

KEERAUN SOCIAL HOUSING GALWAY

Traffic and Transport Assessment

MGC0716-RPS-00-XX-RP-C-RP0005
Traffic and Transport Assessment
P01
31 August 2021

TRAFFIC AND TRANSPORT ASSESSMENT

Document status

Version	Status	Purpose of document	Authored by	Reviewed by	Approved by	Review date
P01	S4	Issue for Stage Approval	MF	RG	PMGB	31/08/2021

Approval for issue

31 August 2021

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Contents

1	INTRODUCTION	1
1.1	General.....	1
1.2	Objective	1
1.3	Reference Documents	1
1.4	Approach	2
1.5	Methodology.....	2
1.5.1	Establishment of Traffic Flows.....	2
1.5.2	Traffic Modelling.....	2
2	EXISTING AND FUTURE CONDITIONS.....	4
2.1	Existing Site Conditions	4
2.2	Proposed Development/Future Site Conditions.....	4
2.3	Existing Surrounding Road Network	6
2.4	Future Surrounding Road Network	7
3	TRAFFIC ANALYSIS.....	8
3.1	Existing Traffic.....	8
3.1.1	Junctions Analysed	8
3.1.2	Establishing Existing Traffic Flows	9
3.1.3	Time Periods Analysed.....	10
3.1.4	Units	10
3.1.5	Existing Traffic Flows	10
3.2	Future Traffic	12
3.2.1	Surrounding Road Network	12
3.2.2	Development Traffic.....	12
3.2.3	Future Traffic Flows	13
4	TRAFFIC ANALYSIS RESULTS	20
4.1	Ballymoreen Road/Rahoon Road Junction	20
4.2	Ballymoreen Road/Development Site Access Road Junction	21
4.3	Ballymoreen Road/Western Distributor Road Junction.....	21
5	FUTURE DEVELOPMENT OF GALWAY CITY RING ROAD	23
5.1.1	Establishment of Traffic Flows.....	23
5.1.2	Traffic Analysis.....	25
5.1.3	Traffic Analysis Results	26
6	ROAD LAYOUT, PARKING AND VISIBILITY	27
6.1	Internal Roads	27
6.2	Parking	27
6.3	Visibility	27
7	CONCLUSION	29

Appendices

Appendix A - Drawings

Appendix B – Traffic Modelling Reports

1 INTRODUCTION

1.1 General

RPS was appointed by Galway City Council (GCC) to carry out a Traffic and Transport Assessment (TTA) as part of a Part 8 Planning application for a residential development.

The proposed development consists of 63no. housing units (mix of 1 – 4 bed housing units) and 8no. culturally appropriate Traveller specific units.

The proposed site is located at Keeraun approximately 6km west of Galway City Centre.

The site location is shown on the Site Location Map in Appendix A and in **Figure 1.1** below.

Figure 1.1 Site Location



1.2 Objective

The objective of this TTA is to assess the likely impact of the proposed development on the surrounding road network.

1.3 Reference Documents

This TTA was prepared in accordance with the following:

- TII Traffic and Transport Assessment Guidelines (May 2014),
- Galway City Development Plan 2017-2023,
- Galway Transport Strategy, September 2016
- N6 Galway City Transport Project – Phase 3 Traffic Modelling Report Issue 4 (28/03/2018)
- TII Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections.
- N6 Galway City Ring Road Environmental Impact Assessment Report – Issue 1 September 2018.

1.4 Approach

This TTA includes the following;

- Relevant policy review,
- Establishment of existing and future traffic flows and development trip generation, and
- Appraisal of predicted traffic flows

1.5 Methodology

1.5.1 Establishment of Traffic Flows

At the time of carrying out this assessment the Covid-19 virus pandemic is influencing typical traffic volumes. Government imposed travel restrictions and lockdown have resulted in less traffic volumes on most transport routes in Ireland.

To ensure a robust assessment of the potential impact of the proposed development RPS, in consultation with GCC Transportation department on 26th November 2020, agreed to use a combination of traffic flows recorded on the public road network, flows given in the N6 Galway City Transport Project – Phase 3 Traffic Modelling Report Issue 4 (28/03/2018) and calculated flows using TII Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections.

Traffic generated by the proposed development was calculated TRICS trip rate calculations. TRICS trip rates are calculated by using surveyed trips to and from similar developments and are explained on TRICS.org as being;

“Trip rates show the number of traffic/people movements in and out of a development (or an average of a number of developments within the same land use category), for a given trip rate parameter factor. For example, when trip rates are calculated by Gross Floor Area (GFA), they are shown per 100m² of GFA. Using this factor, users can apply trip rates to potential developments, and are encouraged to achieve a balance between their selection criteria and the size of their selected data sample to achieve this aim.”

“Trip rates are calculated as follows: Mean average trip rates are calculated when there are at least 2 surveys included in a selected list (trip rates for an individual site can also be calculated). The calculation process consists of 3 parts, and these apply to every hour of the survey duration, for arrivals, departures and totals counts.”

1.5.2 Traffic Modelling

1.5.2.1 Consultation

RPS consulted with GCC Transportation department on the 26th November 2020. During consultation, the following junctions were identified as requiring capacity analysis:

- Ballymoreen Road/Rahoon Road (Priority Junction)
- Ballymoreen Road/Development Access (Priority Junction)
- Ballymoreen Road/Western Distributor Road (Roundabout).

