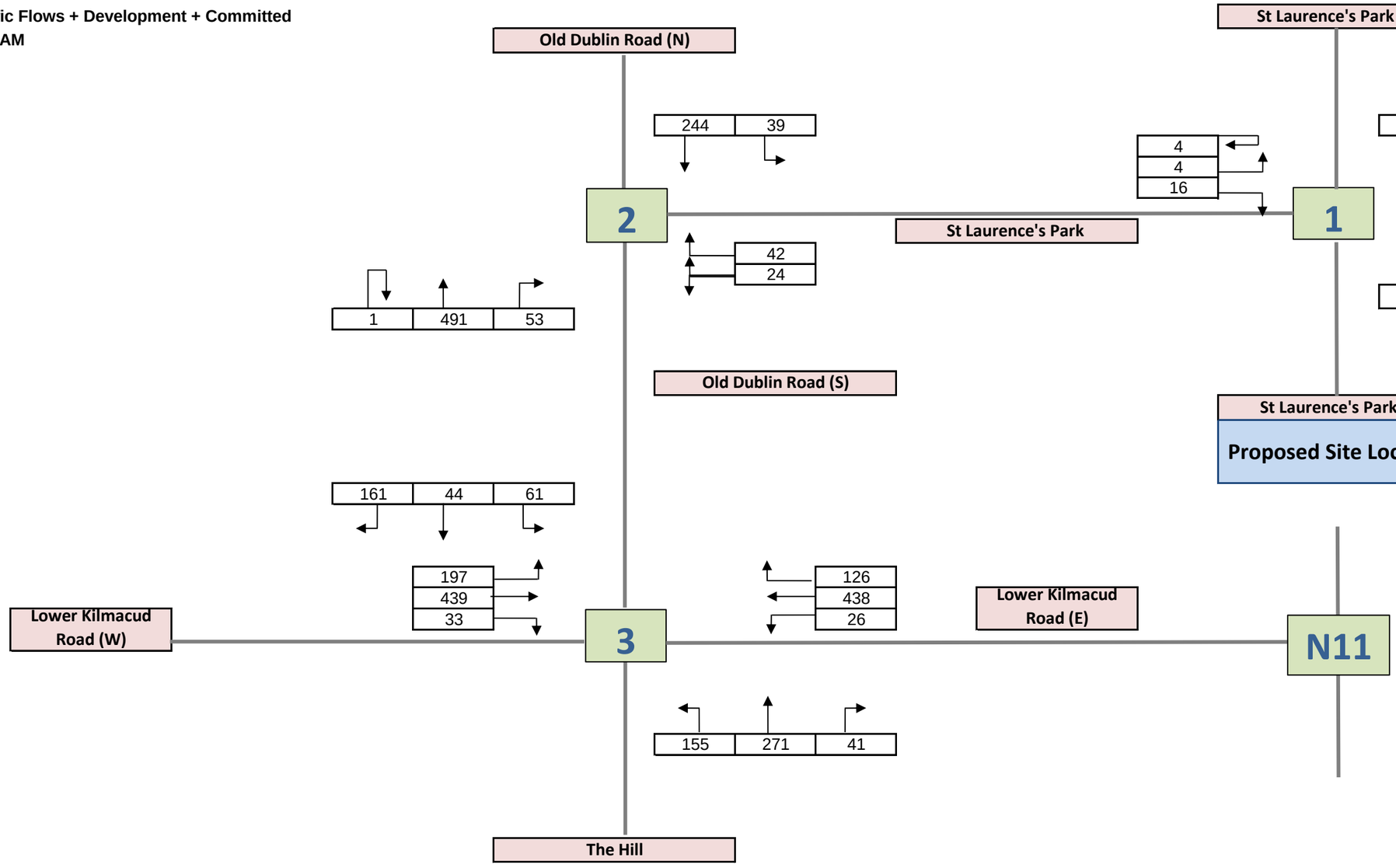
Committed Development Flows (Blake's Site)
AM Peak: 8 AM - 9 AM



