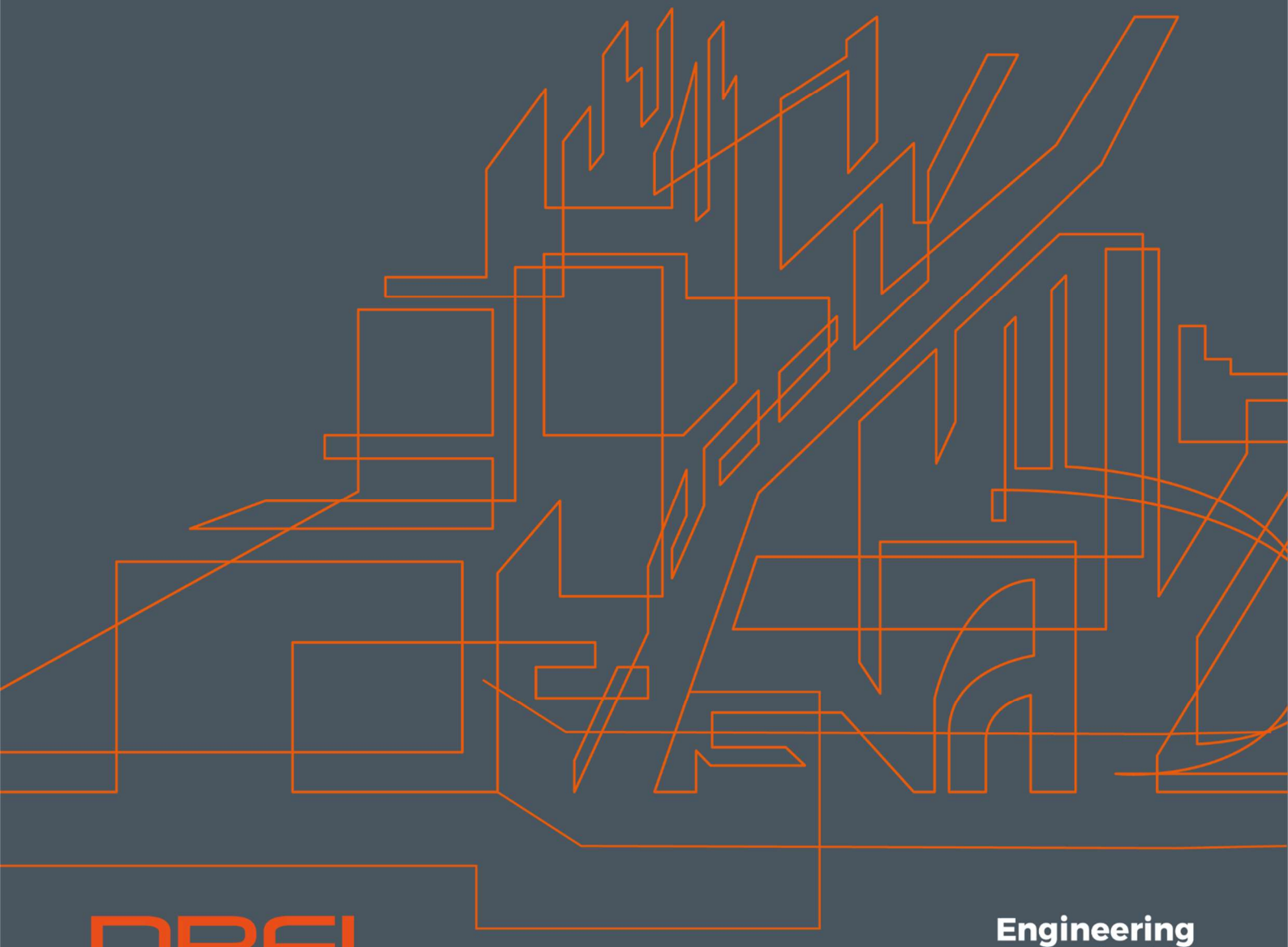
Blessington LRD

Traffic and Transport Assessment

230199-X-90-X-XXX-RP-DBFL-CE-0001

October 2024



DBFL CONSULTING ENGINEERS

Engineering Sustainable Futures

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1 Introduction

1.1 Background

DBFL Consulting Engineers (DBFL) have been commissioned by Marshall Yards Development Company Ltd to prepare a Traffic and Transport Assessment (TTA) Report for the proposed Blessington LRD on a greenfield site at lands within the townlands of Blessington Demesne, Blessington, Co. Wicklow.

The application is for a mixed-use development with buildings ranging from 1 to 5 storeys. It includes 233 residential dwellings (24 one-bedroom, 103 two-bedroom, 94 three-bedroom, and 12 four-bedroom units), 36 'later living' dwellings (12 one-bedroom and 24 two-bedroom units), a medical centre, a pharmacy, and a café. The proposed development also includes 341 no. car parking spaces and 414 no. cycle parking spaces.

The report has been produced to address potential concerns that the local planning authority may have pertaining to the level of influence of the proposed development upon the local transportation system.

1.2 Scope

The purpose of this TTA is to quantify the existing transport environment and to detail the results of assessment work undertaken to identify the potential level of transport impact generated as a result of this proposed LRD.

The scope of the assessment covers transport and sustainability issues including vehicular access, pedestrian, cyclist and public transport connections. The principal objective of the report is to quantify any level of impact across the local road network and subsequently ascertain both the existing and future operational performance of the local road network.

1.3 Methodology

Our approach to the study accords with policy and guidance both at a national and local level. Accordingly, the adopted methodology responds to best practices, current and emerging guidance, exemplified by a series of publications, all of which advocate this method of analysis. Key publications consulted in the preparation of this TTA include:

- '*Traffic and Transport Assessment Guidelines*' (May 2014) National Road Authority (Now TII);

- *'Traffic Management Guidelines'* Dublin Transportation Office & Department of the Environment and Local Government (May 2003);
- *'Guidelines for Traffic Impact Assessments'* The Institution of Highways and Transportation (1994);
- *'Design Manual for Urban Roads and Streets'* (DMURS) – 2019;
- *Blessington Local Area Plan 2013 – 2019; and*
- *Wicklow County Development Plan 2022-2028*

Our methodology incorporated a number of key inter-related stages, including:-

- **Background Review:** This important exercise incorporated three parallel tasks which included (a) an examination of the local regulatory and development management documentation; (b) an analysis of previous 'transport' related, strategic and site specific studies of development and transport infrastructure proposals across the study area, and (c) a review of planning applications to establish the legal status of various third party development schemes that were either considered within the strategic 'transport' studies or which have emerged and received full planning permission since.
- **Site Audit:** A site audit was undertaken to quantify existing road network issues and identify local infrastructure characteristics, in addition to establishing the level of accessibility to the site in terms of walking, cycling and public transport. An inventory of the local road network was also developed during this stage of the assessment.
- **Traffic Counts:** Junction traffic counts were undertaken and analysed with the objective of establishing up to date local traffic characteristics in the immediate area of the proposed development.
- **Trip Generation:** A trip generation exercise has been carried out to establish the potential level of vehicle trips generated by the proposed development.
- **Trip Distribution:** Based upon both the existing traffic characteristics and the network layout in addition to the spatial/ land use configuration and density of the urban structure across the catchment area of the development, a distribution exercise has been undertaken to assign site generated vehicle trips across the local road network.
- **Traffic Forecasting:** A traffic growth / forecast exercise has been carried out to establish the potential level increases in motorised vehicle traffic across the study area; and (ii) future committed development vehicle trips.

- **Network Impact:** In accordance with the Institute of Highways and Transportation; Traffic Impact Assessment guidelines, the specific level of influence generated by the proposed residential development upon the local road network was ascertained and the junctions which required assessment in greater detail were identified.
- **Network Assessment:** Drawing upon the findings of the previous stages, an operational assessment of the local road network has been undertaken to evaluate the performance of key junctions both prior to and following the implementation and occupation of the proposed development.

1.4 Report Structure

As introduced above, this TTA seeks to clarify the potential level of influence generated by the proposed development upon the local road network and subsequently ascertain the existing and future operational performance of the local transport system. The structure of the report responds to the various stages of this exercise including the key tasks summarised below.

Section 2 of this report describes the existing conditions at the proposed development location and surrounding area, whilst **Section 3** provides a summary of the proposed development itself. The relevant transportation policies that influence the design and appraisal of the subject development proposals are highlighted within **Section 4**.

Section 5 outlines the trip generation and distribution exercises carried out and the adopted methodology for applying growth factors to establish a baseline for the design year network traffic flows.

The potential traffic impact of the proposals assessed for the 2027 Opening Year, the 2032 Interim Year and the 2042 Future Design Year are summarised within **Section 6**.

The main conclusions and recommendations derived from the analysis are summarised in **Section 7**.

2 Receiving Environment

2.1 Land Use

Blessington is located approximately 30km southwest of Dublin City Centre in the administrative area of Wicklow County Council. The subject site is located on a greenfield site in Blessington Demesne which forms part of the Blessington LAP lands (**Figure 2-1**). The subject development lands are zoned as "*New Residential*" – *to protect, provide and improve residential amenities* and zoned as *"Town Centre "- to provide for the development and improvement of appropriate town centre uses including retail, commercial, office, and civic use, and to provide for 'Living Over Shop' residential accommodation, or other ancillary residential accommodation.* There is a small portion at the north corner of the site also zoned Open Space.

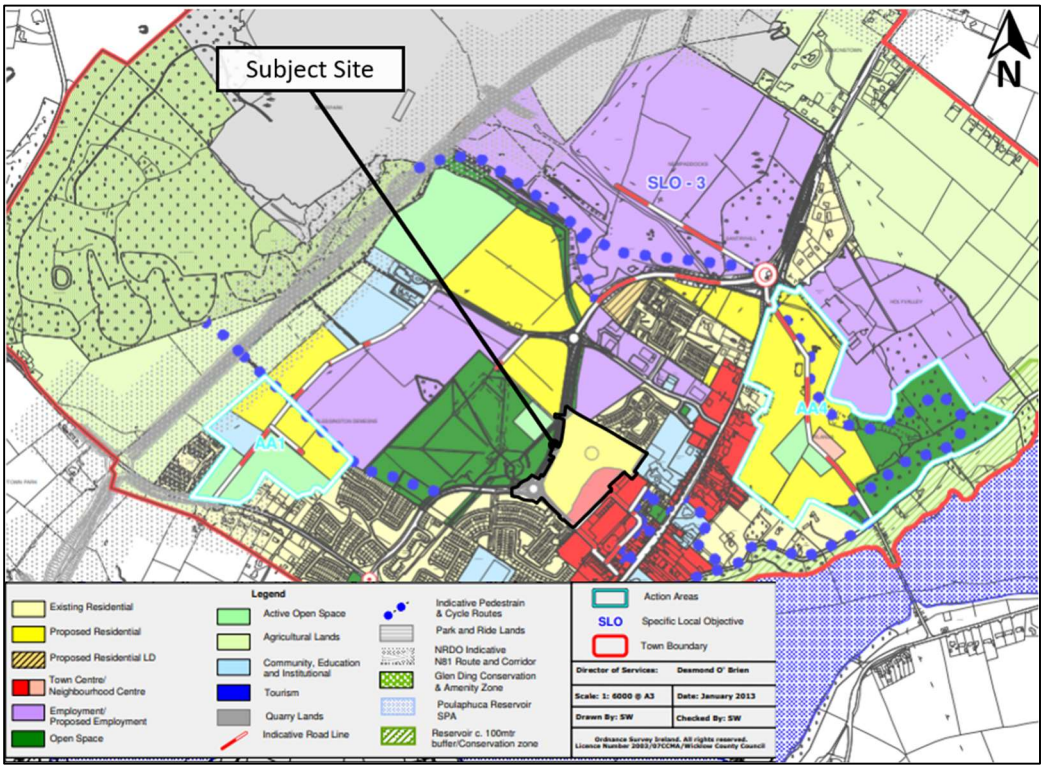


Figure 2-1: Blessington Land Use Zoning Map (Source: Blessington LAP)

The areas to the west of subject site are principally zoned as open space. The lands to the east of the subject site consist of Blessington Town Centre and Community, Education, and Institutional uses. The areas to the north of the site are zoned for existing residential and Employment / Proposed Employment uses. Immediately south of the subject site consists of existing residential settlements.

2.2 Location

The subject site is located in the townland of Blessington Demesne, Co. Wicklow, west of the Blessington Lakes. Dublin City Centre can be found approximately 30 km to the north-east and the town of Nass can be found approximately 12km north-west of Blessington.

The general location of the subject site in relation to the wider road network is illustrated in **Figure 2-2** while the extents of the subject site boundary and neighbouring lands are indicatively shown in **Figure 2-3**.

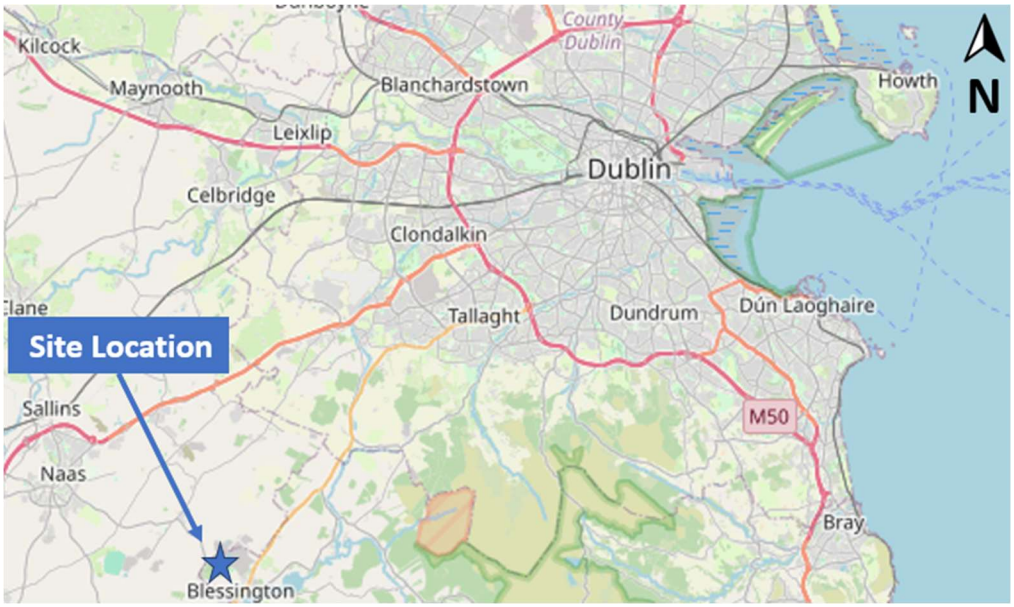


Figure 2-2: Location of Subject Scheme in Context of Wider Area (Source: Open Street Maps)

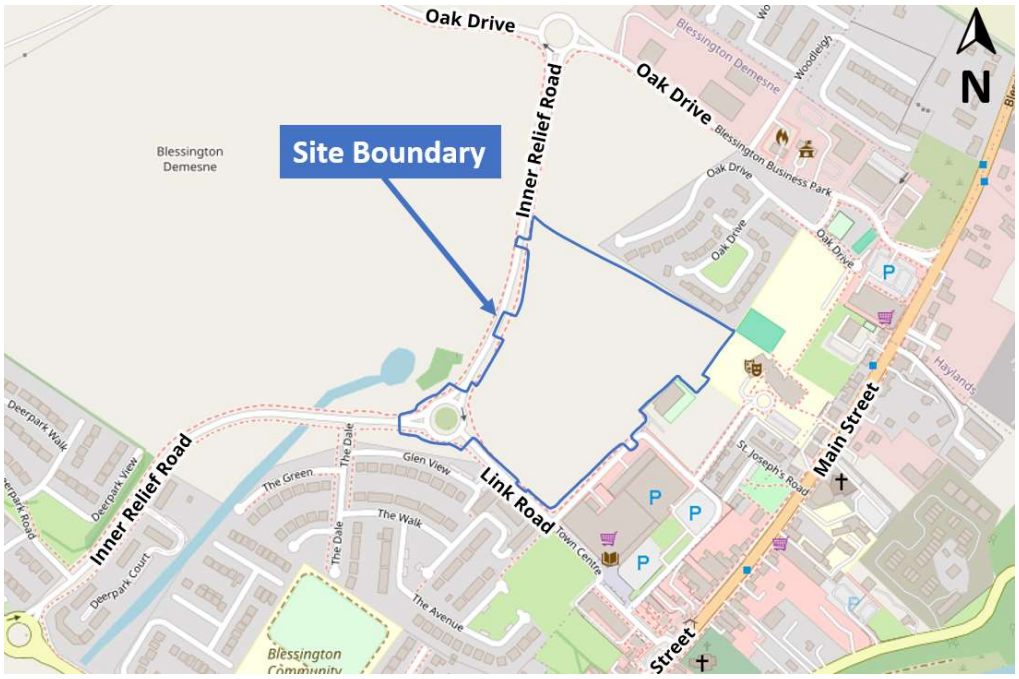


Figure 2-3: Subject Site Boundary (Source: Open Street Maps)

2.3 Existing Transportation Infrastructure

2.3.1 Road Network

Access into Blessington from the north (Dublin) and the south (Baltinglass and south-west Wicklow) is gained via the N81, which is designated a national secondary road. The N81 passes directly through the Main Street and the town centre. The N81 national road has a speed regulation of 60kph; signage (north and south) prior to the road's passage into the Blessington Town Centre indicates a speed regulation of 50kph.

The R410 Naas Road enters Blessington from the northwest and meets the N81 Main Street, south of the town centre. A speed regulation of 50kph is indicated approx. 800m from its junction with the N81 Main Street.

Once completed, the Blessington Inner Relief Road (BIRR), onto which the proposed development has 240m of frontage, is proposed to remove significant quantities of through traffic as well as Naas bound traffic from the N81 Main Street going through Blessington Town Centre. The Link Road, onto which the proposed development has 180m of frontage, connects the Inner Relief Road to the town centre and the N81 Main Street.

The existing road network in the environs of the subject site is illustrated in **Figure 2-4** below.

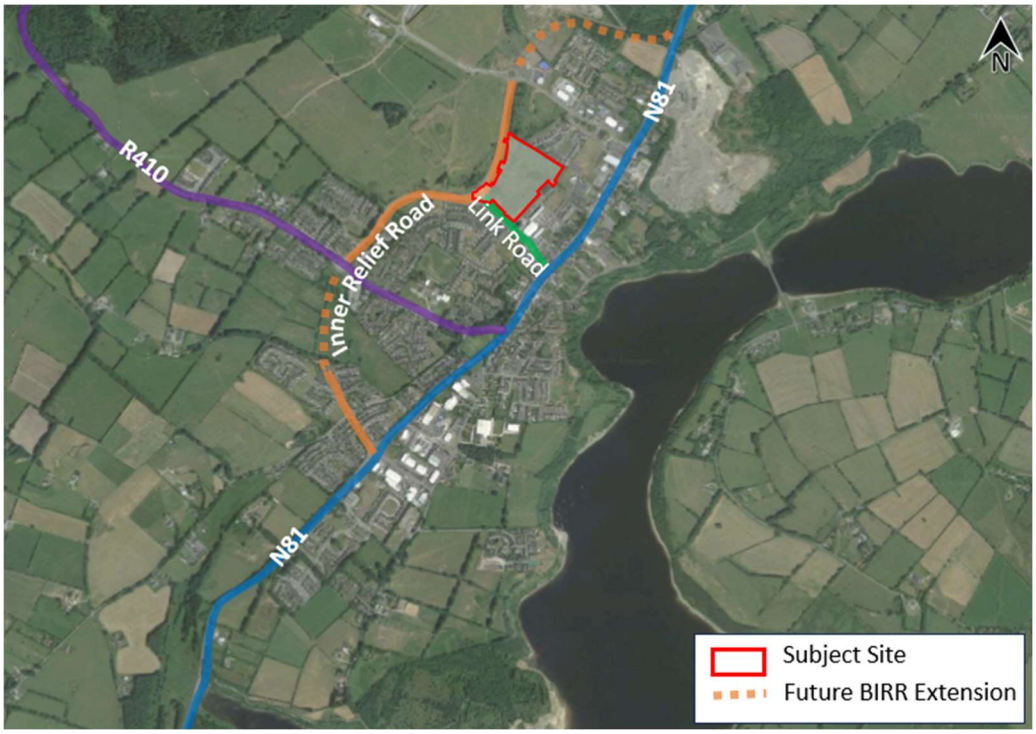


Figure 2-4: Existing Road Network (Source: Google Maps)

2.3.2 Existing Cycling and Pedestrian Facilities

The Inner Relief Road features segregated footpaths and cycle tracks on both sides of the carriageway, separated from vehicular traffic by the presence of a grass verge. Within the immediate vicinity of the subject site, street lighting is mainly only implemented on western side of the BIRR. The pedestrian and cycle facilities found along the BIRR are illustrated in **Figure 2-5** below.

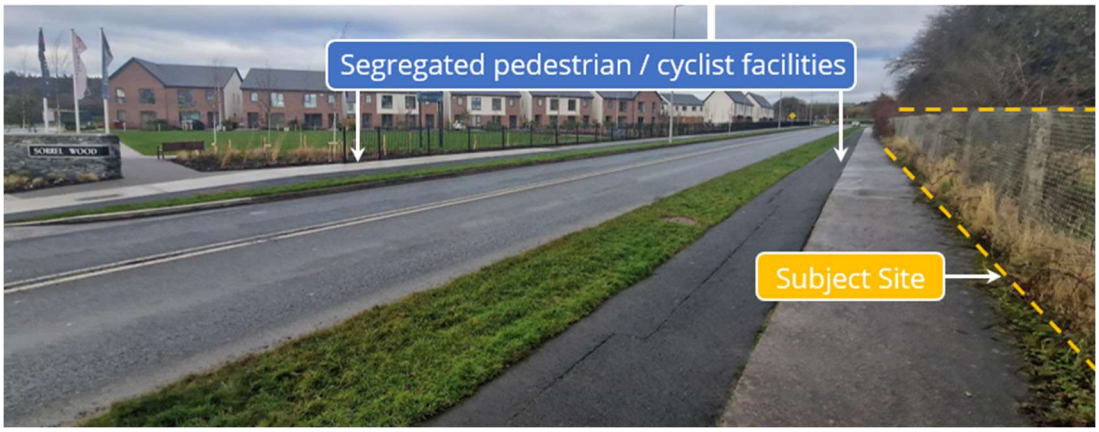


Figure 2-5: Existing Pedestrian and Cycle Facilities along Inner Relief Road

Signalised pedestrian crossing can be found at the BIRR / Oak Drive roundabout as shown in **Figure 2-6** below.

Figure 2-6: Existing Pedestrian crossing at Inner Relief Road / Oak Drive Roundabout

The Sorrel Wood development, located opposite the proposed development, provides footpaths along the newly constructed road leading to the development (**Figure 2-7**).

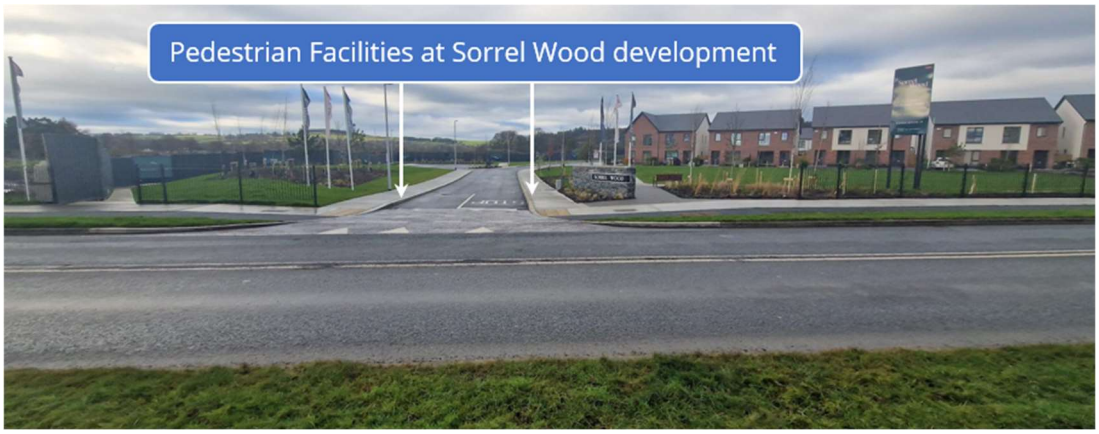


Figure 2-7: Pedestrian Facilities at Sorrel Wood development

Pedestrians and cyclists travelling through the Inner Relief Road / Link Road Roundabout benefit from segregated cycle tracks and footpaths on all sides of the junction in the vicinity of the subject site as shown in **Figure 2-8**. It is noted, however, that there is only an informal uncontrolled crossing on the southeastern arm of the junction while there are no crossing facilities on the western or northern arms of the junction.

The Link Road (**Figure 2-9**) provides segregated cycle track and footpath on both sides of the carriageway These facilities are separated from vehicular traffic by the presence of a grass verge. In the vicinity of the subject site, the Link Road provides street lighting along the eastern edge of the corridor.

Figure 2-8: Existing Pedestrian /Cyclist facilities at Inner Relief Road / Link Road Roundabout

Figure 2-9: Existing Pedestrian/ Cyclist Facilities at Link Road

2.3.3 Existing Public Transport

In the vicinity of the subject site, five distinct bus services are operational. These services are delineated as follows:

- **Bus Route 65** : This route is operated by Dublin Bus and connects Blessington/Ballymore to Tallaght, Terenure, Rathmines and Dublin City Centre.
- **Bus Route 65a** : This route is operated by Dublin Bus and connects Blessington to Tallaght (The Square).
- **Bus Route 132** : This route is operated by Bus Éireann and currently connects Blessington with Tallaght and Dublin to the northeast and to Baltinglass, Tullow, Ballon, Kildavin and Bunclody to the south.
- **Bus Route 183**: This route is operated by Local Link Carlow Kilkenny Wicklow and connects Blessington with Arklow, Wicklow Town, Naas and Sallins Train Station.
- **Bus Route 885**: This route is operated by Kildare Local Link and currently connects Sallins Rail Station with Ballymore Eustace.

Figure 2-10 illustrates the bus services around Blessington Town and **Figure 2-11**shown the bus stops locations in the vicinity of the subject site. **Table 2-1** below summarises the number of services of each route mentioned above.

Figure 2-10: Map of Bus Services

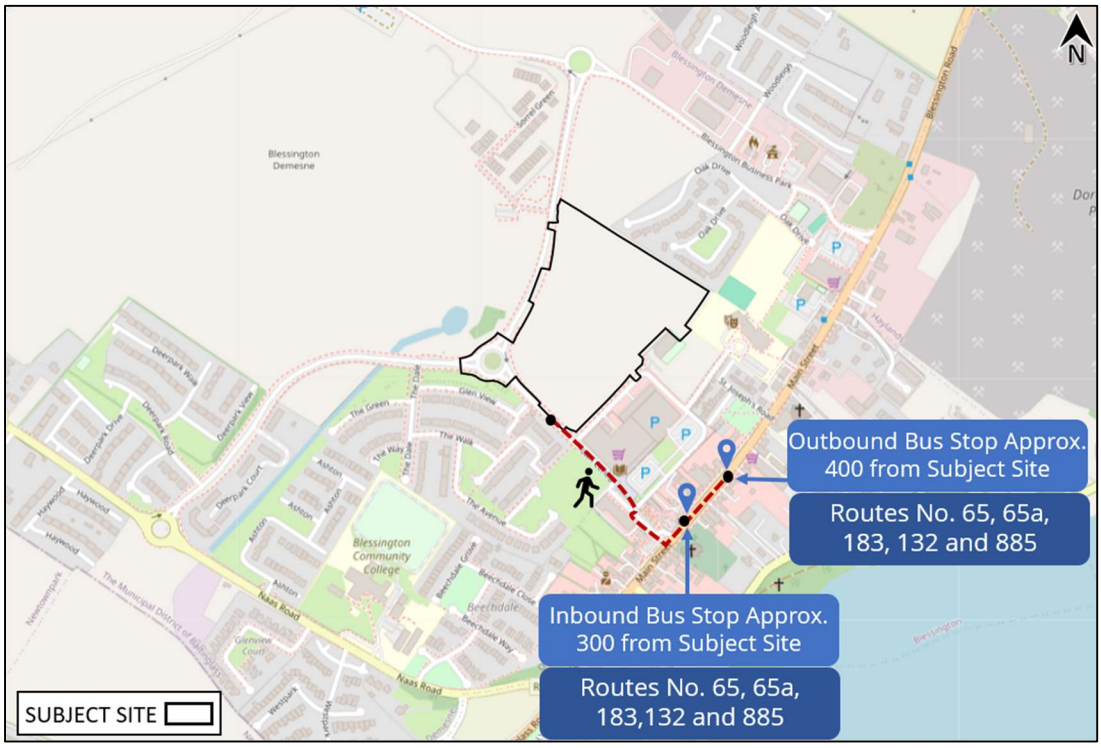


Figure 2-11: Bus stop locations in the vicinity of the subject site

Bus Service	Route Number	Destination	Mon-Fri	Sat	Sun
Dublin Bus	65	Poolbeg St. to Blessington / Ballymore	17	12	10
		Blessington / Ballymore to Poolbeg St.	18	12	10
	65a	Tallaght (The Square) to Blessington	1	-	-
		Blessington to Tallaght (The Square)	2	-	-
Bus Éireann	132	Bunclody to Dublin via Tullow	5	2	3
		Dublin to Bunclody via Tullow	5	2	3
Local Link Kildare	885	Ballymore Eustace – Sallins Station	4	-	-
		Sallins Station – Ballymore Eustace	4	-	-
Local Link Wicklow	183	Arklow – Sallins	4	4	4
		Sallins - Arklow	4	4	4

Table 2-1: Existing Bus Service (No. of services per day)

2.4 Rail Network

In terms of the rail network, the study area does not encompass any rail stations. The closest rail station is situated in Naas at the Sallins/Naas rail station, which is to the north of the town. This station is roughly 15km away from Blessington, the closest significant settlement within the study area. The Newbridge station is positioned 20km away from the study area.

As for the light rail line, the Luas Red Line, which ends in both Tallaght and Saggart, is the closest to the study area. Both Tallaght and Saggart are approximately 19km and 15km to the northwest of the study area, respectively.

2.5 Local Amenities

The proposed development site is very well placed in terms of the availability of local amenities. There are a number of schools within close proximity of the subject site including St. Mary's Senior National School and St. Mary's Junior National School. Additionally, the Blessington Community College is approx. 1km away from the subject site.

Furthermore, the subject site benefits from good access to leisure facilities such as playgrounds, sports centres, GAA Clubs and greenway walks. The subject site has excellent access to the adjacent Dunnes Stores and the town centre facilities and services.

Medical clinics such as Blessington Medical Centric Health and Blessington Family Practice are approximately 500m and 950m away from the subject site respectively.

Figure 2-12 shows indicatively the subject site's location in relation to the aforementioned local amenities.

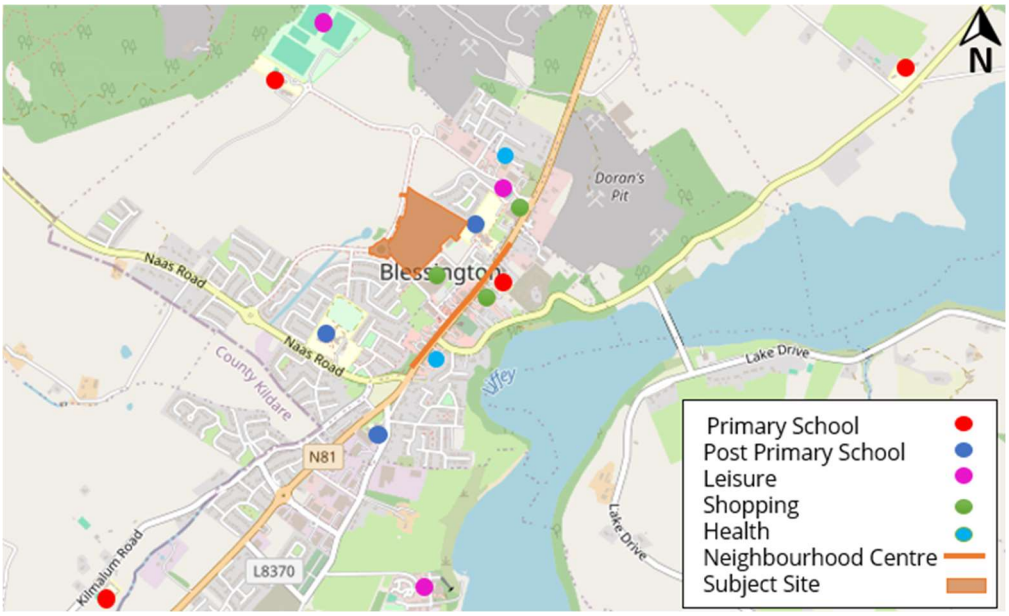


Figure 2-12: Local Amenities Surrounding the Subject Site

2.6 Emerging Transport Developments

2.6.1 Cycle Network Proposals

The subject site is located within the "Blessington" Sector as outlined within the Greater Dublin Area Cycle Network Plan (2022).

The GDA's Cycle Network Plan proposes three categories of cycle route networks within Blessington Town. These include the introduction of secondary routes, inter urban and a greenway. The Cycle Network Plan proposes the following route additions as indicated on **Figure 2-13** below:

Figure 2-13: Greater Dublin Area Cycle Network Plan (2022)

Blessington eGreenway

The proposed scheme aims to create a primarily off-road shared path for both pedestrians and cyclists. Covering approximately 33 kilometers, the scheme involves establishing and enhancing a greenway mostly through forest and woodlands adjacent to the shoreline of the Blessington Lake/Poulaphouca Reservoir SPA **(Figure 2-14)**.

The Blessington section of the Proposed Development extends from the Wicklow County Council boundary at Russellstown to Blessington. The first 6.5km (phase 1) from Blessington town centre to Russborough House has been completed and is operational. A planning application for the remaining section of the greenway was lodged in 2022 and is currently with An Bord Pleanála (APB Ref: 312479).

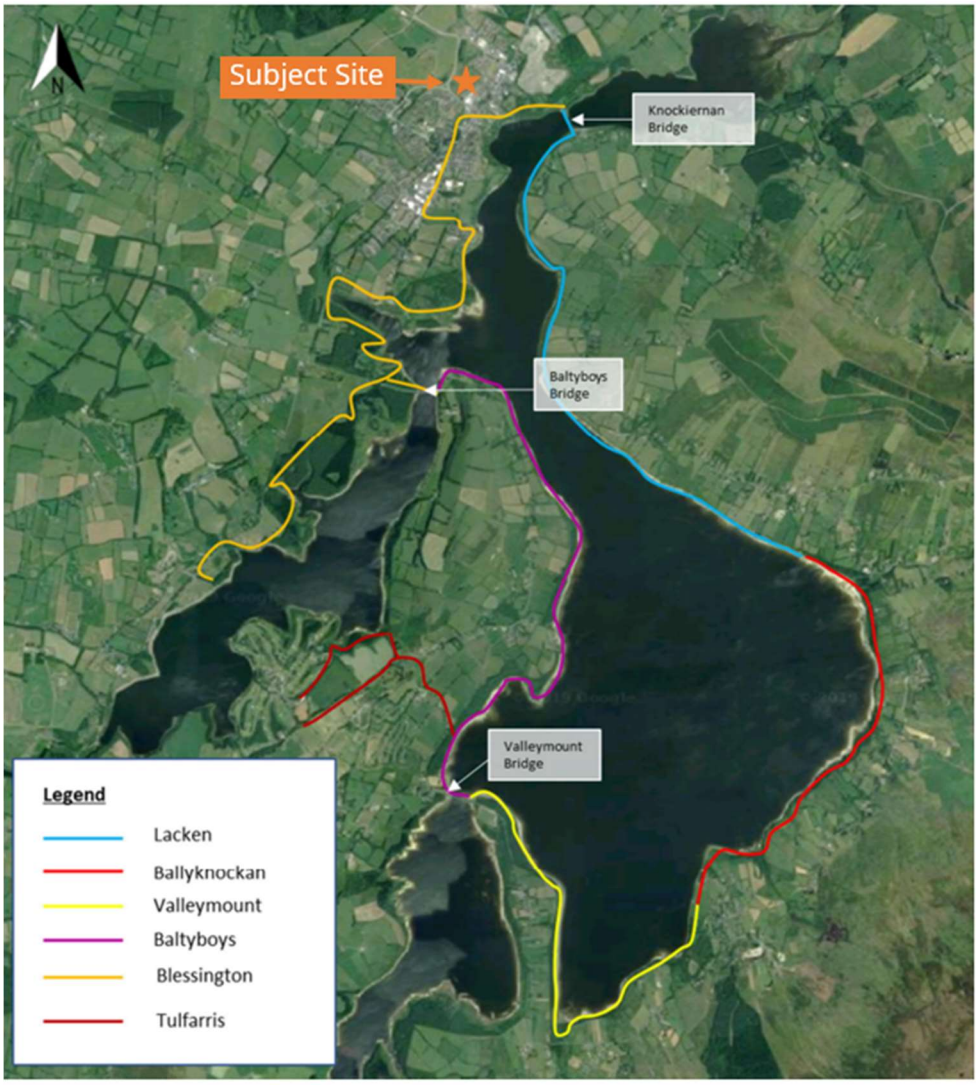


Figure 2-14: Blessington eGreenway Routing Map (Source: Blessington eGreenway Design Statement)

2.6.2 Public Transport Proposals

BusConnects

BusConnects is an initiative launched by the National Transport Authority with the aim of overhauling the bus system in the Dublin Region. This initiative includes a review of bus services, the definition core bus network which comprises radial, orbital and regional core bus corridors. It also includes enhancements to ticketing and fare systems as well as transition to a new low emission vehicle fleet.

This initiative proposes to implement a redesign of the existing bus network. The fundamental changes to the network expected would be as follows:

- Increasing the overall amount of bus services. Providing new and frequent orbital services connecting more outer parts of the city together;
- Simplifying the bus services on the key radial into "spines" where all buses will operate under a common letter system and buses will run very frequently and be more evenly spaced;
- Increasing the number of routes where buses will come every 15 minutes or less all day;
- The frequent network would become a web-shaped grid, with many interchange opportunities to reach more destinations. Everywhere that two frequent routes cross, a fast interchange is possible; and
- Additional service would be provided at peak hours to limit overcrowding.

In relation to the subject site, following this redesign of the bus network, the proposed development will be located in close proximity to the BusConnects 'Peak Route' P43 (Ballyknockan - Blessington - City Centre) and P44 (Ballymore Eustace - Blessington - City Centre) which will replace the existing Dublin Bus Route 65 in this area.

In addition, there will be a new 'Local Route' L44 (Ballymore Eustace - Blessington - City Centre). A summary of the aforementioned new routes is summarised in **Table 2-2** below.

Route Number	Route Type	Areas Serviced	Frequency*
L44	Local	Ballymore Eustace - Blessington - Tallaght	60 mins
P43	Peak	Ballyknockan - Blessington - City Centre	1 AM/PM Peak Services
P44	Peak	Ballymore Eustace - Blessington - City Centre	1 AM/PM Peak Services

Table 2-2: Bus Connects Proposals (Source: BusConnects)

The Bus Network Redesign is the first step in a series of transformative changes to Dublin's bus network over the coming years. However, the next steps in this initiative are the improvements to the infrastructure and operation of the proposed bus network which include:

- building a network of "next generation" bus corridors on the busiest bus lines to make bus journeys faster, predictable and reliable;
- developing a state-of-the-art ticketing system using credit and debit cards or mobile phones to link with payment accounts and making payment much more convenient;
- implementing a cashless payment system to vastly speed up passenger boarding times;
- a simpler fare structure, allowing seamless movement between different bus services without financial penalty;
- new bus stops with better signage and information and increasing the provision of additional bus shelters; and
- transitioning to a new bus fleet using low-emission vehicle technologies.

Figure 2-15 illustrates potential future bus service opportunities in the area as detailed within the BusConnects redesign.

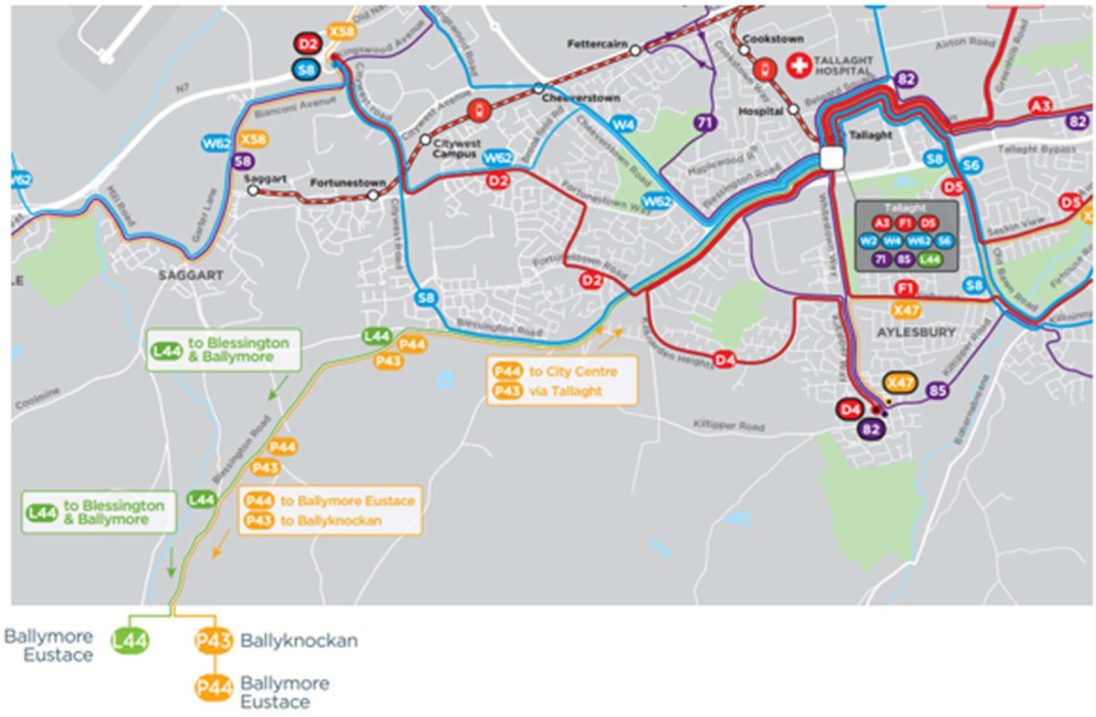


Figure 2-15: Proposed Bus Network (Source: BusConnects)

Although not currently in use, two new bus stops have also been built along the Blessington Inner Relief Road to facilitate greater public transport accessibility for residential developments located

nearby and along the Blessington Inner Relief Road. One of these new bus stops is located on the western boundary of the subject site, The location of these bus stops is shown in **Figure 2-16.**

Figure 2-16: Location of New Bus Stops Along the Inner Relief Road

Connecting Ireland Rural Mobility Plan

Connecting Ireland is a major public transport initiative developed by the National Transport Authority (NTA) with the aim of increasing connectivity, particularly for people living outside our major cities and towns. The plan aims to improve mobility in rural areas, and it will do this by providing better connections between villages and towns by linking these areas with an enhanced regional network connecting cities and regional centres nationwide.

Connecting Ireland seeks to make public transport for rural communities more useful for more people, and it will do this by:

- Improving existing services;
- Adding new services; and
- Enhancing the current Demand Responsive Transport (DRT) network which meets the transport needs of people who live in remote locations.

The National Transport Authority (NTA) began implementing Phase 1 of the Connecting Ireland Rural Mobility Plan in January 2022. They have successfully introduced 38 new and improved bus services across various counties.

In 2023, the NTA continued to enhance rural public transport services by implementation of 67 additional new and improved bus services. They also explored non-conventional measures such

as Smart DRT (Demand Responsive Transport) and rural hackney pilot schemes. The Connecting Ireland Rural Mobility Plan will continue expanding routes until 2026.

Under the Connecting Ireland Rural Mobility Plan proposals, the following routes will serve Blessington and the subject site and are shown below in **Figure 2-17.**

- **Route 183:** This route connects Sallins and Arklow, serving Naas, Blessington, Wicklow, and Avoca. A new route is proposed from Sallins to Arklow via Naas, Blessington, Glendalough, Wicklow, and Rathdrum. The minimum service frequency is set at 4 return trips from Monday to Saturday and 3 return trips on Sunday.
- **Route 884**: This route links Carlow and Sallins, serving Baltinglass, Blessington, and Naas. There is a proposal to extend route 884 from Ballymore Eustace to Carlow. The minimum service frequency is 4 return trips on weekdays and 3 return trips on weekends.

In the map, orange depicts existing bus routes, pink depicts proposed local routes and green depicts regional proposal.

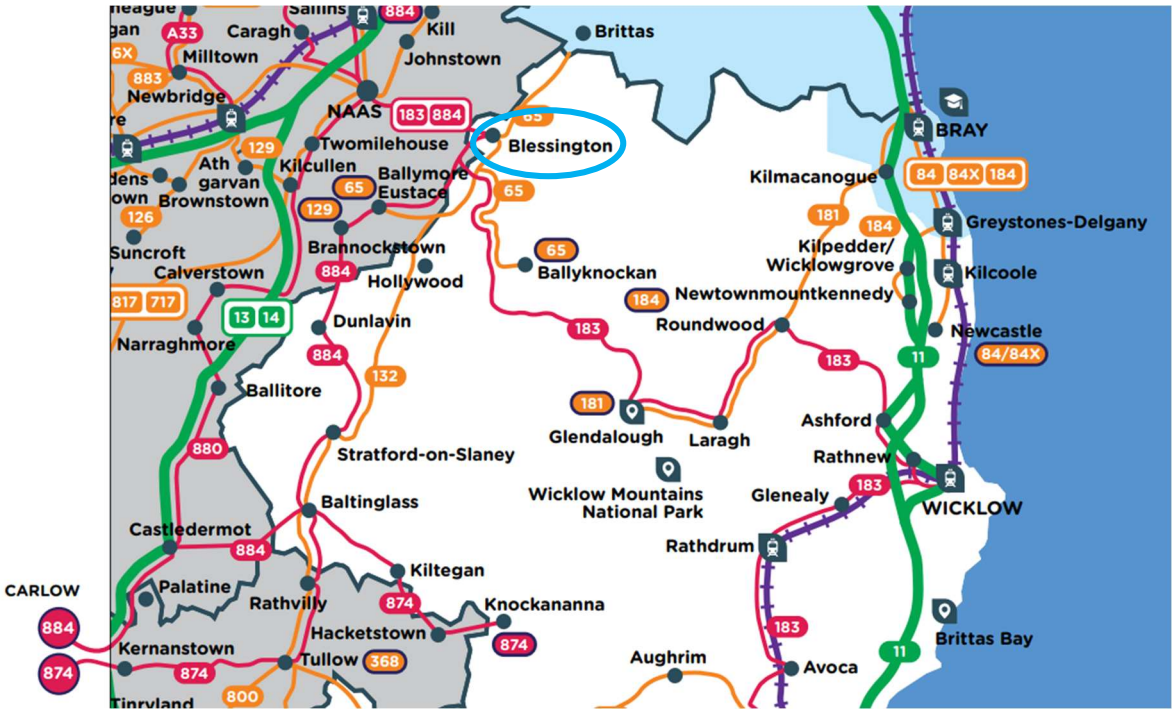


Figure 2-17: Blessington Public Transport Network (Source: Connecting Ireland Rural Mobility Plan)

2.6.3 Road Infrastructure Proposals

Blessington Local Area Plan 2013-2019

The subject site will benefit from a number of proposed road infrastructure works and improvements contained within the Blessington LAP. The land use zoning map indicates the

proposed N81 realignment route, between Tallaght and Hollywood Cross, specified in the LAP Roads and Transportation Objectives (**Objective S6**). The realignment of the N81 will remove significant quantities of traffic from passing through the Blessington Town Centre.