1.5.2.2 Traffic Counts

As previously stated in Section 1.5.1 traffic count data recorded prior to the Covid-19 Pandemic were used for this assessment. These counts were carried out at the Ballymoreen Road/Western Distributor Road junction and the Rahoon Road/Clybaun Road junction on the 5th November 2020. Data was also extracted from an Automatic Traffic Counter (ATC) located near Buaille Beag National School to the west of the proposed development site. These locations are shown in the below **Figure 1.2**;

Figure 1.2 Traffic Count Locations

1.5.2.3 Traffic Modelling Software

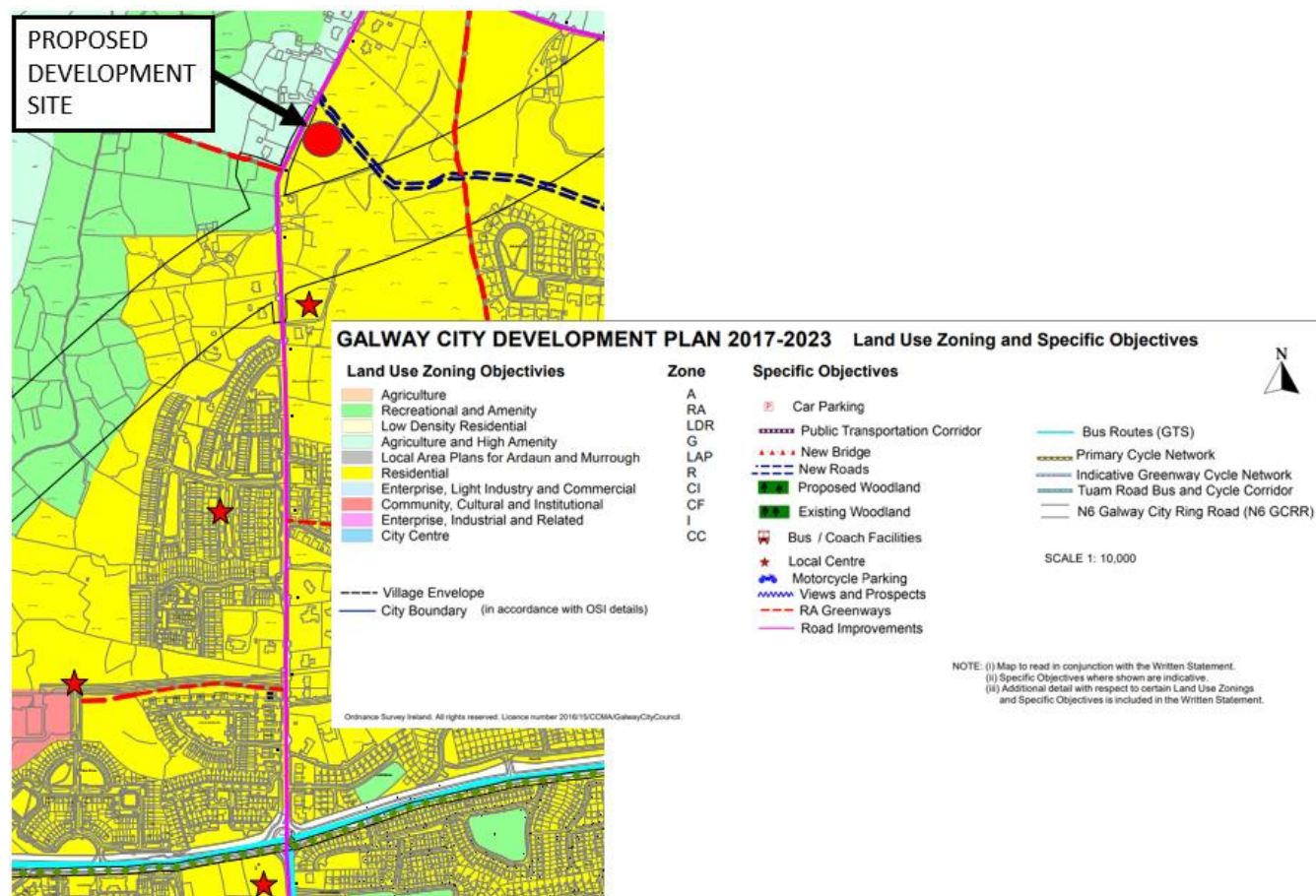
Roundabout junction capacity was analysed using the computer software programme ARCADY (Assessment of Roundabout Capacity and Delay). Priority junctions were analysed using the computer software programmes PICADY (Priority Intersection Capacity and Delay). ARCADY and PICADY are computer programmes for calculating estimates of the capacity of major /minor road junctions, where the minor road is controlled by a stop or yield sign and non-signalised roundabouts. The geometric details of the junction are applied to the programme, together with details of traffic flows and turning movements. The programmes analyse the junctions in relation to the various traffic flows and determine the capacity of each approach using the Ratio of Flow to Capacity (RFC). An RFC of 1.0 indicates that a junction is operating at its maximum capacity. An RFC of approximately 0.85 is considered to represent the maximum practical capacity of a junction/roundabout when queuing and delays will occur. A junction operating at more than its practical capacity will operate with reduced efficiency. The programmes also calculate the peak queue length on each approach.

2 EXISTING AND FUTURE CONDITIONS

2.1 Existing Site Conditions

The proposed site is currently a green field which is zoned for residential land use in the Galway City Development Plan 2017-2023 as shown in **Figure 2.1** below.

Figure 2.1 Existing Land Use



2.2 Proposed Development/Future Site Conditions

As stated in Section 1.1 the proposed development will consist of 63no. housing units (mix of 1 – 4 bed housing units) and 8no. culturally appropriate Traveller specific units. The accommodation per unit is broken down as shown in **Table 2.1**

Table 2.1 Development Type

Unit Type	Total
1 Bedroom units	4
2 Bedroom units	34
3 Bedroom Units	22
4 Bedroom Units	3
4 Bedroom Traveller Appropriate Accommodation Units	8
Total Units on Site	71

The proposed site layout is shown in **Figure 2.2** below, see also Drawing no. MGC0716-RPS-00-XX-C-KP0001 in **Appendix A**;

