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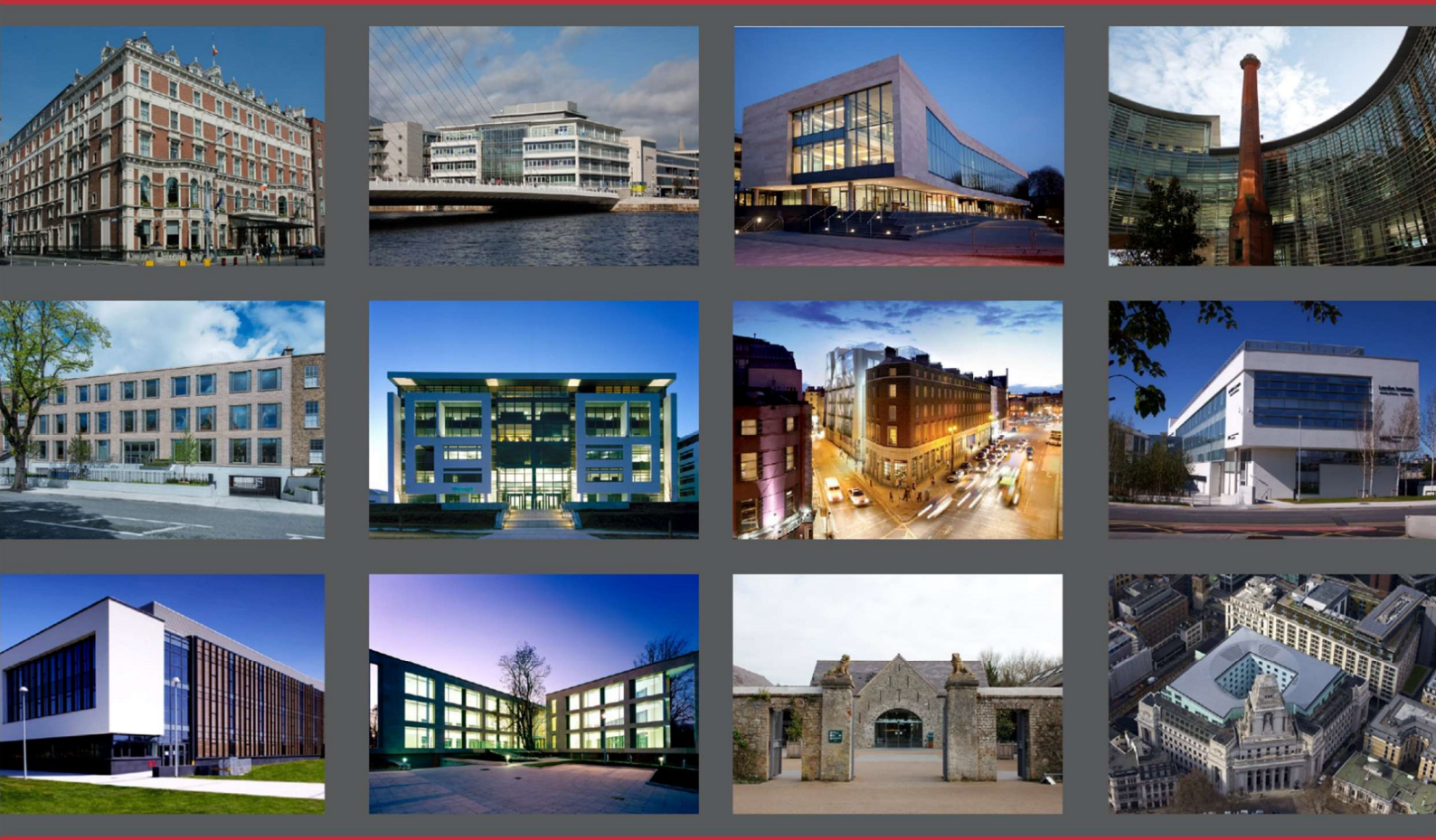

ROADS ENGINEERING, TRAFFIC & TRANSPORT ASSESSMENT

RESIDENTIAL DEVELOPMENT AT COOKSTOWN ROAD, ENNISKERRY, CO. WICKLOW

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DOCUMENT LEAD SHEET	PAGE 1 OF 237

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ROADS ENGINEERING, TRAFFIC & TRANSPORT ASSESSMENT
FOR THE
COOKSTOWN ROAD RESIDENTIAL DEVELOPMENT, ENNISKERRY

TABLE OF CONTENTS

1.0 INTRODUCTION 3

1.1 General Description 3
1.2 Purpose of the Traffic and Transport Assessment 4

2.0 PROPOSED INTERNAL ROADS NETWORK 5

3.0 PROPOSED PEDESTRIAN AND CYCLIST FACILITIES 5

4.0 CAR PARKING 6

5.0 QUALITY AUDIT 7

6.0 TRAFFIC AND TRANSPORT ASSESSMENT 7

6.1 Introduction 7
6.1.1 Methodology used within the Traffic and Transport Assessment 7
6.1.2 Site access to local road network 8
6.1.3 Scope of the traffic & transport assessment 9
6.2 The Receiving Environment 10
6.2.1 Location of proposed development 10
6.2.2 Existing and proposed transport infrastructure 10
6.2.2.1 Existing Public Transport Provision 10
6.2.2.2 Proposed Public Transport Provision 11
6.2.2.3 Existing Cycling Provision 11
6.2.2.4 Proposed Cycling Provision 11
6.2.3 Baseline traffic flows 12
6.3 Trip Generation, Distribution And Assignment For Proposed Development 13
6.3.1 Trips generated by proposed development 13
6.3.2 Trips generated by nearby planned Kilgarron development 13
6.3.3 Distribution of Generated Flows from Proposed Development 13
6.3.4 Trip Assignment 15
6.3.5 Traffic Surveys 15
6.3.6 Impact of Generated Flows on 3 No. Critical Junctions plus proposed development entrance 16
6.4 Traffic Impact Assessment Of 3 No. Critical Junctions In Proximity To The Subject Site 16
6.4.1 Introduction 16
6.4.2 Analysis of Development Entrance / Cookstown Road (L1020) priority junction 17
6.4.3 Analysis of R760 / Cookstown Road (L1020) / powerscourt priority junction 17
6.4.4 Analysis of R117 / Cookstown Road (L1020) / powerscourt priority junction 19
6.5 Summary Comments On Traffic Impact Of Proposed Development 21
6.5.1 Summary of the Traffic Analysis 21
6.5.2 Conclusions from the Traffic Analysis 21

7.0 WICKLOW COUNTY COUNCIL COMMENTS 22

7.1 Introduction 22
7.2 Extract from WCC Reports Action Review List 22

APPENDICES

APPENDIX 1 - SITE LAYOUT

APPENDIX 2 - TRAFFIC SURVEY OUTPUT

APPENDIX 3 - DIAGRAMS OF BASELINE FLOWS

APPENDIX 4 - TRICS DATA

APPENDIX 5 - DIAGRAMS OF GENERATED FLOWS

APPENDIX 6 - PICADY OUTPUT

APPENDIX 7 - STAGE 1 ROAD SAFETY AUDIT REPORT

APPENDIX 8 - STAGE 1 QUALITY AUDIT REPORT

1.0 INTRODUCTION

1.1 GENERAL DESCRIPTION

Cairn Homes Properties Ltd., intend to apply to An Bord Pleanála for permission for a strategic housing development on lands within the townland of Cookstown, Enniskerry, Co. Wicklow relating to lands with an overall area of c. 6.6 hectares, including a strip to facilitate footpath and lighting upgrades on the Cookstown Road. Barrett Mahony Consulting Engineers (BMCE) have been commissioned by Cairn Homes Properties Ltd. to prepare a Traffic & Transport Assessment (TTA) for a proposed residential development. This report will form part of the strategic housing development (SHD) submitted to An Bord Pleanála.

The development will consist of the construction of 165 no. dwellings and associated ancillary infrastructure as follows:

A) 105 no. 2 storey houses (49 no. 3 bedroom houses [House Types B, B1, & B2], 56 no. 4 bedroom houses [House Types A, D, E & E1];
B) 56 no. apartments/duplex apartments in 6 no. 3 storey buildings – (28 no. 2 bedroom apartments and 28 no. 3 bedroom duplex apartments) all with terrace;
C) 4 no. 1 bedroom Maisonette dwellings in a 2 storey building;
D) Part 2-storey and single storey creche (c. 510 sq. m - including storage);
E) Open space along southern boundary of c. 0.93 hectares [with pedestrian connections to boundary to '*Lover's Leap Lane*' to the south and to boundary to the east and west], hard and soft landscaping (including public lighting) and open space (including boundary treatment), communal open space for duplex apartments; regrading/re-profiling of site where required [including import/export of soil as required] along with single storey bicycle/bin stores and ESB substation;
F) Vehicular access (including construction access) from the Cookstown Road from a new junction as well as 313 no. car parking spaces and 150 no. cycle spaces;
G) Surface water attenuation measures and underground attenuation systems as well as connection to water supply, and provision of foul drainage infrastructure (along the Cookstown Road to existing connection at junction with R760) and provision of underground local pumping station to Irish Water specifications;
H) 3 no. temporary (for 3 years) marketing signage structures [2 no. at the proposed entrance and 1 no. at the junction of the R760 and the Cookstown Road] and a single storey marketing suite (c. 81 sq.m) within site;
I) All ancillary site development/construction/landscaping works, along with provision of footpath/public lighting to Powerscourt National School pedestrian entrance and lighting from Powerscourt National School entrance to the junction of the R760 along southern side of Cookstown Road and pedestrian crossing across Cookstown Road.

Photo 1A. – Aerial view of the site

1.2 PURPOSE OF THE TRAFFIC AND TRANSPORT ASSESSMENT

This report presents an overview of road, cyclist and pedestrian facilities, to be read in conjunction with Barrett Mahony drawings.

The detailed Traffic and Transport Assessment in Section 6.0 of this report is provided to assess the current operational efficiency of the existing transport environment and provide details of the assessment undertaken to identify the level of transport impact resulting from the proposed residential development. The scope of the assessment covers both transport and related sustainability issues, including means of vehicular access, pedestrian, cyclist and local public transport connections. The principal objective of the traffic and transport assessment 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.

Figure 1-1 - Site Layout Plan

2.0 PROPOSED INTERNAL ROADS NETWORK

The estate roads have been designed to comply with DMURS as required by the County Development Plan. The internal roads are generally 5.5m wide. The homezone / shared surfaces are 7.2m wide overall and consist of a 4.8m roadway and 2no. 1.2m pedestrianized strips.

Speed reduction measures within the development are as follows:

- Kerb build-outs.
- Raised table at 4-arm junctions and mid-way on the east side estate road with pedestrian priority crossings.
- Homezone shared surfaces on the cul-de-sacs.
- Reduced kerb radii at corners.

Details of the proposed road layout and various speed reducing measures are shown on Barrett Mahony drawing nos. 18.243-C1010, C1011 and C1014.

No significant intervention is proposed to the existing Cookstown Road adjacent to the subject site. It is proposed that the existing carriageway should be retained and not widened so the maximum number of mature trees can be retained while still achieving adequate sight lines.

A separate DMURS Compliance Statement has been prepared by Barrett Mahony as part of the planning application. Please refer to this for further information on DMURS Compliance.

3.0 PROPOSED PEDESTRIAN AND CYCLIST FACILITIES

New footpaths will be provided in accordance with Section 4.3.1 of DMURS which suggests that a minimum of 1.8m footpath should be provided on all footways. In this regard, footpaths are generally provided with a width of 2.0m. Crossing points are located at various points within the development such that unimpeded pedestrian movement is facilitated. Cyclists will be kept on road within the proposed development. Accordingly, the proposed development is consistent with the principles outlines in DMURS.

Development type	Area / units	Cycle parking standards	Cycle parking spaces required	Cycle parking spaces provided
Houses 4-bed	56 No.	1 space per bed + 0.5 spaces per unit	252	252
Houses 3-bed	49 No.	1 space per bed + 0.5 spaces per unit	172	172
Houses 1-bed	4 No.	1 space per bed + 0.5 spaces per unit	6	6
Duplexes 2-bed	28 No.	1 space per bed + 0.5 spaces per unit	70	70
SUBTOTAL (Units with private gardens)	110 No.	-	500	500
Duplex 3-bed	28 No.	1 space per bed	84	88
Visitor		0.5 spaces per Duplex 3-Bed unit	14	40
Crèche	510 m^2	-		12
SUBTOTAL (Units without private gardens)	-	-	98	150

Table 3-1 - Cycle Parking required under Wicklow County Development Plan Standards 2016-2022 for housing component (no requirement for crèche component)

All house units and the 2-bed duplex units have private rear gardens and therefore do not require additional secure cycle storage. The 3-bed duplex units and the creche will require secure cycle storage. 88 no secure cycle spaces will be provided for the 2-bed duplex units, 12 no. for the creche and 50 no. cycle spaces will be provided for visitors. The 50 no. visitor spaces will be made up of external Sheffield stands located throughout the scheme. The number of cycle parking spaces provided is in excess of the Wicklow County Development Plan requirements. The cycling travel time from the entrance of the proposed development to the centre of Enniskerry village is 4 minutes (900m), and to Bray Main Street is 19 minutes (4.8km).

A footpath will be provided inside the development along the north boundary from the site entrance to the north west corner of the site, parallel to Cookstown Road. It is also proposed to construct a new footpath along the southside of Cookstown Road, linking the footpath within the development at the north west corner of the site, to the existing zebra crossing at Powerscourt National School to the west of the site on Cookstown Road. This is subject to agreement with Wicklow County Council. This will provide a pedestrian route from the development to Enniskerry village, with a walking time of 11 minutes (900m). See figure 2-2 below for layout of footpaths along the Cookstown Road, both within and outside of the site. Refer to Barrett Mahony drawings C1000 & C1010 for further details. Refer to section 6.2.2 for details of public cycling provisions in the site vicinity. It is proposed that public lighting will be provided along the road from the site up to the R760 junction.

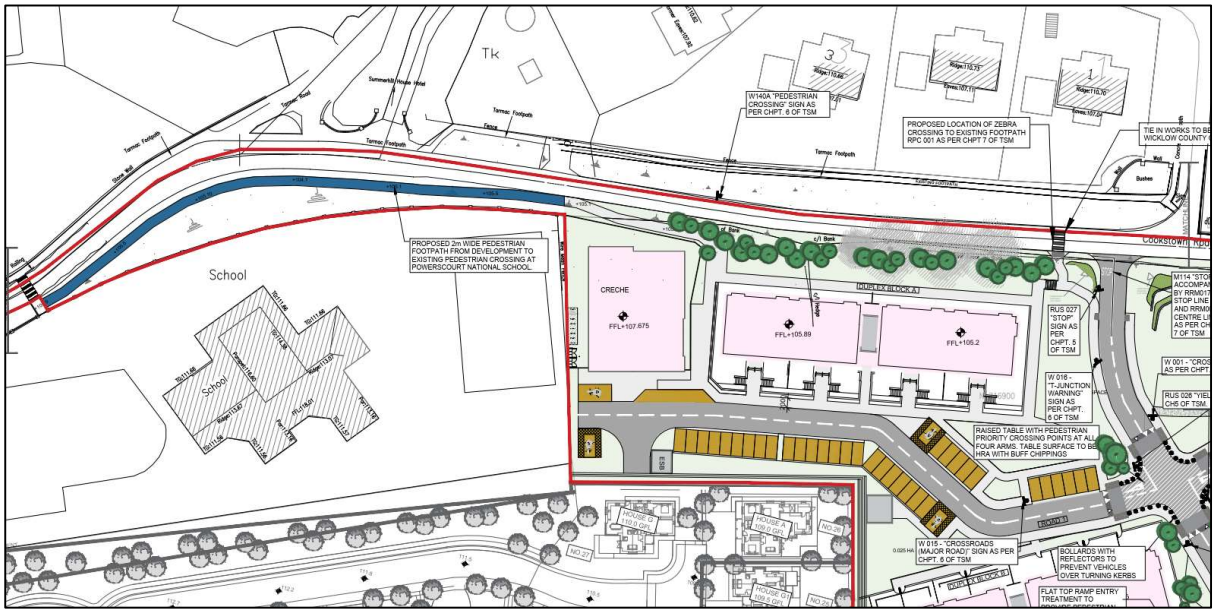


Figure 2-1: Extract from BMCE drawing C1010, showing footpath layout, included new public footpath on Cookstown Road highlighted in blue.

4.0 CAR PARKING

Development type	Area / units	Car parking standards	Car parking spaces required
Houses 4-bed	56 No.	2.0 per unit	112
Houses 3-bed	49 No.	2.0 per unit	98
Houses 1-bed	4 No.	1.0 per unit (if less than 5 units)	4
Duplex 3-bed	28 No.	2.0 per unit	56
Duplexes 2-bed	28 No.	1.2 per unit	34
TOTAL RESIDENTIAL	165 No.	-	304
Crèche	490 m^2 GFA	0.5 spaces per staff member plus 1 space per 10 children	11
OVERALL TOTAL	-	-	315

Table 4-1: Car Parking required under Wicklow County Development Plan Standards for housing and crèche components.

It is proposed to provide 313 no. car parking spaces for the development. This comprises of 210 no. parking spaces withing the curtilage of each of the 3-bed and 4-bed houses (which is 100% of the car parking required as per the Wicklow County Development Plan), 11 no. parking spaces for the creche and 92 no. parking spaces for the remaining units (98% of the car parking required as per the Wicklow County Development Plan). Of the 92 parking spaces available for the duplex units, 10 no. spaces will be EV spaces which meets the 10% requirement for shared residential parking areas as per the Wicklow County Development Plan.

5.0 QUALITY AUDIT

A Road Safety Audit of roads and Quality Audit of pedestrian/cyclist facilities was carried out by ILTP for the proposed development. This includes a Stage 1 Road Safety Audit. The issued raised within this audit were addressed and agreed with the auditor. A full copy of this report is included in Appendix 7 and Appendix 8.

6.0 TRAFFIC AND TRANSPORT ASSESSMENT

6.1 INTRODUCTION

For the purposes of this analysis, the traffic generated by the crèche is not considered, as the vast majority of trips predicted to be generated internally within the development. Thus, the following analysis will be based on the trips generated by 165 No. dwelling units.

Appendix 1 contains a full site layout.

The purpose of the report is to assess the impact of the proposed development on 3 No. junctions in close proximity to the proposed development.

Traffic flows generated by the planned residential development at Kilgarron will also be taken into consideration.

A traffic survey of these junctions was carried out on Thursday 16th May 2019.

This report will assume that the proposed development with open in 2023.

The analysis within this report is undertaken on the basis of 1.4% annual growth in network traffic over the period 2019 to 2030 period, decreasing to 0.4% in the 2030 to 2038 period, consistent with the 'medium growth' assumption for the four planning authorities within the Dublin city area as detailed within the 2016 Transport Infrastructure Ireland document 'Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections', PE-PAG-02017 October 2016.

6.1.1 METHODOLOGY USED WITHIN THE TRAFFIC AND TRANSPORT ASSESSMENT

This assessment was developed with guidance from the documents listed below;

- 'Traffic and Transport Assessment Guidelines' (May 2014) National Road Authority;
- '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; and
- Wicklow County Council Development Plan 2016-2022.

The methodology utilised can be divided into the following 5 No. phases, in compliance with the Traffic and Transport Assessment Guidelines referenced above:

Audit of existing network
The report establishes the existing level of accessibility at present pertaining to the subject site in terms of the level of access available by walking, cycling and public transport.

Completion of Traffic Counts
The report details Junction traffic counts undertaken at the locations relevant to the proposed development, and analysed in order to assess existing operating efficiencies in the vicinity of the proposed development.

Estimation of Trip Generation Volumes
A trip generation exercise has been carried out to establish an estimate for the level of vehicle trips generated by the proposed residential development.

Distribution of Generated Trips

Based upon both the existing observed flow patterns in the local road network at the identified relevant junctions, the trips predicted to be generated by the proposed development are distributed / assigned onto the local road network.

Network Analysis detailing Impact of Generated Volumes

Junction analysis models are utilised to analyse the impact of the estimated trip generation volumes on the operational efficiency of the junctions selected for detailed analysis.

This analysis is undertaken for both the year of opening of the proposed development and the 'design years' five and fifteen years thereafter.

This methodology is consistent with the following sections required within a basic Traffic and Transport Assessment for compliance with the 2014 TTA Guidelines:

- Introduction / Existing conditions
- Extent of proposed development (including existing and future public transport and walking / cycling facilities)
- Vehicular Trip Generation
- Vehicular Trip Distribution / Assignment to network
- Impact on road network of trips generated by proposed development

6.1.2 SITE ACCESS TO LOCAL ROAD NETWORK

The 1 No. site entrance accesses directly onto the L1020 (Cookstown Road).

In the westbound direction, Cookstown Road accesses directly onto the R760 (Church Hill), which is a two-way regional road.

In the eastbound direction, Cookstown Road accesses directly onto the R117 (Bray Road), which is a 2-way regional road, which then accesses directly onto the northbound carriageway of the N11.

Appendix 1 contains a site layout of the proposed development, detailing the priority junction linking the proposed development to the L1020. Refer to BMCE drawing no. C1011 for further details.

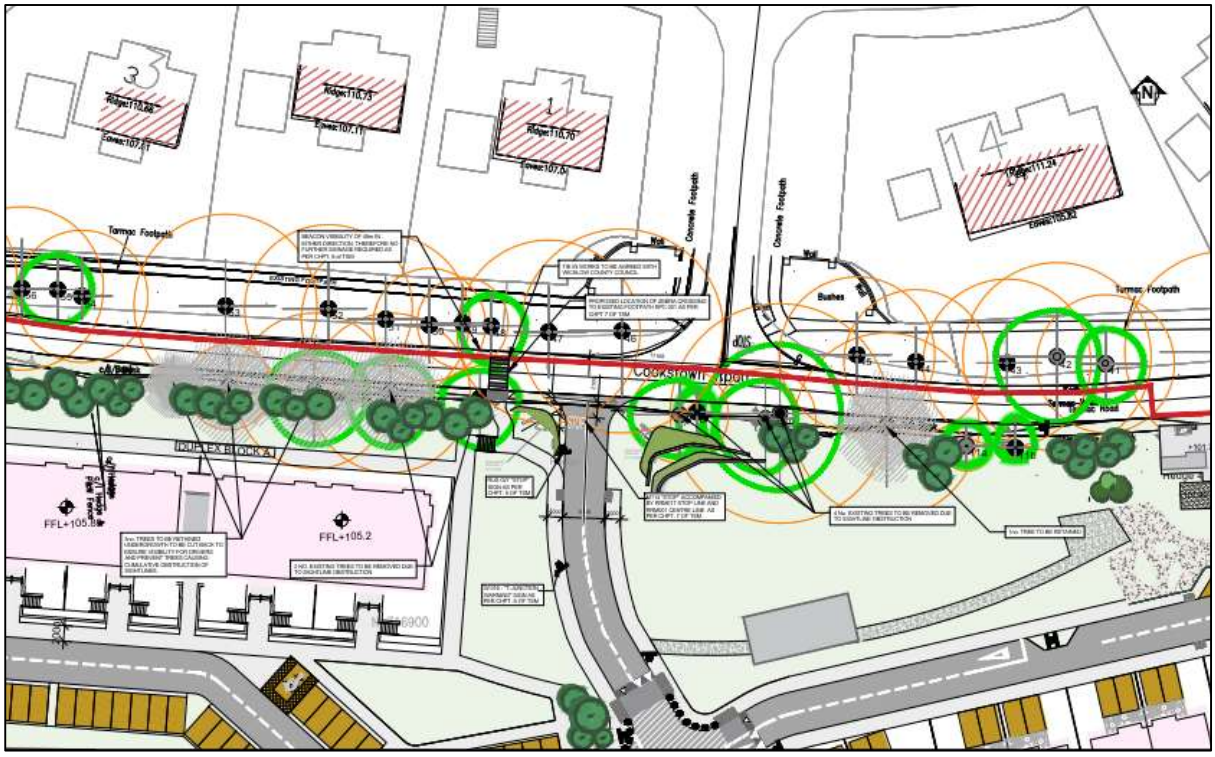


Figure 6-1 - Extract from Barrett Mahony Roads Drawing C1011

Figure 6-2 contains a site location map of the proposed development, indicating its location relative to Enniskerry village and the N11.

Figure 6-2 - Site Location Map

The location of the 3 No. traffic surveys (numbered 1 to 3), is contained within Figure 6-3.

Figure 6-3 - Site location map also indicating location of 3 No. traffic surveys.

6.1.3 SCOPE OF THE TRAFFIC & TRANSPORT ASSESSMENT

This section of the assessment is structured in order to address in detail the 5 No. stages of stated methodology as detailed within Section 6.1.1 above.

Section 6.2 provides details of the receiving environment, detailing existing conditions pertaining at the site of the proposed development and the surrounding local road network.

Section 6.3 details the trip generation, trip distribution process, assigning the estimated flows to the junctions chosen for analysis.

Section 6.4 details an analysis of the traffic impact of the proposed and adjacent planned development on nearby critical junctions for the existing situation, the estimated year of opening, and within the design years, five and fifteen years thereafter.

Section 6.5 makes some concluding comments regarding the sustainability of the proposed project in transport impact terms.

6.2 THE RECEIVING ENVIRONMENT

6.2.1 LOCATION OF PROPOSED DEVELOPMENT

The general location of the subject site in relation to the surrounding road network is illustrated in Figure 6.2.

6.2.2 EXISTING AND PROPOSED TRANSPORT INFRASTRUCTURE

6.2.2.1 Existing Public Transport Provision

Figure 6-4 details the existing bus routes running close to the site of the proposed development.

Figure 6-4: Existing routes in proximity to the site of the proposed development

The No. 44 (Dublin Bus) and No. 185 (Go Ahead) routes run close to the subject site.

The frequency of each route during the morning peak is detailed within Table 2-1.

Route	Origin	Destination	Frequency (08:00 – 09:00)
44	Enniskerry	DCU via O'Connell St	1 PER HOUR
185	Enniskerry	Bray Station	1 PER HOUR
TOTAL	-	-	**2 PER HOUR**

Table 6-1: Frequency of existing bus routes serving subject site

6.2.2.2 Proposed Public Transport Provision

Figure 6-5 details the proposed bus routes under the Bus Connects Plan:

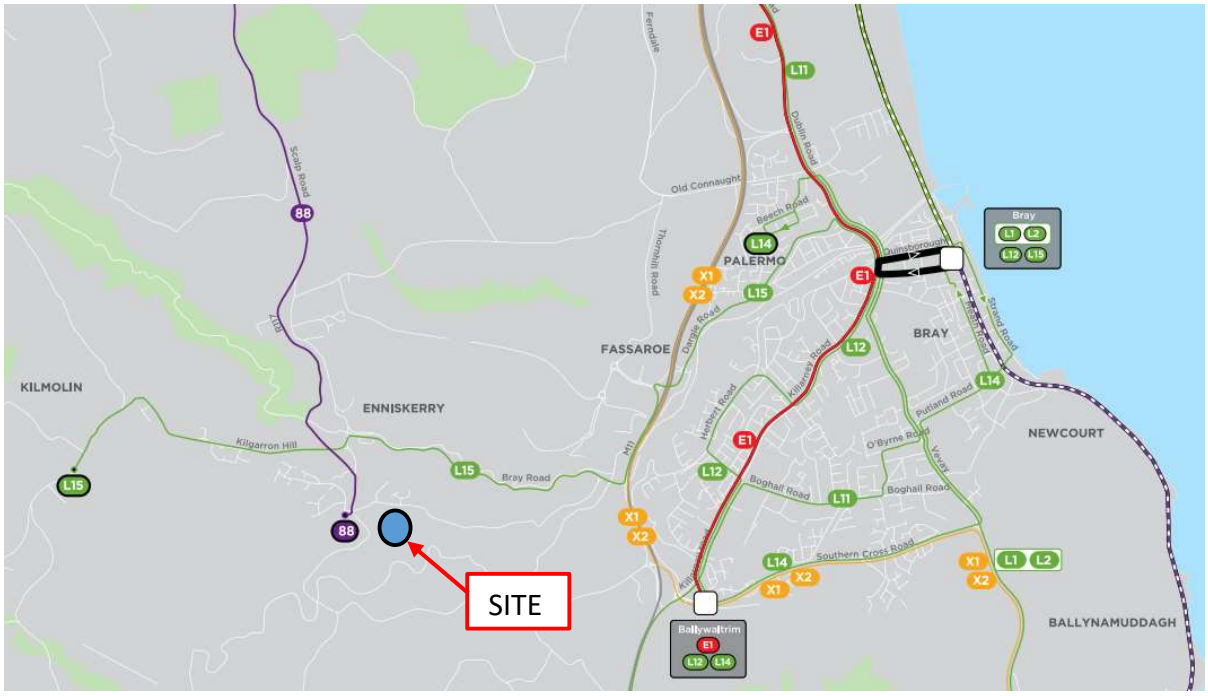


Figure 6-5: Proposed bus routes in proximity to the proposed development

Route L15, running every 40 minutes, will replace the current No. 185 route as the link from Bray to Enniskerry. While the No. 88 route will replace the current No. 44 route which links Enniskerry to Kilternan, Sandyford and the city centre.

6.2.2.3 Existing Cycling Provision

Figure 6-6 confirms that there are no existing cycling facilities in the vicinity of Enniskerry village. All existing facilities are located east of the N11.

Figure 6-6: Existing cycling facilities (dedicated cycle lanes) in proximity to Enniskerry/ N11.

6.2.2.4 Proposed Cycling Provision

Figure 6-7 details the proposed cycleways in the vicinity of Enniskerry:

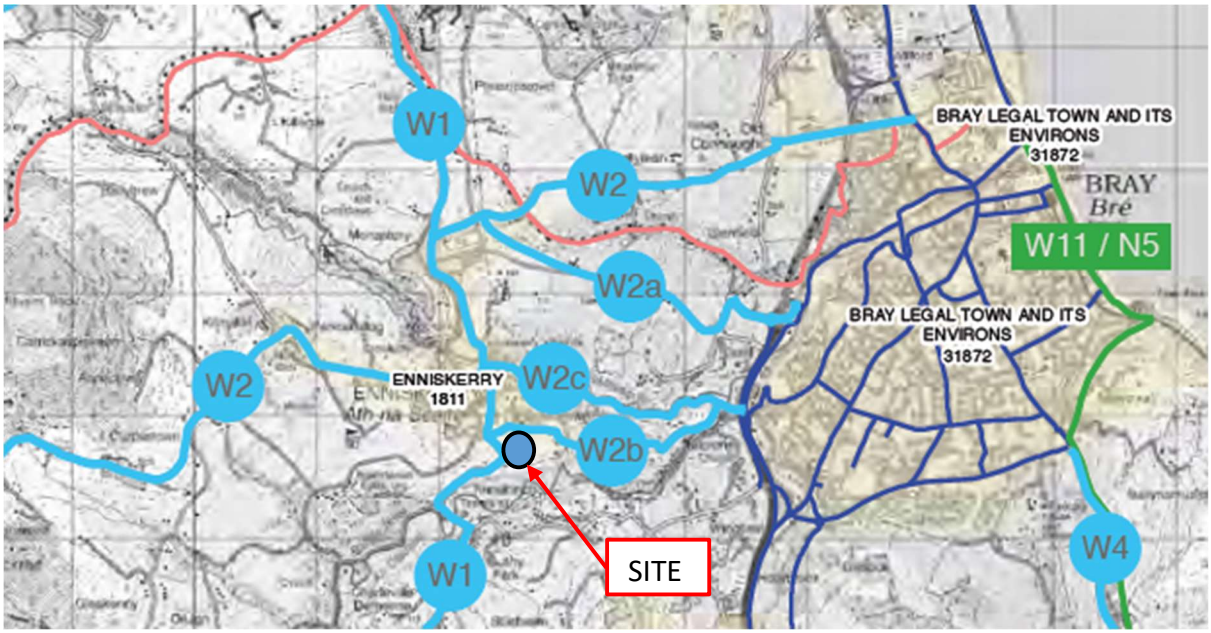


Figure 6-7: Cycle routes in vicinity of proposed development

There are 2 No. proposed routes close to the subject site, the W1 and W2 routes.

The W1/D1 route runs from Dublin to Kilternan, the Scalp, Enniskerry and Djouce. It is the main access route from Dublin to the Wicklow Mountains for recreational cyclists.

The W2 route runs from Bray to Enniskerry, Glencree and Military Road.
It is divided as follows:

- The W2a route runs Bray to Enniskerry via Berryfield Lane to the south (partly private road) connecting to Fassaroe.
- The W2b route runs from Bray to Enniskerry via local road at Cookstown, passing the site of the proposed development.
- The W2c route runs along the R117.

6.2.3 BASELINE TRAFFIC FLOWS

Results from the May 2019 traffic survey at the 3 No. locations are detailed within Appendix 2.

Appendix 3 contains diagrammatic representations of the baseline flows, with Diagram 1 detailing the morning peak hour flows and Diagram 2 the evening peak hour flows.

6.3 TRIP GENERATION, DISTRIBUTION AND ASSIGNMENT FOR PROPOSED DEVELOPMENT

6.3.1 TRIPS GENERATED BY PROPOSED DEVELOPMENT

In the interests of consistency, the trip rates for houses as detailed within the Waterman Moylan March 2019 Kilgarron report will be utilised within this report.

		Weekday AM		Weekday PM	
		IN	OUT	IN	OUT
Houses	Trips/Unit	0.149	0.466	0.507	0.277

Table 6-2: Peak hour trip rates for apartments within development site

On the basis of 165 No. units, the above typical TRICS trip rates give rise to the following weekday morning peak, evening peak and all-day trip rates for the proposed apartment development:

		Weekday AM		Weekday PM	
	Units (No.)	IN	OUT	IN	OUT
Houses	165	25	77	84	46
		1.7 No. Vehicles/minute		2.16 Vehicles/minute	

Table 6-3: Peak hour flows generated by proposed development site

The above flows are light, with exiting vehicles in the morning peak hour and entering vehicles during the evening peak hour at approximately 1.3 No. vehicles per minute, with flows in the non-peak direction 32% to 54% of their peak direction values respectively.

Details of these trip rates are included within Appendix 4.

6.3.2 TRIPS GENERATED BY NEARBY PLANNED KILGARRON DEVELOPMENT

The diagrammatic representation of trips generated by the proposed Kilgarron development, as detailed within the Waterman Moylan TTA, indicates an assumption that the majority of generated trips will enter and exit via Enniskerry village rather than exiting towards / entering from the Cookstown Road direction.

Thus, the generated flows from the Kilgarron site will have no perceptible effect on the analysis for the proposed development on Cookstown Road. This will not give rise to significant traffic flows and will not have a significant impact because it's sole access is onto the R760.

6.3.3 DISTRIBUTION OF GENERATED FLOWS FROM PROPOSED DEVELOPMENT

Based on the existing network flows as detailed within Diagrams 1 and 2 within Appendix 3, the following distributions can be assumed:

L1020 (Cookstown Road) / Development Entrance
Morning peak
Outbound traffic
50% to east
50% to west
Inbound traffic
50% to east
50% to west

Evening Peak
Outbound traffic
50% to east
50% to west
Inbound traffic

70% from west
30% from east

Survey Site 1 – *L1020 (Cookstown Road)* / R760
Morning peak
Outbound traffic
50% to north (towards Enniskerry)
50% to south
Inbound traffic
50% from north (from Enniskerry)
50% from south

Evening Peak
Outbound traffic
30% to north (towards Enniskerry)
70% to south
Inbound traffic
70% from north (from Enniskerry)
30% from south

Survey Site 2 – L1020 (Cookstown Road) / R117
Morning peak
Outbound traffic
50% to west
50% to east (towards N11)
Inbound traffic
50% from west
50% from east (from N11)

Evening Peak
Outbound traffic
30% to west
70% to east (towards N11)
Inbound traffic
50% from west
50% from east (from N11)

Site 3 – N11 / R117
Morning peak
Outbound traffic
100% to north (towards Dublin)
Inbound traffic
0% from north
100% from south (from the Wicklow Town direction)

Evening Peak
Outbound traffic
Outbound traffic
100% to north (towards Dublin)
Inbound traffic
0% from north
100% from south (from the Wicklow Town direction)

Diagram 1 within Appendix 5 details the assumed distributions for the AM peak hour generated flows.

Diagram 2 within Appendix 5 details the assumed distributions for the PM peak hour generated flows.

6.3.4 TRIP ASSIGNMENT

The 2014 Traffic and Transport Assessment Guidelines published by the NRA requires that the relevant junctions be analysed for the existing situation, the year of opening (2023) with the proposed and adjacent developments in place, the Design year 1 (year of opening plus 5) with the proposed and adjacent developments in place, and the Design year 2 (year of opening plus 15) with the proposed and adjacent developments in place. In order to bring focus to the analysis, design year 1 has been omitted from those junctions fully analysed.

An annual growth rate of 1.4% has been assumed for the period 2019 to 2030, decreasing to 0.5% for 2031 to 2038, based on the medium growth estimate for Wicklow County Council published by TII in 2017 (PE-PAG-02017).

The 2023 Do-Nothing ('without development') scenario for the morning and evening peak is derived by factoring the survey results in Diagrams 1 and 2 in Appendix 3 up by 5.7% ($(1.014)^4$ - 1 = 0.057). The 2023 Do-Something ('with development') scenario is derived by adding the flows within Diagrams 1 and 2 in Appendix 5 to the Do-Nothing flows (AM and PM respectively).

The 2028 Do-Nothing ('without development') scenario for the morning and evening peak is derived by factoring the survey results in Diagrams 1 and 2 in Appendix 3 up by 13.3% ($(1.014)^9$ - 1 = 0.133). The 2023 Do-Something ('with development') scenario is derived by adding the flows within Diagrams 1 and 2 in Appendix 5 to the Do-Nothing flows (AM and PM respectively).