Also shown on the land use zoning map is the route of the partially built Inner Relief Road which is designed to provide a town centre 'by-pass' and therefore is expected to alleviate traffic flow through the town centre upon completion. The road's completion is listed as one of the LAP Roads and Transportation Objectives (**Objective S7**).

Approx. 1.3km south of Blessington Town Centre, on the western side of the N81, 0.75ha of lands are zoned for a proposed bus park-and-ride facility. According to the WCC Development Plan Standards, pedestrian and cycle paths connecting proposed park and ride facilities to the public transport mode they serve and to the surrounding developments are required. This will benefit residents of Blessington and nearby rural towns in using sustainable transportation modes to travel to education or employment zones. Reservation of these lands is specified in the LAP Roads and Transportation Objectives (**Objective S8**). In addition, a number of pedestrian and cycle routes (**Figure 2-18**) around Blessington are proposed to improve permeability and ease of access for non-car users, further lessening the dependency on private cars. These proposals are specified in the LAP Town Centre Strategy .

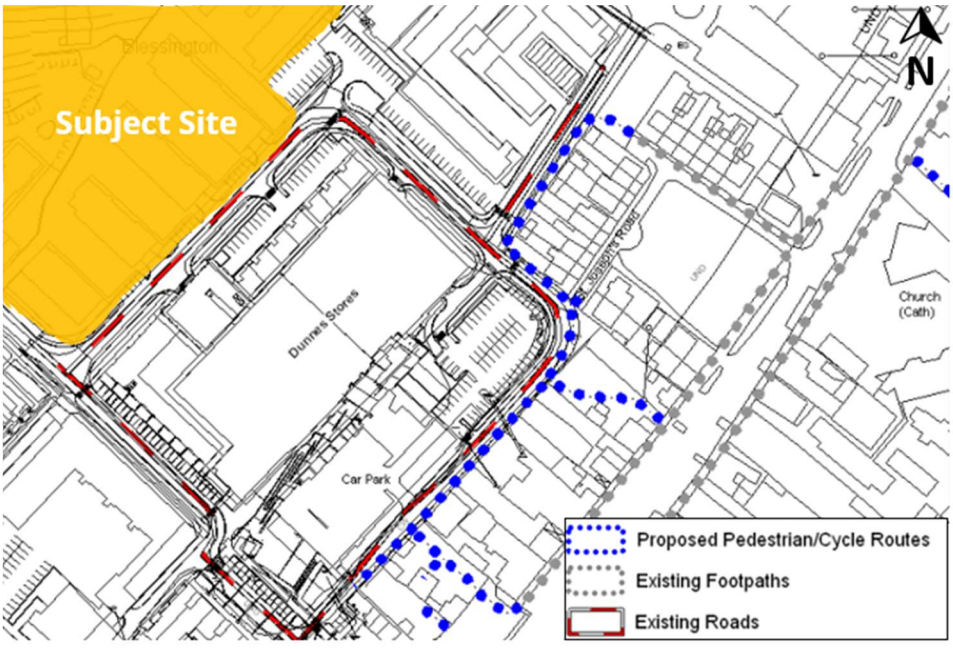


Figure 2-18: Proposed Pedestrian / Cycle Routes (Source: Blessington LAP)

2.7 RSA Collision History

The collision statistics on the Road Safety Authority (RSA) website were reviewed in order to ascertain the safety record of the local road network over the most recent twelve- year period. This includes information for the years 2005 to 2016 inclusive and indicates basic information on all reported incidents. It should be noted that information relating to reported incidents from 2017 onwards is not yet available on the Road Safety Authority (RSA) website.

The RSA database records details where collision events had been officially recorded such as the when the Garda were present to formally record details of the incident. In reference to **Table 2-3** and **Figure 2-19** below, 1 no. fatal incident and 5 no. minor incidents were recorded within the vicinity of the subject site. There were also cluster of minor incidents occurred at the Link Road/N81Junction approximately 350m east of the subject site and at the Oak Rd/N81 Junction approximately 1km northeast of the subject site.

Ref	Year	Vehicle	Circumstance	Day	Time	Severity	Total Casualties
1	2010	Car	Pedestrian	Fri	10:00-16:00	Minor	1
2	2009	Car	Head-on-conflict	Wed	19:00-23:00	Minor	2
3	2013	Motorcycle	Single vehicle only	Sat	16:00-19:00	Minor	1
4	2013	Undefined	Rear end, right turn	Tues	19:00-23:00	Minor	1
5	2010	Car	Head-on-conflict	Thurs	07:00-10:00	Minor	1
6	2015	Motorcycle	Single vehicle only	Tues	19:00-23:00	Fatal	1

Table 2-3: Collision Records – (Source: RSA - healthatlasireland.ie)

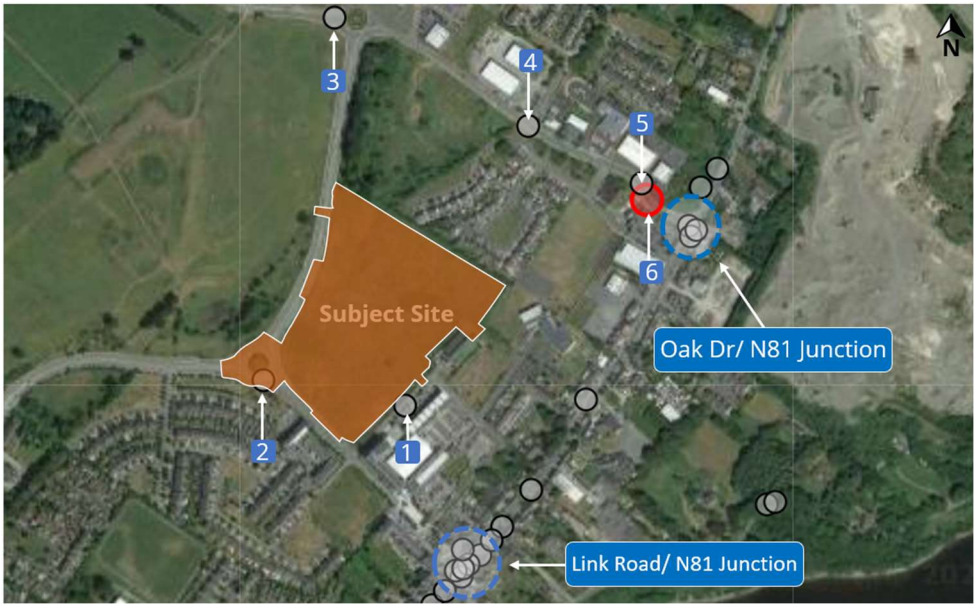


Figure 2-19: Collision Records (Source: RSA - https://public.healthatlasireland.ie/rsa2/index.html)

The review of the RSA data available reveals that there are no apparent trends in collisions which have occurred in the vicinity of subject site during the most recent 12-year period (2005-2016). The analysis reveals that there are currently no road safety issues across the local road network.

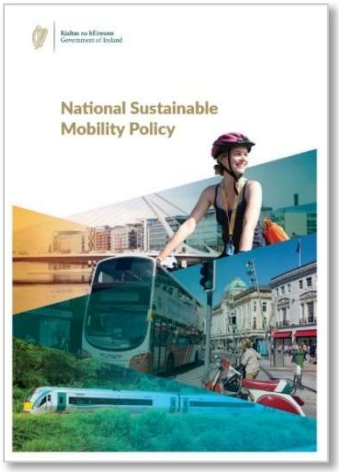
3 Policy Framework

3.1 Introduction

In the context of transportation, the subject development proposal's policy framework is influenced by the following key documents. A common theme through each of these key documents is the emphasis placed upon the importance of travel demand management, with many identifying the need to implement mobility management plans with the objective of promoting sustainable travel patterns.

- National Sustainable Mobility Policy (2022)
- Transport Strategy for the Great Dublin Area (2022-2042)
- Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (January 2024)
- Sustainable Urban Housing: Design Standards for New Apartments (July 2023)
- Wicklow County Development Plan 2022-2028
- Blessington Local Area Plan 2013-2019

3.2 National Sustainable Mobility Policy



The National Sustainable Mobility Policy was published in April 2022 by the Department of Transport and replaces Smarter Travel 2009. The overall aim of the Policy is to "set out a strategic framework for 2030 for active travel and public transport to support Ireland's overall requirement to achieve a 51% reduction in carbon emissions by the end of this decade".

The Policy is a direct response to the fact that continued growth in demand for road transport is not sustainable due to the resulting adverse impacts of increasing congestion levels, localised air pollution, contribution to global warming and the additional negative impacts to health through promoting increasingly sedentary lifestyles.

The following 3 key Policy areas and 10 goals form the basis of the National Sustainable Mobility Policy:

Safe and Green Mobility

1. Improve mobility safety

2. Decarbonise public transport
3. Expand availability of sustainable mobility in metropolitan areas
4. Expand availability of sustainable mobility in regional and rural areas
5. Encourage people to choose sustainable mobility over the private car

People Focuses Mobility

6. Take a whole journey approach to mobility, promoting inclusive access for all
7. Design infrastructure according to Universal Design Principles and the Hierarchy of Road Users model
8. Promote sustainable mobility through research and citizen engagement

Better Integrated Mobility

9. Better integrate land use and transport planning at all levels
10. Promote smart and integrated mobility through innovative technologies and development of appropriate regulation

The policy is accompanied by an Action Plan with a total 91 actions organised by goal to be completed by 2025. Each action has been assigned to a specific government department or body with the hope of creating accountability for their implementation. The success of the policy will be measured using an annual National Household Travel Survey administered by the National Transport Authority.

3.3 Transport Strategy for the Greater Dublin Area 2022-2042

The Transport Strategy for the Greater Dublin Area 2022-2042 is a document compiled by the National Transport Authority which sets out the Strategic Transport Plan for the Greater Dublin Area for the period up to 2042. This sets out an integrated long-term strategy for the area and includes new public transport proposals such as DART and Luas expansion, as well as a new Metro route.

This document will influence transport planning across the region until 2042 and replaces 'Transport Strategy for the Greater Dublin Area 2016-2035'. It thereby underpins all transportation

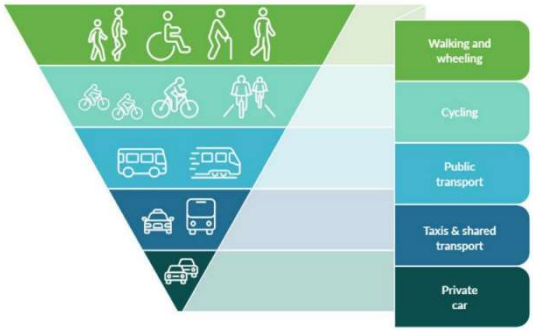
strategies, traffic management schemes and development plans prepared by South Dublin County Council during this timeframe.

The Strategy sets out a clear hierarchy of transport users, commencing with the sustainable modes of travel such as walking, cycling and public transport users at the very top of the hierarchy. The Strategy adopts the general principle that these users should have their safety and convenience needs considered first and that the hierarchy is applied where a large share of travel is (or could be) made by walking, cycling and public transport.

In addition to guiding the development of specific Strategy measures, the NTA sets out the road user hierarchy, which is deemed as a fundamental input into the Transport Strategy:

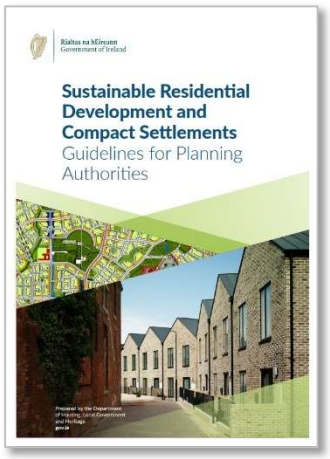
Measure PLAN2 – The Road User Hierarchy

'The NTA, in the decision-making process around the design, planning and funding of transport schemes in the GDA, will be guided by the priority afforded to each mode in the Road User Hierarchy as set out in the Transport Strategy.'



3.4 Sustainable Residential Development and Compact Settlements - Guidelines for Planning Authorities-(January 2024)

The guidelines set out policy and guidance in relation to the planning and development of urban and rural settlements, with a focus on sustainable residential development and the creation of compact settlements.



These Guidelines replace the Sustainable Residential Development in Urban Areas Guidelines for Planning Authorities issued as Ministerial guidelines under Section 28 of the Act in 2009, which in turn replaced the Residential Density Guidelines issued in 1999. They build on and update previous guidance to take account of current Government policy and economic, social and environmental considerations. There is a renewed focus in the Guidelines on the renewal of existing settlements and on the interaction between residential density, housing standards and quality urban design and placemaking to support sustainable and compact growth.

The Guidelines include a Specific Planning Policy Requirement (SPPR) in relation to car parking. The quantum of car parking or the requirement for any such provision for new developments will be based on the accessibility characteristics of the site. There are four accessibility levels set out in the Guidelines that will determine the level of parking provided, these are as follows:

High-Capacity Public Transport Node or Interchange: Lands within 1km walking distance of an existing or planned high capacity urban public transport node or interchange, including DART or high frequency Commuter Rail; or locations within 500 metres walking distance of an existing or planned BusConnects 'Core Bus Corridor' stop.

Accessible Locations: Lands within 500 metres (i.e. up to 5–6-minute walk) of existing or planned high frequency (i.e. 10-minute peak hour frequency) urban bus services.

Intermediate Locations: Lands within 500-1,000 metres (i.e. 10–12-minute walk) of existing or planned high frequency (i.e. 10-minute peak hour frequency) urban bus services and lands within 500 metres (i.e. 6-minute walk) of a reasonably frequent (minimum 15-minute peak hour frequency) urban bus service.

Peripheral Locations: comprise of lands that do not meet the proximity or accessibility criteria detailed above. This includes all lands in Small and Medium Sized Towns and in Rural Towns and Villages.

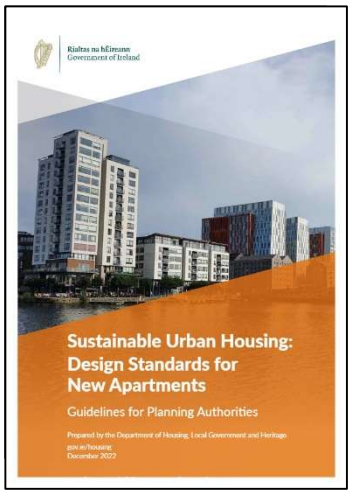
The site is classed as a '*Peripheral*', given there are no high, or reasonably frequent bus services within 500-1,000m of the site. Accordingly, under SPPR 3 – Car Parking (iii) in intermediate and peripheral locations *"the maximum rate of car parking provision for residential development, where such provision is justified to the satisfaction of the planning authority, shall be 2 no. spaces per dwelling".*

The Guidelines also note that the maximum car parking standards:

- Do not include bays assigned for use by a car club, designated short stay on–street Electric Vehicle (EV) charging stations or accessible parking spaces.
- The maximum car parking standards do include provision for visitor parking.

The Guidelines also set out requirements under SPPR 4 for Cycle Parking and Storage. In terms of quantity, it states that *"residential units that do not have ground level open space or have smaller terraces, a general minimum standard of 1 cycle storage space per bedroom should be applied. Visitor cycle parking should also be provided" and that "it will be important to make provision for a mix of bicycle parking types including larger / heavier cargo and electric bikes and for individual lockers".*

3.5 Sustainable Urban Housing: Design Standards for New Apartments – July 2023



This guideline document was produced by the Department of Housing, Planning and Local Government and was updated with the latest version in July 2023. The purpose of this document is to set out standards for apartment development, mainly in response to circumstances that had arisen whereby some local authority standards were at odds with national guidance.

With the demand for housing increasing, this means that there is a need for an absolute minimum of 300,000 new homes in Ireland's cities by 2040. It is therefore critical to ensure that apartment living is an increasingly attractive and desirable housing option for a range of household types and tenures.

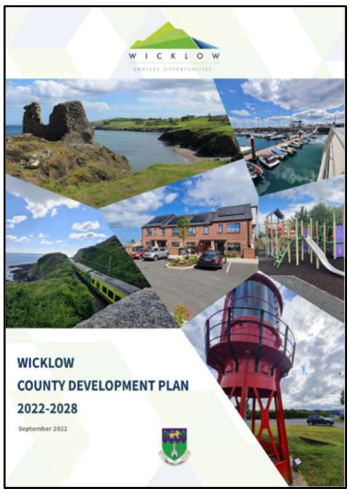
These Guidelines apply to all housing developments that include apartments that may be made available for sale, whether for owner occupation or for individual lease. They also apply to housing developments that include apartments that are built specifically for rental purposes, whether as 'build to rent' or as 'shared accommodation'.

Cycling provides a flexible, efficient and attractive transport option for urban living and these guidelines require that this transport mode is fully integrated into the design and operation of all new apartment development schemes.

The quantum of car parking or the requirement for any such provision for apartment developments will vary, having regard to the types of location in cities and towns that may be suitable for apartment development, broadly based on proximity and accessibility criteria. There are three types of locations set out that will determine the level of parking provided. The **Central and/or Accessible Urban Locations** comprise of apartments in more central locations that are well served by public transport. These locations have a default policy for car parking provision to be minimised, substantially reduced or wholly eliminated in certain circumstances. The **Intermediate Urban Locations** comprise of apartments in suburban/urban locations served by public transport or close to town centres or employments areas. These locations require that planning authorities must consider a reduced overall car parking standard and apply an appropriate maximum cap parking standard. The **Peripheral and/or Less Accessible Urban Locations** comprise of apartments located in relatively peripheral or less accessible urban locations, one car parking space per unit, together with an element of visitor parking should generally be required.

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. Provision is also to be made for alternative mobility solutions including facilities for car sharing club vehicles and cycle parking and secure storage.

3.6 Wicklow County Development Plan 2022-2028



The Wicklow Development Plan 2022-2028 took effect in October 2022, this section sets out the policies and objectives as identified within the development plan for sustainable development in the County up to 2028. In the context of the subject development site and the proposed residential development the most relevant policies are summarised as follows:

Sustainable Mobility Objectives

CPO 12.1: Through coordinated land-use and transport planning, to reduce the demand for vehicular travel and journey lengths by facilitating initiatives like carpooling and park and ride.

CPO 12.2: Through sustainable planning and investment in transport infrastructure, including roads and public transport systems, to reduce journey times, length, congestion and to increase the attractiveness of public transport.

CPO 12.4: All planning applications for large employment based developments and/or trip intensive developments, where the Planning Authority considers that a significant peak and/or off peak travel will be generated, are required to include a Mobility Management Plan.

CPO 12.5: New significant residential or mixed use development proposals shall be required to be accompanied by an 'Accessibility Report' that demonstrates that new residents / occupants / employees (including children and those with special mobility needs) will be able to safely access through means other than the private car (a) local services including shops, schools, health care and recreational facilities, and (b) public transport services. Where deficiencies are identified, proposals will be required to either rectify the deficiency, or suitably restrict or phase the development in accordance with the capacity/quality of existing or planned linkages.

Climate Action & Environmental Protection Objectives

CPO 12.7: To facilitate the development of services and utilities for electric vehicles and alternative fuel vehicle types, including the roll-out of additional electric charging points in collaboration with relevant agencies at appropriate locations.

CPO 12.8: To require the implementation of the following standards for EV charging in new developments.

Cycling & Walking Objectives

CPO 12.11: To improve existing or provide new pedestrian and cycling infrastructure of the highest standards on existing public roads, as funding and site constraints allow.

CPO 12.12: To require all new or improved roads to include pedestrian facilities, cycle lanes / tracks (unless the scale / design of the road does not warrant such infrastructure having regard to the guidance set out in the National Cycle Manual and DMURS) and public lighting as deemed appropriate by the Local Authority.

CPO 12.13: To facilitate the development of pedestrian and cycle linkages through and between new and existing developments to improve permeability and provide shorter, more direct routes to schools, public transport, local services and amenities while ensuring that personal safety, particularly at night time, is of the utmost priority.

CPO 12.14: To facilitate the implementation of local projects which support pedestrian and cyclist permeability, safety and access to schools and public transport.

CPO 12.15: To support the improvement / development of the inter-urban, strategic pedestrian and cycle route projects as may be identified in Wicklow County Council's Sustainable Transport Plan, as may be amended and updated during the life of the plan.

CPO 12.16: To facilitate and drive the significant improvement of the County's cycle network as set out in the National Cycle Plan, the NTA Greater Dublin Area Cycle Network Plan, and Wicklow County Council's Sustainable Transport Plan and strive to implement existing and prepare further, local cycle network plans.

Public Transport Objectives

CPO 12.21: To promote the development of transport interchanges and 'nodes' where a number of transport types can interchange with ease. In particular:

to facilitate the development of park and ride facilities at appropriate locations along strategic transport corridors which will be identified through the carrying out of required coordinated, plan-

led transport studies and consultation with the appropriate transport agencies and/or Regional Authority;

- to support and facilitate the enhancement of the strategic park and ride at Greystones as identified in the RSES;
- to enhance existing parking facilities at / near and the improvement of bus links to the train stations in Bray, Greystones, Kilcoole, Rathdrum, Wicklow and Arklow;
- to require electric vehicle charging points to be incorporated into all car parks at public transport nodes;
- to promote car sharing parking spaces at premium locations in car parks;
- to promote the linkage of the Luas extension or other mass transit to Bray town centre, Bray train station and Fassaroe;
- to promote the Luas extension from City West / Tallaght to Blessington;
- to support the enhancement of public transport services and infrastructure in West Wicklow and in particular to support the improvement of bus service / bus priority on the N81, bus linkages to rail stations and the development of park-and-ride facilities at strategic locations;
- to encourage the improvement of bicycle parking facilities at all transport interchanges;
- to improve existing and provide new footpath / footway linkages to existing / future transport interchange locations;
- to support the development of bus shelters and bicycle parking facilities where possible; and
- to promote and support the development of fully accessible public transport services and infrastructure, that can be used by all people, regardless of their age, size, disability or ability.

General Roads Objectives

CPO 12.30*:* Traffic Impact Assessments will be required for new developments in accordance with the thresholds set out in the 'Design Manual for Urban Roads and Streets' DMURS (DTTA-DHPLG) and the 'Traffic & Transport Assessment Guidelines' (TII).

CPO 12.34: The design of new roads or improvements to existing local roads and new means of access onto roads shall generally comply with the guidance set out in the 'Design Manual for Roads & Bridges' DMRB (TII), the 'Design Manual for Urban Roads and Streets' DMURS (DTTA-DHPLG), the 'Traffic Management Guidelines' (DoT-DoELG–DTO) and 'Recommendations for Site Development

Works for Housing Areas' (DoELG) as appropriate. as may be amended and revised, unless local conditions determine otherwise.

National Road Objective

CPO 12.41: To ensure that all new developments in proximity to National Routes provide suitable protection against traffic noise in compliance with S.I No. 140 of 2006 Environmental Noise Regulations and any subsequent amendments to these regulations.

CPO 12.42: To protect the carrying capacity, operational efficiency and safety of the national road network and associated junctions, significant applications either in the vicinity of or remote from the national road network and associated junctions, that would have an impact on the national route, must critically assess the capacity of the relevant junction. If there is insufficient spare capacity to accommodate the increased traffic movements generated by that development taken in conjunction with other developments with planning permission that have not been fully developed, or if such combined movements impact on road safety, then such applications must include proposals to mitigate these impacts.

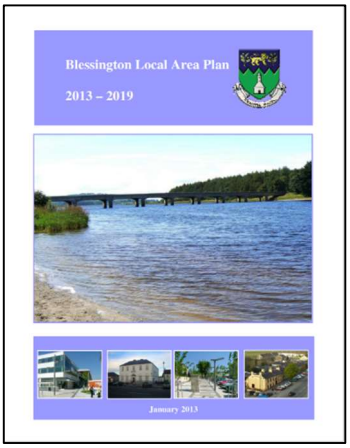
Parking Objectives

CPO 12.56: New / expanded developments shall be accompanied by appropriate car parking provision, including provision for electric vehicle charging points as set out in Objective CPO 12.8, with particular regard being taken of the potential to reduce private car use in locations where public transport and parking enforcement are available. At such locations, the car parking standards set out in Appendix 1 Table 2.3 shall be taken as **maximum standards**, and such a quantum of car parking will only be permitted where it can be justified.

Provision shall be made in all new / expanded developments for Age Friendly and Disabled parking (and associated facilities such as signage, dished kerbs etc) at a suitable and convenient location for users.

CPO 12.57: Provision shall be made in all new / expanded developments for Age Friendly and Disabled parking (and associated facilities such as signage, dished kerbs etc) at a suitable and convenient location for users.

3.7 Blessington Local Area Plan 2013-2019



The Blessington Local Area Plan (LAP) was drawn up by Wicklow County Council on 3 December 2012 and came into effect on 11 January 2013. The LAP was published to put in place a land use framework that will help guide the future sustainable development of the Blessington Local Area.

The LAP states that; "*It is an overarching objective of this Plan to identify the special characteristics of Blessington and accordingly develop objectives which form a basis for the future development of the town within the lifetime of this plan while also setting the foundations for the future sustainable development of the town beyond this point.*"

With regards to walking and cycling, the LAP states; *"Government Policy, as set out in "Smarter Travel - A New Transport for Ireland 2009-2020", places an emphasis on walking and cycling as alternatives to vehicular transport. The provision of walking and cycling routes within Blessington forms an essential part of the linked-up transport system, involving a variety of transport modes where public transport facilities can be availed of. While the land-use plan cannot influence whether members of the public will walk or cycle to a destination it can include objectives that would promote these forms of transport."*

The subject site will benefit from a number of proposed road infrastructure works and improvements contained within the Blessington LAP such as the proposed N81 realignment route, the Inner Relief Road (onto which the subject site has a vehicular entrance and road frontage) and a number of link roads connecting the Inner Relief Road to the existing N81 Main Street.

Also set out in the Blessington LAP is the provision of a new bus park-and-ride facility and various pedestrian and cycle routes around Blessington which future residents of the subject site can avail of as sustainable transport alternatives.

A range of specific multimodal policies and objectives are outlined in the LAP to achieve the vision set out within the document. These objectives include the following:

Roads and Transportation Objectives

"**Objective S6**"**:** To facilitate the N81 (Tallaght to Hollywood) re-alignment and to work with the NRA road design office to ensure that amenity routes from the town centre to Glen Ding are facilitated in the final design of the road. Any development within the preferred route corridor will

be assessed for acceptability having regard to potential effects on the future viability of the proposed road."

"Objective S7": To facilitate the completion of the Inner Relief Road."

"Objective S8": To reserve lands of c. 0.75ha on the N81 for a future bus park-and-ride facility."

"Objective S9": To improve / provide new footpaths and cycleways on existing roads as funding allows and to facilitate the provision of new roads, footpaths and cycleways."

3.8 Development Management Standards

Car Parking Standards

In order to determine the appropriate quantum of vehicle parking for the proposed residential development, reference is made to the following: -

- Table 2.3 of **the Wicklow County Development Plan 2022–2028** which outlines the car parking requirements.
- Chapter 4 of **Sustainable Urban Housing: Design Standards For New Apartments Guidelines For Planning Authorities** (Apartment Guidelines), as published by the Department of Housing, Planning and Local Government (DHPLG), 2023.
- Section 5.3.4 of **Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities** (Compact Settlement Guidelines), as published by the Department of Housing, Planning and Local Government (DHPLG), 2024.

Within the Apartment Guidelines, the location of the subject site can be described as 'Peripheral and/or Less Accessible Urban Locations' as per the definitions of the Apartment Guidelines with the site located in suburban development areas that do not meet proximity or accessibility criteria or sites in small towns or villages.

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

The Apartment Guidelines also state that in regard to the quantum short stay spaces:

- *"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."*

Within the Compact Settlement Guidelines, the location of the subject site can be described as '*In intermediate and peripheral locations*'. It is noted that within the Compact Settlement Guidelines, car parking is a specific planning policy requirement (SPPR). The site's location does not meet the criteria relative to lands within 1,000 metres walking distance of an existing or planned for high-capacity public transport node or interchange (i.e. Dart) and also does not meet the proximity or accessibility criteria for existing or planned high frequency (10 minute peak hour frequency) urban bus services. SPPR 3 – Car Parking within the Compact Settlement Guidelines state that for sites '**In intermediate and peripheral locations'**:

- *"(iii) In intermediate and peripheral locations, defined in Chapter 3 (Table 3.8) the maximum rate of car parking provision for residential development, where such provision is justified to the satisfaction of the planning authority, shall be 2 no. spaces per dwelling."*

The Wicklow County Development Plan 2022–2028 does not outline parking requirements for medical centres, pharmacies, and cafés. With regard to the proposed development schedule, the associated default car parking requirements are outlined in **Table 3-1** below.

Unit Type		WCC Development Plan Requirements (maximum)		Apartment Guidelines Requirements		Compact Settlements Guidelines (maximum)	
		Long Stay	Short Stay	Long Stay	Short Stay	Long Stay	Short Stay
House	1-2 Beds	1.2 / unit	1 space per 5 units with 1 space	-	-	2 spaces per unit	Visitor parking included in the maximum standard
	3-4 Beds	2 / unit					
Duplex / Apartments	1-2 Beds	1.2 / unit		1 per unit	1 visitor space per 3-4 units		
	3-4 Beds	2 / unit					
Later Living Units	1-2-beds	1.2 / unit		-	-		
Non-residential users	Medical centre / Pharmacy / Café	-	-	-	-	-	-

Table 3-1: Car Parking Standards

Disabled Car Parking

In regard to the provision of dedicated disabled car parking spaces, Section 2.17 of the Wicklow Development Plan (2022–2028) states that "*Disabled car parking spaces shall generally be provided at a rate of 5% of the total number of spaces, for developments requiring more than 10 car parking spaces, with the minimum provision being one space (unless the nature of the development requires otherwise)".*

Electrical Vehicle Parking

Residential multi-unit building is required to provide installation of 1 recharging point for every 10 car parking spaces (with a minimum 1 for developments under 10 spaces). Installation of ducting infrastructure for every parking space within property boundary.

Cycle Parking Standards

Wicklow County Council has also published cycle parking guidelines contained within the County Development Plan Written Statement 2022-2028. Reference has been made to Table 2.4 of the Wicklow Development Plan (2022-2028) which outlines the bicycle parking provision sought for new developments within the area governed by WCC. Reference has also been made to the 'Apartment Guidelines' and the 'Compact Settlement Guidelines'.

The bicycle parking standards applicable to the subject development are detailed in **Table 3-2** below. It is noted that there is no cycle parking requirements specified for medical centres, pharmacies, and cafés.

Unit Type		WCC Development Plan (2022-2028) Requirements		Apartment Guidelines Requirements		Compact Growth Guidelines Requirement	
		Long Stay	Short Stay	Long Stay	Short Stay		
House	1-2 Beds	1 space per bedroom	1 visitor space per 5 units	-	-	Min. 1 cycle storage space per bedroom	Visitor Cycle parking should be provided
	3-4 Beds						
Apartments/Duplex	1-2 Beds			1 space / bed	1 space / 2 units		
	3-4 Beds						
Later Living Units	1-2-beds			-	-		
Non-residential users	Medical centre / Pharmacy / Café	-	-	-	-	-	-

Table 3-2: Bicycle Parking Standards

4 Characteristics of Proposals

4.1 Overview

The proposed development principally consists of 233 No. residential dwellings, 36 No. 'later living' dwellings, a medical centre, a pharmacy, and a café. A summary of the proposed development schedule is detailed in **Table 4-1**

Unit Type		Description	Quantity /GFA
Residential	Houses	2-bedrooms	103
		3-bedrooms	70
		4-bedrooms	12
	Apartments/duplex	1-bedroom	24
		3-bedrooms	24
	Subtotal		*233*
	LLU	1-bedroom	9
		2-bedroom	23
	Subtotal		*36*
	Overall Total		269
Non-residential	Medical centre / Pharmacy / Café		399 sqm GFA

Table 4-1: Proposed Development Schedule

Further details of the development proposals including the site layout for the overall development and site access arrangements are illustrated in the architects' scheme drawings as submitted with this planning application.

4.2 Site Access Arrangements

4.2.1 Pedestrian and cyclist Access

The proposed scheme has been designed to maximise the pedestrian and cyclist connectivity between the scheme and the wider transport network. As such, pedestrians and cyclists can enter and exit the proposed development at 7 no. locations. These site access locations are shown below in **Figure 4-1.**

Of these access points, 4 no. are dedicated for pedestrians and cyclists only. These proposed accesses will be provided on:

- 1 no. accesses on the Link Road on the southwestern boundary of the site;
- 2 no. accesses on the Inner Relief Road on the western boundary of the site; and

- 1 no. access on the eastern boundary of site allowing access to the N81 Main Street and the Blessington Town Centre.

In addition to the proposed pedestrian and cyclist access points, there is also one potential future connection to the north.

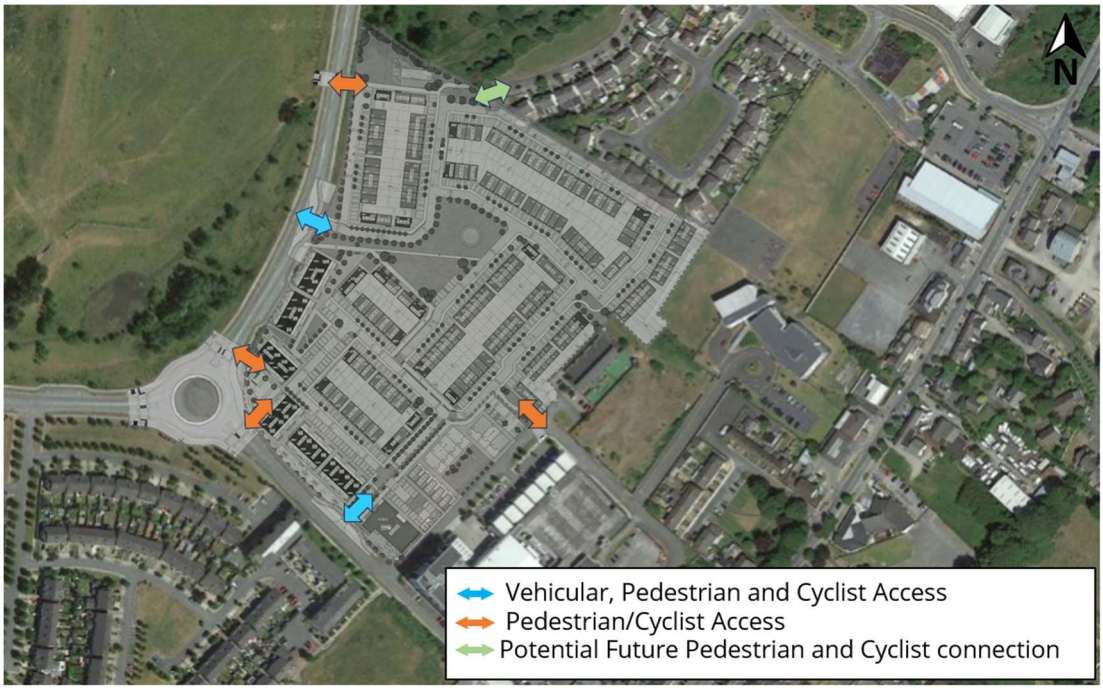


Figure 4-1: Proposed Development Access Locations

Accordingly, the proposed development site will be highly accessible to both pedestrian and cyclist with permeable connections provided to the neighbouring lands via these access / egress junctions.

4.2.2 Site Permeability

As well as maximising the connectivity between the proposed development and the existing transport network, the proposals seek to maximise connectivity throughout both the primary residential area and the mixed-use site. These proposals include a 3.0m wide cycle/pathway that runs through the site, connecting to the Blessington Town Centre and to the BIRR.

It is proposed to provide a new Toucan crossing over the BIRR to the north of the site, a new raised Zebra crossing is proposed to the southeast (adjacent the neighbouring creche entrance) and the crossing facilities over each arm of the roundabout will be provided as part of the proposed development.

Full details of the proposed roads layout for the residential element of the development can be found in DBFL Drawing 230199-X-04-Z00-DTM-DR-DBFL-CE-1201 as submitted with this planning application.

Figure 4-2 highlights the extensive pedestrian and cycle network to be provided across the proposed development.

Figure 4-2: Pedestrian and Cycle Connectivity through Proposed Development

4.2.3 Vehicle Access

Vehicles travelling to and from the proposed development can make use of 2 no. access locations. These accesses are located along the Inner Relief Road and the Link Road. All of the proposed vehicular site entrances will operate as priority-controlled junctions. The location of these site access points is shown above in **Figure 4-1**.

4.3 Internal Road Hierarchy

The proposed development street hierarchy is composed of Primary and Secondary Local Streets as well as Homezone areas.

The function of the Local Streets and Homezone areas will be to not only provide access within / across the development but also contribute to a high-quality sense of 'place' through the proposed landscaping proposals and material finishes. In particular, the Homezone areas will prioritise the movement of people over vehicles and promote low vehicle speeds throughout.

Access to the site from the Blessington Inner Relief Road (BIRR) is provided via the Primary Local Street. The BIRR, which is an Arterial Street, provides connections to the wider network including Arterial Streets such as the R410 to the southwest of the site and the wider strategic network of the N81. The N81 provides connections between the proposed development and the local town centre and community infrastructure such as schools, leisure facilities, shops, and medical/healthcare facilities.

The overall network design has sought to optimise connectivity to and from public transport and provide high quality facilities for pedestrians and cyclists. In parallel, the adopted design philosophy has also sought to consider the context / place status of each street in terms of level of connectivity and permeability provided, quality of the proposed design, level of pedestrian/cyclist activity and vulnerable users requirements while also identifying appropriate 'transition' solutions between the different street types. The Interna Road Hierarchy is shown in **Figure 4-3.**

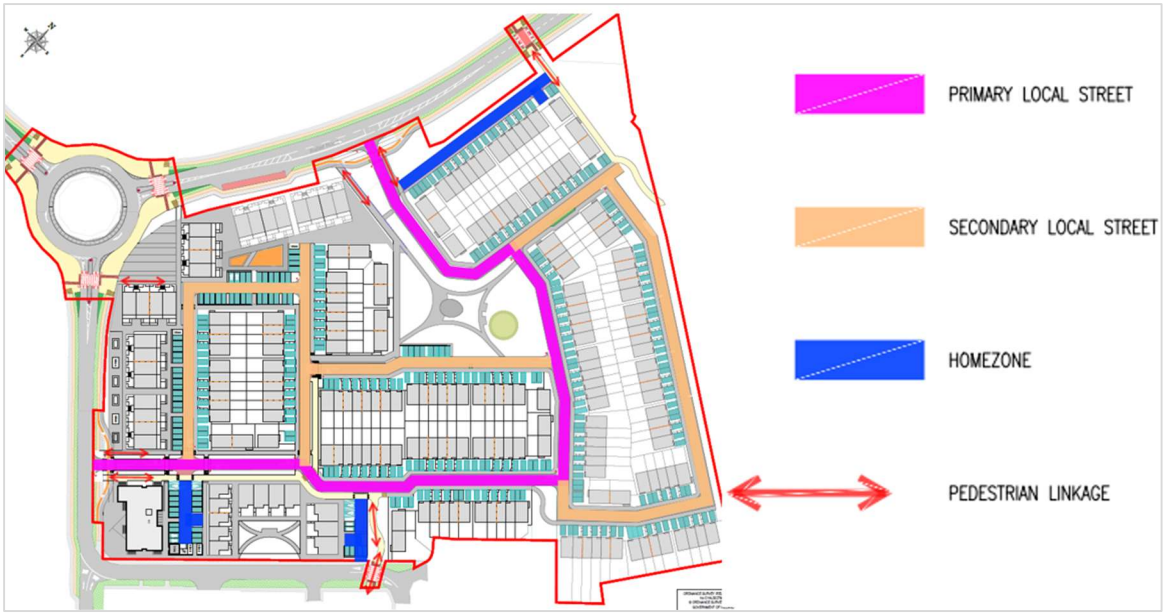


Figure 4-3: Internal Road Hierarchy

4.4 Parking Proposals

Car Parking Provision

The total car parking provision on site has been determined in accordance with the WCC Development Plan 2022-2028 car parking standards. The WCC plan standards specify a maximum requirement based on the guidelines outlined in Table 2.3 - Car Parking Standards.

Reference was also made to the following:

- Chapter 4 of ***Sustainable Urban Housing: Design Standards For New Apartments Guidelines For Planning Authorities***, as published by the Department of Housing, Planning and Local Government (DHPLG), 2023.
- Section 5.3.4 of **Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities**, as published by the Department of Housing, Planning and Local Government (DHPLG), 2024.

It is noted that the WCC Development Plan 2022-2028 car parking standards are less than those prescribed by the Compact Settlement Guidelines as stated previously. However, the provision of parking for residential uses is in accordance with the Compact Growth Guidelines, as the maximum standard is required.

Table 2.3 of the WCC development plan does not mention requirements for car parking spaces for Later Living units. However, the subject development proposals include 26 no. parking spaces on the site for the LLUs and for the non-residential uses. A total of 4 no. accessible spaces are included.

The car parking requirements and the car parking provision is presented below in **Table 4-2.**

Unit Type		No. of Units	WCC Parking Requirement	Apartment Guidelines Requirement	Compact Growth Guidelines Requirement	Car Parking Proposed
House	2-Bed	103	124	-	206	103
	3- Beds	70	140		140	140
	4- Beds	12	24		24	24
Duplex & GF Apartments	1-Bed	24	24	30 -32	96	24
	3- Beds	24	24	30-32		24
Later Living Units & Non-Residential Uses	1-2-beds	36	-	-	-	26
		Total	364	-	466	341

Table 4-2: Car Parking Requirements & Provision

In reference to the architect's scheme drawings the following level of car parking is to be provided on-site to serve the proposed development, complying with the WCC maximum parking standards;

- Surface Parking: 4 Bed House Units - 24 no. spaces (2 per unit);
- Surface Parking: 3 Bed House Units – 140 no. spaces (2 per unit);
- Surface Parking: 2 Bed House Units – 103 no. spaces (1 per unit);
- Surface Parking: 1 Bed GF Apartments – Units – 24 no. spaces (1 per unit);

- Surface Parking: 3 Bed Duplex – Units (front driveways) – 24 no. spaces (1 per unit);
- Surface Parking: LLUs & Non-residential Uses area – 26 no. spaces.

Electrical Vehicle Parking

Provision of EV Charging Points

The proposals include the provision of EV charging points as detailed below:

EV Parking Hubs

- These hubs provide EV charging facilities for apartments, LLUs, commercial spaces, and residential units with off-curtilage assigned parking.
- Each hub consists of 6 charging spaces, totalling 12 spaces across 2 hubs.

Standard Residential Units with In-Curtilage Parking (245 spaces)

- These spaces are pre-wired for future EV charging installations.

Further details of the development's car parking proposals, including the allocation for the entire development, are illustrated in the architects' scheme drawings submitted with this planning application.

Cycle Parking Provision

Reference has been made to table 2.4 within the Development Plan which outlines the minimum cycle parking standards. Reference has also been made to Section 4.22 of the Department of Housing, planning and Local Government (DHPLG) 'Sustainable Urban Housing: Design Standards for New Apartments and Compact Settlement Guidelines.

A comparison of the proposed cycle parking provision against the WCC Development Plan, the New Apartment Guidelines and Compact Settlement Guidelines requirements and the proposed provision are shown in **Table 4-3**.

Unit Type		No. of Units	WCC Parking Requirement	DHLGH Requirement	Compact Growth Guidelines Requirement	Car Parking Proposed
House	2-Beds	103	227	-	206	206
	3- Beds	70	-		-	-
	4- Beds	12	-		-	-
Duplex & GF Apartments	1-Bed	24	29	36	24	48
	3- Beds	24	77	84	72	84
Later Living Units	1-Bed	12	14	18	12	18
	2-Beds	24	53	30	48	50
	Non-residential	Medical centre / Pharmacy / Café	-	-	-	8
Total			399	168	362	414

Table 4-3: Cycle Parking Requirements & Provision.

Note that detached, semi-detached, and end townhouse units do not need dedicated bike storage spaces, as they have direct access to their private areas for storing bikes.

The development proposes to provide cycle parking which is in excess of both the Development Plan and Compact Settlement Guidelines requirements.

Further details of the development's cycle parking proposals, including the allocation for the entire development, are illustrated in the architects' scheme drawings submitted with this planning application.

4.5 Blessington Inner Relief Road / Link Road Roundabout Improvements

Pedestrians and cyclists travelling through the Inner Relief Road / Link Road Roundabout benefit from segregated cycle tracks and footpaths on all sides of the junction in the vicinity of the subject site. It is noted however, that there is only an informal uncontrolled crossing on the southeastern arm of the junction while there are no crossing facilities on the western or northern arms of the junction.

As part of the proposed development, the pedestrian and cyclist connectivity will be significantly enhanced. One of the key improvements will be at the Blessington Inner Relief Road/Link Road Roundabout, as described following:

- Upgraded pedestrian and cyclist crossings over each arm of the BIRR roundabout, located at the western site boundary, in accordance with the Cycle Design Manual (as shown in **Figure 4-4**).

DMURs states that well designed and frequently provided crossings are critical to the balancing of movement priorities. The design of crossings, and the frequency at which they are provided, in the spirit of DMURs has significant impact on pedestrian / cyclist mobility and comfort and the flow of vehicular traffic within the Urban Area.

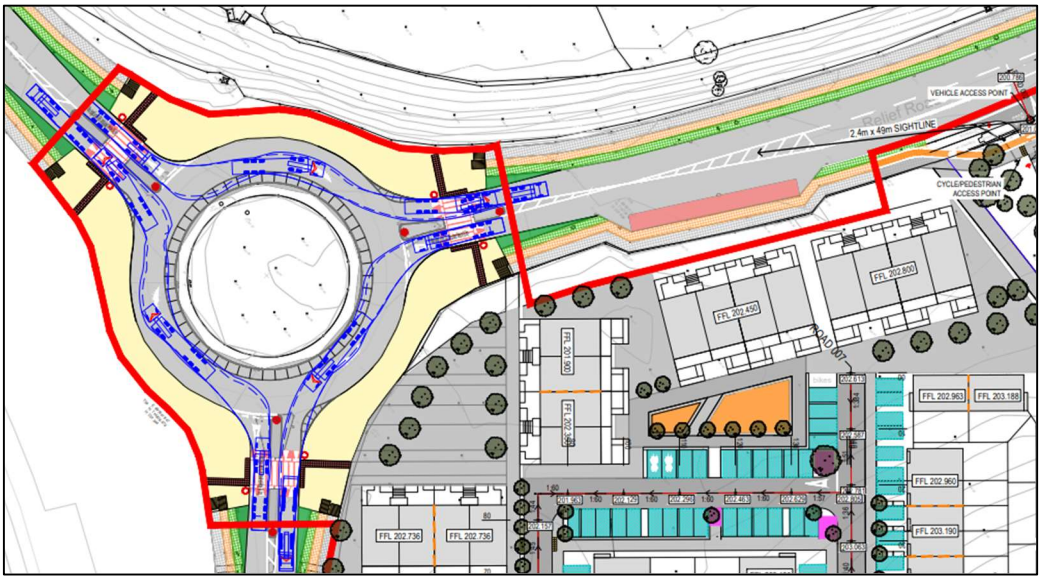


Figure 4-4: Proposed Upgraded Roundabout on BIRR

Additional improvements are proposed in the current plan to enhance pedestrian and cyclist connectivity and safety throughout the site:

- New raised Toucan crossing on the Blessington Inner Relief Road (BIRR), located adjacent the north west corner of the site (as shown in **Figure 4-5**).
- New raised combined zebra crossing over the local street at the southeastern site boundary (as shown in **Figure 4-6**).
- Raised, continuous footpath and cycle tracks at both vehicular entrances (as shown in **Figure 4-7**).