Committed Development Flows (Leisureplex Site)
AM Peak: 8 AM - 9 AM

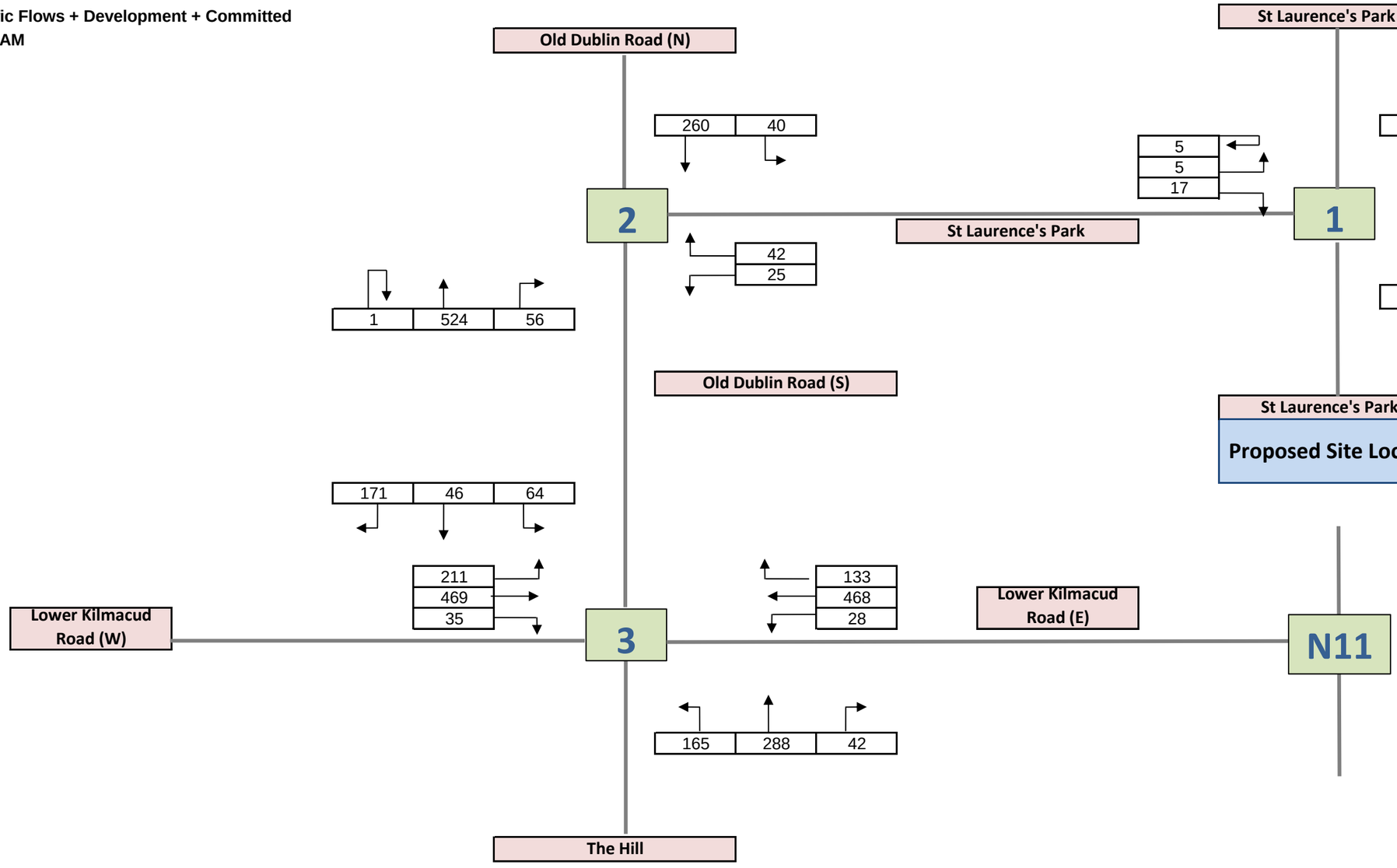


2023 Network Traffic Flows + Development + Committed
AM Peak: 8 AM - 9 AM



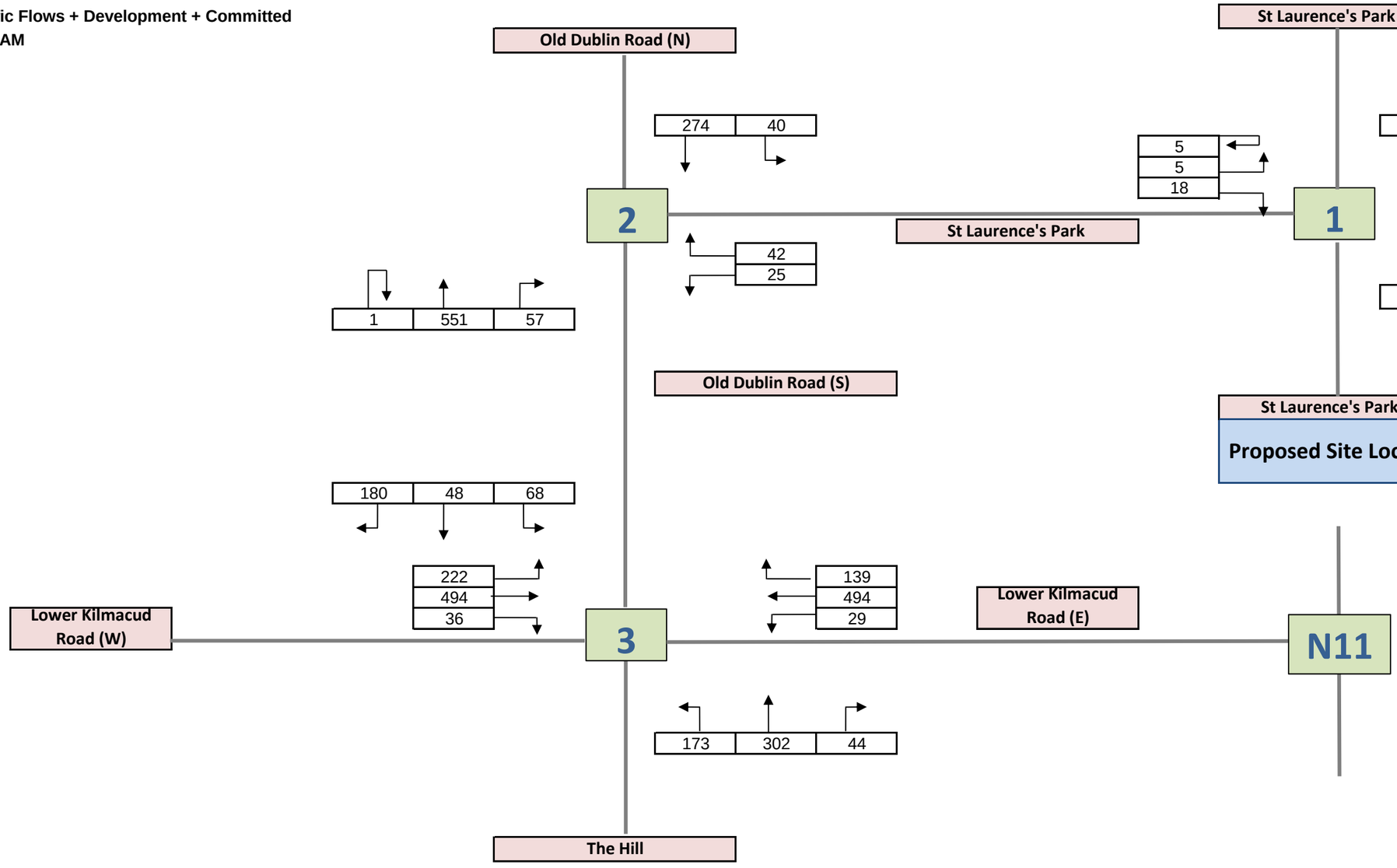
Network Flow Diagrams

2028 Network Traffic Flows + Development + Committed
AM Peak: 8 AM - 9 AM



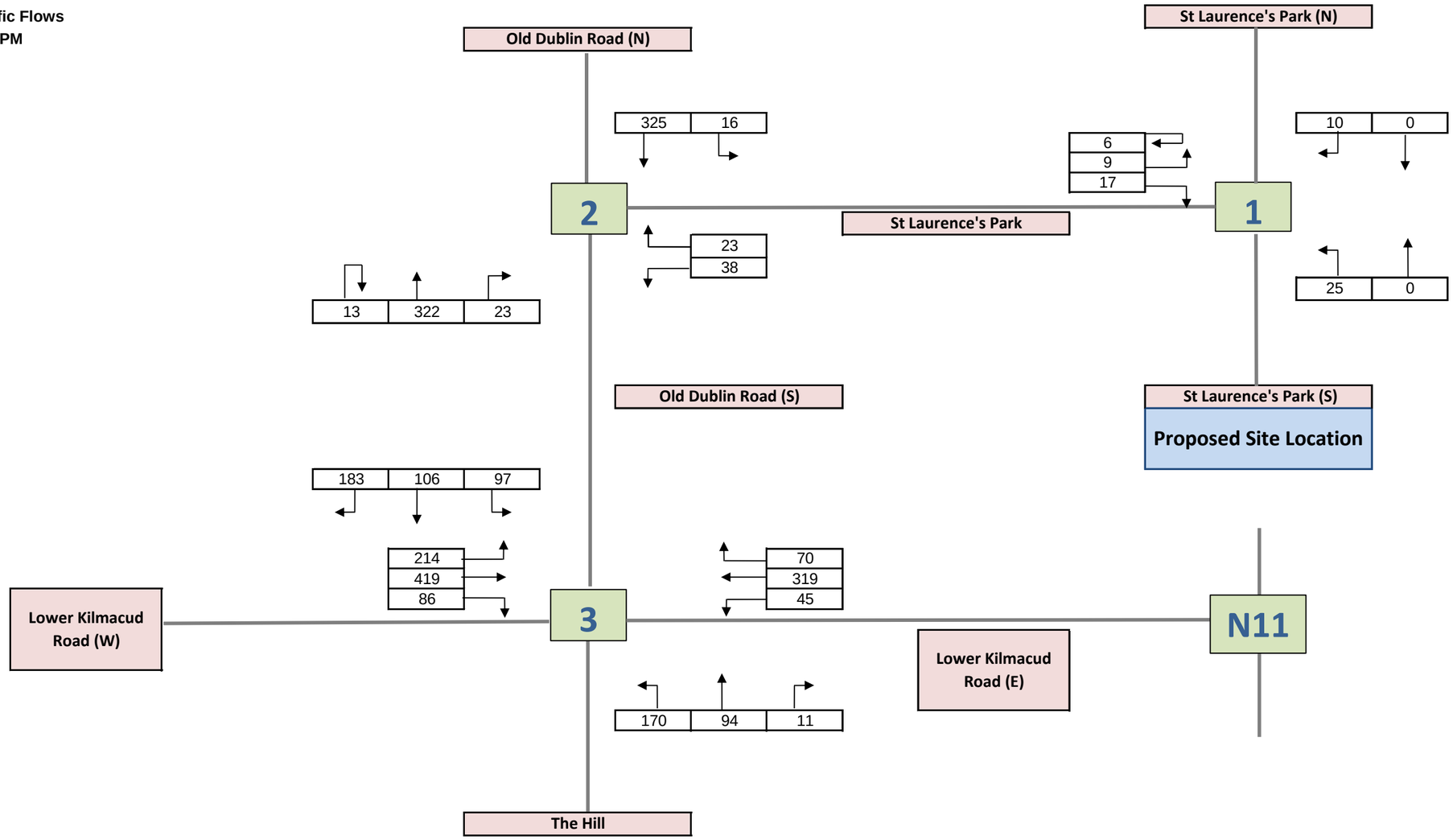
Network Flow Diagrams

2038 Network Traffic Flows + Development + Committed
AM Peak: 8 AM - 9 AM

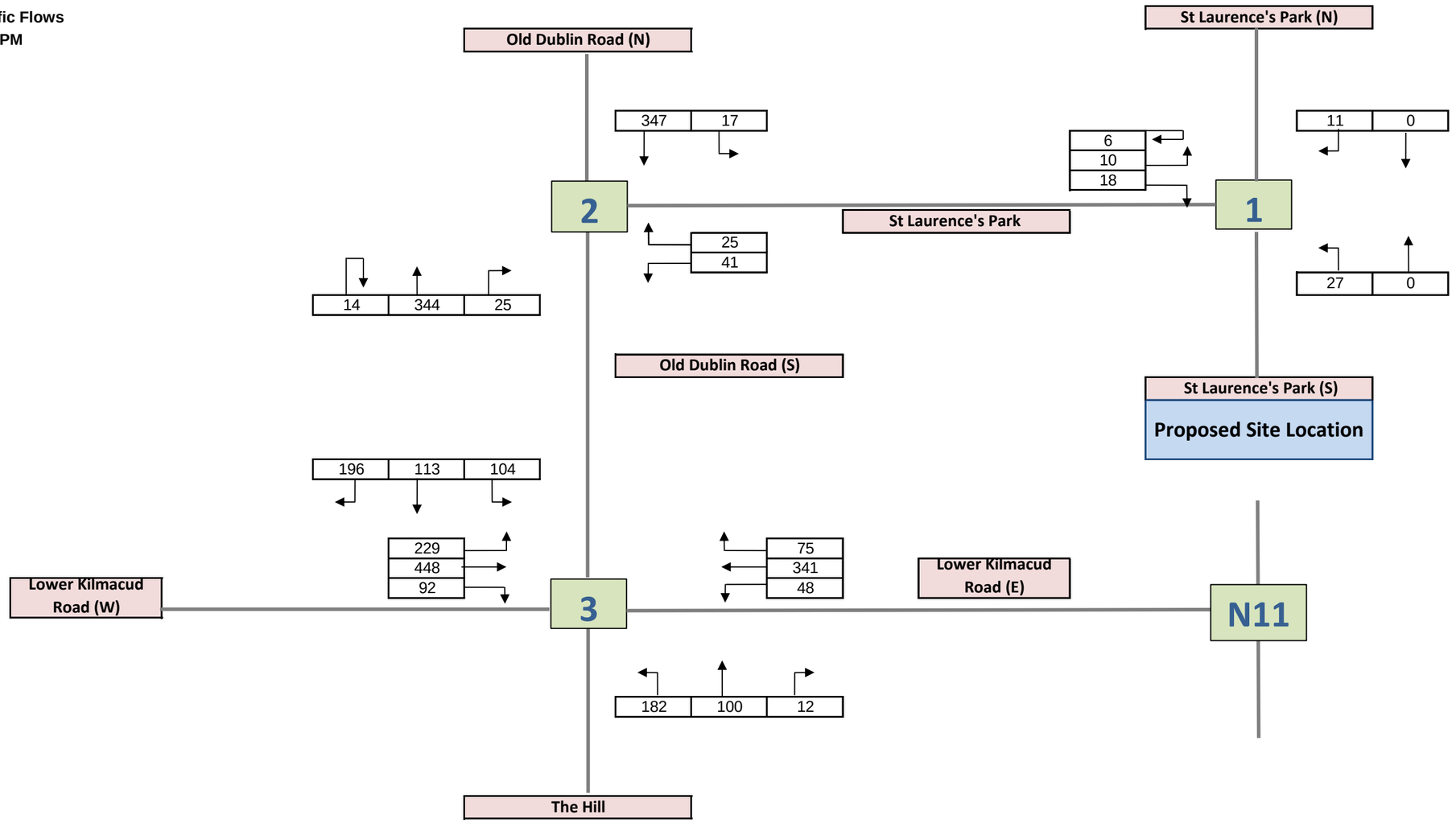


Network Flow Diagrams

2018 Network Traffic Flows
PM Peak: 5 PM - 6 PM

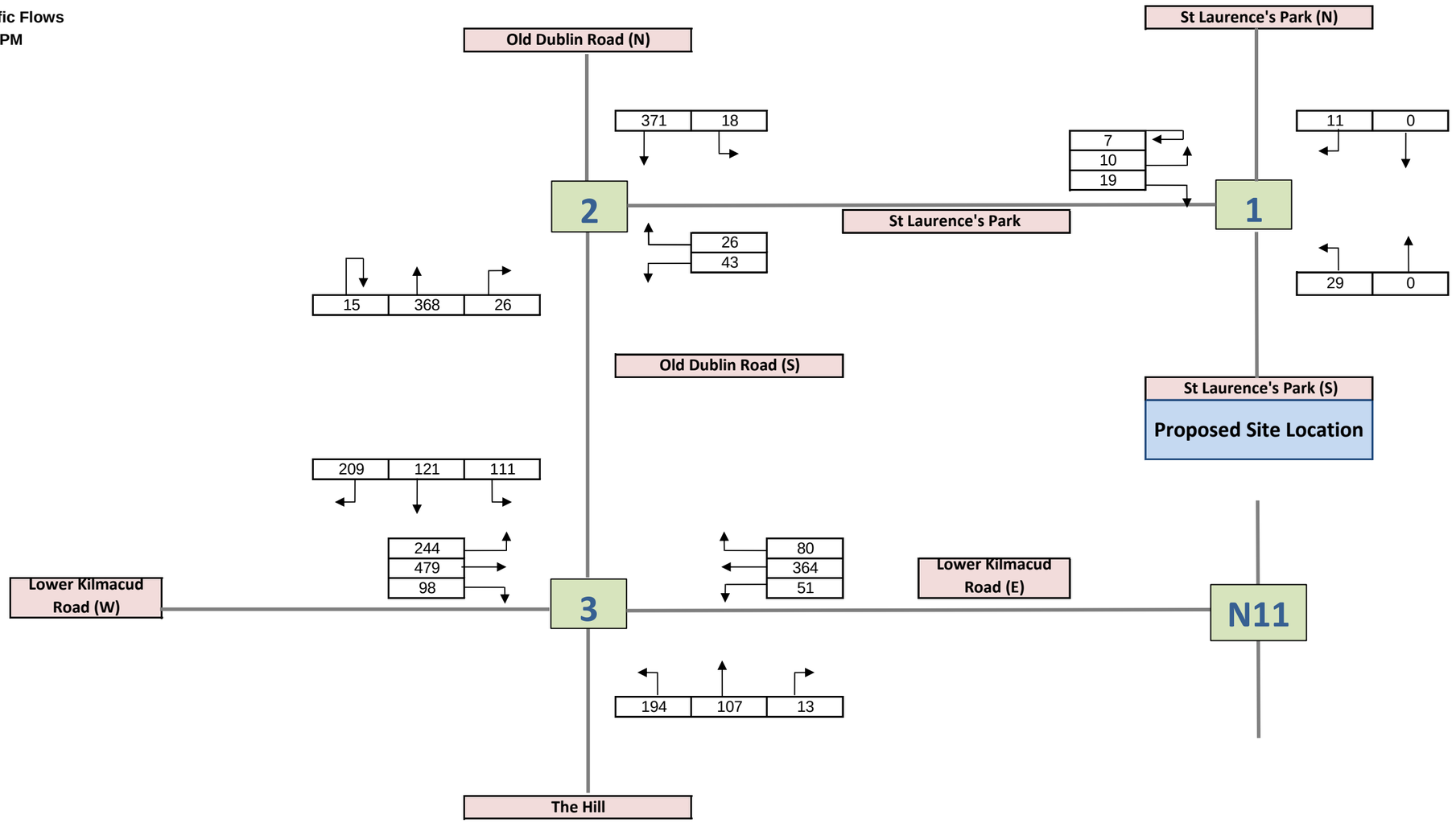


2023 Network Traffic Flows
PM Peak: 5 PM - 6 PM

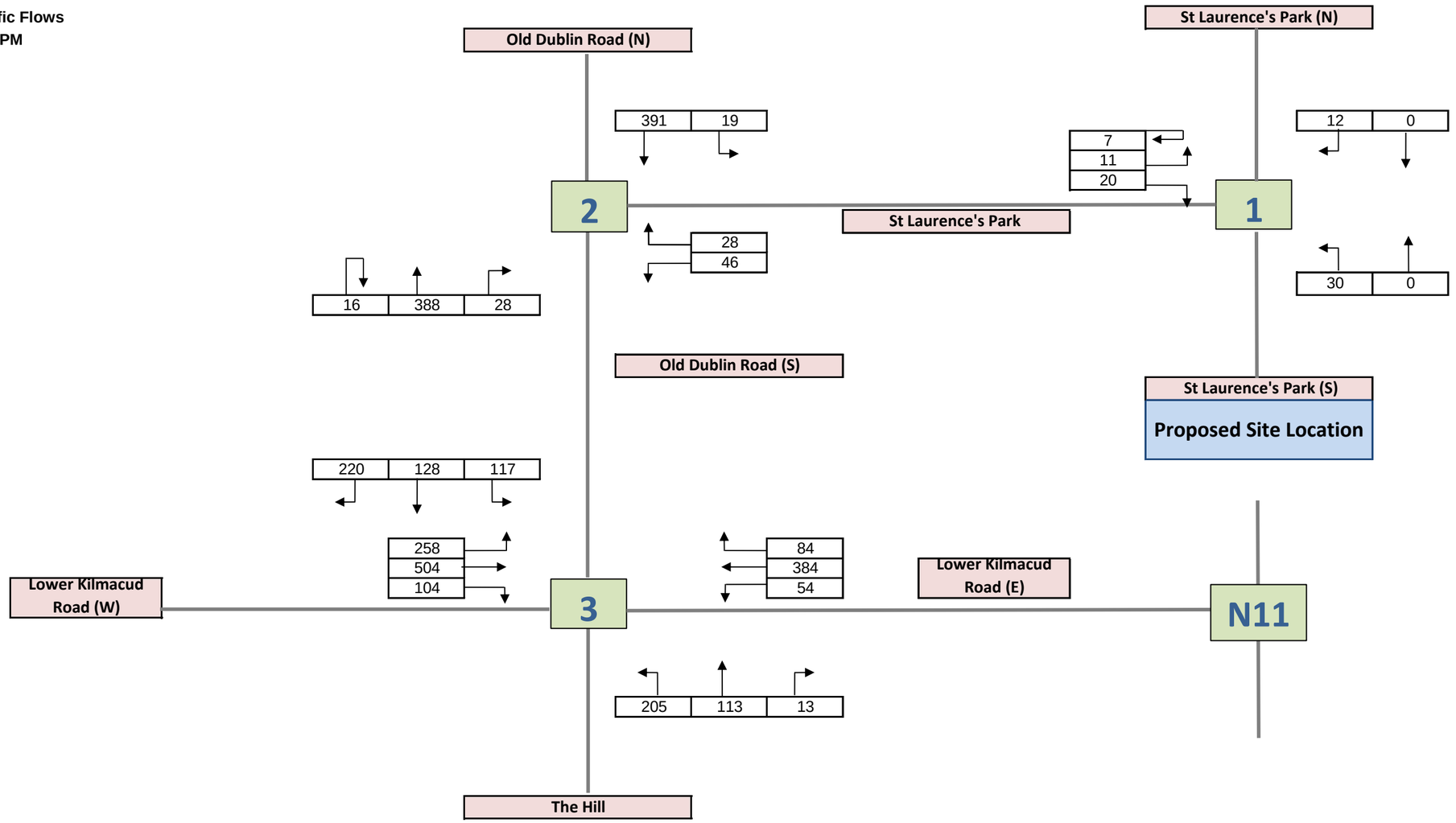


Network Flow Diagrams

2028 Network Traffic Flows
PM Peak: 5 PM - 6 PM

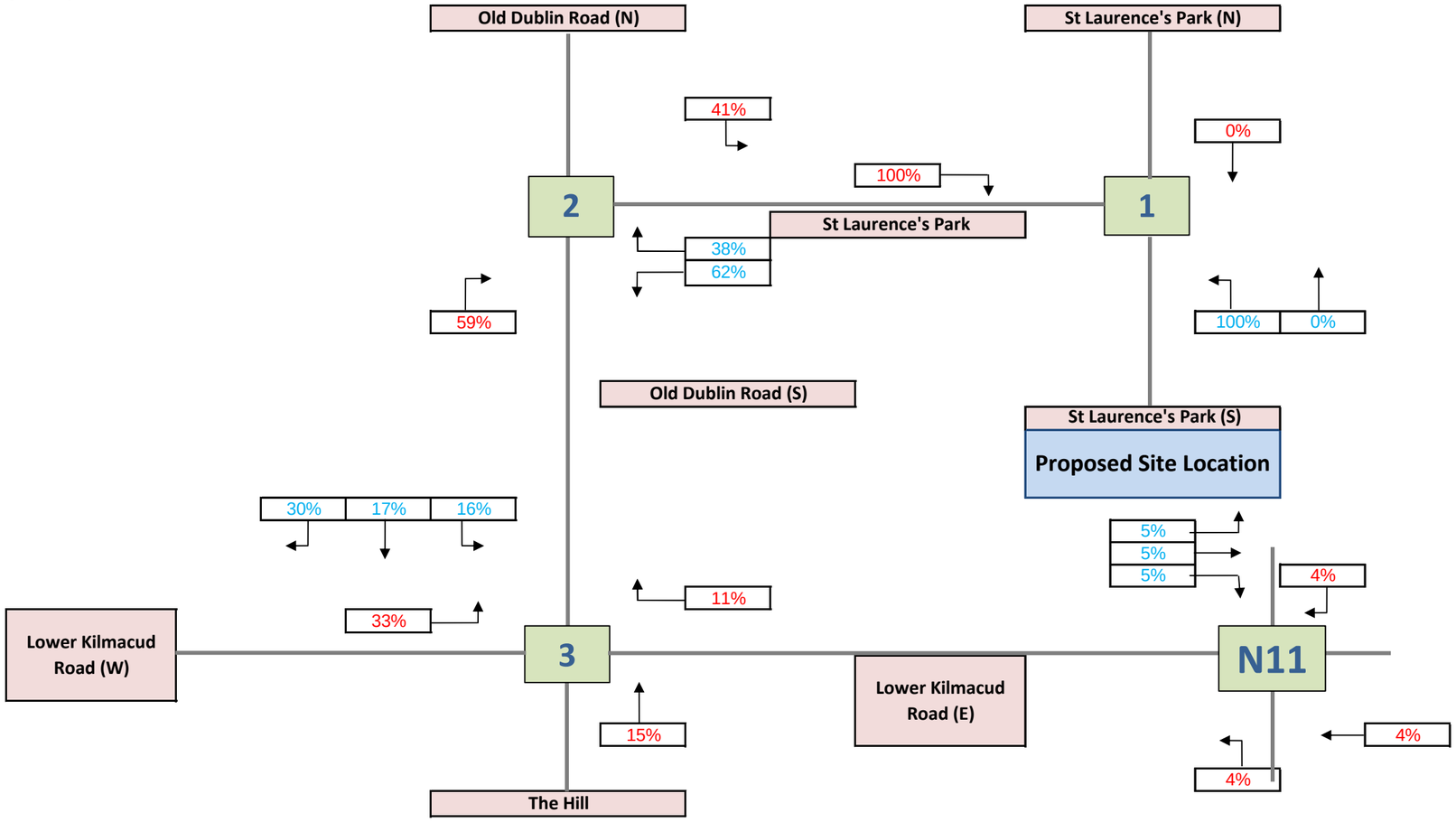


2038 Network Traffic Flows
PM Peak: 5 PM - 6 PM

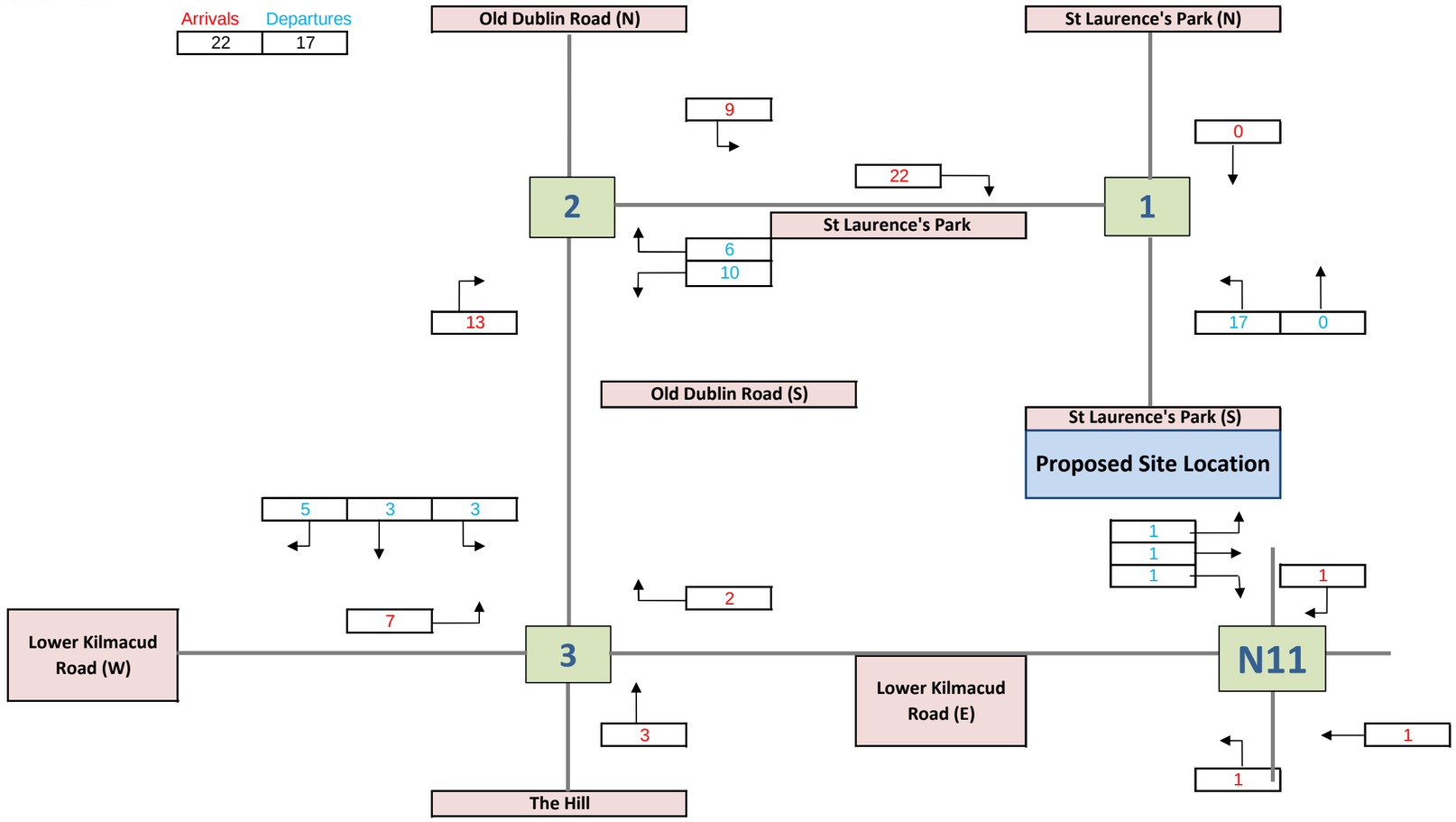


Network Flow Diagrams

Trip Distribution
PM Peak: 5 PM - 6 PM

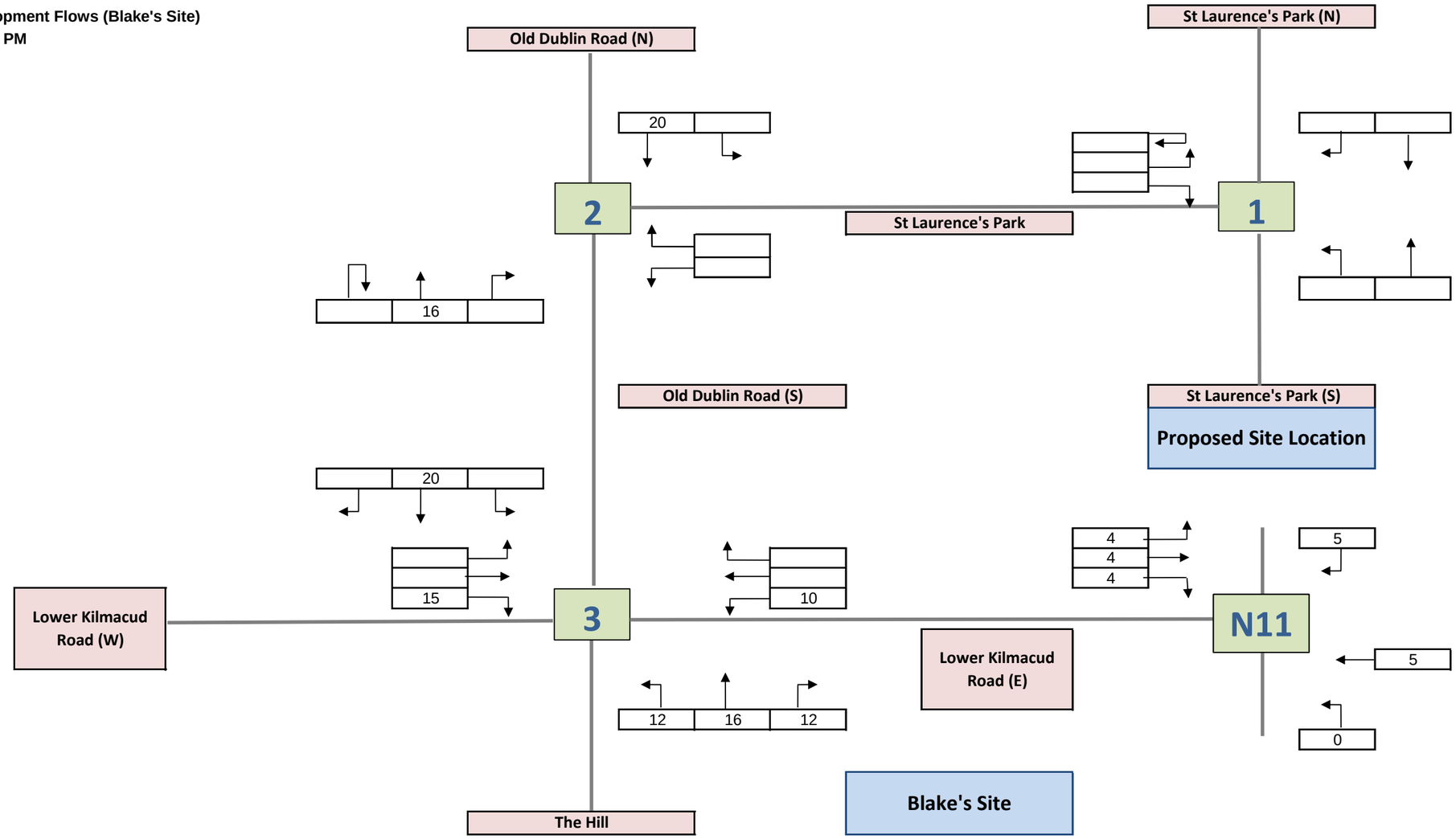


Trip Generation
PM Peak: 5 PM - 6 PM

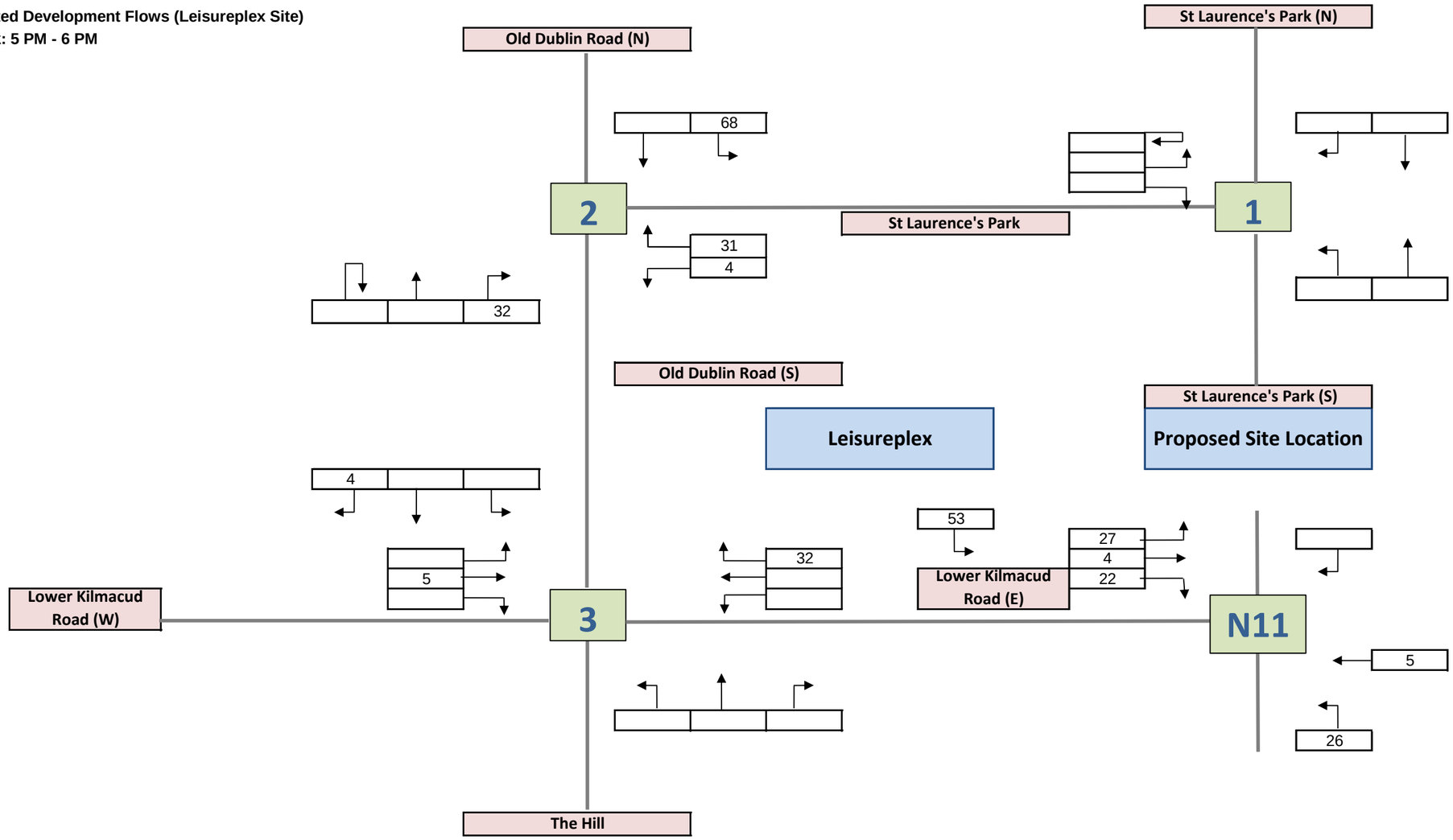


Network Flow Diagrams

Committed Development Flows (Blake's Site)
PM Peak: 5 PM - 6 PM

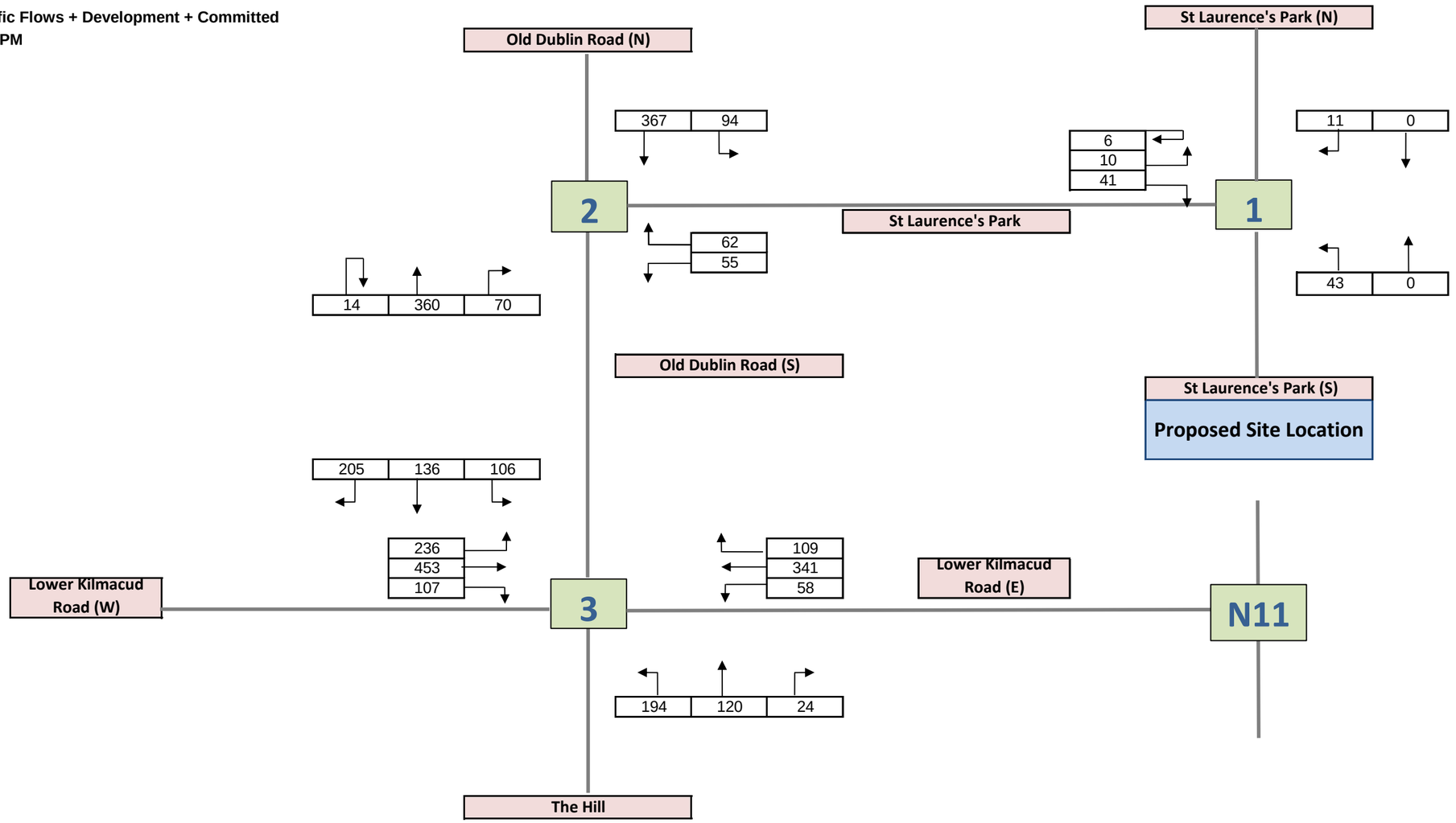


Committed Development Flows (Leisureplex Site)
PM Peak: 5 PM - 6 PM



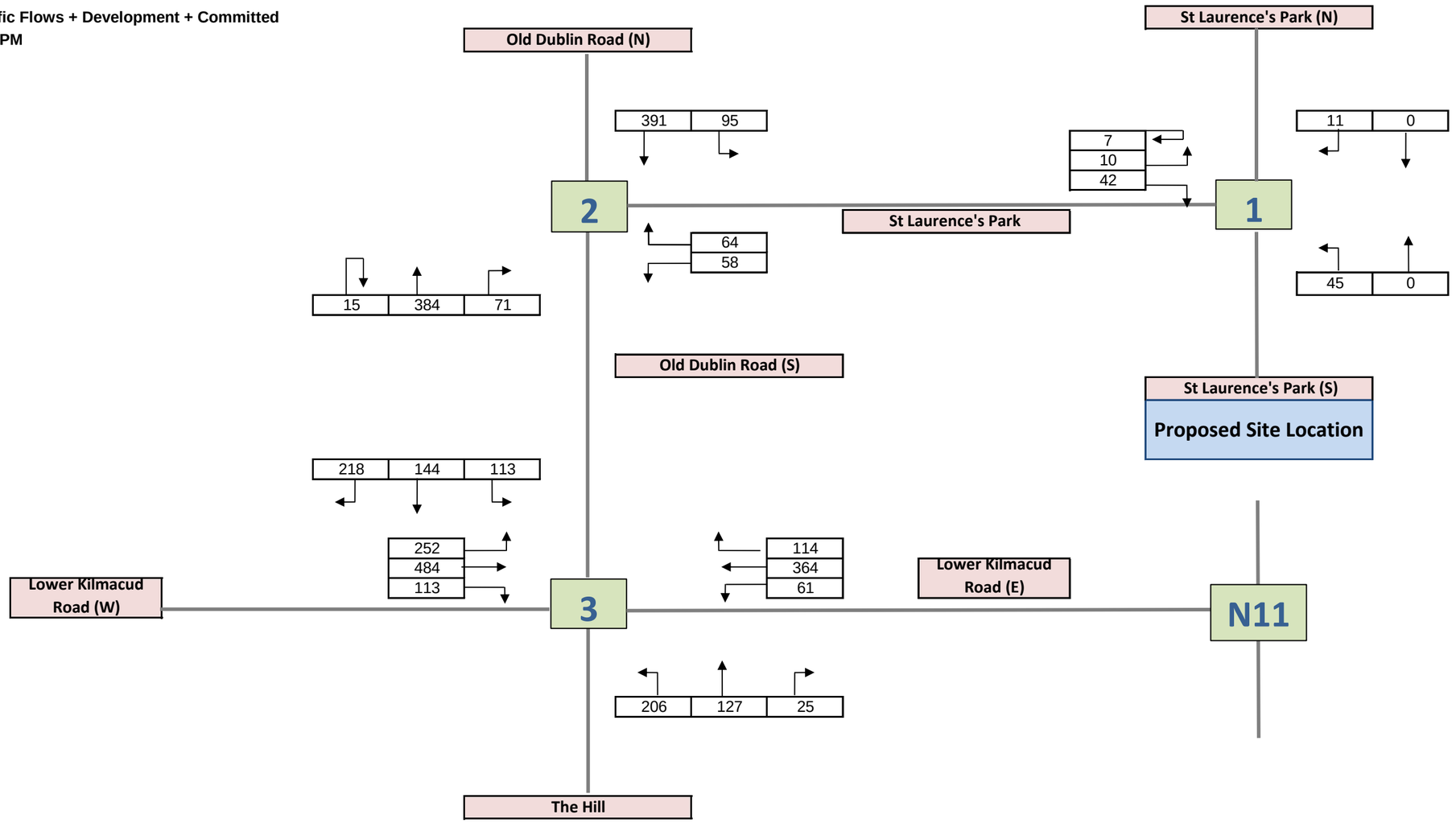
Network Flow Diagrams

2023 Network Traffic Flows + Development + Committed
PM Peak: 5 PM - 6 PM



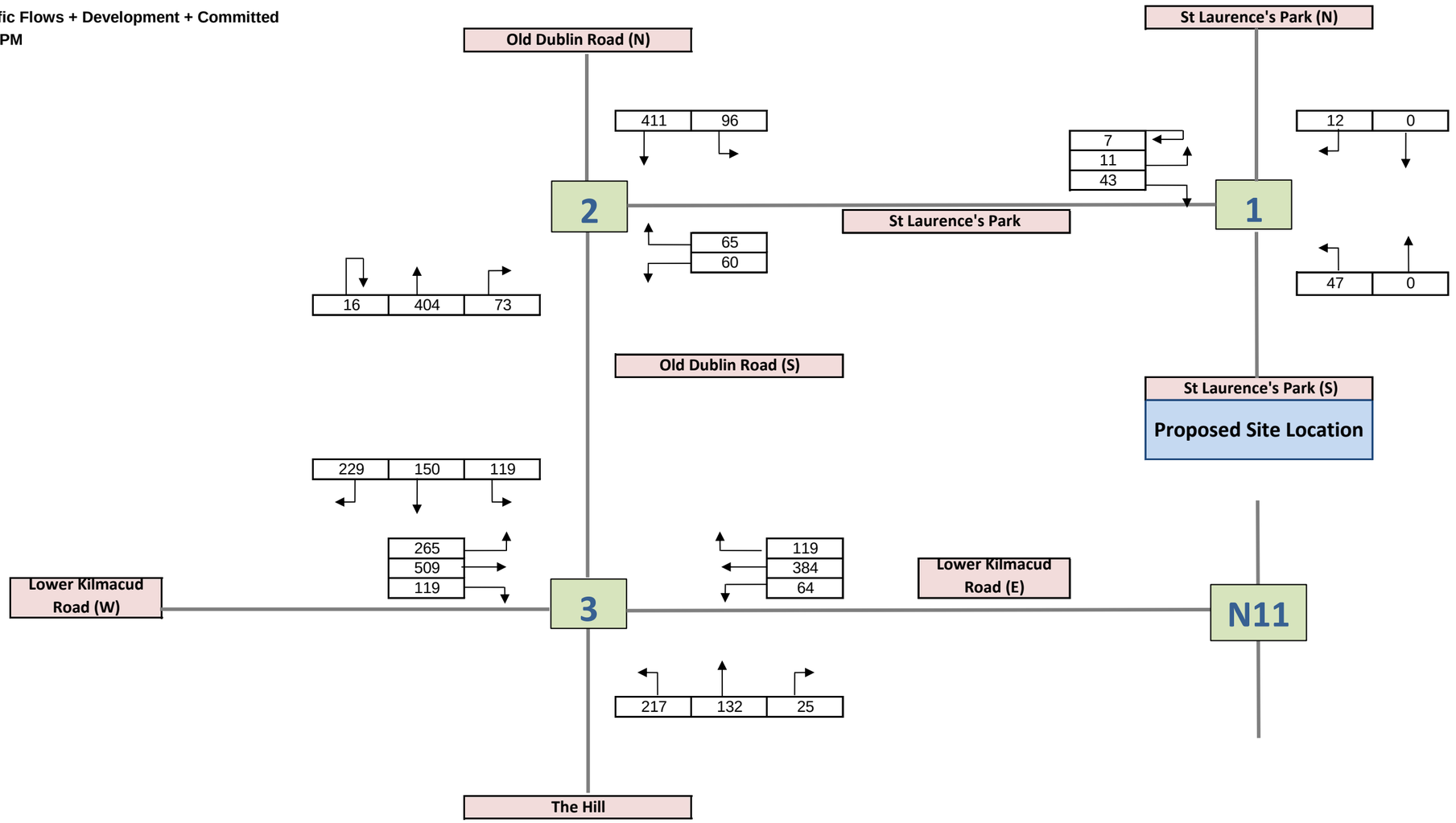
Network Flow Diagrams