Figure 2.2 Proposed Site Layout



2.3 Existing Surrounding Road Network

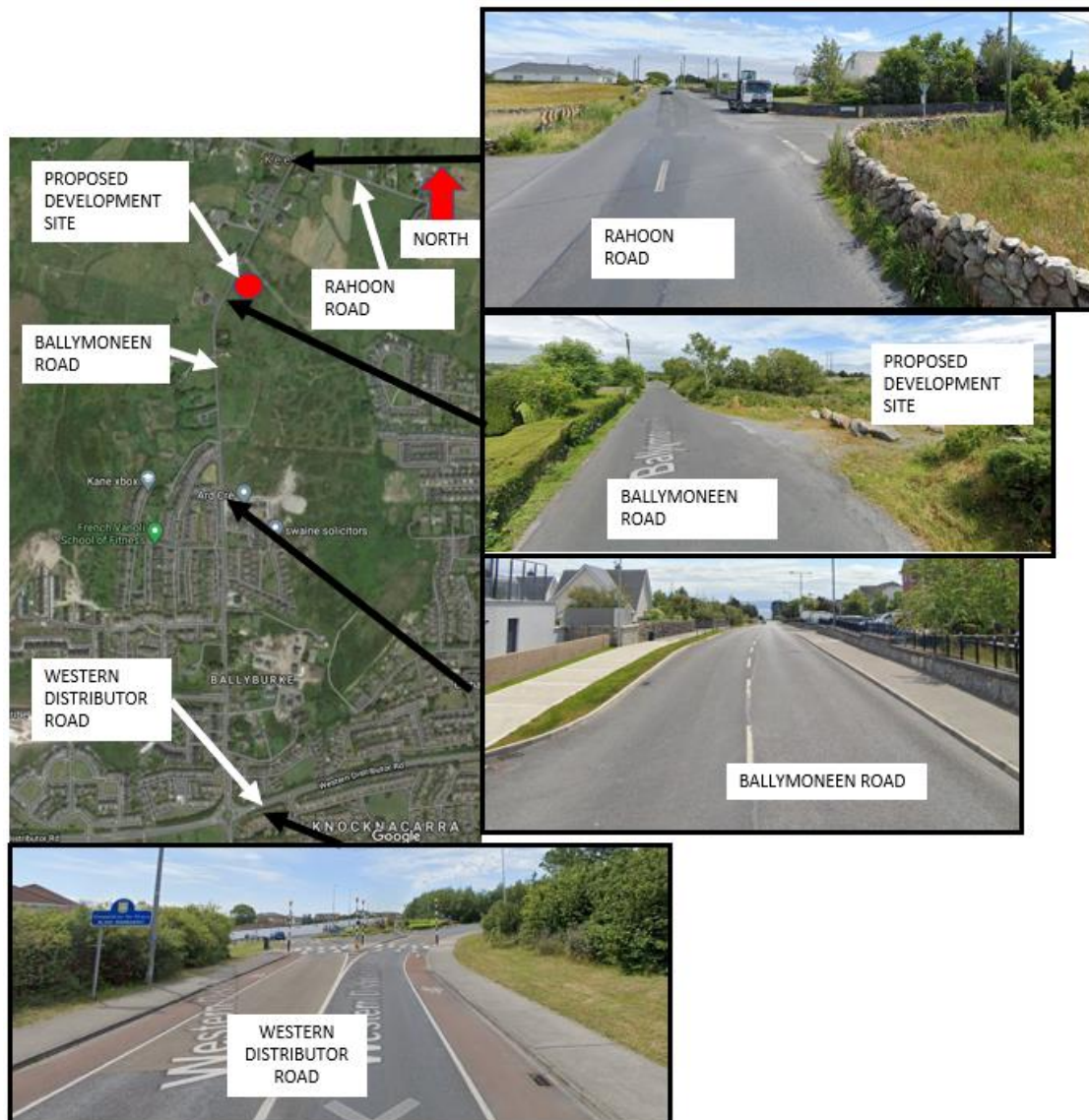
The proposed development site will be accessed via the existing Ballymoneen Road as shown in Figure 2.2 below. The Ballymoneen Road is a local road which links the Ragoon Road to the north of the development site to the Western Distributor Road to the south. The infrastructure on the surrounding road network varies from the north of the development site to the south. To the north of the development site the Ballymoneen Road and the Ragoon Road are rural in nature with a carriageway width along the Ballymoneen Road varying from 3.5m to 5m in width and approximately 4.5m along the section of the Ragoon Road within close proximity to its junction with the Ballymoneen Road. These sections of road cater primarily for vehicular traffic.

To the south of the development site, the level of infrastructure for multiple modes of transport increases. Approximately 400m south of the proposed development site there are lit pedestrian footpaths which connect to the footpaths along the Western Distributor Road. Uncontrolled pedestrian crossing points with tactile paving are present along this section of the Ballymoneen Road along with two controlled pedestrian crossing points in the form of a push button-controlled crossing point and a zebra crossing.

Along the Western Distributor Road there are lit footpaths on both sides and cycle lanes along both sides to the east of the roundabout junction with the Ballymoneen Road.

The condition and nature of the surrounding road network is shown in the below **Figure 2.3** below;