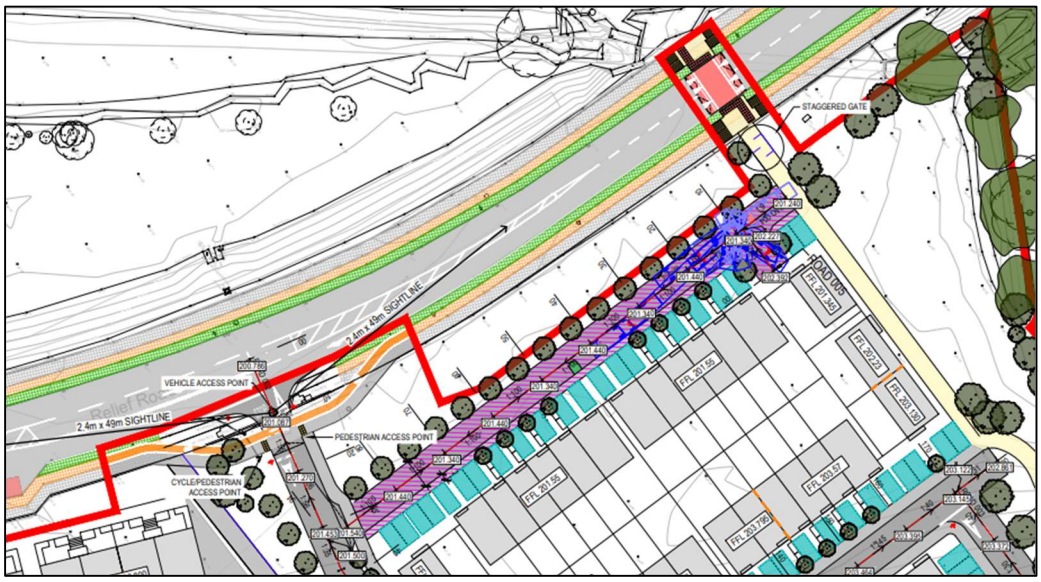


Figure 4-5: Proposed Raised Toucan on BIRR

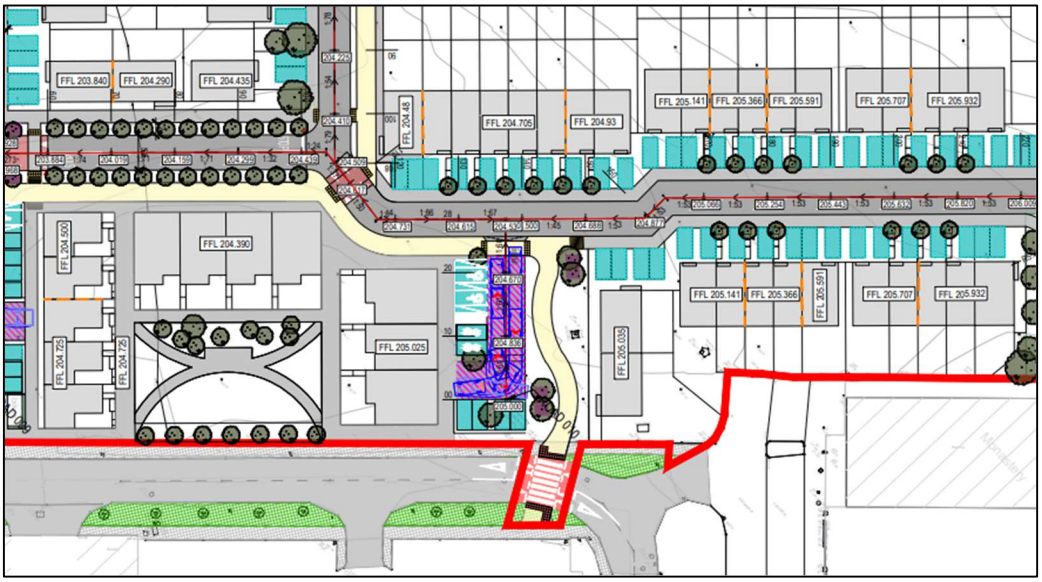


Figure 4-6: Proposed Raised Combined Zebra Crossing

Figure 4-7: Proposed Continuous Raised Footpath and Cycle Tracks at Entrances

The well-connected internal network of pedestrian and cyclist routes within the subject site, in tandem with the enhancements illustrated above, will encourage residents of the subject development to undertake local trips by foot or by bike.

The internal site network plus the improvements to crossing facilities outlined above will be designed in accordance with current design standards, including the Cycle Design Manual, and will therefore be fully accessible to people with mobility and visual impairments.

5 Trip Generation and Distribution

5.1 Introduction

The following paragraphs present the extent of the traffic assessment carried out as part of this traffic and transport assessment for the proposed residential development located in Blessington, Co. Wicklow.

In order to assess the impact of the proposed development on the local area, a traffic model of the existing network was created. Existing traffic volumes were obtained from junction turning counts carried out in the vicinity of the subject site access in February 2024, therefore peak hour flows were established i.e., base flows for 2024.

5.2 Traffic Survey

With the objective of quantifying the existing traffic movements across the local road network, junction turning counts were undertaken.

A vehicle turning count survey (junction turning count - JTC) was conducted over a 12-hour period from 07:00 to 19:00 on Tuesday 20th February 2024 at the Inner Relief Road / Link Road Roundabout, Inner Relief Road / Oak Drive Roundabout and the N81 Main Street junction with Oak Drive and the Maxol Petrol Station entrance.

An Automatic Traffic Count (ATC) was also carried out along the Inner Relief Road, approx. 90m north of the Inner Relief Road / Link Road Roundabout and along the Link Road approximately 95m southeast of the Inner Relief Road / Link Road Roundabout over a 7- day period from Monday 19th February to Sunday 25th February 2024.

The surveys undertaken by TRACSIS established that the local network's AM and PM peak hours occur between 08:30-09:30 and 17:15-18:15 respectively.

In order to analyse and assess the impact of the proposed development on the surrounding road network, a traffic generation and distribution model (excel based) of the following key junctions was created:

- **Junction 1** – Blessington Inner Relief Road / Link Road Roundabout;
- **Junction 2** – N81 Main Street / Oak Drive / Maxol Petrol Station Access; and
- **Junction 3** – Blessington Inner Relief Road / Oak Drive

The recorded 2024 traffic survey locations are presented in **Figure 5-1** below.

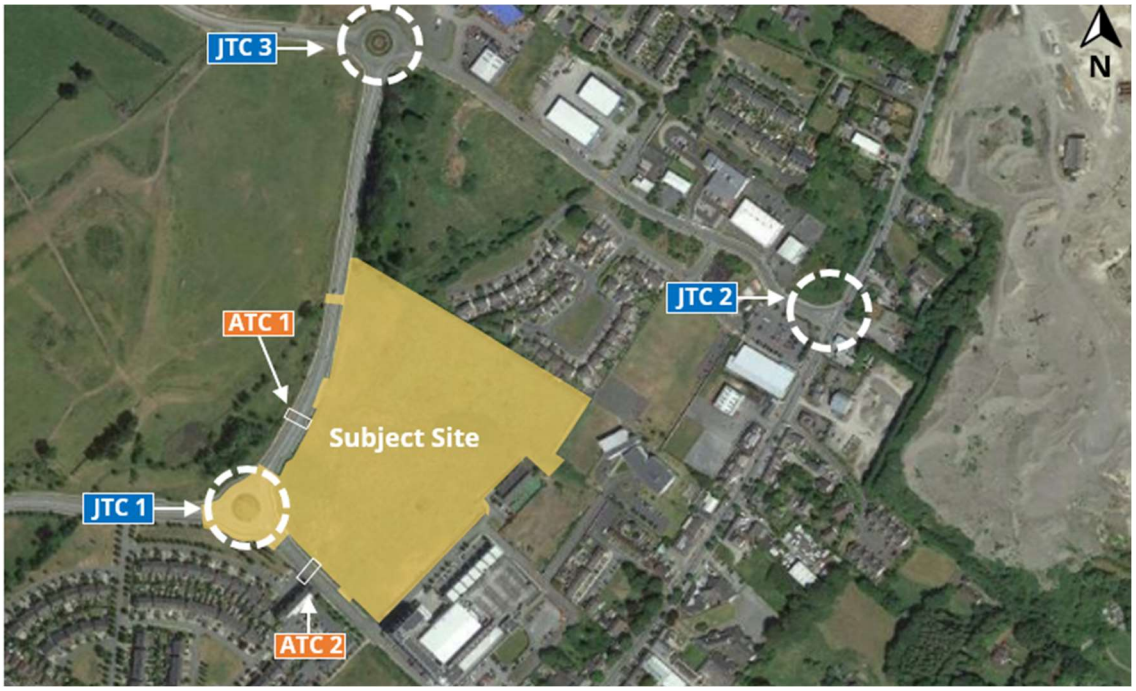


Figure 5-1: Location of Traffic Surveys – February 2024

Blessington Inner Relief Road / R410 Naas Road roundabout

To address a point raised in the LRD Meeting / Opinion and to conduct a robust assessment, the analysis of the R410/Nass Road Roundabout was incorporated into this Traffic and Transportation Assessment (TTA).

Since direct survey data for this junction was lacking, we evaluated publicly available third-party data. The data used in this assessment were extracted from a TTA conducted for a planning application related to a development in the area, which included traffic survey on several junctions in 2023, including the R410 Nass Road roundabout.

It is important to note that while the survey undertaken by TRACSIS covered other junctions in 2024, the R410/Nass Road Roundabout survey was conducted in 2023. To align the data, DBFL applied annual factors to adjust the 2023 survey results to our base year of 2024.The R410 Naas Road roundabout in context with the subject site is show in **Figure 5-2** below.

Figure 5-2 : Location of Blessington Inner Relief Road / R410 Naas Road roundabout in Context with Subject Site

5.3 Trip Generation – Proposed Development

A review of trip generation factors contained within the TRICS database was carried out. TRICS data is primarily UK based, although a number of Irish sites have recently been included and the number of Irish sites continues to expand. Nevertheless, we consider that TRICS will provide a reasonable indication of traffic generation from the proposed development.

Notwithstanding the above, internal research undertaken by TRICS has shown that there is no direct evidence of trip rate variation by country or region. The use of English, Scottish or Welsh data can be equally applicable to Ireland if users take into account important site selection filtering factors such as levels of population, location type, local public transport provision, and development size and car ownership level, amongst others.

Data supplied for inclusion in TRICS undergoes a procedure of validation testing and there is no evidence from this procedure suggesting that data from Ireland bears any significant fundamental differences to that from the other countries included. Consequently, we consider that TRICS will provide a reasonable indication of traffic generation from the proposed development.

The following paragraphs present the process by which the potential level of person trips and associated vehicle trips, generated by the subject development have been quantified and subsequently assigned across the local road network.

It must be noted that non-residential uses (a medical centre, a pharmacy and a café) are assumed to be used primarily by residents within the proposed development and existing surrounding developments and have a limited car parking provision of 4 no. spaces. As such, external travel to / from the non-residential uses space is expected to be limited, thus it has been excluded from the following proposed development trip rates.

Table 5-1 includes the predicted TRICS derived trip by the proposed development, during the morning and evening peak hour periods, in a worst-case scenario (e.g. there is no curtailment / reduction in car parking). With the proposed development featuring a reduced level of car parking, the actual level of vehicular traffic is predicted to be below the volumes.

Land Use	AM Peak Hour			PM Peak Hour		
	Arr	Dep	Two-way	Arr	Dep	Two-way
Houses	0.175	0.332	0.507	0.367	0.217	0.584
Duplex & Apartments	0.122	0.220	0.341	0.155	0.189	0.344
LLU	0.166	0.074	0.240	0.152	0.153	0.305

Table 5-1: Proposed Development Trip Rates (TRICS)

It is estimated that the proposed development could potentially generate a total of 117 and 135 two-way vehicle movements during the road network's AM and PM peak hours respectively on a typical weekday as detailed in below.

Land Use	No. of Units / GFA (m^2)	AM Peak Hour			PM Peak Hour		
		Arr	Dep	Two-way	Arr	Dep	Two-way
Houses	185	32	61	93	68	40	108
Duplex & Apartments	48	6	11	17	7	9	17
LLU	32	5	2	7	5	5	10
Total		**43**	**74**	**117**	**80**	**54**	**135**

Table 5-2: Proposed Residential Development Trip Generation

5.4 Trip Generation - Committed Development

5.4.1 Introduction

Following a review of the WCC online planning portal, DBFL has identified the extent of existing third-party developments within the area of influence of the Blessington site. These developments currently benefit from planning permission but have yet to be constructed or occupied. Additionally, schemes pending a decision have also been considered. DBFL has subsequently included these third-party development proposals as 'committed developments' within the network assessment. It should be noted that the two applications granted at the subject site have been excluded, as this proposal will override them.

5.4.2 Committed Development – WCC Ref. 191020 & ABP Ref. 306425

Southeast of the subject development, planning permission was granted for 58 No. residential apartment units (WCC Ref. 191020 & ABP Ref. 306425); the application has received planning permission from An Bord Pleanála. This committed development is bounded by the Cocoon Childcare facility to the northwest, a multistorey car park and shopping centre to the southwest and the St. Mary's National School and adjoining Tramway Theatre to the northeast. DBFL consider that the permitted development may generate an impact on the local road network and as such it is included as a committed development. In order to determine the level of traffic generated by this third-party residential development, DBFL have utilised the predicted number of trips as contained within the traffic and transportation assessment submitted as part of the subject development's planning application. **Table 5-3** below summarises the predicted peak hour AM and PM traffic generated by the committed residential development.

Land Use	No. of Units	AM Peak Hour			PM Peak Hour		
		Arr	Dep	Two-way	Arr	Dep	Two-way
Apartments	58	4	9	13	12	8	20

Table 5-3: Committed Development (WCC Ref. 191020) Trip Generation

In order to provide a robust assessment DBFL have assumed that the entire development will be occupied by the adopted Opening Year of 2027. The location of the committed development in relation to the proposed development can be seen in **Figure 5-3**.

5.4.3 Committed Development – WCC Ref. 19940

Located on Kilbride Road, a 104-bed nursing home and independent living development has been granted permission in Blessington. The development proposes the provision of 66 no. car parking

spaces and a vehicular site access on Kilbride Road, with a separate pedestrian access on the N81 Main Street.

DBFL consider that the permitted development may generate an impact on the local road network and as such it is included as a committed development. The vehicle trips associated with the committed development were retrieved from the Traffic Impact Assessment submitted as part of the development's planning application. **Table 5-4** below shows the predicted peak hour AM and PM traffic generated by the committed residential development.

Land Use	No. of Units	AM Peak Hour			PM Peak Hour		
		Arr	Dep	Two-way	Arr	Dep	Two-way
Nursing Home	104	12	11	23	9	15	24

Table 5-4: Committed Development (WCC. Ref 19940) Traffic Generation

In order to provide a robust assessment, DBFL have assumed that the entire development will be occupied by the adopted Opening Year of 2027. The location of the committed development in relation to the proposed development can be seen in **Figure 5-3**.

5.4.4 Committed Development – WCC Ref. 20108

The Rectory development, located on Kilbride Road, has been granted permission for the provision of 33 no. houses and 12 no. apartments. The development's vehicular access is proposed on Kilbride Road with 81 no. car parking spaces provided throughout the site.

DBFL consider that the permitted development may generate an impact on the local road network and as such it is included as a committed development.

In order to determine the level of traffic generated by this third-party residential development, DBFL utilised the same houses and apartment trip rates as those utilised for the proposed subject development as shown in **Table 5-1**.

Table 5-5 below summarises the predicted peak hour AM and PM traffic generated by the committed residential development.

Land Use	No. of Units	AM Peak Hour			PM Peak Hour		
		Arr	Dep	Two-way	Arr	Dep	Two-way
Houses	33	6	11	17	12	7	19
Apartments	12	1	3	4	2	2	4
Total	**45**	**7**	**14**	**21**	**14**	**9**	**23**

Table 5-5: Committed Development (WCC Ref. 20108) Traffic Generation

In order to provide a robust assessment, DBFL have assumed that the entire development will be occupied by the adopted Opening Year of 2027. The location of the committed development in relation to the proposed development can be seen in **Figure 5-3**.

5.4.5 Committed Development – WCC Ref. 23689

Northwest of the subject development, planning permission was sought for a Large Scale Residential Development consisting of 329 units (270 houses, 47 apartments, and 12 duplex units). Although this development is currently on appeal and has not been granted, it was included in the analysis to ensure a robust assessment.

The proposals also include the provision of 10.65 ha town park and the extension of the Blessington Inner Relief Road from the existing roundabout at Blessington Demesne to the N81, north of the Woodleigh residential estate (WCC Ref. 23689).

The development vehicular accesses are located along the School Link Road and the proposed extension to the Blessington Inner Relief Road.

DBFL considers that if permitted , the proposed development may generate an impact on the local road network and as such it is included as a committed development.

In order to determine the level of traffic generated by this third-party residential development, DBFL have utilised the predicted number of trips as contained within the traffic and transportation assessment submitted as part of the subject development's planning application. **Table 5-6** below summarises the predicted peak hour AM and PM traffic generated by the committed residential development.

Land Use	No. of Units	AM Peak Hour			PM Peak Hour		
		Arr	Dep	Two-way	Arr	Dep	Two-way
Apartments	47	3	7	10	10	7	17
Duplexes	12	1	2	3	2	2	4
Houses	270	36	80	116	79	47	126
Total	**329**	**40**	**89**	**129**	**91**	**56**	**147**

Table 5-6: Committed Development (WCC Ref. 23689) Traffic Generation

In order to provide a robust assessment, DBFL have assumed that the entire development will be occupied by the adopted Opening Year of 2027. The location of the committed development in relation to the proposed development can be seen in **Figure 5-3**.

5.4.6 Committed Development – WCC Ref. 201146 and 221191

Located along the Blessington Inner Relief Road, planning permission was granted for 91 no. residential housing units. The application was amended under WCC Ref. 221191 to include a 538

sqm creche and a new pedestrian link from Oak Drive. The application has received planning permission from Wicklow County Council.

This committed development is bounded to the east by the Blessington Inner Relief Road, to the south west by existing residential developments, to the west by open space and to the north by the School Link Road.

At the time when the most recent traffic surveys were conducted in February 2024, the houses had been constructed but were not yet fully occupied. To provide a robust assessment, DBFL assumed the overall trip generation from this development as submitted as part of the development's planning application.

Table 5-7 below summarises the predicted peak hour AM and PM traffic generated by the committed residential development.

Land Use	No. of Units	AM Peak Hour			PM Peak Hour		
		Arr	Dep	Two-way	Arr	Dep	Two-way
Houses	91	16	33	49	38	25	63

Table 5-7: Committed Development (WCC Ref. 201146) Traffic Generation

The location of the committed development in relation to the proposed development can be seen in **Figure 5-3**.

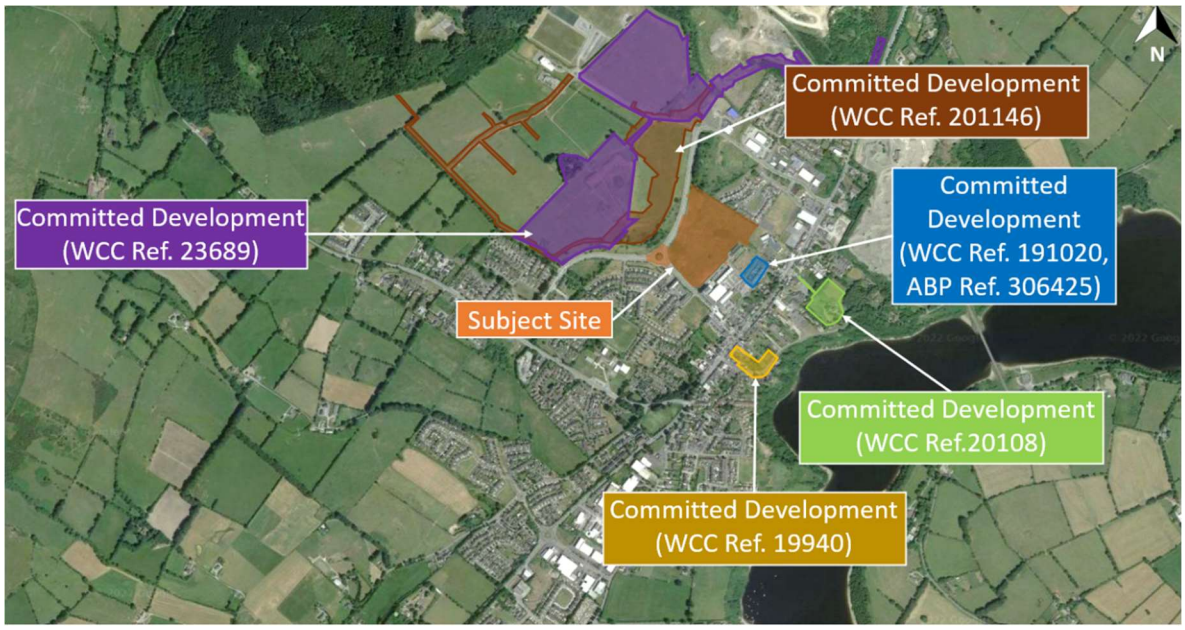


Figure 5-3: Location of Committed Developments

5.5 Trip Distribution and Assignment

The distribution of the proposed development's generated vehicle movements as proposed by DBFL is presented in **Figure 19** as included in **Appendix B** of this report. The associated residential and Later Living units site vehicle trips have been assigned to the surrounding road network based on the surveyed traffic movements passing the site based on the following assumptions.

In the Opening Year 2027, we have assumed that all 185 no. residential houses, 48 no. duplex/apartments and as well as the 36 no. Later Living units, will be complete and occupied and that the full length on the northern extension to the Blessington Inner Relief Road will be completed. In this 2027 scenario we have assumed the following distribution for the subject residential and Later Living site development:

- 60% of all vehicle trips will travel via the Inner Relief Road North (towards Dublin);
- 23% of all vehicle trips will travel via the Inner Relief Road South (towards the R410 Naas Road / Inner Relief Road Roundabout)
- 15% of all vehicle trips will travel via the N81 Main Street South; and
- 2% of all vehicle trips will travel via the N81 Main Street North.

5.6 Traffic Growth

This TTA adopts a Base Year of 2024, an Opening Design Year of 2027, an Interim Design Year of 2032 (+5 years) and a long-term Future Design Year of 2042 as per TII guidelines". To ensure a robust analysis of the impact of the traffic on the local road network, growth rates have been adopted using the Transport Infrastructure Ireland (TII) "Travel Demand Projections".

Table 6.2 within the TII Project Appraisal Guidelines Unit 5.3 provides Link-Based Annual Traffic Growth Factors for the different counties and metropolitan areas within Ireland. The subject site lies within 'Wicklow' with the growth factors as outlined within **Table 5-8** below:

Low Sensitivity Growth Rates						Central Growth Rates						High Sensitivity Growth Rates					
2016-2030		2030-2040		2040-2050		2016-2030		2030-2040		2040-2050		2016-2030		2030-2040		2040-2050	
LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1.0140	1.0361	1.0033	1.0153	1.0029	1.0185	1.0157	1.0377	1.0051	1.0051	1.0047	1.0204	1.0189	1.0412	1.0091	1.0091	1.0110	1.0305

Table 5-8: Link Based Growth Rates : Country Annual Growth Rates (Extract from Table 6.2 PAG Unit 5.3)

Applying the annual factors (central growth) as outlined within **Table 5-8** above for the adopted Opening Year of 2027, the Interim Year of 2032 (+5 years) and the Future Design Year of 2042 (+15

years), the following growth rates have been adopted to establish the corresponding 2027, 2032 and 2042 baseline network flows;

- 2024 to 2027 – 1.048 or (4.8%)
- 2024 to 2032 – 1.098 or (9.8%)
- 2024 to 2042 – 1.154 or (15.4%)

For the R410 Nass Road Roundabout / Inner Relief Road, the following growth rates have been adopted to establish the corresponding 2027, 2032 and 2042 baseline network flows;

- 2023 to 2024 – 1.016 or (1.6%)
- 2024 to 2027 – 1.064 or (6.4%)
- 2024 to 2032 – 1.103 or (10.3%)
- 2024 to 2042 – 1.159 or (15.9%)

5.7 Assessment Scope

5.7.1 Assessment Scenarios

Two different traffic scenarios have been assessed, namely (a) the `Base' (Do-Nothing) traffic characteristic, and (b) the `Post Development' (Do-Something) traffic characteristics.

The 'Do-Nothing' traffic scenario takes into account the potential level of traffic that could be generated by the 'committed development' in addition to the existing flows travelling across the network subjected to growth rates.

The proposed development traffic flows are then added to the network's 'Do-Nothing (Base with growth rates applied + Committed Development) traffic flows to establish the new post development 'Do-Something' traffic flows.

For the purposes of this assessment, it has been assumed that the entire proposed development could be in place by the end of the adopted 2027 Opening Year. In summary the following scenarios are considered:

- **Do Nothing A1** – 2027 Base Flows + Committed Development;
- **Do Nothing A2** – 2032 Base Flows + Committed Development.
- **Do Nothing A3** – 2042 Base Flows + Committed Development;
- **Do-Something B1** - 2027 Do Nothing (A1) + Proposed Development Flows;
- **Do-Something B2** - 2032 Do Nothing (A2) + Proposed Development Flows;
- **Do-Something B3** - 2042 Do Nothing (A3) + Proposed Development Flows.

The AM and PM peak hour flows have been identified within the traffic survey data as occurring between 08:30 – 09:30 and 17:15 – 18:15 respectively.

The figures as included in **Appendix B** present the vehicle flows across the local road network for each of the adopted development scenarios mentioned above.

5.8 Impact of Proposals

The TII document entitled Traffic and Transport Assessment Guidelines (2014) provides thresholds in relation to the impact of a proposed development upon the local road network. The scale of impact is considered material when the level of traffic it generates surpasses the thresholds of 10% and 5% on normal and congested networks, respectively. When such levels of impact are generated a more detailed assessment should be undertaken to ascertain the specific impact upon the network's operational performance.

In accordance with the TII guidelines, we have undertaken an assessment to establish the potential level of impact upon the key junctions of the local road network. To enable this calculation to be undertaken we have based the analysis upon the 2027 Opening Year and the 2032 and 2042 Future Design Year scenarios.

To provide a robust assessment, DBFL has assumed that the extension of the Blessington Inner Relief Road, from the existing roundabout at Blessington Demesne to the N81, north of the Woodleigh residential estate, will be in place by the 2027 Opening Year of the proposed development. This analysis will be further detailed in the next chapter.

Table 5-9 details the specific scale of network impact predicted at each of the key local junctions during the 2027 opening year and 2032 and 2042 future design years.

Junction		Year	AM Peak			PM Peak		
			DN	DS	% Impact	DN	DS	% Impact
1	Inner Relief Road / Link Road Roundabout	2027	1245	1274	2.34%	1240	1273	2.66%
		2032	1300	1329	2.24%	1293	1326	2.55%
		2042	1359	1388	2.14%	1353	1386	2.43%
2	N81 Main Street / Oak Drive / Maxol Petrol Station Access	2027	593	624	5.16%	685	720	5.10%
		2032	621	652	4.93%	714	749	4.88%
		2042	653	683	4.69%	748	783	4.67%
3	Blessington Inner Relief Road / Oak Drive Roundabout	2027	1241	1312	5.79%	1209	1291	6.77%
		2032	1290	1362	5.57%	1255	1337	6.53%
		2042	1346	1418	5.33%	1306	1388	6.27%

4	Inner Relief Road / Nass Road Roundabout	2027	1248	1276	2.21%	1326	1357	2.36%
		2032	1301	1328	2.12%	1379	1411	2.27%
		2042	1363	1391	2.02%	1445	1476	2.17%

Table 5-9: Network Impact through Key Offsite Junctions

As junctions 2 and 3 are expected to experience an impact greater than 5%, a junction performance analysis was conducted. This significant impact at these junctions is attributed to the redistribution of traffic, assuming the northern link of the Blessington Inner Relief Road is completed by the proposed development's opening year. It is important to note that planning permission for this project is currently pending under Ref. 23689.

Figure 5-4 also detail the percentage increase of two-way vehicle trips to/from the proposed development site that will travel through the junctions assessed in the Opening Year and Future Year scenarios. The development scenarios considered full construction and occupation of both the proposed and committed developments by 2042 Interim Year, to show how the development may impact the network across design years. Percentage impacts were calculated for the impact of the development in "Do-Nothing" Scenarios vs "Do-Something" scenarios for the corresponding years.

Figure 5-4: 2042 Network Impact

6 Network Analysis

6.1 Introduction

The operational assessment of the local road network has been undertaken using the Transport Research Laboratory (TRL) computer package PICADY for priority-controlled junctions and ARCADY for roundabout junctions. When considering priority-controlled junctions, a Ratio of Flow to Capacity (RFC) of greater than 85% (0.85) would indicate a junction to be approaching capacity, as operation above this RFC value is poor and deteriorates quickly.

For both the PICADY and ARCADY analyses a 90-minute AM and PM period has been simulated, from 08:00 to 09:30 and 17:15 to 18:30, respectively. For both the PICADY and ARCADY analyses traffic flows were entered using an Origin-Destination table for the peak hours.

In order to analyse and assess the impact of the proposed development on the surrounding road network, a traffic model of the junctions was analysed for the schemes Opening Year (2027), Interim Year (2032) and Future Year (2042).The following key junctions have been analysed as illustrated in **Figure 6-1** below:

- Junction 1 – Blessington Inner Relief Road / Link Road Roundabout
- Junction 2 – N81 Main Street / Oak Drive / Maxol Petrol Station Access
- Junction 3 – Blessington Inner Relief Road / Oak Drive Roundabout
- Junction 4 – Blessington Inner Relief Road / R410 Nass Road Roundabout

Figure 6-1: Junction Included within Network Analysis

6.2 Junction 1 – Blessington Inner Relief Road / Link Road

The existing three arm roundabout junction has been analysed for all of the modelling scenarios using the Junctions 9 ARCADY software package. The results of the operational assessment of this junction during the weekday morning and evening peaks for the Do Nothing and Do Something scenarios are summarised in **Table 6-1** and **Table 6-2** below respectively.

In the "Do Nothing" and "Do Something" scenarios the three arms were labelled as follows within the ARCADY model, as shown in **Figure 6-2** below:

- Arm 1: Link Road (SE)
- Arm 2: Inner Relief Road (W)
- Arm 3: Inner Relief Road (NE)

Figure 6-2: Junction 1 – Inner Relief Road / Link Road

6.2.1 Do-Nothing Scenario

The ARCADY results (**Table 6-1**) indicate that the Inner Relief Road / Link Road Roundabout junction will operate within capacity for the 2027 "Do Nothing" AM peak hour with a maximum RFC value of 0.53 and a corresponding queue of 1.2 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (W). For the 2027 "Do Nothing PM peak hour, a maximum RFC value of 0.48 occurs on Arm 3 of the roundabout, the Inner Relief Road (NE), with a corresponding queue of 1.0 pcus.

For the 2032 "Do Nothing" scenario, the ARCADY results indicate that the Inner Relief Road / Link Road Roundabout junction will operate within capacity for the AM peak hour with a maximum RFC value of 0.56 and a corresponding queue of 1.4 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (W). For the 2032 "Do Nothing" PM peak hour, a maximum RFC value of 0.50 occurs on Arm 3 of the roundabout, the Inner Relief Road (NE), with a corresponding queue of 1.1 pcus.

For the 2042 Future Design Year 'Do Nothing,' scenario the ARCADY results indicate that the Inner Relief Road / Link Road Roundabout junction will operate within capacity for the 2042 "Do Nothing" AM peak hour with a maximum RFC value of 0.59 and a corresponding queue of 1.5 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (W). For the corresponding "Do Nothing" PM peak hour a maximum RFC value of 0.53 occurs on Arm 3 of the roundabout, the Inner Relief Road (NE), with a corresponding queue of 1.2 pcus.

Year	Period	Arm	Description	RFC	Queue (PCUs)	Delay (s)
2027 DN	AM Peak	1	Link Road (SE)	0.12	0.1	3.39
		2	Inner Relief Road (W)	0.53	1.2	5.66
		3	Inner Relief Road (NE)	0.27	0.4	3.43
	PM Peak	1	Link Road (SE)	0.18	0.2	4.29
		2	Inner Relief Road (W)	0.26	0.4	3.55
		3	Inner Relief Road (NE)	0.48	1.0	4.72
2032 DN	AM Peak	1	Link Road (SE)	0.12	0.2	3.44
		2	Inner Relief Road (W)	0.56	1.4	5.99
		3	Inner Relief Road (NE)	0.28	0.4	3.50
	PM Peak	1	Link Road (SE)	0.19	0.3	4.41
		2	Inner Relief Road (W)	0.27	0.4	3.60
		3	Inner Relief Road (NE)	0.50	1.1	4.93
2042 DN	AM Peak	1	Link Road (SE)	0.13	0.2	3.48
		2	Inner Relief Road (W)	0.59	1.5	6.39
		3	Inner Relief Road (NE)	0.29	0.4	3.57
	PM Peak	1	Link Road (SE)	0.20	0.3	4.56
		2	Inner Relief Road (W)	0.15	0.2	3.09
		3	Inner Relief Road (NE)	0.53	1.2	5.19

Table 6-1: 2027, 2032 and 2042 Do-Nothing Analysis for Junction 1

6.2.2 Do-Something Scenario

The ARCADY results (**Table 6-2**) indicate that the Inner Relief Road / Link Road Roundabout junction will operate within capacity for the 2027 "Do Something" AM peak hour with a maximum RFC value of 0.78 and a corresponding queue of 3.7 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (W). For the 2027 "Do Something" PM peak hour, a maximum

RFC value of 0.74 occurs on Arm 3 of the roundabout, the Inner Relief Road (NE), with a corresponding queue of 3.1 pcus.

For the 2032 "Do Something" scenario, the ARCADY results indicate that the Inner Relief Road / Link Road Roundabout junction will operate within capacity for the AM peak hour with a maximum RFC value of 0.81 and a corresponding queue of 4.5 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (W). For the 2032 "Do Something" PM peak hour, a maximum RFC value of 0.78 occurs also on Arm 3 of the roundabout, the Inner Relief Road (NE), with a corresponding queue of 3.7 pcus.

For the 2042 Future Design Year "Do Something" scenario the ARCADY results indicate that the Inner Relief Road / Link Road Roundabout junction will operate within capacity for the 2042 "Do Something" AM peak hour with a maximum RFC value of 0.85 and a corresponding queue of 5.8 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (W). For the corresponding "Do Something" PM peak hour a maximum RFC value of 0.81 occurs on Arm 3 of the roundabout, the Inner Relief Road (NE), with a corresponding queue of 4.6 pcus.

Year	Period	Arm	Description	RFC	Queue (PCUs)	Delay (s)
2027 DS	AM Peak	1	Link Road (S)	0.18	0.2	5.26
		2	Inner Relief Road (W)	0.78	3.7	16.77
		3	Inner Relief Road (NE)	0.42	0.8	6.70
	PM Peak	1	Link Road (S)	0.28	0.4	7.33
		2	Inner Relief Road (W)	0.39	0.7	6.17
		3	Inner Relief Road (NE)	0.74	3.1	14.62
2032 DS	AM Peak	1	Link Road (S)	0.18	0.2	5.36
		2	Inner Relief Road (W)	0.81	4.5	19.71
		3	Inner Relief Road (NE)	0.44	0.9	6.93
	PM Peak	1	Link Road (S)	0.30	0.5	7.66
		2	Inner Relief Road (W)	0.40	0.7	6.33
		3	Inner Relief Road (NE)	0.78	3.7	16.72
2042 DS	AM Peak	1	Link Road (S)	0.19	0.3	5.46
		2	Inner Relief Road (W)	0.85	5.8	24.56
		3	Inner Relief Road (NE)	0.46	0.9	7.20
	PM Peak	1	Link Road (S)	0.32	0.5	8.08
		2	Inner Relief Road (W)	0.42	0.8	6.53
		3	Inner Relief Road (NE)	0.81	4.6	20.01

Table 6-2: 2027, 2032 and 2042 Do-Something Analysis for Junction 1

A copy of the ARCADY output file can be found in **Appendix D**.

6.3 Junction 2 – N81 Main Street / Oak Drive

The existing four arm priority-controlled junction has been analysed for all of the modelling scenarios using the Junctions 9 PICADY software package. The results of the operational assessment of this junction during the weekday morning and evening peaks for the Do Nothing and Do Something scenarios are summarised in **Table 6-3** and **Table 6-4** below respectively.

In the "Do Nothing" and "Do Something" scenarios, the four arms of the junction were labelled as follows within the PICADY model, as shown in **Figure 6-3**.

- Arm A: N81 Main Street South
- Arm B: Oak Drive
- Arm C: N81 Main Street North
- Arm D: Maxol Petrol Station

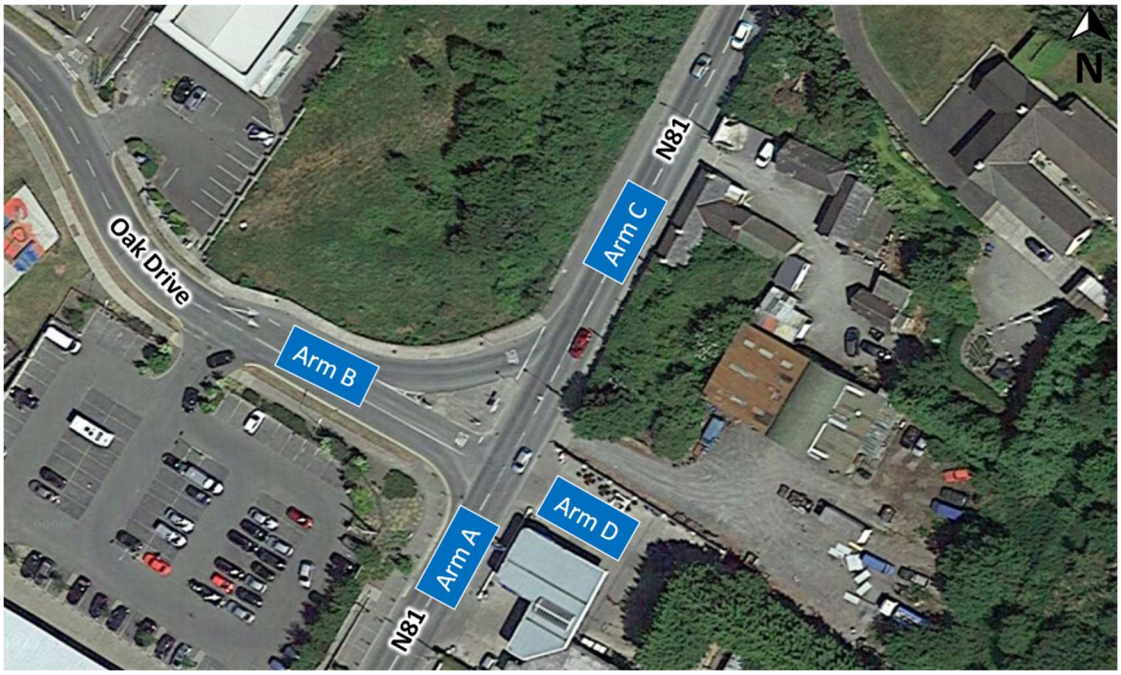


Figure 6-3: Junction 2 – N81 Main Street / Oak Drive

6.3.1 Do-Nothing Scenario

The PICADY results (**Table 6-3**) indicate that the N81 Main Street / Oak Drive four-arm priority-controlled junction will operate within capacity for the 2027 "Do Nothing" AM peak hour with a maximum RFC value of 0.16 and a corresponding queue of 0.2 pcus being recorded. For the 2027 "Do Nothing" PM peak hour, a maximum RFC value of 0.18 occurs, with a corresponding queue of 0.2 pcus.

For the 2032 "Do Nothing" scenario, the PICADY results indicate that the N81 Main Street / Oak Drive four-arm priority-controlled junction will operate within capacity for the AM peak hour with a maximum RFC value of 0.17 and a corresponding queue of 0.2 pcus being recorded. For the 2032 "Do Nothing" PM peak hour, a maximum RFC value of 0.19 occurs, with a corresponding queue of 0.3 pcus.

For the 2042 Future Design Year 'Do Nothing' scenario the PICADY results indicate that the N81 Main Street / Oak Drive four-arm priority-controlled junction will operate within capacity for the 2042 "Do Nothing" AM peak hour with a maximum RFC value of 0.18 and a corresponding queue of 0.2 pcus being recorded. For the corresponding "Do Nothing" PM peak hour a maximum RFC value of 0.20 occurs, with a corresponding queue of 0.3 pcus.

Year	Period	Arm	Description	RFC	Queue (PCUs)	Delay (s)
2027 DN	AM Peak	B-CD	Oak Drive (to Arm C)	0.10	0.1	6.9
		B-AD	Oak Drive (to Arm A & D)	0.16	0.2	8.8
		A- BCD	N81 Main Street South	0.03	0.0	5.9
		D - ABC	Maxol Petrol Station	0.09	0.1	6.9
		C- ABD	N81 Main Street North	0.05	0.1	5.9
	PM Peak	B-CD	Oak Drive (to Arm C)	0.06	0.1	6.7
		B-AD	Oak Drive (to Arm A & D)	0.17	0.2	9.0
		A- BCD	N81 Main Street South	0.01	0.0	6.4
		D - ABC	Maxol Petrol Station	0.07	0.1	6.2
		C- ABD	N81 Main Street North	0.18	0.2	6.2
2032 DN	AM Peak	B-CD	Oak Drive (to Arm C)	0.11	0.1	7.0
		B-AD	Oak Drive (to Arm A & D)	0.17	0.2	9.1
		A- BCD	N81 Main Street South	0.03	0.0	5.9
		D - ABC	Maxol Petrol Station	0.10	0.1	7.0
		C- ABD	N81 Main Street North	0.05	0.1	6.0
	PM Peak	B-CD	Oak Drive (to Arm C)	0.06	0.1	6.8
		B-AD	Oak Drive (to Arm A & D)	0.18	0.2	9.3
		A- BCD	N81 Main Street South	0.01	0.0	6.5
		D - ABC	Maxol Petrol Station	0.07	0.1	6.3
		C- ABD	N81 Main Street North	0.19	0.3	6.3
2042 DN	AM Peak	B-CD	Oak Drive (to Arm C)	0.12	0.1	7.1
		B-AD	Oak Drive (to Arm A & D)	0.18	0.2	9.3
		A- BCD	N81 Main Street South	0.03	0.0	5.9
		D - ABC	Maxol Petrol Station	0.10	0.1	7.1
		C- ABD	N81 Main Street North	0.06	0.1	6.0
	PM Peak	B-CD	Oak Drive (to Arm C)	0.07	0.10	6.9
		B-AD	Oak Drive (to Arm A & D)	0.19	0.20	9.5
		A- BCD	N81 Main Street South	0.01	0.00	6.5
		D - ABC	Maxol Petrol Station	0.08	0.10	6.4

		C- ABD	N81 Main Street North	0.20	0.30	6.3

Table 6-3: 2027, 2032 and 2042 Do-Nothing Analysis for Junction 2

6.3.2 Do- Something Scenario

The PICADY results (**Table 6-4**) indicate that the N81 Main Street / Oak Drive four-arm priority-controlled junction will operate within capacity for the 2027 "Do Something" AM peak hour with a maximum RFC value of 0.16 and a corresponding queue of 0.2 pcus being recorded. For the 2027 "Do Something" PM peak hour, a maximum RFC value of 0.21 occurs, with a corresponding queue of 0.3 pcus.

For the 2032 "Do Something" scenario, the PICADY results indicate that the N81 Main Street / Oak Drive four-arm priority-controlled junction will operate within capacity for the AM peak hour with a maximum RFC value of 0.17 and a corresponding queue of 0.2 pcus being recorded. For the 2032 "Do Something" PM peak hour, a maximum RFC value of 0.22 occurs, with a corresponding queue of 0.3 pcus.

For the 2042 Future Design Year 'Do Something,' scenario the PICADY results indicate that the N81 Main Street / Oak Drive four-arm priority-controlled junction will operate within capacity for the 2042 "Do Something" AM peak hour with a maximum RFC value of 0.18 and a corresponding queue of 0.2 pcus being recorded. For the corresponding "Do Something" PM peak hour a maximum RFC value of 0.23 occurs, with a corresponding queue of 0.3 pcus.

Year	Period	Arm	Description	RFC	Queue (PCUs)	Delay (s)
2027 DS	AM Peak	B-CD	Oak Drive (to Arm C)	0.14	0.2	7.11
		B-AD	Oak Drive (to Arm A & D)	0.16	0.2	9.05
		A- BCD	N81 Main Street South	0.03	0.0	5.90
		D - ABC	Maxol Petrol Station	0.09	0.1	6.99
		C- ABD	N81 Main Street North	0.07	0.1	6.02
	PM Peak	B-CD	Oak Drive (to Arm C)	0.08	0.1	6.65
		B-AD	Oak Drive (to Arm A & D)	0.17	0.2	9.42
		A- BCD	N81 Main Street South	0.01	0.0	6.52
		D - ABC	Maxol Petrol Station	0.07	0.1	6.21
		C- ABD	N81 Main Street North	0.21	0.3	6.42
2032 DS	AM Peak	B-CD	Oak Drive (to Arm C)	0.14	0.2	7.19
		B-AD	Oak Drive (to Arm A & D)	0.17	0.2	9.23
		A- BCD	N81 Main Street South	0.03	0.0	5.91
		D - ABC	Maxol Petrol Station	0.10	0.1	7.09
		C- ABD	N81 Main Street North	0.07	0.1	6.07
	PM Peak	B-CD	Oak Drive (to Arm C)	0.09	0.1	6.77
		B-AD	Oak Drive (to Arm A & D)	0.19	0.2	9.67

		A- BCD	N81 Main Street South	0.01	0.0	6.57
		D - ABC	Maxol Petrol Station	0.07	0.1	6.31
		C- ABD	N81 Main Street North	0.22	0.3	6.46
2042 DS	AM Peak	B-CD	Oak Drive (to Arm C)	0.15	0.2	7.33
		B-AD	Oak Drive (to Arm A & D)	0.18	0.2	9.47
		A- BCD	N81 Main Street South	0.03	0.0	5.93
		D - ABC	Maxol Petrol Station	0.10	0.1	7.17
		C- ABD	N81 Main Street North	0.07	0.1	6.12
	PM Peak	B-CD	Oak Drive (to Arm C)	0.09	0.1	6.84
		B-AD	Oak Drive (to Arm A & D)	0.19	0.2	9.89
		A- BCD	N81 Main Street South	0.01	0.0	6.63
		D - ABC	Maxol Petrol Station	0.08	0.1	6.42
		C- ABD	N81 Main Street North	0.23	0.3	6.51

Table 6-4: 2027, 2032 and 2042 Do-Something Analysis for Junction 2

A copy of the PICADY output file can be found in **Appendix C**.

6.4 Junction 3 – Blessington Inner Relief Road / Oak Drive Roundabout

The existing three arm roundabout and the future four arm roundabout junction have been analysed for all of the modelling scenarios using the Junctions 9 ARCADY software package. The results of the operational assessment of this junction during the weekday morning and evening peaks for the Do Nothing and Do Something scenarios are summarised in **Table 6-5** and **Table 6-6** below respectively.