The 2038 Do-Nothing ('without development') scenario for the morning and evening peak is derived by factoring the survey results in Diagrams 1 and 2 in Appendix 3 up by 21.3% ($(1.014)^{11}(1.005)^8$ – 1) = 0.213). The 2023 Do-Something ('with development') scenario is derived by adding the flows within Diagrams 1 and 2 in Appendix 5 to the Do-Nothing flows (AM and PM respectively).

The 2038 analysis constitutes a significantly conservative analysis, as given current transport policy in the Greater Dublin Area, where use of the private car for the trip to work is being actively discouraged and use of public transport and soft modes actively encouraged, it is highly unlikely that an increase in traffic volumes of 20% from now until 2038 will take place.

In reality, it could reasonably be assumed going forward that traffic volume increases during the morning and evening peaks will be marginal over the coming years.

6.3.5 TRAFFIC SURVEYS

Traffic surveys were carried out on Thursday 16th May 2019 at the 3 No. junctions specified within Section 6 of this report.

The location of the proposed development relative to the 3 No. nearby surveyed junctions is detailed within Figure 6-3.

Given that the proposed development is residential, peak flows will typically occur on weekdays, with peak flows typically occurring between 7am and 9am in the morning and between 4pm and 6pm in the evening.

The surveys were carried out over a 12-hour period between 0700 and 1900 in order to ascertain the peak hour flows for all traffic movements at the 3 No. junctions.

The surveys indicated that the weekday morning peak occurred between 0800 and 1000 with the evening peak occurring between 1600 and 1800 – these were observed to be the timeframes during which the junctions were most heavily loaded. The following analysis is based on these peak periods.

On the basis of the results of both the surveys and assumptions regarding when peak flows from the generated traffic will occur, the morning peak hour has been taken as 0800 to 0900, with the evening peak taken to occur between 1600 and 1700.

6.3.6 IMPACT OF GENERATED FLOWS ON 3 NO. CRITICAL JUNCTIONS PLUS PROPOSED DEVELOPMENT ENTRANCE

Table 4-3 indicates the total flows incident on all 3 No. junctions plus the location of the proposed development entrance during the morning and evening peaks resulting from surveyed network flows, generated flows from the subject site:

	NETWORK TRAFFIC (2019)		GENERATED TRAFFIC (2020)		PERCENTAGE INCREASE	
	AM	PM	AM	PM	AM	PM
DEVELOPMENT ENTRANCE / L1020	179	108	104	130	57	120
Site 1 - L1020 / R760	503	709	54	82	10.7	11.6
Site 2 - L1020 / R117	447	471	54	48	12.1	10.2
Site 3 - N11 / R117	6633	6566	27	29	0.41	0.44

Table 6-4: Impact of generated flows on critical nearby junctions

The 2014 Traffic and Transport Assessment Guidelines requires the impact of the additional traffic volumes on the critical nearby junctions to be assessed in detail if:

- Development flows exceed 10% of existing turning movements at the two relevant junctions;
- Development flows exceed 5% of turning movements if the location has the potential to become congested.

Three of the four junctions are above the 10% threshold and will thus be analysed within Section 6.4 below (Development entrance, site 1 and site 2).

6.4 TRAFFIC IMPACT ASSESSMENT OF 3 NO. CRITICAL JUNCTIONS IN PROXIMITY TO THE SUBJECT SITE

6.4.1 INTRODUCTION

Section 6.4.2 contains the traffic analysis for the development entrance

The traffic analysis will analyse the performance of Site Nos. 1 and 2 for the following 7 No. scenarios:

- Existing flows (AM and PM peak) (excluding development entrance) – Scenario No. 1
- Year-of Opening (2023) flows with no development in place (AM and PM peak Do-Nothing) – Scenario No. 2
- Year-of Opening (2023) flows with proposed development in place (AM and PM peak Do-Something) – Scenario No. 3
- Year-of Opening +5yrs (2028) flows with no development in place (AM and PM peak Do-Nothing) – Scenario No. 4
- Year-of Opening +5yrs (2028) flows with proposed development in place (AM and PM peak Do-Something) – Scenario No. 5
- Year-of Opening +15yrs (2038) flows with no development in place (AM and PM peak Do-Nothing) – Scenario No. 6
- Year-of Opening +15yrs (2038) flows with proposed development in place (AM and PM peak Do-Something) – Scenario No. 7

The development entrance junction will be analysed for Scenario No. 3, 5 and 7 (3 No. scenarios).

The PICADY programme from the Junctions 9 suite will be used to analysis all priority junctions for all relevant scenarios.

6.4.2 ANALYSIS OF DEVELOPMENT ENTRANCE / COOKSTOWN ROAD (L1020) PRIORITY JUNCTION

Full details of the analysis of the proposed Development Entrance / Cookstown Road priority junction are contained within Appendix 6.

Table 6-5 immediately below summarises the critical flows, capacities, RFC's and queue lengths for the morning and evening peaks for each of the three relevant scenarios:

Scenario No.1	**2023 AM PEAK FLOWS (Do-Something)**				**2023 PM PEAK FLOWS (Do-Something)**			
	Flow (PCU/TS)	**Cap.** (PCU/TS)	**RFC (-)**	**Avg. queue** (PCU)	**Flow** (PCU/TS)	**Cap.** (PCU/TS)	**RFC (-)**	**Avg. queue** (PCU)
Development exit left/right onto Cookstown Road (B-AC)	20	130.32	0.15	1	12	137.57	0.09	1
Cookstown Rd eastbound entering right into Development (C-AB)	3.79	163.84	0.02	0	7.10	162.29	0.04	1
Scenario No.2	**2028 AM PEAK FLOWS (Do-Something)**				**2028 PM PEAK FLOWS (Do-Something)**			
	Flow (PCU/TS)	**Cap.** (PCU/TS)	**RFC (-)**	**Avg. queue** (PCU)	**Flow** (PCU/TS)	**Cap.** (PCU/TS)	**RFC (-)**	**Avg. queue** (PCU)
Development exit left/right onto Cookstown Road (B-AC)	20	129.37	0.16	1	12	137.13	0.09	1
Cookstown Rd eastbound entering right into Development (C-AB)	3.85	164.57	0.02	0	7.20	163.42	0.04	1
Scenario No.3	**2038 AM PEAK FLOWS (Do-Something)**				**2038 PM PEAK FLOWS (Do-Something)**			
	Flow (PCU/TS)	**Cap.** (PCU/TS)	**RFC (-)**	**Avg. queue** (PCU)	**Flow** (PCU/TS)	**Cap.** (PCU/TS)	**RFC (-)**	**Avg. queue** (PCU)
Development exit left/right onto Cookstown Road (B-AC)	20	128.32	0.16	1	12	136.68	0.09	1
Cookstown Rd eastbound entering right into Development (C-AB)	3.93	166.00	0.02	0	7.29	164.56	0.04	1

Table 6-5: Critical flows, capacities, ratios of flow to capacity and queue lengths for each 15-minute interval during the morning and evening peak hours for each scenario

All approaches will be within capacity at all times during both peaks on the projected day of opening of the proposed development in 2023, and will remain so by 2038, 15 years thereafter.

A minimum of 84% spare capacity exists on all opposed movement over all peak times by 2038.

Queuing at present is at very low levels for turning movements at the junctions during the morning and evening peaks, with queuing on any opposed movement never exceeding 1 No. vehicle.

The proposed junction will thus be lightly trafficked with minimal queuing and delays predicted.

6.4.3 ANALYSIS OF R760 / COOKSTOWN ROAD (L1020) / POWERSCOURT PRIORITY JUNCTION

Full details of the analysis of the R760 / Cookstown Road priority junction are contained within Appendix 6.

Table 6-6 immediately below summarises the critical flows, capacities, RFC's and queue lengths for the morning and evening peaks for each of the five scenarios:

Scenario No.1	EXISTING AM PEAK FLOWS				EXISTING PM PEAK FLOWS			
	Flow (PCU/TS)	Cap. (PCU/TS)	RFC (-)	Avg. queue (PCU)	Flow (PCU/TS)	Cap. (PCU/TS)	RFC (-)	Avg. queue (PCU)
Cookstown Rd exit left/right (B-ACD)	39.00	112.87	0.35	1	8.00	98.89	0.08	1
R760 from the North right-turning (A-BCD)	37.16	153.77	0.24	1	45.67	209.88	0.22	1
Powerscourt exit left/right (D-ABC)	27.00	129.47	0.21	1	64.00	130.83	0.49	1
R760 from the South right-turning (C-ABD)	8.89	164.93	0.05	1	3.31	130.26	0.03	0
Scenario No.2	**2023 AM PEAK FLOWS (Do-Nothing)**				**2023 PM PEAK FLOWS (Do-Nothing)**			
	Flow (PCU/TS)	Cap. (PCU/TS)	RFC (-)	Avg. queue (PCU)	Flow (PCU/TS)	Cap. (PCU/TS)	RFC (-)	Avg. queue (PCU)
Cookstown Rd exit left/right (B-ACD)	41.00	112.08	0.37	1	8.00	97.08	0.08	1
R760 from the North right-turning (A-BCD)	39.62	154.23	0.26	1	48.99	213.08	0.23	1
Powerscourt exit left/right (D-ABC)	29.00	128.61	0.23	1	68.00	130.00	0.52	2
R760 from the South right-turning (C-ABD)	9.02	165.56	0.05	1	3.34	129.52	0.03	0
Scenario No.3	**2023 AM PEAK FLOWS (Do-Something)**				**2023 PM PEAK FLOWS (Do-Something)**			
	Flow (PCU/TS)	Cap. (PCU/TS)	RFC (-)	Avg. queue (PCU)	Flow (PCU/TS)	Cap. (PCU/TS)	RFC (-)	Avg. queue (PCU)
Cookstown Rd exit left/right (B-ACD)	51.00	114.21	0.45	1	14.00	102.31	0.14	1
R760 from the North right-turning (A-BCD)	40.17	154.94	0.26	1	52.66	219.27	0.24	1
Powerscourt exit left/right (D-ABC)	29.00	128.18	0.23	1	68.00	128.10	0.53	2
R760 from the South right-turning (C-ABD)	9.02	165.35	0.05	1	8.92	127.02	0.07	1
Scenario No.4	**2028 AM PEAK FLOWS (Do-Nothing)**				**2028 PM PEAK FLOWS (Do-Nothing)**			
	Flow (PCU/TS)	Cap. (PCU/TS)	RFC (-)	Avg. queue (PCU)	Flow (PCU/TS)	Cap. (PCU/TS)	RFC (-)	Avg. queue (PCU)
Cookstown Rd exit left/right (B-ACD)	44.00	110.33	0.40	1	9.00	93.35	0.10	1
R760 from the North right-turning (A-BCD)	42.93	153.79	0.28	1	55.46	218.14	0.25	1
Powerscourt exit left/right (D-ABC)	31.00	127.48	0.24	1	72.00	128.57	0.56	2
R760 from the South right-turning (C-ABD)	10.52	167.11	0.06	1	3.34	127.04	0.03	0
Scenario No.5	**2028 AM PEAK FLOWS (Do-Something)**				**2028 PM PEAK FLOWS (Do-Something)**			
	Flow (PCU/TS)	Cap. (PCU/TS)	RFC (-)	Avg. queue (PCU)	Flow (PCU/TS)	Cap. (PCU/TS)	RFC (-)	Avg. queue (PCU)
Cookstown Rd exit left/right (B-ACD)	54.00	112.32	0.48	1	15.00	100.39	0.15	1
R760 from the North right-turning (A-BCD)	43.54	154.50	0.28	1	59.26	223.69	0.26	1
Powerscourt exit left/right (D-ABC)	31.00	126.66	0.24	1	72.00	126.70	0.57	2
R760 from the South right-turning (C-ABD)	13.16	166.90	0.08	1	8.94	124.77	0.07	1
Scenario No.6	**2038 AM PEAK FLOWS (Do-Nothing)**				**2038 PM PEAK FLOWS (Do-Nothing)**			
	Flow (PCU/TS)	Cap. (PCU/TS)	RFC (-)	Avg. queue (PCU)	Flow (PCU/TS)	Cap. (PCU/TS)	RFC (-)	Avg. queue (PCU)
Cookstown Rd exit left/right (B-ACD)	47.00	108.87	0.43	1	10.00	90.78	0.11	1
R760 from the North right-turning (A-BCD)	45.76	154.71	0.30	1	62.03	222.71	0.28	1
Powerscourt exit left/right (D-ABC)	33.00	126.55	0.26	1	78.00	127.36	0.61	2
R760 from the South right-turning (C-ABD)	10.67	167.76	0.06	1	4.54	126.60	0.04	0
Scenario No.7	**2038 AM PEAK FLOWS (Do-Something)**				**2038 PM PEAK FLOWS (Do-Something)**			
	Flow (PCU/TS)	Cap. (PCU/TS)	RFC (-)	Avg. queue (PCU)	Flow (PCU/TS)	Cap. (PCU/TS)	RFC (-)	Avg. queue (PCU)
Cookstown Rd exit left/right (B-ACD)	57.00	110.74	0.51	1	16.00	95.42	0.17	1
R760 from the North right-turning (A-BCD)	46.10	154.74	0.30	1	66.71	228.97	0.29	1
Powerscourt exit left/right (D-ABC)	33.00	125.75	0.26	1	78.00	125.50	0.62	2
R760 from the South right-turning (C-ABD)	13.35	167.55	0.08	1	9.11	124.10	0.07	1

Table 6-6: Critical flows, capacities, ratios of flow to capacity and queue lengths for each 15-minute interval during the morning and evening peak hours for each scenario

All approaches will be within capacity at all times during both peaks on the projected day of opening of the proposed development in 2023, and will remain so by 2038, 15 years thereafter.

A minimum of 38% spare capacity exists on all opposed movement over all peak times.

Queuing at present is at very low levels for turning movements at the junctions during the morning and evening peaks, with queuing on any opposed movement never exceeding 2 No. vehicles.

The existing junction will thus continue to be lightly trafficked with minimal queuing and delays predicted.

6.4.4 ANALYSIS OF R117 / COOKSTOWN ROAD (L1020) / POWERSCOURT PRIORITY JUNCTION

Full details of the analysis of the R117 / Cookstown Road priority junction are contained within Appendix 6.

Table 6-7 immediately below summarises the critical flows, capacities, RFC's and queue lengths for the morning and evening peaks for each of the five scenarios:

Scenario No.1	EXISTING AM PEAK FLOWS				EXISTING PM PEAK FLOWS			
	Flow (PCU/TS)	**Cap.** (PCU/TS)	**RFC** (-)	**Avg. queue** (PCU)	**Flow** (PCU/TS)	**Cap.** (PCU/TS)	**RFC** (-)	**Avg. queue** (PCU)
Cookstown Road exit left/right onto R117 (B-AC)	26.00	116.04	0.22	1	25.00	112.96	0.22	1
R117 eastbound entering right into Cookstown Road (C-AB)	12.82	160.23	0.08	1	3.00	182.38	0.02	0
Scenario No.2	**2023 AM PEAK FLOWS (Do-Nothing)**				**2023 PM PEAK FLOWS (Do-Nothing)**			
	Flow (PCU/TS)	**Cap.** (PCU/TS)	**RFC** (-)	**Avg. queue** (PCU)	**Flow** (PCU/TS)	**Cap.** (PCU/TS)	**RFC** (-)	**Avg. queue** (PCU)
Cookstown Road exit left/right onto R117 (B-AC)	27.00	114.34	0.24	1	26.00	111.84	0.23	1
R117 eastbound entering right into Cookstown Road (C-AB)	14.32	160.77	0.09	1	3.00	184.03	0.02	0
Scenario No.3	**2023 AM PEAK FLOWS (Do-Something)**				**2023 PM PEAK FLOWS (Do-Something)**			
	Flow (PCU/TS)	**Cap.** (PCU/TS)	**RFC** (-)	**Avg. queue** (PCU)	**Flow** (PCU/TS)	**Cap.** (PCU/TS)	**RFC** (-)	**Avg. queue** (PCU)
Cookstown Road exit left/right onto R117 (B-AC)	37.00	116.54	0.32	1	32.00	112.32	0.28	1
R117 eastbound entering right into Cookstown Road (C-AB)	15.63	160.35	0.10	1	7.50	183.22	0.04	1
Scenario No.4	**2028 AM PEAK FLOWS (Do-Nothing)**				**2028 PM PEAK FLOWS (Do-Nothing)**			
	Flow (PCU/TS)	**Cap.** (PCU/TS)	**RFC** (-)	**Avg. queue** (PCU)	**Flow** (PCU/TS)	**Cap.** (PCU/TS)	**RFC** (-)	**Avg. queue** (PCU)
Cookstown Road exit left/right onto R117 (B-AC)	30.00	113.41	0.26	1	26.00	110.70	0.25	1
R117 eastbound entering right into Cookstown Road (C-AB)	14.64	161.81	0.09	1	3.09	186.85	0.02	0
Scenario No.5	**2028 AM PEAK FLOWS (Do-Something)**				**2028 PM PEAK FLOWS (Do-Something)**			
	Flow (PCU/TS)	**Cap.** (PCU/TS)	**RFC** (-)	**Avg. queue** (PCU)	**Flow** (PCU/TS)	**Cap.** (PCU/TS)	**RFC** (-)	**Avg. queue** (PCU)
Cookstown Road exit left/right onto R117 (B-AC)	40.00	115.13	0.35	1	34.00	110.92	0.31	1
R117 eastbound entering right into Cookstown Road (C-AB)	17.32	161.60	0.11	1	9.29	186.25	0.05	1
Scenario No.6	**2038 AM PEAK FLOWS (Do-Nothing)**				**2038 PM PEAK FLOWS (Do-Nothing)**			
	Flow (PCU/TS)	**Cap.** (PCU/TS)	**RFC** (-)	**Avg. queue** (PCU)	**Flow** (PCU/TS)	**Cap.** (PCU/TS)	**RFC** (-)	**Avg. queue** (PCU)
Cookstown Road exit left/right onto R117 (B-AC)	31.00	111.74	0.28	1	30.00	108.99	0.28	1
R117 eastbound entering right into Cookstown Road (C-AB)	16.23	162.37	0.10	1	3.17	189.20	0.02	0
Scenario No.7	**2038 AM PEAK FLOWS (Do-Something)**				**2038 PM PEAK FLOWS (Do-Something)**			
	Flow (PCU/TS)	**Cap.** (PCU/TS)	**RFC** (-)	**Avg. queue** (PCU)	**Flow** (PCU/TS)	**Cap.** (PCU/TS)	**RFC** (-)	**Avg. queue** (PCU)
Cookstown Road exit left/right onto R117 (B-AC)	41.00	113.38	0.36	1	36.00	109.31	0.33	1
R117 eastbound entering right into Cookstown Road (C-AB)	18.95	161.95	0.12	1	9.54	188.60	0.05	1

Table 6-7: Critical flows, capacities, ratios of flow to capacity and queue lengths for each 15-minute interval during the morning and evening peak hours for each scenario

All approaches will be within capacity at all times during both peaks on the projected day of opening of the proposed development in 2023, and will remain so by 2038, 15 years thereafter.

A minimum of 64% spare capacity exists on all opposed movement over all peak times.

Queuing at present is at very low levels for turning movements at the junctions during the morning and evening peaks, with queuing on any opposed movement never exceeding 1 No. vehicle.

The existing junction will thus continue to be lightly trafficked with minimal queuing and delays predicted.

6.5 SUMMARY COMMENTS ON TRAFFIC IMPACT OF PROPOSED DEVELOPMENT

6.5.1 SUMMARY OF THE TRAFFIC ANALYSIS

Section 6 of this report contains a Traffic and Transport Assessment for a residential development at Cookstown Road, consisting of 165 no. dwelling units plus crèche. It is proposed to provide 313 No. car parking spaces as outlined in Section 4.0, and cycle parking spaces as outlined in Section 3.0.

The function of this TTA is to quantify the existing transport environment in terms of the vehicular flows incident on it and to identify and assess the level of transport impact generated by the vehicular trips generated by both the proposed residential development as required by Wicklow County Council.

This TTA has carried out a range of assessments for the existing situation, within the year of opening in 2023, and within the 2028 (year of opening plus 5) and 2038 (year of opening plus 15) design years.

6.5.2 CONCLUSIONS FROM THE TRAFFIC ANALYSIS

Based on the data and evaluations within this TTA, the following conclusions can be made:

1. While there is limited cycle accessibility at present close to the site, future proposals as stated within the GDA Cycle Network Plan will improve accessibility levels.
2. The site is reasonably well served by public transport, with regular bus services from Enniskerry Village to Bray on onwards via the DART system.
3. Future proposals as stated within the Bus Connects Report will further improve public transport connectivity to Bray.
4. The network analysis within the TTA indicates that the 2 No. existing critical junctions in the vicinity of the proposed development presently work within capacity, and will continue to be so in 2028 and 2038, and that the proposed development entrance will work efficiently on the day of opening in 2023 and also 2028 and 2038.

7.0 WICKLOW COUNTY COUNCIL COMMENTS

7.1 INTRODUCTION

Feedback/comments were received from Wicklow County Council as part of their Action Review List, and this also incorporates additional comments from An Bord Pleanála. This section contains an extract of the comments relevant to this report. Please also refer to the DMURS Statement of Consistency Report submitted under separate cover with this application for further detail in relation to DMURS compliance.

7.2 EXTRACT FROM WCC REPORTS ACTION REVIEW LIST

	WCC Report Item	BMCE Response
11	This pattern of development can encourage a higher traffic speed which is not appropriate in residential areas and can result in low levels of permeability.	Due to the requirement to provide an unobstructed view of the Sugarloaf Mountain from the site entrance, the development layout has been heavily influenced in regard to the alignment of internal roads. We acknowledge that the layout required in order to maintain the protected view may be perceived to encourage higher traffic speeds, subsequently measures have been taken in accordance with the Traffic Management Guidelines to ensure traffic speeds are reduced. Firstly, all branches from the main spine road are short in length and serve small numbers of units, and naturally encourage lower speeds in these residential areas through the use of narrow carriageway-widths, home zones, level surfaces, street furniture, changes in horizontal alignment etc. Further traffic calming measures have been provided along the spine road in the form of build-outs and single way chicanes, which result in local narrowing of the carriageway-width. These narrowing's result in informal, self-enforcing traffic calming, which encourage slower speeds. The spine road alignment is not a true straight along its length, with gentle changes in horizontal alignment to break up the effective straight, and landscaping will similarly breakup forward visibility and provide a sense of enclosure, as the restriction on buildings along the protected sightline allows for wide open spaces adjacent to the road, which would encourage higher speeds if not controlled through measures such as these. Raised tables are provided at the 2no. four-arm junctions, and mid-way along the east side estate road to provide self-regulating traffic calming, to reduce vehicular speeds, and to improve safety for vulnerable road users. Finally, as the site has only one access and egress point, "rat-running" through the development is eliminated. However, pedestrian permeability is facilitated to adjacent lands, through a dedicated cycle/pedestrian path to the west, and the linear park to the south of the site. Similarly, footpaths are provided throughout the development with dedicated crossing points to allow for ease of access by pedestrians.
12	Should demonstrate development has been designed to ensure that a self-enforcing speed limit of 30km/r or less can be achieved	It is noted that the restrictions on the road layout enforced by the protected sightline make provision of a self-regulating speed limit challenging, and therefore

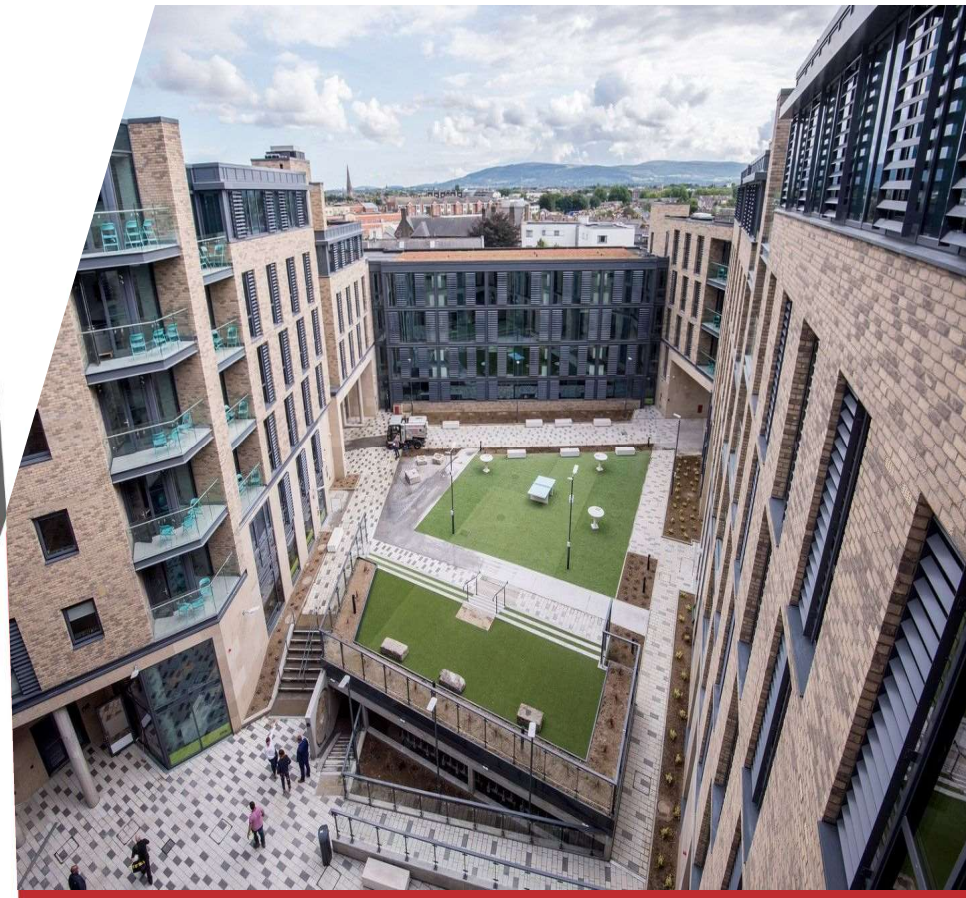
	without the need for traffic calming measures (ramps etc). In particular it should be demonstrated how forward visibility along the main spine road (north to south) is to be restricted.	where appropriate, traffic calming measures, including some vertical deflections at certain locations are required. The branch roads have been designed fully or in part as homezones, which will facilitate self-enforcing lower speeds due to narrowing of the carriageway and visually contrasting surface finishes. The main spine road does not lend itself to measures such as frequent, sharp changes in horizontal deflection. As such, some traffic calming measures are necessary. These measures have been designed with due regard to DMURS best practice, and measures such as isolated road-hump ramps are not considered. The primary measure implemented along the spine road has been a number of build outs to facilitate dedicated pedestrian crossing points. These combine two features of good practice in regard to reducing traffic speeds outlined in DMURS – frequent crossing points, and narrow carriage widths. Where suitable, chicanes have also been added to provide horizontal deflections along the spine road, which will similarly reduce the vehicle speeds. In line with the Traffic Management Guidelines, these have been provided at a frequency which is conducive to lower vehicle speeds. This represents a good balance between the need to maintain the protected view and the need to restrict vehicular speeds in a residential setting. Raised tables are provided at the 2no. four-arm junctions, and mid-way along the east side estate road to provide self-regulating traffic calming, to reduce vehicular speeds, and to improve safety for vulnerable road users such as pedestrians and cyclists.
13	Development should be designed to facilitate both pedestrian and cycle links to the adjoining development lands to the west. A layout plan showing the proposed development in context with the development permitted on the adjoining lands to the west (PRR19/871) should be submitted as part of any future application. This plan should clearly detail how connectivity and permeability between the two developments is to be achieved.	A dedicated pedestrian/cycle link is to be provided to the development to the west through one of the proposed residential roads. As well as this, there will be permeability possible through the linear park to the south of the development, which links both sites, as well as other local amenities such as the Lovers Leap public footpath to the south of the site.
14	Existing mature trees and vegetation along site boundaries should be retained in so far as possible. In particular mature trees and vegetation along the roadside boundary should be retained (where possible) and reinforced in order to retain the sylvan character of the area.	The existing Cookstown Road is 5m in width approx.., and as per Item 60, it has been requested that the road be upgraded to 5.5m width. Due to the position of the existing mature trees along the site boundary on the far side of the road, the road width will be maintained at 5m. This is deemed adequate for the proposed use.
18	Creche - Adequate car parking, based on the number of staff and children to be catered for, should be provided to serve this facility.	Adequate parking has been provided adjacent to the creche, see Section 4.0 of this report for parking number and Appendix 1 for parking layout.
25	• The application site is served by the L1020, a narrow poorly aligned rural road that is inadequate in terms of drainage, public lighting and public footpaths. This road will need to be up-graded to a suitable	• The existing Cookstown Road is 5m in width and due to position of the existing mature trees to be retained along the site boundary on the far side of the road, the road width will be maintained at 5m. This is deemed adequate for the proposed use. Public lighting will be

	standard in order to accommodate the traffic movements that are likely to be generated by this development. Any upgrade should have regard to the desire to retain mature roadside trees.	provided as part of the development. A new footpath, as per Section 3.0 of this report, will be provided along the southern side of Cookstown Road linking the Development with the existing pedestrian infrastructure in the area, while a new pedestrian zebra crossing connecting the development to the existing footpath at the northern side of Cookstown Road will also be provided. Existing drainage issues highlighted by the local authority in pre-planning discussions will be addressed through provision of new road gullies along Cookstown Road and new localised soakaway systems within the development to ensure adequate drainage of run-off and to avoid ponding of rainwater.
	• As it has been indicated that 50% of development traffic would be utilising the junction of the Cookstown Road and R760, an assessment of the development on this junction should be undertaken.	• See section 6.3, 6.4 and 6.5 of this report.
26	• Internal roads should be designed in accordance with the requirements of the Road Authority. Any application should be accompanied by a DMURS audit. • The proposed scheme should be designed to facilitate pedestrian and cycle linkages with the permitted development to the west (PRR19/871). A layout plan showing how this is to be achieved should be submitted as part of the application.	• This is noted, refer to previous points for response to same. • See sections 3.0 and 6.0 above, as well as drawings and the DMURS Statement of Compliance submitted as part of this application.
27	Where shared surfaces/ home zones are proposed they should be designed appropriately to ensure a safe environment for all users.	Homezones are to be designed in line with best practice and will have the following characteristics: • 4.8m carriage width + 1.2m footpaths, at same level with no segregation • Appropriate entry treatments will be provided at homezones to distinguish between standard carriageways and these shared surfaces • Homezones will be surfaced in a buff macadam to clearly differentiate from standard roads • Street furniture and planting will be provided along the homezone to break up long straights and provide semi-separation of road and footpath areas.
28	Internal roads should be designed to ensure the slow movement of traffic through the development without the need for traffic calming measures, in particular forward visibility along the main north-south spine road should be restricted.	Refer to Item 12.
29	• Parking facilities should be designed in accordance with County Development Plan standards as set out above. • Where parking isnot provided for within the curtilage of a residential unit, parking spaces should be allocated specifically for that unit at a convenient location for reasons of residential amenity.	• Parking numbers are contained in Section 4 of this report, and the parking layout is contained in Appendix 1. • Noted & complied with.

	• Visitors spaces should clearly marked.	• The majority of parking spaces are located within the curtilage of the houses. All remaining parking spaces will be marked/numbered.
	• The quantum of parking provided for the creche facility should be sufficient to cater for the scale of development proposed. Dual usage of parking spaces to serve the childcare facility and visitor parking for the adjoining residential units would be acceptable subject to appropriate layout and signage.	• Addressed in item 18 above.
	• Electric charging points should be provided for the use of residential units within Blocks C and D.	• 10 electric car charging points will be provided at specific locations around the site.
	• A parking layout plan, demonstrating compliance with the above should be submitted as part of the application.	• Refer to Design Statement submitted under separate cover as part of this planning pack.
39	Details of the connection points to the permitted development to the west should be detailed.	Details are on the drawings submitted as part of this planning application.
40	A crossing point should be provided north of the junction of roads 3 & 6 across the main estate road.	This has been amended on the drawings submitted as part of this planning application.
41	The footpath connection along the south of the Cookstown Road should be provided by the applicant.	A pedestrian crossing on the Cookstown Road has been proposed near the new road junction, to allow access to the existing footpath to the north of the Cookstown Road. This has been designed as a Zebra crossing, in line with other crossings within the area, and in line with the design guidelines for such crossings.
42	Macadam surfaces to have a maximum road width of 5.5m throughout the development. Home zone areas have a 4.8m road with footpath widths of 1.2m. These footpaths should be flush with the road surface and build-outs/planters interspersed along the footway. Surface materials and colours should be agreed with the Roads Authority.	This has been reflected on the amended design drawings. Carriageway widths on local streets are limited to 5.5m in width, while home-zone areas are designed to achieve a minimum carriageway width of 4.8m with 1.2m pedestrian comfort zones flush with the carriageway surface. Surface materials will be agreed with the Local Authority prior to construction stage to ensure specific areas are suitable for taking in charge.
44	Details of the transition from estate road to home zone area should be provided.	The homezone areas transition from standard carriageway via use of raised table areas at the four-arm junctions. These raised table areas are as indicated on the plan layout drawings submitted with this application, and form a natural “gateway” to the homezone environments.
45	Assessment should be undertaken of the effect of the development on the junction of Cookstown Road and R760 as detailed 50% of development traffic would be utilising this junction.	See section 6.3, 6.4 and 6.5 above.
48	Proposals for hedgerow removal, visibility improvements and traffic calming at the approach to the proposed site entrance needs clarification.	While the importance of retaining existing mature trees along Cookstown Road is acknowledged, provision of a safe development entrance with appropriate sightlines is required. BMCE drawing C-1014 indicates the required minimum sightlines, and includes annotation identifying the specific trees and vegetation to be removed to achieve those minimum sightlines. Speed limit signage and a new pedestrian zebra crossing along Cookstown Road will be provided which serve to

		encourage lower vehicular speeds in the vicinity of the development access junction.
49	The proposed development does not adequately prioritise sustainable transport modes.	See Sections 3.0 and 6.2 for information on pedestrian and cycling facilities, and information on existing and proposed public transport in the development vicinity. Cycle parking is provided within the development for use by the residents of the duplex apartments, as well as at the creche, while every effort has been made to provide a high degree of connectivity between the proposed development and existing pedestrian infrastructure in the surrounding area.
50	The internal cross roads are a major conflict area for pedestrians and no junction treatments are proposed to address pedestrian safety. Insufficient dished tactile crossing points are provided.	The design of the internal crossroads have been amended. Raised tables are now provided at the 2no. four-arm junctions to provide self-regulating traffic calming, to reduce vehicular speeds, and to improve safety for vulnerable road users. Dished crossing points throughout the development along pedestrian desire lines, complete with compliant tactile blister paving will be provided in line with the Traffic Management Guidelines.
51	A safe crossing point is also required at the proposed site entrance between the development and Enniskerry Demesne.	Speed limit signage and a new pedestrian zebra crossing along Cookstown Road will be provided which serve to encourage lower vehicular speeds in the vicinity of the development access junction, and provide safe pedestrian access between the proposed development and Enniskerry Demesne.
53	Safe crossing points for pedestrians and cyclists are also required at the proposed site entrance between the development and Enniskerry Demesne and across the R760 at the L1020, Cookstown Road junction.	A new pedestrian zebra crossing will link the development to the existing footpath at the north of Cookstown Road and provide connectivity with Enniskerry Demense as described above. A new footpath along the south of L1020 will link to the existing pedestrian crossing at Powerscourt National School. This ensures fully connected pedestrian routes between the development and Enniskerry Village.
54	The horizontal deflections are not adequate to regulate vehicle speeds sufficiently to address traffic safety at the internal cross roads.	Revised traffic calming measures have been discussed previously in point 11.
60	Prior to development, the public L1020 road should be increased to a minimum width of 5.5m, public lighting provided from the R760, footpath extended to the site entrance and a long term solution for road drainage be implemented.	Refer to Item 14. New road gullies and public lighting will be provided as described in Item 25.

BARRETT MAHONY
CONSULTING ENGINEERS
CIVIL & STRUCTURAL



APPENDIX 1

SITE LAYOUT

TYPE A

STANDARD 4 BED
26 NO.

140.53 SQM

TYPE B
(SEMI D/ END TERRACE)

STANDARD 3 BED
32 NO.

118.87 SQM

TYPE B1 (SIDE ENTRY)

STANDARD 3 BED
2 NO.

118.89 SQM

TYPE B2
(MID TERRACE)

STANDARD 3 BED
15 NO.

119.84 SQM

TYPE D

4 BED
2 NO.

143.60 SQM

TYPE E (SEMI D)

LARGE 4 BED
20 NO.

180.24 SQM

TYPE E1 (SIDE ENTRY)

LARGE 4 BED
8 NO.

181.78 SQM

TYPE F/F1

1 BED MAISONETTE
4 NO.
56.84 / 64.56

DUPLEX

Block A1, A2, B1, B2, C, D
56 NO. UNITS
3 Storey
Varies SQM

PUBLIC OPEN SPACE
0.4 Ha on Residential zoned lands
(7.7 % of 5.18 HA development area)
(0.3885 / 7.5% required as per AAP)
0.92 Ha on OSI zoned lands (Linear Park)

DUPLEX COMMUNAL SPACE
(COMBINED 0.106 Ha)

PRIVATE GARDENS

ROAD

HOME ZONE

PI# / PL# / MP# LIGHTING LAYOUT
(REFER TO SABRE PUBLIC LIGHTING LAYOUT)

PRIVATE CAR PARK SPACE (2 no. per house unit)

CRECHE CAR PARK SPACE (11 no.)

DUPLEX A CAR PARK SPACE (24 no.)

DUPLEX B CAR PARK SPACE (18 no.)

DUPLEX C & D CAR PARK SPACE (36 no.)

UNITS F CAR PARK SPACE (4 no.)

E CHARGING CAR PARK SPACE (10 no.)