2028 Network Traffic Flows + Development + Committed
PM Peak: 5 PM - 6 PM



Network Flow Diagrams

2038 Network Traffic Flows + Development + Committed
PM Peak: 5 PM - 6 PM



Network Flow Diagrams

Appendix C TRICS Results

Calculation Reference: AUDIT-204602-180627-0651

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	ES	EAST SUSSEX	1 days
	EX	ESSEX	2 days
	HC	HAMPSHIRE	1 days
	OX	OXFORDSHIRE	1 days
03	SOUTH WEST		
	DC	DORSET	1 days
	DV	DEVON	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	2 days
	NF	NORFOLK	1 days
	SF	SUFFOLK	2 days
05	EAST MIDLANDS		
	NT	NOTTINGHAMSHIRE	2 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	RI	EAST RIDING OF YORKSHIRE	1 days
09	NORTH		
	CB	CUMBRIA	2 days
	TV	TEES VALLEY	1 days
10	WALES		
	DB	DENBIGHSHIRE	1 days
11	SCOTLAND		
	EB	CITY OF EDINBURGH	1 days
	SA	SOUTH AYRSHIRE	1 days
	SR	STIRLING	2 days
12	CONNAUGHT		
	GA	GALWAY	1 days
13	MUNSTER		
	WA	WATERFORD	1 days
14	LEINSTER		
	LU	LOUTH	3 days
15	GREATER DUBLIN		
	DL	DUBLIN	9 days
16	ULSTER (REPUBLIC OF IRELAND)		
	MG	MONAGHAN	1 days
17	ULSTER (NORTHERN IRELAND)		
	AN	ANTRIM	1 days

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

Secondary Filtering selection:

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

Parameter:	Number of dwellings
Actual Range:	6 to 372 (units:)
Range Selected by User:	6 to 372 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 26/09/17

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	5 days
Tuesday	15 days
Wednesday	8 days
Thursday	6 days
Friday	6 days