In the "Do Nothing" and "Do Something" scenarios the arms were labelled as follows within the ARCADY model, as shown in Figure 6-4 below:

- Arm 1: Oak Drive
- Arm 2: Inner Relief Road (S)
- Arm 3: School Link Road
- Arm 4: Inner Relief Road Extension (N)

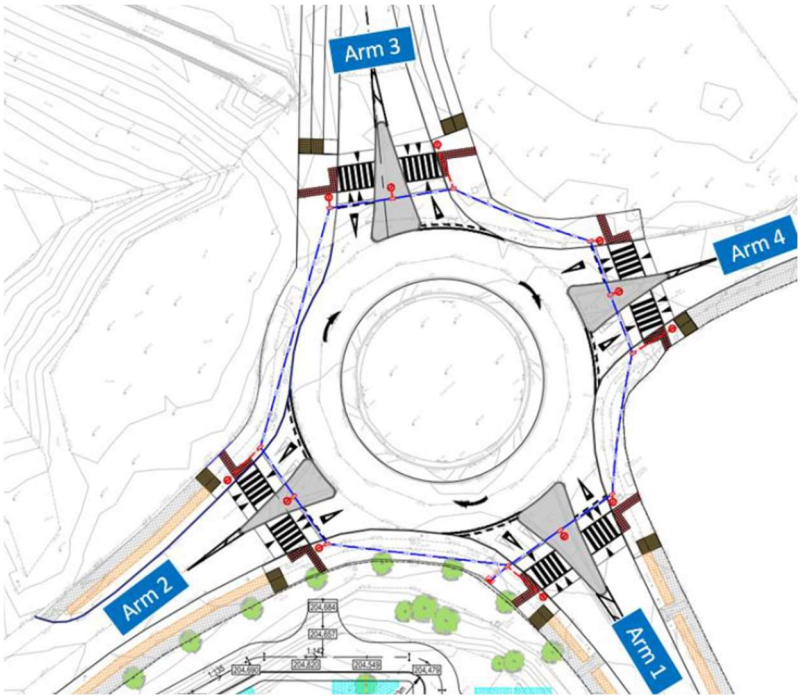


Figure 6-4: Junction 3 Blessington Relief Road / Oak Drive Roundabout

6.4.1 Do- Nothing Scenario

The ARCADY results (**Table 6-5**) indicate that the Blessington Inner Relief Road / Oak Drive Roundabout will operate within capacity for the 2027 "Do Nothing" AM peak hour with a maximum RFC value of 0.46 and a corresponding queue of 0.9 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (S). For the 2027 "Do Nothing" PM peak hour, a maximum RFC value of 0.43 occurs on Arm 4 of the roundabout, the Inner Relief Road Extension (N) with a corresponding queue of 0.8 pcus.

For the 2032 "Do Nothing" scenario, the ARCADY results indicate that the Blessington Inner Relief Road / Oak Drive Roundabout will operate within capacity for the AM peak hour with a maximum RFC value of 0.48 and a corresponding queue of 1.0 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (S). For the 2032 "Do Nothing" PM peak hour, a maximum RFC value of 0.45 occurs on Arm 4, the Inner Relief Road Extension (N), of the roundabout, with a corresponding queue of 0.9 pcus.

Year	Period	Arm	Description	RFC	Queue (PCUs)	Delay (s)
2027 DN	AM Peak	1	Oak Drive	0.12	0.1	3.33
		2	Inner Relief Road (S)	0.46	0.9	4.20
		3	School Link Road	0.21	0.3	4.17
		4	Inner Relief Road Extension (N)	0.19	0.3	3.18
	PM Peak	1	Oak Drive	0.20	0.3	4.29
		2	Inner Relief Road (S)	0.22	0.3	2.98

		3	School Link Road	0.11	0.1	3.13
		4	Inner Relief Road Extension (N)	0.43	0.8	4.28
2032 DN	AM Peak	1	Oak Drive	0.12	0.2	3.37
		2	Inner Relief Road (S)	0.48	1.0	4.37
		3	School Link Road	0.22	0.3	4.27
		4	Inner Relief Road Extension (N)	0.20	0.3	3.22
	PM Peak	1	Oak Drive	0.21	0.3	4.41
		2	Inner Relief Road (S)	0.23	0.3	3.02
		3	School Link Road	0.11	0.1	3.15
		4	Inner Relief Road Extension (N)	0.45	0.9	4.42
2042 DN	AM Peak	1	Oak Drive	0.13	0.2	3.43
		2	Inner Relief Road (S)	0.50	1.1	4.59
		3	School Link Road	0.22	0.3	4.39
		4	Inner Relief Road Extension (N)	0.21	0.3	3.27
	PM Peak	1	Oak Drive	0.22	0.3	4.56
		2	Inner Relief Road (S)	0.24	0.4	3.06
		3	School Link Road	0.11	0.1	3.18
		4	Inner Relief Road Extension (N)	0.47	1.0	0.47

Table 6-5: 2027, 2032 and 2042 Do-Nothing Analysis for Junction 3

For the 2042 Future Design Year 'Do Nothing,' scenario the ARCADY results indicate that the Blessington Inner Relief Road / Oak Drive Roundabout junction will operate within capacity for the 2042 "Do Nothing" AM peak hour with a maximum RFC value of 0.50 and a corresponding queue of 1.1 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (S). For the corresponding "Do Nothing" PM peak hour a maximum RFC value of 0.47 occurs on Arm 4 of the roundabout, the Inner Relief Road Extension (N), with a corresponding queue of 1.0 pcus.

6.4.2 Do-Something Scenario

The ARCADY results (**Table 6-6**) indicate that the Blessington Inner Relief Road / Oak Drive Roundabout will operate within capacity for the 2027 "Do Something" AM peak hour with a maximum RFC value of 0.49 and a corresponding queue of 1.0 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (S). For the 2027 "Do Something" PM peak hour, a maximum RFC value of 0.45 occurs on Arm 4 of the roundabout, the Inner Relief Road Extension (N), with a corresponding queue of 0.9 pcus.

For the 2032 "Do Something" scenario, the ARCADY results indicate that the Blessington Inner Relief Road / Oak Drive Roundabout will operate within capacity for the AM peak hour with a maximum RFC value of 0.51 and a corresponding queue of 1.1 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (S). For the 2032 "Do Something" PM peak hour, a maximum RFC value of 0.47 occurs on Arm 4 of the roundabout, the Inner Relief Road Extension (N), with a corresponding queue of 1.0 pcus.

For the 2042 Future Design Year "Do Something" scenario the ARCADY results indicate that the Blessington Inner Relief Road / Oak Drive Roundabout will operate within capacity for the 2042 "Do Something" AM peak hour with a maximum RFC value of 0.53 and a corresponding queue of 1.3 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (S). For the corresponding "Do Something" PM peak hour a maximum RFC value of 0.49 occurs on Arm 4 of the roundabout, the Inner Relief Road Extension (N), with a corresponding queue of 1.1 pcus.

Year	Period	Arm	Description	RFC	Queue (PCUs)	Delay (s)
2027 DS	AM Peak	1	Oak Drive	0.13	0.2	3.40
		2	Inner Relief Road (S)	0.49	1.0	4.46
		3	School Link Road	0.21	0.3	4.31
		4	Inner Relief Road Extension (N)	0.21	0.3	3.26
	PM Peak	1	Oak Drive	0.23	0.3	4.51
		2	Inner Relief Road (S)	0.25	0.4	3.07
		3	School Link Road	0.11	0.1	3.18
		4	Inner Relief Road Extension (N)	0.45	0.9	4.50
2032 DS	AM Peak	1	Oak Drive	0.14	0.2	3.44
		2	Inner Relief Road (S)	0.51	1.1	4.66
		3	School Link Road	0.22	0.3	4.42
		4	Inner Relief Road Extension (N)	0.21	0.3	3.31
	PM Peak	1	Oak Drive	0.24	0.3	4.64
		2	Inner Relief Road (S)	0.26	0.4	3.11
		3	School Link Road	0.11	0.1	3.21
		4	Inner Relief Road Extension (N)	0.47	1.0	4.66
2042 DS	AM Peak	1	Oak Drive	0.14	0.2	3.50
		2	Inner Relief Road (S)	0.53	1.3	4.90
		3	School Link Road	0.23	0.3	4.55
		4	Inner Relief Road Extension (N)	0.22	0.3	3.36
	PM Peak	1	Oak Drive	0.25	0.4	4.80
		2	Inner Relief Road (S)	0.27	0.4	3.16
		3	School Link Road	0.12	0.1	3.24
		4	Inner Relief Road Extension (N)	0.49	1.1	4.86

Table 6-6: 2027, 2032 and 2042 Do-Something Analysis for Junction 3

A copy of the ARCADY output file can be found in **Appendix D**.

6.5 Junction 4 - Blessington Inner Relief Road / R410 Nass Roundabout

The existing three arm roundabout junction has been analysed for all of the modelling scenarios using the Junctions 9 ARCADY software package. The results of the operational assessment of this junction during the weekday morning and evening peaks for the Do Nothing and Do Something scenarios are summarised in **Table 6-7** and **Table 6-8** below respectively.

In the "Do Nothing" and "Do Something" scenarios the three arms were labelled as follows within the ARCADY model, as shown in **Figure 6-5** below:

- Arm 1: R410 Nass Road (SE)
- Arm 2: R410 Nass Road (NW)
- Arm 3: Blessington Inner Relief Road (NE)

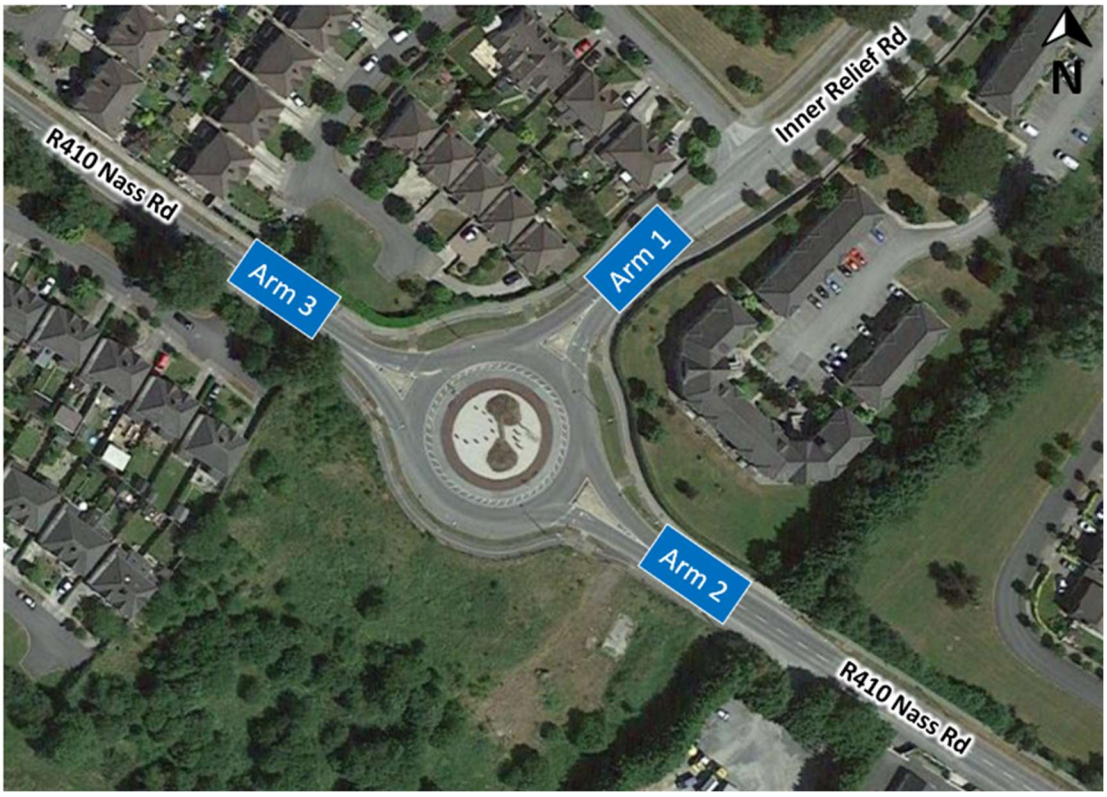


Figure 6-5: Junction 4 – Blessington Inner Relief Road / R410 Nass Road Roundabout

6.5.1 Do-Nothing Scenario

The ARCADY results (**Table 6-7**) indicate that the R410 Nass Road / Blessington Inner Relief Road Roundabout junction will operate within capacity for the 2027 "Do Nothing" AM peak hour with a maximum RFC value of 0.58 and a corresponding queue of 1.4 pcus being recorded on Arm 1 of the roundabout, the R410 Nass Road (SE).For the 2027 "Do Nothing" PM peak hour, a maximum RFC value of 0.50 occurs on Arm 3 of the roundabout, the Inner Relief Road (NE)with a corresponding queue of 1.0 pcus.

For the 2032 "Do Nothing" scenario, the ARCADY results indicate that the R410 Nass Road / Blessington Inner Relief Road Roundabout junction will operate within capacity for the AM peak hour with a maximum RFC value of 0.61 and a corresponding queue of 1.5 pcus being recorded

on Arm 1 of the roundabout, R410 Nass Road (SE). For the 2032 "Do Nothing" PM peak hour, a maximum RFC value of 0.52 occurs on Arm 3, the Inner Relief Road (NE) of the roundabout, with a corresponding queue of 1.1 pcus.

For the 2042 Future Design Year 'Do Nothing,' scenario the ARCADY results indicate that the R410 Nass Road / Blessington Inner Relief Road Roundabout junction will operate within capacity for the 2042 "Do Nothing" AM peak hour with a maximum RFC value of 0.64 and a corresponding queue of 1.8 pcus being recorded on Arm 1 of the roundabout, the R410 Nass Road (SE). For the corresponding "Do Nothing" PM peak hour a maximum RFC value of 0.55 occurs on Arm 3 of the roundabout, the Inner Relief Road (NE) with a corresponding queue of 1.2 pcus.

Year	Period	Arm	Description	RFC	Queue (PCUs)	Delay (s)
2027 DN	AM Peak	1	R410 Nass Road (SE)	0.58	1.4	6.26
		2	R410 Nass Road (NW)	0.23	0.3	5.00
		3	Inner Relief Road (NE)	0.25	0.3	3.27
	PM Peak	1	R410 Nass Road (SE)	0.29	0.4	3.78
		2	R410 Nass Road (NW)	0.33	0.5	4.73
		3	Inner Relief Road (NE)	0.50	1.0	5.06
2032 DN	AM Peak	1	R410 Nass Road (SE)	0.61	1.5	6.70
		2	R410 Nass Road (NW)	0.24	0.3	5.15
		3	Inner Relief Road (NE)	0.26	0.3	3.32
	PM Peak	1	R410 Nass Road (SE)	0.30	0.4	3.85
		2	R410 Nass Road (NW)	0.34	0.5	4.83
		3	Inner Relief Road (NE)	0.52	1.1	5.32
2042 DN	AM Peak	1	R410 Nass Road (SE)	0.64	1.8	7.25
		2	R410 Nass Road (NW)	0.26	0.3	5.34
		3	Inner Relief Road (NE)	0.27	0.4	3.38
	PM Peak	1	R410 Nass Road (SE)	0.31	0.5	3.94
		2	R410 Nass Road (NW)	0.36	0.6	4.98
		3	Inner Relief Road (NE)	0.55	1.2	5.67

Table 6-7: 2027, 2032 and 2042 Do-Nothing Analysis for Junction 4

6.5.2 Do- Something Scenario

The ARCADY results (**Table 6-8)** indicate that R410 Nass Road / Blessington Inner Relief Road Roundabout will operate within capacity for the 2027 "Do Something" AM peak hour with a maximum RFC value of 0.59 and a corresponding queue of 1.4 pcus being recorded on Arm 1 of the roundabout, the R410 Nass Road (SE). For the 2027 "Do Something" PM peak hour, a maximum

RFC value of 0.51 occurs on Arm 3 of the roundabout, the Inner Relief Road (NE) with a corresponding queue of 1.0 pcus.

For the 2032 "Do Something" scenario, the ARCADY results indicate that that R410 Nass Road / Blessington Inner Relief Road Roundabout will operate within capacity for the AM peak hour with a maximum RFC value of 0.62 and a corresponding queue of 1.6 pcus being recorded on Arm 1 of the roundabout, the R410 Nass Road (SE). For the 2032 "Do Something" PM peak hour, a maximum RFC value of 0.53 occurs on Arm 3 of the roundabout, the Inner Relief Road (NE) with a corresponding queue of 1.1 pcus.

Year	Period	Arm	Description	RFC	Queue (PCUs)	Delay (s)
2027 DS	AM Peak	1	R410 Nass Road (SE)	0.59	1.4	6.39
		2	R410 Nass Road (NW)	0.23	0.3	5.03
		3	Inner Relief Road (NE)	0.26	0.3	3.32
	PM Peak	1	R410 Nass Road (SE)	0.30	0.4	3.87
		2	R410 Nass Road (NW)	0.33	0.5	4.79
		3	Inner Relief Road (NE)	0.51	1.0	5.16
2032 DS	AM Peak	1	R410 Nass Road (SE)	0.62	1.6	6.84
		2	R410 Nass Road (NW)	0.24	0.3	5.18
		3	Inner Relief Road (NE)	0.27	0.4	3.38
	PM Peak	1	R410 Nass Road (SE)	0.32	0.5	3.94
		2	R410 Nass Road (NW)	0.34	0.5	4.89
		3	Inner Relief Road (NE)	0.53	1.1	5.43
2042 DS	AM Peak	1	R410 Nass Road (SE)	0.65	1.8	7.44
		2	R410 Nass Road (NW)	0.26	0.3	5.38
		3	Inner Relief Road (NE)	0.28	0.4	3.44
	PM Peak	1	R410 Nass Road (SE)	0.33	0.5	4.03
		2	R410 Nass Road (NW)	0.36	0.6	5.04
		3	Inner Relief Road (NE)	0.56	1.3	5.79

Table 6-8: 2027, 2032 and 2042 Do-Something Analysis for Junction 4

For the 2042 Future Design Year "Do Something" scenario the ARCADY results indicate that the R410 Nass Road / Blessington Inner Relief Road Roundabout will operate within capacity for the 2042 "Do Something" AM peak hour with a maximum RFC value of 0.65 and a corresponding queue of 1.8 pcus being recorded on Arm 1 of the roundabout, the R410 Nass Road (SE). For the corresponding "Do Something" PM peak hour a maximum RFC value of 0.56 occurs on Arm 3 of the roundabout, the Inner Relief Road (NE) with a corresponding queue of 1.3 pcus.

7 Sensitivity Analysis

7.1 Context

Wicklow County Council aims to deliver a purpose built route connecting existing sections of the Inner Relief Road already completed between the Naas Road and the Blessington Industrial Estate junction (opposite Maxol filling station) and between the N81 south of the town and the Kilmalum Road. There are two primary sections of the Inner Relief Road yet to be completed, one section is located to the south of Blessington and the other to the north of the town:

- **Southern Section** - The section of road to be constructed lies between the roundabout on the R410 Naas Road and Roundabout on the L8364 Kilmalum Road.
- **Northern Section** - The proposed route of this section of road heads northwards from the existing roundabout on the Blessington Inner Relief Road just to the west of Woodleigh Estate and traverses the quarry to emerge onto the N81 in the vicinity of the existing quarry entrance.

The northern section is still pending planning permission under Ref. 23689.The two sections of the BIRR to be completed as mentioned above and the subject site in context is shown in **Figure 7-1**.

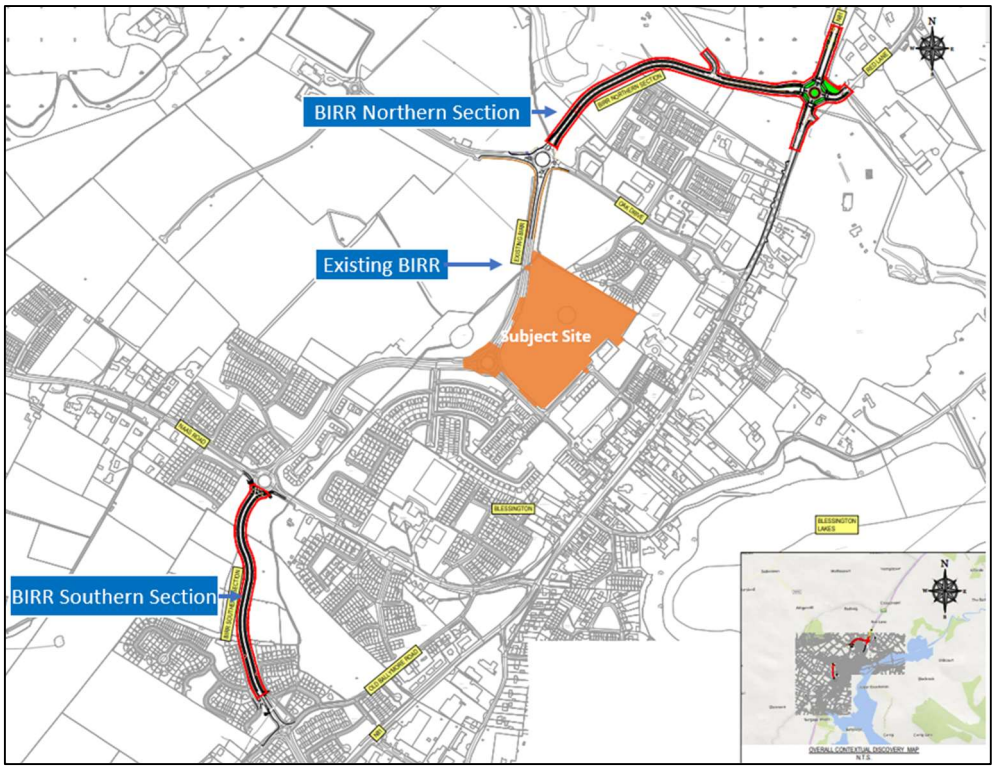


Figure 7-1: BIRR Southern and Northern Sections and the Subject Site

In order to conduct a robust assessment, we performed a sensitivity analysis to evaluate the capacity of all four junctions, considering the scenario where the northern section of BIRR is not delivered. Detailed traffic modelling was conducted for each of the four junctions across various assessment years, and the results are outlined below.

Trip Generation and Distribution

Trip generation for the proposed residential development (subject application) has been calculated in Section 5.3. For the Sensitivity Analysis, the estimated trips remain the same.

The distribution of vehicle movements generated by the proposed development, in a scenario where the BIRR is not opened , as proposed by DBFL, is presented in **Figure 18** as included in **Appendix B** of this report.

Assessment scenarios

A total of six different traffic scenarios have been assessed, namely (a) the `Base' (Do-Nothing) traffic characteristic, and (b) the `Post Development' (Do-Something) traffic characteristics.

The 'Do-Nothing' traffic scenario takes into account the potential level of traffic that could be generated by the 'committed development' in addition to the existing flows travelling across the network subjected to growth rates.

The proposed development traffic flows are then added to the network's 'Do-Nothing (Base with growth rates applied + Committed Development) traffic flows to establish the new post development 'Do-Something' traffic flows.

For the purposes of this assessment, we assume that the entire proposed development will be in place by the end of the adopted 2027 Opening Year. This sensitivity test considers the scenario where the northern BIRR is not opened. In summary, the following scenarios are being considered:

- **Sensitivity Scenario - Do Nothing A1** – 2027 Base Flows + Committed Development;
- **Sensitivity Scenario - Do Nothing A2** – 2032 Base Flows + Committed Development.
- **Sensitivity Scenario - Do Nothing A3** – 2042 Base Flows + Committed Development;
- **Sensitivity Scenario - Do-Something B1** - 2027 Do Nothing (A1) + Proposed Development Flows;
- **Sensitivity Scenario - Do-Something B2** - 2032 Do Nothing (A2) + Proposed Development Flows;
- **Sensitivity Scenario - Do-Something B3** - 2042 Do Nothing (A3) + Proposed Development Flows.

The AM and PM peak hour flows have been identified within the traffic survey data as occurring between 08:30 – 09:30 and 17:15 – 18:15 respectively.

The figures as included in **Appendix B** present the vehicle flows across the local road network for each of the adopted development scenarios mentioned above.

7.2 Network Analysis

The operational assessment of the local road network has been undertaken using the Transport Research Laboratory (TRL) computer package PICADY for priority-controlled junctions and ARCADY for roundabout junctions.

7.2.1 Junction 1 – Blessington Inner Relief Road / Link Road

Do-Nothing

The ARCADY results (**Table 7-1**) indicate that the Inner Relief Road / Link Road Roundabout junction will operate within capacity for the 2027 "Do Nothing" AM peak hour with a maximum RFC value of 0.37 and a corresponding queue of 0.6 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (W). For the 2027 "Do Nothing PM peak hour, a maximum RFC value of 0.26 occurs on Arm 3 of the roundabout, the Inner Relief Road (NE), with a corresponding queue of 0.4 pcus.

For the 2032 "Do Nothing" scenario, the ARCADY results indicate that the Inner Relief Road / Link Road Roundabout junction will operate within capacity for the AM peak hour with a maximum RFC value of 0.39 and a corresponding queue of 0.7 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (W). For the 2032 "Do Nothing" PM peak hour, a maximum RFC value of 0.28 occurs on Arm 3 of the roundabout, the Inner Relief Road (NE), with a corresponding queue of 0.4 pcus.

Year	Period	Arm	Description	RFC	Queue (PCUs)	Delay (s)
2027 DN	AM Peak	1	Link Road (SE)	0.11	0.1	3.16
		2	Inner Relief Road (W)	0.37	0.6	4.20
		3	Inner Relief Road (NE)	0.17	0.2	3.03
	PM Peak	1	Link Road (SE)	0.16	0.2	3.55
		2	Inner Relief Road (W)	0.16	0.2	3.15
		3	Inner Relief Road (NE)	0.26	0.4	3.34
2032 DN	AM Peak	1	Link Road (SE)	0.11	0.1	3.19
		2	Inner Relief Road (W)	0.39	0.7	4.32
		3	Inner Relief Road (NE)	0.18	0.2	3.06
	PM Peak	1	Link Road (SE)	0.16	0.2	3.60

		2	Inner Relief Road (W)	0.17	0.2	3.18
		3	Inner Relief Road (NE)	0.28	0.4	3.39
2042 DN	AM Peak	1	Link Road (SE)	0.12	0.1	3.22
		2	Inner Relief Road (W)	0.41	0.7	4.45
		3	Inner Relief Road (NE)	0.18	0.2	3.10
	PM Peak	1	Link Road (SE)	0.17	0.2	3.67
		2	Inner Relief Road (W)	0.18	0.2	3.20
		3	Inner Relief Road (NE)	0.29	0.4	3.46

Table 7-1: 2027, 2032 and 2042 Do-Nothing Analysis for Junction 1

For the 2042 Future Design Year 'Do Nothing,' scenario the ARCADY results indicate that the Inner Relief Road / Link Road Roundabout junction will operate within capacity for the 2042 "Do Nothing" AM peak hour with a maximum RFC value of 0.41 and a corresponding queue of 0.7 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (W). For the corresponding "Do Nothing" PM peak hour a maximum RFC value of 0.29 occurs on Arm 3 of the roundabout, the Inner Relief Road (NE), with a corresponding queue of 0.4 pcus.

Do-Something

The ARCADY results (**Table 7-2**) indicate that the Inner Relief Road / Link Road Roundabout junction will operate within capacity for the 2027 "Do Something" AM peak hour with a maximum RFC value of 0.54 and a corresponding queue of 1.3 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (W). For the 2027 "Do Something" PM peak hour, a maximum RFC value of 0.41 occurs on Arm 3 of the roundabout, the Inner Relief Road (NE), with a corresponding queue of 0.8 pcus.

Year	Period	Arm	Description	RFC	Queue (PCUs)	Delay (s)
2027 DS	AM Peak	1	Link Road (SE)	0.16	0.2	4.80
		2	Inner Relief Road (W)	0.54	1.3	8.25
		3	Inner Relief Road (NE)	0.27	0.4	5.32
	PM Peak	1	Link Road (SE)	0.23	0.3	5.62
		2	Inner Relief Road (W)	0.25	0.4	5.06
		3	Inner Relief Road (NE)	0.41	0.8	6.40
2032 DS	AM Peak	1	Link Road (SE)	0.17	0.2	4.86
		2	Inner Relief Road (W)	0.56	1.4	8.71
		3	Inner Relief Road (NE)	0.28	0.4	5.40
	PM Peak	1	Link Road (SE)	0.24	0.4	5.75
		2	Inner Relief Road (W)	0.26	0.4	5.12
		3	Inner Relief Road (NE)	0.43	0.8	6.60
2042 DS	AM Peak	1	Link Road (SE)	0.18	0.2	4.92

		2	Inner Relief Road (W)	0.59	1.6	9.29
		3	Inner Relief Road (NE)	0.29	0.5	5.51
	PM Peak	1	Link Road (SE)	0.26	0.4	5.90
		2	Inner Relief Road (W)	0.27	0.4	5.20
		3	Inner Relief Road (NE)	0.45	0.9	6.85

Table 7-2: 2027, 2032 and 2042 Do-Something Analysis for Junction 1

For the 2032 "Do Something" scenario, the ARCADY results indicate that the Inner Relief Road / Link Road Roundabout junction will operate within capacity for the AM peak hour with a maximum RFC value of 0.56 and a corresponding queue of 1.4 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (W). For the 2032 "Do Something" PM peak hour, a maximum RFC value of 0.43 occurs also on Arm 3 of the roundabout, the Inner Relief Road (NE), with a corresponding queue of 0.8 pcus.

For the 2042 Future Design Year "Do Something" scenario the ARCADY results indicate that the Inner Relief Road / Link Road Roundabout junction will operate within capacity for the 2042 "Do Something" AM peak hour with a maximum RFC value of 0.59 and a corresponding queue of 1.6 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (W). For the corresponding "Do Something" PM peak hour a maximum RFC value of 0.45 occurs on Arm 3 of the roundabout, the Inner Relief Road (NE), with a corresponding queue of 0.9 pcus.

7.2.2 Junction 2 – N81 Main Street / Oak Drive

Do-Nothing

The PICADY results (**Table 7-3**) indicate that the N81 Main Street / Oak Drive four-arm priority-controlled junction will operate within capacity for the 2027 "Do Nothing" AM peak hour with a maximum RFC value of 0.68 and a corresponding queue of 2.2 pcus being recorded. For the 2027 "Do Nothing" PM peak hour, a maximum RFC value of 0.65 occurs, with a corresponding queue of 2.9 pcus.

For the 2032 "Do Nothing" scenario, the PICADY results indicate that the N81 Main Street / Oak Drive four-arm priority-controlled junction will operate within capacity for the AM peak hour with a maximum RFC value of 0.72 and a corresponding queue of 2.6 pcus being recorded. For the 2032 "Do Nothing" PM peak hour, a maximum RFC value of 0.67 occurs, with a corresponding queue of 3.4 pcus.

For the 2042 Future Design Year 'Do Nothing' scenario the PICADY results indicate that the N81 Main Street / Oak Drive four-arm priority-controlled junction will operate within capacity for the 2042 "Do Nothing" AM peak hour with a maximum RFC value of 0.76 and a corresponding queue

of 3.2 pcus being recorded. For the corresponding "Do Nothing" PM peak hour a maximum RFC value of 0.70 occurs, with a corresponding queue of 4.0 pcus.

Year	Period	Arm	Description	RFC	Queue (PCUs)	Delay (s)
2027 DN	AM Peak	B-CD	Oak Drive (to Arm C)	0.68	2.2	20.55
		B-AD	Oak Drive (to Arm A & D)	0.27	0.4	17.38
		A- BCD	N81 Main Street South	0.03	0.0	6.58
		D - ABC	Maxol Petrol Station	0.13	0.1	10.19
		C- ABD	N81 Main Street North	0.29	0.5	7.94
	PM Peak	B-CD	Oak Drive (to Arm C)	0.29	0.4	8.65
		B-AD	Oak Drive (to Arm A & D)	0.30	0.4	19.83
		A- BCD	N81 Main Street South	0.01	0.0	9.28
		D - ABC	Maxol Petrol Station	0.09	0.1	8.45
		C- ABD	N81 Main Street North	0.65	2.9	10.34
2032 DN	AM Peak	B-CD	Oak Drive (to Arm C)	0.72	2.6	23.37
		B-AD	Oak Drive (to Arm A & D)	0.30	0.4	19.40
		A- BCD	N81 Main Street South	0.03	0.0	6.62
		D - ABC	Maxol Petrol Station	0.14	0.2	10.62
		C- ABD	N81 Main Street North	0.30	0.5	8.07
	PM Peak	B-CD	Oak Drive (to Arm C)	0.30	0.5	9.07
		B-AD	Oak Drive (to Arm A & D)	0.34	0.5	0.34
		A- BCD	N81 Main Street South	0.01	0.0	0.01
		D - ABC	Maxol Petrol Station	0.10	0.1	0.10
		C- ABD	N81 Main Street North	0.67	3.4	0.67
2042 DN	AM Peak	B-CD	Oak Drive (to Arm C)	0.76	3.2	28.24
		B-AD	Oak Drive (to Arm A & D)	0.36	0.5	23.15
		A- BCD	N81 Main Street South	0.03	0.0	6.68
		D - ABC	Maxol Petrol Station	0.15	0.2	11.16
		C- ABD	N81 Main Street North	0.32	0.5	8.26
	PM Peak	B-CD	Oak Drive (to Arm C)	0.32	0.5	9.45
		B-AD	Oak Drive (to Arm A & D)	0.37	0.6	24.21
		A- BCD	N81 Main Street South	0.02	0.0	9.88
		D - ABC	Maxol Petrol Station	0.11	0.1	9.36
		C- ABD	N81 Main Street North	0.70	4.0	11.65

Table 7-3: 2027, 2032 and 2042 Do-Nothing Analysis for Junction 2

Do-Something

The PICADY results (**Table 7-4**) indicate that the N81 Main Street / Oak Drive four-arm priority-controlled junction will operate within capacity for the 2027 "Do Something" AM peak hour with a maximum RFC value of 0.77 and a corresponding queue of 3.3 pcus being recorded. For the 2027

"Do Something" PM peak hour, a maximum RFC value of 0.73 occurs, with a corresponding queue of 4.5 pcus.

Year	Period	Arm	Description	RFC	Queue (PCUs)	Delay (s)
2027 DS	AM Peak	B-CD	Oak Drive (to Arm C)	0.77	3.3	28.07
		B-AD	Oak Drive (to Arm A & D)	0.32	0.5	21.81
		A- BCD	N81 Main Street South	0.03	0.0	6.70
		D - ABC	Maxol Petrol Station	0.14	0.2	10.76
		C- ABD	N81 Main Street North	0.34	0.6	8.38
	PM Peak	B-CD	Oak Drive (to Arm C)	0.35	0.6	9.46
		B-AD	Oak Drive (to Arm A & D)	0.33	0.5	22.37
		A- BCD	N81 Main Street South	0.01	0.0	9.76
		D - ABC	Maxol Petrol Station	0.09	0.1	8.75
		C- ABD	N81 Main Street North	0.73	4.5	13.24
2032 DS	AM Peak	B-CD	Oak Drive (to Arm C)	0.81	4.1	33.80
		B-AD	Oak Drive (to Arm A & D)	0.38	0.6	26.57
		A- BCD	N81 Main Street South	0.03	0.0	6.74
		D - ABC	Maxol Petrol Station	0.15	0.2	11.27
		C- ABD	N81 Main Street North	0.35	0.6	8.55
	PM Peak	B-CD	Oak Drive (to Arm C)	0.36	0.6	9.99
		B-AD	Oak Drive (to Arm A & D)	0.37	0.6	24.96
		A- BCD	N81 Main Street South	0.01	0.0	10.07
		D - ABC	Maxol Petrol Station	0.10	0.1	9.16
		C- ABD	N81 Main Street North	0.76	5.3	14.36
2042 DS	AM Peak	B-CD	Oak Drive (to Arm C)	0.86	5.5	44.24
		B-AD	Oak Drive (to Arm A & D)	0.48	0.9	38.31
		A- BCD	N81 Main Street South	0.04	0.0	6.79
		D - ABC	Maxol Petrol Station	0.16	0.2	11.91
		C- ABD	N81 Main Street North	0.37	0.7	8.74
	PM Peak	B-CD	Oak Drive (to Arm C)	0.38	0.6	10.52
		B-AD	Oak Drive (to Arm A & D)	0.41	0.7	28.32
		A- BCD	N81 Main Street South	0.02	0.0	10.45
		D - ABC	Maxol Petrol Station	0.11	0.1	9.82
		C- ABD	N81 Main Street North	0.79	6.5	16.15

Table 7-4: 2027, 2032 and 2042 Do-Something Analysis for Junction 2

For the 2032 "Do Something" scenario, the PICADY results indicate that the N81 Main Street / Oak Drive four-arm priority-controlled junction will operate within capacity for the AM peak hour with a maximum RFC value of 0.81 and a corresponding queue of 4.1 pcus being recorded. For the 2032 "Do Something" PM peak hour, a maximum RFC value of 0.76 occurs, with a corresponding queue of 5.3 pcus.

For the 2042 Future Design Year 'Do Something,' scenario the PICADY results indicate that the N81 Main Street / Oak Drive four-arm priority-controlled junction will operate slightly above capacity for the 2042 "Do Something" AM peak hour with a maximum RFC value of 0.86 and a corresponding queue of 5.5 pcus being recorded. For the corresponding "Do Something" PM peak hour a maximum RFC value of 0.79 occurs, with a corresponding queue of 6.5 pcus.

7.2.3 Junction 3 – Blessington Inner Relief Road / Oak Drive Roundabout

Do- Nothing

The ARCADY results (**Table 7-5**) indicate that the Blessington Inner Relief Road / Oak Drive Roundabout will operate within capacity for the 2027 "Do Nothing" AM peak hour with a maximum RFC value of 0.29 and a corresponding queue of 0.4 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (S). For the 2027 "Do Nothing" PM peak hour, a maximum RFC value of 0.35 occurs on Arm 1 of the roundabout, the Oak Drive with a corresponding queue of 0.6 pcus.

Year	Period	Arm	Description	RFC	Queue (PCUs)	Delay (s)
2027 DN	AM Peak	1	Oak Drive	0.17	0.2	3.15
		2	Inner Relief Road (S)	0.29	0.4	3.21
		3	School Link Road	0.17	0.2	3.48
	PM Peak	1	Oak Drive	0.35	0.6	3.91
		2	Inner Relief Road (S)	0.14	0.2	2.71
		3	School Link Road	0.09	0.1	2.91
2032 DN	AM Peak	1	Oak Drive	0.18	0.2	3.19
		2	Inner Relief Road (S)	0.30	0.5	3.28
		3	School Link Road	0.17	0.2	3.53
	PM Peak	1	Oak Drive	0.36	0.6	3.98
		2	Inner Relief Road (S)	0.15	0.2	2.73
		3	School Link Road	0.09	0.1	2.92
2042 DN	AM Peak	1	Oak Drive	0.19	0.3	3.22
		2	Inner Relief Road (S)	0.32	0.5	3.35
		3	School Link Road	0.18	0.2	3.58
	PM Peak	1	Oak Drive	0.37	0.6	4.08
		2	Inner Relief Road (S)	0.16	0.2	2.75
		3	School Link Road	0.10	0.1	2.94

Table 7-5: 2027, 2032 and 2042 Do-Nothing Analysis for Junction 3

For the 2032 "Do Nothing" scenario, the ARCADY results indicate that the Blessington Inner Relief Road / Oak Drive Roundabout will operate within capacity for the AM peak hour with a maximum RFC value of 0.30 and a corresponding queue of 0.5 pcus being recorded on Arm 2 of the

roundabout, the Inner Relief Road (S). For the 2032 "Do Nothing" PM peak hour, a maximum RFC value of 0.36 occurs on Arm 1, the Oak Drive with a corresponding queue of 0.6 pcus.

For the 2042 Future Design Year 'Do Nothing,' scenario the ARCADY results indicate that the Blessington Inner Relief Road / Oak Drive Roundabout junction will operate within capacity for the 2042 "Do Nothing" AM peak hour with a maximum RFC value of 0.32 and a corresponding queue of 0.5 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (S). For the corresponding "Do Nothing" PM peak hour a maximum RFC value of 0.37 occurs on Arm 1 of the roundabout, the Oak Drive with a corresponding queue of 0.6 pcus.

Do- Something

The ARCADY results (**Table 7-6**) indicate that the Blessington Inner Relief Road / Oak Drive Roundabout will operate within capacity for the 2027 "Do Something" AM peak hour with a maximum RFC value of 0.32 and a corresponding queue of 0.5 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (S). For the 2027 "Do Something" PM peak hour, a maximum RFC value of 0.38 occurs on Arm 1 of the roundabout, the Oak Drive with a corresponding queue of 0.7 pcus.

Year	Period	Arm	Description	RFC	Queue (PCUs)	Delay (s)
2027 DS	AM Peak	1	Oak Drive	0.19	0.3	3.24
		2	Inner Relief Road (S)	0.32	0.5	3.36
		3	School Link Road	0.17	0.2	3.65
	PM Peak	1	Oak Drive	0.38	0.7	4.16
		2	Inner Relief Road (S)	0.17	0.2	2.79
		3	School Link Road	0.09	0.1	2.96
2032 DS	AM Peak	1	Oak Drive	0.20	0.3	3.27
		2	Inner Relief Road (S)	0.34	0.6	3.43
		3	School Link Road	0.18	0.2	3.63
	PM Peak	1	Oak Drive	0.40	0.7	4.24
		2	Inner Relief Road (S)	0.17	0.2	2.81
		3	School Link Road	0.10	0.1	2.97
2042 DS	AM Peak	1	Oak Drive	0.21	0.3	3.30
		2	Inner Relief Road (S)	0.35	0.6	3.51
		3	School Link Road	0.18	0.2	3.68
	PM Peak	1	Oak Drive	0.41	0.8	4.34
		2	Inner Relief Road (S)	0.18	0.2	2.83
		3	School Link Road	0.10	0.1	2.99

Table 7-6: 2027, 2032 and 2042 Do-Something Analysis for Junction 3

For the 2032 "Do Something" scenario, the ARCADY results indicate that the Blessington Inner Relief Road / Oak Drive Roundabout will operate within capacity for the AM peak hour with a

maximum RFC value of 0.34 and a corresponding queue of 0.6 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (S). For the 2032 "Do Something" PM peak hour, a maximum RFC value of 0.40 occurs on Arm 1, the Oak Drive with a corresponding queue of 0.7 pcus.

For the 2042 Future Design Year 'Do Something,' scenario the ARCADY results indicate that the Blessington Inner Relief Road / Oak Drive Roundabout junction will operate within capacity for the 2042 "Do Nothing" AM peak hour with a maximum RFC value of 0.35 and a corresponding queue of 0.6 pcus being recorded on Arm 2 of the roundabout, the Inner Relief Road (S). For the corresponding "Do Something" PM peak hour a maximum RFC value of 0.41 occurs on Arm 1 of the roundabout, the Oak Drive with a corresponding queue of 0.8 pcus.

7.2.4 Junction 4 - Blessington Inner Relief Road / R410 Nass Roundabout

Do-Nothing

The ARCADY results (**Table 7-7**) indicate that the R410 Nass Road / Blessington Inner Relief Road Roundabout junction will operate within capacity for the 2027 "Do Nothing" AM peak hour with a maximum RFC value of 0.18 and a corresponding queue of 0.2 pcus being recorded on Arm2 of the roundabout, the R410 Nass Road (NW).For the 2027 "Do Nothing" PM peak hour, a maximum RFC value of 0.33 occurs on Arm 2 of the roundabout, the R410 Nass Road (NW), with a corresponding queue of 0.5 pcus.

For the 2032 "Do Nothing" scenario, the ARCADY results indicate that the R410 Nass Road / Blessington Inner Relief Road Roundabout junction will operate within capacity for the 2027 "Do Nothing" AM peak hour with a maximum RFC value of 0.19 and a corresponding queue of 0.2 pcus being recorded on Arm2 of the roundabout, the R410 Nass Road (NW).For the 2027 "Do Nothing" PM peak hour, a maximum RFC value of 0.34 occurs on Arm 2 of the roundabout, the R410 Nass Road (NW), with a corresponding queue of 0.5 pcus.

For the 2042 Future Design Year 'Do Nothing,' scenario the ARCADY results indicate that the R410 Nass Road / Blessington Inner Relief Road Roundabout junction will operate within capacity for the 2027 "Do Nothing" AM peak hour with a maximum RFC value of 0.20 and a corresponding queue of 0.2 pcus being recorded on Arm2 of the roundabout, the R410 Nass Road (NW).For the 2027 "Do Nothing" PM peak hour, a maximum RFC value of 0.36 occurs on Arm 2 of the roundabout, the R410 Nass Road (NW), with a corresponding queue of 0.5 pcus.

Year	Period	Arm	Description	RFC	Queue (PCUs)	Delay (s)
2027 DN	AM Peak	1	R410 Nass Road (SE)	0.16	0.2	3.13
		2	R410 Nass Road (NW)	0.18	0.2	3.72

		3	Inner Relief Road (NE)	0.10	0.1	2.72
	PM Peak	1	R410 Nass Road (SE)	0.28	0.4	3.75
		2	R410 Nass Road (NW)	0.33	0.5	4.71
		3	Inner Relief Road (NE)	0.24	0.3	3.36
2032 DN	AM Peak	1	R410 Nass Road (SE)	0.17	0.2	3.15
		2	R410 Nass Road (NW)	0.19	0.2	3.75
		3	Inner Relief Road (NE)	0.10	0.1	2.74
	PM Peak	1	R410 Nass Road (SE)	0.29	0.4	3.80
		2	R410 Nass Road (NW)	0.34	0.5	4.81
		3	Inner Relief Road (NE)	0.25	0.3	3.41
2042 DN	AM Peak	1	R410 Nass Road (SE)	0.18	0.2	3.18
		2	R410 Nass Road (NW)	0.20	0.2	3.80
		3	Inner Relief Road (NE)	0.10	0.1	2.75
	PM Peak	1	R410 Nass Road (SE)	0.30	0.4	3.88
		2	R410 Nass Road (NW)	0.36	0.6	4.96
		3	Inner Relief Road (NE)	0.27	0.4	3.49

Table 7-7: 2027, 2032 and 2042 Do-Nothing Analysis for Junction 4

Do-Something

The ARCADY results (**Table 7-8**) indicate that the R410 Nass Road / Blessington Inner Relief Road Roundabout junction will operate within capacity for the 2027 "Do Nothing" AM peak hour with a maximum RFC value of 0.18 and a corresponding queue of 0.2 pcus being recorded on Arm2 of the roundabout, the R410 Nass Road (NW).For the 2027 "Do Nothing" PM peak hour, a maximum RFC value of 0.33 occurs on Arm 2 of the roundabout, the R410 Nass Road (NW), with a corresponding queue of 0.5 pcus.

For the 2032 "Do Nothing" scenario, the ARCADY results indicate that the R410 Nass Road / Blessington Inner Relief Road Roundabout junction will operate within capacity for the 2027 "Do Nothing" AM peak hour with a maximum RFC value of 0.19 and a corresponding queue of 0.2 pcus being recorded on Arm2 of the roundabout, the R410 Nass Road (NW).For the 2027 "Do Nothing" PM peak hour, a maximum RFC value of 0.34 occurs on Arm 2 of the roundabout, the R410 Nass Road (NW), with a corresponding queue of 0.5 pcus.

For the 2042 Future Design Year 'Do Nothing,' scenario the ARCADY results indicate that the R410 Nass Road / Blessington Inner Relief Road Roundabout junction will operate within capacity for the 2027 "Do Nothing" AM peak hour with a maximum RFC value of 0.20 and a corresponding queue of 0.2 pcus being recorded on Arm2 of the roundabout, the R410 Nass Road (NW).For the

2027 "Do Nothing" PM peak hour, a maximum RFC value of 0.36 occurs on Arm 2 of the roundabout, the R410 Nass Road (NW), with a corresponding queue of 0.6 pcus.