Adjoining application Planning Reg. Ref. 19/871 under separate ownership

EXISTING TREES AND HEDGED ARE RETAINED

ACCESS TO LOVER'S LEAP LANE INCLUDED ON LANDSCAPE DRAWING

Golf Course

0M 50M 100M

NOTES / LEGEND

NORTH POINT

Map Series | Map Sheets
1:2,500 | 3616-B
1:2,500 | 3567-D

Levels taken from Survey

PLEASE REFER TO SABRE ELECTRICAL SERVICES LTD DRAWING SES 15220 FOR PUBLIC LIGHTING LEGEND AND SPECIFICATION

PLEASE REFER TO KFLA DRAWINGS FOR LANDSCAPING PROPOSAL

DRAWING INCLUDES OS MAP AND SURVEY INFORMATION FROM LAND SURVEYS (DRAWING REF D15391 - F)

OS Order No. #50102809

Centre Point Coordinates:
X,Y= 722662.0,716803.0

Key Plan:

Rev: Date: Description: By:

MOLA
2 Donnybrook Road, Donnybrook, Dublin 4, Ireland
Telephone +353 1 218 3900
www.molaarchitecture.com

Notes
Do not scale.
Use figured dimensions only.
This drawing is to be read in conjunction with all relevant specifications and drawings.
All dimensions to be checked on site.
In the event of any discrepancies between drawings, the contractor is to inform the Architect immediately.

Stage: PLANNING

Client: Cairn Homes Properties Ltd.

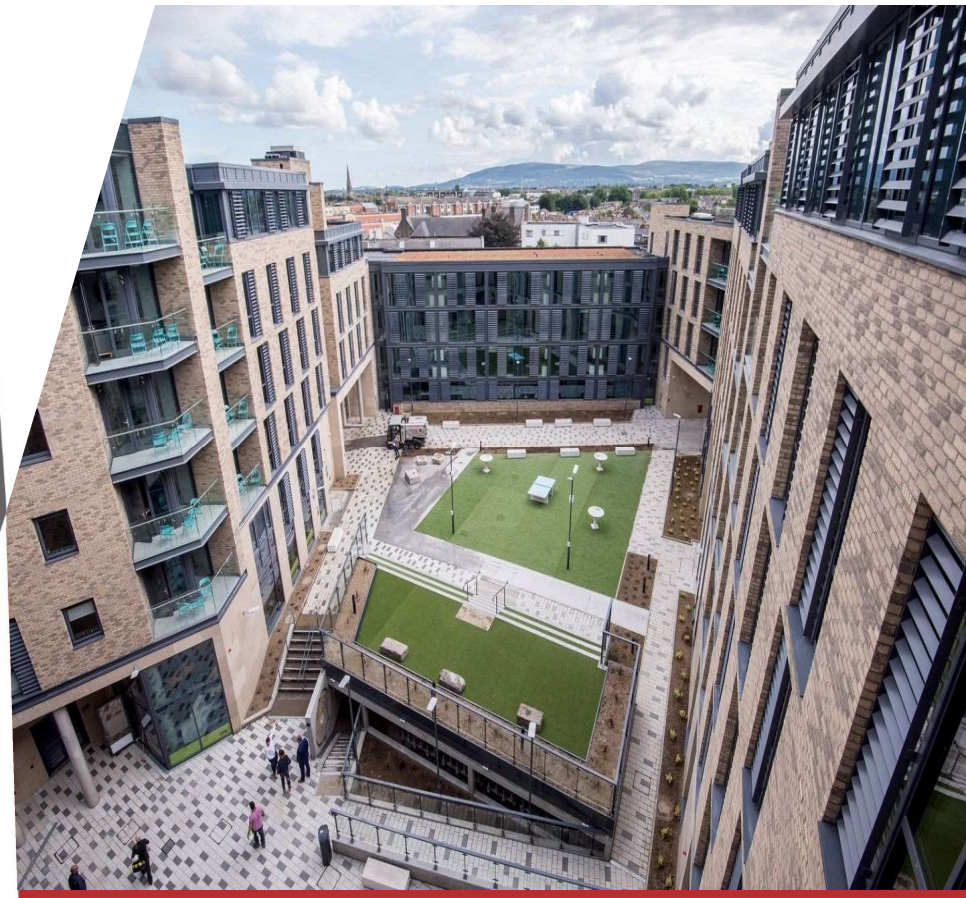
Project: Cookstown Road Enniskerry

Drawing: Site Plan

Date	Scale	Stage	Rv.	Job No
Dec 2020	1:500 at A0	3		19010

Drawing No.: 19010_MOLA_A00_00_DR_A_XX_A00_0103 Status: S0 Revision: 00

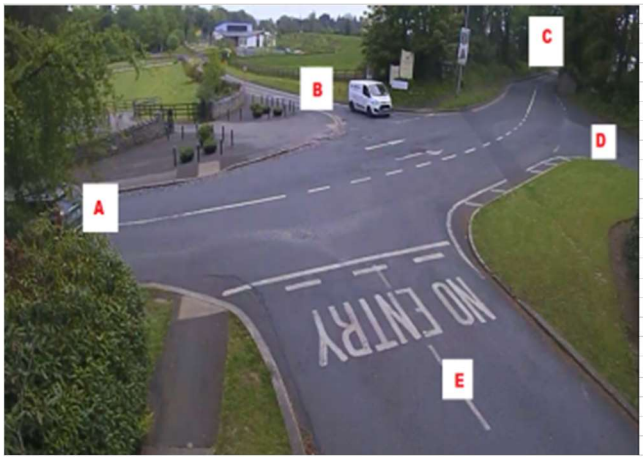
BM BARRETT MAHONY
CONSULTING ENGINEERS
CIVIL & STRUCTURAL



APPENDIX

2

TRAFFIC SURVEY OUTPUT



Irish Traffic Surveys

Irish Traffic Surveys Ltd	
Survey Name :	*ITS J309 Enniskerry*
Site:	Site 2
Date:	16/05/2019
Location:	Enniskerry

Irish Traffic Surveys Ltd

Survey Name :	*ITS J309 Enniskerry*
Site:	Site 2
Date:	16/05/2019
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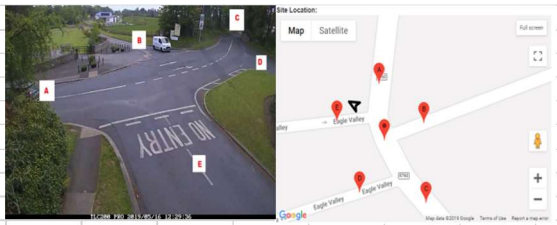
Irish Traffic Surveys



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07:30	0	0	0	0	0	0	0	0	0	0	4	0	1	0	0	5	0	0	2	0	0	0	0	2
07:45	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	0	0	5	3	0	0	0	8
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08:30	0	0	0	1	0	0	0	1	0	0	23	1	0	0	0	24	0	0	12	1	1	0	0	14
08:45	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	7	2	1	0	0	10
H/TOT	0	0	0	1	0	0	0	1	1	0	40	1	1	0	0	43	0	0	34	4	2	0	0	40
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09:45	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	3	0	5	0	0	0	0	8
H/TOT	0	0	0	0	0	0	0	0	0	0	24	1	0	0	0	25	4	0	38	4	0	1	1	48
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18:45	0	0	0	0	0	0	0	0	0	0	8	0	0	4	0	12	0	0	34	3	0	0	0	37
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P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT
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B => E								C => A								C => B							
P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT
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0	0	0	0	0	0	0	0	0	0	17	2	0	0	0	19	0	0	1	1	0	0	0	2
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0	0	0	0	0	0	0	0	1	0	11	0	0	0	0	12	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	0	13	1	0	0	0	15	0	0	1	0	0	0	0	1
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0	0	0	0	0	0	0	0	0	0	7	2	0	0	0	9	0	0	3	0	0	0	0	3
0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7	0	0	2	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	14	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8	0	0	1	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	33	3	1	0	0	37	0	0	4	0	0	0	0	4
0	0	0	0	0	0	0	0	5	4	385	42	8	1	3	448	1	0	36	2	0	0	0	39

4

C => C									C => D									C => E								
P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT		P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT		P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT
0	0	0	0	0	0	0	0		0	0	3	0	0	0	0	3		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	3	1	0	0	0	4		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	2	1	0	1	0	4		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	1	1	0	0	0	2		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	9	3	0	1	0	13		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	5	0	0	0	0	5		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	4	0	0	0	0	4		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	2	1	0	0	0	3		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	11	1	0	0	0	12		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	2	2	0	0	0	4		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	4	0	0	0	0	4		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	4	0	0	0	1	5		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	2	1	0	0	0	3		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	12	3	0	0	1	16		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	2	0	0	0	0	2		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	2	0	0	0	0	2		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	4	0	0	0	0	4		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	1	0	0	0	0	1		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	9	0	0	0	0	9		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	5	0	0	0	0	5		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	2	0	0	0	1	3		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	3	0	0	0	0	3		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	10	0	0	0	1	11		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	1	0	0	0	0	1		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	2	1	0	0	0	3		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	2	0	0	0	0	2		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	1	0	0	0	0	1		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	6	1	0	0	0	7		0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0		0	0	57	8	0	1	2	68		0	0	0	0	0	0	0	0

D => A								D => B								D => C							
P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1

D => D								D => E								E => A							
P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	1	0	0	9
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	2	0	1	0	11
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	1	0	2	13
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	1	0	0	0	11
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	3	2	1	2	44
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	1	0	0	0	22
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	13
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	1	1	0	1	11
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	0	1	11
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	2	1	0	2	25
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	1	0	0	0	14
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	43	3	0	0	0	47
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	334	14	8	1	11	374

E => B								E => C								E => D								E => E							
P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT
0	0	3	0	0	0	0	3	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
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0	1	18	4	0	0	0	23	0	0	7	4	0	0	1	12	0	0	6	1	0	0	0	7	0	0	0	0	0	0	0	0
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0	0	13	1	0	0	0	14	0	0	2	0	0	0	0	2	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	2	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	31	1	0	0	0	33	0	0	11	2	0	0	0	13	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0
1	2	163	6	0	0	0	172	0	1	105	10	3	1	1	121	0	0	28	1	0	0	0	29	0	0	0	0	0	0	0	0

Irish Traffic Surveys

Irish Traffic Surveys Ltd	
Survey Name :	*ITS J309 Enniskerry*
Site:	Site 3
Date:	16/05/2019
Location:	Enniskerry

Irish Traffic Surveys Ltd

Survey Name : *ITS J309 Enniskerry*
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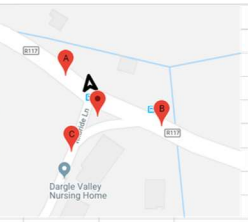
Irish Traffic Surveys



	A => A								A => B								A => C							
TIME	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT
07:00	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	20	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	17	2	1	1	1	22	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	23	6	2	0	0	31	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	2	0	15	2	2	0	1	22	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	2	0	75	10	5	1	2	95	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	24	3	2	0	0	29	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	19	3	2	0	3	27	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	1	29	4	1	0	0	35	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	1	32	2	0	0	0	35	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	2	104	12	5	0	3	126	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	0	33	2	1	0	0	36	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0	0	0	46	2	0	0	3	51	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0	2	0	41	2	1	1	2	49	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	1	0	27	6	2	1	0	37	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	3	0	147	12	4	2	5	173	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	1	39	3	3	1	0	47	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	1	35	4	0	0	0	40	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	1	35	2	0	0	1	39	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	1	0	44	3	1	0	1	50	0	0	2	0	0	0	0	2
H/TOT	0	0	0	0	0	0	0	0	1	3	153	12	4	1	2	176	0	0	2	0	0	0	0	2
17:00	0	0	0	0	0	0	0	0	1	0	47	4	3	0	3	58	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	55	11	2	0	2	70	0	0	1	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	57	10	0	1	1	69	0	0	1	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0	1	0	42	5	0	0	0	48	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	2	0	201	30	5	1	6	245	0	0	2	0	0	0	0	2
18:00	0	0	0	0	0	0	0	0	2	0	57	3	2	0	0	64	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0	1	0	36	2	2	0	0	41	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	1	1	33	5	0	0	1	41	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	0	0	40	2	1	0	0	43	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	4	1	166	12	5	0	1	189	0	0	0	0	0	0	0	0
6 HR TOT	0	0	0	0	0	0	0	0	12	6	846	88	28	5	19	1004	0	0	4	0	0	0	0	4

B => A								B => B								B => C							
P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT
1	0	10	7	1	0	1	20	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4
2	0	10	4	2	0	0	18	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	5
0	0	21	4	0	0	1	26	0	0	0	0	0	0	0	0	0	0	6	3	0	0	0	9
0	0	11	2	3	0	2	18	0	0	0	0	0	0	0	0	0	0	10	3	0	0	0	13
3	0	52	17	6	0	4	82	0	0	0	0	0	0	0	0	0	0	24	7	0	0	0	31
3	0	23	2	4	0	0	32	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	9
2	0	26	6	0	0	0	34	0	0	0	0	0	0	0	0	0	0	12	1	0	0	0	13
0	0	40	2	0	0	2	44	0	0	0	0	0	0	0	0	0	0	19	1	0	0	0	20
0	0	36	3	4	0	1	44	0	0	0	0	0	0	0	0	0	1	11	1	0	0	0	13
5	0	125	13	8	0	3	154	0	0	0	0	0	0	0	0	0	1	51	3	0	0	0	55
0	0	32	2	1	0	2	37	0	0	0	0	0	0	0	0	0	1	12	1	0	0	0	14
0	1	27	4	2	0	0	34	0	0	0	0	0	0	0	0	0	0	15	2	0	0	0	17
0	0	32	6	3	0	1	42	0	0	0	0	0	0	0	0	0	0	24	2	1	0	0	27
0	0	33	3	2	0	3	41	0	0	0	0	0	0	0	0	0	0	13	1	1	0	0	15
0	1	124	15	8	0	6	154	0	0	0	0	0	0	0	0	0	1	64	6	2	0	0	73
0	0	33	1	0	0	1	35	0	0	0	0	0	0	0	0	0	0	8	1	0	0	0	9
0	2	37	4	1	1	0	45	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8
0	0	17	5	0	0	0	22	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	11
0	0	17	3	2	0	2	24	0	0	0	0	0	0	0	0	1	0	7	1	0	0	0	9
0	2	104	13	3	1	3	126	0	0	0	0	0	0	0	0	1	0	34	2	0	0	0	37
0	0	21	7	1	0	0	29	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5
0	0	25	2	0	0	0	27	0	0	0	0	0	0	0	0	0	0	8	1	0	0	0	9
0	1	24	2	1	0	0	28	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6
0	0	31	7	0	0	0	38	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5
0	1	101	18	2	0	0	122	0	0	0	0	0	0	0	0	0	0	24	1	0	0	0	25
0	0	21	6	1	0	1	29	0	0	0	0	0	0	0	0	0	0	2	2	1	0	0	5
0	0	31	2	0	0	0	33	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4
0	0	22	3	0	0	0	25	0	0	0	0	0	0	0	0	0	0	9	1	0	0	0	10
0	0	23	0	1	0	1	25	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	11
0	0	97	11	2	0	2	112	0	0	0	0	0	0	0	0	0	0	26	3	1	0	0	30
8	4	603	87	29	1	18	750	0	0	0	0	0	0	0	0	1	2	223	22	3	0	0	251

C => A								C => B								C => C							
P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT
0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	7	0	1	0	0	8	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	11	0	1	0	0	12	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	1	0	0	10	0	0	0	0	10	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	1	0	0	36	0	2	0	0	38	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	1	11	1	0	0	0	14	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	19	0	1	0	0	20	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	1	44	1	1	0	0	48	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	1	7	2	0	0	0	10	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	10	1	0	0	0	11	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	7	1	0	0	0	8	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	13	1	0	0	0	14	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	1	37	5	0	0	0	43	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	1	0	0	10	0	0	0	0	10	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	10	1	0	0	0	11	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	11	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	11	0	1	0	0	12	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	1	0	0	42	1	1	0	0	44	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	11	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	13	1	0	0	0	14	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	23	1	0	0	0	24	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	23	0	0	0	0	23	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	70	2	0	0	0	72	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	13	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	1	10	1	0	0	0	12	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	1	0	0	14	1	0	0	0	15	0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	1	0	0	6	2	0	0	0	8	0	0	0	0	0	0	0	0
0	0	1	1	0	0	0	2	0	1	43	4	0	0	0	48	0	0	0	0	0	0	0	0
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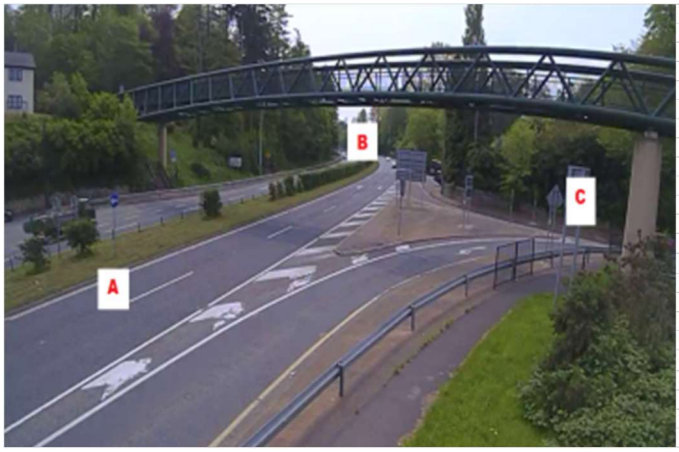

Irish Traffic Surveys

Irish Traffic Surveys Ltd	
Survey Name :	*ITS J309 Enniskerry*
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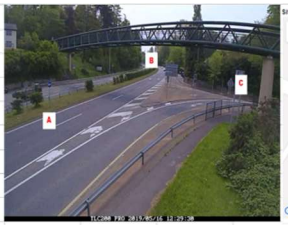
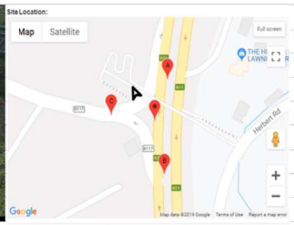
Irish Traffic Surveys





	A => A								A => B								A => C							
TIME	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT
07:00	0	0	0	0	0	0	0	0	0	1	221	96	19	16	8	361	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	1	2	234	69	20	21	3	350	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	277	74	22	13	4	390	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	336	70	23	16	2	447	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	1	3	1068	309	84	66	17	1548	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	4	369	53	20	16	1	463	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	2	456	51	15	13	3	540	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	1	495	77	19	18	7	617	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	1	474	65	17	11	1	569	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	8	1794	246	71	58	12	2189	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	5	435	70	20	13	5	548	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0	1	3	416	69	27	12	13	541	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0	0	4	360	70	21	19	11	485	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	1	4	366	68	25	19	13	496	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	2	16	1577	277	93	63	42	2070	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	4	799	156	22	7	3	991	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	9	770	145	17	9	7	957	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	9	801	143	12	5	2	972	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	3	6	790	120	14	9	5	947	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	3	28	3160	564	65	30	17	3867	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	11	873	107	9	12	2	1014	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	1	9	830	122	14	5	7	988	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	1	10	822	117	9	2	2	963	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	16	892	84	11	6	5	1014	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	2	46	3417	430	43	25	16	3979	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	2	10	913	70	9	7	4	1015	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0	1	11	809	68	10	5	2	906	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	1	8	815	59	6	5	6	900	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	3	8	761	66	8	3	5	854	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	7	37	3298	263	33	20	17	3675	0	0	0	0	0	0	0	0
6 HR TOT	0	0	0	0	0	0	0	0	15	138	14314	2089	389	262	121	17328	0	0	0	0	0	0	0	0

B => A								B => B								B => C							
P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT
0	6	975	154	14	14	11	1174	0	0	0	0	0	0	0	0	1	0	14	7	1	0	1	24
0	3	879	131	18	11	5	1047	0	0	0	0	0	0	0	0	1	0	15	4	2	0	0	22
1	19	911	122	11	9	8	1081	0	0	0	0	0	0	0	0	0	0	27	8	0	0	1	36
0	9	739	87	21	7	7	870	0	0	0	0	0	0	0	0	0	0	23	5	3	0	2	33
1	37	3504	494	64	41	31	4172	0	0	0	0	0	0	0	0	2	0	79	24	6	0	4	115
1	11	972	107	19	8	4	1122	0	0	0	0	0	0	0	0	2	0	33	4	3	0	0	42
1	12	969	101	18	12	6	1119	0	0	0	0	0	0	0	0	3	0	38	5	0	0	0	46
0	9	836	91	18	16	0	970	0	0	0	0	0	0	0	0	0	0	58	3	0	0	2	63
0	10	776	72	25	19	8	850	0	0	0	0	0	0	0	0	0	1	49	3	3	1	1	58
2	42	3493	371	80	55	18	4061	0	0	0	0	0	0	0	0	5	1	178	15	6	1	3	209
1	4	760	94	17	14	4	894	0	0	0	0	0	0	0	0	0	1	45	1	1	0	2	50
0	10	762	87	17	16	2	894	0	0	0	0	0	0	0	0	0	1	43	5	3	0	0	52
0	4	775	72	29	24	3	847	0	0	0	0	0	0	0	0	1	0	54	8	4	0	1	68
0	5	611	91	22	17	4	750	0	0	0	0	0	0	0	0	0	0	45	3	3	0	3	54
1	23	2848	344	85	71	13	3385	0	0	0	0	0	0	0	0	1	2	187	17	11	0	6	224
0	1	414	60	19	7	2	503	0	0	0	0	0	0	0	0	0	0	37	2	0	0	1	40
1	2	444	69	7	13	4	540	0	0	0	0	0	0	0	0	0	2	46	3	1	1	0	53
0	6	433	65	14	16	4	538	0	0	0	0	0	0	0	0	1	0	31	6	0	0	0	38
0	5	424	69	17	6	5	526	0	0	0	0	0	0	0	0	0	0	19	4	2	0	1	26
1	14	1715	263	57	42	15	2107	0	0	0	0	0	0	0	0	1	2	133	15	3	1	2	157
0	8	431	46	8	6	6	505	0	0	0	0	0	0	0	0	0	0	30	6	1	0	1	38
0	0	472	63	8	7	5	555	0	0	0	0	0	0	0	0	0	0	32	3	0	0	0	35
0	5	446	48	10	8	4	521	0	0	0	0	0	0	0	0	0	1	27	1	1	0	0	30
0	3	474	45	3	6	3	534	0	0	0	0	0	0	0	0	0	0	41	6	0	0	0	47
0	16	1823	202	29	27	18	2115	0	0	0	0	0	0	0	0	0	1	130	16	2	0	1	150
1	4	394	47	2	7	2	457	0	0	0	0	0	0	0	0	0	0	24	9	2	0	1	36
1	2	428	47	4	4	4	490	0	0	0	0	0	0	0	0	0	0	36	2	0	0	0	38
1	0	381	15	5	6	4	412	0	0	0	0	0	0	0	0	0	0	30	4	0	0	0	34
0	1	349	37	4	11	5	407	0	0	0	0	0	0	0	0	0	0	35	0	1	0	1	37
3	7	1552	146	15	28	15	1766	0	0	0	0	0	0	0	0	0	0	125	15	3	0	2	145
8	139	14935	1820	330	264	110	17606	0	0	0	0	0	0	0	0	9	6	832	102	31	2	18	1000

C => A								C => B								C => C							
P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT	P/C	M/C	CAR	LGV	OGV1	OGV2	PSV	TOT
0	0	25	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	23	3	2	0	1	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	37	4	3	1	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	27	4	2	0	1	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	112	11	7	1	2	133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	35	4	1	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	30	2	3	0	3	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	45	6	2	0	0	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	37	2	0	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	3	147	14	6	0	3	174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	40	4	2	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	57	2	0	0	3	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	47	2	1	1	2	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	42	7	2	1	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	186	15	5	2	5	215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	42	3	3	0	0	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	48	7	0	1	0	57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	47	2	0	0	1	51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	50	3	1	0	1	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	3	187	15	4	1	2	213	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	59	4	4	0	3	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	69	13	2	0	1	85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	74	13	0	1	2	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	70	6	0	0	0	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	272	36	6	1	6	322	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	70	3	2	0	0	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	50	3	2	0	0	57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	46	5	0	0	1	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	47	3	1	0	0	51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	2	213	14	5	0	1	238	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	9	1117	105	33	5	19	1295	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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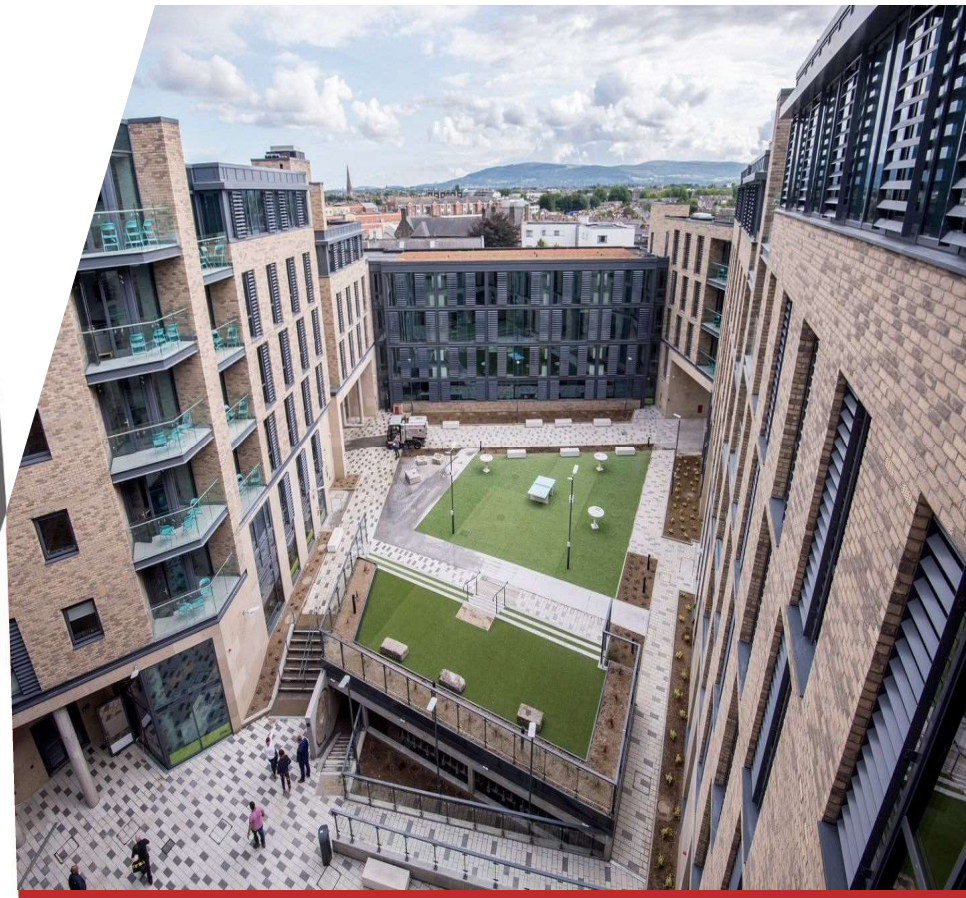

APPENDIX

3

DIAGRAMS OF BASELINE FLOWS

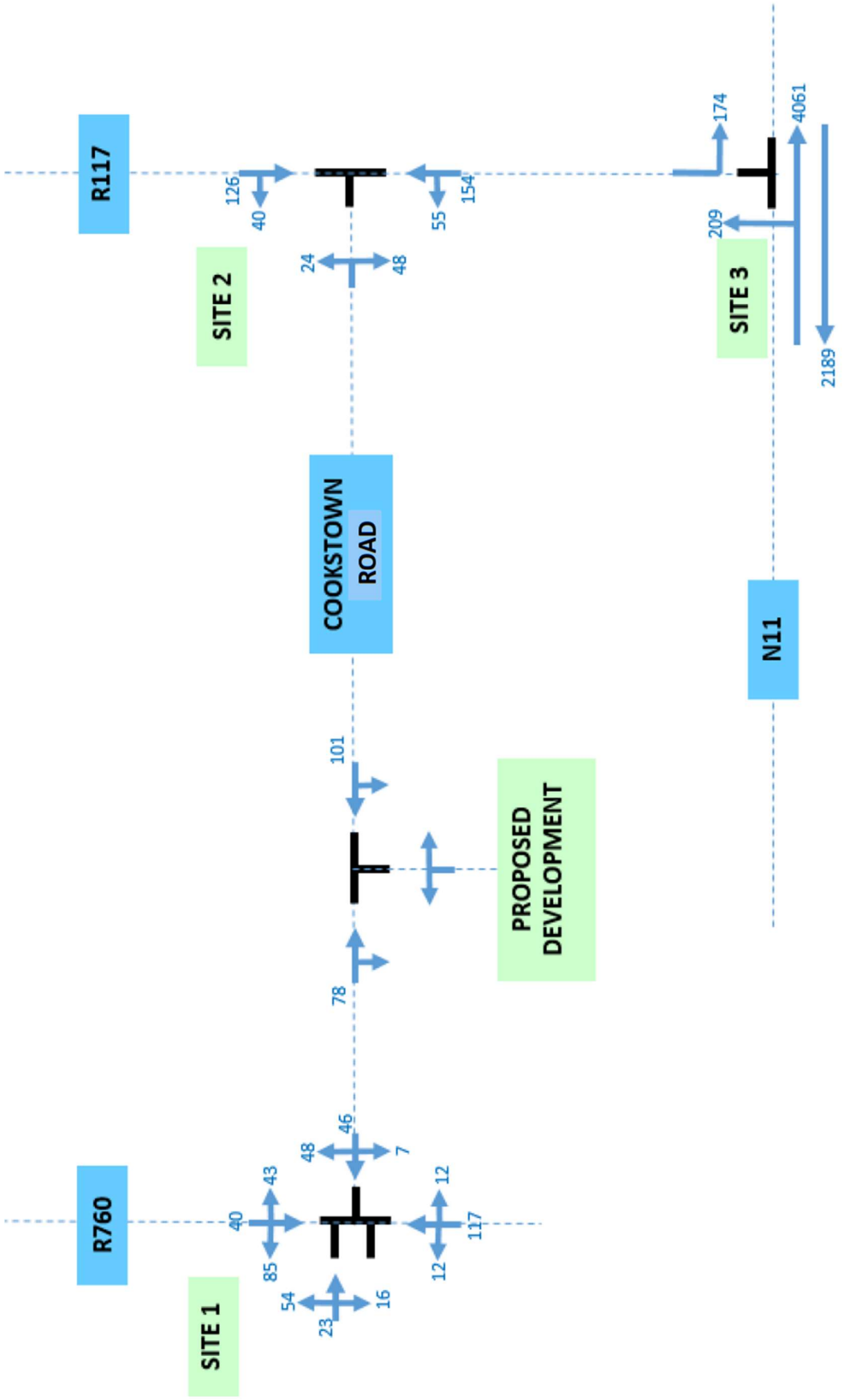

DIAGRAM 1 –EXISTING AM PEAK HOUR FLOWS

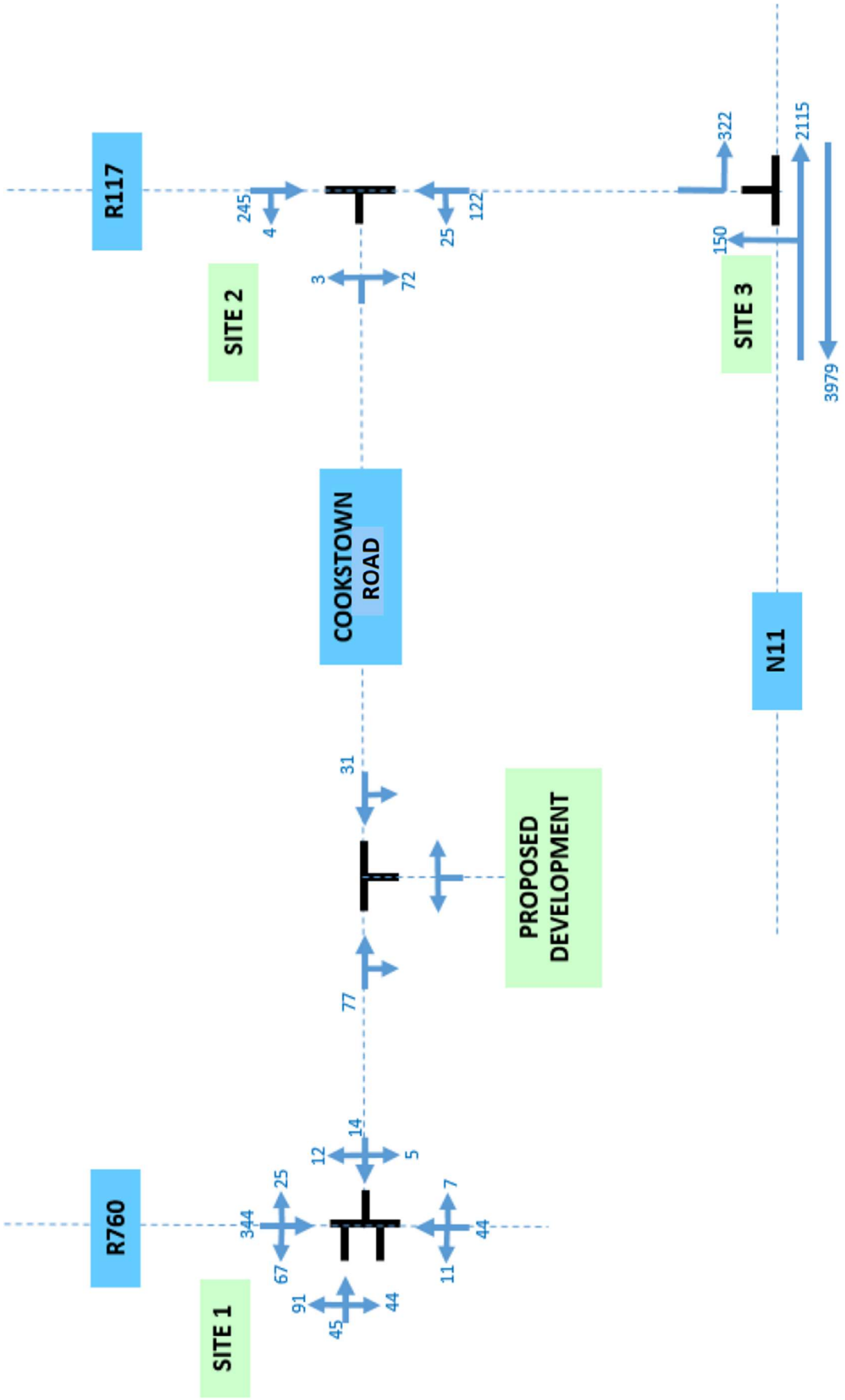

DIAGRAM 2 – EXISTING PM PEAK HOUR FLOWS

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APPENDIX 4

TRICS DATA

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

13	**MUNSTER**		
	WA	WATERFORD	1 days
16	**ULSTER (REPUBLIC OF IRELAND)**		
	DN	DONEGAL	1 days
17	**ULSTER (NORTHERN IRELAND)**		
	AN	ANTRIM	2 days
	AR	ARMAGH	1 days

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

Secondary Filtering selection:

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

Parameter: Number of dwellings
Actual Range: 146 to 280 (units:)
Range Selected by User: 100 to 437 (units:)

Parking Spaces Range: Selected: 16 to 982 Actual: 16 to 982

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 12/10/16

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	3 days
Wednesday	2 days

Population within 1 mile:

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

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

Population within 5 miles:

5,001 to 25,000	2 days
50,001 to 75,000	2 days
75,001 to 100,000	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.