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

Selected survey types:

Manual count	40 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	13
Suburban Area (PPS6 Out of Centre)	20
Edge of Town	4
Neighbourhood Centre (PPS6 Local Centre)	3

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	27
Built-Up Zone	3
No Sub Category	10

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

Secondary Filtering selection:

Use Class:

C3	40 days

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

Population within 1 mile:

1,001 to 5,000	6 days
5,001 to 10,000	3 days
10,001 to 15,000	8 days
15,001 to 20,000	4 days
20,001 to 25,000	4 days
25,001 to 50,000	14 days
50,001 to 100,000	1 days

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

Secondary Filtering selection (Cont.):

Population within 5 miles:

5,001 to 25,000	2 days
25,001 to 50,000	4 days
50,001 to 75,000	9 days
75,001 to 100,000	2 days
100,001 to 125,000	1 days
125,001 to 250,000	7 days
250,001 to 500,000	7 days
500,001 or More	8 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	12 days
1.1 to 1.5	28 days

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

Travel Plan:

Yes	1 days
No	39 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	40 days

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

LIST OF SITES relevant to selection parameters

1 AN-03-C-02 BLOCK OF FLATS ANTRIM
SUMMERHILL AVENUE
KNOCK
BELFAST
Edge of Town
Residential Zone
Total Number of dwellings: 22
Survey date: FRIDAY *28/11/14* *Survey Type: MANUAL*

2 CA-03-C-02 BLOCK OF FLATS CAMBRIDGESHIRE
WESTFIELD ROAD
NETHERTON
PETERBOROUGH
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 44
Survey date: TUESDAY *18/10/11* *Survey Type: MANUAL*

3 CA-03-C-03 BLOCKS OF FLATS CAMBRIDGESHIRE
CROMWELL ROAD

CAMBRIDGE
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 82
Survey date: MONDAY *18/09/17* *Survey Type: MANUAL*

4 CB-03-C-02 BLOCK OF FLATS CUMBRIA
BRIDGE LANE

PENRITH
Edge of Town
No Sub Category
Total Number of dwellings: 35
Survey date: WEDNESDAY *11/06/14* *Survey Type: MANUAL*

5 CB-03-C-03 FLATS & BUNGALOWS CUMBRIA
LOUND STREET

KENDAL
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 33
Survey date: MONDAY *09/06/14* *Survey Type: MANUAL*

6 DB-03-C-01 FLATS IN HOUSES DENBIGHSHIRE
RHYL ROAD

RHUDDLAN
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings: 16
Survey date: FRIDAY *07/10/11* *Survey Type: MANUAL*

7 DC-03-C-02 FLATS IN BLOCKS DORSET
PALM COURT
SPA ROAD
WEYMOUTH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 14
Survey date: FRIDAY *28/03/14* *Survey Type: MANUAL*

8 DL-03-C-07 BLOCKS OF FLATS DUBLIN
SANDYFORD ROAD
DUNDRUM
DUBLIN
Edge of Town
No Sub Category
Total Number of dwellings: 372
Survey date: TUESDAY *11/05/10* *Survey Type: MANUAL*

9 DL-03-C-08 FLATS DUBLIN
FINGLAS ROAD
FINGLAS
DUBLIN
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 340
Survey date: FRIDAY *30/09/11* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

10 DL-03-C-09 FLATS DUBLIN
OLD FINGLAS ROAD
GLASNEVIN
DUBLIN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 201
Survey date: THURSDAY *29/09/11* *Survey Type: MANUAL*

11 DL-03-C-11 BLOCK OF FLATS DUBLIN
WYCKHAM WAY
DUNDRUM
DUBLIN
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings: 96
Survey date: TUESDAY *10/09/13* *Survey Type: MANUAL*

12 DL-03-C-12 BLOCK OF FLATS DUBLIN
BOOTERSTOWN AVENUE

DUBLIN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 47
Survey date: TUESDAY *10/09/13* *Survey Type: MANUAL*

13 DL-03-C-13 BLOCK OF FLATS DUBLIN
SANDYFORD ROAD

DUBLIN
Neighbourhood Centre (PPS6 Local Centre)
Built-Up Zone
Total Number of dwellings: 52
Survey date: TUESDAY *10/09/13* *Survey Type: MANUAL*

14 DL-03-C-14 BLOCKS OF FLATS DUBLIN
BALLINTEER ROAD
DUNDRUM
DUBLIN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 140
Survey date: TUESDAY *10/09/13* *Survey Type: MANUAL*

15 DL-03-C-15 BLOCKS OF FLATS DUBLIN
MONKSTOWN ROAD
MONKSTOWN
DUBLIN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 20
Survey date: WEDNESDAY *01/10/14* *Survey Type: MANUAL*

16 DL-03-C-16 BLOCKS OF FLATS DUBLIN
BOTANIC AVENUE
DRUMCONDRA
DUBLIN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 31
Survey date: TUESDAY *22/11/16* *Survey Type: MANUAL*

17 DV-03-C-01 BLOCK OF FLATS DEVON
BONHAY ROAD

EXETER
Edge of Town Centre
Residential Zone
Total Number of dwellings: 27
Survey date: MONDAY *10/07/17* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

18 EB-03-C-01 BLOCKS OF FLATS CITY OF EDINBURGH
MYRESIDE ROAD
CRAIGLOCKHART
EDINBURGH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 32
Survey date: TUESDAY *26/05/15* *Survey Type: MANUAL*

19 ES-03-C-01 BLOCK OF FLATS EAST SUSSEX
OLD SHOREHAM RD
HOVE
BRIGHTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 71
Survey date: TUESDAY *26/09/17* *Survey Type: MANUAL*

20 EX-03-C-01 FLATS ESSEX
WESTCLIFF PARADE
WESTCLIFF
SOUTHEND-ON-SEA
Edge of Town Centre
Residential Zone
Total Number of dwellings: 6
Survey date: TUESDAY *22/10/13* *Survey Type: MANUAL*

21 EX-03-C-02 BLOCK OF FLATS ESSEX
WESTCLIFF PARADE
WESTCLIFF
SOUTHEND-ON-SEA
Edge of Town Centre
Residential Zone
Total Number of dwellings: 94
Survey date: TUESDAY *22/10/13* *Survey Type: MANUAL*

22 GA-03-C-01 FLATS GALWAY
BALLYLOUGHANE ROAD

GALWAY
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 34
Survey date: THURSDAY *31/10/13* *Survey Type: MANUAL*

23 HC-03-C-02 FLATS HAMPSHIRE
WORTING ROAD

BASINGSTOKE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 16
Survey date: THURSDAY *21/10/10* *Survey Type: MANUAL*

24 LU-03-C-01 BLOCKS OF FLATS LOUTH
DONORE ROAD

DROGHEDA
Edge of Town Centre
Residential Zone
Total Number of dwellings: 52
Survey date: THURSDAY *12/09/13* *Survey Type: MANUAL*

25 LU-03-C-02 BLOCK OF FLATS LOUTH
NICHOLAS STREET

DUNDALK
Edge of Town Centre
Residential Zone
Total Number of dwellings: 33
Survey date: MONDAY *16/09/13* *Survey Type: MANUAL*

26 LU-03-C-03 BLOCK OF FLATS LOUTH
NICHOLAS STREET

DUNDALK
Edge of Town Centre
Residential Zone
Total Number of dwellings: 20
Survey date: MONDAY *16/09/13* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

27 MG-03-C-01 BLOCK OF FLATS MONAGHAN
MALL ROAD

MONAGHAN
Edge of Town Centre
No Sub Category
Total Number of dwellings: 28
Survey date: FRIDAY *06/09/13* *Survey Type: MANUAL*

28 NF-03-C-01 BLOCKS OF FLATS NORFOLK
PAGE STAIR LANE

KING'S LYNN
Edge of Town Centre
Built-Up Zone
Total Number of dwellings: 51
Survey date: THURSDAY *11/12/14* *Survey Type: MANUAL*

29 NT-03-C-01 HOUSES (SPLIT INTO FLATS) NOTTINGHAMSHIRE
LAWRENCE WAY

NOTTINGHAM
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 56
Survey date: TUESDAY *08/11/16* *Survey Type: MANUAL*

30 NT-03-C-02 HOUSES (SPLIT INTO FLATS) NOTTINGHAMSHIRE
CASTLE MARINA ROAD

NOTTINGHAM
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 135
Survey date: WEDNESDAY *09/11/16* *Survey Type: MANUAL*

31 OX-03-C-01 BLOCK OF FLATS OXFORDSHIRE
OXFORD ROAD
COWLEY
OXFORD
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 14
Survey date: WEDNESDAY *20/10/10* *Survey Type: MANUAL*

32 RI-03-C-01 FLATS EAST RIDING OF YORKSHIRE
465 PRIORY ROAD

HULL
Edge of Town
Residential Zone
Total Number of dwellings: 20
Survey date: TUESDAY *13/05/14* *Survey Type: MANUAL*

33 SA-03-C-01 BLOCK OF FLATS SOUTH AYRSHIRE
RACECOURSE ROAD

AYR
Edge of Town Centre
Residential Zone
Total Number of dwellings: 51
Survey date: TUESDAY *16/09/14* *Survey Type: MANUAL*

34 SF-03-C-01 BLOCKS OF FLATS SUFFOLK
STATION HILL

BURY ST EDMUNDS
Edge of Town Centre
Built-Up Zone
Total Number of dwellings: 85
Survey date: THURSDAY *18/12/14* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

35	SF-03-C-03	BLOCKS OF FLATS		SUFFOLK
	TOLLGATE LANE			
	BURY ST EDMUNDS			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		30	
	Survey date: WEDNESDAY		*03/12/14*	*Survey Type: MANUAL*
36	SR-03-C-01	FLATS		STIRLING
	FORTHSIDE WAY			
	STIRLING			
	Edge of Town Centre			
	No Sub Category			
	Total Number of dwellings:		80	
	Survey date: WEDNESDAY		*18/06/14*	*Survey Type: MANUAL*
37	SR-03-C-02	FLATS		STIRLING
	ROSEBERRY TERRACE			
	STIRLING			
	Edge of Town Centre			
	Residential Zone			
	Total Number of dwellings:		48	
	Survey date: WEDNESDAY		*18/06/14*	*Survey Type: MANUAL*
38	TV-03-C-02	FLATS		TEES VALLEY
	ACKLAM ROAD			
	LINTHORPE			
	MIDDLESBROUGH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		85	
	Survey date: WEDNESDAY		*29/06/11*	*Survey Type: MANUAL*
39	WA-03-C-01	BLOCKS OF FLATS		WATERFORD
	UPPER YELLOW ROAD			
	WATERFORD			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		51	
	Survey date: TUESDAY		*12/05/15*	*Survey Type: MANUAL*
40	WM-03-C-04	BLOCKS OF FLATS		WEST MIDLANDS
	GILLQUART WAY			
	PARKSIDE			
	COVENTRY			
	Edge of Town Centre			
	Residential Zone			
	Total Number of dwellings:		55	
	Survey date: FRIDAY		*11/11/16*	*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 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	40	68	0.045	40	68	0.166	40	68	0.211
08:00 - 09:00	40	68	0.053	40	68	0.209	40	68	0.262
09:00 - 10:00	40	68	0.065	40	68	0.104	40	68	0.169
10:00 - 11:00	40	68	0.053	40	68	0.071	40	68	0.124
11:00 - 12:00	40	68	0.064	40	68	0.065	40	68	0.129
12:00 - 13:00	40	68	0.081	40	68	0.072	40	68	0.153
13:00 - 14:00	40	68	0.078	40	68	0.085	40	68	0.163
14:00 - 15:00	40	68	0.082	40	68	0.078	40	68	0.160
15:00 - 16:00	40	68	0.095	40	68	0.068	40	68	0.163
16:00 - 17:00	40	68	0.111	40	68	0.072	40	68	0.183
17:00 - 18:00	40	68	0.194	40	68	0.071	40	68	0.265
18:00 - 19:00	40	68	0.153	40	68	0.081	40	68	0.234
19:00 - 20:00	2	15	0.333	2	15	0.200	2	15	0.533
20:00 - 21:00	2	15	0.100	2	15	0.033	2	15	0.133
21:00 - 22:00	2	15	0.133	2	15	0.100	2	15	0.233
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.640			1.475			3.115

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.*

Parameter summary

Trip rate parameter range selected:	6 - 372 (units:)
Survey date date range:	01/01/10 - 26/09/17
Number of weekdays (Monday-Friday):	40
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
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-204602-180510-0501

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 07 - LEISURE
Category : V - LIBRARY
VEHICLES

Selected regions and areas:

05	EAST MIDLANDS		
	NR	NORTHAMPTONSHIRE	1 days
09	NORTH		
	TV	TEES VALLEY	1 days
11	SCOTLAND		
	FA	FALKIRK	1 days
13	MUNSTER		
	TI	TIPPERARY	1 days
14	LEINSTER		
	WX	WEXFORD	1 days
15	GREATER DUBLIN		
	DL	DUBLIN	1 days

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

Secondary Filtering selection:

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

Parameter: Gross Floor Area
Actual Range: 375 to 1680 (units: sqm)
Range Selected by User: 375 to 4575 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 16/10/14

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

Selected survey days:

Wednesday	1 days
Thursday	5 days

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

Selected survey types:

Manual count	6 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	3
Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	2

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

Selected Location Sub Categories:

Residential Zone	2
Retail Zone	1
Built-Up Zone	2
High Street	1

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

Secondary Filtering selection:

Use Class:

D1	6 days

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

Population within 1 mile:

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

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
75,001 to 100,000	1 days
100,001 to 125,000	1 days
250,001 to 500,000	1 days
500,001 or More	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	2 days
1.1 to 1.5	4 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	6 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	6 days

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

LIST OF SITES relevant to selection parameters

1	DL-07-V-01	LIBRARY		DUBLIN
	NAVAN ROAD			
	CABRA WEST			
	DUBLIN			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross Floor Area:		992 sqm	
	Survey date: THURSDAY		*29/09/11*	*Survey Type: MANUAL*
2	FA-07-V-01	LIBRARY		FALKIRK
	HOPE STREET			
	GRAHAMSTON			
	FALKIRK			
	Edge of Town Centre			
	Retail Zone			
	Total Gross Floor Area:		1607 sqm	
	Survey date: THURSDAY		*30/05/13*	*Survey Type: MANUAL*
3	NR-07-V-01	LIBRARY		NORTHAMPTONSHIRE
	MARKET HILL			
	ROTHWELL			
	NEAR KETTERING			
	Town Centre			
	High Street			
	Total Gross Floor Area:		375 sqm	
	Survey date: THURSDAY		*16/10/14*	*Survey Type: MANUAL*
4	TI-07-V-01	LIBRARY		TIPPERARY
	EMMET STREET			
	CLONMEL			
	Town Centre			
	Built-Up Zone			
	Total Gross Floor Area:		1530 sqm	
	Survey date: THURSDAY		*23/06/11*	*Survey Type: MANUAL*
5	TV-07-V-01	LIBRARY		TEES VALLEY
	ACKLAM ROAD			
	ACKLAM			
	MIDDLESBROUGH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross Floor Area:		500 sqm	
	Survey date: THURSDAY		*03/10/13*	*Survey Type: MANUAL*
6	WX-07-V-01	LIBRARY		WEXFORD
	MALLIN STREET			
	WEXFORD			
	Town Centre			
	Built-Up Zone			
	Total Gross Floor Area:		1680 sqm	
	Survey date: WEDNESDAY		*24/09/14*	*Survey Type: MANUAL*

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

TRIP RATE for Land Use 07 - LEISURE/V - LIBRARY
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	1	1530	0.000	1	1530	0.000	1	1530	0.000
08:00 - 09:00	1	1530	0.000	1	1530	0.000	1	1530	0.000
09:00 - 10:00	6	1114	0.449	6	1114	0.194	6	1114	0.643
10:00 - 11:00	6	1114	0.838	6	1114	0.509	6	1114	1.347
11:00 - 12:00	6	1114	0.823	6	1114	0.898	6	1114	1.721
12:00 - 13:00	6	1114	0.598	6	1114	0.569	6	1114	1.167
13:00 - 14:00	6	1114	0.853	6	1114	0.808	6	1114	1.661
14:00 - 15:00	6	1114	0.718	6	1114	0.778	6	1114	1.496
15:00 - 16:00	6	1114	0.853	6	1114	0.718	6	1114	1.571
16:00 - 17:00	6	1114	1.002	6	1114	0.913	6	1114	1.915
17:00 - 18:00	6	1114	0.524	6	1114	1.032	6	1114	1.556
18:00 - 19:00	5	1262	0.333	5	1262	0.523	5	1262	0.856
19:00 - 20:00	2	1300	0.269	2	1300	0.269	2	1300	0.538
20:00 - 21:00	2	1300	0.000	2	1300	0.231	2	1300	0.231
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			7.260			7.442			14.702

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.*

Parameter summary

Trip rate parameter range selected:	375 - 1680 (units: sqm)
Survey date date range:	01/01/10 - 16/10/14
Number of weekdays (Monday-Friday):	6
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 Traffic Analysis Results

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: St Laurence Park Updated.j9
Path: C:\Users\Zac.Cave\Desktop
Report generation date: 30/07/2020 17:17:49

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2018 Baseline								
Junction 1 - Stream B-AC	0.0	7.79	0.03	A	0.1	7.92	0.05	A
Junction 1 - Stream C-AB	0.0	0.00	0.00	A	0.0	6.59	0.02	A
Junction 2 - Stream B-AC	0.0	8.51	0.03	A	0.2	9.83	0.14	A
Junction 2 - Stream C-AB	0.2	5.19	0.08	A	0.1	5.63	0.06	A
2023 Base + Committed								
Junction 1 - Stream B-AC	0.0	7.80	0.03	A	0.1	7.96	0.06	A
Junction 1 - Stream C-AB	0.0	0.00	0.00	A	0.0	6.60	0.02	A
Junction 2 - Stream B-AC	0.1	10.41	0.13	B	0.4	12.37	0.26	B
Junction 2 - Stream C-AB	0.4	5.15	0.14	A	0.4	5.72	0.15	A
2028 Base + Committed								
Junction 1 - Stream B-AC	0.0	7.82	0.04	A	0.1	8.00	0.06	A
Junction 1 - Stream C-AB	0.0	0.00	0.00	A	0.0	6.62	0.02	A
Junction 2 - Stream B-AC	0.2	10.61	0.13	B	0.4	12.79	0.28	B
Junction 2 - Stream C-AB	0.4	5.10	0.15	A	0.4	5.69	0.16	A
2038 Base + Committed								