Year	Period	Arm	Description	RFC	Queue (PCUs)	Delay (s)
2027 DS	AM Peak	1	R410 Nass Road (SE)	0.17	0.2	3.16
		2	R410 Nass Road (NW)	0.18	0.2	3.74
		3	Inner Relief Road (NE)	0.11	0.1	2.76
	PM Peak	1	R410 Nass Road (SE)	0.30	0.4	3.83
		2	R410 Nass Road (NW)	0.33	0.5	4.77
		3	Inner Relief Road (NE)	0.25	0.3	3.41
2032 DS	AM Peak	1	R410 Nass Road (SE)	0.18	0.2	3.19
		2	R410 Nass Road (NW)	0.19	0.2	3.77
		3	Inner Relief Road (NE)	0.11	0.1	2.78
	PM Peak	1	R410 Nass Road (SE)	0.31	0.4	3.89
		2	R410 Nass Road (NW)	0.34	0.5	4.87
		3	Inner Relief Road (NE)	0.26	0.4	3.46
2042 DS	AM Peak	1	R410 Nass Road (SE)	0.18	0.2	3.21
		2	R410 Nass Road (NW)	0.20	0.2	3.82
		3	Inner Relief Road (NE)	0.11	0.1	2.79
	PM Peak	1	R410 Nass Road (SE)	0.32	0.5	3.97
		2	R410 Nass Road (NW)	0.36	0.6	5.02
		3	Inner Relief Road (NE)	0.28	0.4	3.54

Table 7-8: 2027, 2032 and 2042 Do-Something Analysis for Junction 4

7.3 Proposed Network Mitigation Measures

While all results were within acceptable levels, marginal capacity constraints were noted at Junction 2, (Oak Drive / N81 Main Street). Evaluation of the PICADY operational assessment of the N81 Main Street / Oak Drive three arm priority-controlled junction (Junction 2) indicates that the junction can get congested in the main street in Blessington in the AM and PM peak in a scenario where the BIRR is not delivered.

For the 2042 Future Design Year 'Do Something,' scenario the PICADY results indicate that the N81 Main Street / Oak Drive four-arm priority-controlled junction will operate slightly over capacity with a maximum RFC value of 0.86 and a corresponding queue of 5.5 pcus being recorded. A Ratio of Flow to Capacity (RFC) of greater than 85% (0.85) would indicate a junction to be approaching capacity, as operation above this RFC value is poor and deteriorates quickly. However, the results

show that the junction's capacity is only marginally above the indicator threshold of 0.85, indicating that it is just slightly over capacity.

The layout of the N81 Main Street / Oak Drive junction was updated last year as part of the Sorrel Woods Phase 1 development (WCC Ref 20/1146) (**Figure 7-2**). It's important to note that there wasn't enough space to provide a right-turn lane (RTL). However, an agreement with WCC allowed for the westbound lane towards Blessington Main Street to be widened locally. This widening created 'unofficial' space for cars to pass vehicles turning right.

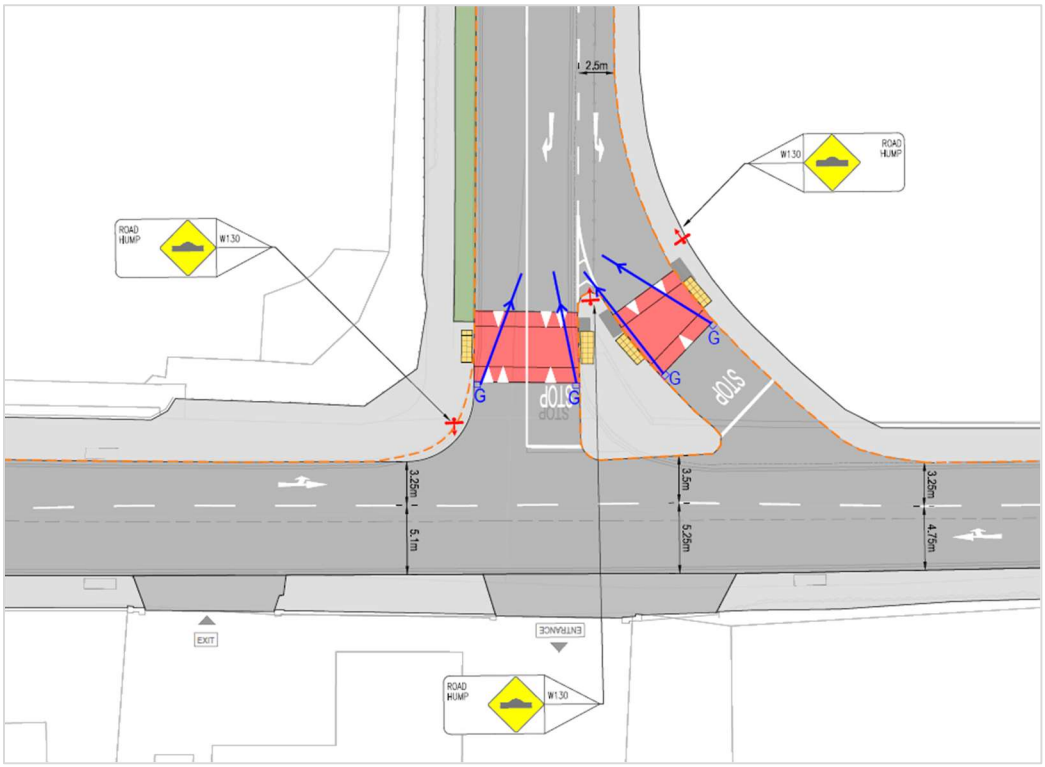


Figure 7-2: Updated Layout of the N81 Main Street / Oak Drive Junction

As noted in the network analysis results for the sensitivity scenario, where we consider that the BIRR is not delivered, the results show that even with these improvements in place, the junction will operate slightly over capacity for the future 2042 AM scenario. It is important to note that for the proposed development Opening year (2027) and Desing year (2032), the junction operates with reserve capacity for both AM and PM peaks, as shown in **Table 7-3**.

The results indicate that by 2042, the junction will be slightly over capacity, which is 15 years after the proposed development's opening year in 2027. It is strongly believed that the BIRR will be completed by then, as it is considered crucial for reducing traffic congestion and enhancing transport infrastructure in the area. It is also important to note that in the initial years following

the development's opening, the junction will still operate within capacity, indicating that the proposed development does not cause significant impacts on the road network. Therefore, the delivery of the BIRR is the most effective mitigation measure to ensure the junction operates efficiently in the long term.

7.4 Network Analysis Conclusions

The N81 Main Street/Oak Drive junction PICADY results for the AM peak hour were evaluated. The two scenarios considered are shown in **Figure 7-3** below. The 'Do Something (Sensitivity Test)' scenario presents the results for the junction without the northern section of the BIRR, while the 'Do Something' scenario shows the junction results with the incorporation of the northern section of the BIRR.

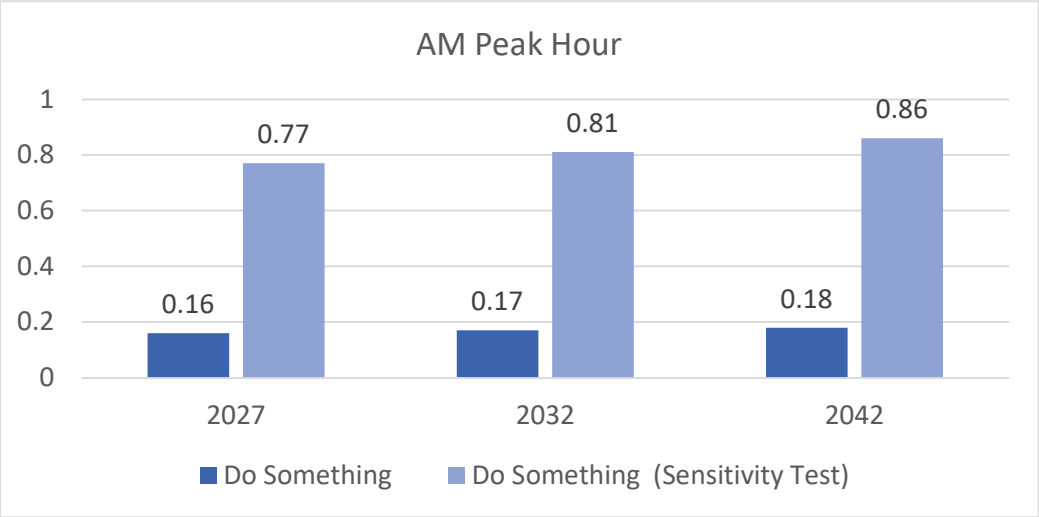


Figure 7-3: Junction 2, AM Peak Hour Maximum RFC Recorded

As shown in **Figure 7-3** above, the N81 Main Street/Oak Drive junction will operate slightly above capacity in the 2042 Future Design Year 'Do Something' scenario, assuming the BIRR project is not delivered. In the 'Do Something' scenario where the BIRR is implemented, the junction operates within reserve capacity for all years. This demonstrates the significant positive impact of the BIRR on junction performance.

The delivery of the inner relief road is a key element in realising the revitalisation of the town as it will remove the excessive traffic volumes travelling through the town centre.

Although the extension of the northern section of the BIRR is currently under appeal and has not yet been granted, this project has long been an objective of Wicklow County Council and aligns with the Regional Roads objective as described in the WCC development plan:

- CPO 12.44 - To support and drive the development and completion of the Blessington Inner Relief Road (in consultation with Kildare County Council) and, upon completion, to significantly improve pedestrian and cycling infrastructure on Blessington Main Street and the surrounding town centre local road network.

8 Summary and Conclusion

8.1 Summary

DBFL Consulting Engineers (DBFL) has been commissioned by Marshall Yards Development Company Ltd to prepare a Traffic and Transport Assessment (TTA) for a proposed residential development on a site at Blessington Demesne, Co. Wicklow.

Marshall Yards Development Company Ltd intend to apply for permission for development at this site c. 6.05 ha on lands within the townlands of Blessington Demesne, Blessington, Co. Wicklow. The proposed development will consist of 233 residential units (185 no. houses, 48 no. apartments/Duplex units), and a LLUs site with 36 no. units with a commercial space at ground floor of apartment building (399 sq. m).

The purpose of this TTA was to quantify the existing transport environment and to detail the results of assessment work undertaken to identify the potential level of transport impact generated as a result of the proposed residential development.

This TTA had carried out a range of assessments for an Opening Year of 2027, an Interim Year of 2032 and a Future Design Year assessment of 2042. This assessment assumed and accounted for complete development and occupation of all units proposed to occur by the Opening Year, as this provided a conservative design assessment of network operations.

Based upon the information and analysis detailed within this TTA it has been demonstrated that:

- The proposals represent a valuable contribution to addressing the shortfall in residential accommodation in Wicklow County whilst respecting the LAP land use objectives of the subject site. The development of the site has the potential to create a sustainable community that offers various types of residential accommodation in response to market demands and potential residents' varying demographics and social-economic characteristics.
- The site of the proposed residential development is ideally located to maximise access to / from the site by sustainable forms of travel including walking, cycling and public transport. Though the development is not reliant on public transport as excellent amenities including schools, shops and healthcare are available within walking distance of the development at Blessington town centre and its immediate environs.

- A total of 341 no. car parking spaces are proposed throughout the development. Of these 341 no. spaces, 48 no. will serve the apartment/duplex units, 26 no. will serve the LLUs while 267 no. will serve the houses.
- A total of 414 no. cycle parking spaces are proposed within the development.
- The proposals are in accordance with the land use zoning for the subject development site.
- Two appropriately located, sized, and designed vehicular site access junctions are being provided.
- The new site access junctions will operate as priority-controlled junctions and will benefit from an appropriate level of visibility splays ensuring their safe operation.
- Traffic generated and redistributed by the proposed development was established in a percentage impact assessment on the surrounding key site junctions to assess the impact of a proposed development upon the local road network to investigate if the level of traffic generated surpasses 10%, on normal and 5% on congested networks, respectively. When such levels of impact are generated a more detailed assessment is undertaken to ascertain the specific impact upon the network's operational performance.

For the key off site junctions, it can be seen that the development in 2042 would result in the following:

- Junction 1 (Blessington Inner Relief Road / Link Road Roundabout): an increase of 2.14% (29 New Two-Way Vehicle Trips) in the AM peak period and 2.43% (33 New Two-Way Vehicle Trips) in the PM peak period;
- Junction 2 (N81 Main Street / Oak Drive / Maxol Petrol Station Access): a decrease of 4.69% (31 New Two-Way Vehicle Trips) in the AM peak period and 4.67% (35 New Two-Way Vehicle Trips) in the PM peak period;
- Junction 3 (Blessington Inner Relief Road / Oak Drive Roundabout): an increase of 5.33% (72 New Two-Way Vehicle Trips) in the AM peak period and 6.27% (82 New Two-Way Vehicle Trips) in the PM peak period and;
- Junction 4 (Blessington Inner Relief Road /N410 Nass Roundabout): an increase of 2.02% (28 New Two-Way Vehicle Trips) in the AM peak period and 2.17% (31 New Two-Way Vehicle Trips) in the PM peak period.

Following this assessment of percentage impacts on key surrounding junctions, as Junctions 3 surpassed the 5% threshold required under the Institution of Highways and Transportation

document 'Guidelines for Traffic Impact Assessments' for junctions, a junction performance analysis was conducted as required by the guidance document.

Additional analysis was also carried out at junction 1 the Inner Relief Road / Link Road Roundabout, Junction 4 the Inner Relief Road / R410 Nassa Road Roundabout and Junction 2 the priority-controlled junction between the N81 and Oak Drive, which there is historical local concern about congestion at the junction as well as at the proposed N81 / Inner Relief Road roundabout proposed as part of the Inner Relief Road Extension.

Hence the following key junction was analysed in the operational assessment component of this TTA:

- **Junction 1:** Inner Relief Road / Link Road Roundabout
- **Junction 2:** N81 Main Street / Oak Drive (three-arm priority-controlled junction)
- **Junction 3:** Blessington Inner Relief Road / Oak Drive Roundabout (future four-arm roundabout)
- **Junction 4:** Blessington Inner Relief Road / R410 Nass Road Roundabout

For the operational performance of the key off site junctions it can be seen that the proposed development (269 units) would result in the following:

- Junction 1 (Inner Relief Road / Link Round Roundabout) will operate within capacity for the 2042 "Do something" AM Peak scenario with a maximum RFC value of 0.85 or 85% with a corresponding queue of 5.8 pcus being recorded. For the 2042 "Do Something" PM Peak scenario the junction will continue to operate within capacity with a maximum RFC value of 0.81 or 81% with a corresponding queue length of 4.6 pcus recorded.
- Junction 2 (N81 Main Street / Oak Drive Priority Controlled Junction) will operate well within capacity for the 2042 "Do Something" AM Peak scenario with a maximum RFC value of 0.18 or 18% with a corresponding queue of 0.2 pcus being recorded. For the 2042 "Do Something" PM Peak scenario the junction will continue to operate well within capacity with a maximum RFC value of 0.23 or 23% with a corresponding queue length of 0.3 pcus recorded.
- Junction 3 (Blessington Inner Relief Road / Oak Drive Roundabout) will operate well within capacity for the 2042 "Do Something" AM Peak scenario with a maximum RFC value of 0.53 or 53% with a corresponding queue of 1.3 pcus being recorded. For the 2042 "Do Something" PM Peak scenario the junction will continue to operate well within capacity

with a maximum RFC value of 0.49 or 49% with a corresponding queue length of 1.1 pcus recorded.

- Junction 4 (Blessington Inner Relief Road / R410 Nass Road Roundabout will operate well within capacity for the 2042 "Do Something" AM Peak scenario with a maximum RFC value of 0.62 or 62% with a corresponding queue of 1.6 pcus being recorded. For the 2042 "Do Something" PM Peak scenario the junction will continue to operate well within capacity with a maximum RFC value of 0.53 or 53% with a corresponding queue length of 1.1 pcus recorded.

8.2 Conclusions

It has been demonstrated that the proposals will not result in a material deterioration of local road conditions. Accordingly, DBFL believe that the opportunity is available, in terms of transport and traffic, for the local roads authority to consider favourably the proposed residential development on the subject site. As a result, there are no significant traffic, transportation or road safety related reasons that should prevent the granting of planning permission for the proposed development.

Appendix A : TRICS Output Files

DBFL Ormond House Dublin Licence No: 638801

Calculation Reference: AUDIT-638801-240411-0454

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

11	SCOTLAND		
	HI	HIGHLAND	1 days
12	CONNAUGHT		
	MA	MAYO	1 days
14	LEINSTER		
	WX	WEXFORD	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
Actual Range: 16 to 28 (units:)
Range Selected by User: 6 to 100 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/16 to 07/09/23

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

Selected survey days:

Tuesday	1 days
Wednesday	1 days
Thursday	1 days

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

Selected survey types:

Manual count	3 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	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	2
No Sub Category	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.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	25 days - Selected
Servicing vehicles Excluded	10 days - Selected

Secondary Filtering selection:

Use Class:

C3	3 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	2 days

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	2 days

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

Car ownership within 5 miles:

1.1 to 1.5	3 days

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

Travel Plan:

No	3 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	3 days

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

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1	HI-03-C-02 KING STREET NAIRN	BLOCK OF FLATS	HIGHLAND
	Edge of Town Centre Residential Zone Total No of Dwellings: 16 *Survey date: WEDNESDAY 19/04/23*		*Survey Type: MANUAL*
2	MA-03-C-01 KNOCK ROAD CLAREMORRIS	BLOCKS OF FLATS	MAYO
	Edge of Town Centre No Sub Category Total No of Dwellings: 22 *Survey date: TUESDAY 14/09/21*		*Survey Type: MANUAL*
3	WX-03-C-01 UPPER GEORGE'S STREET WEXFORD	BLOCKS OF FLATS	WEXFORD
	Edge of Town Centre Residential Zone Total No of Dwellings: 28 *Survey date: THURSDAY 20/04/23*		*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
TOTAL 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	3	22	0.015	3	22	0.167	3	22	0.182
08:00 - 09:00	3	22	0.091	3	22	0.227	3	22	0.318
09:00 - 10:00	3	22	0.152	3	22	0.212	3	22	0.364
10:00 - 11:00	3	22	0.091	3	22	0.106	3	22	0.197
11:00 - 12:00	3	22	0.061	3	22	0.136	3	22	0.197
12:00 - 13:00	3	22	0.106	3	22	0.061	3	22	0.167
13:00 - 14:00	3	22	0.152	3	22	0.076	3	22	0.228
14:00 - 15:00	3	22	0.076	3	22	0.152	3	22	0.228
15:00 - 16:00	3	22	0.167	3	22	0.136	3	22	0.303
16:00 - 17:00	3	22	0.167	3	22	0.152	3	22	0.319
17:00 - 18:00	3	22	0.136	3	22	0.227	3	22	0.363
18:00 - 19:00	3	22	0.212	3	22	0.076	3	22	0.288
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.426			1.728			3.154

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:	16 - 28 (units:)
Survey date date range:	01/01/16 - 07/09/23
Number of weekdays (Monday-Friday):	3
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.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	KC	KENT	1 days
	WS	WEST SUSSEX	1 days
04	EAST ANGLIA		
	NF	NORFOLK	1 days
	SF	SUFFOLK	1 days
11	SCOTLAND		
	AS	ABERDEENSHIRE	1 days
12	CONNAUGHT		
	CS	SLIGO	2 days
	MA	MAYO	1 days
16	ULSTER (REPUBLIC OF IRELAND)		
	DN	DONEGAL	2 days
17	ULSTER (NORTHERN IRELAND)		
	AN	ANTRIM	1 days
	DE	DERRY	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
Actual Range: 6 to 159 (units:)
Range Selected by User: 4 to 200 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/16 to 07/11/23

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

Selected survey days:

Tuesday	1 days
Wednesday	6 days
Thursday	4 days
Friday	1 days

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

Selected survey types:

Manual count	11 days
Directional ATC Count	1 days

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

Selected Locations:

Edge of Town Centre	2
Edge of Town	5
Neighbourhood Centre (PPS6 Local Centre)	5

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

Selected Location Sub Categories:

Residential Zone	5
Village	5
No Sub Category	2

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

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	33 days - Selected
Servicing vehicles Excluded	97 days - Selected

Secondary Filtering selection:

Use Class:

C3	12 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,000 or Less	3 days
1,001 to 5,000	8 days
5,001 to 10,000	1 days

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

Population within 5 miles:

5,000 or Less	3 days
5,001 to 25,000	6 days
25,001 to 50,000	3 days

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

Car ownership within 5 miles:

1.1 to 1.5	7 days
1.6 to 2.0	5 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	12 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	12 days

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

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1 AN-03-A-09 DETACHED & SEMI-DETACHED ANTRIM
SLOEFIELD DRIVE
CARRICKFERGUS

Edge of Town
No Sub Category
Total No of Dwellings: 151
Survey date: WEDNESDAY *12/10/16* *Survey Type: MANUAL*

2 AS-03-A-02 MIXED HOUSES ABERDEENSHIRE
FARROCHIE ROAD
STONEHAVEN

Edge of Town
Residential Zone
Total No of Dwellings: 131
Survey date: WEDNESDAY *20/04/22* *Survey Type: MANUAL*

3 CS-03-A-03 MIXED HOUSES SLIGO
TOP ROAD
STRANDHILL
STRANDHILL
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 30
Survey date: THURSDAY *27/10/16* *Survey Type: MANUAL*

4 CS-03-A-04 DETACHED & SEMI-DETACHED SLIGO
R292
STRANDHILL

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 63
Survey date: THURSDAY *27/10/16* *Survey Type: MANUAL*

5 DE-03-A-04 SEMI-DETACHED & TERRACED DERRY
GREENHALL HIGHWAY
COLERAINE

Edge of Town
Residential Zone
Total No of Dwellings: 38
Survey date: THURSDAY *19/05/22* *Survey Type: MANUAL*

6 DN-03-A-06 DETACHED HOUSING DONEGAL
GLENFIN ROAD
BALLYBOFEY

Edge of Town
Residential Zone
Total No of Dwellings: 6
Survey date: WEDNESDAY *10/10/18* *Survey Type: MANUAL*

7 DN-03-A-07 DETACHED & SEMI-DETACHED DONEGAL
ST ORANS ROAD
BUNCRANA

Edge of Town Centre
Residential Zone
Total No of Dwellings: 9
Survey date: WEDNESDAY *29/05/19* *Survey Type: MANUAL*

8 KC-03-A-08 MIXED HOUSES KENT
MAIDSTONE ROAD
CHARING

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 159
Survey date: TUESDAY *22/05/18* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9 MA-03-A-02 SEMI-DETACHED HOUSES MAYO
CONVENT ROAD
CLAREMORRIS

Edge of Town Centre
No Sub Category
Total No of Dwellings: 31
Survey date: WEDNESDAY 15/09/21 Survey Type: MANUAL

10 NF-03-A-10 MIXED HOUSES & FLATS NORFOLK
HUNSTANTON ROAD
HUNSTANTON

Edge of Town
Residential Zone
Total No of Dwellings: 17
Survey date: WEDNESDAY 12/09/18 Survey Type: DIRECTIONAL ATC COUNT

11 SF-03-A-06 DETACHED & SEMI-DETACHED SUFFOLK
BURY ROAD
KENTFORD

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 38
Survey date: FRIDAY 22/09/17 Survey Type: MANUAL

12 WS-03-A-07 BUNGALOWS WEST SUSSEX
EMMS LANE
NEAR HORSHAM
BROOKS GREEN
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 57
Survey date: THURSDAY 19/10/17 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/A - HOUSES PRIVATELY OWNED
TOTAL 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	12	61	0.062	12	61	0.196	12	61	0.258
08:00 - 09:00	12	61	0.171	12	61	0.441	12	61	0.612
09:00 - 10:00	12	61	0.178	12	61	0.223	12	61	0.401
10:00 - 11:00	12	61	0.188	12	61	0.197	12	61	0.385
11:00 - 12:00	12	61	0.186	12	61	0.192	12	61	0.378
12:00 - 13:00	12	61	0.210	12	61	0.197	12	61	0.407
13:00 - 14:00	12	61	0.196	12	61	0.238	12	61	0.434
14:00 - 15:00	12	61	0.227	12	61	0.218	12	61	0.445
15:00 - 16:00	12	61	0.241	12	61	0.214	12	61	0.455
16:00 - 17:00	12	61	0.322	12	61	0.225	12	61	0.547
17:00 - 18:00	12	61	0.389	12	61	0.221	12	61	0.610
18:00 - 19:00	12	61	0.300	12	61	0.204	12	61	0.504
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.670			2.766			5.436

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 - 159 (units:)
Survey date date range:	01/01/16 - 07/11/23
Number of weekdays (Monday-Friday):	12
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.

DBFL Ormond House Dublin Licence No: 638801

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : O - RETIREMENT AND CARE COMMUNITY
TOTAL VEHICLES

Selected regions and areas:

03	SOUTH WEST		
	WL	WILTSHIRE	1 days
09	NORTH		
	FU	WESTMORLAND & FURNESS	1 days
12	CONNAUGHT		
	GA	GALWAY	1 days
13	MUNSTER		
	TI	TIPPERARY	1 days
16	ULSTER (REPUBLIC OF IRELAND)		
	CV	CAVAN	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
Actual Range: 22 to 71 (units:)
Range Selected by User: 20 to 100 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/16 to 05/05/23

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

Selected survey days:

Monday	1 days
Friday	4 days

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

Selected survey types:

Manual count	5 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	5

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

Selected Location Sub Categories:

Industrial Zone	1
Residential Zone	2
Retail Zone	1
No Sub Category	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.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	3 days - Selected
Servicing vehicles Excluded	4 days - Selected

Secondary Filtering selection:

Use Class:

n/a	5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	3 days
10,001 to 15,000	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	4 days
50,001 to 75,000	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	3 days
1.6 to 2.0	1 days

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

Travel Plan:

No	5 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	5 days

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

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1 CV-03-O-01 RETIREMENT VILLAGE CAVAN
DRUMALEE MANOR
CAVAN
DRUMALEE
Edge of Town
Residential Zone
Total No of Dwellings: 71
Survey date: MONDAY *22/05/17* *Survey Type: MANUAL*

2 FU-03-O-01 RETIREMENT VILLAGE WESTMORLAND & FURNESS
BRIDGE LANE
PENRITH

Edge of Town
Residential Zone
Total No of Dwellings: 57
Survey date: FRIDAY *15/10/21* *Survey Type: MANUAL*

3 GA-03-O-01 RETIREMENT VILLAGE GALWAY
SAINT BRENDAN'S ROAD
PORTUMNA

Edge of Town
Industrial Zone
Total No of Dwellings: 22
Survey date: FRIDAY *21/10/22* *Survey Type: MANUAL*

4 TI-03-O-01 RETIREMENT VILLAGE TIPPERARY
R445
NENAGH
STEREAME
Edge of Town
No Sub Category
Total No of Dwellings: 50
Survey date: FRIDAY *18/06/21* *Survey Type: MANUAL*

5 WL-03-O-01 RETIREMENT VILLAGE WILTSHIRE
MALMESBURY ROAD
CHIPPENHAM

Edge of Town
Retail Zone
Total No of Dwellings: 63
Survey date: FRIDAY *05/05/23* *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/O - RETIREMENT AND CARE COMMUNITY
TOTAL 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	5	53	0.183	5	53	0.068	5	53	0.251
08:00 - 09:00	5	53	0.148	5	53	0.080	5	53	0.228
09:00 - 10:00	5	53	0.167	5	53	0.110	5	53	0.277
10:00 - 11:00	5	53	0.148	5	53	0.152	5	53	0.300
11:00 - 12:00	5	53	0.156	5	53	0.175	5	53	0.331
12:00 - 13:00	5	53	0.190	5	53	0.175	5	53	0.365
13:00 - 14:00	5	53	0.148	5	53	0.183	5	53	0.331
14:00 - 15:00	5	53	0.175	5	53	0.186	5	53	0.361
15:00 - 16:00	5	53	0.198	5	53	0.194	5	53	0.392
16:00 - 17:00	5	53	0.129	5	53	0.213	5	53	0.342
17:00 - 18:00	5	53	0.156	5	53	0.163	5	53	0.319
18:00 - 19:00	5	53	0.141	5	53	0.122	5	53	0.263
19:00 - 20:00	2	57	0.088	2	57	0.124	2	57	0.212
20:00 - 21:00	2	57	0.071	2	57	0.088	2	57	0.159
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.098			2.033			4.131

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.

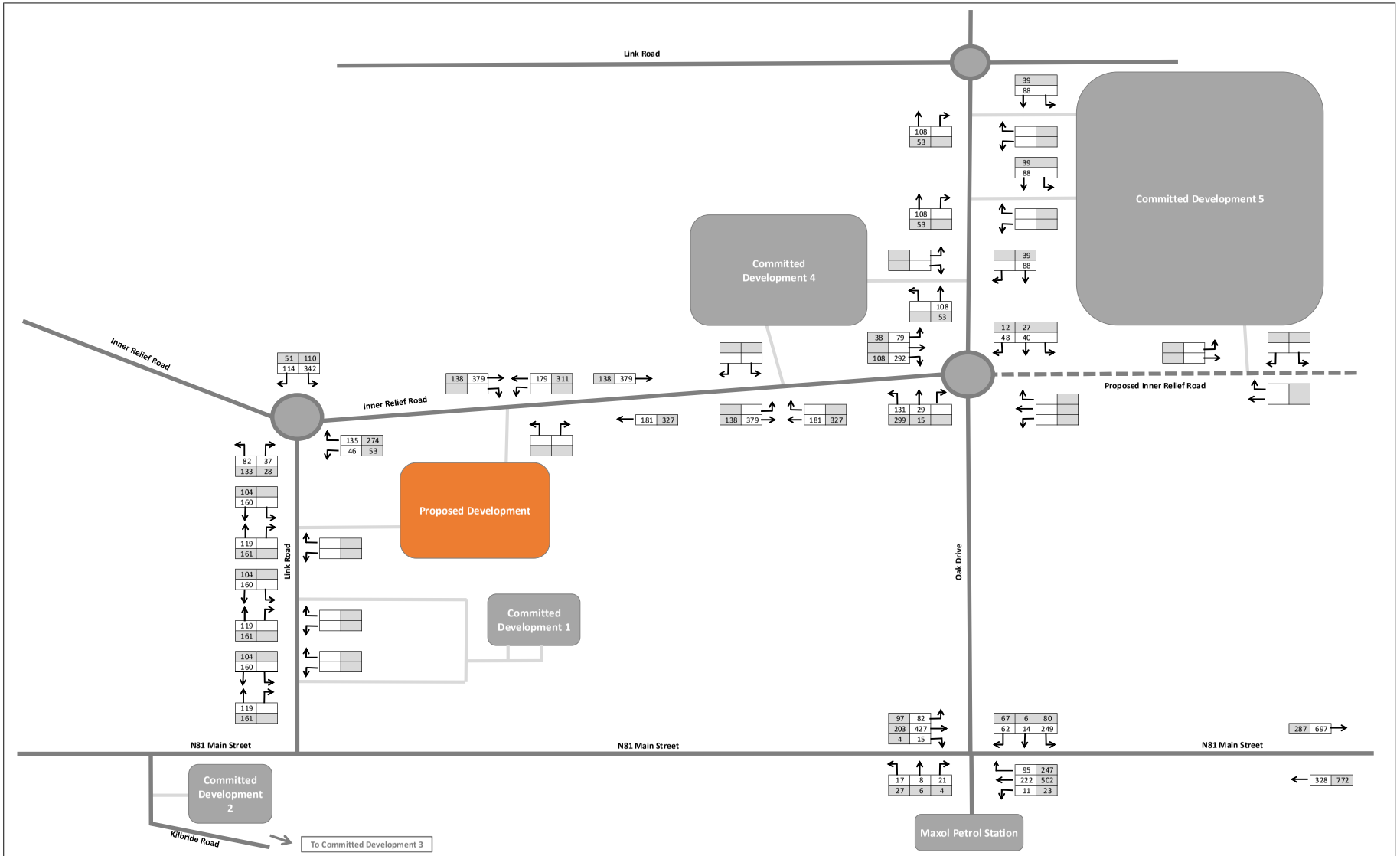
*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected 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:	22 - 71 (units:)
Survey date date range:	01/01/16 - 05/05/23
Number of weekdays (Monday-Friday):	5
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 B : Traffic Model



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Project : Blessington LDR

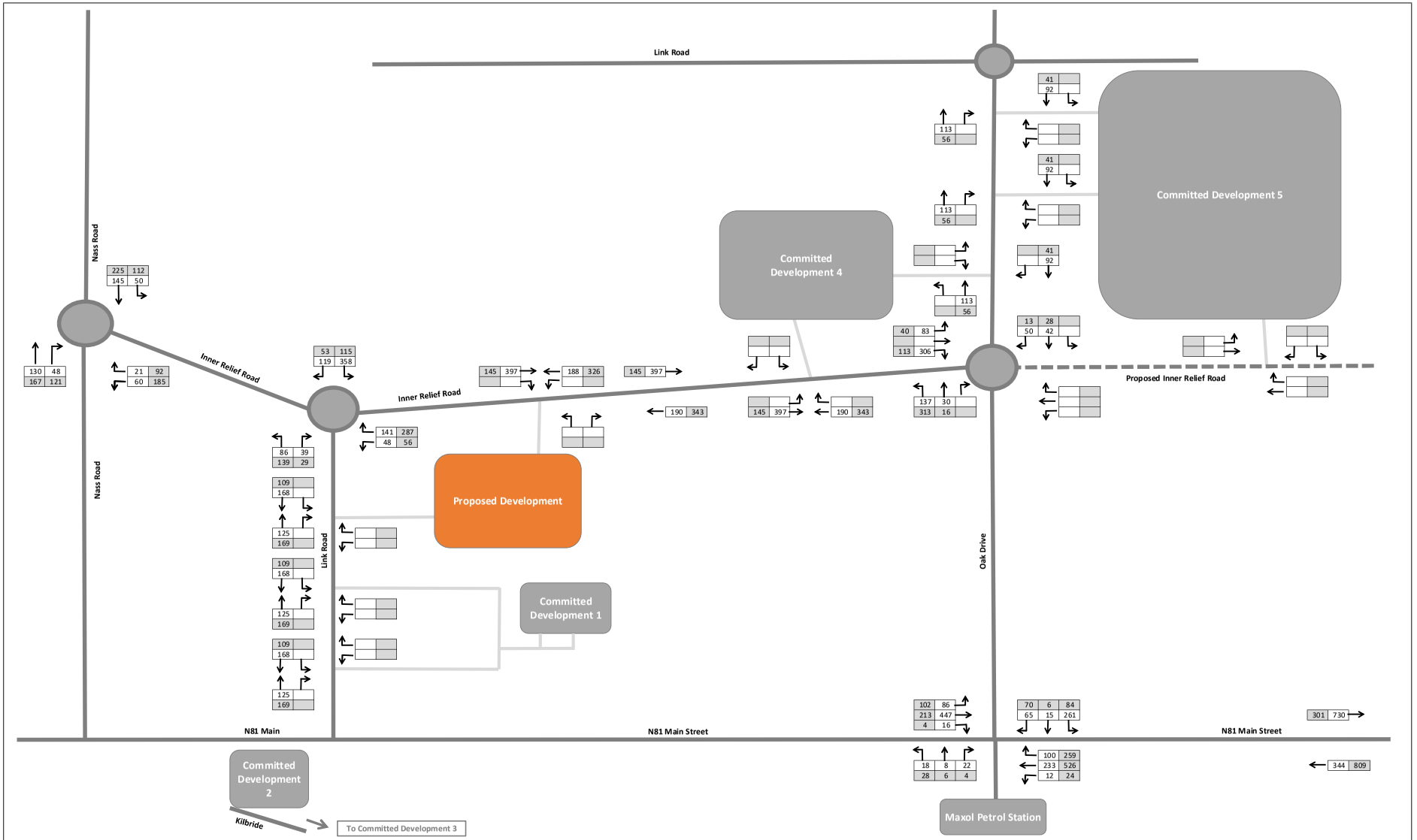
DRG. Title : Network Traffic Flows - Vehicles
2024 Base Flows

Key:
- AM Peak Hour (08:30-09:30)
- PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/04/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
1	0



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Project : Blessington LDR

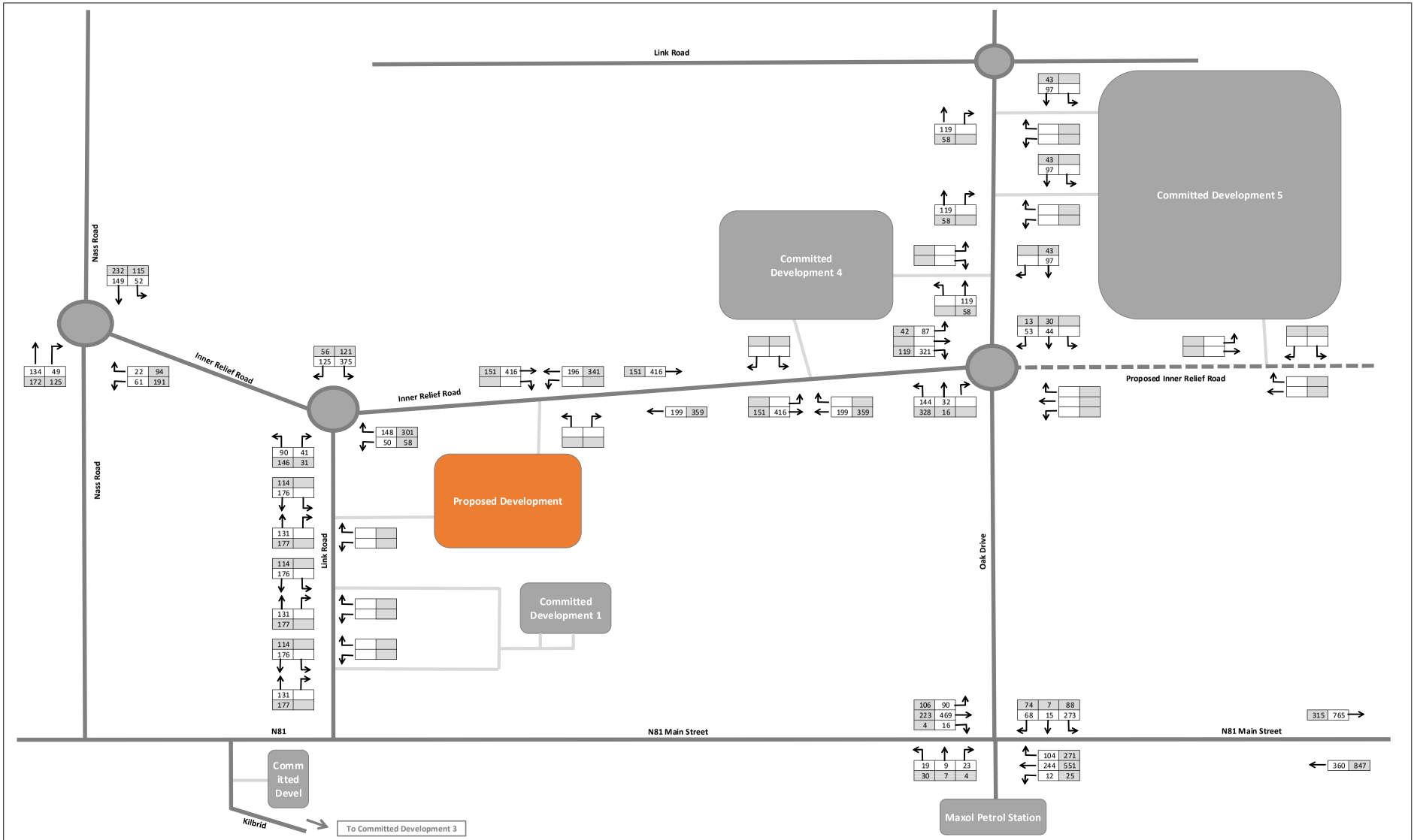
DRG. Title : 2027 Adjusted Base Flows

Key:
AM Peak Hour (08:30-09:30)
PM Peak Hour (17:15-1815)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
2	0



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Project : Blessington LDR

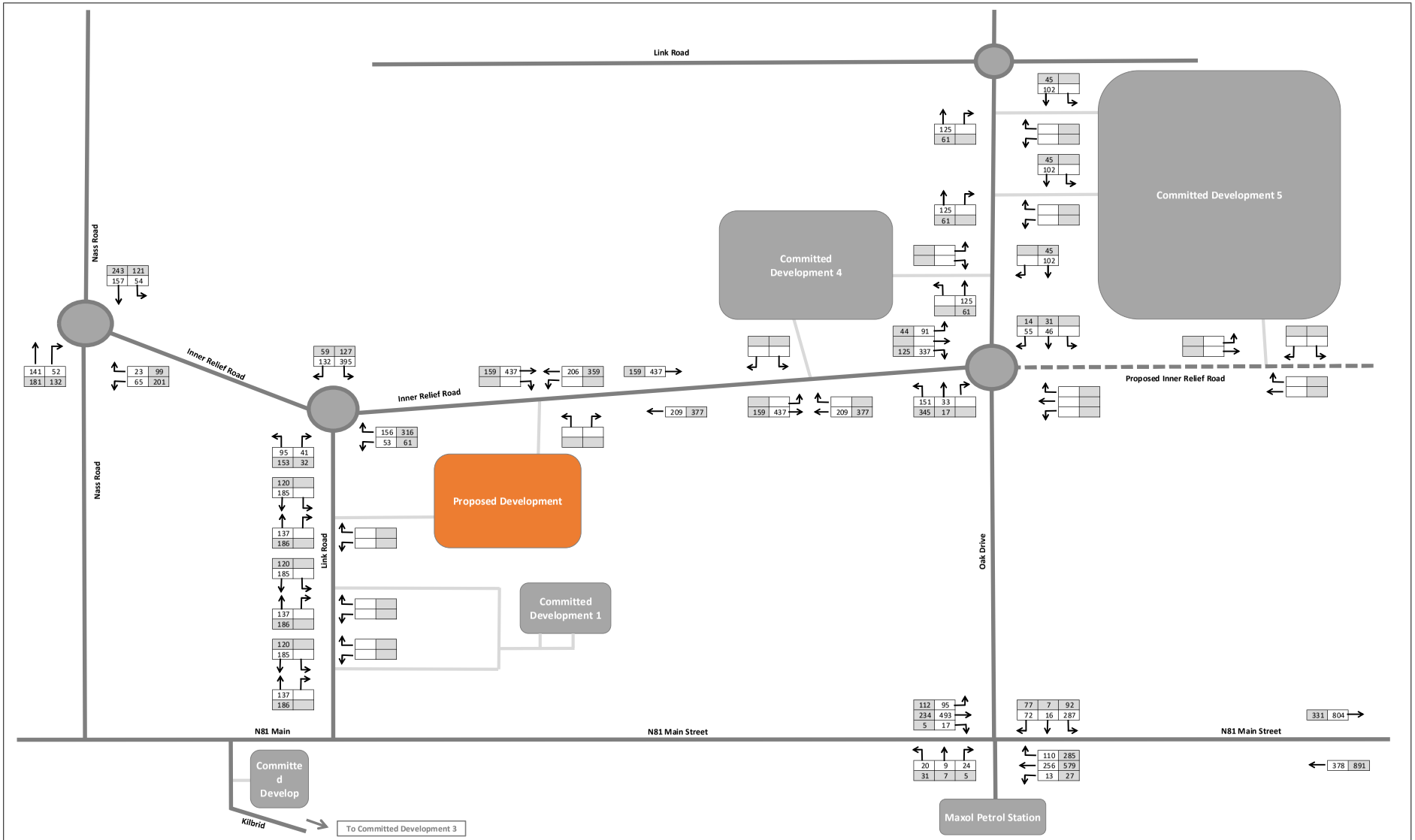
DRG. Title : 2032 Adjusted Base Flows

Key: AM Peak Hour (08:30-09:30); PM Peak Hour (1715-1815)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
3	0



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Project : Blessington LDR

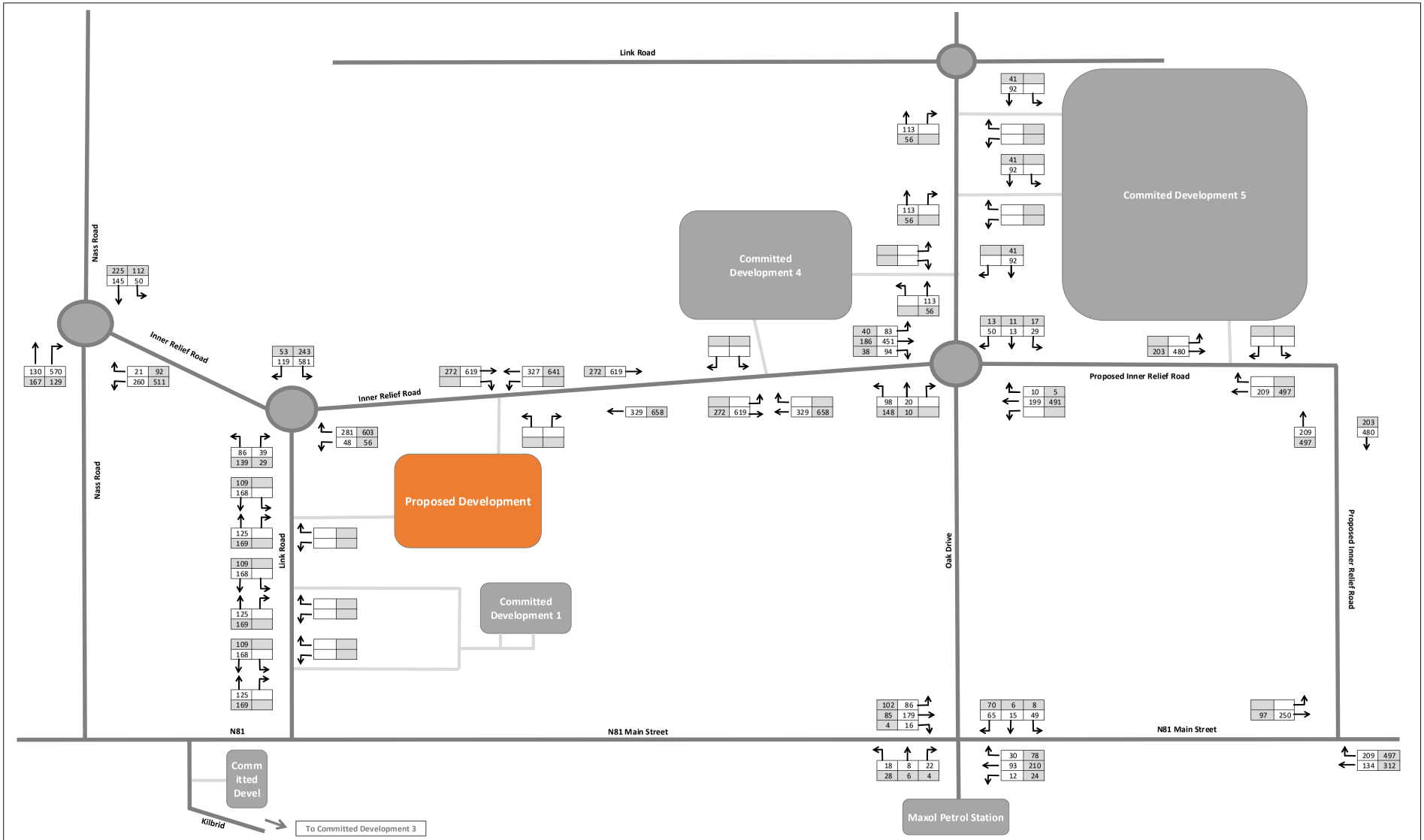
DRG. Title : 2042 Adjusted Base Flows

Key:
AM Peak Hour (08:30-09:30)
PM Peak Hour (1715-1815)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
4	0