Figure 2.3 Surrounding Road Network

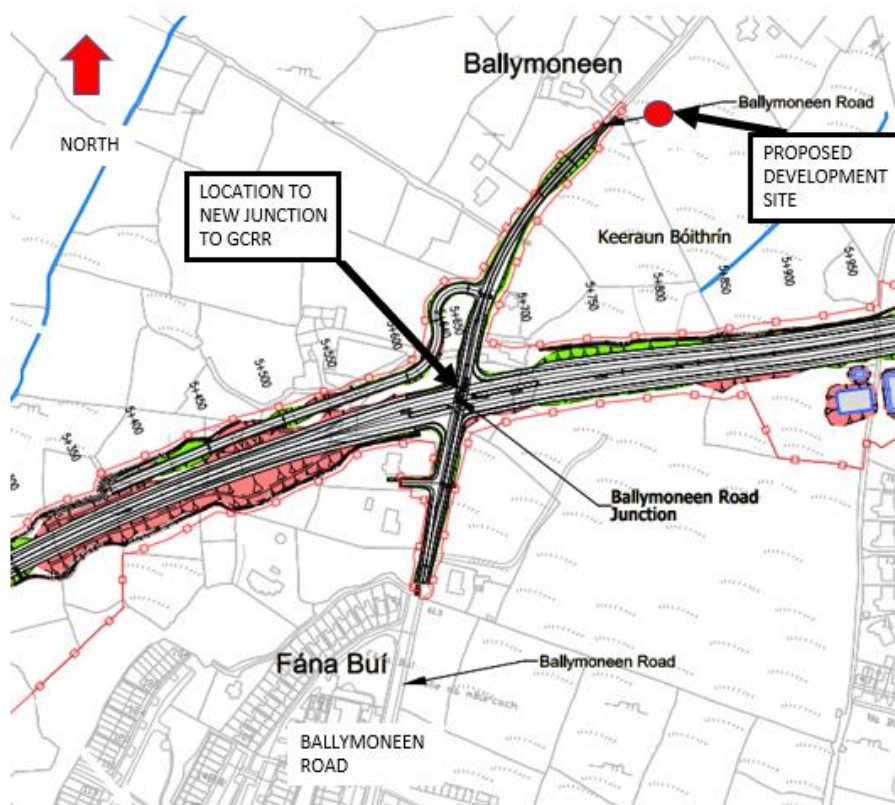


2.4 Future Surrounding Road Network

The proposed development site is located approximately 350m north of the proposed N6 Galway City Ring Road (GCRR) route. The GCRR will link the western side of Galway City to the eastern side from Bearna in the west, to the N6 junction at the Coolagh Roundabout to the east and vice versa through a newly constructed road which will bypass the city centre through a corridor to the north of the city. The GCRR forms part of the Galway Transport Strategy (GTS) which is the current adopted strategy for transport within Galway City. The GCRR is currently at planning stage being reviewed by An Bord Pleanála (APB).

The Ballymoneen Road will form part of a connecting road to the GCRR and will junction it to the south of the proposed development site at a new signalised junction as shown in **Figure 2.4** below.

Figure 2.4 Future Surrounding Road Network



The Ballymoneen Road will benefit from a revised alignment and cross section following the construction of the GCRR. This revised alignment will include footpaths connecting the Ballymoneen Road to the Ballymoneen Road Junction and tying into the existing footpath facilities along the Ballymoneen Road as stated in the N6 Galway City Ring Road Environmental Impact Assessment Report – Issue 1 September 2018.

3 TRAFFIC ANALYSIS

3.1 Existing Traffic

3.1.1 Junctions Analysed

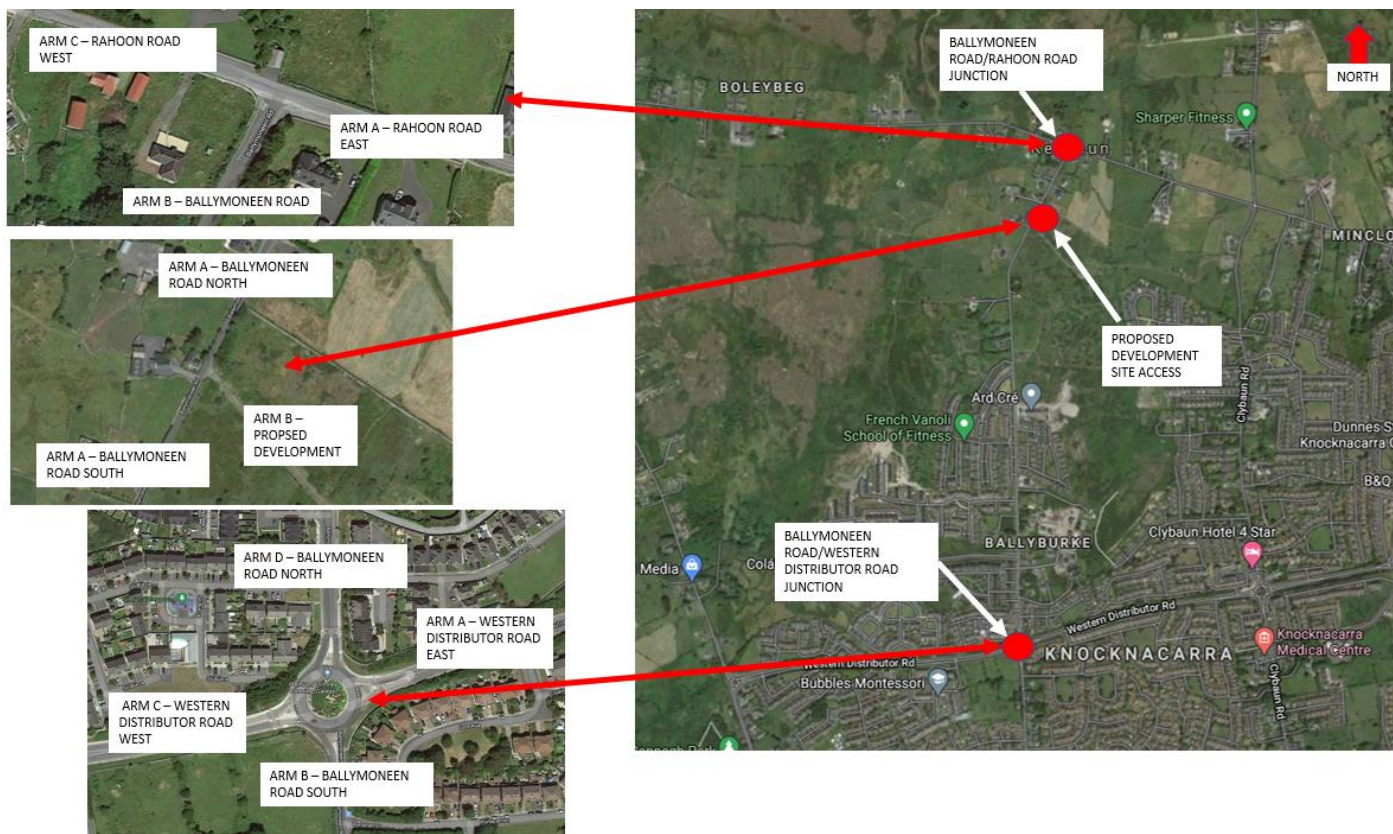
As stated in Section 1.5.1.2 previously the following junctions will be analysed;

- Ballymoneen Road/Rahoon Road junction,
- The access junction from the proposed development site to the Ballymoneen Road
- Ballymoneen Road/Western Distributor Road junction

These junctions' locations, and the arm naming convention used in this analysis are shown below in Figure 3.1 and Figure 3.2

Figure 3.1 Junction Traffic Count Locations



Figure 3.2 Modelled Junctions Arm Naming

3.1.2 Establishing Existing Traffic Flows

The traffic counts described in **Section 1.5.2.2** previously were used to analyse the existing traffic flows and junction operation on the road network surrounding the proposed development site. In the absence of traffic data for the Ballymoneen Road/Rahoon Road junction due to the Covid-19 travel restrictions in place at the time of writing this report, the traffic flows counted at the Buaile Beag National School ATC, the Rahoon Road/Clybaun Road junction and the Ballymoneen Road/Western Distributor Road junction were used to establish a likely traffic flows at the Ballymoneen Road/Rahoon Road junction.