Junction 1 - Stream B-AC	0.0	7.84	0.04	A	0.1	8.03	0.07	A
Junction 1 - Stream C-AB	0.0	0.00	0.00	A	0.0	6.63	0.02	A
Junction 2 - Stream B-AC	0.2	10.78	0.13	B	0.4	13.18	0.29	B
Junction 2 - Stream C-AB	0.5	5.06	0.16	A	0.4	5.66	0.17	A
	2023 Base + Committed + Dev							
Junction 1 - Stream B-AC	0.1	7.84	0.04	A	0.1	8.34	0.11	A
Junction 1 - Stream C-AB	0.0	0.00	0.00	A	0.0	6.65	0.02	A
Junction 2 - Stream B-AC	0.2	10.49	0.17	B	0.5	12.96	0.30	B
Junction 2 - Stream C-AB	0.4	5.18	0.15	A	0.4	5.89	0.19	A
	2028 Base + Committed + Dev							
Junction 1 - Stream B-AC	0.1	7.86	0.05	A	0.1	8.39	0.11	A
Junction 1 - Stream C-AB	0.0	0.00	0.00	A	0.0	6.67	0.02	A
Junction 2 - Stream B-AC	0.2	10.69	0.18	B	0.5	13.44	0.32	B
Junction 2 - Stream C-AB	0.5	5.13	0.16	A	0.5	5.87	0.20	A
	2038 Base + Committed + Dev							
Junction 1 - Stream B-AC	0.1	7.88	0.05	A	0.1	8.43	0.11	A
Junction 1 - Stream C-AB	0.0	0.00	0.00	A	0.0	6.68	0.02	A
Junction 2 - Stream B-AC	0.2	10.87	0.18	B	0.5	13.88	0.33	B
Junction 2 - Stream C-AB	0.5	5.09	0.17	A	0.5	5.85	0.21	A

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

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	30/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EU\Zac.Cave
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship

D1	2018 Baseline	AM	ONE HOUR	07:45	09:15	15	✓		
D2	2018 Baseline	PM	ONE HOUR	16:45	18:15	15	✓		
D3	Committed	AM	ONE HOUR	07:45	09:15	15			
D4	Committed	PM	ONE HOUR	16:45	18:15	15			
D5	2023 Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓	Simple	(D1*1.07)+D3
D6	2023 Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓	Simple	(D2*1.07)+D4
D7	2028 Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓	Simple	(D1*1.14)+D3
D8	2028 Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓	Simple	(D2*1.14)+D4
D9	2038 Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓	Simple	(D1*1.20)+D3
D10	2038 Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓	Simple	(D2*1.20)+D4
D11	Dev Flows	AM	ONE HOUR	07:45	09:15	15			
D12	Dev Flows	PM	ONE HOUR	16:45	18:15	15			
D13	2023 Base + Committed + Dev	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D5+D11
D14	2023 Base + Committed + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D6+D12
D15	2028 Base + Committed + Dev	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D11
D16	2028 Base + Committed + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D8+D12
D17	2038 Base + Committed + Dev	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D9+D11
D18	2038 Base + Committed + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D10+D12

Analysis Set Details

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

2018 Baseline, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D13 - 2023 Base + Committed + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Eastern Junction	T-Junction	Two-way	7.79	A
2	Western Junction	T-Junction	Two-way	0.59	A

Junction Network Options

Driving side	Lighting

Left	Normal/unknown

Arms

Arms

Junction	Arm	Name	Description	Arm type
1	A	St Laurence Park (SA)		Major
	B	St Laurence Park (WA)		Minor
	C	St Laurence Park (NA)		Major
2	A	Old Dublin Road (NA)		Major
	B	St Laurence Park (WA)		Minor
	C	Old Dublin Road (SA)		Major

Major Arm Geometry

Junction	Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
1	C	6.00			77.0	✓	0.00
2	C	13.00			52.0	✓	0.00

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

Minor Arm Geometry

Junction	Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
1	B	One lane	2.20	77	77
2	B	One lane	2.20	52	52

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	498	0.091	0.229	0.144	0.327
1	B-C	619	0.095	0.240	-	-
1	C-B	619	0.240	0.240	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	479	0.061	0.153	0.096	0.219
2	B-C	604	0.064	0.163	-	-
2	C-B	604	0.163	0.163	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2018 Baseline	AM	ONE HOUR	07:45	09:15	15	✓

Default vehicle mix	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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	A		ONE HOUR	✓	0	100.000
	B		ONE HOUR	✓	15	100.000
	C		ONE HOUR	✓	4	100.000
2	A		ONE HOUR	✓	223	100.000
	B		ONE HOUR	✓	13	100.000
	C		ONE HOUR	✓	470	100.000

Origin-Destination Data

Junction 1

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	0
	B	11	0	4
	C	0	4	0

Proportions

		To		
		A	B	C
From	A	0.33	0.33	0.33
	B	0.73	0.00	0.27
	C	0.00	1.00	0.00

Junction 2

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	2	221
	B	5	0	8
	C	440	30	0

Proportions

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.38	0.00	0.62
	C	0.94	0.06	0.00

Vehicle Mix

Junction 1

Heavy Vehicle Percentages

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

Average PCU Per Veh

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Junction 2

Heavy Vehicle Percentages

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

Average PCU Per Veh

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1	A	0	0
		B	11	11

		C	0	0
	2	A	168	168
		B	10	10
		C	354	354
08:00-08:15	1	A	0	0
		B	13	13
		C	0	0
	2	A	200	200
		B	12	12
		C	423	423
08:15-08:30	1	A	0	0
		B	17	17
		C	0	0
	2	A	246	246
		B	14	14
		C	517	517
08:30-08:45	1	A	0	0
		B	17	17
		C	0	0
	2	A	246	246
		B	14	14
		C	517	517
08:45-09:00	1	A	0	0
		B	13	13
		C	0	0
	2	A	200	200
		B	12	12
		C	423	423
09:00-09:15	1	A	0	0
		B	11	11
		C	0	0
	2	A	168	168
		B	10	10
		C	354	354

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	B-AC	0.03	7.79	0.0	A	14	21
	C-AB	0.00	0.00	0.0	A	0	0
	C-A					0	0
	A-B					0	0
	A-C					0	0
2	B-AC	0.03	8.51	0.0	A	12	18
	C-AB	0.08	5.19	0.2	A	54	81
	C-A					377	566
	A-B					2	3
	A-C					203	304

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	11	3	525	0.022	11	0.0	0.0	7.705	A
	C-AB	0	0	619	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				
2	B-AC	10	2	502	0.019	10	0.0	0.0	8.039	A
	C-AB	38	10	802	0.048	38	0.0	0.1	5.184	A
	C-A	315	79			315				
	A-B	2	0.38			2				
	A-C	166	42			166				

08:00 - 08:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	13	3	525	0.026	13	0.0	0.0	7.739	A
	C-AB	0	0	619	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				
2	B-AC	12	3	493	0.024	12	0.0	0.0	8.229	A
	C-AB	51	13	842	0.061	51	0.1	0.1	5.011	A
	C-A	371	93			371				
	A-B	2	0.45			2				
	A-C	199	50			199				

08:15 - 08:30

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	17	4	525	0.031	16	0.0	0.0	7.785	A
	C-AB	0	0	619	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				
2	B-AC	14	4	480	0.030	14	0.0	0.0	8.506	A
	C-AB	72	18	897	0.080	72	0.1	0.2	4.803	A
	C-A	445	111			445				
	A-B	2	0.55			2				
	A-C	243	61			243				

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	17	4	525	0.031	17	0.0	0.0	7.785	A
	C-AB	0	0	619	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				
2	B-AC	14	4	480	0.030	14	0.0	0.0	8.506	A
	C-AB	72	18	897	0.081	72	0.2	0.2	4.805	A

	C-A	445	111			445				
	A-B	2	0.55			2				
	A-C	243	61			243				

08:45 - 09:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	13	3	525	0.026	14	0.0	0.0	7.740	A
	C-AB	0	0	619	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				
2	B-AC	12	3	493	0.024	12	0.0	0.0	8.232	A
	C-AB	51	13	842	0.061	51	0.2	0.1	5.013	A
	C-A	371	93			371				
	A-B	2	0.45			2				
	A-C	199	50			199				

09:00 - 09:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	11	3	525	0.022	11	0.0	0.0	7.707	A
	C-AB	0	0	619	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				
2	B-AC	10	2	502	0.019	10	0.0	0.0	8.044	A
	C-AB	39	10	802	0.048	39	0.1	0.1	5.192	A
	C-A	315	79			315				
	A-B	2	0.38			2				
	A-C	166	42			166				

2018 Baseline, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D13 - 2023 Base + Committed + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Eastern Junction	T-Junction	Two-way	4.46	A
2	Western Junction	T-Junction	Two-way	1.09	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2018 Baseline	PM	ONE HOUR	16:45	18:15	15	✓

Default vehicle mix	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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	A		ONE HOUR	✓	25	100.000
	B		ONE HOUR	✓	26	100.000
	C		ONE HOUR	✓	10	100.000
2	A		ONE HOUR	✓	341	100.000
	B		ONE HOUR	✓	61	100.000
	C		ONE HOUR	✓	345	100.000

Origin-Destination Data

Junction 1

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	25	0
	B	17	0	9
	C	0	10	0

Proportions

		To		
		A	B	C
From	A	0.00	1.00	0.00
	B	0.65	0.00	0.35
	C	0.00	1.00	0.00

Junction 2

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	16	325
	B	23	0	38
	C	322	23	0

Proportions

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.38	0.00	0.62
	C	0.93	0.07	0.00

Vehicle Mix

Junction 1

Heavy Vehicle Percentages

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

Average PCU Per Veh

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Junction 2

Heavy Vehicle Percentages

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

Average PCU Per Veh

From \ To	A	B	C
A	1.100	1.100	1.100
B	1.100	1.100	1.100
C	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1	A	19	19
		B	20	20
		C	8	8
	2	A	257	257
		B	46	46
		C	260	260
17:00-17:15	1	A	22	22
		B	23	23
		C	9	9
	2	A	307	307
		B	55	55
		C	310	310
17:15-17:30	1	A	28	28
		B	29	29
		C	11	11
	2	A	375	375
		B	67	67
		C	380	380
17:30-17:45	1	A	28	28
		B	29	29
		C	11	11
	2	A	375	375
		B	67	67
		C	380	380
17:45-18:00	1	A	22	22
		B	23	23
		C	9	9
	2	A	307	307
		B	55	55
		C	310	310
18:00-18:15	1	A	19	19
		B	20	20
		C	8	8
	2	A	257	257
		B	46	46
		C	260	260

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	B-AC	0.05	7.92	0.1	A	24	36
	C-AB	0.02	6.59	0.0	A	9	14
	C-A					0	0
	A-B					23	34
	A-C					0	0
2	B-AC	0.14	9.83	0.2	A	56	84
	C-AB	0.06	5.63	0.1	A	35	53
	C-A					281	422
	A-B					15	22
	A-C					298	447

Main Results for each time segment

16:45 - 17:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	20	5	530	0.037	19	0.0	0.0	7.749	A
	C-AB	8	2	614	0.012	7	0.0	0.0	6.528	A
	C-A	0	0			0				
	A-B	19	5			19				
	A-C	0	0			0				
2	B-AC	46	11	495	0.093	45	0.0	0.1	8.790	A
	C-AB	26	6	729	0.036	26	0.0	0.1	5.629	A
	C-A	234	58			234				
	A-B	12	3			12				
	A-C	245	61			245				

17:00 - 17:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	23	6	530	0.044	23	0.0	0.1	7.823	A
	C-AB	9	2	613	0.015	9	0.0	0.0	6.553	A
	C-A	0	0			0				
	A-B	22	6			22				
	A-C	0	0			0				
2	B-AC	55	14	485	0.113	55	0.1	0.1	9.207	A
	C-AB	34	8	755	0.045	34	0.1	0.1	5.494	A
	C-A	277	69			277				
	A-B	14	4			14				
	A-C	292	73			292				

17:15 - 17:30

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	29	7	529	0.054	29	0.1	0.1	7.918	A
	C-AB	11	3	612	0.018	11	0.0	0.0	6.588	A
	C-A	0	0			0				
	A-B	28	7			28				

	A-C	0	0			0				
2	B-AC	67	17	470	0.143	67	0.1	0.2	9.826	A
	C-AB	46	12	791	0.058	46	0.1	0.1	5.320	A
	C-A	334	83			334				
	A-B	18	4			18				
	A-C	358	89			358				

17:30 - 17:45

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	29	7	529	0.054	29	0.1	0.1	7.920	A
	C-AB	11	3	612	0.018	11	0.0	0.0	6.588	A
	C-A	0	0			0				
	A-B	28	7			28				
	A-C	0	0			0				
2	B-AC	67	17	470	0.143	67	0.2	0.2	9.834	A
	C-AB	46	12	791	0.058	46	0.1	0.1	5.319	A
	C-A	334	83			334				
	A-B	18	4			18				
	A-C	358	89			358				

17:45 - 18:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	23	6	530	0.044	23	0.1	0.1	7.826	A
	C-AB	9	2	613	0.015	9	0.0	0.0	6.556	A
	C-A	0	0			0				
	A-B	22	6			22				
	A-C	0	0			0				
2	B-AC	55	14	485	0.113	55	0.2	0.1	9.219	A
	C-AB	34	8	755	0.045	34	0.1	0.1	5.495	A
	C-A	276	69			276				
	A-B	14	4			14				
	A-C	292	73			292				

18:00 - 18:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	20	5	530	0.037	20	0.1	0.0	7.756	A
	C-AB	8	2	614	0.012	8	0.0	0.0	6.531	A
	C-A	0	0			0				
	A-B	19	5			19				
	A-C	0	0			0				
2	B-AC	46	11	495	0.093	46	0.1	0.1	8.813	A
	C-AB	26	7	729	0.036	26	0.1	0.1	5.634	A
	C-A	234	58			234				
	A-B	12	3			12				
	A-C	245	61			245				

2023 Base + Committed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D13 - 2023 Base + Committed + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Eastern Junction	T-Junction	Two-way	7.80	A
2	Western Junction	T-Junction	Two-way	1.18	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D5	2023 Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓	Simple	(D1*1.07)+D3

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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	A		ONE HOUR	✓	0	100.000
	B		ONE HOUR	✓	16	100.000
	C		ONE HOUR	✓	4	100.000
2	A		ONE HOUR	✓	284	100.000
	B		ONE HOUR	✓	47	100.000
	C		ONE HOUR	✓	541	100.000

Origin-Destination Data

Junction 1

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	0
	B	12	0	4
	C	0	4	0

Proportions

		To		
		A	B	C
From	A	0.33	0.33	0.33
	B	0.73	0.00	0.27
	C	0.00	1.00	0.00

Junction 2

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	39	244
	B	34	0	13
	C	492	49	0

Proportions

		To		
		A	B	C
From	A	0.00	0.14	0.86
	B	0.73	0.00	0.27
	C	0.91	0.09	0.00

Vehicle Mix

Junction 1

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	10	0	10
	C	0	10	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.100	1.000	1.100
	C	1.000	1.100	1.000

Junction 2

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	10
	B	1	0	7
	C	10	6	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.005	1.096
	B	1.014	1.000	1.066
	C	1.095	1.063	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1	A	0	0
		B	12	12
		C	0	0
	2	A	214	214
		B	35	35
		C	407	407
08:00-08:15	1	A	0	0
		B	14	14
		C	0	0
	2	A	255	255
		B	42	42
		C	486	486
08:15-08:30	1	A	0	0
		B	18	18
		C	0	0
	2	A	312	312
		B	52	52
		C	596	596
08:30-08:45	1	A	0	0
		B	18	18
		C	0	0
	2	A	312	312

		B	52	52
		C	596	596
08:45-09:00	1	A	0	0
		B	14	14
		C	0	0
	2	A	255	255
		B	42	42
		C	486	486
09:00-09:15	1	A	0	0
		B	12	12
		C	0	0
	2	A	214	214
		B	35	35
		C	407	407

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	B-AC	0.03	7.80	0.0	A	15	22
	C-AB	0.00	0.00	0.0	A	0	0
	C-A					0	0
	A-B					0	0
	A-C					0	0
2	B-AC	0.13	10.41	0.1	B	43	65
	C-AB	0.14	5.15	0.4	A	96	144
	C-A					400	600
	A-B					36	54
	A-C					224	336

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	12	3	525	0.023	12	0.0	0.0	7.714	A
	C-AB	0	0	619	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				
2	B-AC	35	9	439	0.080	35	0.0	0.1	9.146	A
	C-AB	67	17	822	0.082	67	0.0	0.2	5.131	A
	C-A	340	85			340				
	A-B	29	7			29				
	A-C	184	46			184				

08:00 - 08:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	14	4	525	0.027	14	0.0	0.0	7.753	A
	C-AB	0	0	619	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				
2	B-AC	42	11	426	0.099	42	0.1	0.1	9.642	A
	C-AB	91	23	867	0.104	90	0.2	0.2	5.003	A
	C-A	396	99			396				
	A-B	35	9			35				
	A-C	220	55			220				

08:15 - 08:30

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	18	4	525	0.034	18	0.0	0.0	7.803	A
	C-AB	0	0	619	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				
2	B-AC	52	13	407	0.127	52	0.1	0.1	10.401	B
	C-AB	130	33	929	0.140	130	0.2	0.4	4.878	A
	C-A	465	116			465				
	A-B	43	11			43				
	A-C	269	67			269				

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	18	4	525	0.034	18	0.0	0.0	7.803	A
	C-AB	0	0	619	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				
2	B-AC	52	13	407	0.127	52	0.1	0.1	10.411	B
	C-AB	131	33	929	0.141	131	0.4	0.4	4.889	A
	C-A	465	116			465				
	A-B	43	11			43				
	A-C	269	67			269				

08:45 - 09:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	14	4	525	0.027	14	0.0	0.0	7.756	A
	C-AB	0	0	619	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				
2	B-AC	42	11	426	0.099	42	0.1	0.1	9.657	A
	C-AB	91	23	867	0.105	91	0.4	0.2	5.025	A
	C-A	395	99			395				
	A-B	35	9			35				
	A-C	220	55			220				

09:00 - 09:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	12	3	525	0.023	12	0.0	0.0	7.720	A
	C-AB	0	0	619	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				
2	B-AC	35	9	439	0.080	35	0.1	0.1	9.168	A
	C-AB	68	17	823	0.082	68	0.2	0.2	5.152	A
	C-A	340	85			340				
	A-B	29	7			29				
	A-C	184	46			184				

2023 Base + Committed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D13 - 2023 Base + Committed + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Eastern Junction	T-Junction	Two-way	4.47	A
2	Western Junction	T-Junction	Two-way	1.88	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D6	2023 Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓	Simple	(D2*1.07)+D4

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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	A		ONE HOUR	✓	27	100.000
	B		ONE HOUR	✓	28	100.000
	C		ONE HOUR	✓	11	100.000
2	A		ONE HOUR	✓	453	100.000