LIST OF SITES relevant to selection parameters

1 **AN-03-A-08** **HOUSES & FLATS** **ANTRIM**
BALLINDERRY ROAD
LISBURN

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 204
Survey date: TUESDAY *29/10/13* *Survey Type: MANUAL*

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

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

3 **AR-03-A-01** **MIXED HOUSES** **ARMAGH**
BIRCHDALE MANOR
LURGAN

Edge of Town
Residential Zone
Total Number of dwellings: 153
Survey date: TUESDAY *15/06/10* *Survey Type: MANUAL*

4 **DN-03-A-05** **DETACHED/SEMI-DETACHED** **DONEGAL**
GORTLEE ROAD
LETTERKENNY
GORTLEE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 146
Survey date: WEDNESDAY *03/09/14* *Survey Type: MANUAL*

5 **WA-03-A-04** **DETACHED** **WATERFORD**
MAYPARK LANE
WATERFORD

Edge of Town
Residential Zone
Total Number of dwellings: 280
Survey date: TUESDAY *24/06/14* *Survey Type: MANUAL*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	187	0.042	5	187	0.229	5	187	0.271
08:00 - 09:00	5	187	0.149	**5**	**187**	**0.466**	5	187	0.615
09:00 - 10:00	5	187	0.181	5	187	0.267	5	187	0.448
10:00 - 11:00	5	187	0.158	5	187	0.198	5	187	0.356
11:00 - 12:00	5	187	0.149	5	187	0.187	5	187	0.336
12:00 - 13:00	5	187	0.247	5	187	0.214	5	187	0.461
13:00 - 14:00	5	187	0.225	5	187	0.262	5	187	0.487
14:00 - 15:00	5	187	0.271	5	187	0.268	5	187	0.539
15:00 - 16:00	5	187	0.307	5	187	0.204	5	187	0.511
16:00 - 17:00	5	187	0.334	5	187	0.202	5	187	0.536
17:00 - 18:00	**5**	**187**	**0.507**	5	187	0.277	**5**	**187**	**0.784**
18:00 - 19:00	5	187	0.377	5	187	0.274	5	187	0.651
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.947			3.048			5.995

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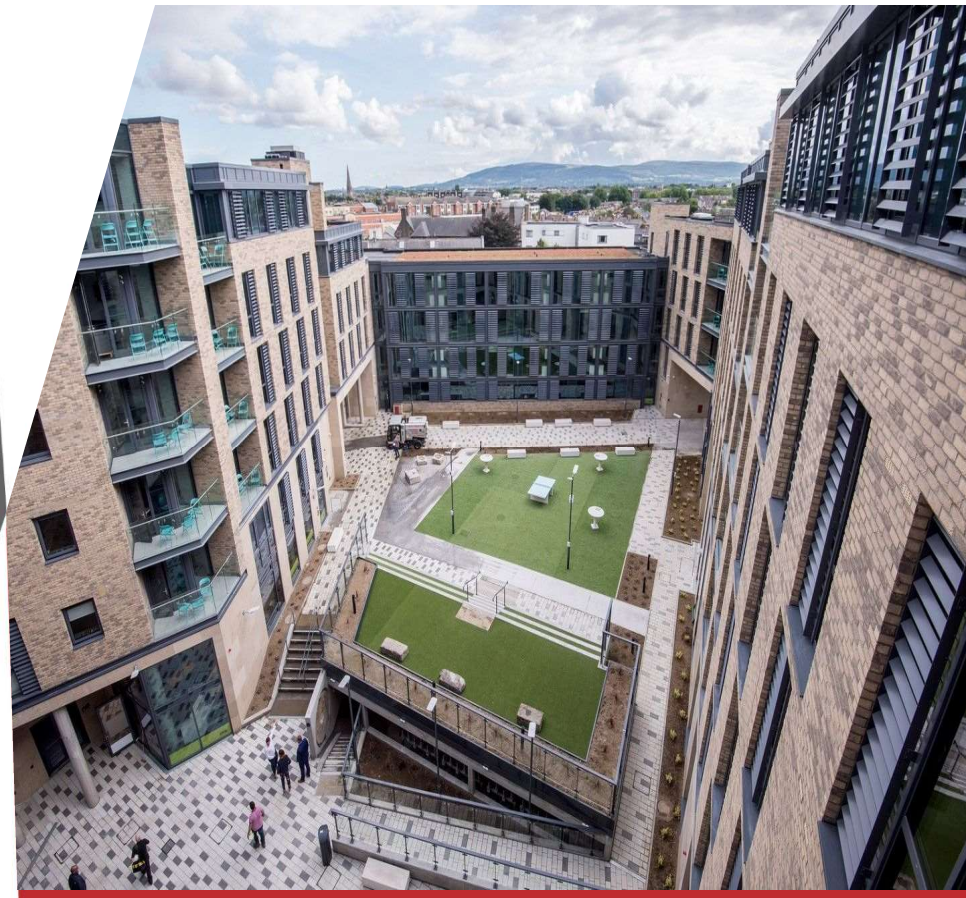

APPENDIX

5

DIAGRAMS OF GENERATED FLOWS

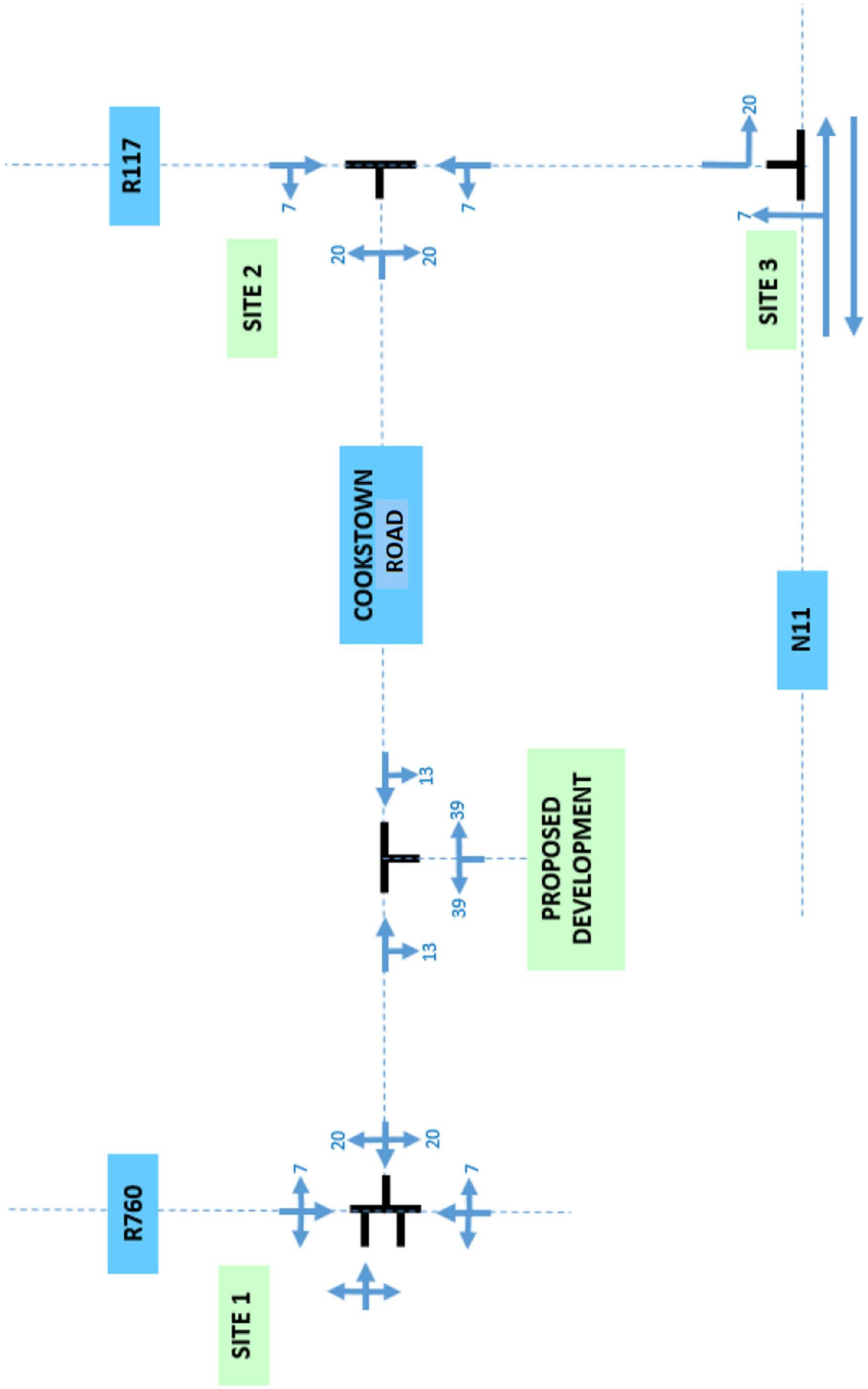

DIAGRAM 1 – AM PEAK HOUR GENERATED FLOWS

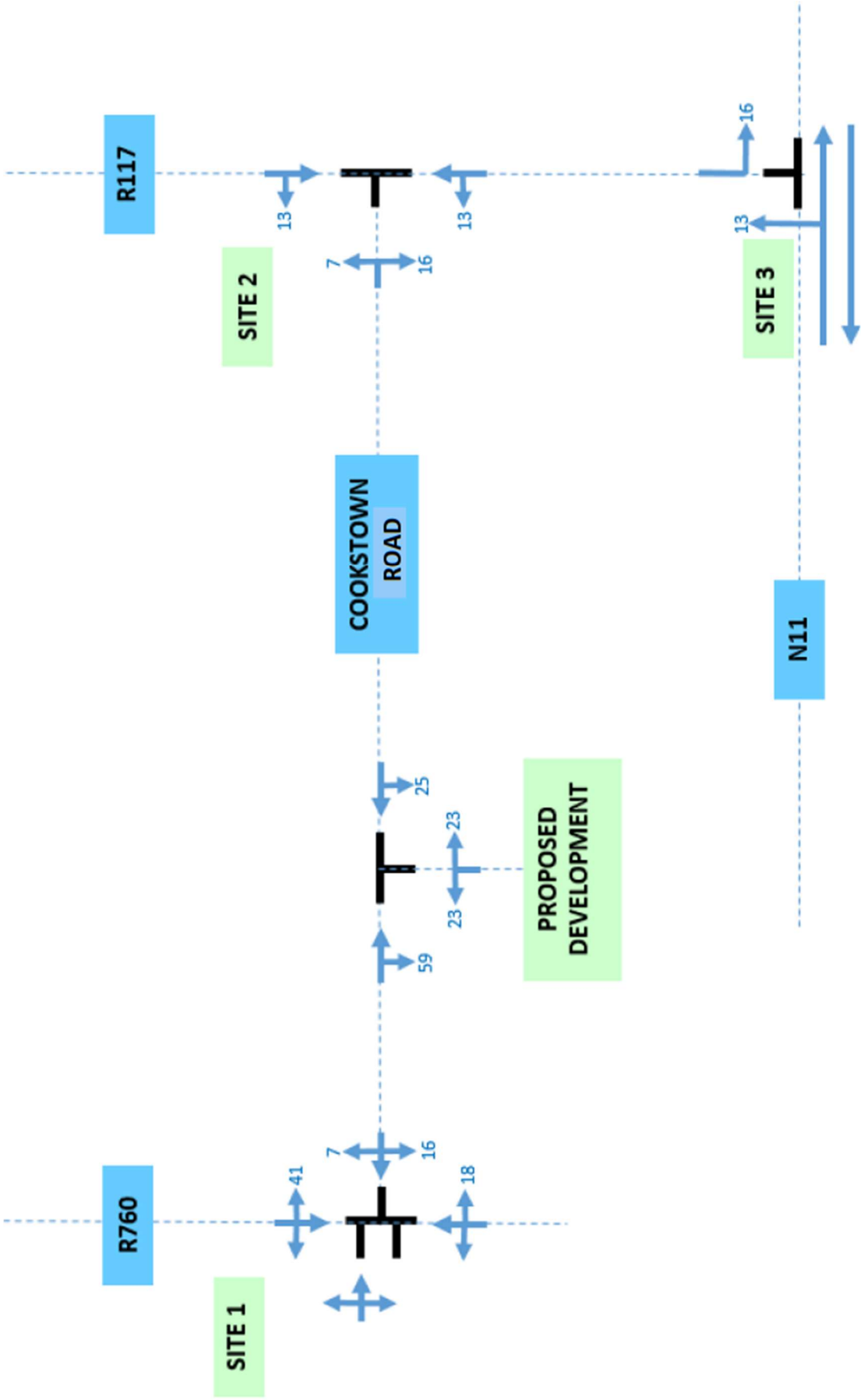

DIAGRAM 2 – PM PEAK HOUR GENERATED FLOWS

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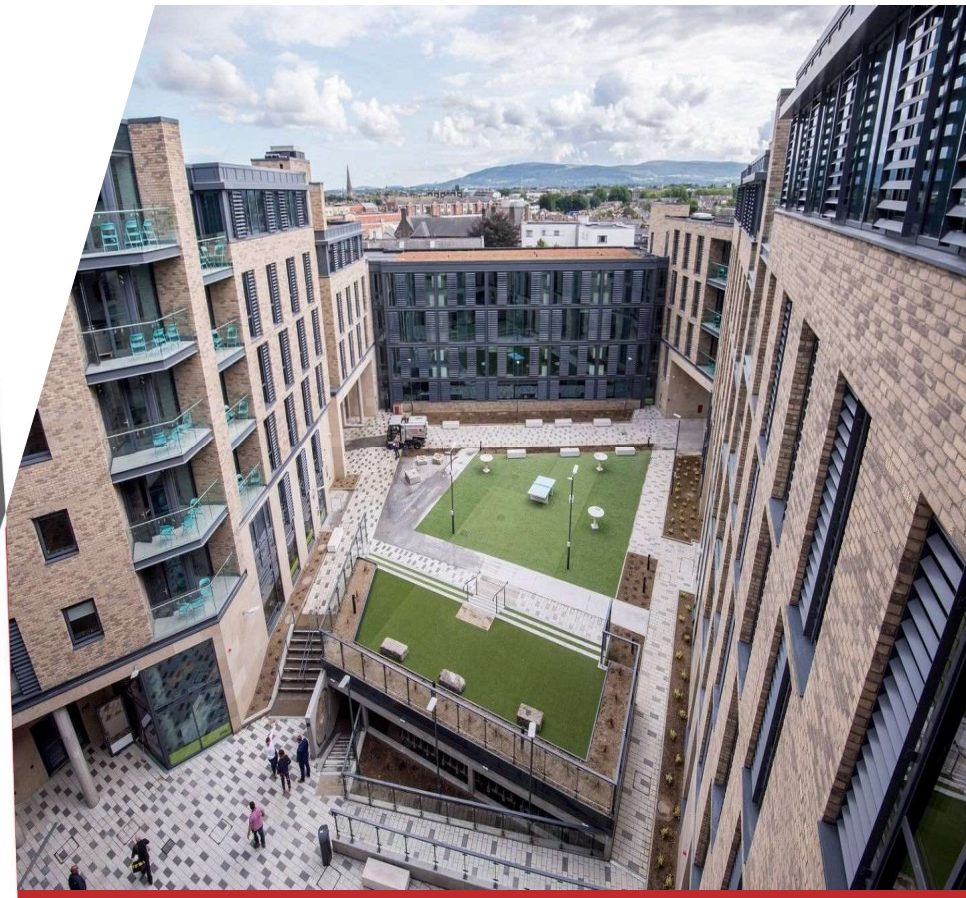

APPENDIX 6

PICADY OUTPUT

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: Development L1020 2023 wdev.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 27/07/2020 17:36:42

»2023 wdev, AM
»2023 wdev, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2023 wdev							
Stream B-AC	0.2	8.16	0.15	A	0.1	7.17	0.09	A
Stream C-AB	0.0	6.15	0.02	A	0.1	5.97	0.04	A

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

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

File summary

File Description

Title	Development L1020 priority junction
Location	
Site number	
Date	26/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2023 wdev	AM	DIRECT	08:00	09:00	60	15
D2	2023 wdev	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2023 wdev, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.51	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	L1020 east		Major
B	Development Entrance		Minor
C	L1020 west		Major

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)
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	129.627	0.094	0.239	0.150	0.341
1	B-C	163.853	0.100	0.254	-	-
1	C-B	150.730	0.234	0.234	-	-

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 period length (min)	Time segment length (min)
D1	2023 wdev	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To		
		A	B	C
From	A	0.00	3.00	16.00
	B	10.00	0.00	10.00
	C	8.00	3.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To		
		A	B	C
From	A	0.00	3.00	19.00
	B	10.00	0.00	10.00
	C	31.00	3.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To		
		A	B	C
From	A	0.00	3.00	41.00
	B	10.00	0.00	10.00
	C	34.00	3.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To		
		A	B	C
From	A	0.00	3.00	31.00
	B	10.00	0.00	10.00
	C	10.00	3.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.15	8.16	0.2	A
C-AB	0.02	6.15	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20.00	139.08	0.144	19.83	0.2	7.536	A
C-AB	3.17	151.69	0.021	3.14	0.0	6.058	A
C-A	7.83			7.83			
A-B	3.00			3.00			
A-C	16.00			16.00			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20.00	136.10	0.147	20.00	0.2	7.751	A
C-AB	3.69	166.56	0.022	3.69	0.0	5.527	A
C-A	30.31			30.31			
A-B	3.00			3.00			
A-C	19.00			19.00			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20.00	130.32	0.153	19.99	0.2	8.157	A
C-AB	3.79	163.84	0.023	3.79	0.0	5.622	A
C-A	33.21			33.21			

A-B	3.00			3.00			
A-C	41.00			41.00			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20.00	135.15	0.148	20.00	0.2	7.816	A
C-AB	3.22	149.62	0.022	3.22	0.0	6.149	A
C-A	9.78			9.78			
A-B	3.00			3.00			
A-C	31.00			31.00			

2023 wdev, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.08	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2023 wdev	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To		
		A	B	C
From	A	0.00	15.00	7.00
	B	6.00	0.00	6.00
	C	18.00	6.00	0.00

Demand (PCU/TS)

17:15 - 17:30

		To		
		A	B	C
From	A	0.00	15.00	8.00
	B	6.00	0.00	6.00
	C	18.00	6.00	0.00

Demand (PCU/TS)

17:30 - 17:45

		To		
		A	B	C
From	A	0.00	15.00	8.00
	B	6.00	0.00	6.00
	C	25.00	6.00	0.00

Demand (PCU/TS)

17:45 - 18:00

		To		
		A	B	C
From	A	0.00	15.00	8.00
	B	6.00	0.00	6.00
	C	21.00	6.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.09	7.17	0.1	A
C-AB	0.04	5.97	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	12.00	138.52	0.087	11.91	0.1	7.104	A
C-AB	6.77	157.77	0.043	6.72	0.1	5.957	A
C-A	17.23			17.23			
A-B	15.00			15.00			
A-C	7.00			7.00			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	12.00	138.26	0.087	12.00	0.1	7.127	A
C-AB	6.78	157.55	0.043	6.78	0.1	5.969	A
C-A	17.22			17.22			
A-B	15.00			15.00			
A-C	8.00			8.00			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	12.00	137.57	0.087	12.00	0.1	7.166	A
C-AB	7.10	162.29	0.044	7.10	0.1	5.799	A
C-A	23.90			23.90			
A-B	15.00			15.00			
A-C	8.00			8.00			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	12.00	137.96	0.087	12.00	0.1	7.144	A
C-AB	6.92	159.58	0.043	6.92	0.1	5.895	A
C-A	20.08			20.08			
A-B	15.00			15.00			
A-C	8.00			8.00			

Junctions 9

PICADY 9 - Priority Intersection Module

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Filename: Development L1020 2028 wdev.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 27/07/2020 17:43:27

»2028 wdev, AM
»2028 wdev, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2028 wdev							
Stream B-AC	0.2	8.23	0.15	A	0.1	7.19	0.09	A
Stream C-AB	0.0	6.17	0.02	A	0.1	5.97	0.04	A

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

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

File summary

File Description

Title	Development L1020 priority junction
Location	
Site number	
Date	26/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2028 wdev	AM	DIRECT	08:00	09:00	60	15
D2	2028 wdev	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 wdev, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.43	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	L1020 east		Major
B	Development Entrance		Minor
C	L1020 west		Major

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)
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	129.627	0.094	0.239	0.150	0.341
1	B-C	163.853	0.100	0.254	-	-
1	C-B	150.730	0.234	0.234	-	-

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 period length (min)	Time segment length (min)
D1	2028 wdev	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To		
		A	B	C
From	A	0.00	3.00	17.00
	B	10.00	0.00	10.00
	C	9.00	3.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To		
		A	B	C
From	A	0.00	3.00	20.00
	B	10.00	0.00	10.00
	C	33.00	3.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To		
		A	B	C
From	A	0.00	3.00	44.00
	B	10.00	0.00	10.00
	C	36.00	3.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To		
		A	B	C
From	A	0.00	3.00	33.00
	B	10.00	0.00	10.00
	C	10.00	3.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.15	8.23	0.2	A
C-AB	0.02	6.17	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20.00	138.73	0.144	19.83	0.2	7.558	A
C-AB	3.19	152.14	0.021	3.16	0.0	6.041	A
C-A	8.81			8.81			
A-B	3.00			3.00			
A-C	17.00			17.00			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20.00	135.66	0.147	20.00	0.2	7.781	A
C-AB	3.74	167.70	0.022	3.74	0.0	5.490	A
C-A	32.26			32.26			
A-B	3.00			3.00			
A-C	20.00			20.00			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20.00	129.37	0.155	19.99	0.2	8.226	A
C-AB	3.85	164.57	0.023	3.84	0.0	5.599	A
C-A	35.15			35.15			

A-B	3.00			3.00			
A-C	44.00			44.00			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20.00	134.66	0.149	20.01	0.2	7.851	A
C-AB	3.22	149.16	0.022	3.22	0.0	6.166	A
C-A	9.78			9.78			
A-B	3.00			3.00			
A-C	33.00			33.00			

2028 wdev, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.01	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2028 wdev	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To		
		A	B	C
From	A	0.00	15.00	8.00
	B	6.00	0.00	6.00
	C	18.00	6.00	0.00

Demand (PCU/TS)

17:15 - 17:30

		To		
		A	B	C
From	A	0.00	15.00	9.00
	B	6.00	0.00	6.00
	C	19.00	6.00	0.00

Demand (PCU/TS)

17:30 - 17:45

		To		
		A	B	C
From	A	0.00	15.00	9.00
	B	6.00	0.00	6.00
	C	27.00	6.00	0.00

Demand (PCU/TS)

17:45 - 18:00

		To		
		A	B	C
From	A	0.00	15.00	9.00
	B	6.00	0.00	6.00
	C	23.00	6.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.09	7.19	0.1	A
C-AB	0.04	5.97	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	12.00	138.27	0.087	11.91	0.1	7.118	A
C-AB	6.77	157.54	0.043	6.72	0.1	5.966	A
C-A	17.23			17.23			
A-B	15.00			15.00			
A-C	8.00			8.00			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	12.00	137.91	0.087	12.00	0.1	7.147	A
C-AB	6.83	158.00	0.043	6.83	0.1	5.953	A
C-A	18.17			18.17			
A-B	15.00			15.00			
A-C	9.00			9.00			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	12.00	137.13	0.088	12.00	0.1	7.191	A
C-AB	7.20	163.42	0.044	7.19	0.1	5.763	A
C-A	25.80			25.80			
A-B	15.00			15.00			
A-C	9.00			9.00			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	12.00	137.52	0.087	12.00	0.1	7.169	A
C-AB	7.01	160.71	0.044	7.01	0.1	5.858	A
C-A	21.99			21.99			
A-B	15.00			15.00			
A-C	9.00			9.00			

Junctions 9

PICADY 9 - Priority Intersection Module

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Filename: Development L1020 2038 wdev.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 27/07/2020 17:48:26

»2038 wdev, AM
»2038 wdev, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2038 wdev							
Stream B-AC	0.2	8.31	0.16	A	0.1	7.22	0.09	A
Stream C-AB	0.0	6.16	0.02	A	0.1	5.91	0.04	A

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

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

File summary

File Description

Title	Development L1020 priority junction
Location	
Site number	
Date	26/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2038 wdev	AM	DIRECT	08:00	09:00	60	15
D2	2038 wdev	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2038 wdev, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.34	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	L1020 east		Major
B	Development Entrance		Minor
C	L1020 west		Major

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)
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	129.627	0.094	0.239	0.150	0.341
1	B-C	163.853	0.100	0.254	-	-
1	C-B	150.730	0.234	0.234	-	-

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 period length (min)	Time segment length (min)
D1	2038 wdev	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To		
		A	B	C
From	A	0.00	3.00	18.00
	B	10.00	0.00	10.00
	C	10.00	3.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To		
		A	B	C
From	A	0.00	3.00	22.00
	B	10.00	0.00	10.00
	C	35.00	3.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To		
		A	B	C
From	A	0.00	3.00	47.00
	B	10.00	0.00	10.00
	C	39.00	3.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To		
		A	B	C
From	A	0.00	3.00	35.00
	B	10.00	0.00	10.00
	C	11.00	3.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.16	8.31	0.2	A
C-AB	0.02	6.16	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20.00	138.39	0.145	19.83	0.2	7.580	A
C-AB	3.21	152.58	0.021	3.19	0.0	6.024	A
C-A	9.79			9.79			
A-B	3.00			3.00			
A-C	18.00			18.00			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20.00	134.96	0.148	19.99	0.2	7.828	A
C-AB	3.79	168.62	0.022	3.79	0.0	5.461	A
C-A	34.21			34.21			
A-B	3.00			3.00			
A-C	22.00			22.00			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20.00	128.32	0.156	19.99	0.2	8.306	A
C-AB	3.93	166.00	0.024	3.93	0.0	5.554	A
C-A	38.07			38.07			

A-B	3.00			3.00			
A-C	47.00			47.00			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20.00	134.06	0.149	20.01	0.2	7.891	A
C-AB	3.24	149.39	0.022	3.24	0.0	6.160	A
C-A	10.76			10.76			
A-B	3.00			3.00			
A-C	35.00			35.00			

2038 wdev, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.94	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2038 wdev	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To		
		A	B	C
From	A	0.00	15.00	8.00
	B	6.00	0.00	6.00
	C	21.00	6.00	0.00

Demand (PCU/TS)

17:15 - 17:30

		To		
		A	B	C
From	A	0.00	15.00	10.00
	B	6.00	0.00	6.00
	C	21.00	6.00	0.00

Demand (PCU/TS)

17:30 - 17:45

		To		
		A	B	C
From	A	0.00	15.00	10.00
	B	6.00	0.00	6.00
	C	29.00	6.00	0.00

Demand (PCU/TS)

17:45 - 18:00

		To		
		A	B	C
From	A	0.00	15.00	10.00
	B	6.00	0.00	6.00
	C	24.00	6.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.09	7.22	0.1	A
C-AB	0.04	5.91	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	12.00	137.98	0.087	11.91	0.1	7.134	A
C-AB	6.91	159.57	0.043	6.85	0.1	5.892	A
C-A	20.09			20.09			
A-B	15.00			15.00			
A-C	8.00			8.00			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	12.00	137.47	0.087	12.00	0.1	7.172	A
C-AB	6.92	159.13	0.043	6.92	0.1	5.915	A
C-A	20.08			20.08			
A-B	15.00			15.00			
A-C	10.00			10.00			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	12.00	136.68	0.088	12.00	0.1	7.217	A
C-AB	7.29	164.56	0.044	7.29	0.1	5.722	A
C-A	27.71			27.71			
A-B	15.00			15.00			
A-C	10.00			10.00			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	12.00	137.17	0.087	12.00	0.1	7.189	A
C-AB	7.06	161.17	0.044	7.06	0.1	5.842	A
C-A	22.94			22.94			
A-B	15.00			15.00			
A-C	10.00			10.00			

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: R760 L1020 existing.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 26/07/2020 14:39:52

»2019 exist, AM
»2019 exist, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2019 exist							
Stream B-ACD	0.5	12.07	0.35	B	0.1	9.90	0.08	A
Stream A-BCD	0.3	7.71	0.24	A	0.4	5.46	0.22	A
Stream D-ABC	0.3	8.78	0.21	A	0.9	13.29	0.49	B
Stream C-ABD	0.1	6.03	0.05	A	0.0	7.09	0.03	A

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

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

File summary

File Description

Title	R760 / L1020 crossroads
Location	
Site number	
Date	25/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2019 exist	AM	DIRECT	08:00	09:00	60	15
D2	2019 exist	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2019 exist, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		5.74	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	R760 North		Major
B	L1020 Cookstown lane		Minor
C	R760 South		Major
D	Powerscourt		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	6.00			50.0	✓	0.00
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50
D	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	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
1	A-D	150.730	-	-	-	-	-	-	0.234	0.334	0.234	-	-	-
1	B-A	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	-	0.239	0.239	0.119
1	B-C	163.853	0.100	0.254	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	0.150	-	-	-
1	B-D, offside lane	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	0.150	-	-	-
1	C-B	150.730	0.234	0.234	0.334	-	-	-	-	-	-	-	-	-
1	D-A	163.853	-	-	-	-	-	-	0.254	-	0.100	-	-	-
1	D-B, nearside lane	129.627	0.150	0.150	0.341	-	-	-	0.239	0.239	0.094	-	-	-
1	D-B, offside lane	129.627	0.150	0.150	0.341	-	-	-	0.239	0.239	0.094	-	-	-
1	D-C	129.627	-	0.150	0.341	0.119	0.239	0.239	0.239	0.239	0.094	-	-	-

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 period length (min)	Time segment length (min)
D1	2019 exist	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000
D		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To			
		A	B	C	D
From	A	0.00	4.00	6.00	13.00
	B	7.00	0.00	1.00	7.00
	C	44.00	1.00	0.00	0.00
	D	22.00	3.00	4.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To			
		A	B	C	D
From	A	0.00	12.00	10.00	14.00
	B	9.00	0.00	3.00	6.00
	C	30.00	7.00	0.00	5.00
	D	13.00	10.00	4.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To			
		A	B	C	D
From	A	0.00	24.00	14.00	24.00
	B	23.00	0.00	2.00	14.00
	C	24.00	2.00	0.00	4.00
	D	8.00	6.00	6.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To			
		A	B	C	D
From	A	0.00	3.00	10.00	34.00
	B	9.00	0.00	1.00	19.00
	C	19.00	2.00	0.00	3.00
	D	11.00	4.00	2.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.35	12.07	0.5	B
A-BCD	0.24	7.71	0.3	A
A-B				
A-C				
D-ABC	0.21	8.78	0.3	A
C-ABD	0.05	6.03	0.1	A
C-D				
C-A				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	15.00	116.73	0.129	14.85	0.1	8.822	A
A-BCD	13.95	147.00	0.095	13.84	0.1	6.759	A
A-B	3.62			3.62			
A-C	5.43			5.43			

D-ABC	29.00	140.26	0.207	28.74	0.3	8.052	A
C-ABD	1.34	173.97	0.008	1.33	0.0	5.212	A
C-D	0.00			0.00			
C-A	43.66			43.66			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	18.00	117.76	0.153	17.97	0.2	9.016	A
A-BCD	16.33	155.37	0.105	16.30	0.1	6.472	A
A-B	10.73			10.73			
A-C	8.94			8.94			
D-ABC	27.00	129.47	0.209	27.00	0.3	8.782	A
C-ABD	8.89	164.93	0.054	8.82	0.1	5.764	A
C-D	4.73			4.73			
C-A	28.38			28.38			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	39.00	112.87	0.346	38.66	0.5	12.073	B
A-BCD	30.98	169.39	0.183	30.84	0.3	6.493	A
A-B	19.59			19.59			
A-C	11.43			11.43			
D-ABC	20.00	123.21	0.162	20.07	0.2	8.730	A
C-ABD	2.46	153.49	0.016	2.52	0.0	5.965	A
C-D	3.93			3.93			
C-A	23.61			23.61			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	29.00	114.83	0.253	29.17	0.3	10.528	B
A-BCD	37.16	153.77	0.242	37.10	0.3	7.713	A
A-B	2.27			2.27			
A-C	7.57			7.57			
D-ABC	17.00	136.45	0.125	17.05	0.1	7.540	A
C-ABD	2.34	151.60	0.015	2.34	0.0	6.029	A
C-D	2.95			2.95			
C-A	18.70			18.70			

2019 exist, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		4.82	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2019 exist	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000
D		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To			
		A	B	C	D
From	A	0.00	6.00	89.00	25.00
	B	1.00	0.00	1.00	5.00
	C	14.00	2.00	0.00	5.00
	D	21.00	8.00	10.00	0.00

Demand (PCU/TS)

17:15 - 17:30

		To			
		A	B	C	D
From	A	0.00	7.00	89.00	20.00
	B	4.00	0.00	1.00	3.00
	C	9.00	3.00	0.00	3.00
	D	25.00	7.00	12.00	0.00

Demand (PCU/TS)

17:30 - 17:45

		To			
		A	B	C	D
From	A	0.00	5.00	88.00	12.00
	B	3.00	0.00	1.00	4.00
	C	7.00	2.00	0.00	3.00
	D	33.00	17.00	14.00	0.00

Demand (PCU/TS)

17:45 - 18:00

		To			
		A	B	C	D
From	A	0.00	7.00	78.00	10.00
	B	4.00	0.00	2.00	2.00
	C	14.00	0.00	0.00	0.00
	D	12.00	13.00	8.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.08	9.90	0.1	A
A-BCD	0.22	5.46	0.4	A
A-B				
A-C				
D-ABC	0.49	13.29	0.9	B
C-ABD	0.03	7.09	0.0	A
C-D				
C-A				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7.00	101.50	0.069	6.93	0.1	9.510	A
A-BCD	45.67	209.88	0.218	45.23	0.4	5.463	A
A-B	4.69			4.69			
A-C	69.63			69.63			
D-ABC	39.00	126.80	0.308	38.56	0.4	10.152	B
C-ABD	2.33	134.12	0.017	2.31	0.0	6.828	A
C-D	4.91			4.91			
C-A	13.76			13.76			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8.00	98.89	0.081	7.99	0.1	9.899	A
A-BCD	36.82	211.71	0.174	36.91	0.4	5.161	A
A-B	5.77			5.77			
A-C	73.40			73.40			
D-ABC	44.00	130.86	0.336	43.94	0.5	10.346	B
C-ABD	3.31	130.26	0.025	3.30	0.0	7.088	A
C-D	2.92			2.92			
C-A	8.77			8.77			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8.00	100.79	0.079	8.00	0.1	9.698	A
A-BCD	21.68	210.30	0.103	21.83	0.2	4.785	A
A-B	4.48			4.48			
A-C	78.84			78.84			
D-ABC	64.00	130.83	0.489	63.57	0.9	13.295	B
C-ABD	2.17	132.12	0.016	2.18	0.0	6.926	A
C-D	2.95			2.95			
C-A	6.88			6.88			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8.00	108.97	0.073	8.01	0.1	8.914	A
A-BCD	17.19	204.66	0.084	17.24	0.2	4.806	A
A-B	6.41			6.41			
A-C	71.40			71.40			
D-ABC	33.00	124.27	0.266	33.56	0.4	9.981	A
C-ABD	0.00	137.51	0.000	0.02	0.0	6.546	A
C-D	0.00			0.00			
C-A	14.00			14.00			

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: R760 L1020 2023 wod.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 26/07/2020 14:52:18

»2023 wod, AM
»2023 wod, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2023 wod							
Stream B-ACD	0.6	12.53	0.37	B	0.1	10.10	0.08	B
Stream A-BCD	0.4	7.85	0.26	A	0.5	5.46	0.23	A
Stream D-ABC	0.3	9.03	0.23	A	1.1	14.28	0.52	B
Stream C-ABD	0.1	6.04	0.05	A	0.0	7.13	0.03	A

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

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

File summary

File Description

Title	R760 / L1020 crossroads
Location	
Site number	
Date	25/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2023 wod	AM	DIRECT	08:00	09:00	60	15
D2	2023 wod	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2023 wod, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		5.90	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	R760 North		Major
B	L1020 Cookstown lane		Minor
C	R760 South		Major
D	Powerscourt		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	6.00			50.0	✓	0.00
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50
D	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	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
1	A-D	150.730	-	-	-	-	-	-	0.234	0.334	0.234	-	-	-
1	B-A	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	-	0.239	0.239	0.119
1	B-C	163.853	0.100	0.254	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	0.150	-	-	-
1	B-D, offside lane	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	0.150	-	-	-
1	C-B	150.730	0.234	0.234	0.334	-	-	-	-	-	-	-	-	-
1	D-A	163.853	-	-	-	-	-	-	0.254	-	0.100	-	-	-
1	D-B, nearside lane	129.627	0.150	0.150	0.341	-	-	-	0.239	0.239	0.094	-	-	-
1	D-B, offside lane	129.627	0.150	0.150	0.341	-	-	-	0.239	0.239	0.094	-	-	-
1	D-C	129.627	-	0.150	0.341	0.119	0.239	0.239	0.239	0.239	0.094	-	-	-

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 period length (min)	Time segment length (min)
D1	2023 wod	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000
D		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To			
		A	B	C	D
From	A	0.00	4.00	6.00	14.00
	B	7.00	0.00	1.00	7.00
	C	47.00	1.00	0.00	0.00
	D	23.00	3.00	4.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To			
		A	B	C	D
From	A	0.00	13.00	11.00	15.00
	B	10.00	0.00	3.00	6.00
	C	32.00	7.00	0.00	5.00
	D	14.00	11.00	4.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To			
		A	B	C	D
From	A	0.00	25.00	15.00	25.00
	B	24.00	0.00	2.00	15.00
	C	25.00	2.00	0.00	4.00
	D	8.00	6.00	6.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To			
		A	B	C	D
From	A	0.00	3.00	11.00	36.00
	B	10.00	0.00	1.00	20.00
	C	20.00	2.00	0.00	3.00
	D	12.00	4.00	2.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.37	12.53	0.6	B
A-BCD	0.26	7.85	0.4	A
A-B				
A-C				
D-ABC	0.23	9.03	0.3	A
C-ABD	0.05	6.04	0.1	A
C-D				
C-A				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	15.00	115.94	0.129	14.85	0.1	8.891	A
A-BCD	15.03	146.32	0.103	14.90	0.1	6.843	A
A-B	3.59			3.59			
A-C	5.38			5.38			

D-ABC	30.00	139.76	0.215	29.73	0.3	8.161	A
C-ABD	1.37	175.71	0.008	1.36	0.0	5.161	A
C-D	0.00			0.00			
C-A	46.63			46.63			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	19.00	116.18	0.164	18.95	0.2	9.253	A
A-BCD	17.74	156.30	0.114	17.71	0.2	6.494	A
A-B	11.51			11.51			
A-C	9.74			9.74			
D-ABC	29.00	128.61	0.226	28.98	0.3	9.031	A
C-ABD	9.02	165.56	0.054	8.94	0.1	5.746	A
C-D	4.73			4.73			
C-A	30.26			30.26			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	41.00	112.08	0.366	40.63	0.6	12.532	B
A-BCD	32.70	170.54	0.192	32.56	0.3	6.520	A
A-B	20.19			20.19			
A-C	12.11			12.11			
D-ABC	20.00	122.37	0.163	20.09	0.2	8.808	A
C-ABD	2.48	153.44	0.016	2.54	0.0	5.968	A
C-D	3.93			3.93			
C-A	24.59			24.59			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	31.00	113.77	0.272	31.18	0.4	10.924	B
A-BCD	39.62	154.23	0.257	39.55	0.4	7.846	A
A-B	2.22			2.22			
A-C	8.16			8.16			
D-ABC	18.00	136.73	0.132	18.04	0.2	7.585	A
C-ABD	2.36	151.44	0.016	2.36	0.0	6.039	A
C-D	2.95			2.95			
C-A	19.69			19.69			

2023 wod, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		5.11	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2023 wod	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000
D		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To			
		A	B	C	D
From	A	0.00	6.00	94.00	26.00
	B	1.00	0.00	1.00	5.00
	C	15.00	2.00	0.00	5.00
	D	22.00	8.00	11.00	0.00

17:15 - 17:30

Demand (PCU/TS)

		To			
		A	B	C	D
From	A	0.00	7.00	94.00	21.00
	B	4.00	0.00	1.00	3.00
	C	10.00	3.00	0.00	3.00
	D	26.00	7.00	13.00	0.00

17:30 - 17:45

Demand (PCU/TS)

		To			
		A	B	C	D
From	A	0.00	5.00	93.00	13.00
	B	3.00	0.00	1.00	4.00
	C	7.00	2.00	0.00	3.00
	D	35.00	18.00	15.00	0.00