This was carried out by assuming that all traffic heading westbound at the Rahoon Road/Clybaun Road junction arrived at the Ballymoneen Road/Rahoon Road junction. The number of vehicles counted on the westbound route at the Buaile Beag National School ATC was subtracted from the westbound traffic counted at the Rahoon Road/Clybaun Road junction and this subtracted volume was assumed to be left turning traffic from Rahoon Road to the Ballymoneen Road junction. Right turning traffic volume was assumed to be the difference in traffic volume from the traffic arriving in an eastbound direction at the Rahoon Road/Clybaun Road junction and the eastbound traffic counted at the Buaile Beag National School ATC.

There was no factual way of robustly calculating the right turning traffic from Rahoon Road to Ballymoneen Road or from Ballymoneen Road to Rahoon Road westbound based on a relationship of traffic volumes from the traffic counts, therefore an assumption was made that these movements would be similar to that carried out at the Rahoon Road/Clybaun Road junction based on the nature of the Ballymoneen Road and the Clybaun Road being similar. Extra traffic was added to the Ballymoneen Road to round upwards based to the nearest 10 to account for there being a school to the south of the Ballymoneen Road, although it is considered more likely that school traffic will access the school via the south of the Ballymoneen Road at the Ballymoneen Road/Western Distributor Road junction.

3.1.3 Time Periods Analysed

In addition to the existing junction geometrics, traffic volumes in the form of PCU values and turning movements during peak AM peak period (08:00-09:15) and the PM peak period (17:00-18:15) were input into the ARCADY and PICADY models. Traffic flows representing the existing, opening year 2022, 2027 and 2037. Future year traffic was calculated using the TII Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections.

3.1.4 Units

The existing traffic flows recorded as detailed in **Section 1.5.2.2** were converted to Passenger Car Unit's (PCU's) using the below conversion rates:

- Motorcycle, Car, LGV = 1PCU
- OGV1, OGV2 & PSV = 2PCU

PCU's can be described as the impact a mode of transport has on traffic variables such as; headway, speed and density compared to a single car.

3.1.5 Existing Traffic Flows

Based on the above and the traffic count data described previously, the below traffic flows illustrated in the schematic in **Figure's 3.2** and **3.3** and the below Tables were used in this analysis

Figure 3.2 Existing AM Traffic Flows

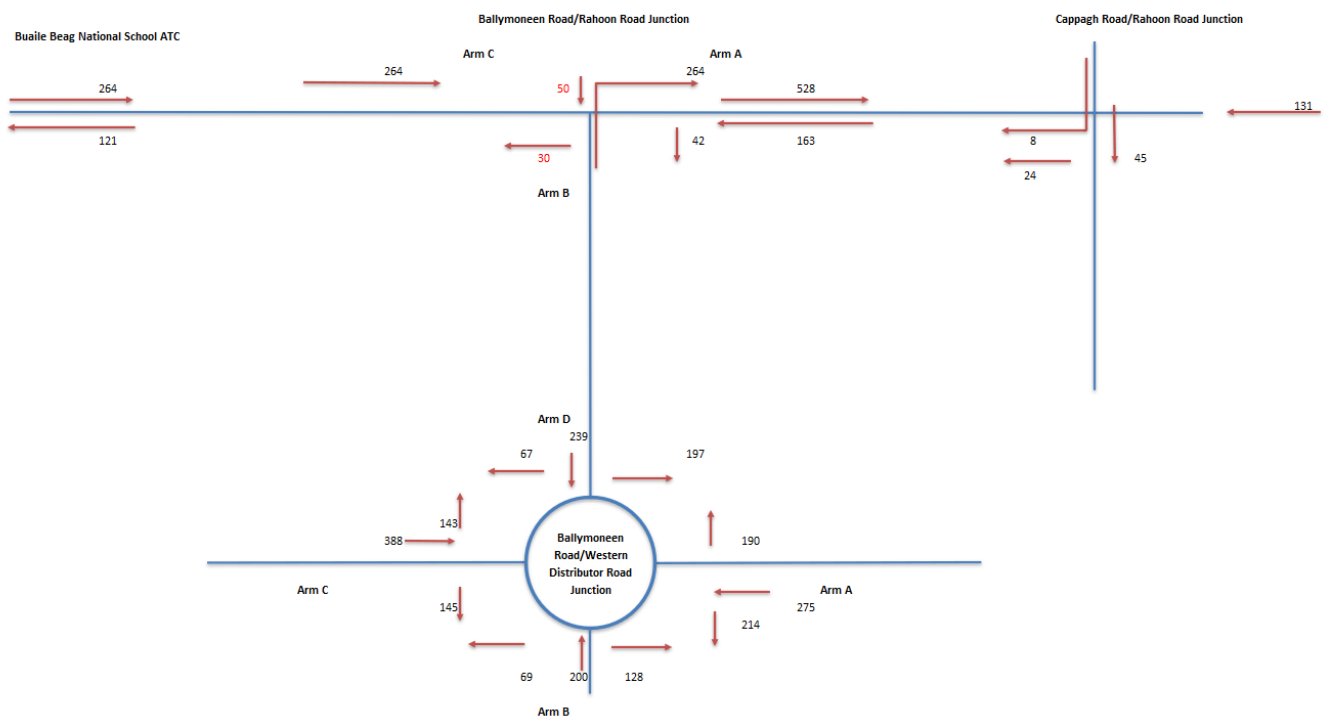
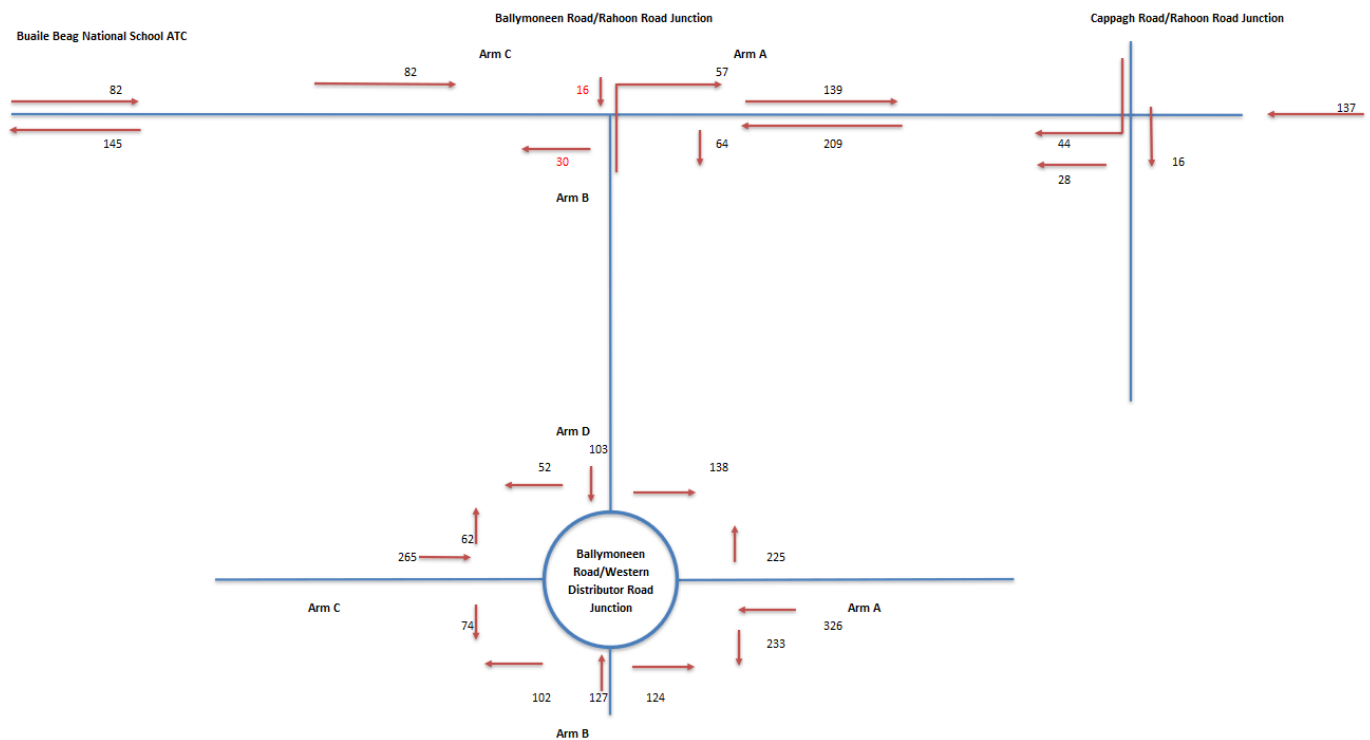