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Project : Blessington LDR

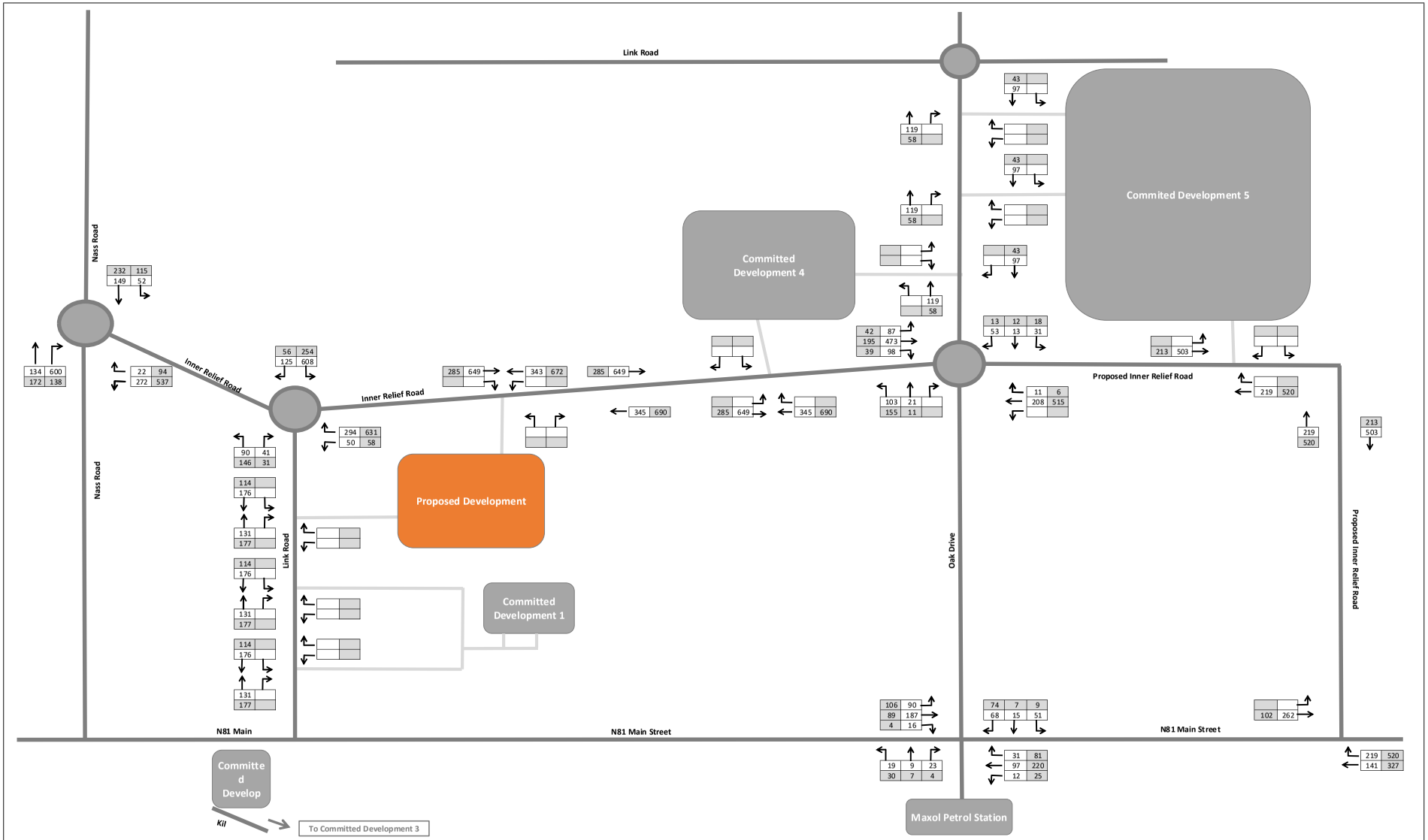
DRG. Title : Network Traffic Flows - Vehicles
2027 Adjusted Base Flows Redistributed with Full BIRR

Key:
AM Peak Hour (08:30-09:30)
PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
5	0



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Project : Blessington LDR

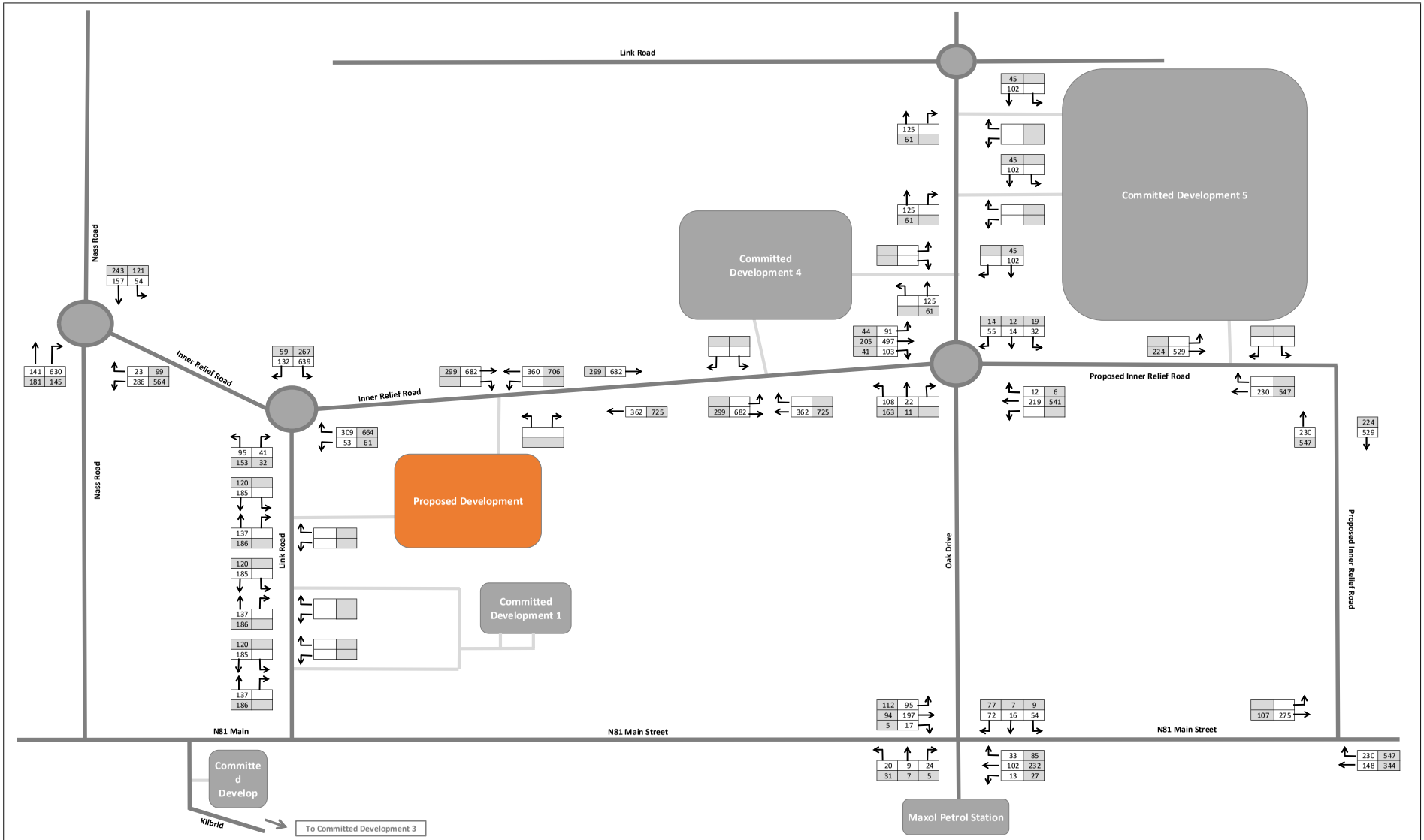
DRG. Title : Network Traffic Flows - Vehicles
2032 Adjusted Base Flows Redistributed with Full BIRR

Key:
AM Peak Hour (08:30-09:30)
PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
6	0



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Project : Blessington LDR

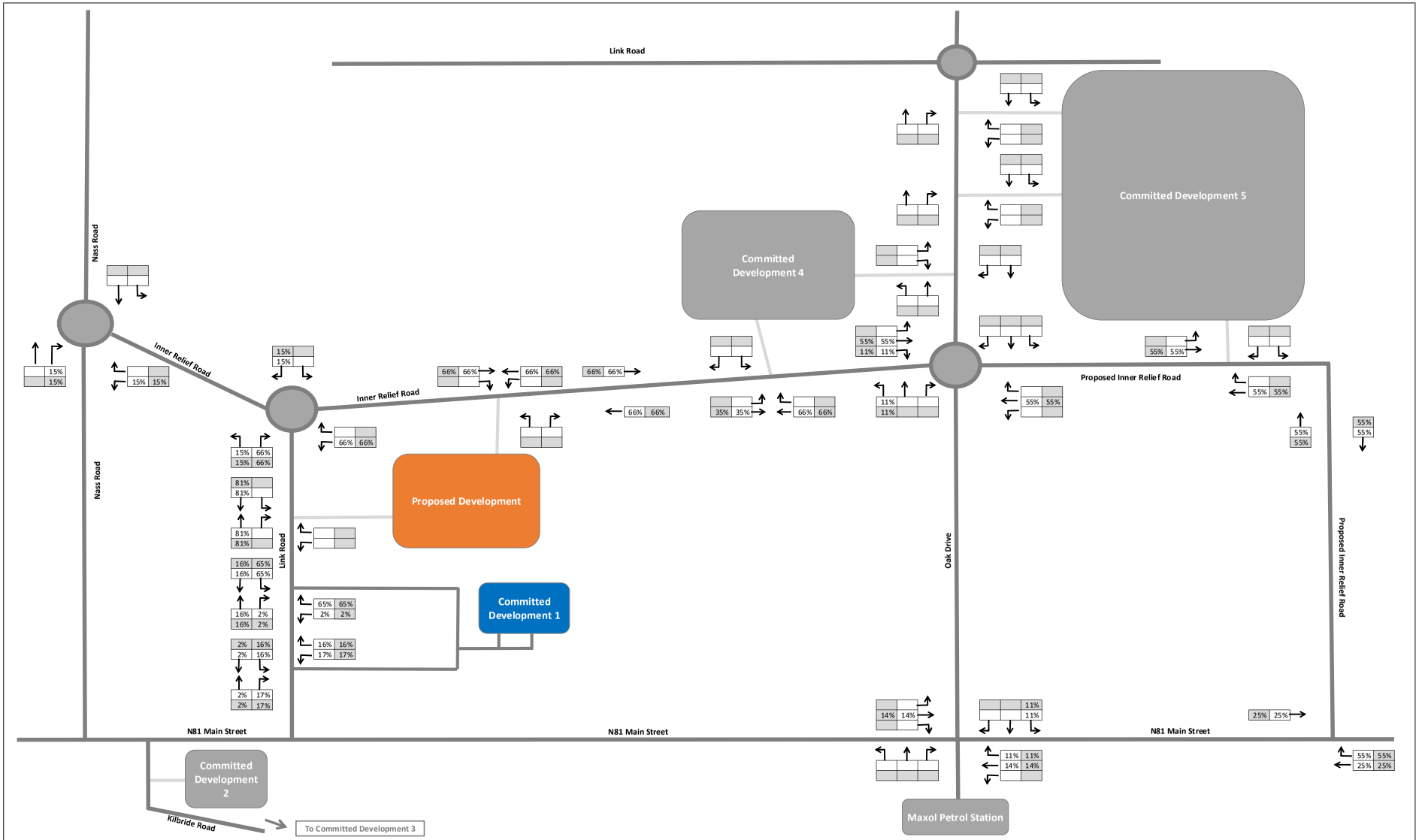
DRG. Title : Network Traffic Flows - Vehicles
2042 Adjusted Base Flows Redistributed with Full BIRR

Key:
AM Peak Hour (08:30-09:30)
PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
7	0



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Project : Blessington LDR

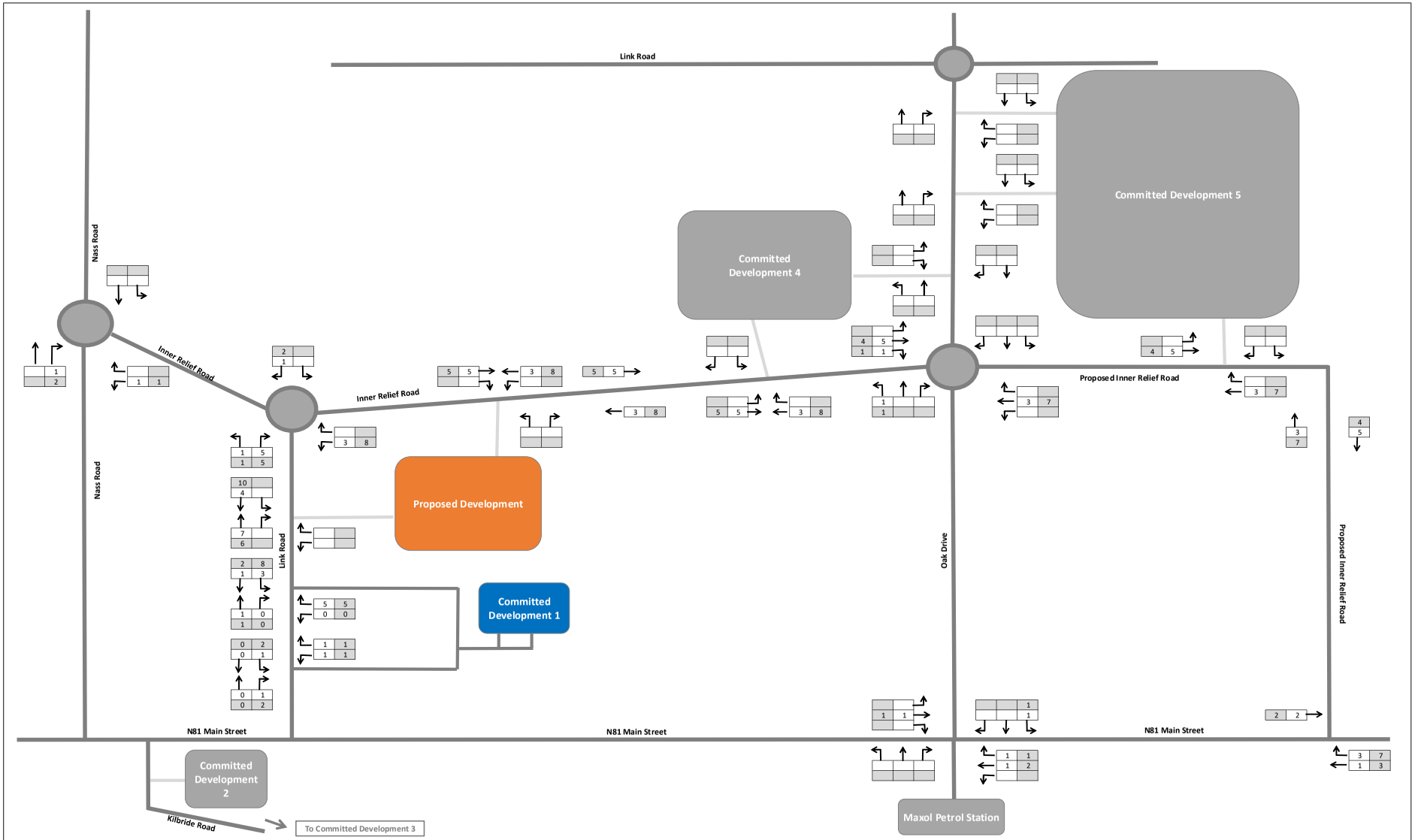
DRG. Title : Committed Development 1
Trip Distribution

Key:
AM Peak Hour (08:30-09:30)
PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
8	0



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Waterford Office: Suite 8b The Atrium, Maritana Gate, Canada Street, Waterford
ph:+353 51 309 500

email: info@dbfl.ie
website: www.dbfl.ie

Project : Blessington LDR

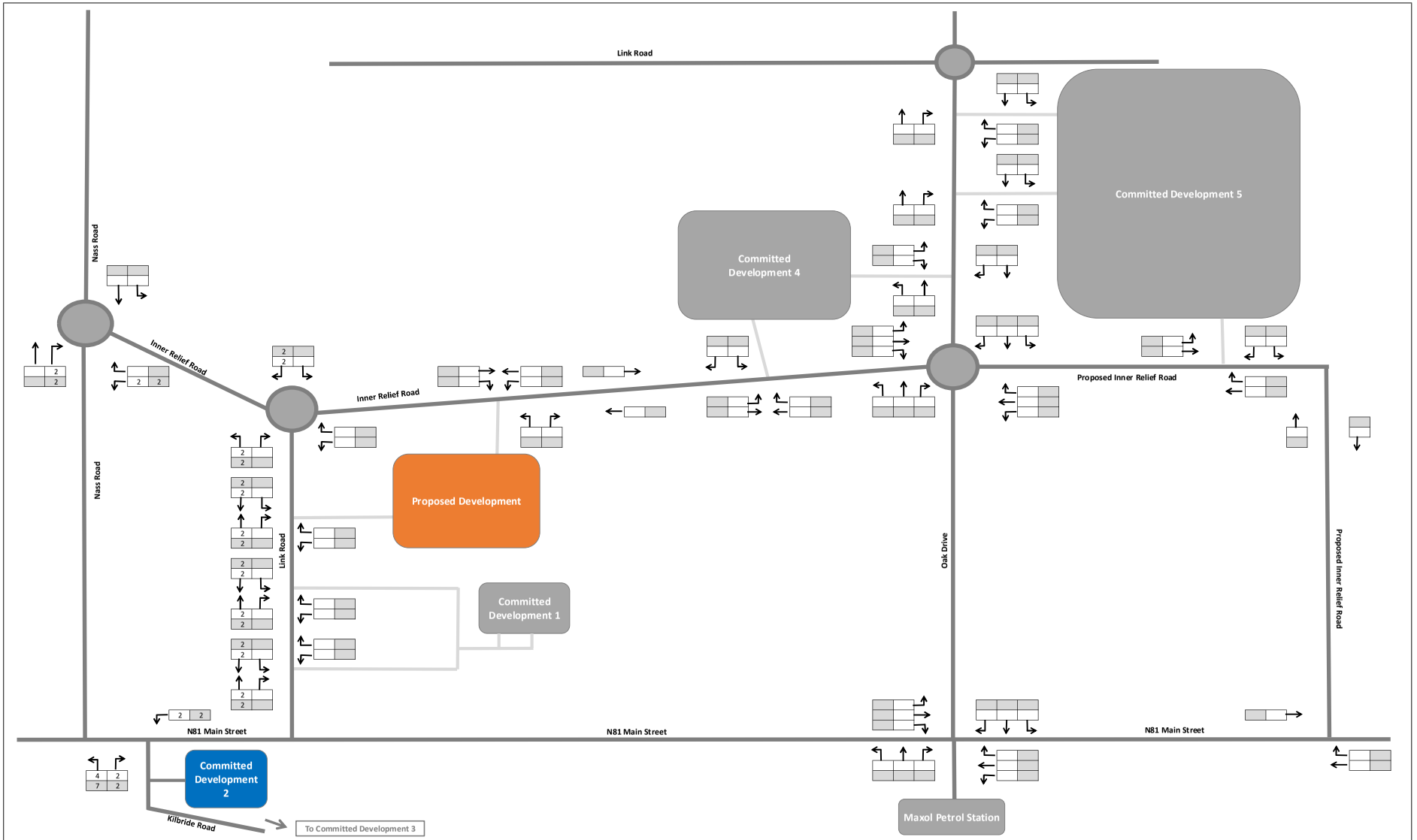
DRG. Title : Committed Development 1
Vehicle Trips

Key:
AM Peak Hour (08:30-09:30)
PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
9	0



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email: info@dbfl.ie
website: www.dbfl.ie

Project : Blessington LDR

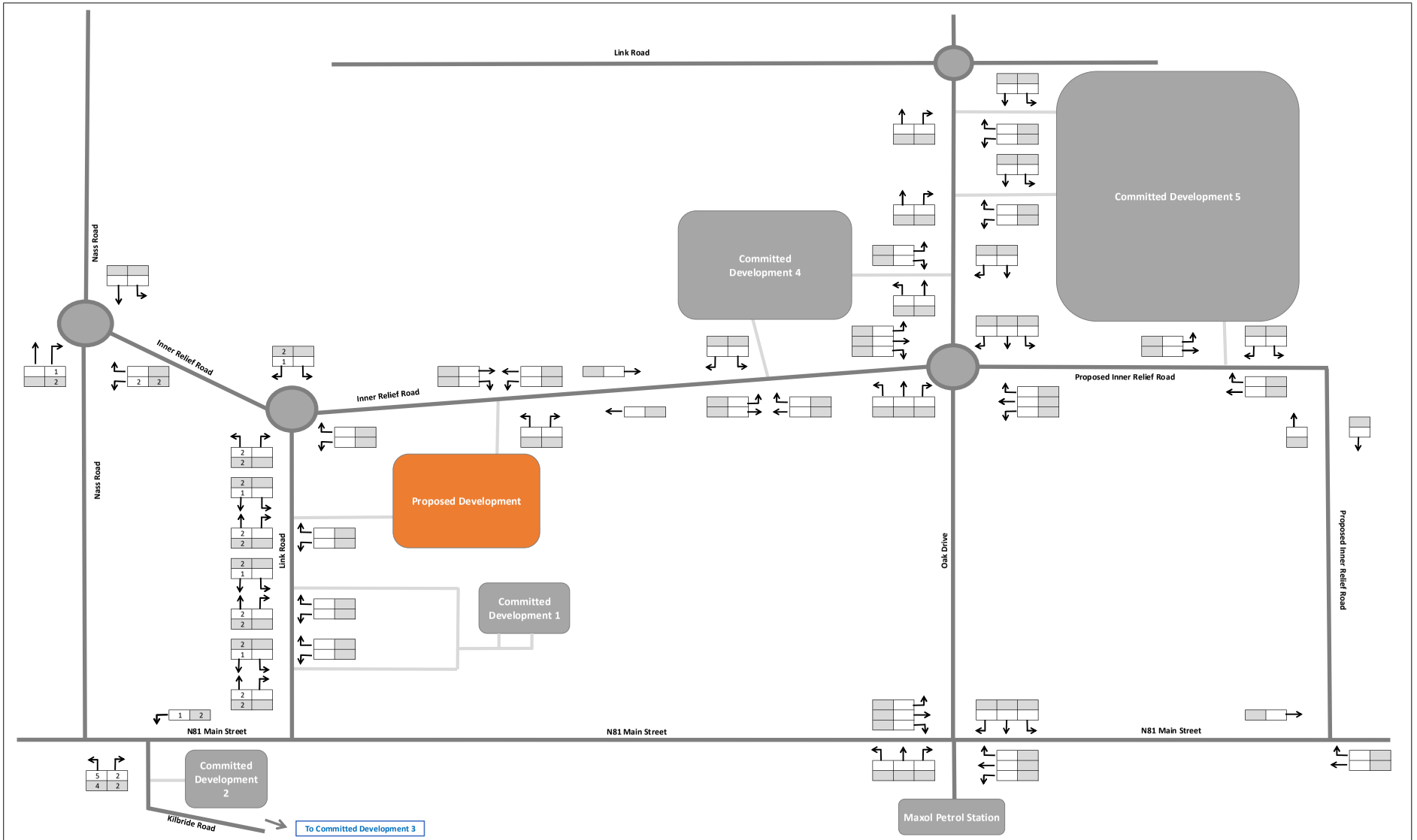
DRG. Title : Committed Development 2
Vehicle Trips

Key:
AM Peak Hour (08:30-09:30)
PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
10	



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email: info@dbfl.ie
website: www.dbfl.ie

Project : Blessington LDR

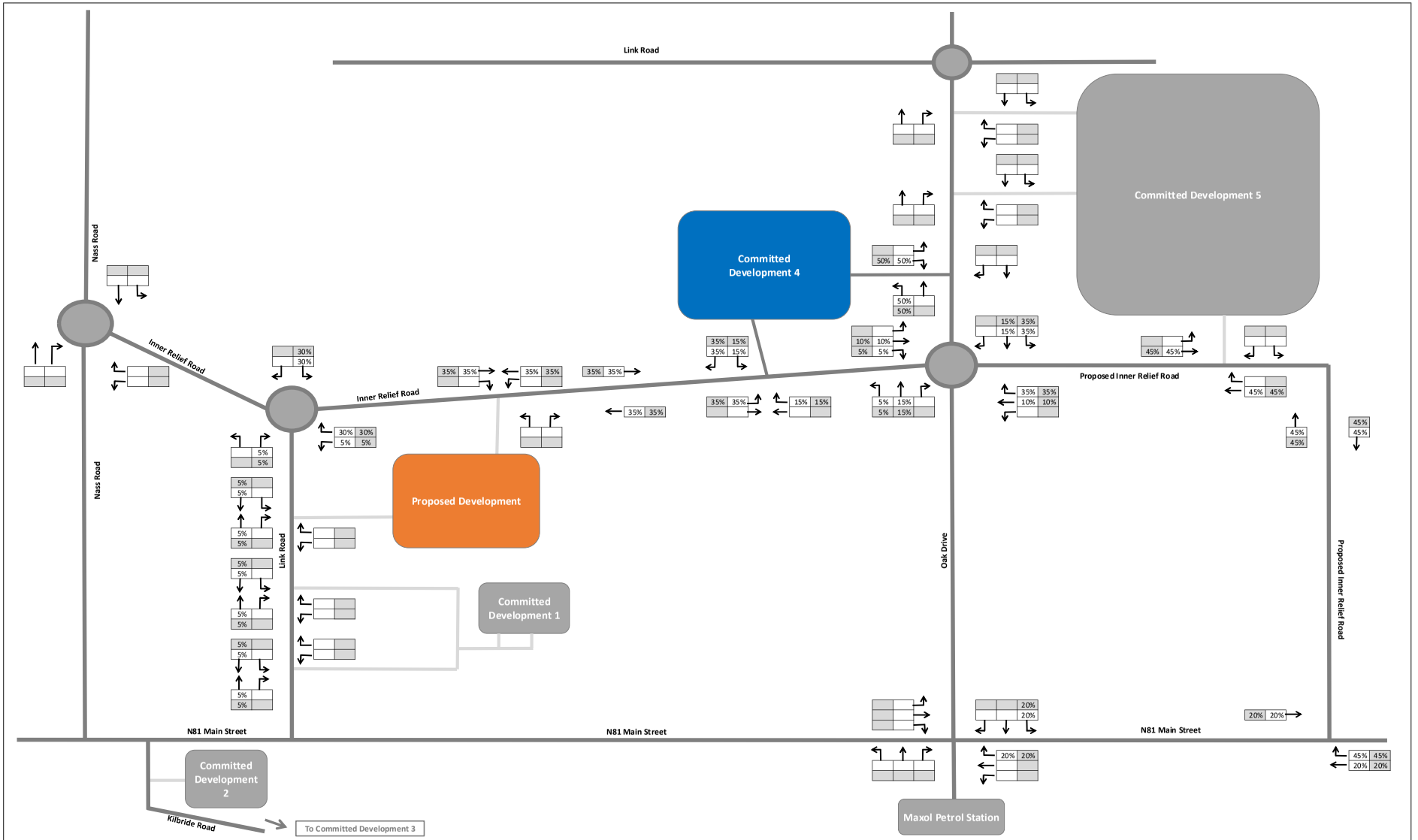
DRG. Title : Committed Development 3 Vehicle Trips

Key:
AM Peak Hour (08:30-09:30)
PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
11	0



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email: info@dbfl.ie
website: www.dbfl.ie

Project : Blessington LDR

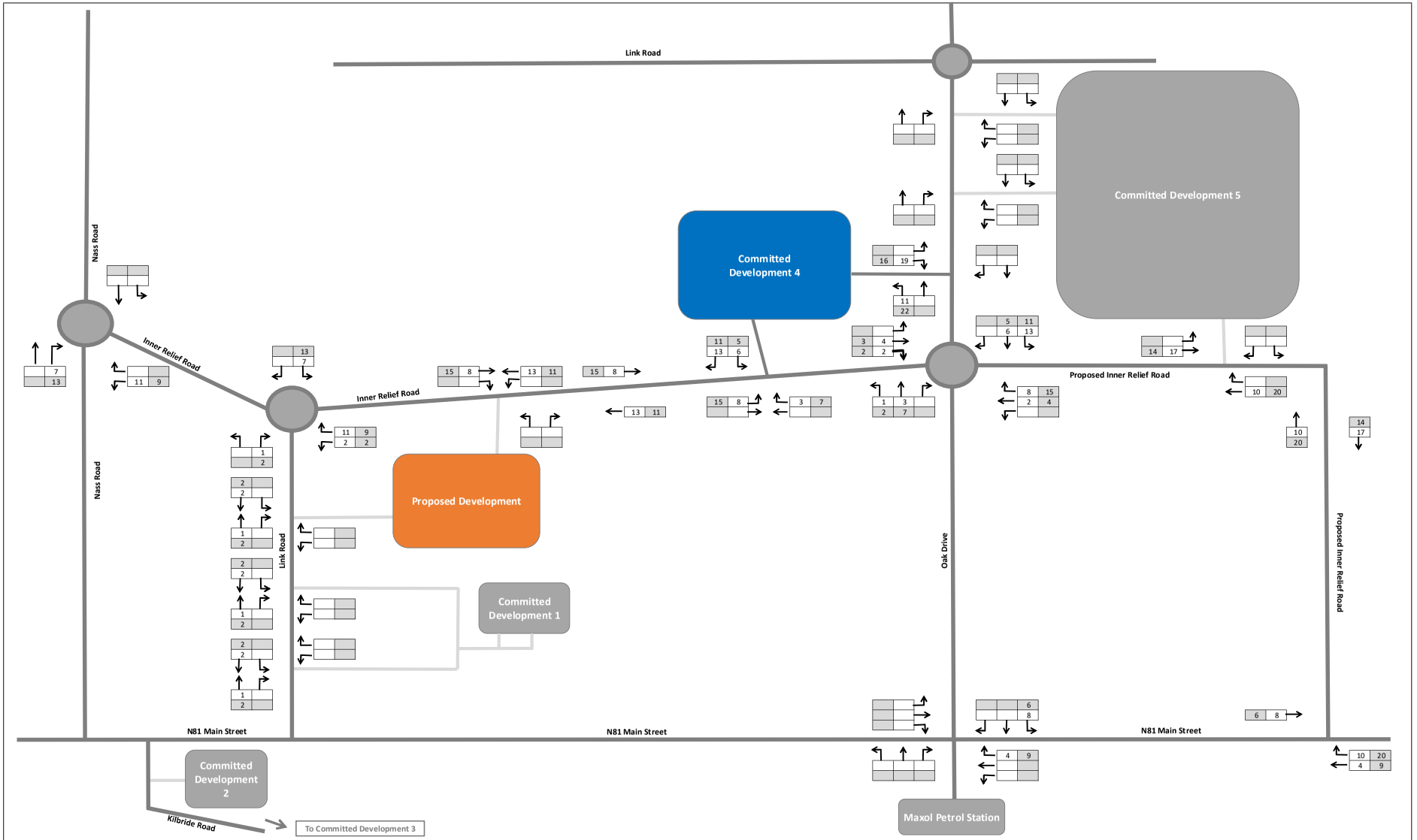
DRG. Title : Committed Development 4 Trip Distribution

Key:
- AM Peak Hour (08:30-09:30)
- PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
12	0



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email: info@dbfl.ie
website: www.dbfl.ie

Project : Blessington LDR

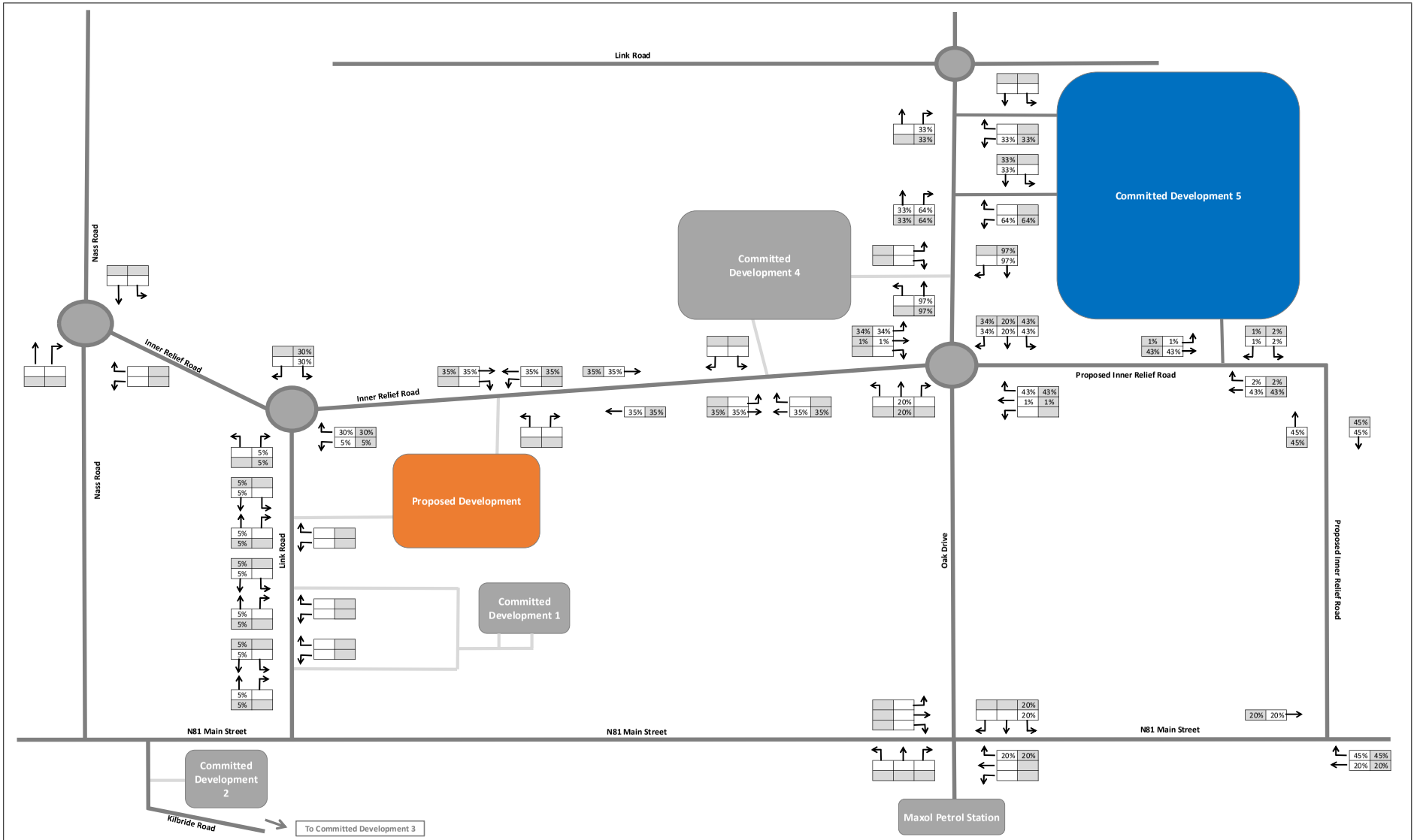
DRG. Title : Committed Development 4
Vehicle Trips

Key:
AM Peak Hour (08:30-09:30)
PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
13	0



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email: info@dbfl.ie
website: www.dbfl.ie

Project : Blessington LDR

DRG. Title : Committed Development 5 Trip Distribution

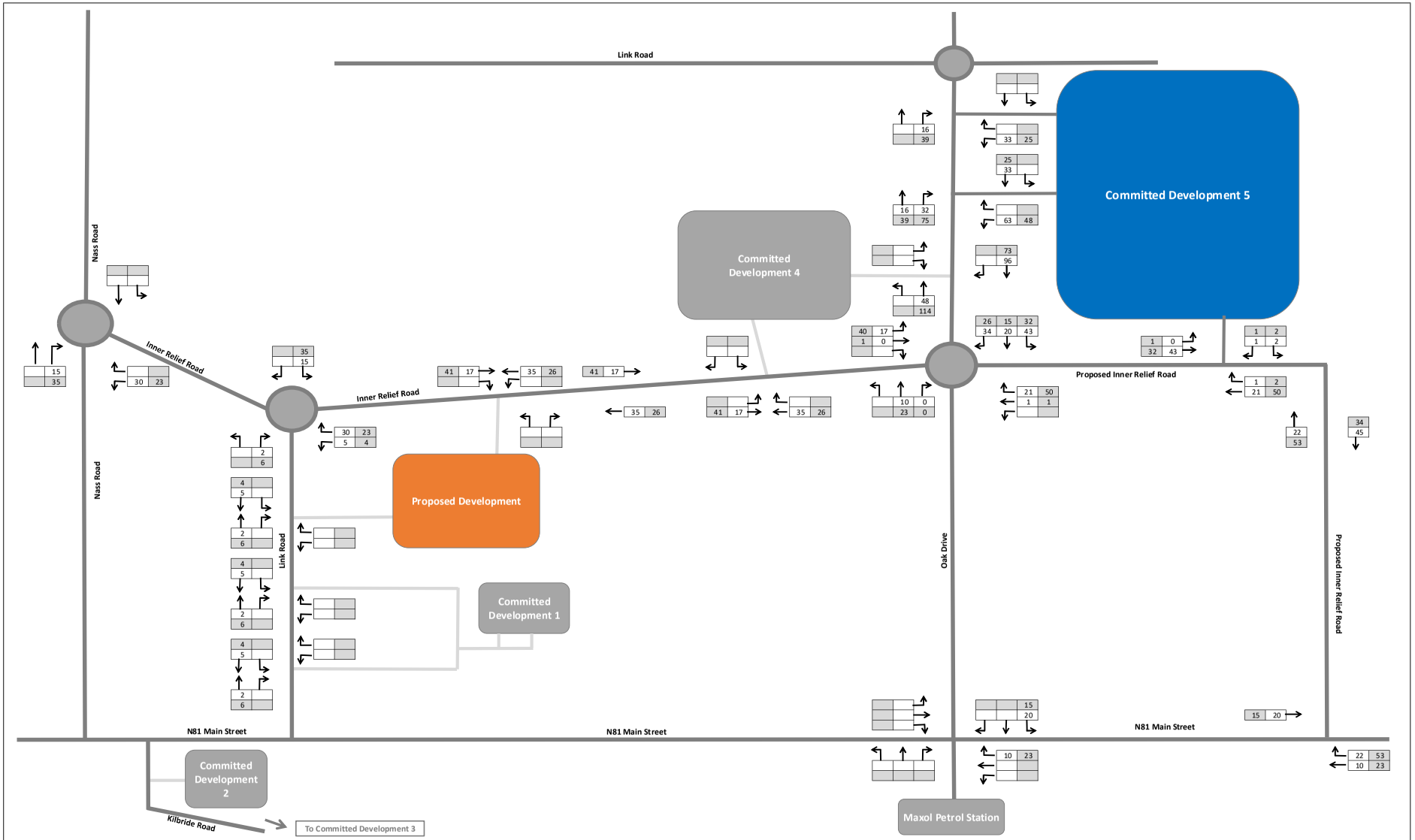
Key:
AM Peak Hour (08:30-09:30)
PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure: 14

Rev:



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ph:+353 51 309 500

email: info@dbfl.ie
website: www.dbfl.ie

Project : Blessington LDR

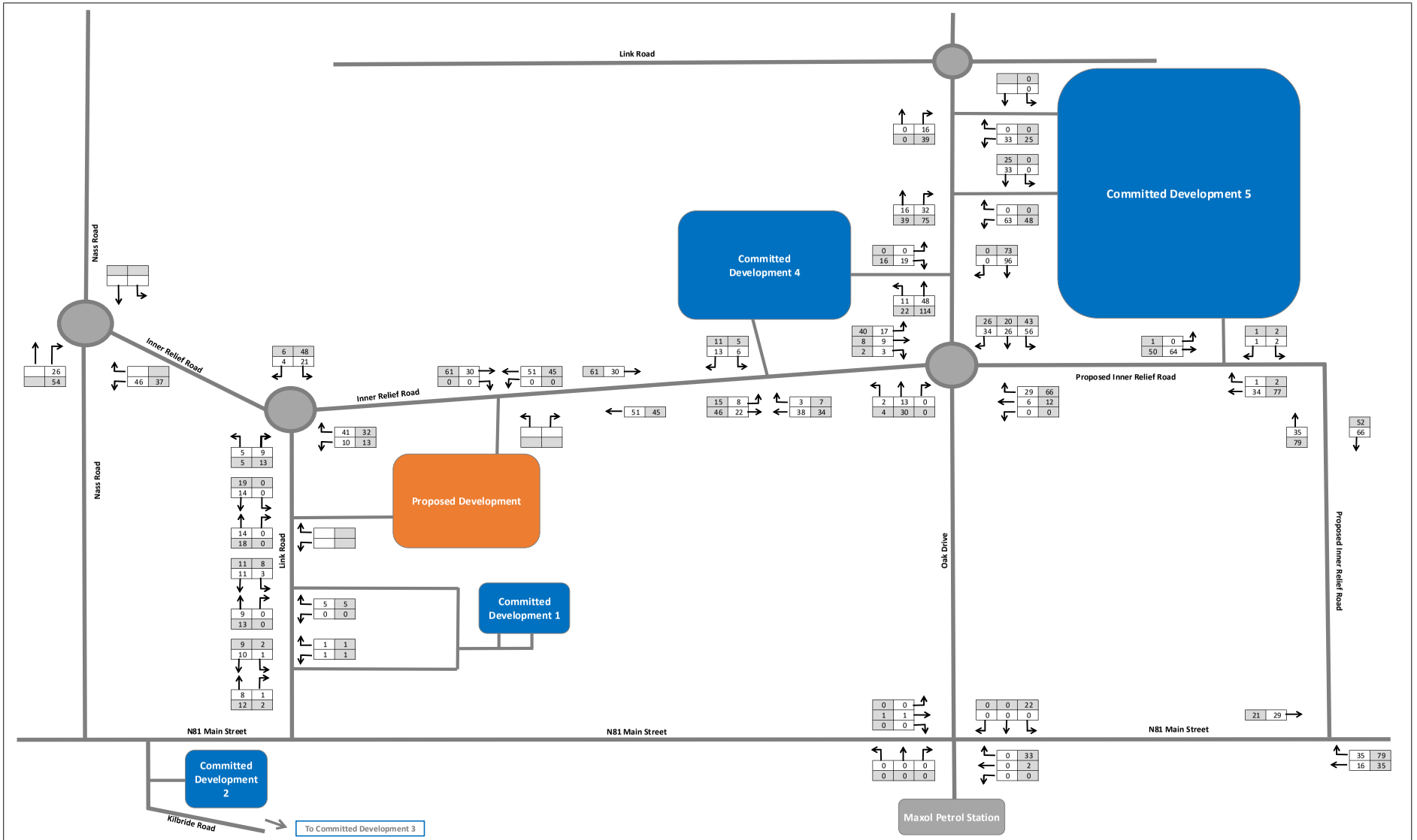
DRG. Title : Committed Development 5
Vehicle Trips

Key:
AM Peak Hour (08:30-09:30)
PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
15	0



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email: info@dbfl.ie
website: www.dbfl.ie

Project : Blessington LDR

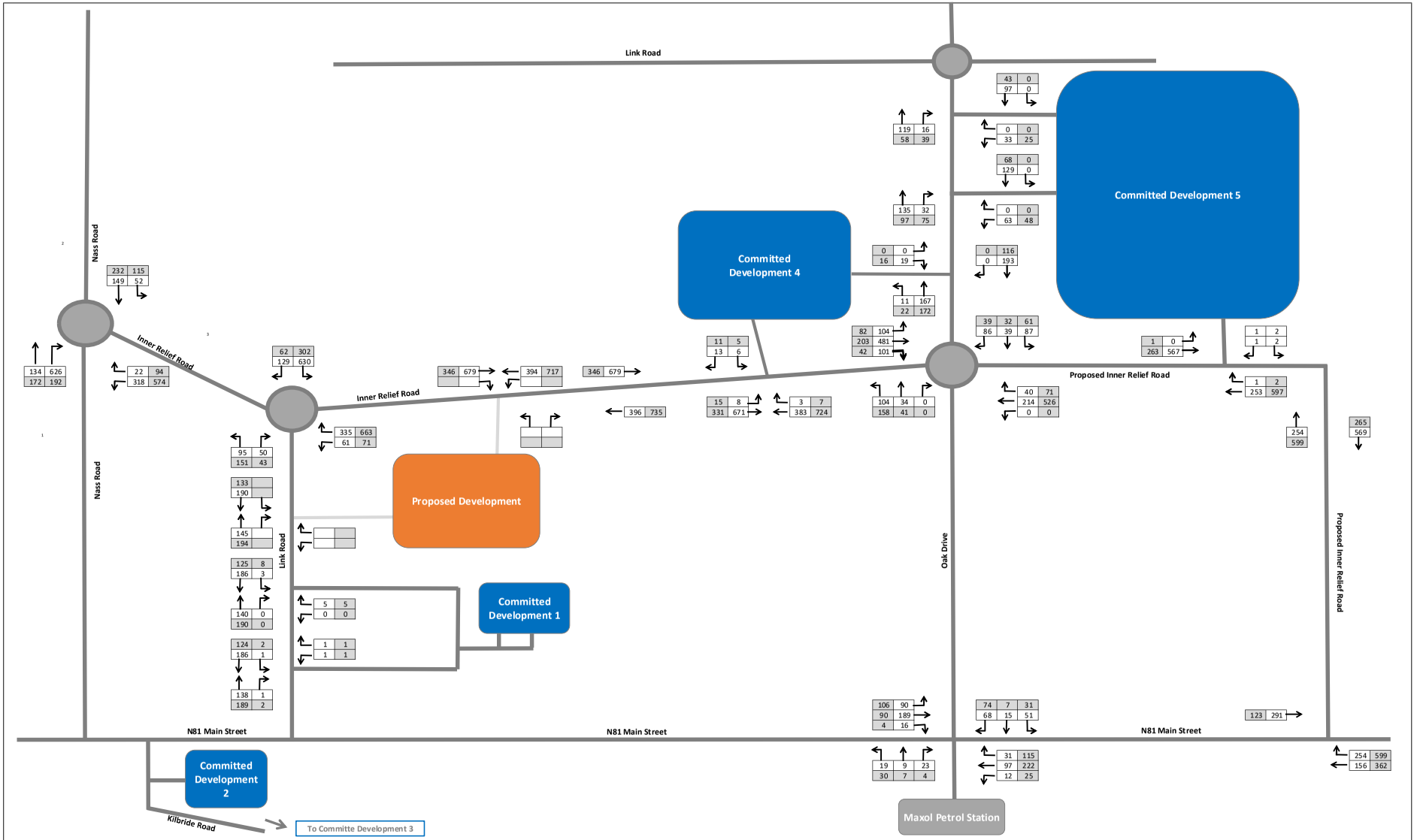
DRG. Title : Committed Developments Total Vehicle Trips

Key:
AM Peak Hour (08:30-09:30)
PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
16	0



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email: info@dbfl.ie website: www.dbfl.ie