	B		ONE HOUR	✓	100	100.000
	C		ONE HOUR	✓	417	100.000

Origin-Destination Data

Junction 1

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	27	0
	B	18	0	10
	C	0	11	0

Proportions

		To		
		A	B	C
From	A	0.00	1.00	0.00
	B	0.65	0.00	0.35
	C	0.00	1.00	0.00

Junction 2

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	85	368
	B	56	0	45
	C	361	57	0

Proportions

		To		
		A	B	C
From	A	0.00	0.19	0.81
	B	0.55	0.00	0.45
	C	0.86	0.14	0.00

Vehicle Mix

Junction 1

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	0
	B	10	0	10
	C	0	10	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.100	1.000
	B	1.100	1.000	1.100
	C	1.000	1.100	1.000

Junction 2

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	2	9
	B	4	0	9
	C	10	4	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.019	1.094
	B	1.042	1.000	1.090
	C	1.095	1.041	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1	A	20	20
		B	21	21
		C	8	8
	2	A	341	341
		B	75	75
		C	314	314
17:00-17:15	1	A	24	24
		B	25	25

		C	10	10
	2	A	407	407
		B	90	90
		C	375	375
17:15-17:30	1	A	29	29
		B	31	31
		C	12	12
	2	A	499	499
		B	110	110
		C	459	459
17:30-17:45	1	A	29	29
		B	31	31
		C	12	12
	2	A	499	499
		B	110	110
		C	459	459
17:45-18:00	1	A	24	24
		B	25	25
		C	10	10
	2	A	407	407
		B	90	90
		C	375	375
18:00-18:15	1	A	20	20
		B	21	21
		C	8	8
	2	A	341	341
		B	75	75
		C	314	314

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	B-AC	0.06	7.96	0.1	A	26	38
	C-AB	0.02	6.60	0.0	A	10	15
	C-A					0	0
	A-B					25	37
	A-C					0	0
2	B-AC	0.26	12.37	0.4	B	92	138
	C-AB	0.15	5.72	0.4	A	93	140
	C-A					289	434
	A-B					78	117
	A-C					337	506

Main Results for each time segment

16:45 - 17:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	21	5	530	0.040	21	0.0	0.0	7.774	A
	C-AB	8	2	614	0.013	8	0.0	0.0	6.537	A
	C-A	0	0			0				
	A-B	20	5			20				
	A-C	0	0			0				
2	B-AC	75	19	454	0.166	75	0.0	0.2	10.054	B
	C-AB	67	17	737	0.091	67	0.0	0.2	5.691	A
	C-A	247	62			247				
	A-B	64	16			64				
	A-C	277	69			277				

17:00 - 17:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	25	6	529	0.047	25	0.0	0.1	7.853	A
	C-AB	10	2	613	0.016	10	0.0	0.0	6.564	A
	C-A	0	0			0				
	A-B	24	6			24				
	A-C	0	0			0				
2	B-AC	90	23	440	0.205	90	0.2	0.3	10.926	B
	C-AB	89	22	765	0.116	88	0.2	0.2	5.654	A
	C-A	286	72			286				
	A-B	77	19			77				
	A-C	331	83			331				

17:15 - 17:30

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	31	8	528	0.058	31	0.1	0.1	7.956	A
	C-AB	12	3	611	0.019	12	0.0	0.0	6.602	A
	C-A	0	0			0				
	A-B	29	7			29				
	A-C	0	0			0				
2	B-AC	110	28	420	0.263	110	0.3	0.4	12.342	B
	C-AB	124	31	805	0.154	123	0.2	0.4	5.632	A
	C-A	336	84			336				
	A-B	94	23			94				
	A-C	405	101			405				

17:30 - 17:45

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	31	8	528	0.058	31	0.1	0.1	7.958	A
	C-AB	12	3	611	0.019	12	0.0	0.0	6.602	A
	C-A	0	0			0				
	A-B	29	7			29				
	A-C	0	0			0				
2	B-AC	110	28	420	0.263	110	0.4	0.4	12.374	B
	C-AB	124	31	805	0.154	124	0.4	0.4	5.649	A
	C-A	336	84			336				
	A-B	94	23			94				
	A-C	405	101			405				

17:45 - 18:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	25	6	529	0.047	25	0.1	0.1	7.854	A
	C-AB	10	2	613	0.016	10	0.0	0.0	6.564	A
	C-A	0	0			0				
	A-B	24	6			24				
	A-C	0	0			0				
2	B-AC	90	23	440	0.205	91	0.4	0.3	10.968	B
	C-AB	89	22	766	0.116	89	0.4	0.2	5.686	A
	C-A	286	72			286				
	A-B	77	19			77				
	A-C	331	83			331				

18:00 - 18:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	21	5	530	0.040	21	0.1	0.0	7.780	A
	C-AB	8	2	614	0.013	8	0.0	0.0	6.537	A
	C-A	0	0			0				
	A-B	20	5			20				
	A-C	0	0			0				
2	B-AC	75	19	454	0.166	76	0.3	0.2	10.114	B
	C-AB	68	17	738	0.092	68	0.2	0.2	5.719	A
	C-A	246	62			246				
	A-B	64	16			64				
	A-C	277	69			277				

2028 Base + Committed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D13 - 2023 Base + Committed + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Eastern Junction	T-Junction	Two-way	7.82	A
2	Western Junction	T-Junction	Two-way	1.19	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D7	2028 Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓	Simple	(D1*1.14)+D3

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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	A		ONE HOUR	✓	0	100.000
	B		ONE HOUR	✓	17	100.000
	C		ONE HOUR	✓	5	100.000
2	A		ONE HOUR	✓	299	100.000
	B		ONE HOUR	✓	48	100.000
	C		ONE HOUR	✓	574	100.000

Origin-Destination Data

Junction 1

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	0
	B	13	0	5
	C	0	5	0

Proportions

		To		
		A	B	C
From	A	0.33	0.33	0.33
	B	0.73	0.00	0.27
	C	0.00	1.00	0.00

Junction 2

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	39	260
	B	35	0	13
	C	523	51	0

Proportions

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.73	0.00	0.27
	C	0.91	0.09	0.00

Vehicle Mix

Junction 1

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	10	0	10
	C	0	10	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.100	1.000	1.100
	C	1.000	1.100	1.000

Junction 2

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	1	10
	B	2	0	7
	C	10	6	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.005	1.097
	B	1.015	1.000	1.067
	C	1.096	1.065	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1	A	0	0
		B	13	13
		C	0	0
	2	A	225	225
		B	36	36
		C	432	432
08:00-08:15	1	A	0	0
		B	15	15
		C	0	0
	2	A	269	269
		B	43	43
		C	516	516
08:15-08:30	1	A	0	0
		B	19	19
		C	0	0
	2	A	329	329
		B	53	53
		C	632	632
08:30-08:45	1	A	0	0
		B	19	19
		C	0	0
	2	A	329	329
		B	53	53
		C	632	632
08:45-09:00	1	A	0	0
		B	15	15
		C	0	0
	2	A	269	269
		B	43	43
		C	516	516
09:00-09:15	1	A	0	0
		B	13	13
		C	0	0
	2	A	225	225
		B	36	36
		C	432	432

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	B-AC	0.04	7.82	0.0	A	16	24
	C-AB	0.00	0.00	0.0	A	0	0
	C-A					0	0
	A-B					0	0
	A-C					0	0
2	B-AC	0.13	10.61	0.2	B	44	66
	C-AB	0.15	5.10	0.4	A	105	158
	C-A					421	632
	A-B					36	54
	A-C					239	358

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	13	3	525	0.025	13	0.0	0.0	7.727	A
	C-AB	0	0	619	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				
2	B-AC	36	9	436	0.083	36	0.0	0.1	9.243	A
	C-AB	73	18	837	0.087	72	0.0	0.2	5.079	A
	C-A	359	90			359				
	A-B	30	7			30				
	A-C	196	49			196				

08:00 - 08:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	15	4	525	0.029	15	0.0	0.0	7.768	A
	C-AB	0	0	619	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				
2	B-AC	43	11	422	0.102	43	0.1	0.1	9.775	A
	C-AB	99	25	884	0.112	98	0.2	0.3	4.952	A
	C-A	417	104			417				
	A-B	35	9			35				
	A-C	234	58			234				

08:15 - 08:30

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	19	5	525	0.036	19	0.0	0.0	7.821	A
	C-AB	0	0	619	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				
2	B-AC	53	13	402	0.131	53	0.1	0.2	10.595	B
	C-AB	144	36	950	0.151	143	0.3	0.4	4.833	A
	C-A	488	122			488				
	A-B	43	11			43				
	A-C	286	72			286				

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	19	5	525	0.036	19	0.0	0.0	7.821	A
	C-AB	0	0	619	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				
2	B-AC	53	13	402	0.131	53	0.2	0.2	10.605	B
	C-AB	144	36	951	0.152	144	0.4	0.4	4.845	A
	C-A	488	122			488				
	A-B	43	11			43				
	A-C	286	72			286				

08:45 - 09:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	15	4	525	0.029	15	0.0	0.0	7.770	A
	C-AB	0	0	619	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				
2	B-AC	43	11	422	0.102	43	0.2	0.1	9.791	A
	C-AB	99	25	885	0.112	100	0.4	0.3	4.974	A
	C-A	417	104			417				
	A-B	35	9			35				
	A-C	234	58			234				

09:00 - 09:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	13	3	525	0.025	13	0.0	0.0	7.732	A
	C-AB	0	0	619	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				
2	B-AC	36	9	436	0.083	36	0.1	0.1	9.269	A
	C-AB	73	18	837	0.087	74	0.3	0.2	5.099	A
	C-A	359	90			359				
	A-B	30	7			30				
	A-C	196	49			196				

2028 Base + Committed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D13 - 2023 Base + Committed + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Eastern Junction	T-Junction	Two-way	4.49	A
2	Western Junction	T-Junction	Two-way	1.91	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D8	2028 Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓	Simple	(D2*1.14)+D4

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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	A		ONE HOUR	✓	29	100.000
	B		ONE HOUR	✓	30	100.000
	C		ONE HOUR	✓	11	100.000
2	A		ONE HOUR	✓	477	100.000
	B		ONE HOUR	✓	105	100.000
	C		ONE HOUR	✓	441	100.000

Origin-Destination Data

Junction 1

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	29	0
	B	19	0	10
	C	0	11	0

Proportions

		To		
		A	B	C
From	A	0.00	1.00	0.00
	B	0.65	0.00	0.35
	C	0.00	1.00	0.00

Junction 2

Demand (PCU/hr)

From \ To	A	B	C
A	0	86	391
B	57	0	47
C	383	58	0

Proportions

From \ To	A	B	C
A	0.00	0.18	0.82
B	0.55	0.00	0.45
C	0.87	0.13	0.00

Vehicle Mix

Junction 1

Heavy Vehicle Percentages

From \ To	A	B	C
A	0	10	0
B	10	0	10
C	0	10	0

Average PCU Per Veh

From \ To	A	B	C
A	1.000	1.100	1.000
B	1.100	1.000	1.100
C	1.000	1.100	1.000

Junction 2

Heavy Vehicle Percentages

From \ To	A	B	C
A	0	2	9
B	4	0	9
C	10	4	0

Average PCU Per Veh

From \ To	A	B	C
A	1.000	1.020	1.094
B	1.043	1.000	1.091
C	1.095	1.043	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1	A	21	21
		B	22	22
		C	9	9
	2	A	359	359
		B	79	79
		C	332	332
17:00-17:15	1	A	26	26
		B	27	27
		C	10	10
	2	A	429	429
		B	94	94
		C	397	397
17:15-17:30	1	A	31	31
		B	33	33
		C	13	13
	2	A	525	525
		B	115	115
		C	486	486
17:30-17:45	1	A	31	31
		B	33	33
		C	13	13
	2	A	525	525

		B	115	115
		C	486	486
17:45-18:00	1	A	26	26
		B	27	27
		C	10	10
	2	A	429	429
		B	94	94
		C	397	397
18:00-18:15	1	A	21	21
		B	22	22
		C	9	9
	2	A	359	359
		B	79	79
		C	332	332

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	B-AC	0.06	8.00	0.1	A	27	41
	C-AB	0.02	6.62	0.0	A	10	16
	C-A					0	0
	A-B					26	39
	A-C					0	0
2	B-AC	0.28	12.79	0.4	B	96	144
	C-AB	0.16	5.69	0.4	A	100	150
	C-A					305	458
	A-B					79	119
	A-C					358	537

Main Results for each time segment

16:45 - 17:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	22	6	530	0.042	22	0.0	0.0	7.798	A
	C-AB	9	2	613	0.014	9	0.0	0.0	6.546	A
	C-A	0	0			0				
	A-B	21	5			21				
	A-C	0	0			0				
2	B-AC	79	20	451	0.174	78	0.0	0.2	10.243	B
	C-AB	71	18	747	0.096	71	0.0	0.2	5.657	A
	C-A	261	65			261				
	A-B	65	16			65				
	A-C	294	73			294				

17:00 - 17:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	27	7	529	0.050	27	0.0	0.1	7.883	A
	C-AB	10	3	612	0.017	10	0.0	0.0	6.575	A
	C-A	0	0			0				
	A-B	26	6			26				
	A-C	0	0			0				
2	B-AC	94	23	436	0.216	94	0.2	0.3	11.186	B
	C-AB	94	24	777	0.122	94	0.2	0.3	5.616	A
	C-A	302	76			302				
	A-B	78	19			78				
	A-C	351	88			351				

17:15 - 17:30

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	33	8	528	0.062	33	0.1	0.1	7.994	A
	C-AB	13	3	611	0.021	13	0.0	0.0	6.615	A
	C-A	0	0			0				
	A-B	31	8			31				
	A-C	0	0			0				
2	B-AC	115	29	415	0.278	115	0.3	0.4	12.757	B
	C-AB	133	33	819	0.162	132	0.3	0.4	5.601	A
	C-A	353	88			353				
	A-B	95	24			95				
	A-C	430	107			430				

17:30 - 17:45

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	33	8	528	0.062	33	0.1	0.1	7.996	A
	C-AB	13	3	611	0.021	13	0.0	0.0	6.615	A
	C-A	0	0			0				
	A-B	31	8			31				
	A-C	0	0			0				
2	B-AC	115	29	415	0.278	115	0.4	0.4	12.794	B
	C-AB	133	33	819	0.162	133	0.4	0.4	5.621	A
	C-A	353	88			353				
	A-B	95	24			95				
	A-C	430	107			430				

17:45 - 18:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	27	7	529	0.050	27	0.1	0.1	7.885	A
	C-AB	10	3	612	0.017	10	0.0	0.0	6.578	A
	C-A	0	0			0				
	A-B	26	6			26				
	A-C	0	0			0				
2	B-AC	94	23	436	0.216	94	0.4	0.3	11.235	B
	C-AB	95	24	777	0.122	95	0.4	0.3	5.650	A
	C-A	302	76			302				
	A-B	78	19			78				
	A-C	351	88			351				

18:00 - 18:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	22	6	530	0.042	22	0.1	0.0	7.806	A
	C-AB	9	2	613	0.014	9	0.0	0.0	6.546	A
	C-A	0	0			0				
	A-B	21	5			21				
	A-C	0	0			0				
2	B-AC	79	20	451	0.174	79	0.3	0.2	10.304	B
	C-AB	72	18	747	0.096	72	0.3	0.2	5.687	A
	C-A	260	65			260				
	A-B	65	16			65				
	A-C	294	73			294				

2038 Base + Committed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D13 - 2023 Base + Committed + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Eastern Junction	T-Junction	Two-way	7.84	A
2	Western Junction	T-Junction	Two-way	1.19	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D9	2038 Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓	Simple	(D1*1.20)+D3

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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	A		ONE HOUR	✓	0	100.000
	B		ONE HOUR	✓	18	100.000
	C		ONE HOUR	✓	5	100.000
2	A		ONE HOUR	✓	313	100.000

	B		ONE HOUR	✓	49	100.000
	C		ONE HOUR	✓	602	100.000

Origin-Destination Data

Junction 1

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	0
	B	13	0	5
	C	0	5	0

Proportions

		To		
		A	B	C
From	A	0.33	0.33	0.33
	B	0.73	0.00	0.27
	C	0.00	1.00	0.00

Junction 2

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	39	273
	B	35	0	14
	C	549	53	0

Proportions

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.72	0.00	0.28
	C	0.91	0.09	0.00

Vehicle Mix

Junction 1

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	10	0	10
	C	0	10	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.100	1.000	1.100
	C	1.000	1.100	1.000

Junction 2

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	1	10
	B	2	0	7
	C	10	7	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.006	1.097
	B	1.016	1.000	1.069
	C	1.096	1.066	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1	A	0	0
		B	14	14
		C	0	0
	2	A	235	235
		B	37	37
		C	453	453
08:00-08:15	1	A	0	0
		B	16	16

		C	0	0
	2	A	281	281
		B	44	44
		C	541	541
08:15-08:30	1	A	0	0
		B	20	20
		C	0	0
	2	A	344	344
		B	54	54
		C	663	663
08:30-08:45	1	A	0	0
		B	20	20
		C	0	0
	2	A	344	344
		B	54	54
		C	663	663
08:45-09:00	1	A	0	0
		B	16	16
		C	0	0
	2	A	281	281
		B	44	44
		C	541	541
09:00-09:15	1	A	0	0
		B	14	14
		C	0	0
	2	A	235	235
		B	37	37
		C	453	453

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	B-AC	0.04	7.84	0.0	A	17	25
	C-AB	0.00	0.00	0.0	A	0	0
	C-A					0	0
	A-B					0	0
	A-C					0	0
2	B-AC	0.13	10.78	0.2	B	45	67
	C-AB	0.16	5.06	0.5	A	114	170
	C-A					439	658
	A-B					36	54
	A-C					251	376

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	14	3	525	0.026	13	0.0	0.0	7.737	A
	C-AB	0	0	619	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				
2	B-AC	37	9	433	0.084	36	0.0	0.1	9.330	A
	C-AB	78	19	849	0.092	77	0.0	0.2	5.036	A
	C-A	375	94			375				
	A-B	30	7			30				
	A-C	206	51			206				

08:00 - 08:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	16	4	525	0.031	16	0.0	0.0	7.780	A
	C-AB	0	0	619	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				
2	B-AC	44	11	418	0.104	44	0.1	0.1	9.892	A
	C-AB	106	27	899	0.118	106	0.2	0.3	4.913	A
	C-A	435	109			435				
	A-B	35	9			35				
	A-C	246	61			246				

08:15 - 08:30

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	20	5	525	0.038	20	0.0	0.0	7.836	A
	C-AB	0	0	619	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				
2	B-AC	54	13	398	0.135	53	0.1	0.2	10.767	B
	C-AB	156	39	969	0.161	156	0.3	0.5	4.802	A
	C-A	507	127			507				
	A-B	43	11			43				
	A-C	301	75			301				