17:45 - 18:00

Demand (PCU/TS)

		To			
		A	B	C	D
From	A	0.00	7.00	82.00	11.00
	B	4.00	0.00	2.00	2.00
	C	15.00	0.00	0.00	0.00
	D	13.00	14.00	8.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.08	10.10	0.1	B
A-BCD	0.23	5.46	0.5	A
A-B				
A-C				
D-ABC	0.52	14.28	1.1	B
C-ABD	0.03	7.13	0.0	A
C-D				
C-A				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7.00	99.86	0.070	6.93	0.1	9.676	A
A-BCD	48.99	213.08	0.230	48.51	0.5	5.464	A
A-B	4.62			4.62			
A-C	72.39			72.39			
D-ABC	41.00	125.64	0.326	40.52	0.5	10.508	B
C-ABD	2.35	133.42	0.018	2.33	0.0	6.865	A
C-D	4.91			4.91			
C-A	14.74			14.74			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8.00	97.08	0.082	7.99	0.1	10.100	B
A-BCD	39.88	214.92	0.186	39.97	0.4	5.156	A
A-B	5.69			5.69			
A-C	76.42			76.42			
D-ABC	46.00	129.68	0.355	45.94	0.5	10.737	B
C-ABD	3.34	129.52	0.026	3.33	0.0	7.131	A
C-D	2.92			2.92			
C-A	9.74			9.74			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8.00	98.94	0.081	8.00	0.1	9.898	A
A-BCD	24.21	213.67	0.113	24.37	0.2	4.764	A
A-B	4.43			4.43			
A-C	82.36			82.36			
D-ABC	68.00	130.00	0.523	67.48	1.1	14.275	B
C-ABD	2.17	130.65	0.017	2.18	0.0	7.005	A
C-D	2.95			2.95			
C-A	6.88			6.88			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8.00	107.33	0.075	8.01	0.1	9.061	A
A-BCD	19.39	207.18	0.094	19.43	0.2	4.798	A
A-B	6.34			6.34			
A-C	74.27			74.27			
D-ABC	35.00	123.61	0.283	35.66	0.4	10.306	B
C-ABD	0.00	136.99	0.000	0.02	0.0	6.570	A
C-D	0.00			0.00			
C-A	15.00			15.00			

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: R760 L1020 2023 wdev.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 26/07/2020 15:13:33

»2023 wdev, AM
»2023 wdev, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2023 wdev							
Stream B-ACD	0.8	14.03	0.45	B	0.2	10.18	0.14	B
Stream A-BCD	0.4	7.83	0.26	A	0.5	5.38	0.24	A
Stream D-ABC	0.3	9.07	0.23	A	1.1	14.71	0.53	B
Stream C-ABD	0.1	6.16	0.05	A	0.1	7.62	0.07	A

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

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

File summary

File Description

Title	R760 / L1020 crossroads
Location	
Site number	
Date	25/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2023 wdev	AM	DIRECT	08:00	09:00	60	15
D2	2023 wdev	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2023 wdev, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		6.71	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	R760 North		Major
B	L1020 Cookstown lane		Minor
C	R760 South		Major
D	Powerscourt		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	6.00			50.0	✓	0.00
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50
D	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	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
1	A-D	150.730	-	-	-	-	-	-	0.234	0.334	0.234	-	-	-
1	B-A	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	-	0.239	0.239	0.119
1	B-C	163.853	0.100	0.254	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	0.150	-	-	-
1	B-D, offside lane	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	0.150	-	-	-
1	C-B	150.730	0.234	0.234	0.334	-	-	-	-	-	-	-	-	-
1	D-A	163.853	-	-	-	-	-	-	0.254	-	0.100	-	-	-
1	D-B, nearside lane	129.627	0.150	0.150	0.341	-	-	-	0.239	0.239	0.094	-	-	-
1	D-B, offside lane	129.627	0.150	0.150	0.341	-	-	-	0.239	0.239	0.094	-	-	-
1	D-C	129.627	-	0.150	0.341	0.119	0.239	0.239	0.239	0.239	0.094	-	-	-

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 period length (min)	Time segment length (min)
D1	2023 wdev	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000
D		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To			
		A	B	C	D
From	A	0.00	6.00	6.00	14.00
	B	12.00	0.00	6.00	7.00
	C	47.00	3.00	0.00	0.00
	D	23.00	3.00	4.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To			
		A	B	C	D
From	A	0.00	14.00	11.00	15.00
	B	15.00	0.00	8.00	6.00
	C	32.00	7.00	0.00	5.00
	D	14.00	11.00	4.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To			
		A	B	C	D
From	A	0.00	27.00	15.00	25.00
	B	29.00	0.00	7.00	15.00
	C	25.00	4.00	0.00	4.00
	D	8.00	6.00	6.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To			
		A	B	C	D
From	A	0.00	5.00	11.00	36.00
	B	15.00	0.00	6.00	20.00
	C	20.00	4.00	0.00	3.00
	D	12.00	4.00	2.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.45	14.03	0.8	B
A-BCD	0.26	7.83	0.4	A
A-B				
A-C				
D-ABC	0.23	9.07	0.3	A
C-ABD	0.05	6.16	0.1	A
C-D				
C-A				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	25.00	120.83	0.207	24.74	0.3	9.341	A
A-BCD	15.24	147.05	0.104	15.12	0.1	6.816	A
A-B	5.38			5.38			

A-C	5.38			5.38			
D-ABC	30.00	139.14	0.216	29.73	0.3	8.205	A
C-ABD	4.10	175.29	0.023	4.07	0.0	5.256	A
C-D	0.00			0.00			
C-A	45.90			45.90			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	29.00	120.27	0.241	28.94	0.3	9.849	A
A-BCD	17.86	156.99	0.114	17.84	0.2	6.468	A
A-B	12.40			12.40			
A-C	9.74			9.74			
D-ABC	29.00	128.18	0.226	28.98	0.3	9.069	A
C-ABD	9.02	165.35	0.055	8.97	0.1	5.756	A
C-D	4.73			4.73			
C-A	30.25			30.25			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	51.00	114.21	0.447	50.53	0.8	14.031	B
A-BCD	33.16	171.30	0.194	33.01	0.3	6.506	A
A-B	21.75			21.75			
A-C	12.08			12.08			
D-ABC	20.00	121.14	0.165	20.09	0.2	8.915	A
C-ABD	4.95	153.00	0.032	4.99	0.0	6.084	A
C-D	3.87			3.87			
C-A	24.18			24.18			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	41.00	116.65	0.351	41.23	0.6	11.973	B
A-BCD	40.17	154.94	0.259	40.10	0.4	7.833	A
A-B	3.70			3.70			
A-C	8.13			8.13			
D-ABC	18.00	135.99	0.132	18.05	0.2	7.632	A
C-ABD	4.73	151.00	0.031	4.73	0.0	6.155	A
C-D	2.91			2.91			
C-A	19.37			19.37			

2023 wdev, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		5.23	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2023 wdev	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000
D		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To			
		A	B	C	D
From	A	0.00	17.00	94.00	26.00
	B	3.00	0.00	5.00	5.00
	C	15.00	7.00	0.00	5.00
	D	22.00	8.00	11.00	0.00

Demand (PCU/TS)

17:15 - 17:30

		To			
		A	B	C	D
From	A	0.00	18.00	94.00	21.00
	B	6.00	0.00	5.00	3.00
	C	10.00	8.00	0.00	3.00
	D	26.00	7.00	13.00	0.00

Demand (PCU/TS)

17:30 - 17:45

		To			
		A	B	C	D
From	A	0.00	16.00	93.00	13.00
	B	5.00	0.00	5.00	4.00
	C	7.00	7.00	0.00	3.00
	D	35.00	18.00	15.00	0.00

Demand (PCU/TS)

17:45 - 18:00

		To			
		A	B	C	D
From	A	0.00	18.00	82.00	11.00
	B	6.00	0.00	6.00	2.00
	C	15.00	5.00	0.00	0.00
	D	13.00	14.00	8.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.14	10.18	0.2	B
A-BCD	0.24	5.38	0.5	A
A-B				
A-C				
D-ABC	0.53	14.71	1.1	B
C-ABD	0.07	7.62	0.1	A
C-D				
C-A				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	13.00	104.72	0.124	12.86	0.1	9.782	A
A-BCD	52.66	219.27	0.240	52.12	0.5	5.382	A
A-B	12.92			12.92			
A-C	71.43			71.43			
D-ABC	41.00	123.77	0.331	40.51	0.5	10.750	B
C-ABD	8.26	130.96	0.063	8.18	0.1	7.328	A
C-D	4.68			4.68			
C-A	14.05			14.05			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	14.00	102.31	0.137	13.98	0.2	10.185	B
A-BCD	42.89	221.09	0.194	42.98	0.4	5.068	A
A-B	14.48			14.48			
A-C	75.63			75.63			
D-ABC	46.00	127.90	0.360	45.93	0.6	10.968	B
C-ABD	8.92	127.02	0.070	8.92	0.1	7.623	A
C-D	2.79			2.79			
C-A	9.29			9.29			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	14.00	103.23	0.136	14.00	0.2	10.086	B
A-BCD	26.02	219.81	0.118	26.20	0.3	4.658	A
A-B	14.09			14.09			
A-C	81.89			81.89			
D-ABC	68.00	128.10	0.531	67.46	1.1	14.710	B
C-ABD	7.60	128.13	0.059	7.61	0.1	7.469	A
C-D	2.82			2.82			
C-A	6.58			6.58			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	14.00	111.13	0.126	14.01	0.1	9.269	A
A-BCD	20.84	213.28	0.098	20.89	0.2	4.685	A
A-B	16.23			16.23			
A-C	73.93			73.93			
D-ABC	35.00	121.42	0.288	35.68	0.4	10.578	B
C-ABD	5.64	134.51	0.042	5.65	0.1	6.985	A
C-D	0.00			0.00			
C-A	14.36			14.36			

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: R760 L1020 2028 wod.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 26/07/2020 15:51:35

»2028 wod, AM
»2028 wod, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2028 wod							
Stream B-ACD	0.6	13.39	0.40	B	0.1	10.66	0.10	B
Stream A-BCD	0.4	8.11	0.28	A	0.6	5.51	0.25	A
Stream D-ABC	0.3	9.33	0.24	A	1.2	15.58	0.56	C
Stream C-ABD	0.1	6.02	0.06	A	0.0	7.27	0.03	A

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

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

File summary

File Description

Title	R760 / L1020 crossroads
Location	
Site number	
Date	25/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2028 wod	AM	DIRECT	08:00	09:00	60	15
D2	2028 wod	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 wod, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		6.21	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	R760 North		Major
B	L1020 Cookstown lane		Minor
C	R760 South		Major
D	Powerscourt		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	6.00			50.0	✓	0.00
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50
D	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	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
1	A-D	150.730	-	-	-	-	-	-	0.234	0.334	0.234	-	-	-
1	B-A	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	-	0.239	0.239	0.119
1	B-C	163.853	0.100	0.254	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	0.150	-	-	-
1	B-D, offside lane	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	0.150	-	-	-
1	C-B	150.730	0.234	0.234	0.334	-	-	-	-	-	-	-	-	-
1	D-A	163.853	-	-	-	-	-	-	0.254	-	0.100	-	-	-
1	D-B, nearside lane	129.627	0.150	0.150	0.341	-	-	-	0.239	0.239	0.094	-	-	-
1	D-B, offside lane	129.627	0.150	0.150	0.341	-	-	-	0.239	0.239	0.094	-	-	-
1	D-C	129.627	-	0.150	0.341	0.119	0.239	0.239	0.239	0.239	0.094	-	-	-

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 period length (min)	Time segment length (min)
D1	2028 wod	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000
D		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To			
		A	B	C	D
From	A	0.00	5.00	7.00	15.00
	B	8.00	0.00	1.00	8.00
	C	50.00	1.00	0.00	0.00
	D	25.00	3.00	5.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To			
		A	B	C	D
From	A	0.00	14.00	11.00	16.00
	B	10.00	0.00	3.00	7.00
	C	34.00	8.00	0.00	6.00
	D	15.00	11.00	5.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To			
		A	B	C	D
From	A	0.00	27.00	16.00	27.00
	B	26.00	0.00	2.00	16.00
	C	27.00	2.00	0.00	5.00
	D	9.00	7.00	7.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To			
		A	B	C	D
From	A	0.00	3.00	11.00	39.00
	B	10.00	0.00	1.00	22.00
	C	22.00	2.00	0.00	3.00
	D	12.00	5.00	2.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.40	13.39	0.6	B
A-BCD	0.28	8.11	0.4	A
A-B				
A-C				
D-ABC	0.24	9.33	0.3	A
C-ABD	0.06	6.02	0.1	A
C-D				
C-A				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	17.00	114.35	0.149	16.83	0.2	9.214	A
A-BCD	16.33	147.02	0.111	16.20	0.1	6.875	A
A-B	4.44			4.44			
A-C	6.22			6.22			

D-ABC	33.00	138.22	0.239	32.69	0.3	8.504	A
C-ABD	1.39	177.04	0.008	1.39	0.0	5.123	A
C-D	0.00			0.00			
C-A	49.61			49.61			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	20.00	114.89	0.174	19.96	0.2	9.474	A
A-BCD	19.08	156.01	0.122	19.05	0.2	6.571	A
A-B	12.28			12.28			
A-C	9.65			9.65			
D-ABC	31.00	127.48	0.243	30.99	0.3	9.326	A
C-ABD	10.52	167.11	0.063	10.43	0.1	5.744	A
C-D	5.62			5.62			
C-A	31.86			31.86			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	44.00	110.33	0.399	43.56	0.6	13.393	B
A-BCD	36.05	171.95	0.210	35.88	0.3	6.613	A
A-B	21.32			21.32			
A-C	12.63			12.63			
D-ABC	23.00	120.40	0.191	23.08	0.2	9.256	A
C-ABD	2.54	154.28	0.016	2.62	0.0	5.936	A
C-D	4.92			4.92			
C-A	26.54			26.54			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	33.00	112.68	0.293	33.23	0.4	11.359	B
A-BCD	42.93	153.79	0.279	42.86	0.4	8.112	A
A-B	2.16			2.16			
A-C	7.91			7.91			
D-ABC	19.00	133.75	0.142	19.07	0.2	7.852	A
C-ABD	2.40	151.88	0.016	2.40	0.0	6.020	A
C-D	2.95			2.95			
C-A	21.65			21.65			

2028 wod, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		5.52	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2028 wod	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000
D		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To			
		A	B	C	D
From	A	0.00	7.00	101.00	28.00
	B	1.00	0.00	1.00	6.00
	C	16.00	2.00	0.00	6.00
	D	24.00	9.00	11.00	0.00

17:15 - 17:30

Demand (PCU/TS)

		To			
		A	B	C	D
From	A	0.00	8.00	101.00	23.00
	B	5.00	0.00	1.00	3.00
	C	10.00	3.00	0.00	3.00
	D	28.00	8.00	14.00	0.00

17:30 - 17:45

Demand (PCU/TS)

		To			
		A	B	C	D
From	A	0.00	6.00	100.00	14.00
	B	3.00	0.00	1.00	5.00
	C	8.00	2.00	0.00	3.00
	D	37.00	19.00	16.00	0.00

17:45 - 18:00

Demand (PCU/TS)

		To			
		A	B	C	D
From	A	0.00	8.00	88.00	11.00
	B	5.00	0.00	2.00	2.00
	C	16.00	0.00	0.00	0.00
	D	14.00	15.00	9.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.10	10.66	0.1	B
A-BCD	0.25	5.51	0.6	A
A-B				
A-C				
D-ABC	0.56	15.58	1.2	C
C-ABD	0.03	7.27	0.0	A
C-D				
C-A				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8.00	96.83	0.083	7.91	0.1	10.111	B
A-BCD	55.46	218.14	0.254	54.89	0.6	5.509	A
A-B	5.22			5.22			
A-C	75.32			75.32			
D-ABC	44.00	124.42	0.354	43.46	0.5	11.045	B
C-ABD	2.40	132.48	0.018	2.38	0.0	6.917	A
C-D	5.89			5.89			
C-A	15.71			15.71			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	9.00	93.35	0.096	8.98	0.1	10.664	B
A-BCD	45.85	220.34	0.208	45.95	0.5	5.176	A
A-B	6.32			6.32			
A-C	79.83			79.83			
D-ABC	50.00	128.09	0.390	49.91	0.6	11.497	B
C-ABD	3.34	127.04	0.026	3.33	0.0	7.274	A
C-D	2.92			2.92			
C-A	9.74			9.74			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	9.00	96.64	0.093	9.00	0.1	10.269	B
A-BCD	27.39	218.90	0.125	27.58	0.3	4.716	A
A-B	5.24			5.24			
A-C	87.37			87.37			
D-ABC	72.00	128.57	0.560	71.40	1.2	15.582	C
C-ABD	2.19	129.21	0.017	2.20	0.0	7.086	A
C-D	2.95			2.95			
C-A	7.86			7.86			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	9.00	103.93	0.087	9.01	0.1	9.483	A
A-BCD	20.25	211.72	0.096	20.32	0.2	4.708	A
A-B	7.23			7.23			
A-C	79.52			79.52			
D-ABC	38.00	122.39	0.310	38.77	0.5	10.859	B
C-ABD	0.00	136.13	0.000	0.02	0.0	6.612	A
C-D	0.00			0.00			
C-A	16.00			16.00			

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: R760 L1020 2028 wdev.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 26/07/2020 15:59:54

»2028 wdev, AM
»2028 wdev, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2028 wdev							
Stream B-ACD	0.9	15.14	0.48	C	0.2	10.54	0.15	B
Stream A-BCD	0.4	8.10	0.28	A	0.6	5.45	0.26	A
Stream D-ABC	0.3	9.41	0.24	A	1.3	16.09	0.57	C
Stream C-ABD	0.1	6.14	0.08	A	0.1	7.77	0.07	A

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

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

File summary

File Description

Title	R760 / L1020 crossroads
Location	
Site number	
Date	25/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2028 wdev	AM	DIRECT	08:00	09:00	60	15
D2	2028 wdev	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 wdev, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		7.10	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	R760 North		Major
B	L1020 Cookstown lane		Minor
C	R760 South		Major
D	Powerscourt		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	6.00			50.0	✓	0.00
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50
D	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	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
1	A-D	150.730	-	-	-	-	-	-	0.234	0.334	0.234	-	-	-
1	B-A	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	-	0.239	0.239	0.119
1	B-C	163.853	0.100	0.254	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	0.150	-	-	-
1	B-D, offside lane	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	0.150	-	-	-
1	C-B	150.730	0.234	0.234	0.334	-	-	-	-	-	-	-	-	-
1	D-A	163.853	-	-	-	-	-	-	0.254	-	0.100	-	-	-
1	D-B, nearside lane	129.627	0.150	0.150	0.341	-	-	-	0.239	0.239	0.094	-	-	-
1	D-B, offside lane	129.627	0.150	0.150	0.341	-	-	-	0.239	0.239	0.094	-	-	-
1	D-C	129.627	-	0.150	0.341	0.119	0.239	0.239	0.239	0.239	0.094	-	-	-

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 period length (min)	Time segment length (min)
D1	2028 wdev	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000
D		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To			
		A	B	C	D
From	A	0.00	6.00	7.00	15.00
	B	13.00	0.00	6.00	8.00
	C	50.00	3.00	0.00	0.00
	D	25.00	3.00	5.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To			
		A	B	C	D
From	A	0.00	15.00	11.00	16.00
	B	15.00	0.00	8.00	7.00
	C	34.00	10.00	0.00	6.00
	D	15.00	11.00	5.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To			
		A	B	C	D
From	A	0.00	29.00	16.00	27.00
	B	31.00	0.00	7.00	16.00
	C	27.00	4.00	0.00	5.00
	D	9.00	7.00	7.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To			
		A	B	C	D
From	A	0.00	5.00	11.00	39.00
	B	15.00	0.00	6.00	22.00
	C	22.00	4.00	0.00	3.00
	D	12.00	5.00	2.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.48	15.14	0.9	C
A-BCD	0.28	8.10	0.4	A
A-B				
A-C				
D-ABC	0.24	9.41	0.3	A
C-ABD	0.08	6.14	0.1	A
C-D				
C-A				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	27.00	118.98	0.227	26.71	0.3	9.725	A
A-BCD	16.45	147.06	0.112	16.32	0.1	6.879	A
A-B	5.33			5.33			
A-C	6.22			6.22			

D-ABC	33.00	137.56	0.240	32.69	0.3	8.559	A
C-ABD	4.18	176.83	0.024	4.15	0.0	5.212	A
C-D	0.00			0.00			
C-A	48.82			48.82			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	30.00	118.31	0.254	29.95	0.3	10.180	B
A-BCD	19.22	156.07	0.123	19.19	0.2	6.575	A
A-B	13.14			13.14			
A-C	9.64			9.64			
D-ABC	31.00	126.66	0.245	30.99	0.3	9.406	A
C-ABD	13.16	166.90	0.079	13.07	0.1	5.851	A
C-D	5.53			5.53			
C-A	31.31			31.31			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	54.00	112.32	0.481	53.44	0.9	15.144	C
A-BCD	36.56	172.71	0.212	36.39	0.3	6.601	A
A-B	22.84			22.84			
A-C	12.60			12.60			
D-ABC	23.00	119.14	0.193	23.08	0.2	9.378	A
C-ABD	5.07	153.85	0.033	5.15	0.0	6.055	A
C-D	4.83			4.83			
C-A	26.09			26.09			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	43.00	115.41	0.373	43.29	0.6	12.532	B
A-BCD	43.54	154.50	0.282	43.46	0.4	8.104	A
A-B	3.58			3.58			
A-C	7.88			7.88			
D-ABC	19.00	132.99	0.143	19.07	0.2	7.907	A
C-ABD	4.80	151.44	0.032	4.80	0.0	6.137	A
C-D	2.90			2.90			
C-A	21.30			21.30			

2028 wdev, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		5.64	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2028 wdev	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000
D		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To			
		A	B	C	D
From	A	0.00	17.00	101.00	28.00
	B	3.00	0.00	5.00	6.00
	C	16.00	7.00	0.00	6.00
	D	24.00	9.00	11.00	0.00

Demand (PCU/TS)

17:15 - 17:30

		To			
		A	B	C	D
From	A	0.00	18.00	101.00	23.00
	B	6.00	0.00	5.00	3.00
	C	10.00	8.00	0.00	3.00
	D	28.00	8.00	14.00	0.00

Demand (PCU/TS)

17:30 - 17:45

		To			
		A	B	C	D
From	A	0.00	16.00	100.00	14.00
	B	5.00	0.00	5.00	5.00
	C	8.00	7.00	0.00	3.00
	D	37.00	19.00	16.00	0.00

Demand (PCU/TS)

17:45 - 18:00

		To			
		A	B	C	D
From	A	0.00	18.00	88.00	11.00
	B	6.00	0.00	6.00	2.00
	C	16.00	5.00	0.00	0.00
	D	14.00	15.00	9.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.15	10.54	0.2	B
A-BCD	0.26	5.45	0.6	A
A-B				
A-C				
D-ABC	0.57	16.09	1.3	C
C-ABD	0.07	7.77	0.1	A
C-D				
C-A				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	14.00	101.29	0.138	13.84	0.2	10.273	B
A-BCD	59.26	223.69	0.265	58.64	0.6	5.451	A
A-B	12.50			12.50			
A-C	74.24			74.24			
D-ABC	44.00	122.58	0.359	43.45	0.5	11.298	B
C-ABD	8.42	130.26	0.065	8.33	0.1	7.380	A
C-D	5.61			5.61			
C-A	14.97			14.97			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	14.00	99.62	0.141	14.00	0.2	10.511	B
A-BCD	49.01	225.87	0.217	49.12	0.5	5.107	A
A-B	14.07			14.07			
A-C	78.92			78.92			
D-ABC	50.00	126.35	0.396	49.91	0.6	11.756	B
C-ABD	8.94	124.77	0.072	8.94	0.1	7.772	A
C-D	2.78			2.78			
C-A	9.28			9.28			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	15.00	100.39	0.149	14.99	0.2	10.537	B
A-BCD	29.27	224.39	0.130	29.48	0.3	4.630	A
A-B	13.89			13.89			
A-C	86.83			86.83			
D-ABC	72.00	126.70	0.568	71.38	1.3	16.089	C
C-ABD	7.67	126.92	0.060	7.69	0.1	7.552	A
C-D	2.82			2.82			
C-A	7.51			7.51			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	14.00	109.11	0.128	14.02	0.1	9.469	A
A-BCD	21.64	217.18	0.100	21.72	0.2	4.610	A
A-B	16.19			16.19			
A-C	79.17			79.17			
D-ABC	38.00	120.30	0.316	38.80	0.5	11.145	B
C-ABD	5.69	133.87	0.042	5.71	0.1	7.023	A
C-D	0.00			0.00			
C-A	15.31			15.31			

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: R760 L1020 2038 wod.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 26/07/2020 16:15:06

»2038 wod, AM
»2038 wod, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2038 wod							
Stream B-ACD	0.7	14.32	0.43	B	0.1	11.14	0.11	B
Stream A-BCD	0.4	8.25	0.30	A	0.6	5.57	0.28	A
Stream D-ABC	0.4	9.62	0.26	A	1.5	17.72	0.61	C
Stream C-ABD	0.1	6.01	0.06	A	0.0	7.37	0.04	A

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

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

File summary

File Description

Title	R760 / L1020 crossroads
Location	
Site number	
Date	25/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2038 wod	AM	DIRECT	08:00	09:00	60	15
D2	2038 wod	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2038 wod, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		6.49	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	R760 North		Major
B	L1020 Cookstown lane		Minor
C	R760 South		Major
D	Powerscourt		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	6.00			50.0	✓	0.00
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50
D	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	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
1	A-D	150.730	-	-	-	-	-	-	0.234	0.334	0.234	-	-	-
1	B-A	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	-	0.239	0.239	0.119
1	B-C	163.853	0.100	0.254	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	0.150	-	-	-
1	B-D, offside lane	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	0.150	-	-	-
1	C-B	150.730	0.234	0.234	0.334	-	-	-	-	-	-	-	-	-
1	D-A	163.853	-	-	-	-	-	-	0.254	-	0.100	-	-	-
1	D-B, nearside lane	129.627	0.150	0.150	0.341	-	-	-	0.239	0.239	0.094	-	-	-
1	D-B, offside lane	129.627	0.150	0.150	0.341	-	-	-	0.239	0.239	0.094	-	-	-
1	D-C	129.627	-	0.150	0.341	0.119	0.239	0.239	0.239	0.239	0.094	-	-	-

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 period length (min)	Time segment length (min)
D1	2038 wod	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000
D		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To			
		A	B	C	D
From	A	0.00	5.00	7.00	16.00
	B	8.00	0.00	1.00	8.00
	C	53.00	1.00	0.00	0.00
	D	27.00	4.00	5.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To			
		A	B	C	D
From	A	0.00	15.00	12.00	17.00
	B	11.00	0.00	4.00	7.00
	C	36.00	8.00	0.00	6.00
	D	16.00	12.00	5.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To			
		A	B	C	D
From	A	0.00	29.00	17.00	29.00
	B	28.00	0.00	2.00	17.00
	C	29.00	2.00	0.00	5.00
	D	10.00	7.00	7.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To			
		A	B	C	D
From	A	0.00	4.00	12.00	41.00
	B	11.00	0.00	1.00	23.00
	C	23.00	2.00	0.00	4.00
	D	13.00	5.00	2.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.43	14.32	0.7	B
A-BCD	0.30	8.25	0.4	A
A-B				
A-C				
D-ABC	0.26	9.62	0.4	A
C-ABD	0.06	6.01	0.1	A
C-D				
C-A				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	17.00	113.30	0.150	16.83	0.2	9.312	A
A-BCD	17.43	146.33	0.119	17.28	0.1	6.967	A
A-B	4.40			4.40			
A-C	6.17			6.17			

D-ABC	36.00	137.02	0.263	35.65	0.4	8.849	A
C-ABD	1.42	178.79	0.008	1.41	0.0	5.073	A
C-D	0.00			0.00			
C-A	52.58			52.58			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	22.00	114.85	0.192	21.94	0.2	9.681	A
A-BCD	20.56	156.96	0.131	20.53	0.2	6.597	A
A-B	13.02			13.02			
A-C	10.42			10.42			
D-ABC	33.00	126.55	0.261	33.00	0.4	9.620	A
C-ABD	10.67	167.76	0.064	10.58	0.1	5.726	A
C-D	5.62			5.62			
C-A	33.71			33.71			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	47.00	108.87	0.432	46.49	0.7	14.316	B
A-BCD	39.51	173.59	0.228	39.32	0.4	6.701	A
A-B	22.37			22.37			
A-C	13.12			13.12			
D-ABC	24.00	120.09	0.200	24.10	0.3	9.385	A
C-ABD	2.59	154.43	0.017	2.66	0.0	5.935	A
C-D	4.91			4.91			
C-A	28.50			28.50			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	35.00	111.43	0.314	35.27	0.5	11.861	B
A-BCD	45.76	154.71	0.296	45.69	0.4	8.252	A
A-B	2.81			2.81			
A-C	8.43			8.43			
D-ABC	20.00	133.81	0.149	20.08	0.2	7.918	A
C-ABD	2.43	152.21	0.016	2.44	0.0	6.011	A
C-D	3.94			3.94			
C-A	22.63			22.63			

2038 wod, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		6.15	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2038 wod	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000
D		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To			
		A	B	C	D
From	A	0.00	7.00	108.00	30.00
	B	1.00	0.00	1.00	6.00
	C	17.00	2.00	0.00	6.00
	D	25.00	10.00	12.00	0.00

17:15 - 17:30

Demand (PCU/TS)

		To			
		A	B	C	D
From	A	0.00	8.00	108.00	24.00
	B	5.00	0.00	1.00	4.00
	C	11.00	4.00	0.00	4.00
	D	30.00	8.00	15.00	0.00

17:30 - 17:45

Demand (PCU/TS)

		To			
		A	B	C	D
From	A	0.00	6.00	107.00	15.00
	B	4.00	0.00	1.00	5.00
	C	8.00	2.00	0.00	4.00
	D	40.00	21.00	17.00	0.00

17:45 - 18:00

Demand (PCU/TS)

		To			
		A	B	C	D
From	A	0.00	8.00	95.00	12.00
	B	5.00	0.00	2.00	2.00
	C	17.00	0.00	0.00	0.00
	D	15.00	16.00	10.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.11	11.14	0.1	B
A-BCD	0.28	5.57	0.6	A
A-B				
A-C				
D-ABC	0.61	17.72	1.5	C
C-ABD	0.04	7.37	0.0	A
C-D				
C-A				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8.00	94.44	0.085	7.91	0.1	10.391	B
A-BCD	62.03	222.71	0.279	61.39	0.6	5.570	A
A-B	5.05			5.05			
A-C	77.92			77.92			
D-ABC	47.00	122.08	0.385	46.39	0.6	11.799	B
C-ABD	2.43	131.03	0.019	2.40	0.0	6.997	A
C-D	5.89			5.89			
C-A	16.69			16.69			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10.00	90.78	0.110	9.97	0.1	11.138	B
A-BCD	50.07	224.50	0.223	50.20	0.5	5.182	A
A-B	6.20			6.20			
A-C	83.73			83.73			
D-ABC	53.00	126.81	0.418	52.91	0.7	12.161	B
C-ABD	4.54	126.60	0.036	4.52	0.0	7.372	A
C-D	3.86			3.86			
C-A	10.60			10.60			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10.00	92.57	0.108	10.00	0.1	10.899	B
A-BCD	30.64	223.45	0.137	30.84	0.3	4.684	A
A-B	5.17			5.17			
A-C	92.19			92.19			
D-ABC	78.00	127.36	0.612	77.20	1.5	17.720	C
C-ABD	2.21	128.01	0.017	2.24	0.0	7.156	A
C-D	3.93			3.93			
C-A	7.86			7.86			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	9.00	101.40	0.089	9.02	0.1	9.746	A
A-BCD	23.06	216.27	0.107	23.14	0.2	4.666	A
A-B	7.14			7.14			
A-C	84.80			84.80			
D-ABC	41.00	120.90	0.339	41.98	0.5	11.541	B
C-ABD	0.00	134.95	0.000	0.02	0.0	6.670	A
C-D	0.00			0.00			
C-A	17.00			17.00			

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: R760 L1020 2038 wdev.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 26/07/2020 16:22:27

»2038 wdev, AM
»2038 wdev, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2038 wdev							
Stream B-ACD	1.0	16.37	0.51	C	0.2	11.32	0.17	B
Stream A-BCD	0.5	8.28	0.30	A	0.7	5.52	0.29	A
Stream D-ABC	0.4	9.70	0.26	A	1.6	18.30	0.62	C
Stream C-ABD	0.1	6.12	0.08	A	0.1	7.83	0.07	A

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

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

File summary

File Description

Title	R760 / L1020 crossroads
Location	
Site number	
Date	25/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2038 wdev	AM	DIRECT	08:00	09:00	60	15
D2	2038 wdev	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2038 wdev, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		7.46	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	R760 North		Major
B	L1020 Cookstown lane		Minor
C	R760 South		Major
D	Powerscourt		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	6.00			50.0	✓	0.00
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50
D	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	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
1	A-D	150.730	-	-	-	-	-	-	0.234	0.334	0.234	-	-	-
1	B-A	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	-	0.239	0.239	0.119
1	B-C	163.853	0.100	0.254	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	0.150	-	-	-
1	B-D, offside lane	129.627	0.094	0.239	0.239	-	-	-	0.150	0.341	0.150	-	-	-
1	C-B	150.730	0.234	0.234	0.334	-	-	-	-	-	-	-	-	-
1	D-A	163.853	-	-	-	-	-	-	0.254	-	0.100	-	-	-
1	D-B, nearside lane	129.627	0.150	0.150	0.341	-	-	-	0.239	0.239	0.094	-	-	-
1	D-B, offside lane	129.627	0.150	0.150	0.341	-	-	-	0.239	0.239	0.094	-	-	-
1	D-C	129.627	-	0.150	0.341	0.119	0.239	0.239	0.239	0.239	0.094	-	-	-

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 period length (min)	Time segment length (min)
D1	2038 wdev	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000
D		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To			
		A	B	C	D
From	A	0.00	7.00	7.00	16.00
	B	13.00	0.00	6.00	8.00
	C	53.00	3.00	0.00	0.00
	D	27.00	4.00	5.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To			
		A	B	C	D
From	A	0.00	16.00	12.00	17.00
	B	16.00	0.00	9.00	7.00
	C	36.00	10.00	0.00	6.00
	D	16.00	12.00	5.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To			
		A	B	C	D
From	A	0.00	31.00	17.00	29.00
	B	33.00	0.00	7.00	17.00
	C	29.00	4.00	0.00	5.00
	D	10.00	7.00	7.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To			
		A	B	C	D
From	A	0.00	5.00	12.00	41.00
	B	16.00	0.00	6.00	23.00
	C	23.00	4.00	0.00	4.00
	D	13.00	5.00	2.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.51	16.37	1.0	C
A-BCD	0.30	8.28	0.5	A
A-B				
A-C				
D-ABC	0.26	9.70	0.4	A
C-ABD	0.08	6.12	0.1	A
C-D				
C-A				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	27.00	117.84	0.229	26.71	0.3	9.845	A
A-BCD	17.68	147.07	0.120	17.53	0.2	6.941	A
A-B	6.16			6.16			
A-C	6.16			6.16			

D-ABC	36.00	136.36	0.264	35.65	0.4	8.906	A
C-ABD	4.27	178.38	0.024	4.24	0.0	5.168	A
C-D	0.00			0.00			
C-A	51.73			51.73			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	32.00	117.73	0.272	31.93	0.4	10.479	B
A-BCD	20.72	157.02	0.132	20.69	0.2	6.602	A
A-B	13.87			13.87			
A-C	10.41			10.41			
D-ABC	33.00	125.75	0.262	33.00	0.4	9.703	A
C-ABD	13.35	167.55	0.080	13.26	0.1	5.833	A
C-D	5.52			5.52			
C-A	33.13			33.13			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	57.00	110.74	0.515	56.34	1.0	16.369	C
A-BCD	40.08	174.35	0.230	39.88	0.4	6.691	A
A-B	23.85			23.85			
A-C	13.08			13.08			
D-ABC	24.00	118.84	0.202	24.10	0.3	9.508	A
C-ABD	5.16	154.00	0.034	5.24	0.0	6.055	A
C-D	4.83			4.83			
C-A	28.01			28.01			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	45.00	114.13	0.394	45.36	0.7	13.156	B
A-BCD	46.10	154.74	0.298	46.03	0.5	8.278	A
A-B	3.50			3.50			
A-C	8.40			8.40			
D-ABC	20.00	133.12	0.150	20.08	0.2	7.966	A
C-ABD	4.87	151.99	0.032	4.87	0.0	6.117	A
C-D	3.87			3.87			
C-A	22.26			22.26			

2038 wdev, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way		6.27	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2038 wdev	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000
D		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To			
		A	B	C	D
From	A	0.00	18.00	108.00	30.00
	B	3.00	0.00	5.00	6.00
	C	17.00	7.00	0.00	6.00
	D	25.00	10.00	12.00	0.00

Demand (PCU/TS)

17:15 - 17:30

		To			
		A	B	C	D
From	A	0.00	19.00	108.00	24.00
	B	7.00	0.00	5.00	4.00
	C	11.00	8.00	0.00	4.00
	D	30.00	8.00	15.00	0.00

Demand (PCU/TS)

17:30 - 17:45

		To			
		A	B	C	D
From	A	0.00	16.00	107.00	15.00
	B	5.00	0.00	5.00	5.00
	C	8.00	7.00	0.00	4.00
	D	40.00	21.00	17.00	0.00

Demand (PCU/TS)