Project : Blessington LDR

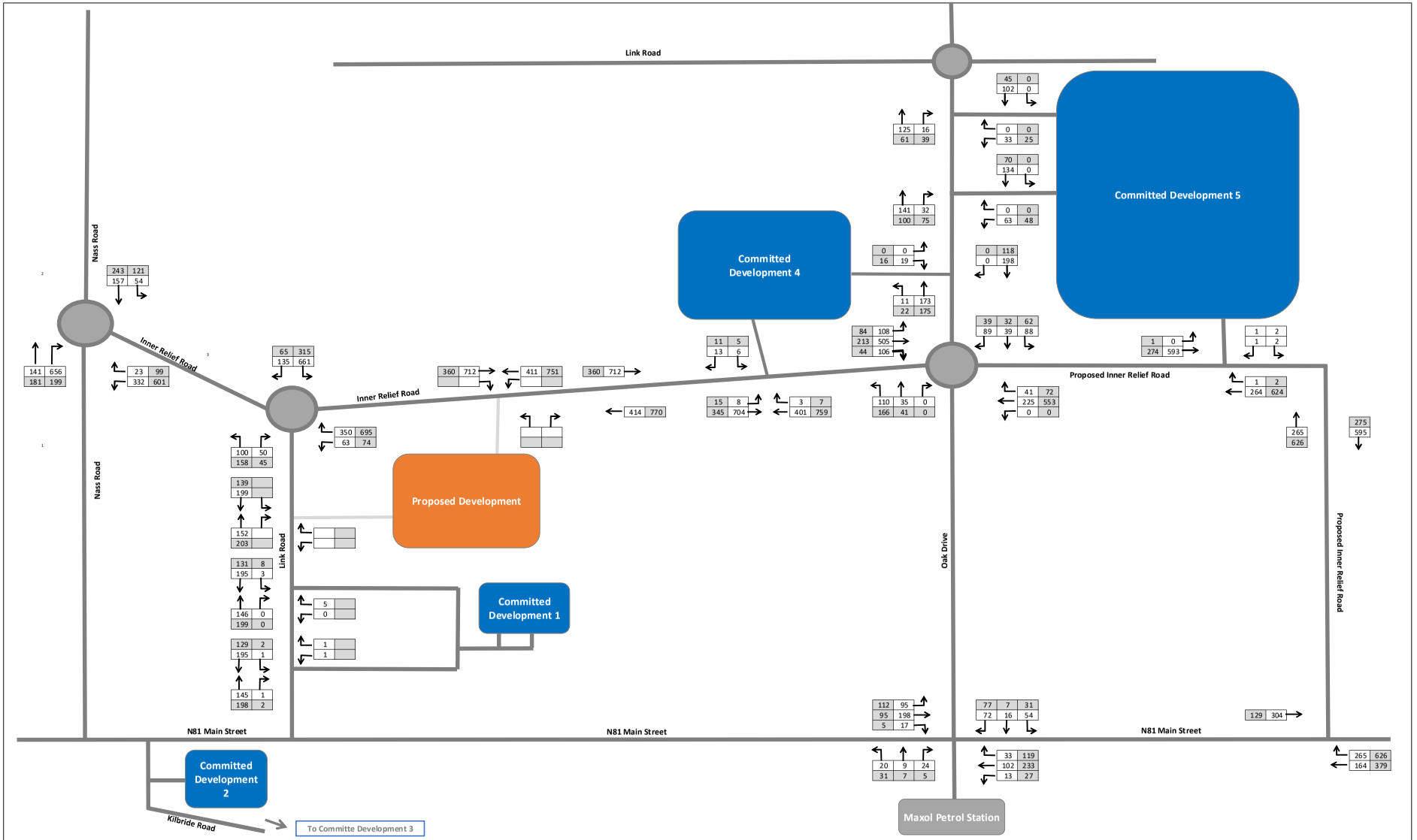
DRG. Title : 2032 DN Vehicle Trips

Key: AM Peak Hour (08:30-09:30) PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
17	0



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email: info@dbfl.ie website: www.dbfl.ie

Project : Blessington LDR

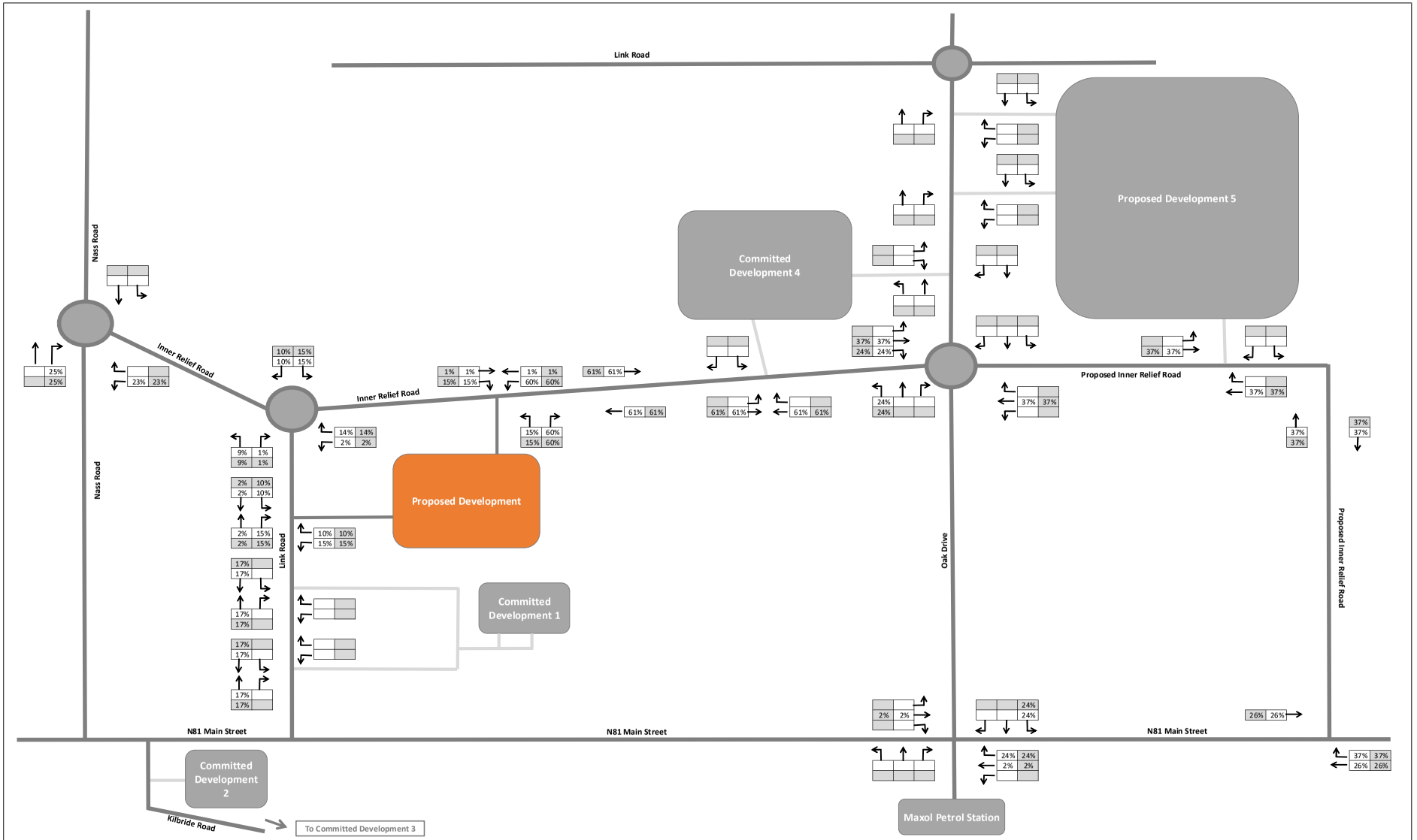
DRG. Title : 2042 DN Vehicle Trips

Key: AM Peak Hour (08:30-09:30) PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
18	0



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email: info@dbfl.ie website: www.dbfl.ie

Project : Blessington LDR

DRG. Title : Proposed Development Trip Distribution

Key: AM Peak Hour (08:30-09:30) PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
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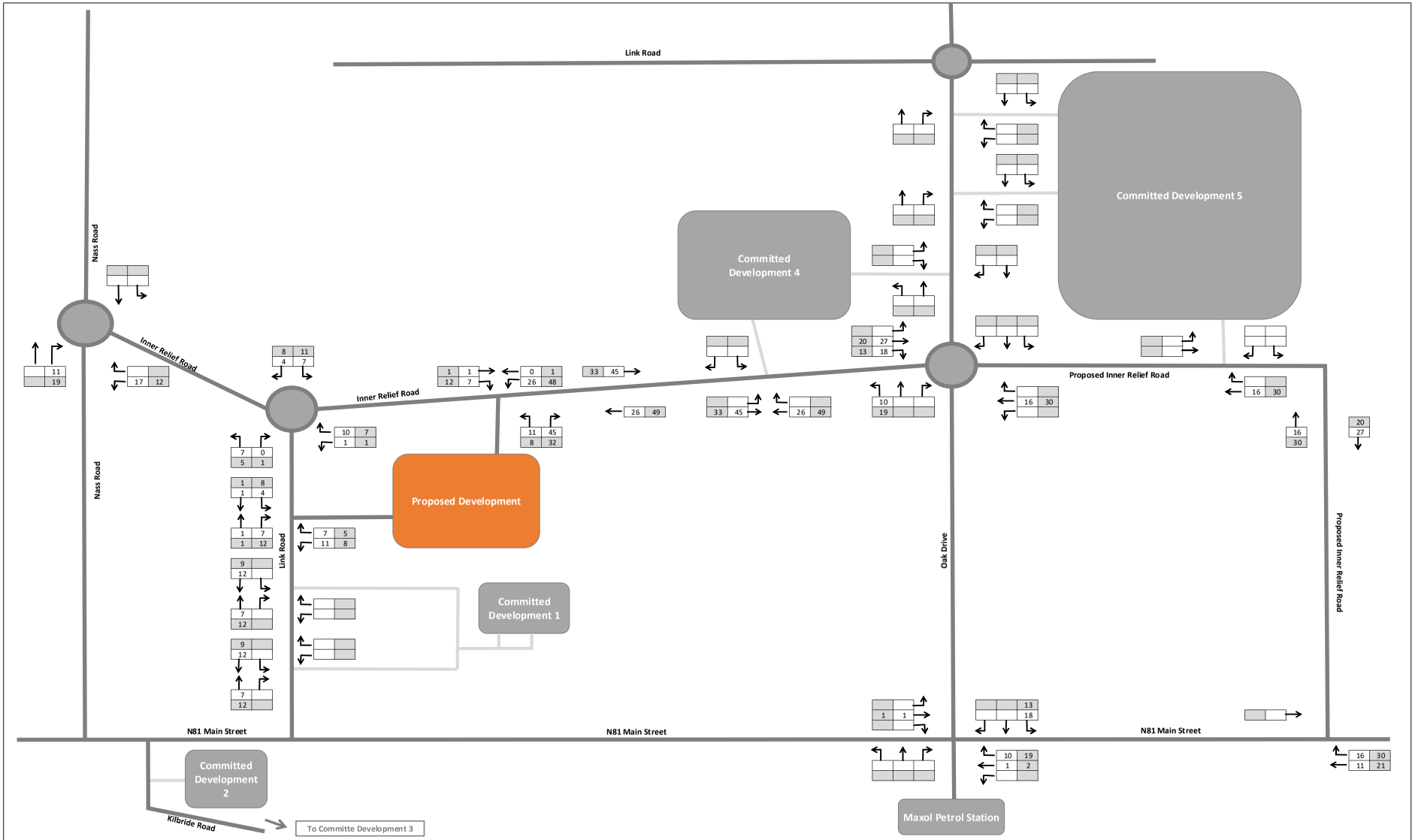

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website: www.dbfl.ie

Project : Blessington LDR

DRG. Title : Proposed Development Vehicle Trips

Key:
AM Peak Hour (08:30-09:30)
PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

Ref: p230199\calcs\excel\transport

Figure:	Rev:
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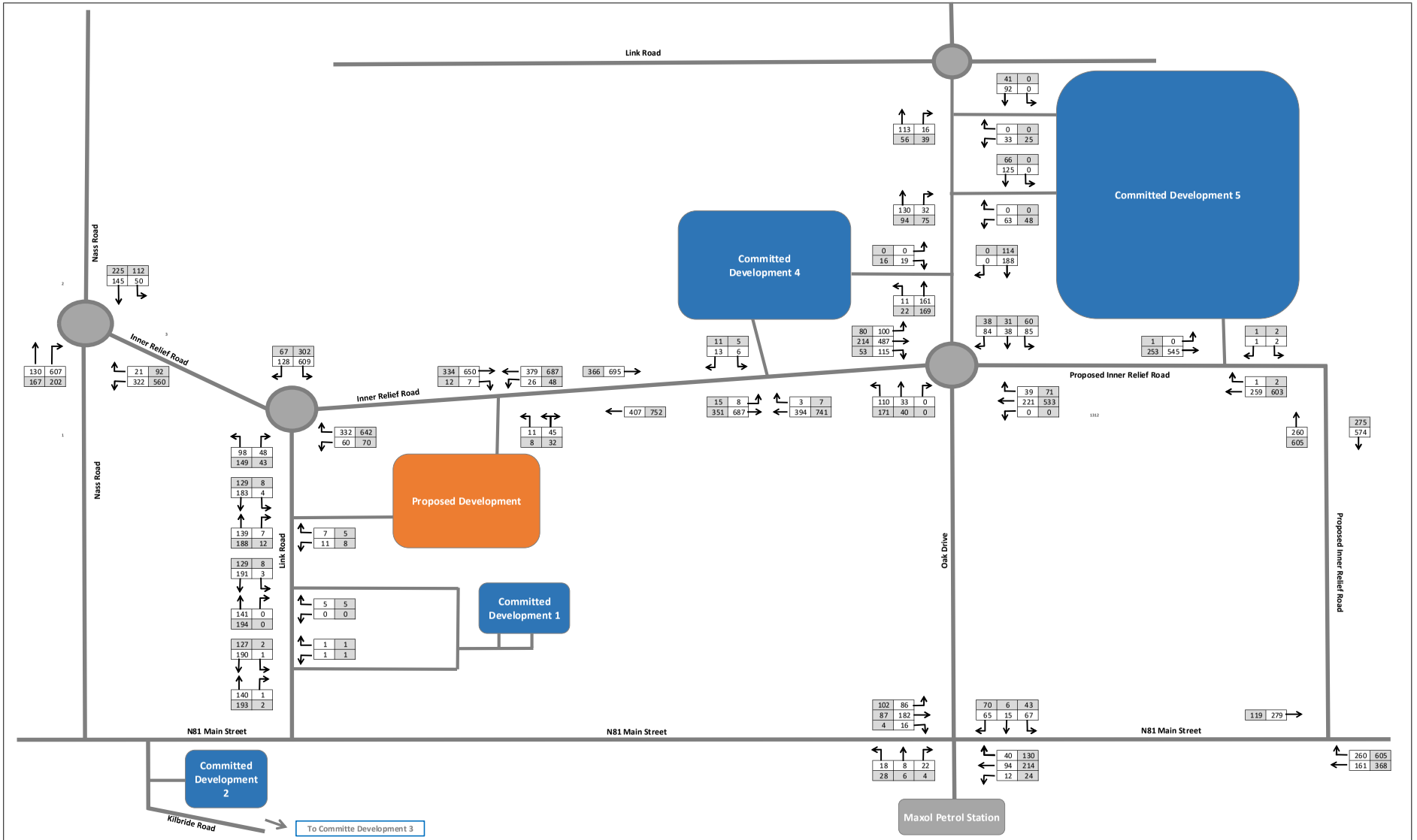

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Project : Blessington LDR

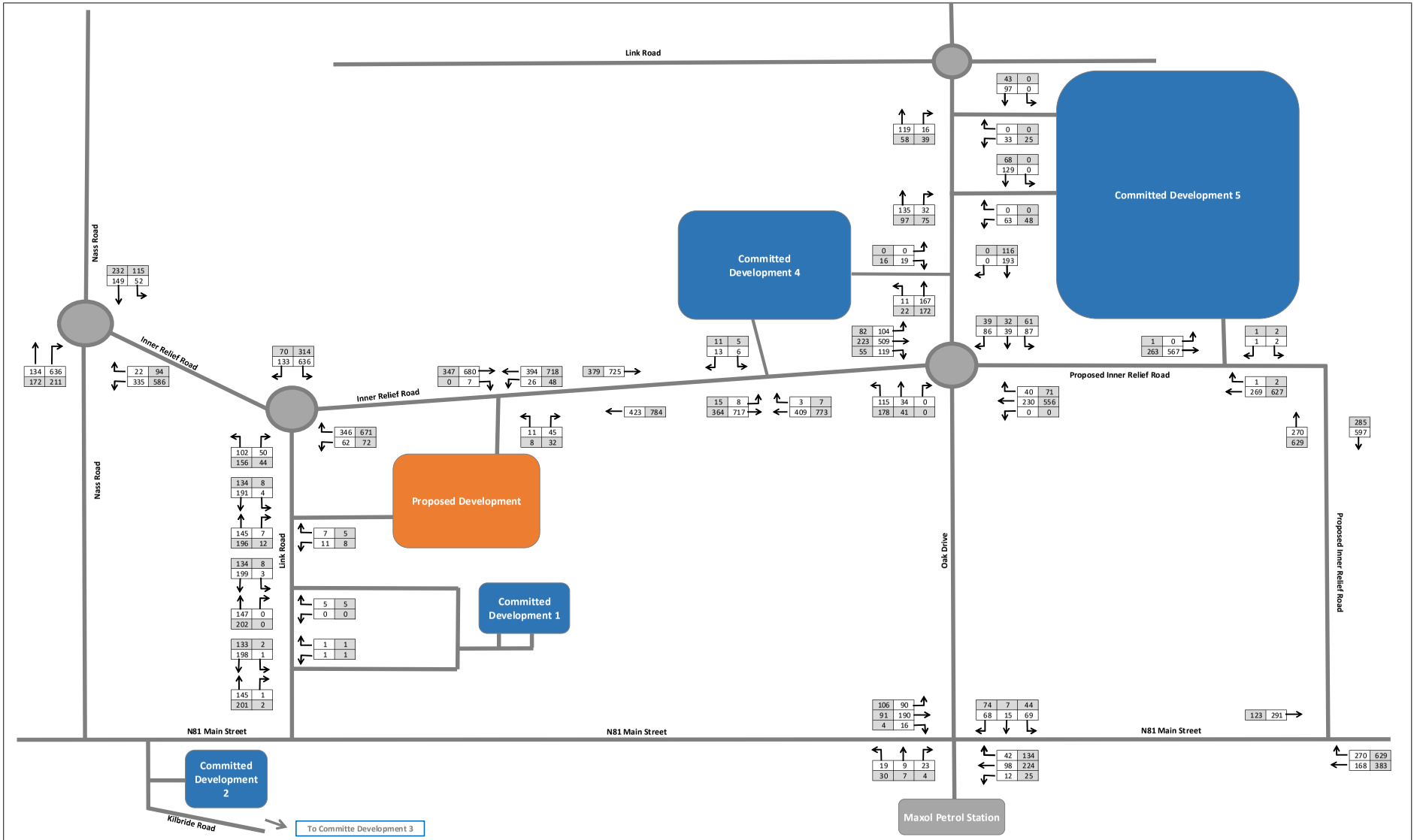
DRG. Title : 2027 DS Vehicle Trips

Key: AM Peak Hour (08:30-09:30) PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

p230199\calcs\excel\transport

Figure:	Rev:
21	0



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website: www.dbfl.ie

Project : Blessington LDR

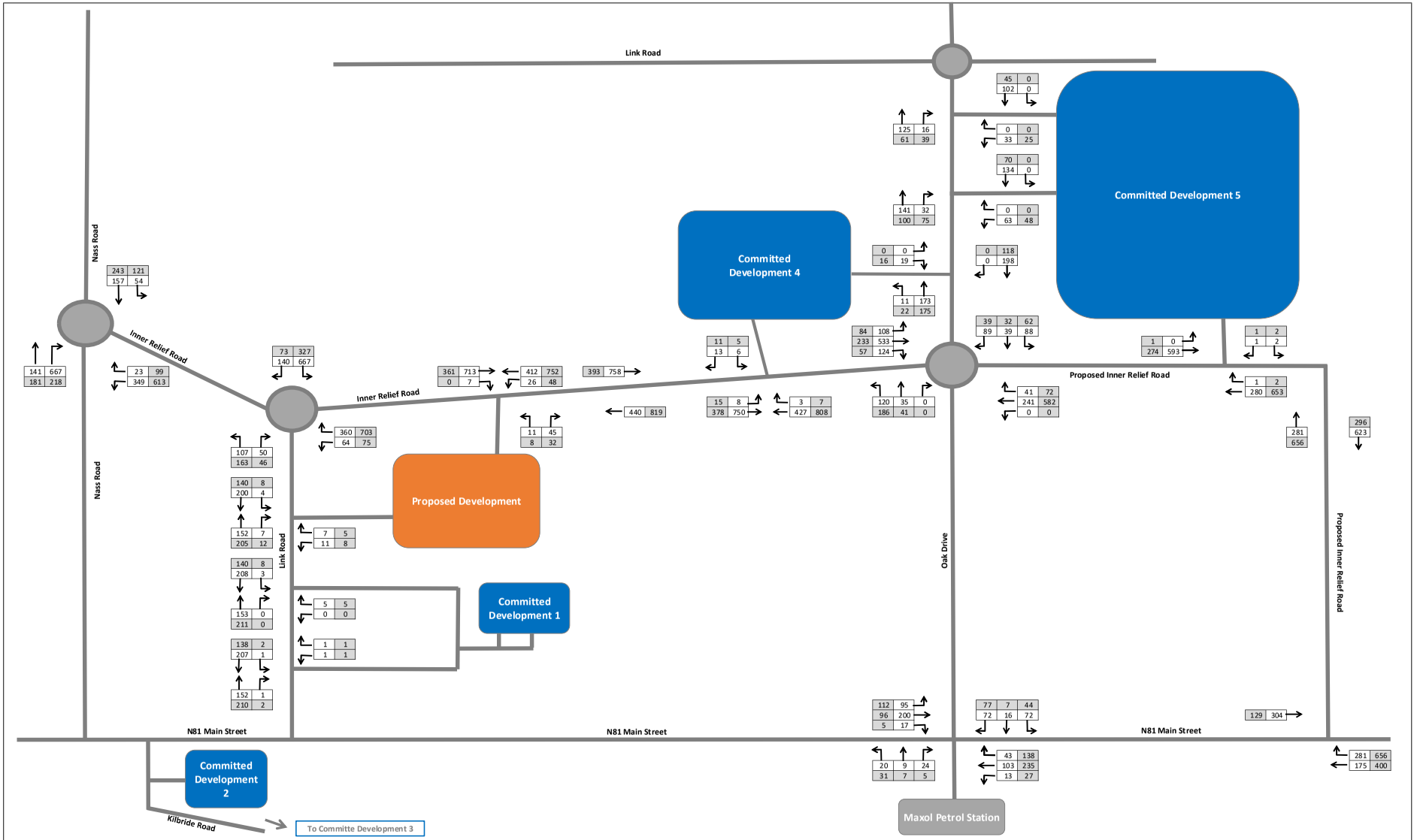
DRG. Title : 2032 DS Vehicle Trips

Key:
AM Peak Hour (08:30-09:30)
PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

p230199\calcs\excel\transport

Figure:	Rev:
22	0



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Project : Blessington LDR

DRG. Title : 2042 DS Vehicle Trips

Key: AM Peak Hour (08:30-09:30) PM Peak Hour (17:15-18:15)

Dwn:	Ckd:	Date:
LS	AD	23/07/2024

p230199\calcs\excel\transport

Figure:	Rev:
23	0

Appendix C : PICADY Outputs Files

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.2.1013

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

Filename: N81 Main Street _ Oak Drive.j9
Path: G:\2023\p230199\calcs\picady
Report generation date: 09/08/2024 15:48:28

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	Do-Nothing - 2027 DN									
Stream B-CD	A1 D1	0.1	6.90	0.10	A	A1 D2	0.1	6.66	0.06	A
Stream B-AD		0.2	8.83	0.16	A		0.2	9.00	0.16	A
Stream A-BCD		0.0	5.85	0.03	A		0.0	6.42	0.01	A
Stream D-ABC		0.1	6.89	0.09	A		0.1	6.16	0.07	A
Stream C-ABD		0.1	5.91	0.05	A		0.2	6.23	0.18	A
	Do-Nothing - 2032 DN									
Stream B-CD	A1 D3	0.1	7.03	0.11	A	A1 D4	0.1	6.78	0.06	A
Stream B-AD		0.2	9.07	0.17	A		0.2	9.25	0.18	A
Stream A-BCD		0.0	5.87	0.03	A		0.0	6.47	0.01	A
Stream D-ABC		0.1	7.00	0.10	A		0.1	6.27	0.07	A
Stream C-ABD		0.1	5.97	0.05	A		0.3	6.27	0.19	A
	Do-Nothing - 2042 DN									
Stream B-CD	A1 D5	0.1	7.13	0.12	A	A1 D6	0.1	6.86	0.07	A
Stream B-AD		0.2	9.30	0.18	A		0.2	9.48	0.19	A
Stream A-BCD		0.0	5.89	0.03	A		0.0	6.54	0.01	A
Stream D-ABC		0.1	7.08	0.10	A		0.1	6.37	0.08	A
Stream C-ABD		0.1	6.02	0.06	A		0.3	6.32	0.20	A

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	Do-Something - 2027 DS									
Stream B-CD	A2 D7	0.2	7.05	0.13	A	A2 D8	0.1	6.63	0.08	A
Stream B-AD		0.2	8.99	0.16	A		0.2	9.37	0.17	A
Stream A-BCD		0.0	5.89	0.03	A		0.0	6.50	0.01	A
Stream D-ABC		0.1	6.96	0.09	A		0.1	6.19	0.07	A
Stream C-ABD		0.1	6.01	0.07	A		0.3	6.41	0.21	A
	Do-Something - 2032 DS									
Stream B-CD	A2 D9	0.2	7.19	0.14	A	A2 D10	0.1	6.75	0.09	A
Stream B-AD		0.2	9.23	0.17	A		0.2	9.64	0.18	A
Stream A-BCD		0.0	5.91	0.03	A		0.0	6.56	0.01	A
Stream D-ABC		0.1	7.08	0.10	A		0.1	6.31	0.07	A
Stream C-ABD		0.1	6.07	0.07	A		0.3	6.46	0.22	A
	Do-Something - 2042 DS									
Stream B-CD	A2 D11	0.2	7.31	0.15	A	A2 D12	0.1	6.83	0.09	A
Stream B-AD		0.2	9.43	0.18	A		0.2	9.88	0.19	A
Stream A-BCD		0.0	5.93	0.03	A		0.0	6.62	0.01	A
Stream D-ABC		0.1	7.16	0.10	A		0.1	6.42	0.08	A
Stream C-ABD		0.1	6.12	0.07	A		0.3	6.50	0.23	A

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

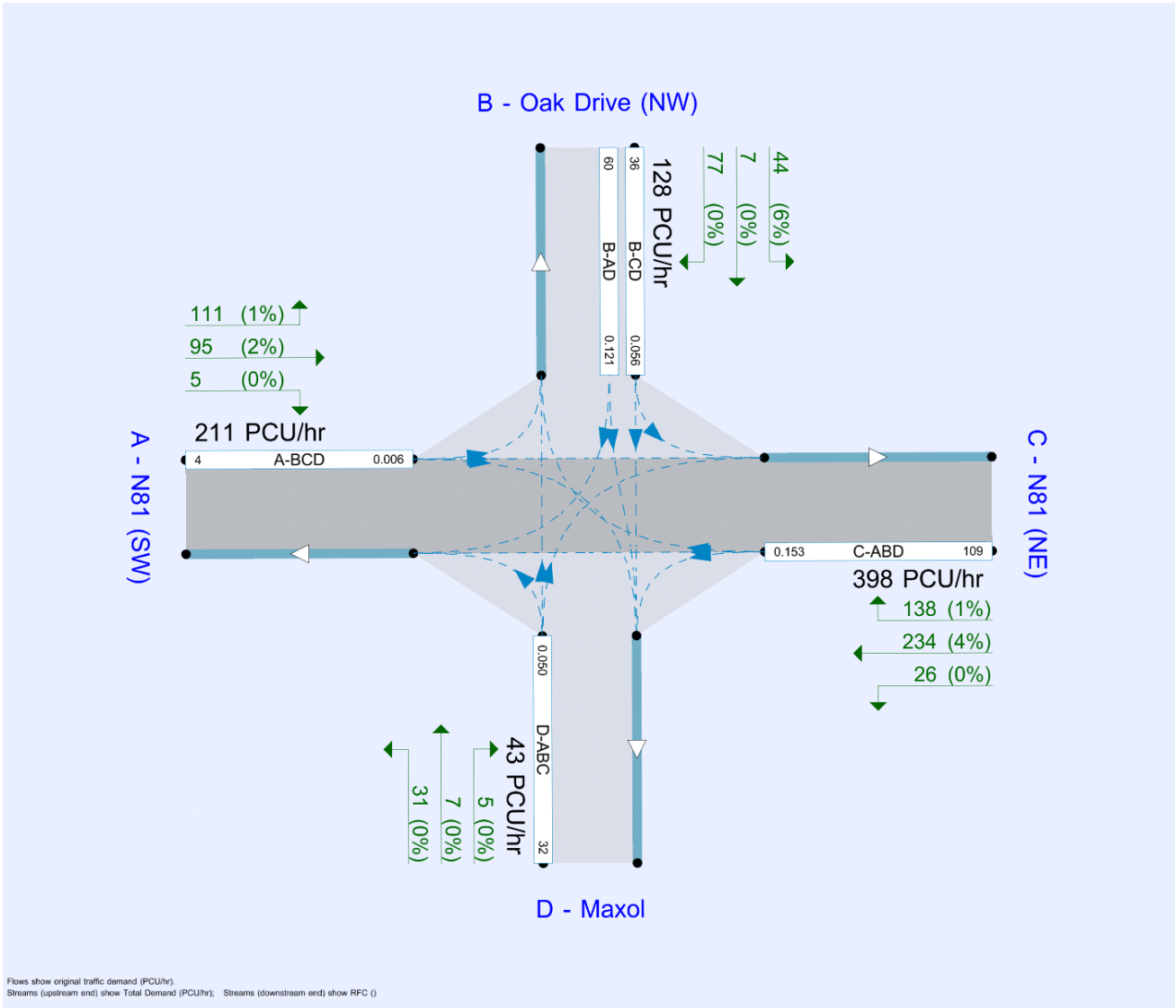
File summary

File Description

Title	Blessington LDR
Location	Blessington, Wicklow
Site number	
Date	08/08/2024
Version	
Status	Planning
Identifier	
Client	Marshall Yards Development Company
Jobnumber	230199
Enumerator	HEADOFFICE\santosl
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



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027 DN	AM	ONE HOUR	08:15	09:45	15	✓
D2	2027 DN	PM	ONE HOUR	17:00	18:30	15	✓
D3	2032 DN	AM	ONE HOUR	08:15	09:45	15	✓
D4	2032 DN	PM	ONE HOUR	17:00	18:30	15	✓
D5	2042 DN	AM	ONE HOUR	08:15	09:45	15	✓
D6	2042 DN	PM	ONE HOUR	17:00	18:30	15	✓
D7	2027 DS	AM	ONE HOUR	08:15	09:45	15	✓
D8	2027 DS	PM	ONE HOUR	17:00	18:30	15	✓
D9	2032 DS	AM	ONE HOUR	08:15	09:45	15	✓
D10	2032 DS	PM	ONE HOUR	17:00	18:30	15	✓
D11	2042 DS	AM	ONE HOUR	08:15	09:45	15	✓
D12	2042 DS	PM	ONE HOUR	17:00	18:30	15	✓

Do-Nothing - 2027 DN, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do-Nothing	✓	✓	D1, D2, D3, D4, D5, D6	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	IRR Junction 7	Crossroads	Two-way		2.74	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	N81 (SW)		Major
B	Oak Drive (NW)		Minor
C	N81 (NE)		Major
D	Maxol		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - N81 (SW)	8.70			150.0	✓	1.00
C - N81 (NE)	8.70			250.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Oak Drive (NW)	One lane plus flare		10.00	9.80	9.50	7.40	6.60	✓	3.00	40	34
D - Maxol	One lane	5.00								30	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	661	-	-	-	-	-	-	0.226	0.323	0.226	-	-	-
B-A	578	0.093	0.235	0.235	-	-	-	0.148	0.335	-	0.235	0.235	0.117
B-C	728	0.098	0.249	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	572	0.092	0.232	0.232	-	-	-	0.146	0.332	0.146	-	-	-
B-D, offside lane	578	0.093	0.235	0.235	-	-	-	0.148	0.335	0.148	-	-	-
C-B	719	0.246	0.246	0.351	-	-	-	-	-	-	-	-	-
D-A	768	-	-	-	-	-	-	0.263	-	0.104	-	-	-
D-B, nearside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-B, offside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-C	600	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.096	-	-	-

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	2027 DN	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - N81 (SW)		ONE HOUR	✓	277	100.000
B - Oak Drive (NW)		ONE HOUR	✓	126	100.000
C - N81 (NE)		ONE HOUR	✓	132	100.000
D - Maxol		ONE HOUR	✓	48	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	85	177	15
	B - Oak Drive (NW)	64	0	48	14
	C - N81 (NE)	92	29	0	11
	D - Maxol	18	8	22	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	1	2	0
	B - Oak Drive (NW)	0	0	6	0
	C - N81 (NE)	4	1	0	0
	D - Maxol	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.10	6.90	0.1	A	51	77
B-AD	0.16	8.83	0.2	A	64	97
A-BCD	0.03	5.85	0.0	A	14	21
D-ABC	0.09	6.89	0.1	A	44	66
C-ABD	0.05	5.91	0.1	A	27	40

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	42	10	641	0.065	42	0.0	0.1	6.314	A
B-AD	53	13	514	0.103	53	0.0	0.1	7.794	A
A-BCD	11	3	640	0.018	11	0.0	0.0	5.728	A
D-ABC	36	9	601	0.060	36	0.0	0.1	6.370	A
C-ABD	22	5	669	0.033	22	0.0	0.0	5.617	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	50	13	628	0.080	50	0.1	0.1	6.549	A
B-AD	63	16	502	0.126	63	0.1	0.1	8.204	A
A-BCD	14	3	636	0.021	14	0.0	0.0	5.779	A
D-ABC	43	11	590	0.073	43	0.1	0.1	6.580	A
C-ABD	26	7	660	0.040	26	0.0	0.0	5.738	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	62	15	610	0.101	62	0.1	0.1	6.893	A
B-AD	77	19	485	0.159	77	0.1	0.2	8.825	A
A-BCD	17	4	632	0.026	17	0.0	0.0	5.847	A
D-ABC	53	13	576	0.092	53	0.1	0.1	6.886	A
C-ABD	32	8	648	0.050	32	0.0	0.1	5.907	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	62	15	610	0.101	62	0.1	0.1	6.897	A
B-AD	77	19	485	0.159	77	0.2	0.2	8.832	A
A-BCD	17	4	632	0.026	17	0.0	0.0	5.847	A
D-ABC	53	13	575	0.092	53	0.1	0.1	6.887	A
C-ABD	32	8	648	0.050	32	0.1	0.1	5.909	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	50	13	628	0.080	50	0.1	0.1	6.555	A
B-AD	63	16	502	0.126	63	0.2	0.1	8.215	A
A-BCD	14	3	636	0.021	14	0.0	0.0	5.782	A
D-ABC	43	11	590	0.073	43	0.1	0.1	6.586	A
C-ABD	26	7	660	0.040	26	0.1	0.0	5.739	A

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	42	10	640	0.065	42	0.1	0.1	6.324	A
B-AD	53	13	514	0.103	53	0.1	0.1	7.812	A
A-BCD	11	3	640	0.018	11	0.0	0.0	5.731	A
D-ABC	36	9	601	0.060	36	0.1	0.1	6.378	A
C-ABD	22	5	669	0.033	22	0.0	0.0	5.622	A

Do-Nothing - 2027 DN, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do-Nothing	✓	✓	D1, D2, D3, D4, D5, D6	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	IRR Junction 7	Crossroads	Two-way		2.74	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	N81 (SW)		Major
B	Oak Drive (NW)		Minor
C	N81 (NE)		Major
D	Maxol		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - N81 (SW)	8.70			150.0	✓	1.00
C - N81 (NE)	8.70			250.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Oak Drive (NW)	One lane plus flare		10.00	9.80	9.50	7.40	6.60	✓	3.00	40	34
D - Maxol	One lane	5.00								30	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	661	-	-	-	-	-	-	0.226	0.323	0.226	-	-	-
B-A	601	0.097	0.244	0.244	-	-	-	0.154	0.349	-	0.244	0.244	0.122
B-C	698	0.094	0.239	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	549	0.088	0.223	0.223	-	-	-	0.140	0.319	0.140	-	-	-
B-D, offside lane	601	0.097	0.244	0.244	-	-	-	0.154	0.349	0.154	-	-	-
C-B	719	0.246	0.246	0.351	-	-	-	-	-	-	-	-	-
D-A	768	-	-	-	-	-	-	0.263	-	0.104	-	-	-
D-B, nearside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-B, offside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-C	600	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.096	-	-	-

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
D2	2027 DN	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - N81 (SW)		ONE HOUR	✓	189	100.000
B - Oak Drive (NW)		ONE HOUR	✓	105	100.000
C - N81 (NE)		ONE HOUR	✓	343	100.000
D - Maxol		ONE HOUR	✓	38	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	100	85	4
	B - Oak Drive (NW)	69	0	30	6
	C - N81 (NE)	209	110	0	24
	D - Maxol	28	6	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	1	2	0
	B - Oak Drive (NW)	0	0	6	0
	C - N81 (NE)	4	1	0	0
	D - Maxol	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.06	6.66	0.1	A	31	46
B-AD	0.16	9.00	0.2	A	66	99
A-BCD	0.01	6.42	0.0	A	4	6
D-ABC	0.07	6.16	0.1	A	35	52
C-ABD	0.18	6.23	0.2	A	106	159

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	25	6	632	0.040	25	0.0	0.0	6.246	A
B-AD	54	13	518	0.104	54	0.0	0.1	7.748	A
A-BCD	3	0.75	595	0.005	3	0.0	0.0	6.078	A
D-ABC	29	7	655	0.044	28	0.0	0.0	5.743	A
C-ABD	85	21	705	0.121	85	0.0	0.1	5.861	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	30	8	621	0.048	30	0.0	0.1	6.414	A
B-AD	64	16	501	0.128	64	0.1	0.1	8.237	A
A-BCD	4	0.90	582	0.006	4	0.0	0.0	6.218	A
D-ABC	34	9	643	0.053	34	0.0	0.1	5.911	A
C-ABD	103	26	708	0.146	103	0.1	0.2	6.019	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	37	9	606	0.061	37	0.1	0.1	6.661	A
B-AD	79	20	479	0.164	79	0.1	0.2	8.987	A
A-BCD	4	1	565	0.008	4	0.0	0.0	6.419	A
D-ABC	42	10	626	0.067	42	0.1	0.1	6.158	A
C-ABD	130	32	714	0.182	129	0.2	0.2	6.224	A

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	37	9	606	0.061	37	0.1	0.1	6.662	A
B-AD	79	20	479	0.164	79	0.2	0.2	8.998	A
A-BCD	4	1	565	0.008	4	0.0	0.0	6.420	A
D-ABC	42	10	626	0.067	42	0.1	0.1	6.159	A
C-ABD	130	32	714	0.182	130	0.2	0.2	6.230	A

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	30	8	621	0.048	30	0.1	0.1	6.419	A
B-AD	64	16	501	0.128	65	0.2	0.1	8.251	A
A-BCD	4	0.90	582	0.006	4	0.0	0.0	6.222	A
D-ABC	34	9	643	0.053	34	0.1	0.1	5.915	A
C-ABD	103	26	708	0.146	104	0.2	0.2	6.029	A

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	25	6	632	0.040	25	0.1	0.0	6.253	A
B-AD	54	13	517	0.104	54	0.1	0.1	7.773	A
A-BCD	3	0.75	595	0.005	3	0.0	0.0	6.083	A
D-ABC	29	7	655	0.044	29	0.1	0.0	5.749	A
C-ABD	85	21	705	0.121	86	0.2	0.1	5.876	A

Do-Nothing - 2032 DN, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do-Nothing	✓	✓	D1, D2, D3, D4, D5, D6	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	IRR Junction 7	Crossroads	Two-way		2.80	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	N81 (SW)		Major
B	Oak Drive (NW)		Minor
C	N81 (NE)		Major
D	Maxol		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - N81 (SW)	8.70			150.0	✓	1.00
C - N81 (NE)	8.70			250.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Oak Drive (NW)	One lane plus flare		10.00	9.80	9.50	7.40	6.60	✓	3.00	40	34
D - Maxol	One lane	5.00								30	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	661	-	-	-	-	-	-	0.226	0.323	0.226	-	-	-
B-A	577	0.093	0.235	0.235	-	-	-	0.148	0.335	-	0.235	0.235	0.117
B-C	728	0.098	0.249	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	572	0.092	0.233	0.233	-	-	-	0.146	0.332	0.146	-	-	-
B-D, offside lane	577	0.093	0.235	0.235	-	-	-	0.148	0.335	0.148	-	-	-
C-B	719	0.246	0.246	0.351	-	-	-	-	-	-	-	-	-
D-A	768	-	-	-	-	-	-	0.263	-	0.104	-	-	-
D-B, nearside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-B, offside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-C	600	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.096	-	-	-

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
D3	2032 DN	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - N81 (SW)		ONE HOUR	✓	294	100.000
B - Oak Drive (NW)		ONE HOUR	✓	134	100.000
C - N81 (NE)		ONE HOUR	✓	140	100.000
D - Maxol		ONE HOUR	✓	51	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	90	188	16
	B - Oak Drive (NW)	68	0	51	15
	C - N81 (NE)	97	31	0	12
	D - Maxol	19	9	23	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	1	2	0
	B - Oak Drive (NW)	0	0	6	0
	C - N81 (NE)	4	1	0	0
	D - Maxol	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.11	7.03	0.1	A	55	82
B-AD	0.17	9.07	0.2	A	68	103
A-BCD	0.03	5.87	0.0	A	15	22
D-ABC	0.10	7.00	0.1	A	47	70
C-ABD	0.05	5.97	0.1	A	29	43

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	45	11	637	0.070	44	0.0	0.1	6.385	A
B-AD	56	14	510	0.110	56	0.0	0.1	7.919	A
A-BCD	12	3	639	0.019	12	0.0	0.0	5.745	A
D-ABC	38	10	597	0.064	38	0.0	0.1	6.438	A
C-ABD	23	6	666	0.035	23	0.0	0.0	5.655	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	53	13	623	0.086	53	0.1	0.1	6.642	A
B-AD	67	17	497	0.135	67	0.1	0.2	8.370	A
A-BCD	15	4	635	0.023	14	0.0	0.0	5.798	A
D-ABC	46	11	586	0.078	46	0.1	0.1	6.666	A
C-ABD	28	7	657	0.043	28	0.0	0.0	5.785	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	66	16	604	0.109	66	0.1	0.1	7.022	A
B-AD	82	20	479	0.171	82	0.2	0.2	9.061	A
A-BCD	18	4	631	0.028	18	0.0	0.0	5.869	A
D-ABC	56	14	570	0.098	56	0.1	0.1	7.001	A
C-ABD	34	9	644	0.054	34	0.0	0.1	5.967	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	66	16	604	0.109	66	0.1	0.1	7.026	A
B-AD	82	20	479	0.171	82	0.2	0.2	9.070	A
A-BCD	18	4	631	0.028	18	0.0	0.0	5.869	A
D-ABC	56	14	570	0.098	56	0.1	0.1	7.002	A
C-ABD	34	9	644	0.054	34	0.1	0.1	5.967	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	53	13	623	0.086	54	0.1	0.1	6.649	A
B-AD	67	17	497	0.135	67	0.2	0.2	8.384	A
A-BCD	15	4	635	0.023	15	0.0	0.0	5.799	A
D-ABC	46	11	586	0.078	46	0.1	0.1	6.669	A
C-ABD	28	7	657	0.043	28	0.1	0.0	5.788	A

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	45	11	636	0.070	45	0.1	0.1	6.396	A
B-AD	56	14	510	0.110	56	0.2	0.1	7.940	A
A-BCD	12	3	639	0.019	12	0.0	0.0	5.746	A
D-ABC	38	10	597	0.064	38	0.1	0.1	6.449	A
C-ABD	23	6	666	0.035	23	0.0	0.0	5.659	A

Do-Nothing - 2032 DN, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do-Nothing	✓	✓	D1, D2, D3, D4, D5, D6	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	IRR Junction 7	Crossroads	Two-way		2.77	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	N81 (SW)		Major
B	Oak Drive (NW)		Minor
C	N81 (NE)		Major
D	Maxol		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - N81 (SW)	8.70			150.0	✓	1.00
C - N81 (NE)	8.70			250.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Oak Drive (NW)	One lane plus flare		10.00	9.80	9.50	7.40	6.60	✓	3.00	40	34
D - Maxol	One lane	5.00								30	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	661	-	-	-	-	-	-	0.226	0.323	0.226	-	-	-
B-A	601	0.097	0.244	0.244	-	-	-	0.154	0.349	-	0.244	0.244	0.122
B-C	698	0.094	0.239	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	549	0.088	0.223	0.223	-	-	-	0.140	0.319	0.140	-	-	-
B-D, offside lane	601	0.097	0.244	0.244	-	-	-	0.154	0.349	0.154	-	-	-
C-B	719	0.246	0.246	0.351	-	-	-	-	-	-	-	-	-
D-A	768	-	-	-	-	-	-	0.263	-	0.104	-	-	-
D-B, nearside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-B, offside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-C	600	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.096	-	-	-

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
D4	2032 DN	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - N81 (SW)		ONE HOUR	✓	200	100.000
B - Oak Drive (NW)		ONE HOUR	✓	111	100.000
C - N81 (NE)		ONE HOUR	✓	360	100.000
D - Maxol		ONE HOUR	✓	40	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	106	90	4
	B - Oak Drive (NW)	73	0	31	7
	C - N81 (NE)	221	114	0	25
	D - Maxol	29	7	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	1	2	0
	B - Oak Drive (NW)	0	0	6	0
	C - N81 (NE)	4	1	0	0
	D - Maxol	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.06	6.78	0.1	A	32	48
B-AD	0.18	9.25	0.2	A	70	105
A-BCD	0.01	6.47	0.0	A	4	6
D-ABC	0.07	6.27	0.1	A	37	55
C-ABD	0.19	6.27	0.3	A	111	166

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	26	7	626	0.042	26	0.0	0.0	6.317	A
B-AD	57	14	514	0.112	57	0.0	0.1	7.873	A
A-BCD	3	0.75	592	0.005	3	0.0	0.0	6.111	A
D-ABC	30	8	649	0.046	30	0.0	0.0	5.814	A
C-ABD	89	22	705	0.126	88	0.0	0.1	5.893	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	31	8	614	0.051	31	0.0	0.1	6.502	A
B-AD	68	17	496	0.138	68	0.1	0.2	8.405	A
A-BCD	4	0.90	579	0.006	4	0.0	0.0	6.259	A
D-ABC	36	9	636	0.057	36	0.0	0.1	5.997	A
C-ABD	108	27	708	0.152	108	0.1	0.2	6.056	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	39	10	598	0.065	39	0.1	0.1	6.777	A
B-AD	84	21	473	0.177	83	0.2	0.2	9.237	A
A-BCD	4	1	561	0.008	4	0.0	0.0	6.472	A
D-ABC	44	11	618	0.071	44	0.1	0.1	6.268	A
C-ABD	135	34	716	0.189	135	0.2	0.3	6.268	A

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	39	10	598	0.065	39	0.1	0.1	6.778	A
B-AD	84	21	473	0.177	84	0.2	0.2	9.248	A
A-BCD	4	1	560	0.008	4	0.0	0.0	6.473	A
D-ABC	44	11	618	0.071	44	0.1	0.1	6.269	A
C-ABD	135	34	716	0.189	135	0.3	0.3	6.271	A

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	31	8	614	0.051	31	0.1	0.1	6.505	A
B-AD	68	17	496	0.138	69	0.2	0.2	8.421	A
A-BCD	4	0.90	579	0.006	4	0.0	0.0	6.260	A
D-ABC	36	9	636	0.057	36	0.1	0.1	5.999	A
C-ABD	108	27	709	0.152	108	0.3	0.2	6.067	A