Table 3.1 Ballymoneen Road/Rahoon Road Junction Existing Traffic Flows AM**Ballymoneen Road/Rahoon Road Junction AM**

From/To	A	B	C
A	-	42	163
B	264	-	30
C	264	50	-

Table 3.2 Ballymoneen Road/Western Distributor Road Junction Existing Traffic Flows AM**Ballymoneen Road/Western Distributor Road AM**

From/To	A	B	C	D
A	-	214	275	190
B	128	-	69	200
C	388	145	-	143
D	197	239	67	-

Figure 3.3 Existing PM Traffic Flows**Table 3.3 Ballymoneen Road/Rahoon Road Junction Existing Traffic Flows PM****Ballymoneen Road/Rahoon Road Junction PM**

From/To	A	B	C
A	-	64	209
B	57	-	30
C	82	16	-

Table 3.4 Ballymoneen Road/Western Distributor Road Junction Existing Traffic Flows PM

Ballymoneen Road/Western Distributor Road PM				
From/To	A	B	C	D
A	-	233	326	225
B	124	-	102	127
C	265	74	-	62
D	138	103	52	-

3.2 Future Traffic

3.2.1 Surrounding Road Network

The future years analysed are 2022 (opening year of the development), 2027, and 2037 based on the guidance in the TII Traffic and Transport Assessment Guidelines (May 2014), where it states opening year, 5 and 15 years post development opening should be analysed in a Traffic and Transport Assessment. As previously stated in Section 1, the TII Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections May 2019 was used to calculate future traffic volumes on the road network surrounding the proposed development site. These guidelines give growth factors to be applied to traffic volumes based on future year projections.

The growth factors used in this assessment are;

- 2020-2030 = 1.0154
- 2030-2037 = 1.0077

3.2.2 Development Traffic

As described in Section 1.5.1.2, trip rates were obtained using TRICS. This resulted in the following traffic volumes being generated by the development;

- AM Peak Period: 19 Departures, 7 Arrivals
- PM Peak Period: 11 Departures, 16 Arrivals

The turning movements were calculated based on traffic volumes at the Ballymoneen Road/Rahoon Road junction and the Ballymoneen Road/Western Distributor Road junction and a ratio of turning movements derived from this.

The traffic turning movement ratio was based on the traffic departing and arriving at the Ballymoneen Road at both the Ballymoneen Road/Rahoon Road junction and the Ballymoneen Road/Western Distributor Road junction. This resulted in the following;

Table 3.5 Traffic Turning Movements'

AM Traffic Departing the Ballymoneen Road		
From	Volume	Resultant Ratio
Ballymoneen/Rahoon Road Junction	294	0.37 (northbound)
Ballymoneen/Western Distributor Road Junction	503	0.63 (southbound)
AM Traffic Arriving at Ballymoneen Road		
From	Volume	Ratio
Ballymoneen/Rahoon Road Junction	92	0.15
Ballymoneen/Western Distributor Road Junction	533	0.85
PM Traffic Departing the Ballymoneen Road		
From	Volume	Resultant Ratio

Ballymoneen/Rahoon Road Junction	87	0.23 (northbound)
Ballymoneen/Western Distributor Road Junction	293	0.77 (southbound)

PM Traffic Arriving at Ballymoneen Road		
From	Volume	Ratio
Ballymoneen/Rahoon Road Junction	80	0.16
Ballymoneen/Western Distributor Road Junction	414	0.84

The same principles were applied to the development turning movements at the Ballymoneen Road/Rahoon Road junction and the Ballymoneen Road/Western Distributor Road. Ratios of existing turning movements were applied to the development traffic and this volume then added to the turning movements at these junction arms.