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	20	5	525	0.038	20	0.0	0.0	7.836	A
	C-AB	0	0	619	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				
2	B-AC	54	13	398	0.135	54	0.2	0.2	10.778	B
	C-AB	156	39	969	0.161	156	0.5	0.5	4.816	A
	C-A	506	127			506				
	A-B	43	11			43				
	A-C	301	75			301				

08:45 - 09:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	16	4	525	0.031	16	0.0	0.0	7.781	A
	C-AB	0	0	619	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				
2	B-AC	44	11	418	0.104	44	0.2	0.1	9.909	A
	C-AB	107	27	900	0.118	107	0.5	0.3	4.934	A
	C-A	435	109			435				
	A-B	35	9			35				
	A-C	246	61			246				

09:00 - 09:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	14	3	525	0.026	14	0.0	0.0	7.742	A
	C-AB	0	0	619	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				
2	B-AC	37	9	433	0.084	37	0.1	0.1	9.357	A
	C-AB	78	20	850	0.092	79	0.3	0.2	5.057	A
	C-A	375	94			375				
	A-B	30	7			30				
	A-C	206	51			206				

2038 Base + Committed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D13 - 2023 Base + Committed + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Eastern Junction	T-Junction	Two-way	4.51	A
2	Western Junction	T-Junction	Two-way	1.95	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D10	2038 Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓	Simple	(D2*1.20)+D4

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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	A		ONE HOUR	✓	30	100.000
	B		ONE HOUR	✓	31	100.000
	C		ONE HOUR	✓	12	100.000
2	A		ONE HOUR	✓	497	100.000
	B		ONE HOUR	✓	108	100.000
	C		ONE HOUR	✓	462	100.000

Origin-Destination Data

Junction 1

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	30	0
	B	20	0	11
	C	0	12	0

Proportions

		To		
		A	B	C
From	A	0.00	1.00	0.00
	B	0.65	0.00	0.35
	C	0.00	1.00	0.00

Junction 2

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	87	410
	B	59	0	50
	C	402	60	0

Proportions

		To		
		A	B	C
From	A	0.00	0.18	0.82
	B	0.54	0.00	0.46
	C	0.87	0.13	0.00

Vehicle Mix

Junction 1

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	0
	B	10	0	10
	C	0	10	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.100	1.000
	B	1.100	1.000	1.100
	C	1.000	1.100	1.000

Junction 2

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	2	9
	B	4	0	9
	C	10	4	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.020	1.095
	B	1.045	1.000	1.091
	C	1.096	1.044	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1	A	23	23
		B	23	23
		C	9	9
	2	A	374	374
		B	81	81
		C	348	348
17:00-17:15	1	A	27	27
		B	28	28
		C	11	11
	2	A	447	447
		B	97	97
		C	415	415
17:15-17:30	1	A	33	33
		B	34	34
		C	13	13
	2	A	547	547
		B	119	119
		C	509	509
17:30-17:45	1	A	33	33
		B	34	34
		C	13	13
	2	A	547	547
		B	119	119
		C	509	509
17:45-18:00	1	A	27	27
		B	28	28
		C	11	11
	2	A	447	447
		B	97	97
		C	415	415
18:00-18:15	1	A	23	23
		B	23	23
		C	9	9
	2	A	374	374
		B	81	81
		C	348	348

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	B-AC	0.07	8.03	0.1	A	29	43
	C-AB	0.02	6.63	0.0	A	11	17
	C-A					0	0
	A-B					28	41
	A-C					0	0
2	B-AC	0.29	13.18	0.4	B	99	149
	C-AB	0.17	5.66	0.4	A	105	158
	C-A					319	478
	A-B					80	120
	A-C					376	564

Main Results for each time segment

16:45 - 17:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	23	6	530	0.044	23	0.0	0.1	7.816	A
	C-AB	9	2	613	0.015	9	0.0	0.0	6.554	A
	C-A	0	0			0				
	A-B	23	6			23				
	A-C	0	0			0				
2	B-AC	81	20	449	0.182	81	0.0	0.2	10.396	B
	C-AB	75	19	755	0.099	74	0.0	0.2	5.628	A
	C-A	273	68			273				
	A-B	66	16			66				
	A-C	309	77			309				

17:00 - 17:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	28	7	529	0.053	28	0.1	0.1	7.909	A
	C-AB	11	3	612	0.018	11	0.0	0.0	6.584	A
	C-A	0	0			0				
	A-B	27	7			27				
	A-C	0	0			0				
2	B-AC	97	24	433	0.225	97	0.2	0.3	11.423	B
	C-AB	100	25	787	0.127	99	0.2	0.3	5.590	A
	C-A	316	79			316				
	A-B	78	20			78				
	A-C	369	92			369				

17:15 - 17:30

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	34	9	528	0.065	34	0.1	0.1	8.027	A
	C-AB	13	3	611	0.022	13	0.0	0.0	6.627	A
	C-A	0	0			0				
	A-B	33	8			33				

	A-C	0	0			0				
2	B-AC	119	30	410	0.290	119	0.3	0.4	13.136	B
	C-AB	141	35	832	0.170	141	0.3	0.4	5.577	A
	C-A	367	92			367				
	A-B	96	24			96				
	A-C	451	113			451				

17:30 - 17:45

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	34	9	528	0.065	34	0.1	0.1	8.029	A
	C-AB	13	3	611	0.022	13	0.0	0.0	6.627	A
	C-A	0	0			0				
	A-B	33	8			33				
	A-C	0	0			0				
2	B-AC	119	30	410	0.291	119	0.4	0.4	13.180	B
	C-AB	141	35	832	0.170	141	0.4	0.4	5.596	A
	C-A	367	92			367				
	A-B	96	24			96				
	A-C	451	113			451				

17:45 - 18:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	28	7	529	0.053	28	0.1	0.1	7.911	A
	C-AB	11	3	612	0.018	11	0.0	0.0	6.585	A
	C-A	0	0			0				
	A-B	27	7			27				
	A-C	0	0			0				
2	B-AC	97	24	432	0.225	98	0.4	0.3	11.478	B
	C-AB	100	25	787	0.127	100	0.4	0.3	5.622	A
	C-A	315	79			315				
	A-B	78	20			78				
	A-C	369	92			369				

18:00 - 18:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	23	6	530	0.044	24	0.1	0.1	7.826	A
	C-AB	9	2	613	0.015	9	0.0	0.0	6.557	A
	C-A	0	0			0				
	A-B	23	6			23				
	A-C	0	0			0				
2	B-AC	81	20	448	0.182	82	0.3	0.2	10.468	B
	C-AB	75	19	755	0.100	76	0.3	0.2	5.660	A
	C-A	272	68			272				
	A-B	66	16			66				
	A-C	309	77			309				

2023 Base + Committed + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D13 - 2023 Base + Committed + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Eastern Junction	T-Junction	Two-way	4.12	A
2	Western Junction	T-Junction	Two-way	1.43	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D13	2023 Base + Committed + Dev	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D5+D11

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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	A		ONE HOUR	✓	19	100.000
	B		ONE HOUR	✓	21	100.000
	C		ONE HOUR	✓	4	100.000
2	A		ONE HOUR	✓	284	100.000
	B		ONE HOUR	✓	66	100.000
	C		ONE HOUR	✓	545	100.000

Origin-Destination Data

Junction 1

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	19	0
	B	17	0	4
	C	0	4	0

Proportions

		To		
		A	B	C
From	A	0.00	1.00	0.00
	B	0.80	0.00	0.20
	C	0.00	1.00	0.00

Junction 2

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	39	244
	B	41	0	25
	C	492	53	0

Proportions

		To		
		A	B	C
From	A	0.00	0.14	0.86
	B	0.63	0.00	0.37
	C	0.90	0.10	0.00

Vehicle Mix

Junction 1

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	7	0	10
	C	0	10	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.068	1.000	1.100
	C	1.000	1.100	1.000

Junction 2

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	10
	B	1	0	3
	C	10	6	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.005	1.096
	B	1.012	1.000	1.033
	C	1.095	1.058	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1	A	14	14
		B	16	16
		C	0	0
	2	A	214	214
		B	50	50
		C	410	410
08:00-08:15	1	A	17	17
		B	19	19
		C	0	0
	2	A	255	255
		B	59	59
		C	490	490
08:15-08:30	1	A	21	21
		B	23	23
		C	0	0
	2	A	312	312
		B	73	73
		C	600	600
08:30-08:45	1	A	21	21
		B	23	23
		C	0	0
	2	A	312	312

		B	73	73
		C	600	600
08:45-09:00	1	A	17	17
		B	19	19
		C	0	0
	2	A	255	255
		B	59	59
		C	490	490
09:00-09:15	1	A	14	14
		B	16	16
		C	0	0
	2	A	214	214
		B	50	50
		C	410	410

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	B-AC	0.04	7.84	0.1	A	19	29
	C-AB	0.00	0.00	0.0	A	0	0
	C-A					0	0
	A-B					17	26
	A-C					0	0
2	B-AC	0.17	10.49	0.2	B	60	91
	C-AB	0.15	5.18	0.4	A	104	156
	C-A					396	594
	A-B					36	54
	A-C					224	336

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	16	4	517	0.031	16	0.0	0.0	7.714	A
	C-AB	0	0	615	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	14	4			14				
	A-C	0	0			0				
2	B-AC	50	12	454	0.109	49	0.0	0.1	9.060	A
	C-AB	73	18	822	0.088	72	0.0	0.2	5.155	A
	C-A	338	84			338				
	A-B	29	7			29				
	A-C	184	46			184				

08:00 - 08:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	19	5	517	0.037	19	0.0	0.0	7.769	A
	C-AB	0	0	614	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	17	4			17				
	A-C	0	0			0				
2	B-AC	59	15	441	0.134	59	0.1	0.2	9.615	A
	C-AB	98	24	867	0.113	98	0.2	0.3	5.041	A
	C-A	392	98			392				
	A-B	35	9			35				
	A-C	220	55			220				

08:15 - 08:30

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	23	6	516	0.045	23	0.0	0.1	7.841	A
	C-AB	0	0	614	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	21	5			21				
	A-C	0	0			0				
2	B-AC	73	18	423	0.172	72	0.2	0.2	10.473	B
	C-AB	141	35	929	0.152	141	0.3	0.4	4.931	A
	C-A	459	115			459				
	A-B	43	11			43				
	A-C	269	67			269				

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	23	6	516	0.045	23	0.1	0.1	7.841	A
	C-AB	0	0	614	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	21	5			21				
	A-C	0	0			0				
2	B-AC	73	18	423	0.172	73	0.2	0.2	10.487	B
	C-AB	141	35	929	0.152	141	0.4	0.4	4.946	A
	C-A	459	115			459				
	A-B	43	11			43				
	A-C	269	67			269				

08:45 - 09:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	19	5	517	0.037	19	0.1	0.0	7.770	A
	C-AB	0	0	614	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	17	4			17				
	A-C	0	0			0				
2	B-AC	59	15	441	0.134	59	0.2	0.2	9.633	A
	C-AB	98	25	867	0.113	99	0.4	0.3	5.063	A
	C-A	392	98			392				
	A-B	35	9			35				
	A-C	220	55			220				

09:00 - 09:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	16	4	517	0.031	16	0.0	0.0	7.719	A
	C-AB	0	0	615	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	14	4			14				
	A-C	0	0			0				
2	B-AC	50	12	454	0.109	50	0.2	0.1	9.092	A
	C-AB	73	18	823	0.089	74	0.3	0.2	5.176	A
	C-A	337	84			337				
	A-B	29	7			29				
	A-C	184	46			184				

2023 Base + Committed + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D13 - 2023 Base + Committed + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Eastern Junction	T-Junction	Two-way	4.67	A
2	Western Junction	T-Junction	Two-way	2.23	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D14	2023 Base + Committed + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D6+D12

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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	A		ONE HOUR	✓	44	100.000
	B		ONE HOUR	✓	50	100.000
	C		ONE HOUR	✓	11	100.000
2	A		ONE HOUR	✓	462	100.000

	B		ONE HOUR	✓	116	100.000
	C		ONE HOUR	✓	430	100.000

Origin-Destination Data

Junction 1

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	44	0
	B	40	0	10
	C	0	11	0

Proportions

		To		
		A	B	C
From	A	0.00	1.00	0.00
	B	0.81	0.00	0.19
	C	0.00	1.00	0.00

Junction 2

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	94	368
	B	62	0	55
	C	361	70	0

Proportions

		To		
		A	B	C
From	A	0.00	0.20	0.80
	B	0.53	0.00	0.47
	C	0.84	0.16	0.00

Vehicle Mix

Junction 1

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	6	0
	B	4	0	10
	C	0	10	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.059	1.000
	B	1.043	1.000	1.100
	C	1.000	1.100	1.000

Junction 2

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	2	9
	B	4	0	7
	C	10	3	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.017	1.094
	B	1.038	1.000	1.073
	C	1.095	1.033	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1	A	33	33
		B	38	38
		C	8	8
	2	A	348	348
		B	88	88
		C	324	324
17:00-17:15	1	A	39	39
		B	45	45

		C	10	10
	2	A	415	415
		B	105	105
		C	387	387
17:15-17:30	1	A	48	48
		B	55	55
		C	12	12
	2	A	509	509
		B	128	128
		C	474	474
17:30-17:45	1	A	48	48
		B	55	55
		C	12	12
	2	A	509	509
		B	128	128
		C	474	474
17:45-18:00	1	A	39	39
		B	45	45
		C	10	10
	2	A	415	415
		B	105	105
		C	387	387
18:00-18:15	1	A	33	33
		B	38	38
		C	8	8
	2	A	348	348
		B	88	88
		C	324	324

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	B-AC	0.11	8.34	0.1	A	46	69
	C-AB	0.02	6.65	0.0	A	10	15
	C-A					0	0
	A-B					40	60
	A-C					0	0
2	B-AC	0.30	12.96	0.5	B	107	160
	C-AB	0.19	5.89	0.4	A	115	172
	C-A					280	420
	A-B					86	130
	A-C					337	506

Main Results for each time segment

16:45 - 17:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	38	9	512	0.073	37	0.0	0.1	7.981	A
	C-AB	8	2	611	0.013	8	0.0	0.0	6.570	A
	C-A	0	0			0				
	A-B	33	8			33				
	A-C	0	0			0				
2	B-AC	88	22	456	0.192	87	0.0	0.2	10.238	B
	C-AB	83	21	736	0.113	82	0.0	0.2	5.804	A
	C-A	241	60			241				
	A-B	71	18			71				
	A-C	277	69			277				

17:00 - 17:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	45	11	511	0.088	45	0.1	0.1	8.134	A
	C-AB	10	2	609	0.016	10	0.0	0.0	6.604	A
	C-A	0	0			0				
	A-B	39	10			39				
	A-C	0	0			0				
2	B-AC	105	26	441	0.237	104	0.2	0.3	11.244	B
	C-AB	109	27	764	0.143	109	0.2	0.3	5.810	A
	C-A	278	69			278				
	A-B	85	21			85				
	A-C	331	83			331				

17:15 - 17:30

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	55	14	509	0.108	55	0.1	0.1	8.338	A
	C-AB	12	3	607	0.019	12	0.0	0.0	6.652	A
	C-A	0	0			0				
	A-B	48	12			48				
	A-C	0	0			0				
2	B-AC	128	32	421	0.304	127	0.3	0.5	12.917	B
	C-AB	152	38	804	0.189	152	0.3	0.4	5.864	A
	C-A	321	80			321				
	A-B	104	26			104				
	A-C	405	101			405				

17:30 - 17:45

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	55	14	509	0.108	55	0.1	0.1	8.341	A
	C-AB	12	3	607	0.019	12	0.0	0.0	6.652	A
	C-A	0	0			0				
	A-B	48	12			48				
	A-C	0	0			0				
2	B-AC	128	32	421	0.304	128	0.5	0.5	12.963	B
	C-AB	152	38	804	0.190	152	0.4	0.4	5.886	A
	C-A	321	80			321				
	A-B	104	26			104				
	A-C	405	101			405				

17:45 - 18:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	45	11	511	0.088	45	0.1	0.1	8.140	A
	C-AB	10	2	609	0.016	10	0.0	0.0	6.607	A
	C-A	0	0			0				
	A-B	39	10			39				
	A-C	0	0			0				
2	B-AC	105	26	441	0.237	105	0.5	0.3	11.300	B
	C-AB	109	27	765	0.143	110	0.4	0.3	5.850	A
	C-A	277	69			277				
	A-B	85	21			85				
	A-C	331	83			331				

18:00 - 18:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	38	9	512	0.073	38	0.1	0.1	7.997	A
	C-AB	8	2	611	0.013	8	0.0	0.0	6.573	A
	C-A	0	0			0				
	A-B	33	8			33				
	A-C	0	0			0				
2	B-AC	88	22	456	0.192	88	0.3	0.3	10.314	B
	C-AB	83	21	737	0.113	84	0.3	0.2	5.839	A
	C-A	240	60			240				
	A-B	71	18			71				
	A-C	277	69			277				

2028 Base + Committed + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D13 - 2023 Base + Committed + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Eastern Junction	T-Junction	Two-way	4.23	A
2	Western Junction	T-Junction	Two-way	1.43	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D15	2028 Base + Committed + Dev	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D11

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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	A		ONE HOUR	✓	19	100.000
	B		ONE HOUR	✓	22	100.000
	C		ONE HOUR	✓	5	100.000
2	A		ONE HOUR	✓	299	100.000
	B		ONE HOUR	✓	67	100.000
	C		ONE HOUR	✓	578	100.000

Origin-Destination Data

Junction 1

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	19	0
	B	18	0	5
	C	0	5	0

Proportions

		To		
		A	B	C
From	A	0.00	1.00	0.00
	B	0.79	0.00	0.21
	C	0.00	1.00	0.00

Junction 2

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	39	260
	B	42	0	25
	C	523	55	0

Proportions

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.62	0.00	0.38
	C	0.90	0.10	0.00

Vehicle Mix

Junction 1

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	7	0	10
	C	0	10	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.070	1.000	1.100
	C	1.000	1.100	1.000

Junction 2

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	1	10
	B	1	0	3
	C	10	6	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.005	1.097
	B	1.013	1.000	1.034
	C	1.096	1.060	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1	A	14	14
		B	17	17
		C	0	0
	2	A	225	225
		B	50	50
		C	435	435
08:00-08:15	1	A	17	17
		B	20	20
		C	0	0
	2	A	269	269
		B	60	60
		C	519	519
08:15-08:30	1	A	21	21
		B	24	24
		C	0	0
	2	A	329	329
		B	74	74
		C	636	636
08:30-08:45	1	A	21	21
		B	24	24
		C	0	0
	2	A	329	329
		B	74	74
		C	636	636
08:45-09:00	1	A	17	17
		B	20	20
		C	0	0
	2	A	269	269
		B	60	60
		C	519	519
09:00-09:15	1	A	14	14
		B	17	17
		C	0	0
	2	A	225	225
		B	50	50
		C	435	435