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	26	7	626	0.042	26	0.1	0.0	6.324	A
B-AD	57	14	513	0.112	57	0.2	0.1	7.901	A
A-BCD	3	0.75	592	0.005	3	0.0	0.0	6.113	A
D-ABC	30	8	649	0.046	30	0.1	0.0	5.820	A
C-ABD	89	22	705	0.126	89	0.2	0.2	5.908	A

Do-Nothing - 2042 DN, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do-Nothing	✓	✓	D1, D2, D3, D4, D5, D6	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	IRR Junction 7	Crossroads	Two-way		2.85	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	N81 (SW)		Major
B	Oak Drive (NW)		Minor
C	N81 (NE)		Major
D	Maxol		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - N81 (SW)	8.70			150.0	✓	1.00
C - N81 (NE)	8.70			250.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Oak Drive (NW)	One lane plus flare		10.00	9.80	9.50	7.40	6.60	✓	3.00	40	34
D - Maxol	One lane	5.00								30	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	661	-	-	-	-	-	-	0.226	0.323	0.226	-	-	-
B-A	576	0.093	0.234	0.234	-	-	-	0.147	0.334	-	0.234	0.234	0.117
B-C	730	0.099	0.250	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	574	0.092	0.233	0.233	-	-	-	0.147	0.333	0.147	-	-	-
B-D, offside lane	576	0.093	0.234	0.234	-	-	-	0.147	0.334	0.147	-	-	-
C-B	719	0.246	0.246	0.351	-	-	-	-	-	-	-	-	-
D-A	768	-	-	-	-	-	-	0.263	-	0.104	-	-	-
D-B, nearside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-B, offside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-C	600	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.096	-	-	-

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
D5	2042 DN	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - N81 (SW)		ONE HOUR	✓	308	100.000
B - Oak Drive (NW)		ONE HOUR	✓	141	100.000
C - N81 (NE)		ONE HOUR	✓	148	100.000
D - Maxol		ONE HOUR	✓	53	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	94	197	17
	B - Oak Drive (NW)	71	0	54	16
	C - N81 (NE)	102	33	0	13
	D - Maxol	20	9	24	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	1	2	0
	B - Oak Drive (NW)	0	0	6	0
	C - N81 (NE)	4	1	0	0
	D - Maxol	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.12	7.13	0.1	A	58	87
B-AD	0.18	9.30	0.2	A	71	107
A-BCD	0.03	5.89	0.0	A	16	24
D-ABC	0.10	7.08	0.1	A	49	73
C-ABD	0.06	6.02	0.1	A	31	46

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	47	12	635	0.075	47	0.0	0.1	6.436	A
B-AD	59	15	505	0.116	58	0.0	0.1	8.043	A
A-BCD	13	3	638	0.020	13	0.0	0.0	5.762	A
D-ABC	40	10	595	0.067	40	0.0	0.1	6.480	A
C-ABD	25	6	664	0.038	25	0.0	0.0	5.689	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	57	14	620	0.091	57	0.1	0.1	6.713	A
B-AD	70	18	492	0.143	70	0.1	0.2	8.532	A
A-BCD	15	4	634	0.024	15	0.0	0.0	5.818	A
D-ABC	48	12	583	0.082	48	0.1	0.1	6.723	A
C-ABD	30	7	654	0.046	30	0.0	0.0	5.827	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	70	17	600	0.116	70	0.1	0.1	7.126	A
B-AD	86	21	473	0.181	85	0.2	0.2	9.288	A
A-BCD	19	5	630	0.030	19	0.0	0.0	5.892	A
D-ABC	58	15	567	0.103	58	0.1	0.1	7.078	A
C-ABD	37	9	641	0.057	37	0.0	0.1	6.019	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	70	17	600	0.116	70	0.1	0.1	7.130	A
B-AD	86	21	473	0.181	86	0.2	0.2	9.296	A
A-BCD	19	5	630	0.030	19	0.0	0.0	5.894	A
D-ABC	58	15	567	0.103	58	0.1	0.1	7.082	A
C-ABD	37	9	641	0.057	37	0.1	0.1	6.022	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	57	14	620	0.091	57	0.1	0.1	6.718	A
B-AD	70	18	492	0.143	70	0.2	0.2	8.545	A
A-BCD	15	4	634	0.024	15	0.0	0.0	5.821	A
D-ABC	48	12	583	0.082	48	0.1	0.1	6.726	A
C-ABD	30	7	654	0.046	30	0.1	0.0	5.828	A

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	47	12	634	0.075	47	0.1	0.1	6.450	A
B-AD	59	15	505	0.116	59	0.2	0.1	8.065	A
A-BCD	13	3	638	0.020	13	0.0	0.0	5.762	A
D-ABC	40	10	595	0.067	40	0.1	0.1	6.491	A
C-ABD	25	6	664	0.038	25	0.0	0.0	5.693	A

Do-Nothing - 2042 DN, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do-Nothing	✓	✓	D1, D2, D3, D4, D5, D6	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	IRR Junction 7	Crossroads	Two-way		2.83	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	N81 (SW)		Major
B	Oak Drive (NW)		Minor
C	N81 (NE)		Major
D	Maxol		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - N81 (SW)	8.70			150.0	✓	1.00
C - N81 (NE)	8.70			250.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Oak Drive (NW)	One lane plus flare		10.00	9.80	9.50	7.40	6.60	✓	3.00	40	34
D - Maxol	One lane	5.00								30	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	661	-	-	-	-	-	-	0.226	0.323	0.226	-	-	-
B-A	602	0.097	0.245	0.245	-	-	-	0.154	0.350	-	0.245	0.245	0.122
B-C	696	0.094	0.238	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	547	0.088	0.222	0.222	-	-	-	0.140	0.318	0.140	-	-	-
B-D, offside lane	602	0.097	0.245	0.245	-	-	-	0.154	0.350	0.154	-	-	-
C-B	719	0.246	0.246	0.351	-	-	-	-	-	-	-	-	-
D-A	768	-	-	-	-	-	-	0.263	-	0.104	-	-	-
D-B, nearside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-B, offside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-C	600	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.096	-	-	-

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
D6	2042 DN	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - N81 (SW)		ONE HOUR	✓	210	100.000
B - Oak Drive (NW)		ONE HOUR	✓	115	100.000
C - N81 (NE)		ONE HOUR	✓	377	100.000
D - Maxol		ONE HOUR	✓	43	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	111	94	5
	B - Oak Drive (NW)	77	0	31	7
	C - N81 (NE)	232	119	0	26
	D - Maxol	31	7	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	1	2	0
	B - Oak Drive (NW)	0	0	6	0
	C - N81 (NE)	4	1	0	0
	D - Maxol	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.07	6.86	0.1	A	32	48
B-AD	0.19	9.48	0.2	A	73	110
A-BCD	0.01	6.54	0.0	A	5	7
D-ABC	0.08	6.37	0.1	A	39	59
C-ABD	0.20	6.32	0.3	A	116	174

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	26	7	621	0.042	26	0.0	0.0	6.367	A
B-AD	60	15	511	0.118	60	0.0	0.1	7.979	A
A-BCD	4	0.94	589	0.006	4	0.0	0.0	6.150	A
D-ABC	32	8	645	0.050	32	0.0	0.1	5.875	A
C-ABD	93	23	706	0.132	92	0.0	0.2	5.928	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	31	8	609	0.052	31	0.0	0.1	6.562	A
B-AD	72	18	493	0.146	72	0.1	0.2	8.552	A
A-BCD	5	1	575	0.008	5	0.0	0.0	6.308	A
D-ABC	39	10	631	0.061	39	0.1	0.1	6.074	A
C-ABD	113	28	709	0.159	113	0.2	0.2	6.100	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	39	10	591	0.065	39	0.1	0.1	6.855	A
B-AD	88	22	468	0.188	88	0.2	0.2	9.464	A
A-BCD	6	1	556	0.010	6	0.0	0.0	6.535	A
D-ABC	47	12	612	0.077	47	0.1	0.1	6.371	A
C-ABD	142	36	718	0.198	142	0.2	0.3	6.320	A

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	39	10	591	0.065	39	0.1	0.1	6.856	A
B-AD	88	22	468	0.188	88	0.2	0.2	9.477	A
A-BCD	6	1	556	0.010	6	0.0	0.0	6.536	A
D-ABC	47	12	612	0.077	47	0.1	0.1	6.371	A
C-ABD	142	36	719	0.198	142	0.3	0.3	6.324	A

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	31	8	609	0.052	32	0.1	0.1	6.565	A
B-AD	72	18	492	0.146	72	0.2	0.2	8.569	A
A-BCD	5	1	575	0.008	5	0.0	0.0	6.310	A
D-ABC	39	10	631	0.061	39	0.1	0.1	6.079	A
C-ABD	113	28	710	0.159	113	0.3	0.2	6.111	A

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	26	7	621	0.042	26	0.1	0.0	6.374	A
B-AD	60	15	510	0.118	60	0.2	0.1	8.005	A
A-BCD	4	0.94	589	0.006	4	0.0	0.0	6.156	A
D-ABC	32	8	645	0.050	32	0.1	0.1	5.882	A
C-ABD	93	23	706	0.132	93	0.2	0.2	5.946	A

Do-Something - 2027 DS, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set (s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	Do-Something	✓	✓	D7, D8, D9, D10, D11, D12	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	IRR Junction 7	Crossroads	Two-way		2.96	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	N81 (SW)		Major
B	Oak Drive (NW)		Minor
C	N81 (NE)		Major
D	Maxol		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - N81 (SW)	8.70			150.0	✓	1.00
C - N81 (NE)	8.70			250.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Oak Drive (NW)	One lane plus flare		10.00	9.80	9.50	7.40	6.60	✓	3.00	40	34
D - Maxol	One lane	5.00								30	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	661	-	-	-	-	-	-	0.226	0.323	0.226	-	-	-
B-A	575	0.092	0.234	0.234	-	-	-	0.147	0.334	-	0.234	0.234	0.117
B-C	731	0.099	0.250	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	575	0.092	0.234	0.234	-	-	-	0.147	0.334	0.147	-	-	-
B-D, offside lane	575	0.092	0.234	0.234	-	-	-	0.147	0.334	0.147	-	-	-
C-B	719	0.246	0.246	0.351	-	-	-	-	-	-	-	-	-
D-A	768	-	-	-	-	-	-	0.263	-	0.104	-	-	-
D-B, nearside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-B, offside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-C	600	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.096	-	-	-

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
D7	2027 DS	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - N81 (SW)		ONE HOUR	✓	279	100.000
B - Oak Drive (NW)		ONE HOUR	✓	144	100.000
C - N81 (NE)		ONE HOUR	✓	143	100.000
D - Maxol		ONE HOUR	✓	48	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	85	179	15
	B - Oak Drive (NW)	64	0	66	14
	C - N81 (NE)	92	40	0	11
	D - Maxol	18	8	22	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	1	2	0
	B - Oak Drive (NW)	0	0	6	0
	C - N81 (NE)	4	1	0	0
	D - Maxol	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.13	7.05	0.2	A	68	102
B-AD	0.16	8.99	0.2	A	64	97
A-BCD	0.03	5.89	0.0	A	14	21
D-ABC	0.09	6.96	0.1	A	44	66
C-ABD	0.07	6.01	0.1	A	37	56

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	55	14	650	0.085	55	0.0	0.1	6.372	A
B-AD	53	13	509	0.104	52	0.0	0.1	7.886	A
A-BCD	11	3	637	0.018	11	0.0	0.0	5.752	A
D-ABC	36	9	597	0.061	36	0.0	0.1	6.412	A
C-ABD	30	8	670	0.045	30	0.0	0.0	5.685	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	66	17	637	0.104	66	0.1	0.1	6.644	A
B-AD	63	16	496	0.127	63	0.1	0.1	8.321	A
A-BCD	14	3	633	0.021	14	0.0	0.0	5.809	A
D-ABC	43	11	586	0.074	43	0.1	0.1	6.634	A
C-ABD	36	9	661	0.055	36	0.0	0.1	5.821	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	82	20	619	0.132	81	0.1	0.2	7.046	A
B-AD	77	19	478	0.161	77	0.1	0.2	8.977	A
A-BCD	17	4	629	0.027	17	0.0	0.0	5.883	A
D-ABC	53	13	570	0.093	53	0.1	0.1	6.960	A
C-ABD	45	11	649	0.069	45	0.1	0.1	6.012	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	82	20	619	0.132	82	0.2	0.2	7.050	A
B-AD	77	19	478	0.161	77	0.2	0.2	8.985	A
A-BCD	17	4	629	0.027	17	0.0	0.0	5.886	A
D-ABC	53	13	570	0.093	53	0.1	0.1	6.961	A
C-ABD	45	11	649	0.069	45	0.1	0.1	6.012	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	66	17	637	0.104	67	0.2	0.1	6.648	A
B-AD	63	16	495	0.127	63	0.2	0.1	8.332	A
A-BCD	14	3	633	0.021	14	0.0	0.0	5.812	A
D-ABC	43	11	586	0.074	43	0.1	0.1	6.640	A
C-ABD	36	9	661	0.055	36	0.1	0.1	5.825	A

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	55	14	650	0.085	56	0.1	0.1	6.384	A
B-AD	53	13	508	0.104	53	0.1	0.1	7.909	A
A-BCD	11	3	637	0.018	11	0.0	0.0	5.756	A
D-ABC	36	9	597	0.061	36	0.1	0.1	6.421	A
C-ABD	30	8	670	0.045	30	0.1	0.0	5.689	A

Do-Something - 2027 DS, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set (s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	Do-Something	✓	✓	D7, D8, D9, D10, D11, D12	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	IRR Junction 7	Crossroads	Two-way		2.99	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	N81 (SW)		Major
B	Oak Drive (NW)		Minor
C	N81 (NE)		Major
D	Maxol		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - N81 (SW)	8.70			150.0	✓	1.00
C - N81 (NE)	8.70			250.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Oak Drive (NW)	One lane plus flare		10.00	9.80	9.50	7.40	6.60	✓	3.00	40	34
D - Maxol	One lane	5.00								30	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	661	-	-	-	-	-	-	0.226	0.323	0.226	-	-	-
B-A	590	0.095	0.240	0.240	-	-	-	0.151	0.343	-	0.240	0.240	0.120
B-C	711	0.096	0.243	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	559	0.090	0.227	0.227	-	-	-	0.143	0.325	0.143	-	-	-
B-D, offside lane	590	0.095	0.240	0.240	-	-	-	0.151	0.343	0.151	-	-	-
C-B	719	0.246	0.246	0.351	-	-	-	-	-	-	-	-	-
D-A	768	-	-	-	-	-	-	0.263	-	0.104	-	-	-
D-B, nearside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-B, offside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-C	600	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.096	-	-	-

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
D8	2027 DS	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - N81 (SW)		ONE HOUR	✓	190	100.000
B - Oak Drive (NW)		ONE HOUR	✓	118	100.000
C - N81 (NE)		ONE HOUR	✓	363	100.000
D - Maxol		ONE HOUR	✓	38	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	100	86	4
	B - Oak Drive (NW)	69	0	43	6
	C - N81 (NE)	210	129	0	24
	D - Maxol	28	6	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	1	2	0
	B - Oak Drive (NW)	0	0	6	0
	C - N81 (NE)	4	1	0	0
	D - Maxol	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.08	6.63	0.1	A	43	64
B-AD	0.17	9.37	0.2	A	66	99
A-BCD	0.01	6.50	0.0	A	4	6
D-ABC	0.07	6.19	0.1	A	35	52
C-ABD	0.21	6.41	0.3	A	126	188

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	35	9	650	0.054	35	0.0	0.1	6.176	A
B-AD	54	13	504	0.107	53	0.0	0.1	7.991	A
A-BCD	3	0.75	590	0.005	3	0.0	0.0	6.128	A
D-ABC	29	7	653	0.044	28	0.0	0.0	5.763	A
C-ABD	101	25	709	0.142	100	0.0	0.2	5.972	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	42	10	639	0.065	42	0.1	0.1	6.359	A
B-AD	64	16	486	0.132	64	0.1	0.2	8.524	A
A-BCD	4	0.90	577	0.006	4	0.0	0.0	6.281	A
D-ABC	34	9	640	0.053	34	0.0	0.1	5.937	A
C-ABD	122	31	713	0.171	122	0.2	0.2	6.158	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	51	13	624	0.082	51	0.1	0.1	6.633	A
B-AD	79	20	463	0.170	79	0.2	0.2	9.358	A
A-BCD	4	1	558	0.008	4	0.0	0.0	6.501	A
D-ABC	42	10	623	0.067	42	0.1	0.1	6.194	A
C-ABD	154	38	722	0.213	154	0.2	0.3	6.404	A

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	51	13	624	0.082	51	0.1	0.1	6.634	A
B-AD	79	20	463	0.170	79	0.2	0.2	9.369	A
A-BCD	4	1	558	0.008	4	0.0	0.0	6.502	A
D-ABC	42	10	623	0.067	42	0.1	0.1	6.194	A
C-ABD	154	38	723	0.213	154	0.3	0.3	6.409	A

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	42	10	639	0.065	42	0.1	0.1	6.362	A
B-AD	64	16	486	0.132	65	0.2	0.2	8.541	A
A-BCD	4	0.90	577	0.006	4	0.0	0.0	6.285	A
D-ABC	34	9	640	0.053	34	0.1	0.1	5.939	A
C-ABD	122	31	713	0.171	123	0.3	0.2	6.168	A

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	35	9	649	0.054	35	0.1	0.1	6.182	A
B-AD	54	13	503	0.107	54	0.2	0.1	8.018	A
A-BCD	3	0.75	590	0.005	3	0.0	0.0	6.133	A
D-ABC	29	7	653	0.044	29	0.1	0.0	5.769	A
C-ABD	101	25	709	0.142	101	0.2	0.2	5.988	A

Do-Something - 2032 DS, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set (s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	Do-Something	✓	✓	D7, D8, D9, D10, D11, D12	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	IRR Junction 7	Crossroads	Two-way		3.01	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	N81 (SW)		Major
B	Oak Drive (NW)		Minor
C	N81 (NE)		Major
D	Maxol		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - N81 (SW)	8.70			150.0	✓	1.00
C - N81 (NE)	8.70			250.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Oak Drive (NW)	One lane plus flare		10.00	9.80	9.50	7.40	6.60	✓	3.00	40	34
D - Maxol	One lane	5.00								30	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	661	-	-	-	-	-	-	0.226	0.323	0.226	-	-	-
B-A	575	0.092	0.234	0.234	-	-	-	0.147	0.334	-	0.234	0.234	0.117
B-C	731	0.099	0.250	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	575	0.092	0.234	0.234	-	-	-	0.147	0.334	0.147	-	-	-
B-D, offside lane	575	0.092	0.234	0.234	-	-	-	0.147	0.334	0.147	-	-	-
C-B	719	0.246	0.246	0.351	-	-	-	-	-	-	-	-	-
D-A	768	-	-	-	-	-	-	0.263	-	0.104	-	-	-
D-B, nearside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-B, offside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-C	600	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.096	-	-	-

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
D9	2032 DS	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - N81 (SW)		ONE HOUR	✓	295	100.000
B - Oak Drive (NW)		ONE HOUR	✓	152	100.000
C - N81 (NE)		ONE HOUR	✓	152	100.000
D - Maxol		ONE HOUR	✓	51	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	90	189	16
	B - Oak Drive (NW)	68	0	69	15
	C - N81 (NE)	98	42	0	12
	D - Maxol	19	9	23	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	1	2	0
	B - Oak Drive (NW)	0	0	6	0
	C - N81 (NE)	4	1	0	0
	D - Maxol	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.14	7.19	0.2	A	71	107
B-AD	0.17	9.23	0.2	A	68	103
A-BCD	0.03	5.91	0.0	A	15	22
D-ABC	0.10	7.08	0.1	A	47	70
C-ABD	0.07	6.07	0.1	A	39	58

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	58	15	646	0.090	58	0.0	0.1	6.447	A
B-AD	56	14	505	0.111	56	0.0	0.1	8.010	A
A-BCD	12	3	636	0.019	12	0.0	0.0	5.771	A
D-ABC	38	10	593	0.065	38	0.0	0.1	6.481	A
C-ABD	32	8	667	0.048	32	0.0	0.1	5.722	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	70	17	632	0.110	70	0.1	0.1	6.742	A
B-AD	67	17	491	0.137	67	0.1	0.2	8.487	A
A-BCD	15	4	632	0.023	14	0.0	0.0	5.830	A
D-ABC	46	11	581	0.079	46	0.1	0.1	6.723	A
C-ABD	38	10	658	0.058	38	0.1	0.1	5.866	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	86	21	613	0.140	85	0.1	0.2	7.183	A
B-AD	82	20	472	0.173	82	0.2	0.2	9.216	A
A-BCD	18	4	627	0.028	18	0.0	0.0	5.908	A
D-ABC	56	14	565	0.099	56	0.1	0.1	7.077	A
C-ABD	47	12	646	0.073	47	0.1	0.1	6.069	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	86	21	613	0.140	86	0.2	0.2	7.187	A
B-AD	82	20	472	0.173	82	0.2	0.2	9.226	A
A-BCD	18	4	627	0.028	18	0.0	0.0	5.911	A
D-ABC	56	14	564	0.099	56	0.1	0.1	7.080	A
C-ABD	47	12	646	0.073	47	0.1	0.1	6.070	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	70	17	632	0.110	70	0.2	0.1	6.749	A
B-AD	67	17	491	0.137	67	0.2	0.2	8.501	A
A-BCD	15	4	632	0.023	15	0.0	0.0	5.831	A
D-ABC	46	11	581	0.079	46	0.1	0.1	6.726	A
C-ABD	38	10	658	0.058	38	0.1	0.1	5.868	A

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	58	15	645	0.090	58	0.1	0.1	6.459	A
B-AD	56	14	505	0.112	56	0.2	0.1	8.037	A
A-BCD	12	3	636	0.019	12	0.0	0.0	5.772	A
D-ABC	38	10	593	0.065	38	0.1	0.1	6.490	A
C-ABD	32	8	667	0.048	32	0.1	0.1	5.726	A

Do-Something - 2032 DS, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set (s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	Do-Something	✓	✓	D7, D8, D9, D10, D11, D12	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	IRR Junction 7	Crossroads	Two-way		3.03	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	N81 (SW)		Major
B	Oak Drive (NW)		Minor
C	N81 (NE)		Major
D	Maxol		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - N81 (SW)	8.70			150.0	✓	1.00
C - N81 (NE)	8.70			250.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Oak Drive (NW)	One lane plus flare		10.00	9.80	9.50	7.40	6.60	✓	3.00	40	34
D - Maxol	One lane	5.00								30	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	661	-	-	-	-	-	-	0.226	0.323	0.226	-	-	-
B-A	591	0.095	0.240	0.240	-	-	-	0.151	0.343	-	0.240	0.240	0.120
B-C	711	0.096	0.243	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	559	0.090	0.227	0.227	-	-	-	0.143	0.324	0.143	-	-	-
B-D, offside lane	591	0.095	0.240	0.240	-	-	-	0.151	0.343	0.151	-	-	-
C-B	719	0.246	0.246	0.351	-	-	-	-	-	-	-	-	-
D-A	768	-	-	-	-	-	-	0.263	-	0.104	-	-	-
D-B, nearside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-B, offside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-C	600	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.096	-	-	-

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
D10	2032 DS	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - N81 (SW)		ONE HOUR	✓	201	100.000
B - Oak Drive (NW)		ONE HOUR	✓	124	100.000
C - N81 (NE)		ONE HOUR	✓	382	100.000
D - Maxol		ONE HOUR	✓	40	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	106	91	4
	B - Oak Drive (NW)	73	0	44	7
	C - N81 (NE)	223	134	0	25
	D - Maxol	29	7	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	1	2	0
	B - Oak Drive (NW)	0	0	6	0
	C - N81 (NE)	4	1	0	0
	D - Maxol	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.09	6.75	0.1	A	44	66
B-AD	0.18	9.64	0.2	A	70	105
A-BCD	0.01	6.56	0.0	A	4	6
D-ABC	0.07	6.31	0.1	A	37	55
C-ABD	0.22	6.46	0.3	A	131	197

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	36	9	644	0.056	36	0.0	0.1	6.245	A
B-AD	57	14	500	0.115	57	0.0	0.1	8.122	A
A-BCD	3	0.75	587	0.005	3	0.0	0.0	6.165	A
D-ABC	30	8	647	0.047	30	0.0	0.0	5.837	A
C-ABD	105	26	709	0.148	104	0.0	0.2	6.009	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	43	11	632	0.068	43	0.1	0.1	6.449	A
B-AD	68	17	482	0.142	68	0.1	0.2	8.706	A
A-BCD	4	0.90	572	0.006	4	0.0	0.0	6.328	A
D-ABC	36	9	633	0.057	36	0.0	0.1	6.028	A
C-ABD	128	32	714	0.179	128	0.2	0.2	6.202	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	53	13	615	0.086	53	0.1	0.1	6.752	A
B-AD	84	21	457	0.183	83	0.2	0.2	9.629	A
A-BCD	4	1	553	0.008	4	0.0	0.0	6.562	A
D-ABC	44	11	614	0.072	44	0.1	0.1	6.311	A
C-ABD	161	40	725	0.222	161	0.2	0.3	6.451	A

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	53	13	615	0.086	53	0.1	0.1	6.753	A
B-AD	84	21	457	0.183	84	0.2	0.2	9.642	A
A-BCD	4	1	553	0.008	4	0.0	0.0	6.563	A
D-ABC	44	11	614	0.072	44	0.1	0.1	6.311	A
C-ABD	161	40	725	0.222	161	0.3	0.3	6.461	A

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	43	11	632	0.068	43	0.1	0.1	6.453	A
B-AD	68	17	481	0.142	69	0.2	0.2	8.723	A
A-BCD	4	0.90	572	0.006	4	0.0	0.0	6.332	A
D-ABC	36	9	633	0.057	36	0.1	0.1	6.032	A
C-ABD	128	32	715	0.179	128	0.3	0.2	6.212	A

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	36	9	643	0.056	36	0.1	0.1	6.255	A
B-AD	57	14	499	0.115	57	0.2	0.1	8.151	A
A-BCD	3	0.75	587	0.005	3	0.0	0.0	6.168	A
D-ABC	30	8	646	0.047	30	0.1	0.0	5.844	A
C-ABD	105	26	710	0.148	105	0.2	0.2	6.026	A

Do-Something - 2042 DS, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set (s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	Do-Something	✓	✓	D7, D8, D9, D10, D11, D12	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	IRR Junction 7	Crossroads	Two-way		3.04	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	N81 (SW)		Major
B	Oak Drive (NW)		Minor
C	N81 (NE)		Major
D	Maxol		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - N81 (SW)	8.70			150.0	✓	1.00
C - N81 (NE)	8.70			250.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Oak Drive (NW)	One lane plus flare		10.00	9.80	9.50	7.40	6.60	✓	3.00	40	34
D - Maxol	One lane	5.00								30	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	661	-	-	-	-	-	-	0.226	0.323	0.226	-	-	-
B-A	575	0.092	0.234	0.234	-	-	-	0.147	0.334	-	0.234	0.234	0.117
B-C	731	0.099	0.250	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	575	0.092	0.234	0.234	-	-	-	0.147	0.334	0.147	-	-	-
B-D, offside lane	575	0.092	0.234	0.234	-	-	-	0.147	0.334	0.147	-	-	-
C-B	719	0.246	0.246	0.351	-	-	-	-	-	-	-	-	-
D-A	768	-	-	-	-	-	-	0.263	-	0.104	-	-	-
D-B, nearside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-B, offside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-C	600	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.096	-	-	-

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
D11	2042 DS	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - N81 (SW)		ONE HOUR	✓	310	100.000
B - Oak Drive (NW)		ONE HOUR	✓	158	100.000
C - N81 (NE)		ONE HOUR	✓	159	100.000
D - Maxol		ONE HOUR	✓	53	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	94	199	17
	B - Oak Drive (NW)	71	0	71	16
	C - N81 (NE)	103	43	0	13
	D - Maxol	20	9	24	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	1	2	0
	B - Oak Drive (NW)	0	0	6	0
	C - N81 (NE)	4	1	0	0
	D - Maxol	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.15	7.31	0.2	A	74	110
B-AD	0.18	9.43	0.2	A	71	107
A-BCD	0.03	5.93	0.0	A	16	24
D-ABC	0.10	7.16	0.1	A	49	73
C-ABD	0.07	6.12	0.1	A	40	60

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	60	15	641	0.094	60	0.0	0.1	6.513	A
B-AD	59	15	501	0.117	58	0.0	0.1	8.112	A
A-BCD	13	3	635	0.020	13	0.0	0.0	5.785	A
D-ABC	40	10	591	0.067	40	0.0	0.1	6.523	A
C-ABD	33	8	664	0.049	32	0.0	0.1	5.752	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	72	18	627	0.115	72	0.1	0.1	6.825	A
B-AD	70	18	487	0.144	70	0.1	0.2	8.628	A
A-BCD	15	4	631	0.024	15	0.0	0.0	5.847	A
D-ABC	48	12	579	0.082	48	0.1	0.1	6.778	A
C-ABD	39	10	655	0.060	39	0.1	0.1	5.903	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	88	22	607	0.146	88	0.1	0.2	7.305	A
B-AD	85	21	467	0.183	85	0.2	0.2	9.418	A
A-BCD	19	5	626	0.030	19	0.0	0.0	5.927	A
D-ABC	58	15	561	0.104	58	0.1	0.1	7.156	A
C-ABD	48	12	643	0.075	48	0.1	0.1	6.116	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	88	22	607	0.146	88	0.2	0.2	7.308	A
B-AD	85	21	467	0.183	85	0.2	0.2	9.431	A
A-BCD	19	5	626	0.030	19	0.0	0.0	5.930	A
D-ABC	58	15	561	0.104	58	0.1	0.1	7.159	A
C-ABD	48	12	643	0.075	48	0.1	0.1	6.119	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	72	18	627	0.115	72	0.2	0.1	6.836	A
B-AD	70	18	487	0.144	70	0.2	0.2	8.645	A
A-BCD	15	4	631	0.024	15	0.0	0.0	5.850	A
D-ABC	48	12	579	0.082	48	0.1	0.1	6.785	A
C-ABD	39	10	655	0.060	39	0.1	0.1	5.905	A

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	60	15	641	0.094	60	0.1	0.1	6.528	A
B-AD	59	15	501	0.117	59	0.2	0.1	8.141	A
A-BCD	13	3	635	0.020	13	0.0	0.0	5.789	A
D-ABC	40	10	591	0.068	40	0.1	0.1	6.534	A
C-ABD	33	8	664	0.049	33	0.1	0.1	5.758	A

Do-Something - 2042 DS, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set (s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	Do-Something	✓	✓	D7, D8, D9, D10, D11, D12	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	IRR Junction 7	Crossroads	Two-way		3.06	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	N81 (SW)		Major
B	Oak Drive (NW)		Minor
C	N81 (NE)		Major
D	Maxol		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - N81 (SW)	8.70			150.0	✓	1.00
C - N81 (NE)	8.70			250.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Oak Drive (NW)	One lane plus flare		10.00	9.80	9.50	7.40	6.60	✓	3.00	40	34
D - Maxol	One lane	5.00								30	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	661	-	-	-	-	-	-	0.226	0.323	0.226	-	-	-
B-A	593	0.095	0.241	0.241	-	-	-	0.152	0.344	-	0.241	0.241	0.120
B-C	708	0.096	0.242	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	557	0.090	0.226	0.226	-	-	-	0.142	0.323	0.142	-	-	-
B-D, offside lane	593	0.095	0.241	0.241	-	-	-	0.152	0.344	0.152	-	-	-
C-B	719	0.246	0.246	0.351	-	-	-	-	-	-	-	-	-
D-A	768	-	-	-	-	-	-	0.263	-	0.104	-	-	-
D-B, nearside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-B, offside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-C	600	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.096	-	-	-

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
D12	2042 DS	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - N81 (SW)		ONE HOUR	✓	211	100.000
B - Oak Drive (NW)		ONE HOUR	✓	128	100.000
C - N81 (NE)		ONE HOUR	✓	398	100.000
D - Maxol		ONE HOUR	✓	43	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	111	95	5
	B - Oak Drive (NW)	77	0	44	7
	C - N81 (NE)	234	138	0	26
	D - Maxol	31	7	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	1	2	0
	B - Oak Drive (NW)	0	0	6	0
	C - N81 (NE)	4	1	0	0
	D - Maxol	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.09	6.83	0.1	A	44	66
B-AD	0.19	9.88	0.2	A	73	110
A-BCD	0.01	6.62	0.0	A	5	7
D-ABC	0.08	6.42	0.1	A	39	59
C-ABD	0.23	6.50	0.3	A	136	204

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	36	9	639	0.056	36	0.0	0.1	6.294	A
B-AD	60	15	497	0.121	60	0.0	0.1	8.221	A
A-BCD	4	0.94	584	0.006	4	0.0	0.0	6.203	A
D-ABC	32	8	642	0.050	32	0.0	0.1	5.899	A
C-ABD	109	27	710	0.153	108	0.0	0.2	6.039	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	43	11	626	0.069	43	0.1	0.1	6.508	A
B-AD	72	18	478	0.150	72	0.1	0.2	8.856	A
A-BCD	5	1	569	0.008	5	0.0	0.0	6.374	A
D-ABC	39	10	628	0.062	39	0.1	0.1	6.106	A
C-ABD	132	33	715	0.185	132	0.2	0.2	6.239	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	53	13	609	0.087	53	0.1	0.1	6.829	A
B-AD	88	22	452	0.194	88	0.2	0.2	9.860	A
A-BCD	6	1	549	0.010	6	0.0	0.0	6.622	A
D-ABC	47	12	608	0.078	47	0.1	0.1	6.415	A
C-ABD	167	42	728	0.230	167	0.2	0.3	6.495	A

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	53	13	609	0.087	53	0.1	0.1	6.831	A
B-AD	88	22	452	0.194	88	0.2	0.2	9.876	A
A-BCD	6	1	549	0.010	6	0.0	0.0	6.624	A
D-ABC	47	12	608	0.078	47	0.1	0.1	6.416	A
C-ABD	167	42	728	0.230	167	0.3	0.3	6.503	A

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	43	11	626	0.069	43	0.1	0.1	6.512	A
B-AD	72	18	478	0.150	72	0.2	0.2	8.874	A
A-BCD	5	1	569	0.008	5	0.0	0.0	6.379	A
D-ABC	39	10	628	0.062	39	0.1	0.1	6.111	A
C-ABD	132	33	716	0.185	133	0.3	0.2	6.250	A

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	36	9	638	0.057	36	0.1	0.1	6.307	A
B-AD	60	15	497	0.121	60	0.2	0.1	8.254	A
A-BCD	4	0.94	584	0.006	4	0.0	0.0	6.206	A
D-ABC	32	8	642	0.050	32	0.1	0.1	5.904	A
C-ABD	109	27	710	0.153	109	0.2	0.2	6.058	A

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.2.1013

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

Filename: N81 Main Street _ Oak Drive.j9
Path: G:\2023\p230199\calcs\picady\Sensitivity Analysis
Report generation date: 09/08/2024 15:53:51

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	Do-Nothing - 2027 DN									
Stream B-C-D	A1 D1	2.2	20.55	0.68	C	A1 D2	0.4	8.65	0.29	A
Stream B-A-D		0.4	17.38	0.27	C		0.4	19.83	0.30	C
Stream A-B-C-D		0.0	6.58	0.03	A		0.0	9.28	0.01	A
Stream D-A-B-C		0.1	10.19	0.13	B		0.1	8.45	0.09	A
Stream C-A-B-D		0.5	7.94	0.29	A		2.9	10.34	0.65	B
	Do-Nothing - 2032 DN									
Stream B-C-D	A1 D3	2.6	23.37	0.72	C	A1 D4	0.5	9.07	0.30	A
Stream B-A-D		0.4	19.40	0.30	C		0.5	21.77	0.34	C
Stream A-B-C-D		0.0	6.62	0.03	A		0.0	9.55	0.01	A
Stream D-A-B-C		0.2	10.62	0.14	B		0.1	8.81	0.10	A
Stream C-A-B-D		0.5	8.07	0.30	A		3.4	10.86	0.67	B
	Do-Nothing - 2042 DN									
Stream B-C-D	A1 D5	3.2	28.24	0.76	D	A1 D6	0.5	9.45	0.32	A
Stream B-A-D		0.5	23.15	0.36	C		0.6	24.21	0.37	C
Stream A-B-C-D		0.0	6.68	0.03	A		0.0	9.88	0.02	A
Stream D-A-B-C		0.2	11.16	0.15	B		0.1	9.36	0.11	A
Stream C-A-B-D		0.5	8.26	0.32	A		4.0	11.65	0.70	B

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	Do-Something - 2027 DS									
Stream B-C-D	A2 D7	3.3	28.07	0.77	D	A2 D8	0.6	9.46	0.35	A
Stream B-A-D		0.5	21.81	0.32	C		0.5	22.37	0.33	C
Stream A-B-C-D		0.0	6.70	0.03	A		0.0	9.76	0.01	A
Stream D-A-B-C		0.2	10.76	0.14	B		0.1	8.75	0.09	A
Stream C-A-B-D		0.6	8.38	0.34	A		4.5	13.24	0.73	B
	Do-Something - 2032 DS									
Stream B-C-D	A2 D9	4.1	33.80	0.81	D	A2 D10	0.6	9.99	0.36	A
Stream B-A-D		0.6	26.57	0.38	D		0.6	24.96	0.37	C
Stream A-B-C-D		0.0	6.74	0.03	A		0.0	10.07	0.01	B
Stream D-A-B-C		0.2	11.27	0.15	B		0.1	9.16	0.10	A
Stream C-A-B-D		0.6	8.55	0.35	A		5.3	14.36	0.76	B
	Do-Something - 2042 DS									
Stream B-C-D	A2 D11	5.5	44.24	0.86	E	A2 D12	0.6	10.52	0.38	B
Stream B-A-D		0.9	38.31	0.48	E		0.7	28.32	0.41	D
Stream A-B-C-D		0.0	6.79	0.04	A		0.0	10.45	0.02	B
Stream D-A-B-C		0.2	11.91	0.16	B		0.1	9.82	0.11	A
Stream C-A-B-D		0.7	8.74	0.37	A		6.5	16.15	0.79	C

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

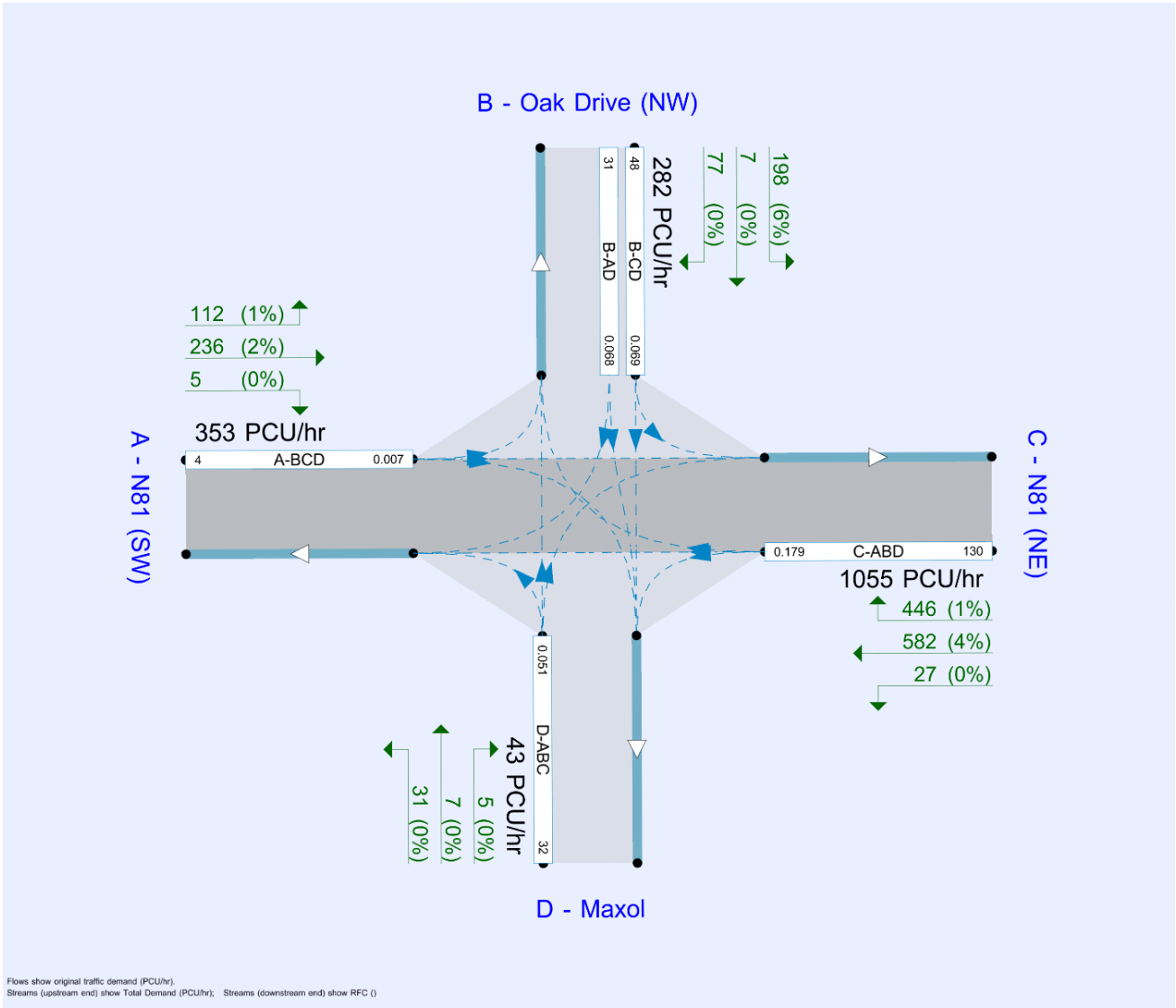
File summary

File Description

Title	Blessington LDR
Location	Blessington, Wicklow
Site number	
Date	08/08/2024
Version	
Status	Planning
Identifier	
Client	Marshall Yards Development Company
Jobnumber	230199
Enumerator	HEADOFFICE\santosl
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



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027 DN	AM	ONE HOUR	08:15	09:45	15	✓
D2	2027 DN	PM	ONE HOUR	17:00	18:30	15	✓
D3	2032 DN	AM	ONE HOUR	08:15	09:45	15	✓
D4	2032 DN	PM	ONE HOUR	17:00	18:30	15	✓
D5	2042 DN	AM	ONE HOUR	08:15	09:45	15	✓
D6	2042 DN	PM	ONE HOUR	17:00	18:30	15	✓
D7	2027 DS	AM	ONE HOUR	08:15	09:45	15	✓
D8	2027 DS	PM	ONE HOUR	17:00	18:30	15	✓
D9	2032 DS	AM	ONE HOUR	08:15	09:45	15	✓
D10	2032 DS	PM	ONE HOUR	17:00	18:30	15	✓
D11	2042 DS	AM	ONE HOUR	08:15	09:45	15	✓
D12	2042 DS	PM	ONE HOUR	17:00	18:30	15	✓

Do-Nothing - 2027 DN, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do-Nothing	✓	✓	D1, D2, D3, D4, D5, D6	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	IRR Junction 7	Crossroads	Two-way		7.41	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	N81 (SW)		Major
B	Oak Drive (NW)		Minor
C	N81 (NE)		Major
D	Maxol		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - N81 (SW)	8.70			150.0	✓	1.00
C - N81 (NE)	8.70			250.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Oak Drive (NW)	One lane plus flare		10.00	9.80	9.50	7.40	6.60	✓	3.00	40	34
D - Maxol	One lane	5.00								30	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	661	-	-	-	-	-	-	0.226	0.323	0.226	-	-	-
B-A	541	0.087	0.220	0.220	-	-	-	0.138	0.314	-	0.220	0.220	0.110
B-C	775	0.105	0.265	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	609	0.098	0.247	0.247	-	-	-	0.156	0.353	0.156	-	-	-
B-D, offside lane	541	0.087	0.220	0.220	-	-	-	0.138	0.314	0.138	-	-	-
C-B	719	0.246	0.246	0.351	-	-	-	-	-	-	-	-	-
D-A	768	-	-	-	-	-	-	0.263	-	0.104	-	-	-
D-B, nearside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-B, offside lane	600	0.153	0.153	0.348	-	-	-	0.244	0.244	0.096	-	-	-
D-C	600	-	0.153	0.348	0.122	0.244	0.244	0.244	0.244	0.096	-	-	-

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	2027 DN	AM	ONE HOUR	08:15	09:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - N81 (SW)		ONE HOUR	✓	551	100.000
B - Oak Drive (NW)		ONE HOUR	✓	433	100.000
C - N81 (NE)		ONE HOUR	✓	394	100.000
D - Maxol		ONE HOUR	✓	48	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	86	449	16
	B - Oak Drive (NW)	65	0	353	15
	C - N81 (NE)	233	149	0	12
	D - Maxol	18	8	22	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - N81 (SW)	B - Oak Drive (NW)	C - N81 (NE)	D - Maxol
From	A - N81 (SW)	0	1	2	0
	B - Oak Drive (NW)	0	0	6	0
	C - N81 (NE)	4	1	0	0
	D - Maxol	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.68	20.55	2.2	C	332	498
B-AD	0.27	17.38	0.4	C	65	98
A-BCD	0.03	6.58	0.0	A	15	23
D-ABC	0.13	10.19	0.1	B	44	66
C-ABD	0.29	7.94	0.5	A	150	225

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	272	68	647	0.420	269	0.0	0.8	10.003	B
B-AD	54	13	389	0.139	53	0.0	0.2	10.705	B
A-BCD	12	3	591	0.021	12	0.0	0.0	6.217	A
D-ABC	36	9	493	0.073	36	0.0	0.1	7.870	A
C-ABD	118	30	650	0.182	117	0.0	0.2	6.831	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	325	81	621	0.523	324	0.8	1.1	12.742	B
B-AD	64	16	352	0.182	64	0.2	0.2	12.464	B
A-BCD	15	4	580	0.025	15	0.0	0.0	6.373	A
D-ABC	43	11	458	0.094	43	0.1	0.1	8.681	A
C-ABD	145	36	646	0.225	145	0.2	0.3	7.273	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	399	100	584	0.683	395	1.1	2.1	19.753	C
B-AD	78	19	287	0.272	77	0.2	0.4	17.116	C
A-BCD	18	5	565	0.032	18	0.0	0.0	6.581	A
D-ABC	53	13	407	0.130	53	0.1	0.1	10.153	B
C-ABD	187	47	646	0.289	186	0.3	0.5	7.921	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	399	100	583	0.684	399	2.1	2.2	20.547	C
B-AD	78	19	285	0.274	78	0.4	0.4	17.383	C
A-BCD	18	5	565	0.032	18	0.0	0.0	6.583	A
D-ABC	53	13	406	0.130	53	0.1	0.1	10.192	B
C-ABD	187	47	647	0.289	187	0.5	0.5	7.940	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	325	81	621	0.524	329	2.2	1.2	13.248	B
B-AD	64	16	351	0.183	65	0.4	0.2	12.597	B
A-BCD	15	4	580	0.025	15	0.0	0.0	6.376	A
D-ABC	43	11	456	0.095	43	0.1	0.1	8.720	A
C-ABD	145	36	646	0.225	146	0.5	0.3	7.298	A

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	272	68	647	0.421	274	1.2	0.8	10.265	B
B-AD	54	13	388	0.139	54	0.2	0.2	10.791	B
A-BCD	12	3	591	0.021	12	0.0	0.0	6.222	A
D-ABC	36	9	492	0.073	36	0.1	0.1	7.904	A
C-ABD	118	30	650	0.182	119	0.3	0.2	6.865	A