3.2.3 Future Traffic Flows

Based on the above, the traffic flows on the road network surrounding the proposed development following the opening in 2022 are illustrated in the below schematics and Tables;

Figure 3.4 Opening Year 2022 AM Traffic Flows

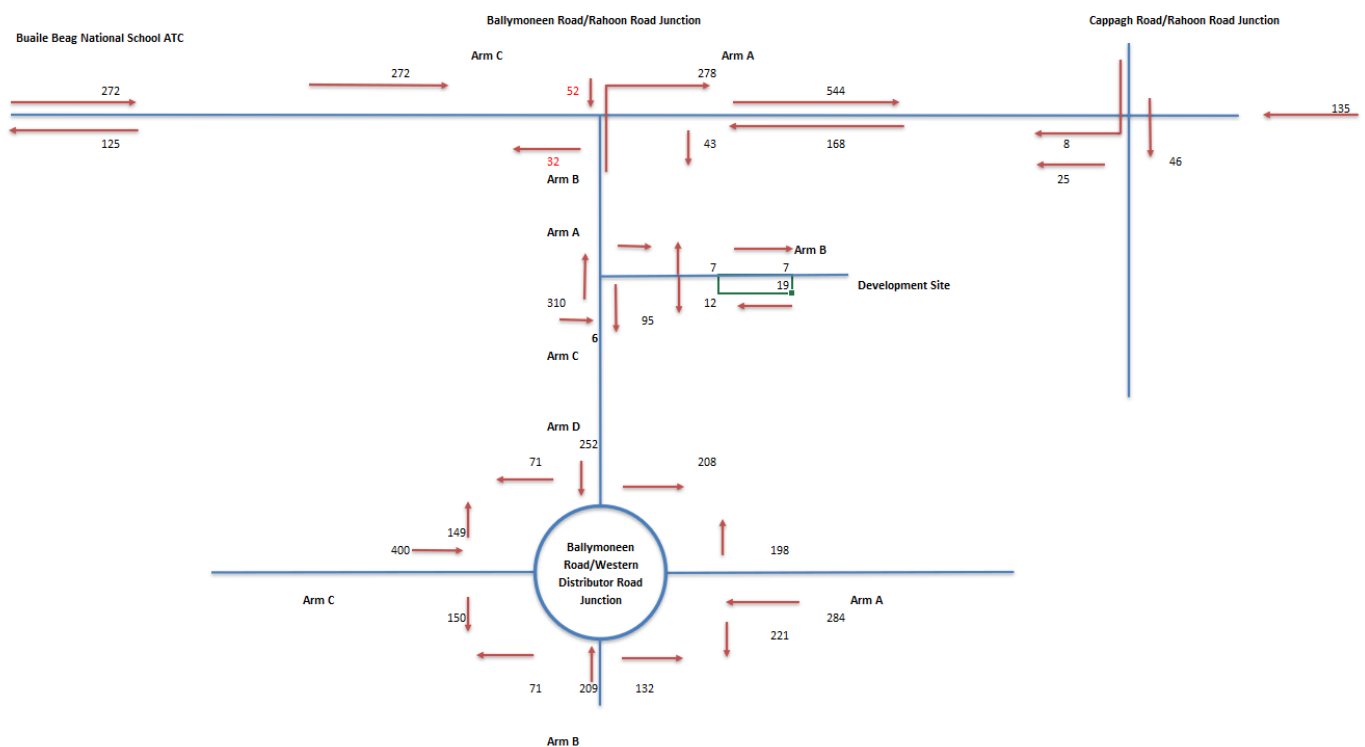


Table 3.6 Ballymoneen Road/Rahoon Road Opening Year Traffic Flows 2022 AM

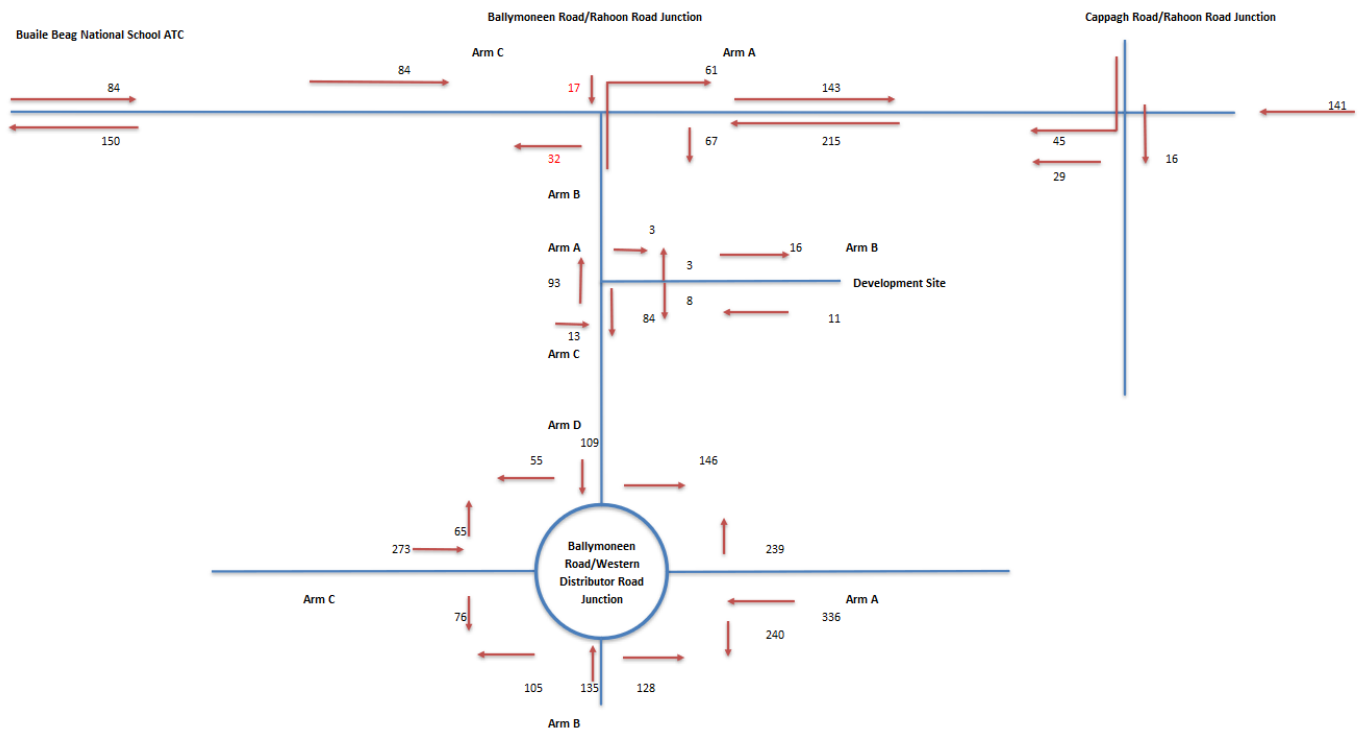
Ballymoneen Road/Rahoon Road Junction Opening Year 2022 AM			
From/To	A	B	C
A	-	43	168
B	278	-	32
C	272	52	-