17:45 - 18:00

		To			
		A	B	C	D
From	A	0.00	19.00	95.00	12.00
	B	7.00	0.00	6.00	2.00
	C	17.00	5.00	0.00	0.00
	D	15.00	16.00	10.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.17	11.32	0.2	B
A-BCD	0.29	5.52	0.7	A
A-B				
A-C				
D-ABC	0.62	18.30	1.6	C
C-ABD	0.07	7.83	0.1	A
C-D				
C-A				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	14.00	98.71	0.142	13.84	0.2	10.584	B
A-BCD	66.71	228.97	0.291	66.00	0.7	5.519	A
A-B	12.76			12.76			
A-C	76.54			76.54			
D-ABC	47.00	120.12	0.391	46.37	0.6	12.105	B
C-ABD	8.52	128.60	0.066	8.43	0.1	7.488	A
C-D	5.60			5.60			
C-A	15.87			15.87			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	16.00	95.42	0.168	15.96	0.2	11.322	B
A-BCD	53.81	231.00	0.233	53.96	0.6	5.101	A
A-B	14.54			14.54			
A-C	82.65			82.65			
D-ABC	53.00	125.14	0.424	52.91	0.7	12.441	B
C-ABD	9.11	124.10	0.073	9.11	0.1	7.829	A
C-D	3.70			3.70			
C-A	10.19			10.19			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	15.00	97.65	0.154	15.01	0.2	10.892	B
A-BCD	32.75	228.99	0.143	32.98	0.3	4.606	A
A-B	13.69			13.69			
A-C	91.56			91.56			
D-ABC	78.00	125.50	0.621	77.16	1.6	18.305	C
C-ABD	7.75	125.73	0.062	7.76	0.1	7.633	A
C-D	3.75			3.75			
C-A	7.50			7.50			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	15.00	105.17	0.143	15.02	0.2	9.986	A
A-BCD	24.80	222.44	0.111	24.88	0.3	4.564	A
A-B	16.87			16.87			
A-C	84.34			84.34			
D-ABC	41.00	118.68	0.345	42.02	0.5	11.888	B
C-ABD	5.75	132.47	0.043	5.77	0.1	7.104	A
C-D	0.00			0.00			
C-A	16.25			16.25			

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: R117 L1020 2019 existing.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 26/07/2020 21:17:37

»2019 exist, AM
»2019 exist, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2019 exist							
Stream B-AC	0.3	9.97	0.22	A	0.3	10.20	0.22	B
Stream C-AB	0.1	6.15	0.08	A	0.0	5.01	0.02	A

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

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

File summary

File Description

Title	R117 L1020 priority junction
Location	
Site number	
Date	26/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2019 exist	AM	DIRECT	08:00	09:00	60	15
D2	2019 exist	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2019 exist, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.29	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	R117 south		Major
B	L1020		Minor
C	R117 north		Major

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)
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	129.627	0.094	0.239	0.150	0.341
1	B-C	163.853	0.100	0.254	-	-
1	C-B	150.730	0.234	0.234	-	-

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 period length (min)	Time segment length (min)
D1	2019 exist	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To		
		A	B	C
From	A	0.00	9.00	32.00
	B	7.00	0.00	6.00
	C	29.00	10.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To		
		A	B	C
From	A	0.00	13.00	34.00
	B	14.00	0.00	6.00
	C	27.00	10.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To		
		A	B	C
From	A	0.00	20.00	44.00
	B	20.00	0.00	6.00
	C	35.00	10.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To		
		A	B	C
From	A	0.00	13.00	44.00
	B	7.00	0.00	6.00
	C	35.00	10.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.22	9.97	0.3	A
C-AB	0.08	6.15	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13.00	129.36	0.101	12.89	0.1	7.720	A
C-AB	12.20	161.06	0.076	12.09	0.1	6.040	A
C-A	26.80			26.80			
A-B	9.00			9.00			
A-C	32.00			32.00			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20.00	122.65	0.163	19.92	0.2	8.753	A
C-AB	12.07	158.38	0.076	12.07	0.1	6.155	A
C-A	24.93			24.93			
A-B	13.00			13.00			
A-C	34.00			34.00			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	26.00	116.04	0.224	25.91	0.3	9.975	A
C-AB	12.82	160.23	0.080	12.81	0.1	6.108	A
C-A	32.18			32.18			

A-B	20.00			20.00			
A-C	44.00			44.00			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13.00	125.11	0.104	13.17	0.1	8.051	A
C-AB	12.79	161.74	0.079	12.79	0.1	6.043	A
C-A	32.21			32.21			
A-B	13.00			13.00			
A-C	44.00			44.00			

2019 exist, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.69	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2019 exist	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To		
		A	B	C
From	A	0.00	5.00	29.00
	B	11.00	0.00	1.00
	C	58.00	2.00	0.00

Demand (PCU/TS)

17:15 - 17:30

		To		
		A	B	C
From	A	0.00	9.00	27.00
	B	14.00	0.00	1.00
	C	70.00	1.00	0.00

Demand (PCU/TS)

17:30 - 17:45

		To		
		A	B	C
From	A	0.00	6.00	28.00
	B	24.00	0.00	1.00
	C	69.00	1.00	0.00

Demand (PCU/TS)

17:45 - 18:00

		To		
		A	B	C
From	A	0.00	5.00	38.00
	B	23.00	0.00	0.00
	C	48.00	0.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.22	10.20	0.3	B
C-AB	0.02	5.01	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	12.00	115.50	0.104	11.89	0.1	8.676	A
C-AB	2.93	182.38	0.016	2.91	0.0	5.014	A
C-A	57.07			57.07			
A-B	5.00			5.00			
A-C	29.00			29.00			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15.00	113.64	0.132	14.96	0.2	9.118	A
C-AB	1.59	190.19	0.008	1.60	0.0	4.774	A
C-A	69.41			69.41			
A-B	9.00			9.00			
A-C	27.00			27.00			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25.00	112.96	0.221	24.87	0.3	10.201	B
C-AB	1.57	189.90	0.008	1.57	0.0	4.778	A
C-A	68.43			68.43			
A-B	6.00			6.00			
A-C	28.00			28.00			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23.00	112.89	0.204	23.02	0.3	10.019	B
C-AB	0.00	140.68	0.000	0.01	0.0	0.000	A
C-A	48.00			48.00			
A-B	5.00			5.00			
A-C	38.00			38.00			

Junctions 9

PICADY 9 - Priority Intersection Module

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

Filename: R117 L1020 2023 wdev.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 27/07/2020 16:55:01

»2023 wdev, AM
»2023 wdev, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2023 wdev							
Stream B-AC	0.5	11.28	0.32	B	0.4	11.16	0.28	B
Stream C-AB	0.1	6.25	0.10	A	0.1	5.29	0.04	A

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

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

File summary

File Description

Title	R117 L1020 priority junction
Location	
Site number	
Date	26/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2023 wdev	AM	DIRECT	08:00	09:00	60	15
D2	2023 wdev	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2023 wdev, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		3.18	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	R117 south		Major
B	L1020		Minor
C	R117 north		Major

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)
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	129.627	0.094	0.239	0.150	0.341
1	B-C	163.853	0.100	0.254	-	-
1	C-B	150.730	0.234	0.234	-	-

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 period length (min)	Time segment length (min)
D1	2023 wdev	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To		
		A	B	C
From	A	0.00	11.00	34.00
	B	12.00	0.00	11.00
	C	31.00	12.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To		
		A	B	C
From	A	0.00	15.00	36.00
	B	20.00	0.00	11.00
	C	29.00	12.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To		
		A	B	C
From	A	0.00	23.00	47.00
	B	26.00	0.00	11.00
	C	37.00	12.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To		
		A	B	C
From	A	0.00	15.00	47.00
	B	12.00	0.00	11.00
	C	37.00	12.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.32	11.28	0.5	B
C-AB	0.10	6.25	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23.00	128.65	0.179	22.78	0.2	8.485	A
C-AB	14.85	161.56	0.092	14.72	0.1	6.126	A
C-A	28.15			28.15			
A-B	11.00			11.00			
A-C	34.00			34.00			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31.00	123.16	0.252	30.88	0.3	9.740	A
C-AB	14.70	158.89	0.093	14.70	0.1	6.246	A
C-A	26.30			26.30			
A-B	15.00			15.00			
A-C	36.00			36.00			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	37.00	116.54	0.318	36.87	0.5	11.279	B
C-AB	15.63	160.35	0.097	15.62	0.1	6.220	A
C-A	33.37			33.37			

A-B	23.00			23.00			
A-C	47.00			47.00			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23.00	124.20	0.185	23.23	0.2	8.934	A
C-AB	15.58	162.07	0.096	15.58	0.1	6.146	A
C-A	33.42			33.42			
A-B	15.00			15.00			
A-C	47.00			47.00			

2023 wdev, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.33	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2023 wdev	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To		
		A	B	C
From	A	0.00	9.00	31.00
	B	16.00	0.00	3.00
	C	61.00	5.00	0.00

Demand (PCU/TS)

17:15 - 17:30

		To		
		A	B	C
From	A	0.00	13.00	29.00
	B	19.00	0.00	3.00
	C	74.00	4.00	0.00

Demand (PCU/TS)

17:30 - 17:45

		To		
		A	B	C
From	A	0.00	10.00	30.00
	B	29.00	0.00	3.00
	C	73.00	4.00	0.00

Demand (PCU/TS)

17:45 - 18:00

		To		
		A	B	C
From	A	0.00	9.00	40.00
	B	28.00	0.00	2.00
	C	51.00	3.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.28	11.16	0.4	B
C-AB	0.04	5.29	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	19.00	115.76	0.164	18.81	0.2	9.264	A
C-AB	7.50	183.22	0.041	7.44	0.1	5.119	A
C-A	58.50			58.50			
A-B	9.00			9.00			
A-C	31.00			31.00			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22.00	113.60	0.194	21.96	0.2	9.815	A
C-AB	6.54	191.76	0.034	6.55	0.0	4.861	A
C-A	71.46			71.46			
A-B	13.00			13.00			
A-C	29.00			29.00			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	32.00	112.32	0.285	31.85	0.4	11.163	B
C-AB	6.48	191.46	0.034	6.48	0.0	4.867	A
C-A	70.52			70.52			
A-B	10.00			10.00			
A-C	30.00			30.00			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30.00	112.62	0.266	30.02	0.4	10.899	B
C-AB	4.25	174.51	0.024	4.27	0.0	5.288	A
C-A	49.75			49.75			
A-B	9.00			9.00			
A-C	40.00			40.00			

Junctions 9

PICADY 9 - Priority Intersection Module

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Filename: R117 L1020 2028 wod.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 27/07/2020 17:00:08

»2028 wod, AM
»2028 wod, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2028 wod							
Stream B-AC	0.4	10.76	0.26	B	0.3	10.88	0.25	B
Stream C-AB	0.1	6.17	0.09	A	0.0	4.90	0.02	A

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

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

File summary

File Description

Title	R117 L1020 priority junction
Location	
Site number	
Date	26/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2028 wod	AM	DIRECT	08:00	09:00	60	15
D2	2028 wod	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 wod, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.44	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	R117 south		Major
B	L1020		Minor
C	R117 north		Major

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)
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	129.627	0.094	0.239	0.150	0.341
1	B-C	163.853	0.100	0.254	-	-
1	C-B	150.730	0.234	0.234	-	-

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 period length (min)	Time segment length (min)
D1	2028 wod	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To		
		A	B	C
From	A	0.00	10.00	36.00
	B	8.00	0.00	7.00
	C	33.00	11.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To		
		A	B	C
From	A	0.00	15.00	39.00
	B	16.00	0.00	7.00
	C	31.00	11.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To		
		A	B	C
From	A	0.00	23.00	50.00
	B	23.00	0.00	7.00
	C	40.00	11.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To		
		A	B	C
From	A	0.00	15.00	50.00
	B	8.00	0.00	7.00
	C	40.00	11.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.26	10.76	0.4	B
C-AB	0.09	6.17	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15.00	127.81	0.117	14.87	0.1	7.960	A
C-AB	13.80	162.72	0.085	13.68	0.1	6.035	A
C-A	30.20			30.20			
A-B	10.00			10.00			
A-C	36.00			36.00			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23.00	120.60	0.191	22.90	0.2	9.203	A
C-AB	13.67	159.62	0.086	13.67	0.1	6.168	A
C-A	28.33			28.33			
A-B	15.00			15.00			
A-C	39.00			39.00			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30.00	113.41	0.265	29.88	0.4	10.758	B
C-AB	14.64	161.81	0.091	14.63	0.1	6.116	A
C-A	36.36			36.36			

A-B	23.00			23.00			
A-C	50.00			50.00			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15.00	122.82	0.122	15.21	0.1	8.381	A
C-AB	14.60	163.52	0.089	14.60	0.1	6.045	A
C-A	36.40			36.40			
A-B	15.00			15.00			
A-C	50.00			50.00			

2028 wod, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.77	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2028 wod	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To		
		A	B	C
From	A	0.00	6.00	33.00
	B	12.00	0.00	1.00
	C	66.00	2.00	0.00

Demand (PCU/TS)

17:15 - 17:30

		To		
		A	B	C
From	A	0.00	10.00	31.00
	B	16.00	0.00	1.00
	C	79.00	1.00	0.00

Demand (PCU/TS)

17:30 - 17:45

		To		
		A	B	C
From	A	0.00	7.00	32.00
	B	27.00	0.00	1.00
	C	78.00	1.00	0.00

Demand (PCU/TS)

17:45 - 18:00

		To		
		A	B	C
From	A	0.00	6.00	43.00
	B	26.00	0.00	0.00
	C	54.00	0.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.25	10.88	0.3	B
C-AB	0.02	4.90	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13.00	113.08	0.115	12.87	0.1	8.971	A
C-AB	3.09	186.85	0.017	3.07	0.0	4.897	A
C-A	64.91			64.91			
A-B	6.00			6.00			
A-C	33.00			33.00			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17.00	111.01	0.153	16.95	0.2	9.563	A
C-AB	1.69	195.38	0.009	1.70	0.0	4.648	A
C-A	78.31			78.31			
A-B	10.00			10.00			
A-C	31.00			31.00			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28.00	110.44	0.254	27.84	0.3	10.876	B
C-AB	1.67	195.07	0.009	1.67	0.0	4.653	A
C-A	77.33			77.33			
A-B	7.00			7.00			
A-C	32.00			32.00			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	26.00	110.70	0.235	26.02	0.3	10.634	B
C-AB	0.00	139.28	0.000	0.01	0.0	0.000	A
C-A	54.00			54.00			
A-B	6.00			6.00			
A-C	43.00			43.00			

Junctions 9

PICADY 9 - Priority Intersection Module

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Filename: R117 L1020 2023 wod.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 27/07/2020 16:45:11

»2023 wod, AM
»2023 wod, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2023 wod							
Stream B-AC	0.3	10.28	0.24	B	0.3	10.44	0.23	B
Stream C-AB	0.1	6.18	0.09	A	0.0	4.97	0.02	A

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

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

File summary

File Description

Title	R117 L1020 priority junction
Location	
Site number	
Date	26/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2023 wod	AM	DIRECT	08:00	09:00	60	15
D2	2023 wod	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2023 wod, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.33	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	R117 south		Major
B	L1020		Minor
C	R117 north		Major

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)
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	129.627	0.094	0.239	0.150	0.341
1	B-C	163.853	0.100	0.254	-	-
1	C-B	150.730	0.234	0.234	-	-

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 period length (min)	Time segment length (min)
D1	2023 wod	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To		
		A	B	C
From	A	0.00	10.00	34.00
	B	7.00	0.00	6.00
	C	31.00	11.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To		
		A	B	C
From	A	0.00	14.00	36.00
	B	15.00	0.00	6.00
	C	29.00	11.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To		
		A	B	C
From	A	0.00	21.00	47.00
	B	21.00	0.00	6.00
	C	37.00	11.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To		
		A	B	C
From	A	0.00	14.00	47.00
	B	7.00	0.00	6.00
	C	37.00	11.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.24	10.28	0.3	B
C-AB	0.09	6.18	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13.00	128.31	0.101	12.89	0.1	7.791	A
C-AB	13.61	161.78	0.084	13.49	0.1	6.066	A
C-A	28.39			28.39			
A-B	10.00			10.00			
A-C	34.00			34.00			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21.00	121.01	0.174	20.90	0.2	8.982	A
C-AB	13.47	159.10	0.085	13.47	0.1	6.181	A
C-A	26.53			26.53			
A-B	14.00			14.00			
A-C	36.00			36.00			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	27.00	114.34	0.236	26.90	0.3	10.281	B
C-AB	14.32	160.77	0.089	14.30	0.1	6.148	A
C-A	33.68			33.68			

A-B	21.00			21.00			
A-C	47.00			47.00			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13.00	123.78	0.105	13.19	0.1	8.150	A
C-AB	14.28	162.28	0.088	14.28	0.1	6.085	A
C-A	33.72			33.72			
A-B	14.00			14.00			
A-C	47.00			47.00			

2023 wod, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.72	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2023 wod	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To		
		A	B	C
From	A	0.00	5.00	31.00
	B	12.00	0.00	1.00
	C	61.00	2.00	0.00

Demand (PCU/TS)

17:15 - 17:30

		To		
		A	B	C
From	A	0.00	10.00	29.00
	B	15.00	0.00	1.00
	C	74.00	1.00	0.00

Demand (PCU/TS)

17:30 - 17:45

		To		
		A	B	C
From	A	0.00	6.00	30.00
	B	25.00	0.00	1.00
	C	73.00	1.00	0.00

Demand (PCU/TS)

17:45 - 18:00

		To		
		A	B	C
From	A	0.00	5.00	40.00
	B	24.00	0.00	0.00
	C	51.00	0.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.23	10.44	0.3	B
C-AB	0.02	4.97	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13.00	114.38	0.114	12.87	0.1	8.856	A
C-AB	2.99	184.03	0.016	2.97	0.0	4.970	A
C-A	60.01			60.01			
A-B	5.00			5.00			
A-C	31.00			31.00			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	16.00	112.34	0.142	15.96	0.2	9.330	A
C-AB	1.63	192.33	0.008	1.64	0.0	4.721	A
C-A	73.37			73.37			
A-B	10.00			10.00			
A-C	29.00			29.00			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	26.00	111.84	0.232	25.87	0.3	10.435	B
C-AB	1.62	192.24	0.008	1.62	0.0	4.721	A
C-A	72.38			72.38			
A-B	6.00			6.00			
A-C	30.00			30.00			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24.00	111.96	0.214	24.02	0.3	10.239	B
C-AB	0.00	140.22	0.000	0.01	0.0	0.000	A
C-A	51.00			51.00			
A-B	5.00			5.00			
A-C	40.00			40.00			

Junctions 9

PICADY 9 - Priority Intersection Module

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

Filename: R117 L1020 2028 wdev.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 27/07/2020 17:07:28

»2028 wdev, AM
»2028 wdev, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2028 wdev							
Stream B-AC	0.5	11.93	0.35	B	0.4	11.65	0.31	B
Stream C-AB	0.2	6.28	0.11	A	0.1	5.24	0.05	A

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

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

File summary

File Description

Title	R117 L1020 priority junction
Location	
Site number	
Date	26/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2028 wdev	AM	DIRECT	08:00	09:00	60	15
D2	2028 wdev	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 wdev, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		3.36	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	R117 south		Major
B	L1020		Minor
C	R117 north		Major

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)
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	129.627	0.094	0.239	0.150	0.341
1	B-C	163.853	0.100	0.254	-	-
1	C-B	150.730	0.234	0.234	-	-

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 period length (min)	Time segment length (min)
D1	2028 wdev	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To		
		A	B	C
From	A	0.00	12.00	36.00
	B	13.00	0.00	12.00
	C	33.00	13.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To		
		A	B	C
From	A	0.00	16.00	39.00
	B	21.00	0.00	12.00
	C	31.00	13.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To		
		A	B	C
From	A	0.00	24.00	50.00
	B	28.00	0.00	12.00
	C	40.00	13.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To		
		A	B	C
From	A	0.00	16.00	50.00
	B	13.00	0.00	12.00
	C	40.00	13.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.35	11.93	0.5	B
C-AB	0.11	6.28	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25.00	127.68	0.196	24.76	0.2	8.725	A
C-AB	16.32	162.29	0.101	16.18	0.1	6.157	A
C-A	29.68			29.68			
A-B	12.00			12.00			
A-C	36.00			36.00			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	33.00	122.14	0.270	32.88	0.4	10.068	B
C-AB	16.17	159.40	0.101	16.17	0.1	6.285	A
C-A	27.83			27.83			
A-B	16.00			16.00			
A-C	39.00			39.00			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	40.00	115.13	0.347	39.84	0.5	11.929	B
C-AB	17.32	161.60	0.107	17.30	0.2	6.241	A
C-A	35.68			35.68			

A-B	24.00			24.00			
A-C	50.00			50.00			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25.00	122.85	0.203	25.26	0.3	9.246	A
C-AB	17.26	163.31	0.106	17.26	0.2	6.167	A
C-A	35.74			35.74			
A-B	16.00			16.00			
A-C	50.00			50.00			

2028 wdev, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.42	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2028 wdev	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To		
		A	B	C
From	A	0.00	9.00	33.00
	B	16.00	0.00	3.00
	C	66.00	6.00	0.00

Demand (PCU/TS)

17:15 - 17:30

		To		
		A	B	C
From	A	0.00	13.00	31.00
	B	20.00	0.00	3.00
	C	79.00	4.00	0.00

Demand (PCU/TS)

17:30 - 17:45

		To		
		A	B	C
From	A	0.00	10.00	32.00
	B	31.00	0.00	3.00
	C	78.00	4.00	0.00

Demand (PCU/TS)

17:45 - 18:00

		To		
		A	B	C
From	A	0.00	9.00	43.00
	B	31.00	0.00	2.00
	C	54.00	3.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.31	11.65	0.4	B
C-AB	0.05	5.24	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	19.00	114.27	0.166	18.80	0.2	9.409	A
C-AB	9.29	186.25	0.050	9.22	0.1	5.083	A
C-A	62.71			62.71			
A-B	9.00			9.00			
A-C	33.00			33.00			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23.00	112.20	0.205	22.94	0.3	10.077	B
C-AB	6.76	194.81	0.035	6.79	0.0	4.789	A
C-A	76.24			76.24			
A-B	13.00			13.00			
A-C	31.00			31.00			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34.00	110.92	0.307	33.82	0.4	11.654	B
C-AB	6.70	194.51	0.034	6.70	0.0	4.792	A
C-A	75.30			75.30			
A-B	10.00			10.00			
A-C	32.00			32.00			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	33.00	111.27	0.297	33.01	0.4	11.501	B
C-AB	4.34	175.97	0.025	4.36	0.0	5.244	A
C-A	52.66			52.66			
A-B	9.00			9.00			
A-C	43.00			43.00			

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: R117 L1020 2038 wod.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 27/07/2020 17:13:27

»2038 wod, AM
»2038 wod, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2038 wod							
Stream B-AC	0.4	11.11	0.28	B	0.4	11.34	0.28	B
Stream C-AB	0.2	6.20	0.10	A	0.0	4.84	0.02	A

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

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

File summary

File Description

Title	R117 L1020 priority junction
Location	
Site number	
Date	26/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2038 wod	AM	DIRECT	08:00	09:00	60	15
D2	2038 wod	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2038 wod, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.48	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	R117 south		Major
B	L1020		Minor
C	R117 north		Major

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)
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	129.627	0.094	0.239	0.150	0.341
1	B-C	163.853	0.100	0.254	-	-
1	C-B	150.730	0.234	0.234	-	-

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 period length (min)	Time segment length (min)
D1	2038 wod	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To		
		A	B	C
From	A	0.00	11.00	39.00
	B	8.00	0.00	7.00
	C	35.00	12.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To		
		A	B	C
From	A	0.00	16.00	41.00
	B	17.00	0.00	7.00
	C	33.00	12.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To		
		A	B	C
From	A	0.00	24.00	53.00
	B	24.00	0.00	7.00
	C	42.00	12.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To		
		A	B	C
From	A	0.00	16.00	53.00
	B	8.00	0.00	7.00
	C	42.00	12.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.28	11.11	0.4	B
C-AB	0.10	6.20	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15.00	126.51	0.119	14.87	0.1	8.049	A
C-AB	15.28	163.23	0.094	15.14	0.1	6.074	A
C-A	31.72			31.72			
A-B	11.00			11.00			
A-C	39.00			39.00			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24.00	119.01	0.202	23.88	0.2	9.450	A
C-AB	15.14	160.36	0.094	15.14	0.1	6.201	A
C-A	29.86			29.86			
A-B	16.00			16.00			
A-C	41.00			41.00			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31.00	111.74	0.277	30.87	0.4	11.111	B
C-AB	16.23	162.37	0.100	16.21	0.2	6.161	A
C-A	37.77			37.77			

A-B	24.00			24.00			
A-C	53.00			53.00			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15.00	121.49	0.123	15.24	0.1	8.488	A
C-AB	16.17	164.08	0.099	16.17	0.2	6.090	A
C-A	37.83			37.83			
A-B	16.00			16.00			
A-C	53.00			53.00			

2038 wod, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.85	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2038 wod	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To		
		A	B	C
From	A	0.00	6.00	35.00
	B	13.00	0.00	1.00
	C	70.00	2.00	0.00

Demand (PCU/TS)

17:15 - 17:30

		To		
		A	B	C
From	A	0.00	11.00	33.00
	B	17.00	0.00	1.00
	C	85.00	1.00	0.00

Demand (PCU/TS)

17:30 - 17:45

		To		
		A	B	C
From	A	0.00	7.00	34.00
	B	29.00	0.00	1.00
	C	84.00	1.00	0.00

Demand (PCU/TS)

17:45 - 18:00

		To		
		A	B	C
From	A	0.00	6.00	46.00
	B	28.00	0.00	0.00
	C	58.00	0.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.28	11.34	0.4	B
C-AB	0.02	4.84	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	14.00	111.83	0.125	13.86	0.1	9.173	A
C-AB	3.17	189.20	0.017	3.16	0.0	4.837	A
C-A	68.83			68.83			
A-B	6.00			6.00			
A-C	35.00			35.00			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	18.00	109.45	0.164	17.95	0.2	9.828	A
C-AB	1.76	198.93	0.009	1.77	0.0	4.566	A
C-A	84.24			84.24			
A-B	11.00			11.00			
A-C	33.00			33.00			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30.00	108.99	0.275	29.82	0.4	11.341	B
C-AB	1.74	198.81	0.009	1.74	0.0	4.566	A
C-A	83.26			83.26			
A-B	7.00			7.00			
A-C	34.00			34.00			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28.00	109.38	0.256	28.02	0.3	11.068	B
C-AB	0.00	138.58	0.000	0.01	0.0	0.000	A
C-A	58.00			58.00			
A-B	6.00			6.00			
A-C	46.00			46.00			

Junctions 9

PICADY 9 - Priority Intersection Module

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

Filename: R117 L1020 2038 wdev.j9
Path: C:\Users\Martin.Rogers\Dropbox\enniskerry BMCE 2019\picady
Report generation date: 27/07/2020 17:23:15

»2038 wdev, AM
»2038 wdev, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2038 wdev							
Stream B-AC	0.6	12.38	0.36	B	0.5	12.21	0.33	B
Stream C-AB	0.2	6.33	0.12	A	0.1	5.18	0.05	A

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

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

File summary

File Description

Title	R117 L1020 priority junction
Location	
Site number	
Date	26/07/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ICTDOMAIN\martin.rogers
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	perTimeSegment	s	-Min	perMin

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2038 wdev	AM	DIRECT	08:00	09:00	60	15
D2	2038 wdev	PM	DIRECT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2038 wdev, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		3.39	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	R117 south		Major
B	L1020		Minor
C	R117 north		Major

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)
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	129.627	0.094	0.239	0.150	0.341
1	B-C	163.853	0.100	0.254	-	-
1	C-B	150.730	0.234	0.234	-	-

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 period length (min)	Time segment length (min)
D1	2038 wdev	AM	DIRECT	08:00	09:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

08:00 - 08:15

		To		
		A	B	C
From	A	0.00	13.00	39.00
	B	13.00	0.00	12.00
	C	35.00	14.00	0.00

Demand (PCU/TS)

08:15 - 08:30

		To		
		A	B	C
From	A	0.00	18.00	41.00
	B	22.00	0.00	12.00
	C	33.00	14.00	0.00

Demand (PCU/TS)

08:30 - 08:45

		To		
		A	B	C
From	A	0.00	26.00	53.00
	B	29.00	0.00	12.00
	C	42.00	14.00	0.00

Demand (PCU/TS)

08:45 - 09:00

		To		
		A	B	C
From	A	0.00	18.00	53.00
	B	13.00	0.00	12.00
	C	42.00	14.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.36	12.38	0.6	B
C-AB	0.12	6.33	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25.00	126.38	0.198	24.76	0.2	8.835	A
C-AB	17.83	162.80	0.110	17.68	0.2	6.197	A
C-A	31.17			31.17			
A-B	13.00			13.00			
A-C	39.00			39.00			

08:15 - 08:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34.00	120.53	0.282	33.86	0.4	10.365	B
C-AB	17.67	159.93	0.111	17.67	0.2	6.328	A
C-A	29.33			29.33			
A-B	18.00			18.00			
A-C	41.00			41.00			

08:30 - 08:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	41.00	113.38	0.362	40.83	0.6	12.375	B
C-AB	18.95	161.95	0.117	18.93	0.2	6.295	A
C-A	37.05			37.05			

A-B	26.00			26.00			
A-C	53.00			53.00			

08:45 - 09:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25.00	121.43	0.206	25.29	0.3	9.390	A
C-AB	18.88	163.66	0.115	18.88	0.2	6.222	A
C-A	37.12			37.12			
A-B	18.00			18.00			
A-C	53.00			53.00			

2038 wdev, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.48	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2038 wdev	PM	DIRECT	17:00	18:00	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (PCU/TS)

17:00 - 17:15

		To		
		A	B	C
From	A	0.00	9.00	35.00
	B	17.00	0.00	3.00
	C	70.00	6.00	0.00

Demand (PCU/TS)

17:15 - 17:30

		To		
		A	B	C
From	A	0.00	14.00	33.00
	B	21.00	0.00	3.00
	C	85.00	4.00	0.00

Demand (PCU/TS)

17:30 - 17:45

		To		
		A	B	C
From	A	0.00	11.00	34.00
	B	33.00	0.00	3.00
	C	84.00	4.00	0.00

Demand (PCU/TS)

17:45 - 18:00

		To		
		A	B	C
From	A	0.00	9.00	46.00
	B	32.00	0.00	2.00
	C	58.00	3.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.33	12.21	0.5	B
C-AB	0.05	5.18	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20.00	112.94	0.177	19.79	0.2	9.639	A
C-AB	9.54	188.60	0.051	9.46	0.1	5.023	A
C-A	66.46			66.46			
A-B	9.00			9.00			
A-C	35.00			35.00			

17:15 - 17:30

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24.00	110.57	0.217	23.94	0.3	10.381	B
C-AB	7.04	198.37	0.035	7.06	0.0	4.705	A
C-A	81.96			81.96			
A-B	14.00			14.00			
A-C	33.00			33.00			

17:30 - 17:45

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	36.00	109.31	0.329	35.79	0.5	12.206	B
C-AB	6.97	198.06	0.035	6.97	0.0	4.709	A
C-A	81.03			81.03			
A-B	11.00			11.00			
A-C	34.00			34.00			

17:45 - 18:00

Stream	Total Demand (PCU/TS)	Capacity (PCU/TS)	RFC	Throughput (PCU/TS)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34.00	109.91	0.309	34.03	0.5	11.868	B
C-AB	4.46	178.12	0.025	4.48	0.0	5.185	A
C-A	56.54			56.54			
A-B	9.00			9.00			
A-C	46.00			46.00			

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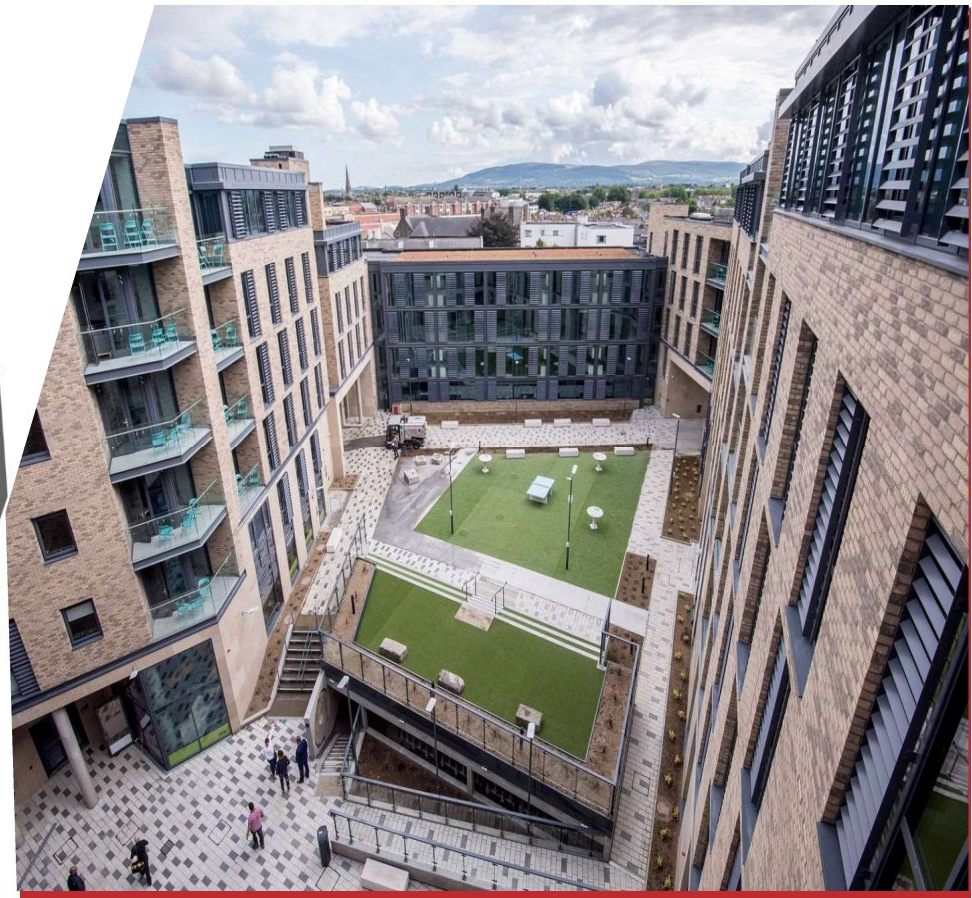
CIVIL & STRUCTURAL



APPENDIX 7

STAGE 1 ROAD SAFETY AUDIT

Cookstown Road, Enniskerry

Proposed Residential Development

Client: Cairn Homes Properties Ltd.

Stage 1 Road Safety Audit

PROPOSED COOKSTOWN ROAD RESIDENTIAL DEVELOPMENT, ENNISKERRY

Description:

Stage 1 Road Safety Audit

Author:

Ken Swaby

Francis Fidgeon

Audit Brief Submitted By:

Barrett Mahony Consulting Engineers

Distribution:

Barrett Mahony Consulting Engineers

1 AUDIT INFORMATION

1.1	**Title**	RSA ENNISKERRY S1
1.2	**Audit Reference Number**	RSA ENNISKERRY S1 KS 310
1.3	**Project Code**	QAENNSKRRY
1.4	**Date Audit Completed**	25th November 2020
1.5	**Audit Team**	
	Team Leader	Ken Swaby, ILTP
	Team Member	Francis Fidgeon, CST Group
1.6	**Audit Attended By**	
	Team Leader	Ken Swaby
	Team Member	Francis Fidgeon

1.7 Information Received

ITEM		Supplied	Comments
A	Plans	Yes	Barrett Mahony Consulting Engineers Drawings: PROPOSED ROADS & FOOTPATHS LAYOUT, ref. 18243-BMD-00-ZZ-DR-C-1010, rev. PL1 PROPOSED ACCESS JUNCTION & FOOTPATHS LAYOUT, ref. 18243-BMD-00-ZZ-DR-C-1011, rev. PL1 AUTOTRACK – REFUSE VEHICLE, ref. 18243-BMD-00-ZZ-DR-C-1012, rev. PL1 AUTOTRACK – FIRE TENDER, ref. 18243-BMD-00-ZZ-DR-C-1013, rev. PL1 PROPOSED JUNCTION SIGHTLINES LAYOUT, ref. 18243-BMD-00-ZZ-DR-C-1014, rev. PL1 PROPOSED FOUL & SURFACE WATER DRAINAGE LAYOUT, ref. 18243-BMD-00-ZZ-DR-C-1020, rev. PL2 ROADS LONGSEACTIONS SHEET 1 OF 3, ref. 18243-BMD-00-ZZ-DR-C-1101, rev. PL1 ROADS LONGSEACTIONS SHEET 2 OF 3, ref. 18243-BMD-00-ZZ-DR-C-1102, rev. PL1 ROADS LONGSEACTIONS SHEET 3 OF 3, ref. 18243-BMD-00-ZZ-DR-C-1103, rev. PL1 MOLA Architecture Drawings: Site Plan, Ref. 19010_MOLA_A00_00_DR_A_XX_A00_0102, Status S0, Rev 00
B	Traffic Count Data	No	
C	Speed Count Data	No	
D	Accident Data	No	
E	Design Standards	No	

ITEM		Supplied	Comments
F	Design Brief	No	
G	Other Data	Yes	Barrett Mahony Consulting Engineers Reports: *Roads Engineering, Traffic & Transport Assessment*, ref. 18.243-TTA-002, rev. PL2, dated 12th August 2020 *Civil Engineering Infrastructure Report & Flood Risk Assessment*, ref. 18.243 – IR – 01, rev. PL2, dated 25th September 2020

2 INTRODUCTION

2.1.1 This is a Stage 1 Road Safety Audit which examines the road safety implications of the proposed Cookstown Road Residential Development, Enniskerry, and its connection to the wider development road network.

2.1.2 The extent of this audit is the proposed residential development, the proposed new junction to Cookstown Road, the approaches to the junction, and the proposed pedestrian path along Cookstown Road.