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	B-AC	0.05	7.86	0.1	A	20	30
	C-AB	0.00	0.00	0.0	A	0	0
	C-A					0	0
	A-B					17	26
	A-C					0	0
2	B-AC	0.18	10.69	0.2	B	61	92
	C-AB	0.16	5.13	0.5	A	113	170
	C-A					417	625
	A-B					36	54
	A-C					239	358

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	17	4	517	0.032	16	0.0	0.0	7.730	A
	C-AB	0	0	615	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	14	4			14				
	A-C	0	0			0				
2	B-AC	50	13	450	0.112	50	0.0	0.1	9.162	A
	C-AB	78	20	837	0.094	78	0.0	0.2	5.104	A
	C-A	357	89			357				
	A-B	30	7			30				
	A-C	196	49			196				

08:00 - 08:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	20	5	517	0.038	20	0.0	0.0	7.787	A
	C-AB	0	0	614	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	17	4			17				
	A-C	0	0			0				
2	B-AC	60	15	437	0.138	60	0.1	0.2	9.753	A
	C-AB	106	27	884	0.120	106	0.2	0.3	4.989	A
	C-A	413	103			413				
	A-B	35	9			35				
	A-C	234	58			234				

08:15 - 08:30

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	24	6	517	0.047	24	0.0	0.1	7.863	A
	C-AB	0	0	614	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	21	5			21				

	A-C	0	0			0				
2	B-AC	74	18	417	0.176	73	0.2	0.2	10.676	B
	C-AB	155	39	950	0.163	154	0.3	0.4	4.894	A
	C-A	481	120			481				
	A-B	43	11			43				
	A-C	286	72			286				

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	24	6	517	0.047	24	0.1	0.1	7.863	A
	C-AB	0	0	614	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	21	5			21				
	A-C	0	0			0				
2	B-AC	74	18	417	0.176	74	0.2	0.2	10.690	B
	C-AB	155	39	951	0.163	155	0.4	0.5	4.907	A
	C-A	481	120			481				
	A-B	43	11			43				
	A-C	286	72			286				

08:45 - 09:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	20	5	517	0.038	20	0.1	0.0	7.790	A
	C-AB	0	0	614	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	17	4			17				
	A-C	0	0			0				
2	B-AC	60	15	436	0.138	60	0.2	0.2	9.774	A
	C-AB	107	27	885	0.121	107	0.5	0.3	5.015	A
	C-A	413	103			413				
	A-B	35	9			35				
	A-C	234	58			234				

09:00 - 09:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	17	4	517	0.032	17	0.0	0.0	7.734	A
	C-AB	0	0	615	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	14	4			14				
	A-C	0	0			0				
2	B-AC	50	13	450	0.112	50	0.2	0.1	9.193	A
	C-AB	79	20	837	0.094	79	0.3	0.2	5.126	A
	C-A	356	89			356				
	A-B	30	7			30				
	A-C	196	49			196				

2028 Base + Committed + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D13 - 2023 Base + Committed + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Eastern Junction	T-Junction	Two-way	4.69	A
2	Western Junction	T-Junction	Two-way	2.26	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D16	2028 Base + Committed + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D8+D12

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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	A		ONE HOUR	✓	46	100.000
	B		ONE HOUR	✓	52	100.000
	C		ONE HOUR	✓	11	100.000
2	A		ONE HOUR	✓	486	100.000
	B		ONE HOUR	✓	121	100.000
	C		ONE HOUR	✓	454	100.000

Origin-Destination Data

Junction 1

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	46	0
	B	41	0	10
	C	0	11	0

Proportions

		To		
		A	B	C
From	A	0.00	1.00	0.00
	B	0.80	0.00	0.20
	C	0.00	1.00	0.00

Junction 2

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	95	391
	B	63	0	57
	C	383	71	0

Proportions

		To		
		A	B	C
From	A	0.00	0.20	0.80
	B	0.52	0.00	0.48
	C	0.84	0.16	0.00

Vehicle Mix

Junction 1

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	6	0
	B	4	0	10
	C	0	10	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.060	1.000
	B	1.044	1.000	1.100
	C	1.000	1.100	1.000

Junction 2

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	2	9
	B	4	0	7
	C	10	3	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.018	1.094
	B	1.039	1.000	1.074
	C	1.095	1.035	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1	A	34	34
		B	39	39
		C	9	9
	2	A	366	366
		B	91	91
		C	342	342
17:00-17:15	1	A	41	41
		B	46	46
		C	10	10
	2	A	437	437
		B	108	108
		C	408	408
17:15-17:30	1	A	50	50
		B	57	57
		C	13	13
	2	A	535	535
		B	133	133
		C	500	500
17:30-17:45	1	A	50	50
		B	57	57
		C	13	13
	2	A	535	535

		B	133	133
		C	500	500
17:45-18:00	1	A	41	41
		B	46	46
		C	10	10
	2	A	437	437
		B	108	108
		C	408	408
18:00-18:15	1	A	34	34
		B	39	39
		C	9	9
	2	A	366	366
		B	91	91
		C	342	342

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	B-AC	0.11	8.39	0.1	A	47	71
	C-AB	0.02	6.67	0.0	A	10	16
	C-A					0	0
	A-B					42	63
	A-C					0	0
2	B-AC	0.32	13.44	0.5	B	111	166
	C-AB	0.20	5.87	0.5	A	122	183
	C-A					295	442
	A-B					87	131
	A-C					358	537

Main Results for each time segment

16:45 - 17:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	39	10	512	0.076	39	0.0	0.1	8.011	A
	C-AB	9	2	610	0.014	9	0.0	0.0	6.579	A
	C-A	0	0			0				
	A-B	34	9			34				
	A-C	0	0			0				
2	B-AC	91	23	453	0.200	90	0.0	0.3	10.434	B
	C-AB	87	22	746	0.117	87	0.0	0.2	5.772	A
	C-A	255	64			255				
	A-B	72	18			72				
	A-C	294	73			294				

17:00 - 17:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	46	12	511	0.091	46	0.1	0.1	8.170	A
	C-AB	10	3	609	0.017	10	0.0	0.0	6.615	A
	C-A	0	0			0				
	A-B	41	10			41				
	A-C	0	0			0				
2	B-AC	108	27	437	0.248	108	0.3	0.3	11.532	B
	C-AB	116	29	776	0.149	115	0.2	0.3	5.779	A
	C-A	293	73			293				
	A-B	86	21			86				
	A-C	351	88			351				

17:15 - 17:30

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	57	14	510	0.112	57	0.1	0.1	8.384	A
	C-AB	13	3	607	0.021	13	0.0	0.0	6.665	A
	C-A	0	0			0				
	A-B	50	13			50				
	A-C	0	0			0				
2	B-AC	133	33	415	0.320	132	0.3	0.5	13.387	B
	C-AB	163	41	818	0.199	162	0.3	0.5	5.842	A
	C-A	337	84			337				
	A-B	105	26			105				
	A-C	430	107			430				

17:30 - 17:45

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	57	14	510	0.112	57	0.1	0.1	8.387	A
	C-AB	13	3	607	0.021	13	0.0	0.0	6.665	A
	C-A	0	0			0				
	A-B	50	13			50				
	A-C	0	0			0				
2	B-AC	133	33	415	0.320	133	0.5	0.5	13.443	B
	C-AB	163	41	818	0.199	163	0.5	0.5	5.865	A
	C-A	337	84			337				
	A-B	105	26			105				
	A-C	430	107			430				

17:45 - 18:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	46	12	511	0.091	47	0.1	0.1	8.175	A
	C-AB	10	3	609	0.017	10	0.0	0.0	6.618	A
	C-A	0	0			0				
	A-B	41	10			41				
	A-C	0	0			0				
2	B-AC	108	27	437	0.248	109	0.5	0.4	11.599	B
	C-AB	116	29	776	0.149	117	0.5	0.3	5.823	A
	C-A	292	73			292				
	A-B	86	21			86				
	A-C	351	88			351				

18:00 - 18:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	39	10	512	0.076	39	0.1	0.1	8.027	A
	C-AB	9	2	610	0.014	9	0.0	0.0	6.582	A
	C-A	0	0			0				
	A-B	34	9			34				
	A-C	0	0			0				
2	B-AC	91	23	453	0.200	91	0.4	0.3	10.518	B
	C-AB	88	22	746	0.118	88	0.3	0.2	5.810	A
	C-A	254	64			254				
	A-B	72	18			72				
	A-C	294	73			294				

2038 Base + Committed + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D13 - 2023 Base + Committed + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Eastern Junction	T-Junction	Two-way	4.32	A
2	Western Junction	T-Junction	Two-way	1.43	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D17	2038 Base + Committed + Dev	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D9+D11

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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	A		ONE HOUR	✓	19	100.000
	B		ONE HOUR	✓	23	100.000
	C		ONE HOUR	✓	5	100.000
2	A		ONE HOUR	✓	313	100.000

	B		ONE HOUR	✓	68	100.000
	C		ONE HOUR	✓	606	100.000

Origin-Destination Data

Junction 1

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	19	0
	B	18	0	5
	C	0	5	0

Proportions

		To		
		A	B	C
From	A	0.00	1.00	0.00
	B	0.79	0.00	0.21
	C	0.00	1.00	0.00

Junction 2

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	39	273
	B	42	0	26
	C	549	57	0

Proportions

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.62	0.00	0.38
	C	0.91	0.09	0.00

Vehicle Mix

Junction 1

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	7	0	10
	C	0	10	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.071	1.000	1.100
	C	1.000	1.100	1.000

Junction 2

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	1	10
	B	1	0	4
	C	10	6	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.006	1.097
	B	1.013	1.000	1.035
	C	1.096	1.061	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1	A	14	14
		B	17	17
		C	0	0
	2	A	235	235
		B	51	51
		C	456	456
08:00-08:15	1	A	17	17
		B	21	21

		C	0	0
	2	A	281	281
		B	61	61
		C	545	545
08:15-08:30	1	A	21	21
		B	25	25
		C	0	0
	2	A	344	344
		B	74	74
		C	667	667
08:30-08:45	1	A	21	21
		B	25	25
		C	0	0
	2	A	344	344
		B	74	74
		C	667	667
08:45-09:00	1	A	17	17
		B	21	21
		C	0	0
	2	A	281	281
		B	61	61
		C	545	545
09:00-09:15	1	A	14	14
		B	17	17
		C	0	0
	2	A	235	235
		B	51	51
		C	456	456

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	B-AC	0.05	7.88	0.1	A	21	32
	C-AB	0.00	0.00	0.0	A	0	0
	C-A					0	0
	A-B					17	26
	A-C					0	0
2	B-AC	0.18	10.87	0.2	B	62	93
	C-AB	0.17	5.09	0.5	A	122	183
	C-A					434	651
	A-B					36	54
	A-C					251	376

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	17	4	518	0.033	17	0.0	0.0	7.743	A
	C-AB	0	0	615	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	14	4			14				
	A-C	0	0			0				
2	B-AC	51	13	447	0.114	50	0.0	0.1	9.249	A
	C-AB	84	21	849	0.098	83	0.0	0.2	5.060	A
	C-A	373	93			373				
	A-B	30	7			30				
	A-C	206	51			206				

08:00 - 08:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	21	5	517	0.040	21	0.0	0.0	7.803	A
	C-AB	0	0	614	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	17	4			17				
	A-C	0	0			0				
2	B-AC	61	15	433	0.140	61	0.1	0.2	9.877	A
	C-AB	114	29	899	0.127	114	0.2	0.3	4.952	A
	C-A	431	108			431				
	A-B	35	9			35				
	A-C	246	61			246				

08:15 - 08:30

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	25	6	517	0.049	25	0.0	0.1	7.882	A
	C-AB	0	0	614	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	21	5			21				
	A-C	0	0			0				
2	B-AC	74	19	413	0.180	74	0.2	0.2	10.854	B
	C-AB	168	42	969	0.173	167	0.3	0.5	4.863	A
	C-A	499	125			499				
	A-B	43	11			43				
	A-C	301	75			301				

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	25	6	517	0.049	25	0.1	0.1	7.882	A
	C-AB	0	0	614	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	21	5			21				
	A-C	0	0			0				
2	B-AC	74	19	413	0.180	74	0.2	0.2	10.872	B
	C-AB	168	42	969	0.174	168	0.5	0.5	4.877	A
	C-A	499	125			499				
	A-B	43	11			43				
	A-C	301	75			301				

08:45 - 09:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	21	5	517	0.040	21	0.1	0.0	7.804	A
	C-AB	0	0	614	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	17	4			17				
	A-C	0	0			0				
2	B-AC	61	15	433	0.140	61	0.2	0.2	9.895	A
	C-AB	115	29	900	0.127	115	0.5	0.3	4.976	A
	C-A	430	108			430				
	A-B	35	9			35				
	A-C	246	61			246				

09:00 - 09:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	17	4	518	0.033	17	0.0	0.0	7.749	A
	C-AB	0	0	615	0.000	0	0.0	0.0	0.000	A
	C-A	0	0			0				
	A-B	14	4			14				
	A-C	0	0			0				
2	B-AC	51	13	447	0.114	51	0.2	0.1	9.285	A
	C-AB	84	21	850	0.099	85	0.3	0.2	5.085	A
	C-A	372	93			372				
	A-B	30	7			30				
	A-C	206	51			206				

2038 Base + Committed + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D13 - 2023 Base + Committed + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Eastern Junction	T-Junction	Two-way	4.71	A
2	Western Junction	T-Junction	Two-way	2.30	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D18	2038 Base + Committed + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D10+D12

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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	A		ONE HOUR	✓	47	100.000
	B		ONE HOUR	✓	53	100.000
	C		ONE HOUR	✓	12	100.000
2	A		ONE HOUR	✓	506	100.000
	B		ONE HOUR	✓	124	100.000
	C		ONE HOUR	✓	475	100.000

Origin-Destination Data

Junction 1

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	47	0
	B	42	0	11
	C	0	12	0

Proportions

		To		
		A	B	C
From	A	0.00	1.00	0.00
	B	0.80	0.00	0.20
	C	0.00	1.00	0.00

Junction 2

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	96	410
	B	65	0	60
	C	402	73	0

Proportions

		To		
		A	B	C
From	A	0.00	0.19	0.81
	B	0.52	0.00	0.48
	C	0.85	0.15	0.00

Vehicle Mix

Junction 1

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	6	0
	B	5	0	10
	C	0	10	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.062	1.000
	B	1.046	1.000	1.100
	C	1.000	1.100	1.000

Junction 2

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	2	9
	B	4	0	7
	C	10	4	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.018	1.095
	B	1.040	1.000	1.075
	C	1.096	1.036	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1	A	35	35
		B	40	40
		C	9	9
	2	A	381	381
		B	94	94
		C	358	358
17:00-17:15	1	A	42	42
		B	48	48
		C	11	11
	2	A	455	455
		B	112	112
		C	427	427
17:15-17:30	1	A	52	52
		B	59	59
		C	13	13
	2	A	557	557
		B	137	137
		C	523	523
17:30-17:45	1	A	52	52
		B	59	59
		C	13	13
	2	A	557	557
		B	137	137
		C	523	523
17:45-18:00	1	A	42	42
		B	48	48
		C	11	11
	2	A	455	455
		B	112	112
		C	427	427
18:00-18:15	1	A	35	35
		B	40	40
		C	9	9
	2	A	381	381
		B	94	94
		C	358	358

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	B-AC	0.11	8.43	0.1	A	49	73
	C-AB	0.02	6.68	0.0	A	11	17
	C-A					0	0
	A-B					43	65
	A-C					0	0
2	B-AC	0.33	13.88	0.5	B	114	171
	C-AB	0.21	5.85	0.5	A	129	193
	C-A					307	461
	A-B					88	132
	A-C					376	564

Main Results for each time segment

16:45 - 17:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	40	10	513	0.078	40	0.0	0.1	8.037	A
	C-AB	9	2	610	0.015	9	0.0	0.0	6.587	A
	C-A	0	0			0				
	A-B	35	9			35				
	A-C	0	0			0				
2	B-AC	94	23	450	0.208	92	0.0	0.3	10.608	B
	C-AB	91	23	754	0.121	90	0.0	0.2	5.746	A
	C-A	266	67			266				
	A-B	72	18			72				
	A-C	309	77			309				

17:00 - 17:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	48	12	511	0.094	48	0.1	0.1	8.201	A
	C-AB	11	3	608	0.018	11	0.0	0.0	6.625	A
	C-A	0	0			0				
	A-B	42	11			42				
	A-C	0	0			0				
2	B-AC	112	28	434	0.258	111	0.3	0.4	11.790	B
	C-AB	122	30	786	0.155	121	0.2	0.3	5.756	A
	C-A	305	76			305				
	A-B	86	22			86				
	A-C	369	92			369				

17:15 - 17:30

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	59	15	510	0.115	58	0.1	0.1	8.423	A
	C-AB	13	3	606	0.022	13	0.0	0.0	6.677	A
	C-A	0	0			0				
	A-B	52	13			52				

	A-C	0	0			0				
2	B-AC	137	34	411	0.333	136	0.4	0.5	13.820	B
	C-AB	172	43	830	0.207	172	0.3	0.5	5.827	A
	C-A	351	88			351				
	A-B	106	26			106				
	A-C	451	113			451				

17:30 - 17:45

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	59	15	510	0.115	59	0.1	0.1	8.427	A
	C-AB	13	3	606	0.022	13	0.0	0.0	6.677	A
	C-A	0	0			0				
	A-B	52	13			52				
	A-C	0	0			0				
2	B-AC	137	34	411	0.333	137	0.5	0.5	13.883	B
	C-AB	173	43	831	0.208	173	0.5	0.5	5.853	A
	C-A	350	88			350				
	A-B	106	26			106				
	A-C	451	113			451				

17:45 - 18:00

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	48	12	511	0.094	48	0.1	0.1	8.207	A
	C-AB	11	3	608	0.018	11	0.0	0.0	6.628	A
	C-A	0	0			0				
	A-B	42	11			42				
	A-C	0	0			0				
2	B-AC	112	28	433	0.258	112	0.5	0.4	11.866	B
	C-AB	122	30	786	0.155	123	0.5	0.4	5.798	A
	C-A	305	76			305				
	A-B	86	22			86				
	A-C	369	92			369				

18:00 - 18:15

Junction	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1	B-AC	40	10	512	0.078	40	0.1	0.1	8.051	A
	C-AB	9	2	610	0.015	9	0.0	0.0	6.590	A
	C-A	0	0			0				
	A-B	35	9			35				
	A-C	0	0			0				
2	B-AC	94	23	450	0.208	94	0.4	0.3	10.698	B
	C-AB	92	23	754	0.122	92	0.4	0.3	5.785	A
	C-A	266	66			266				
	A-B	72	18			72				
	A-C	309	77			309				