2.1.3 The audit is based upon drawings provided by the design team, as included above under paragraph 1.7.

2.1.4 The Feedback Form for this audit is included in **Appendix A** of this report.

2.1.5 This Stage 1 Road Safety Audit has been conducted in accordance with the Transport Infrastructure Ireland publications;

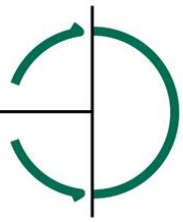
- Road Safety Audit, GE-STY-01024, December 2017,
- Road Safety Audit Guidelines, GE-STY-01027, December 2017

2.1.6 A site visit was carried out on 28th September 2020 at approximately 18:30 in daylight conditions. The weather was fine and dry.

2.1.7 This audit specifically examines the road safety aspects of the proposed development. It is not an appraisal of policy or strategic issues associated with the planning of the development and it does not examine or verify the compliance of the design to any other design criteria or guidelines. The designer and all concerned stakeholders must therefore defend all actions taken on the basis that such care was taken, as was in all circumstances reasonably required, to ensure that the roadway was not unsafe for road users. It is important, therefore that where possible the recommendations in this report are acted upon.

3 ITEMS RESULTING FROM PREVIOUS ROAD SAFETY AUDITS

The audit team is not aware of any previous Road Safety Audits that may have been completed for these proposals, or this site.



4 ITEMS RESULTING FROM STAGE 1 ROAD SAFETY AUDIT

4.1 Unclear if proposals appropriate for the design speed of the road

Problem

The design information which was provided for audit for the proposals on Cookstown Road appears to be based on a 50kph speed limit. At the time of the site inspection however it was not clear that the speed limit is 50kph on Cookstown Road at the location of the proposed access junction and pedestrian crossing. It is therefore unclear if the proposals are appropriate for the design speed of the road, including having adequate sightlines from the proposed access junction and adequate forward visibility to the proposed junction and pedestrian crossing.

Inadequate sightlines may lead to road users emerging from the junction and failing to give way to oncoming traffic. Inadequate forward visibility to the junction may lead to road users on Cookstown Road failing to recognise the nature of the junction and coming into conflict, including late braking, rear-ending or side-swipe collisions. Inadequate forward visibility to the pedestrian crossing may lead to motorists failing to recognise the nature of the facility and striking vulnerable road users crossing at the facility.

Furthermore, the proposed zebra crossing on Cookstown Road may not be an appropriate pedestrian crossing facility if the speed limit is greater than 50kph.

Recommendation

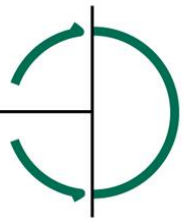
Ensure that the proposals on Cookstown Road are appropriate for the design speed of the road, which includes having adequate sightlines and forward visibility.

4.2 Speed limit on Cookstown Road unclear for road users

Problem

The design information which was provided for audit for the proposals on Cookstown Road appears to be based on a 50kph speed limit. The site inspection has shown that there is a 50kph speed limit sign on Cookstown Road to the west of the proposed development access junction. Road users may therefore interpret that the speed limit to the east of this sign, including in the vicinity of the proposed development access junction, is greater than 50kph. Furthermore, the road at this location is rural in character and may not drive as if it is a 50kph zone. This may lead to motorists passing the proposals, including the proposed access junction and pedestrian crossing, at inappropriately high speeds and coming into conflict, including colliding with other vehicles or non-motorised users such as pedestrians or cyclists.

It would be also be more important to reinforce the speed limit to road users at the location of the proposals on Cookstown Road given the proposed introduction of a pedestrian crossing and the proposed extent of sightlines and forward visibility which are based on a 50kph speed limit.



Recommendation

Install 50kph speed limit signs at the eastern side of the proposed access junction and existing Enniskerry Demesne access junction to reinforce the speed limit to road users.

In addition to installing speed limit signs, ensure that appropriate measures are in place on Cookstown Road, particularly between Powerscourt National School and the eastern side of the proposed access junction and existing Enniskerry Demesne access junction, to sufficiently reinforce and emphasise a 50kph zone to road users.

If the speed limit at the location of the proposed development access junction is greater than 50kph it is recommended that the design team liaises with the local authority to have the 50kph speed limit extended sufficiently to the eastern side of the proposed access junction and existing Enniskerry Demesne access junction.

4.3 Proposed zebra crossing of Cookstown Road near proposed new access

Problem

Further to Item 4.1 above there may not be sufficient pedestrian demand to warrant a zebra crossing of Cookstown Road near the proposed new access. Pedestrians heading to / from Enniskerry may use the new path to be provided on the southern side of Cookstown Road. A little used zebra crossing may result in complacency by motorists who fail to notice the odd pedestrian user. As these motorists could be slowing anyway to turn into the proposed new development or the Enniskerry Demesne residential estate pedestrians may think they are stopping at the zebra and walk into their path.

Recommendation

Ensure there is a warrant for the zebra crossing.

4.4 Pedestrian desire line for crossing on Cookstown Road

Problem

Further to Item 4.3, above, if the zebra crossing is not warranted and an un-controlled crossing provided instead, pedestrians wishing to cross from the eastern end of the proposed new residential estate to the eastern end of Enniskerry Demesne and vice versa may not use the un-controlled crossing to cross Cookstown Road if they feel they are moving too far off their desire line. They may decide to cross within the mouths of the junctions on either side and be struck.

Recommendation

If Item 4.3 above results in omission of the zebra crossing move the resultant uncontrolled crossing to be immediately west of the proposed residential estate junction.

4.5 Visibility at proposed pedestrian crossing of Cookstown Road near proposed new access

Problem

Intervisibility between pedestrians waiting to cross from the Enniskerry Demesne side of the proposed pedestrian crossing and motorists along Cookstown Road, particularly eastbound motorists, may be restricted due to the existing trees/vegetation. Pedestrians may step into the path of motorists and be struck.

Recommendation

Ensure adequate intervisibility is available and maintained.

4.6 Non-motorised users crossing on Cookstown Road may not be anticipated by motorists

Problem

The proposed development is located at the transition between a rural road setting and Enniskerry village. Non-motorised users crossing at this location on Cookstown Road may not be anticipated by motorists, particularly westbound motorists. Motorists may fail to recognise non-motorised road users crossing the road which may lead to non-motorised user – vehicle collisions.

Recommendation

It is recommended that advance warning signage is installed on Cookstown Road on both approaches to warn road users of non-motorised users crossing the road at this location.

It is also recommended that the design team ensures that the proposed zebra crossing is conspicuous. This may include specifying LED halos to the globes and white LED vertical lights to the poles and enhanced LED street lighting at the crossing location.

4.7 Future vegetation overgrowth on Cookstown Road impacting on visibility

Problem

The site inspection has shown that Cookstown Road at the location of the proposed development has dense vegetation and mature trees along the road. Visibility may be reduced in future by foliage overgrowth, including visibility from the proposed access junction, forward visibility to the proposed access junction, and forward visibility to the proposed zebra crossing and zebra crossing beacons. This may result in collisions between road users.

Recommendation

Ensure that the proposed roadside boundary treatment can be safely maintained to an extent that the required visibility along Cookstown Road is not obstructed by vegetation.

It is further recommended that the design team liaises with the local authority to ensure that appropriate roadside maintenance procedures are in place so that the required visibility along Cookstown Road is not obstructed by vegetation.

4.8 Cyclists may be restricted from keeping clear of motorists on Cookstown Road

Problem

The site inspection has shown that the section of the Cookstown Road carriageway between the proposed development site and Powerscourt National School is directly adjoined in many areas by steep roadside cuttings or dense vegetation, which may restrict a cyclist, particularly a less-able cyclist, from keeping clear of motorists if needed. This may lead to cyclists being struck by traffic. Figure 4.1 refers.

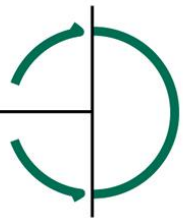
Figure 4.1: Steep roadside cuttings and dense vegetation on Cookstown Road, which may restrict a cyclist from keeping clear of motorists if needed

Recommendation

Ensure that appropriate facilities and features are in place on Cookstown Road within the extents of the proposals to facilitate safe cycle trips, particularly between the proposed development and Powerscourt National School.

It is further recommended that the design team liaises with the local authority to ensure that appropriate facilities and features are in place on Cookstown Road beyond the extents of the proposals to facilitate safe cycle trips, particularly between the proposed development and Powerscourt National School.

It is also recommended that the design team liaises with the local authority and the management of Powerscourt National School to provide a direct gated link between the school and the proposed development to facilitate access for children, including those that wish to travel to school by bicycle. This link could be managed by the school with strict hours for use, for example at school opening and closing times only.



4.9 No street lighting proposals on Cookstown Road

Problem

The information provided for audit does not include street lighting proposals on Cookstown Road along the roadside boundary of the proposed development and along the proposed pedestrian footpath linking to the existing pedestrian crossing at Powerscourt National School. During twilight hours and the hours of darkness inadequate street lighting may result in road users, particularly cyclists on Cookstown Road and footpath users, coming into conflict, including being struck by traffic.

Recommendation

Provide adequate street lighting throughout the proposals, including on Cookstown Road along the roadside boundary of the proposed development.

It is further recommended that the design team liaises with the local authority to ensure that there is adequate street lighting on Cookstown Road beyond the extents of the proposed development.

4.10 No gradient details for proposed footpath on Cookstown Road

Problem

The information provided for audit does not include details of the gradients along the proposed pedestrian footpath linking the proposed development site to the existing pedestrian crossing at Powerscourt National School. This proposed footpath appears to have a steep gradient as it passes between the edge of the Cookstown Road carriageway and the top of the roadside cutting at the proposed development site boundary. Steeper gradients may lead to slips or loss-of-control type collisions for footpath users, particularly during adverse weather conditions. Some pedestrians may end up in the carriageway and be struck by motor vehicles. Furthermore, steep footpaths may lead to wheelchair users becoming tired and losing control and errantly ending up in the carriageway.

Recommendation

Ensure that the proposed footpath has appropriately shallow gradients to facilitate safe access by the relevant road users.

4.11 No details of form of support to proposed footpath at top of roadside cutting

Problem

It is unclear from the information provided for audit how the proposed footpath located at the top of the existing roadside cutting beyond the northwest corner of the proposed development site is to be supported, for example if it is proposed to steepen the existing embankment to accommodate the proposed footpath or if a retaining structure is proposed. A steep cutting at this location may lead to debris falling into the path of road users. Steeper cuttings may also be difficult to maintain safely.

Recommendation

Ensure that the proposed footpath has an appropriately safe form of support that can be maintained safely.

4.12 No swept path assessment of proposed access junction on Cookstown Road

Problem

The information provided for audit does not include sufficient detail to determine if the proposed junction with Cookstown Road is of appropriate design to allow vehicles to turn safely into and out of the site. Inappropriate junction design may lead to side-swipe collisions and vehicle / pedestrian collisions.

Recommendation

Ensure that all junctions within the proposals are of an appropriate standard and design to accommodate the swept path of all vehicles that are intended to use them within the extents of the carriageway.

4.13 Crossroads

Problem

Two junctions within the development are proposed as crossroads. Such junction layouts can result in road users, particularly cyclists, on the minor arms crossing the major arm without yielding and being struck by motorists.

Recommendation

It is recommended that the junction layouts be staggered.

4.14 Steep gradients of footpaths and roads within proposed development site

Problem

The drawings provided for audit show some footpaths and roads within the proposed development site having steep gradients. Steeper gradients may lead to slips or loss-of-control type collisions for non-motorised users or loss-of-control type collisions for motorists, particularly during adverse weather conditions. Some pedestrians may end up in the carriageway and be struck by motor vehicles. Furthermore, steep footpaths may lead to wheelchair users becoming tired and losing control and errantly ending up in the carriageway.

Recommendation

Ensure that footpaths and roads within the proposed development site have appropriately shallow gradients to facilitate safe access by the relevant road users.

Provide adequate safe facilities for wheelchair users.

4.15 Long straight street may encourage speeding

Problem

The proposed long straight street to the far eastern side of the site may encourage speeding. This may lead to collisions, such as loss-of-control type collisions, which may include vulnerable road users such as cyclists and pedestrians, including mobility and visually impaired users, being struck by traffic. This street is highlighted in Figure 4.2. Further to Item 4.14 above, a steep gradient along this street at the higher acceptable end may compound this problem.

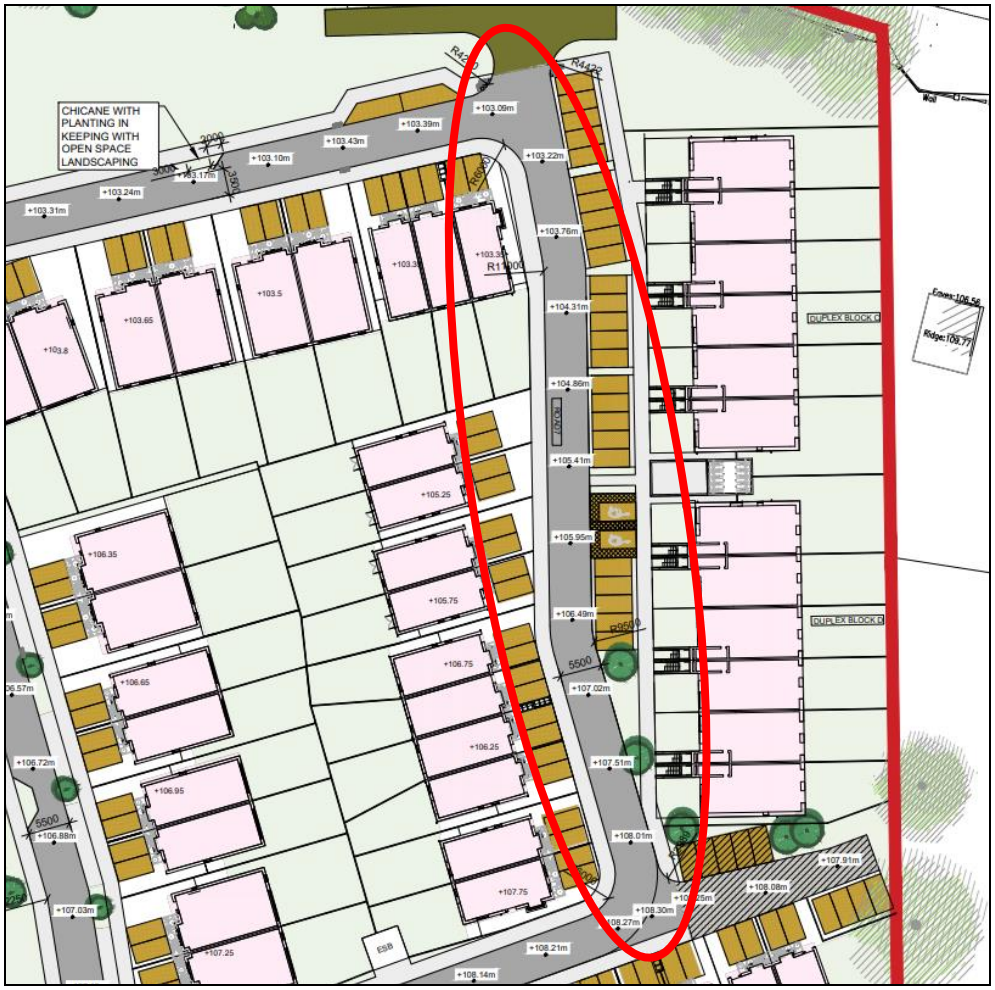


Figure 4.2: Long straight street may encourage speeding

Recommendation

Provide traffic calming measures to control speeding.

4.16 Width of Shared Streets

Problem

Some of the proposed shared areas appear excessively wide. This may lead to them not operating as intended and faster speeds. This may result in collisions, which may include vulnerable road users such as cyclists and pedestrians, including mobility and visually impaired users, being struck by traffic.

Recommendation

Ensure the shared areas are as narrow as practicable and introduce traffic calming features such as buildouts to keep vehicle speeds low.

4.17 Nature of shared surface streets unclear

Problem

It is unclear from the drawings provided for audit if the proposed shared surface streets have appropriate features, surface treatments and signage to clearly distinguish the shared facilities from other parts of the proposed road network and to clearly indicate the nature of the shared facilities to all road users, including visually impaired users. This may lead to confusion by road users as to priority and result in collisions.

Recommendation

Ensure that the proposed shared surface areas have appropriate features, surface treatments and signage to clearly distinguish the shared facilities from other parts of the proposed road network and to clearly indicate the nature of the shared facilities to all road users, including visually impaired users.

4.18 Traffic calming buildouts

Problem

The proposed traffic calming buildouts for one-way yielding may not be conspicuous and understood, and may result in opposing traffic both trying to negotiate them concurrently and head-on collision.

Recommendation

Ensure the buildouts are conspicuous and understood via signage or other means.

4.19 Discontinuity of pedestrian provision

Problem

The drawings provided for audit show the proposed footpath to the eastern side of the main development access road terminating abruptly at Cookstown Road without any indication as to how pedestrians are to continue their journey beyond this point. This footpath is highlighted in Figure 4.3. This may lead to confusion and result in non-motorised users entering the carriageway at inappropriate locations. This may result in collisions between non-motorised users and traffic.

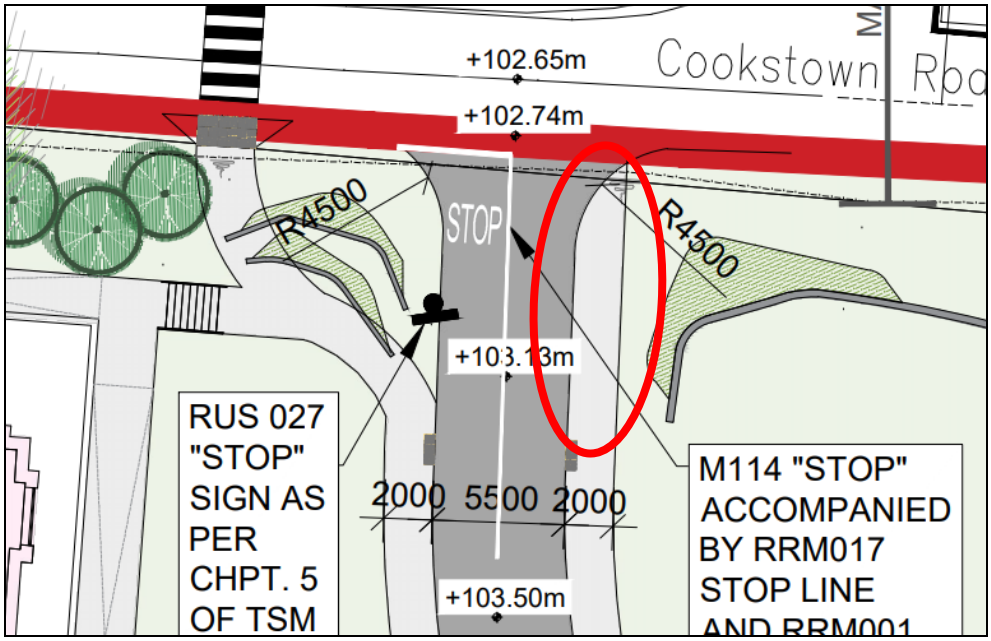


Figure 4.3: Proposed footpath terminating abruptly at Cookstown Road with no continuity of pedestrian provision

Recommendation

Ensure that appropriate and continuous pedestrian facilities are included to guide vulnerable users through the proposed development.

4.20 Discontinuity of pedestrian provision

Problem

The drawings provided for audit show pedestrian crossings, including at the junction shown in Figure 4.4, linking directly to landscaped areas and having no continuation of footpath facilities. Without appropriate facilities pedestrians may enter the carriageway at inappropriate locations and be struck by traffic or may slip or trip in areas not intended for pedestrians.

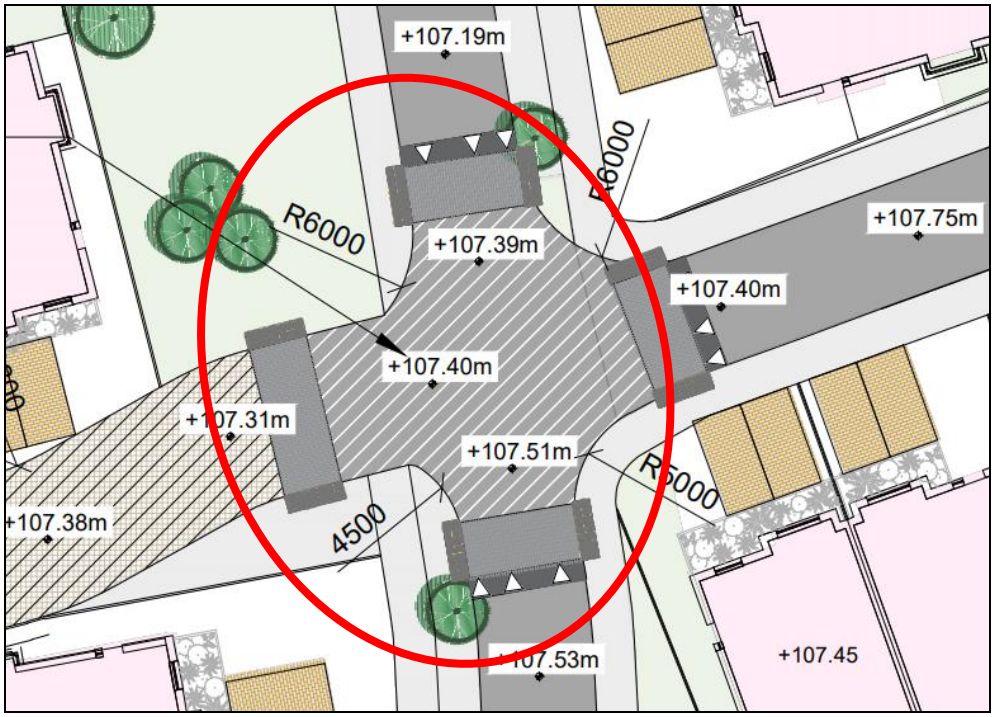


Figure 4.4: Pedestrian crossings linking directly to landscaped areas

Recommendation

Ensure that appropriate and continuous pedestrian facilities are included to guide vulnerable users through the proposed development.

4.21 Indirect pedestrian route

Problem

The drawings provided for audit appear to show 20 no. car parking spaces to the front of Duplex Block C at the northeast corner of the site with no pedestrian footway in between the parking spaces. These parking spaces are highlighted in Figure 4.5. With this arrangement some non-motorised users such as wheelchair and pushchair users may need to negotiate a circuitous route, partly in the carriageway, if required to access the carriageway end of the parking bays. This may encourage the use of landscaped areas to gain access which may lead to trips and falls.

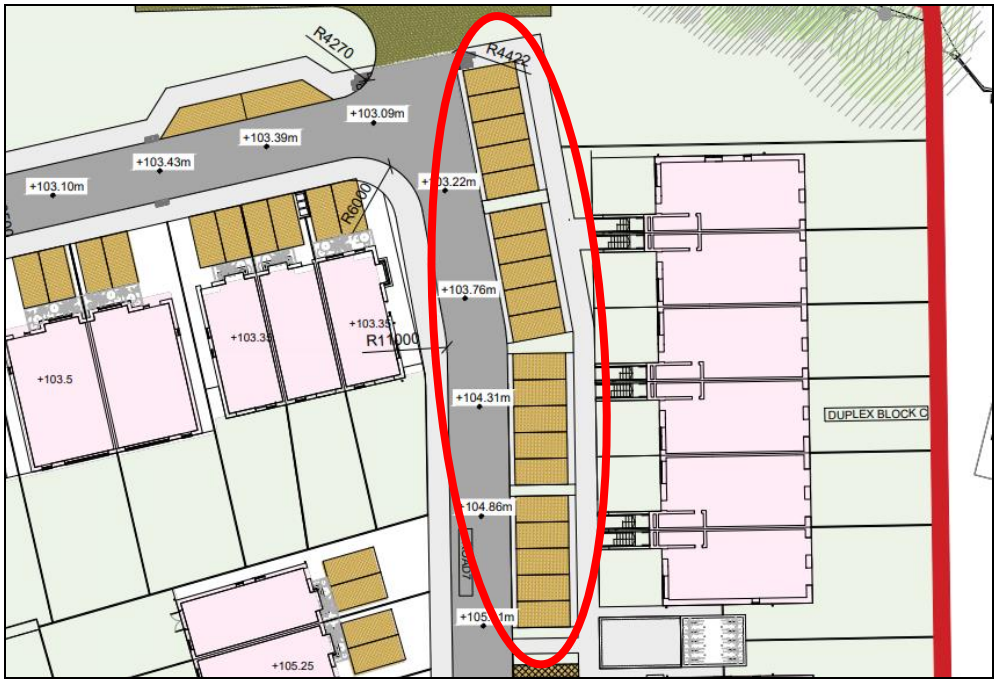


Figure 4.5: Car parking spaces to front of Duplex Block C with no pedestrian footway in between

Recommendation

Ensure that appropriate facilities are provided along pedestrians' desired routes. This could include, for example, a footway located midway between the car parking spaces to the front of Duplex Block C to provide a more direct pedestrian route between the main footpath to the front of Duplex Block C and the carriageway end of the car parking spaces.

4.22 Possible need for vehicles to reverse out of cul de sac street

Problem

The drawings provided for audit show a cul de sac street at the eastern side of the site. It is unclear from the information provided if the relevant vehicles could perform turnabout manoeuvres along this cul de sac street within the confines of the carriageway, particularly if all car parking spaces are occupied. Vehicles reversing out of the cul de sac street and onto the adjoining street may lead to collisions with other road users. Figure 4.6 refers.

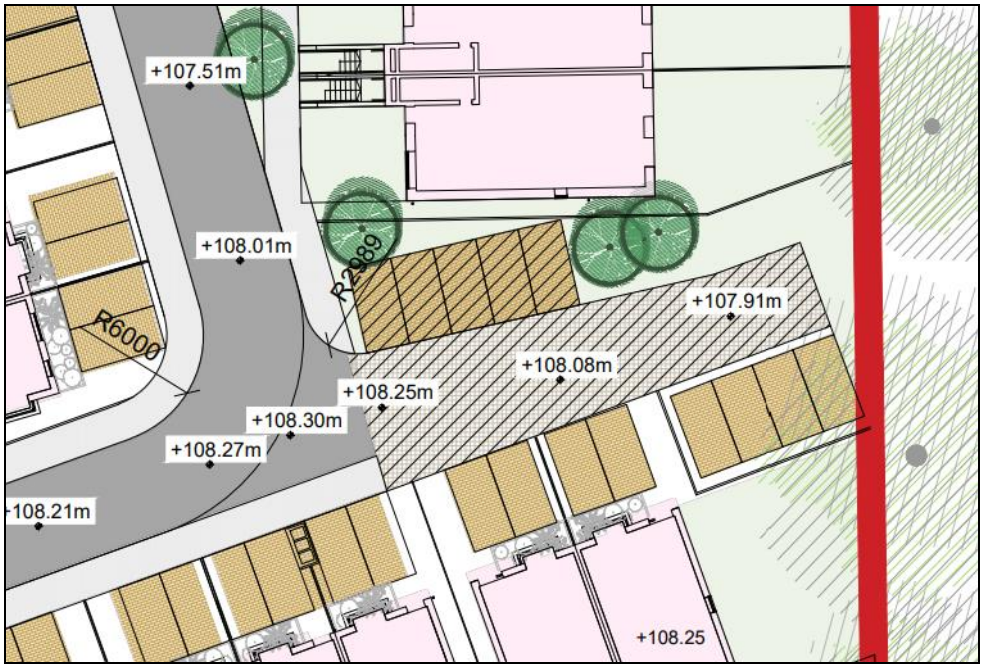


Figure 4.6: Unclear if relevant vehicles can perform turnabout manoeuvres along cul de sac street

Recommendation

Ensure that the facilities proposed are appropriate for all relevant vehicles to safely perform turnabout manoeuvres at the relevant areas within the site.

5 COMMENTS

It is recommended that the proposed development is subject to a Stage 2 Road Safety Audit at detailed design stage.

6 CONCLUSIONS

It is recommended that the specific issues raised in this report be taken into account and that appropriate measures be put in place where practicable to mitigate the concerns raised.

This Stage 1 Road Safety Audit Report recommends various actions, which should be considered for inclusion in the detailed design process. Where recommendations are not incorporated into the design this should be documented in an Exception Report and forwarded to the ILTP Road Safety Audit Team. The Design Team should document and provide the rationale for incidences where the audit recommendations have not been incorporated or where alternatives are put forward.

The Design Team should respond to all issues raised in this Stage 1 Road Safety Audit Report through returning a signed copy of the Road Safety Audit Feedback Form.

7 ROAD SAFETY AUDIT TEAM STATEMENT

7.1 Statement

We certify that the drawings and documents provided with the Audit Brief have been examined. The examination has been carried out with the sole purpose of identifying any features of the scheme that could be improved or modified in order to improve the safety of the scheme. The problems that we have identified have been noted in the report, together with suggestions for improvement, which we recommend should be considered for implementation.

7.2 Signatures

7.2.1 Audit Team Leader Signature

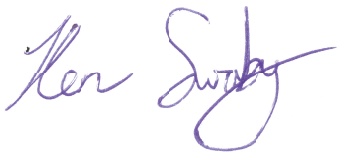
Name: Ken Swaby

Position: Transport Engineer

Date: 25 / 11 / 2020

Organisation: ILTP Consulting

Signed:



7.2.2 Audit Team Member Signature

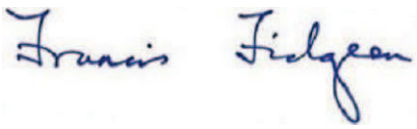
Name: Francis Fidgeon

Position: Transport Engineer

Date: 25 / 11 / 2020

Organisation: CST Group

Signed:



APPENDIX A ROAD SAFETY AUDIT FEEDBACK FORM

Road Safety Audit Reference RSA ENNISKERRY S1 KS 310

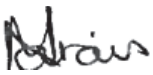
Audit Stage Stage 1

Date Road Safety Audit Completed 25th November 2020

Para No. in Report	Problem Accepted (Y/N)	Recommendation Accepted (Y/N)	Comments / Alternative Measures (Describe)	Alternative Measures Accepted by Auditor? (Y/N)
4.1	Y	Y		
4.2	Y	Y		
4.3	Y	Y		
4.4	Y	Y		
4.5	Y	Y		
4.6	Y	Y		
4.7	Y	Y		
4.8	Y	Y		
4.9	Y	Y		
4.10	Y	Y		
4.11	Y	Y		
4.12	Y	Y		
4.13	Y	N	The designers wish to retain the crossroads as originally shown but with provision of alternative mitigating measures. These would include traffic-calming elements on approaches to the crossroads which encourage low vehicular speeds. We note the crossroads will be formed using a raised table with both vertical deflections and contrasting coloured materials to differentiate the raised table from the approaching arms.	Noted – The response by the design team is noted at this audit stage, however it is recommended that the type and layout of the junctions are reviewed at detailed design stage to ensure that appropriate and safe junction arrangements for all

Para No. in Report	Problem Accepted (Y/N)	Recommendation Accepted (Y/N)	Comments / Alternative Measures (Describe)	Alternative Measures Accepted by Auditor? (Y/N)
			Warning & regulatory signage in accordance with the Traffic Signs Manual will be provided on all approaches enforcing all traffic on minor arms to yield. In summary, by including the above mitigating measure we believe the crossroads to be appropriate in such low-speed residential environments.	road users, including cyclists, are implemented, and that the safety concerns raised in this audit item are addressed. The design team should also ensure that the junctions and approaches to the junctions have appropriate designs, features and traffic calming measures to sufficiently slow approaching users and guide them safely through the junctions. The Stage 2 Road Safety Audit should reassess this Stage 1 audit item and comment appropriately.
4.14	Y	Y		
4.15	Y	Y		
4.16	Y	Y		
4.17	Y	Y		
4.18	Y	Y		
4.19	Y	Y		
4.20	Y	Y		
4.21	Y	Y		
4.22	Y	Y		

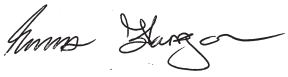
Signed



Nicole Marais
Btech Civil Eng Urban Design
Design Team Leader

Date 03/12/2020

Signed

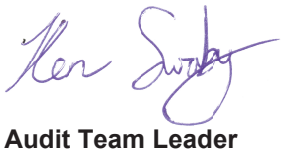


Employer

Date 08/12/2020

(Please Complete and return to the Auditor)

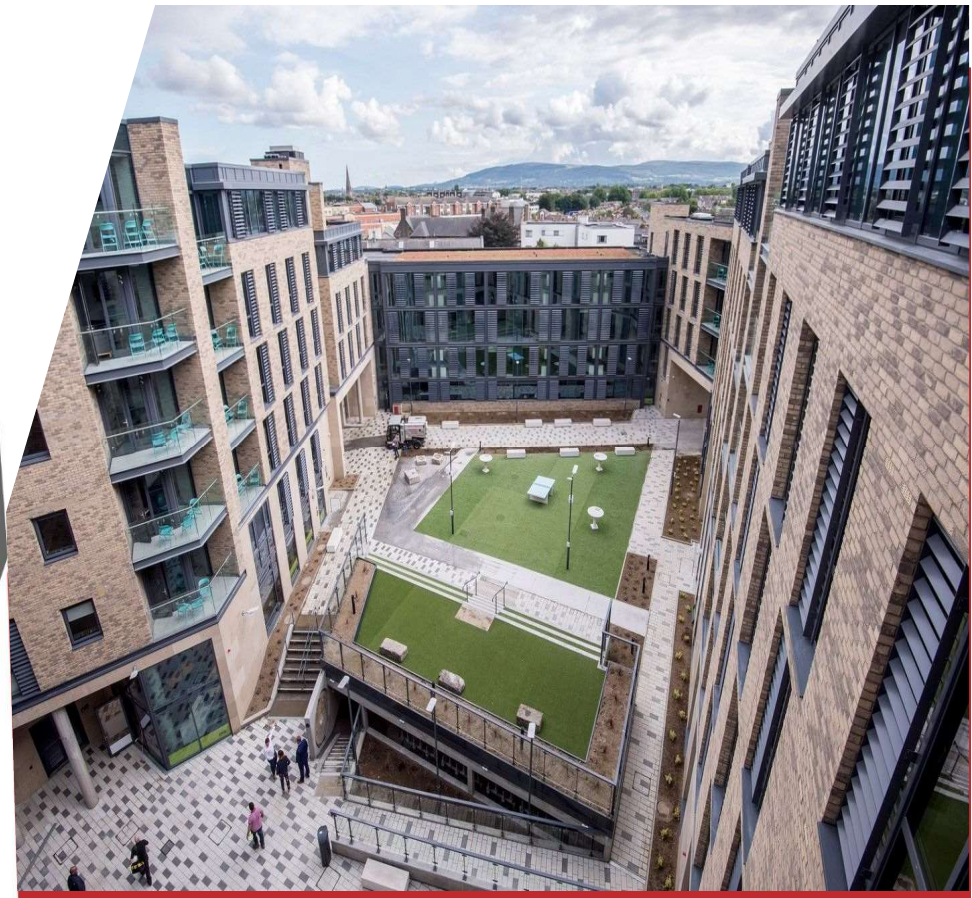
Audit Signed Off;



Audit Team Leader

Date 11/12/2020

BARRETT MAHONY
CONSULTING ENGINEERS
CIVIL & STRUCTURAL



APPENDIX

8

STAGE 1 QUALITY AUDIT

Cookstown Road, Enniskerry

Proposed Residential Development

Client: Cairn Homes Properties Ltd.

Stage 1 Quality Audit

PROPOSED COOKSTOWN ROAD RESIDENTIAL DEVELOPMENT, ENNISKERRY

Description:

Stage 1 Quality Audit

Author:

Ken Swaby

Francis Fidgeon

Audit Brief Submitted By:

Barrett Mahony Consulting Engineers

Distribution:

Barrett Mahony Consulting Engineers

1 AUDIT INFORMATION

1.1 Title QUALITY AUDIT ENNISKERRY S1

1.2 **Audit Reference Number** QUALITY AUDIT ENNISKERRY S1 KS 311

1.3 Project Code QAENNSKRRY

1.4 Date Audit Completed 25th November 2020

1.5 Audit Team

Team Leader Ken Swaby, ILTP

Team Member Francis Fidgeon, CST Group

1.6 Audit Attended By

Team Leader Ken Swaby

Team Member Francis Fidgeon

1.7 Information Received

ITEM		Supplied	Comments
A	Plans	Yes	Barrett Mahony Consulting Engineers Drawings: PROPOSED ROADS & FOOTPATHS LAYOUT, ref. 18243-BMD-00-ZZ-DR-C-1010, rev. PL1 PROPOSED ACCESS JUNCTION & FOOTPATHS LAYOUT, ref. 18243-BMD-00-ZZ-DR-C-1011, rev. PL1 AUTOTRACK – REFUSE VEHICLE, ref. 18243-BMD-00-ZZ-DR-C-1012, rev. PL1 AUTOTRACK – FIRE TENDER, ref. 18243-BMD-00-ZZ-DR-C-1013, rev. PL1 PROPOSED JUNCTION SIGHTLINES LAYOUT, ref. 18243-BMD-00-ZZ-DR-C-1014, rev. PL1 PROPOSED FOUL & SURFACE WATER DRAINAGE LAYOUT, ref. 18243-BMD-00-ZZ-DR-C-1020, rev. PL2 ROADS LONGSEACTIONS SHEET 1 OF 3, ref. 18243-BMD-00-ZZ-DR-C-1101, rev. PL1 ROADS LONGSEACTIONS SHEET 2 OF 3, ref. 18243-BMD-00-ZZ-DR-C-1102, rev. PL1 ROADS LONGSEACTIONS SHEET 3 OF 3, ref. 18243-BMD-00-ZZ-DR-C-1103, rev. PL1 MOLA Architecture Drawings: Site Plan, Ref. 19010_MOLA_A00_00_DR_A_XX_A00_0102, Status S0, Rev 00
B	Traffic Count Data	No	
C	Speed Count Data	No	
D	Accident Data	No	
E	Design Standards	No	

ITEM		Supplied	Comments
F	Design Brief	No	
G	Other Data	Yes	Barrett Mahony Consulting Engineers Reports: *Roads Engineering, Traffic & Transport Assessment*, ref. 18.243-TTA-002, rev. PL2, dated 12th August 2020 *Civil Engineering Infrastructure Report & Flood Risk Assessment*, ref. 18.243 – IR – 01, rev. PL2, dated 25th September 2020

2 INTRODUCTION

2.1.1 This is a Stage 1 Quality Audit which examines the accessibility and road safety implications of the proposed Cookstown Road Residential Development, Enniskerry, and its connection to the wider road network.

2.1.2 This Stage 1 Quality Audit includes a Road Safety Audit, Walking Audit, Cycle Audit and Access Audit. The Road Safety Audit is included under separate cover. Where problems are considered to relate to different aspects of the Quality Audit they have been repeated.

2.1.3 The Quality Audit has been carried out in accordance with the Design Manual for Urban Roads and Streets (DMURS).

2.1.4 The audited site is located on Cookstown Road in Enniskerry to the east of the existing Powerscourt National School. The proposed development will consist of 165 no. dwelling units, including 109 no. houses, 56 no. duplex units and a crèche. The proposed development includes a new access junction onto Cookstown Road, pedestrian crossing of Cookstown Road and new footpath linking to the existing pedestrian crossing at Powerscourt National School.

2.1.5 This Stage 1 Quality Audit is based upon drawings provided to the design team, as included under paragraph 1.7.

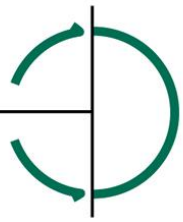
2.1.6 The Feedback Form for this Stage 1 Quality Audit is included in **Appendix A** of this report.

2.1.7 A site visit was carried out on 28th September 2020 at approximately 18:30 in daylight conditions. The weather was fine and dry.

2.1.8 This Quality Audit, including Road Safety Audit provided under separate cover, specifically examines the accessibility and safety of the external environment of the development. It is not an appraisal of policy or strategic issues associated with the planning of the development and it does not examine or verify the compliance of the design to any other design criteria or guidelines. The designer and all concerned stakeholders must therefore defend all actions taken on the basis that such care was taken, as was in all circumstances reasonably required, to ensure that the roadway was accessible and not unsafe for road users. It is important, therefore that where possible the recommendations in the Quality Audit and Road Safety Audit reports are acted upon.

3 ITEMS RESULTING FROM PREVIOUS QUALITY AUDITS

The audit team is not aware of any previous Quality Audits that may have been completed for these proposals, or this site.



4 ITEMS RESULTING FROM STAGE 1 QUALITY AUDIT

4.1 Walking Audit

The proposed development site includes a network of footpaths and shared surface areas to guide pedestrians through the proposals.

Various measures are included within the proposed development in some areas, such as reduced carriageway widths, buildouts, and shared surface areas, which if implemented appropriately should lower vehicle speeds. A low speed environment should be encouraged throughout the proposed development in the interest of the safety, accessibility and comfort of pedestrians.

The proposed shared surface areas should be appropriately configured to encourage lower speeds and have appropriate features, surface treatments and signage to clearly distinguish the shared facilities from other parts of the proposed road network and to clearly indicate the nature of the shared facilities to all road users, including pedestrians.

The drawings provided for audit indicate that the proposed pedestrian crossings will include dropped kerbs and tactile paving to facilitate and guide non-motorised road users. This should be confirmed at the Stage 2 Detailed Design Road Safety Audit.

The information provided for audit shows some footpaths and roads within the proposed development site having steep gradients. For pedestrian users, steeper gradients can reduce safety and may lead to slips or loss-of-control type collisions and may restrict accessibility and comfort, particularly during adverse weather conditions. It is recommended that the design team ensures that the proposed footpaths and roads have appropriately shallow gradients to facilitate safe access by pedestrians.

The proposals include a new pedestrian footpath linking the north-western corner of the site to the existing pedestrian crossing at Powerscourt National School.

It is also proposed to provide a new pedestrian crossing of Cookstown Road, which would provide connectivity with the existing footpath on the road.

The nearest bus stops to the proposed development are in Enniskerry village. Bus services operating from these stops include Dublin Bus Route 44 to the city centre and DCU, and Go Ahead Route 185 to Bray, both of which have hourly services from Enniskerry.

The centre of the proposed development site is approximately 1.1km from the middle of Enniskerry village, which is estimated to be a 13-minute walk on average.

Between the R760 / Cookstown Road junction and the Summer House Hotel entrance there is a footpath directly adjoining the northern side of the Cookstown Road carriageway, which is shown in Figure 4.1. This footpath appears to be narrow and less than 1.2 metres in width in places. This may negatively affect accessibility for some footpath users, and may require some pedestrians to enter the carriageway to pass each other. This may lead to conflict between pedestrians and passing traffic. In the vicinity of Powerscourt National School the existing footpath also has pedestrian guardrail in place to protect and guide footpath users. This guardrail, in conjunction with the available footpath width at this location, may restrict some footpath users from passing, particularly during school opening and closing periods. Figure 4.1 refers.

Figure 4.1: Existing Footpath on Cookstown Road

There is also an existing pedestrian footpath to the east of the Summerhill House Hotel entrance to the northern side of Cookstown Road, which links to and beyond the existing Enniskerry Demesne residential estate. This footpath is very narrow, at less than 1 metre wide in places, and may not be wide enough for certain footpath users, such as wheelchair users or users with wide pushchairs. This footpath is also separated from the carriageway by trees and vegetation, which was overgrown in many areas at the time of the site inspection. Passive surveillance of this footpath may therefore be restricted, which may negatively affect the safety, desirability and comfort of this footpath as a route for some users.

It was observed at the time of the site inspection that one of the Zebra Crossing beacons in the vicinity of Powerscourt National School was not operational. The Zebra Crossing road markings and skid resistant surfacing on the approaches to the crossing were also noted at the time of the site inspection to be worn. In addition, Zig-Zag markings were noted to be missing from the western side of the crossing. These observed issues reduce the advance warning and overall conspicuity of the crossing and the skid resistance of the approaches to the crossing. Figure 4.2 refers.

Figure 4.2: Worn and missing road markings at existing Zebra Crossing on Cookstown Road

Cookstown Road does not currently have street lighting and no street lighting proposals were provided to the audit team. During twilight hours and the hours of darkness inadequate street lighting is a safety concern and may result in pedestrians coming into conflict, including being struck by traffic, and may restrict the accessibility, desirability and comfort of routes for pedestrians.

It is anticipated that further details on the proposed access facilities for pedestrians will be provided at detailed design stage.

Item 4.1.1 - No street lighting proposals on Cookstown Road

Problem

The information provided for audit does not include street lighting proposals on Cookstown Road along the roadside boundary of the proposed development and along the proposed pedestrian footpath linking to the existing pedestrian crossing at Powerscourt National School. During twilight hours and the hours of darkness inadequate street lighting is a safety concern and may result in pedestrians coming into conflict, including being struck by traffic, and may restrict the accessibility, desirability and comfort of routes for pedestrians.

Recommendation

Provide adequate street lighting throughout the proposals, including on Cookstown Road along the roadside boundary of the proposed development.

It is further recommended that the design team liaises with the local authority to ensure that there is adequate street lighting on Cookstown Road beyond the extents of the proposed development.

Item 4.1.2 - No gradient details for proposed footpath on Cookstown Road

Problem

The information provided for audit does not include details of the gradients along the proposed pedestrian footpath linking the proposed development site to the existing pedestrian crossing at Powerscourt National School. This proposed footpath appears to have a steep gradient as it passes between the edge of the Cookstown Road carriageway and the top of the roadside cutting at the proposed development site boundary. For pedestrian users, steeper gradients can reduce safety and may lead to slips or loss-of-control type collisions and may restrict accessibility and comfort, particularly during adverse weather conditions. Some pedestrians may end up in the carriageway and be struck by motor vehicles.

Recommendation

Ensure that the proposed footpath has appropriately shallow gradients to facilitate safe access by pedestrians.

Item 4.1.3 - Steep gradients of road infrastructure within proposed development site

Problem

The drawings provided for audit show some footpaths and roads within the proposed development site having steep gradients. For pedestrian users, steeper gradients can reduce safety and may lead to slips or loss-of-control type collisions and may restrict accessibility and comfort, particularly during adverse weather conditions. Some pedestrians may end up in the carriageway and be struck by motor vehicles.

Recommendation

Ensure that footpaths and roads within the proposed development site have appropriately shallow gradients to facilitate safe access by pedestrians.

Item 4.1.4 - Discontinuity of pedestrian provision

Problem

The drawings provided for audit show pedestrian crossings, including at the junction shown in Figure 4.3, linking directly to landscaped areas and having no continuation of footpath facilities. Without appropriately accessible facilities pedestrians may enter the carriageway at inappropriate locations and be struck by traffic or may slip or trip in areas not intended for pedestrians.

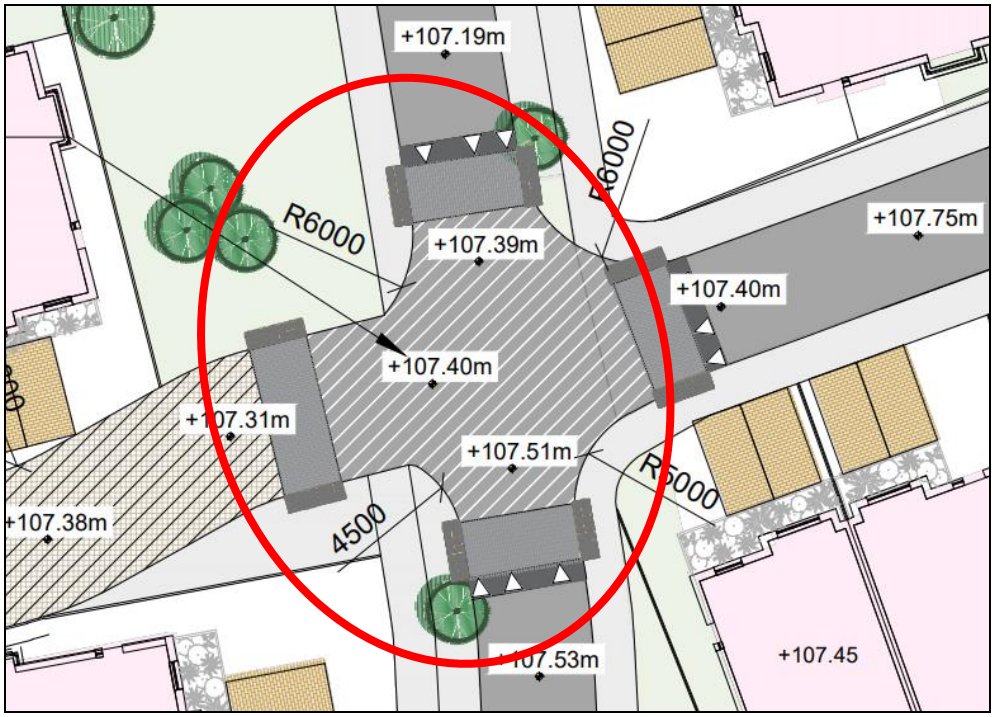


Figure 4.3: Pedestrian crossings linking directly to landscaped areas

Recommendation

Ensure that appropriate and continuous pedestrian facilities are included to guide pedestrians through the proposed development.

Item 4.1.5 - Indirect pedestrian route

Problem

The drawings provided for audit appear to show 20 no. car parking spaces to the front of Duplex Block C at the northeast corner of the site with no pedestrian footway in between the parking spaces. These parking spaces are highlighted in Figure 4.4. With this arrangement some non-motorised users such as wheelchair and pushchair users may need to negotiate a circuitous route, partly in the carriageway, if required to access the carriageway end of the parking bays. This may encourage the use of landscaped areas to gain access which may lead to trips and falls.

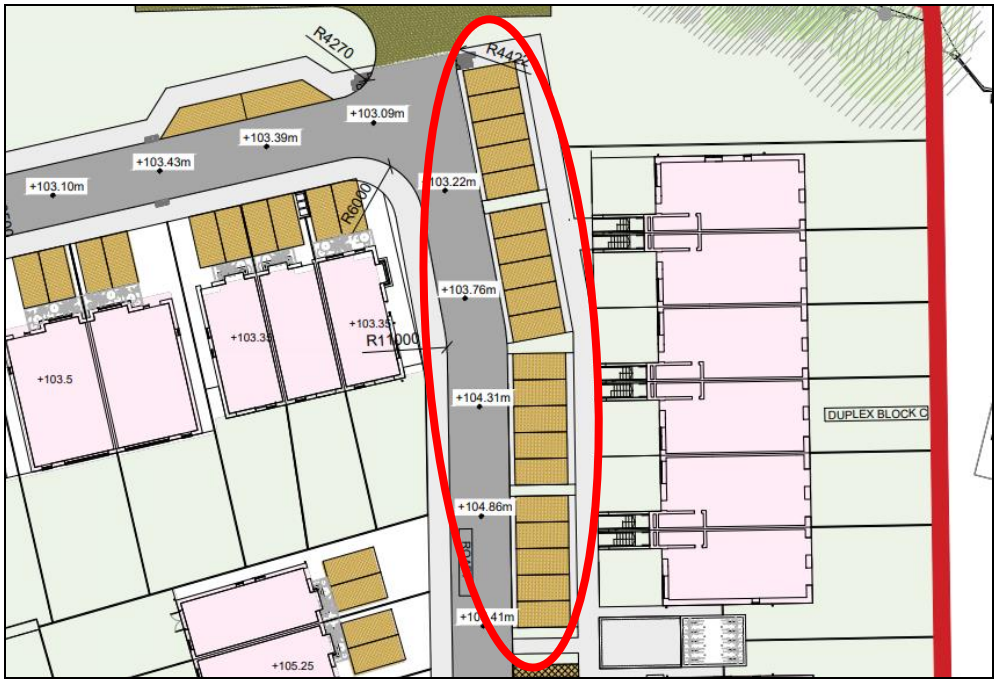


Figure 4.4: Car parking spaces to front of Duplex Block C with no pedestrian footway in between

Recommendation

Ensure that appropriate facilities are provided along pedestrians' desired routes. This could include, for example, a footway located midway between the car parking spaces to the front of Duplex Block C to provide a more direct pedestrian route between the main footpath to the front of Duplex Block C and the carriageway end of the car parking spaces.

Item 4.1.6 - Nature of shared surface streets unclear

Problem

It is unclear from the drawings provided for audit if the proposed shared surface streets have appropriate features, surface treatments and signage to clearly distinguish the shared facilities from other parts of the proposed road network and to clearly indicate the nature of the shared facilities to all road users, including pedestrians. This may lead to confusion by road users as to priority and result in collisions.

Recommendation

Ensure that the proposed shared surface areas have appropriate features, surface treatments and signage to clearly distinguish the shared facilities from other parts of the proposed road network and to clearly indicate the nature of the shared facilities to all road users, including pedestrians.

Item 4.1.7 - Width of Shared Streets

Problem

Some of the proposed shared areas appear excessively wide. This may lead to them not operating as intended and faster speeds, which for pedestrian users, is a safety concern and may result in collisions, including pedestrians being struck by traffic, and may restrict the accessibility, desirability and comfort of the shared areas.

Recommendation

Ensure the shared areas are as narrow as practicable and introduce traffic calming features such as buildouts to keep vehicle speeds low.

Item 4.1.8 - Long straight street may encourage speeding

Problem

The proposed long straight street to the far eastern side of the site may encourage speeding, which for pedestrian users, is a safety concern and may result in collisions, including pedestrians being struck by traffic, and may restrict the accessibility, desirability and comfort of the street. This street is highlighted in Figure 4.5. Further to Item 4.1.3 above, a steep gradient along this street at the higher acceptable end may compound this problem.

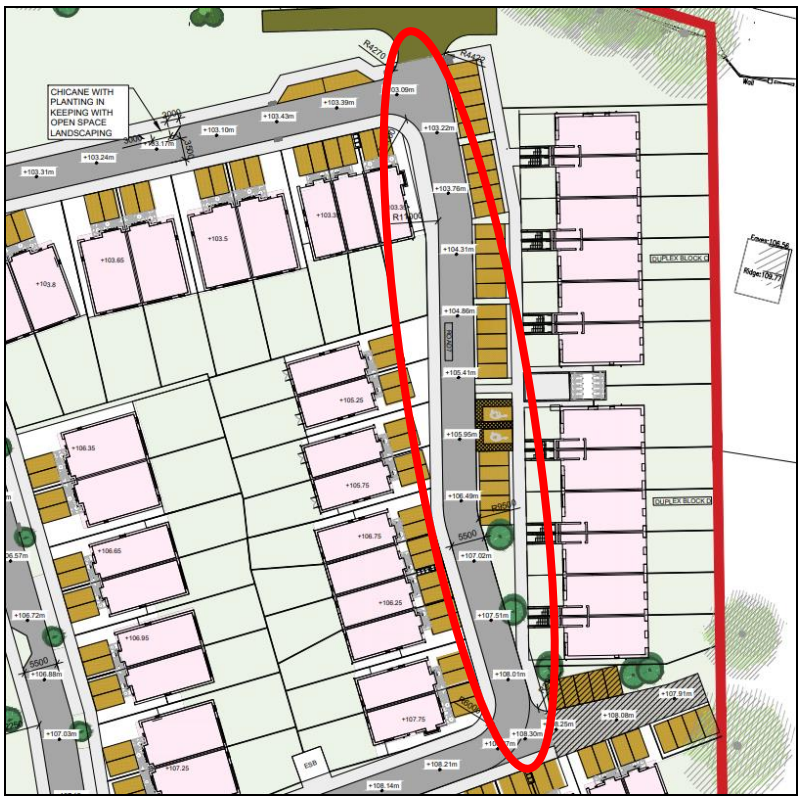


Figure 4.5: Long straight street may encourage speeding

Recommendation

Provide traffic calming measures to control speeding.

4.2 Cycling Audit

The proposed development appears to include for carriageways being shared by cyclists and vehicles. Various measures are included within the proposed development in some areas, such as reduced carriageway widths, buildouts, and shared surface areas, which if implemented appropriately should lower vehicle speeds. A low speed environment should be encouraged throughout the proposed development in the interest of the safety, accessibility and comfort of cyclists.

The proposed shared surface areas should be appropriately configured to encourage lower speeds and have appropriate features, surface treatments and signage to clearly distinguish the shared facilities from other parts of the proposed road network and to clearly indicate the nature of the shared facilities to all road users, including cyclists.

It is proposed to provide dedicated cycle parking for the duplex units and crèche, in addition to in-curtilage cycle parking for the houses.

The information provided for audit shows some footpaths and roads within the proposed development site having steep gradients. For cyclists, steeper gradients can reduce safety and may lead to slips or loss-of-control type collisions and may restrict accessibility and comfort, particularly during adverse weather conditions. It is recommended that the design team ensures that the proposed road infrastructure has appropriately shallow gradients to facilitate safe access by cyclists.

Cookstown Road does not currently have street lighting and no street lighting proposals were provided to the audit team. During twilight hours and the hours of darkness inadequate street lighting is a safety concern and may result in cyclists coming into conflict, including being struck by traffic, and may restrict the accessibility, desirability and comfort of routes for cyclists.

There are currently no formal cycle facilities on Cookstown Road or the R760 between the proposed development and Enniskerry village. This may not be conducive to cycling under certain road conditions, including where traffic volumes and / or actual vehicle speeds are high.

The R760 has a steep gradient, which may prove difficult for some cyclists travelling from Enniskerry towards the proposed development.

At the R760 / Cookstown Road junction visibility to the left is limited for road users, including cyclists, when turning out of Cookstown Road onto the R760. Inadequate visibility may lead to cyclists emerging from the junction into the path of oncoming traffic. Figure 4.6 refers.

Cookstown Road has a footpath to one side of the road to the west of the Summerhill House Hotel entrance, with no footpaths adjoining the carriageway to the east of the hotel entrance. The R760 linking the proposed development to Enniskerry also has a footpath on one side of the road only along much of the route.

There is cobblestone drain adjacent to the footpath to the eastern side of the R760 linking Enniskerry village to the proposed development. Cyclists inadvertently ending up in the drain may lose control. Cyclists may have to keep out into the carriageway to stay clear of the drain. Cyclists, particularly less-able cyclists, may also be restricted from keeping clear of motorists if needed.

Figure 4.6: Visibility to left limited for road users, including cyclists, at R760 / Cookstown Road junction

It is anticipated that further details on the proposed access facilities for cyclists will be provided at detailed design stage.

Item 4.2.1 - Speed limit on Cookstown Road unclear for road users

Problem

The design information which was provided for audit for the proposals on Cookstown Road appears to be based on a 50kph speed limit. The site inspection has shown that there is a 50kph speed limit sign on Cookstown Road to the west of the proposed development access junction. Road users may therefore interpret that the speed limit to the east of this sign is greater than 50kph. Furthermore, the road at this location is rural in character and may not drive as if it is a 50kph zone. This may lead to motorists driving on this section of Cookstown Road at inappropriately high speeds, which for cyclists, is a safety concern and may result in vehicle-cyclist collisions, and may restrict the accessibility, desirability and comfort of the road.

Recommendation

Install 50kph speed limit signs at the eastern side of the proposed access junction and existing Enniskerry Demesne access junction to reinforce the speed limit to road users.

In addition to installing speed limit signs, ensure that appropriate measures are in place on Cookstown Road, particularly between Powerscourt National School and the eastern side of the proposed access junction and existing Enniskerry Demesne access junction, to sufficiently reinforce and emphasise a 50kph zone to road users.

If the speed limit at the location of the proposed development access junction is greater than 50kph it is recommended that the design team liaises with the local authority to have the 50kph speed limit extended sufficiently to the eastern side of the proposed access junction and existing Enniskerry Demesne access junction.

Item 4.2.2 - Cyclists may be restricted from keeping clear of motorists on Cookstown Road

Problem

The site inspection has shown that the section of the Cookstown Road carriageway between the proposed development site and Powerscourt National School is directly adjoined in many areas by steep roadside cuttings or dense vegetation, which may restrict a cyclist, particularly a less-able cyclist, from keeping clear of motorists if needed. This may lead to cyclists being struck by traffic. Figure 4.7 refers.

Figure 4.7: Steep roadside cuttings and dense vegetation on Cookstown Road, which may restrict a cyclist from keeping clear of motorists if needed

Recommendation

Ensure that appropriate facilities and features are in place on Cookstown Road within the extents of the proposals to facilitate safe cycle trips, particularly between the proposed development and Powerscourt National School.

It is further recommended that the design team liaises with the local authority to ensure that appropriate facilities and features are in place on Cookstown Road beyond the extents of the proposals to facilitate safe cycle trips, particularly between the proposed development and Powerscourt National School.

It is also recommended that the design team liaises with the local authority and the management of Powerscourt National School to provide a direct gated link between the school and the proposed development to facilitate access for children, including those that wish to travel to school by bicycle. This link could be managed by the school with strict hours for use, for example at school opening and closing times only.

Item 4.2.3 - No street lighting proposals on Cookstown Road

Problem

The information provided for audit does not include street lighting proposals on Cookstown Road along the roadside boundary of the proposed development. During twilight hours and the hours of darkness inadequate street lighting is a safety concern and may result in cyclists coming into conflict, including being struck by traffic, and may restrict the accessibility, desirability and comfort of routes for cyclists.

Recommendation

Provide adequate street lighting throughout the proposals, including on Cookstown Road along the roadside boundary of the proposed development.

It is further recommended that the design team liaises with the local authority to ensure that there is adequate street lighting on Cookstown Road beyond the extents of the proposed development.

Item 4.2.4 - Steep gradients of road infrastructure within proposed development site

Problem

The drawings provided for audit show some footpaths and roads within the proposed development site having steep gradients. For cyclists, steeper gradients can reduce safety and may lead to slips or loss-of-control type collisions and may restrict accessibility and comfort, particularly during adverse weather conditions.

Recommendation

Ensure that footpaths and roads within the proposed development site have appropriately shallow gradients to facilitate safe access by cyclists.

Item 4.2.5 - Nature of shared surface streets unclear

Problem

It is unclear from the drawings provided for audit if the proposed shared surface streets have appropriate features, surface treatments and signage to clearly distinguish the shared facilities from other parts of the proposed road network and to clearly indicate the nature of the shared facilities to all road users, including cyclists. This may lead to confusion by road users as to priority and result in collisions.

Recommendation

Ensure that the proposed shared surface areas have appropriate features, surface treatments and signage to clearly distinguish the shared facilities from other parts of the proposed road network and to clearly indicate the nature of the shared facilities to all road users, including cyclists.

Item 4.2.6 - Width of Shared Streets

Problem

Some of the proposed shared areas appear excessively wide. This may lead to them not operating as intended and faster speeds, which for cyclists, is a safety concern and may result in collisions, including cyclists being struck by traffic, and may restrict the accessibility, desirability and comfort of the shared areas.

Recommendation

Ensure the shared areas are as narrow as practicable and introduce traffic calming features such as buildouts to keep vehicle speeds low.

Item 4.2.7 - Long straight street may encourage speeding

Problem

The proposed long straight street to the far eastern side of the site may encourage speeding, which for cyclists, is a safety concern and may result in collisions, including cyclists being struck by traffic, and may restrict the accessibility, desirability and comfort of the street. This street is highlighted in Figure 4.5. Further to Item 4.2.4 above, a steep gradient along this street at the higher acceptable end may compound this problem.

Recommendation

Provide traffic calming measures to control speeding.

4.3 Access Audit

This section of the Quality Audit relates to access for mobility and visually impaired users and should be read in conjunction with Section 4.1 above as some aspects and problems raised are overlapping.

The proposed development site includes a network of footpaths and shared surface areas to guide mobility and visually impaired users through the proposals.

Various measures are included within the proposed development in some areas, such as reduced carriageway widths, buildouts, and shared surface areas, which if implemented appropriately should lower vehicle speeds. A low speed environment should be encouraged throughout the proposed development in the interest of the safety, accessibility and comfort of mobility and visually impaired users.

Shared surface areas can lead to difficulties for visually impaired users who may rely on kerb lines to navigate streets. Shared spaces may also be intimidating for visually impaired users as they cannot rely on eye contact with drivers to communicate. It is important therefore that the characteristics of the proposed shared surface streets create a low speed environment that is safe and accessible for all users. Where drivers travel at lower speeds mobility and visually impaired users should be more readily identified.

The proposed shared surface areas should be appropriately configured to encourage lower speeds and have appropriate features, surface treatments and signage to clearly distinguish the shared facilities from other parts of the proposed road network and to clearly indicate the nature of the shared facilities to all road users, including visually impaired users.

The drawings provided for audit indicate that the proposed pedestrian crossings will include dropped kerbs and tactile paving to facilitate and guide mobility and visually impaired users. This should be confirmed at the Stage 2 Detailed Design Road Safety Audit.

The drawings provided for audit appear to include 6 no. disabled access car parking spaces in the vicinity of the crèche and duplex units.

The proposals include a new pedestrian footpath linking the north-western corner of the site to the existing pedestrian crossing at Powerscourt National School.

It is also proposed to provide a new pedestrian crossing of Cookstown Road, which would provide connectivity with the existing footpath on the road.

Between the R760 / Cookstown Road junction and the Summer House Hotel entrance there is a footpath directly adjoining the northern side of the Cookstown Road carriageway, which is shown in Figure 4.1. This footpath appears to be narrow and less than 1.2 metres in width in places. This may adversely affect accessibility for mobility and visually impaired users, and may require footpath users to enter the carriageway to pass each other. This may lead to conflict between non-motorised users and passing traffic. In the vicinity of Powerscourt National School the existing footpath also has pedestrian guardrail in place to protect and guide footpath users. This guardrail, in conjunction with the available footpath width at this location, may restrict some footpath users from passing, particularly during school opening and closing periods. Figure 4.1 refers.

There is also an existing pedestrian footpath to the east of the Summerhill House Hotel entrance to the northern side of Cookstown Road, which links to and beyond the existing Enniskerry Demesne residential estate. This footpath is very narrow, at less than 1 metre wide in places, and may not be wide enough for mobility impaired users, such as wheelchair users. This footpath is also separated from the carriageway by vegetation, which was overgrown in many areas at the time of the site inspection. Passive surveillance of this footpath may therefore be restricted, which may adversely affect the desirability or comfort of this footpath as a route for some users.

It was observed at the time of the site inspection that one of the Zebra Crossing beacons in the vicinity of Powerscourt National School was not operational. The Zebra Crossing road markings and skid resistant surfacing on the approaches to the crossing were also noted at the time of the site inspection to be worn. In addition, Zig-Zag markings were noted to be missing from the western side of the crossing. These observed issues reduce the advance warning and overall conspicuity of the crossing and the skid resistance of the approaches to the crossing. Figure 4.2 refers.

Cookstown Road does not currently have street lighting and no street lighting proposals were provided to the audit team. During twilight hours and the hours of darkness inadequate street lighting is a safety concern and may result in mobility and visually impaired users coming into conflict, including being struck by traffic, and may restrict the accessibility, desirability and comfort of routes for mobility and visually impaired users.

The information provided for audit shows some footpaths and roads within the proposed development site having steep gradients. For mobility and visually impaired users, steeper gradients can reduce safety and may lead to slips or loss-of-control type collisions and may restrict accessibility and comfort, particularly during adverse weather conditions. It is recommended that the design team ensures that the proposed footpaths and roads have appropriately shallow gradients to facilitate safe access by mobility and visually impaired users.

It is anticipated that further details on the proposed access facilities for mobility and visually impaired users will be provided at detailed design stage.

Item 4.3.1 - No street lighting proposals on Cookstown Road

Problem

The information provided for audit does not include street lighting proposals on Cookstown Road along the roadside boundary of the proposed development and along the proposed pedestrian footpath linking to the existing pedestrian crossing at Powerscourt National School. During twilight hours and the hours of darkness inadequate street lighting is a safety concern and may result in mobility and visually impaired users coming into conflict, including being struck by traffic, and may restrict the accessibility, desirability and comfort of routes for mobility and visually impaired users.

Recommendation

Provide adequate street lighting throughout the proposals, including on Cookstown Road along the roadside boundary of the proposed development.

It is further recommended that the design team liaises with the local authority to ensure that there is adequate street lighting on Cookstown Road beyond the extents of the proposed development.

Item 4.3.2 - No gradient details for proposed footpath on Cookstown Road

Problem

The information provided for audit does not include details of the gradients along the proposed pedestrian footpath linking the proposed development site to the existing pedestrian crossing at Powerscourt National School. This proposed footpath appears to have a steep gradient as it passes between the edge of the Cookstown Road carriageway and the top of the roadside cutting at the proposed development site boundary. For mobility and visually impaired users, steeper gradients can reduce safety and may lead to slips or loss-of-control type collisions and may restrict accessibility and comfort, particularly during adverse weather conditions. Furthermore, steep footpaths may lead to wheelchair users becoming tired and losing control and errantly ending up in the carriageway.

Recommendation

Ensure that the proposed footpath has appropriately shallow gradients to facilitate safe access by mobility and visually impaired users.

Item 4.3.3 - Steep gradients of road infrastructure within proposed development site

Problem

The drawings provided for audit show some footpaths and roads within the proposed development site having steep gradients. For mobility and visually impaired users, steeper gradients can reduce safety and may lead to slips or loss-of-control type collisions and may restrict accessibility and comfort, particularly during adverse weather conditions. Furthermore, steep footpaths may lead to wheelchair users becoming tired and losing control and errantly ending up in the carriageway.

Recommendation

Ensure that footpaths and roads within the proposed development site have appropriately shallow gradients to facilitate safe access by mobility and visually impaired users.

Provide adequate safe facilities for wheelchair users.

Item 4.3.4 - Discontinuity of pedestrian provision

Problem

The drawings provided for audit show pedestrian crossings, including at the junction shown in Figure 4.3, linking directly to landscaped areas and having no continuation of footpath facilities. Without appropriately accessible facilities mobility and visually impaired users may enter the carriageway at inappropriate locations and be struck by traffic or may slip or trip in areas not intended for non-motorised users.

Recommendation

Ensure that appropriate and continuous pedestrian facilities are included to guide mobility and visually impaired users through the proposed development.

Item 4.3.5 - Indirect pedestrian route

Problem

The drawings provided for audit appear to show 20 no. car parking spaces to the front of Duplex Block C at the northeast corner of the site with no pedestrian footway in between the parking spaces. These parking spaces are highlighted in Figure 4.4. With this arrangement some non-motorised users such as wheelchair and pushchair users may need to negotiate a circuitous route, partly in the carriageway, if required to access the carriageway end of the parking bays. This may encourage the use of landscaped areas to gain access which may lead to trips and falls.

Recommendation

Ensure that appropriate facilities are provided along the desired routes of non-motorised users. This could include, for example, a footway located midway between the car parking spaces to the front of Duplex Block C to provide a more direct route between the main footpath to the front of Duplex Block C and the carriageway end of the car parking spaces.

Item 4.3.6 - Nature of shared surface streets unclear

Problem

It is unclear from the drawings provided for audit if the proposed shared surface streets have appropriate features, surface treatments and signage to clearly distinguish the shared facilities from other parts of the proposed road network and to clearly indicate the nature of the shared facilities to all road users, including visually impaired users. This may lead to confusion by road users as to priority and result in collisions.

Recommendation

Ensure that the proposed shared surface areas have appropriate features, surface treatments and signage to clearly distinguish the shared facilities from other parts of the proposed road network and to clearly indicate the nature of the shared facilities to all road users, including visually impaired users.

Item 4.3.7 - Width of Shared Streets

Problem

Some of the proposed shared areas appear excessively wide. This may lead to them not operating as intended and faster speeds, which for mobility and visually impaired users, is a safety concern and may result in collisions, including mobility and visually impaired users being struck by traffic, and may restrict the accessibility, desirability and comfort of the shared areas.

Recommendation

Ensure the shared areas are as narrow as practicable and introduce traffic calming features such as buildouts to keep vehicle speeds low.

Item 4.3.8 - Long straight street may encourage speeding

Problem

The proposed long straight street to the far eastern side of the site may encourage speeding, which for mobility and visually impaired users, is a safety concern and may result in collisions, including mobility and visually impaired users being struck by traffic, and may restrict the accessibility, desirability and comfort of the street. This street is highlighted in Figure 4.5. Further to Item 4.3.3 above, a steep gradient along this street at the higher acceptable end may compound this problem.

Recommendation

Provide traffic calming measures to control speeding.

5 COMMENTS

It is recommended that, should the detailed design change significantly in nature from the design currently provided, a further Accessibility-Quality Audit be completed on the detailed design proposals.

As included in the Stage 1 Road Safety Audit included under separate cover, it is recommended that the proposed development is subject to a Stage 2 Road Safety Audit at detailed design stage.

6 CONCLUSIONS

It is recommended that the specific issues raised in this Quality Audit report, including Road Safety Audit report provided under separate cover, be taken into account and that appropriate measures be put in place where practicable to mitigate the concerns raised.

The Design Team should respond to all issues raised in this Stage 1 Quality Audit Report through returning a signed copy of the Quality Audit Feedback Form.

7 QUALITY AUDIT TEAM STATEMENT

7.1 Statement

We certify that the drawings and documents provided with the Audit Brief have been examined. The examination has been carried out with the sole purpose of identifying any features of the scheme that could be improved or modified in order to improve the safety and accessibility of the scheme. The problems that we have identified have been noted in this Quality Audit report, including Road Safety Audit report provided under separate cover, together with suggestions for improvement, which we recommend should be considered for implementation.

7.2 Signatures

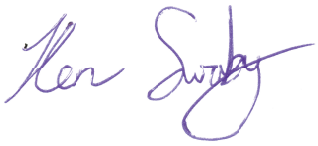
7.2.1 Audit Team Leader Signature

Name: Ken Swaby

Position: Transport Engineer

Date: 25 / 11 / 2020

Organisation: ILTP Consulting

Signed: 

7.2.2 Audit Team Member Signature

Name: Francis Fidgeon

Position: Transport Engineer

Date: 25 / 11 / 2020

Organisation: CST Group

Signed: 

APPENDIX A QUALITY AUDIT FEEDBACK FORM

Quality Audit Reference QUALITY AUDIT ENNISKERRY S1 KS 311

Audit Stage Stage 1

Date Quality Audit Completed 25th November 2020

Para No. in Report	Problem Accepted (Y/N)	Recommendation Accepted (Y/N)	Comments / Alternative Measures (Describe)	Alternative Measures Accepted by Auditor? (Y/N)
4.1.1	Y	Y		
4.1.2	Y	Y		
4.1.3	Y	Y		
4.1.4	Y	Y		
4.1.5	Y	Y		
4.1.6	Y	Y		
4.1.7	Y	Y		
4.1.8	Y	Y		
4.2.1	Y	Y		
4.2.2	Y	Y		
4.2.3	Y	Y		
4.2.4	Y	Y		
4.2.5	Y	Y		
4.2.6	Y	Y		
4.2.7	Y	Y		
4.3.1	Y	Y		
4.3.2	Y	Y		

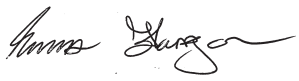
Para No. in Report	Problem Accepted (Y/N)	Recommendation Accepted (Y/N)	Comments / Alternative Measures (Describe)	Alternative Measures Accepted by Auditor? (Y/N)
4.3.3	Y	Y		
4.3.4	Y	Y		
4.3.5	Y	Y		
4.3.6	Y	Y		
4.3.7	Y	Y		
4.3.8	Y	Y		

Signed

Nicole Marais
Btech Civil Eng Urban Design
Design Team Leader

Date 03/12/2020

Signed

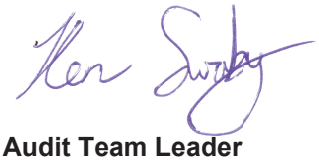


Employer

Date 08/12/2020

(Please Complete and return to the Auditor)

Audit Signed Off;



Audit Team Leader

Date 11/12/2020