Table 3.7 Ballymoneen Road/Western Distributor Road Opening Year 2022 AM

Ballymoneen Road/Western Distributor Road Opening Year 2022 AM				
From/To	A	B	C	D
A	-	221	284	198
B	132	-	71	209
C	400	150	-	149
D	208	252	71	-

Table 3.8 Ballymoneen Road/Development Site Access Road Junction Opening Year 2022 AM

Ballymoneen Road/Development Site Access Road Junction Opening Year 2022 AM			
From/To	A	B	C
A	-	1	95
B	7	-	12
C	310	6	-

Figure 3.5 Opening Year 2022 PM Traffic Flows**Table 3.9 Ballymoneen Road/Rahoon Road Junction Opening Year 2022 PM**

Ballymoneen Road/Rahoon Road Junction Opening Year 2022 PM

From/To	A	B	C
A	-	67	215
B	61	-	32
C	84	17	-

Table 3.10 Ballymoneen Road/Western Distributor Road Opening Year 2022 PM

Ballymoneen Road/Western Distributor Road Opening Year 2022 PM

From/To	A	B	C	D
A	-	240	336	239
B	128	-	105	135
C	273	76	-	65
D	146	109	55	-

Table 3.11 Ballymoneen Road/Development Site Access Road Junction Opening Year 2022 PM

Ballymoneen Road/Development Site Access Road Junction Opening Year 2022 PM

From/To	A	B	C
A	-	3	84
B	3	-	8
C	93	13	-

The traffic flows for the future years 2027 and 2037 following the above principles are demonstrated in the below Tables;

Figure 3.6 Year 2027 AM Traffic Flows

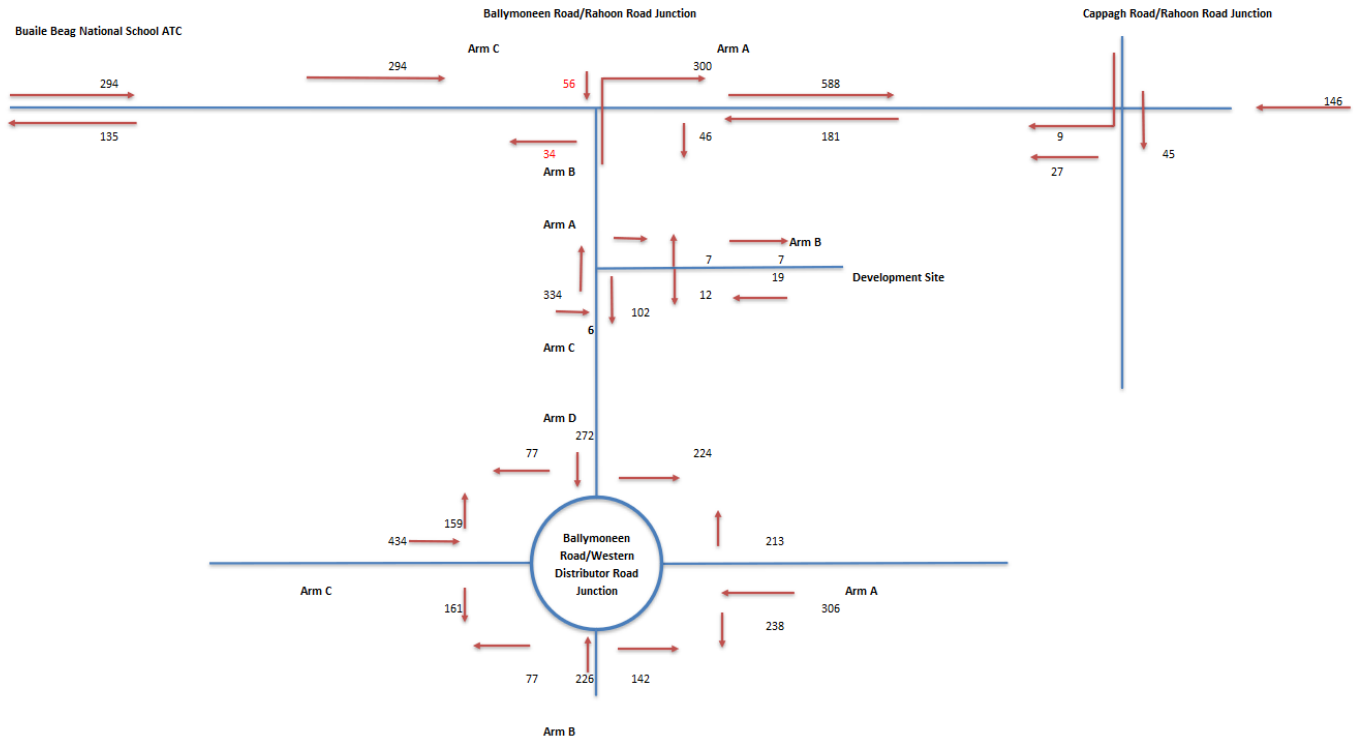


Table 3.12 Ballymoneen Road/Rahoon Road Junction Year 2027 AM

Ballymoneen Road/Rahoon Road Junction Year 2027 AM

From/To	A	B	C
A	-	46	181
B	300	-	34
C	294	50	-

Table 3.13 Ballymoneen Road/Western Distributor Road Year 2027 AM

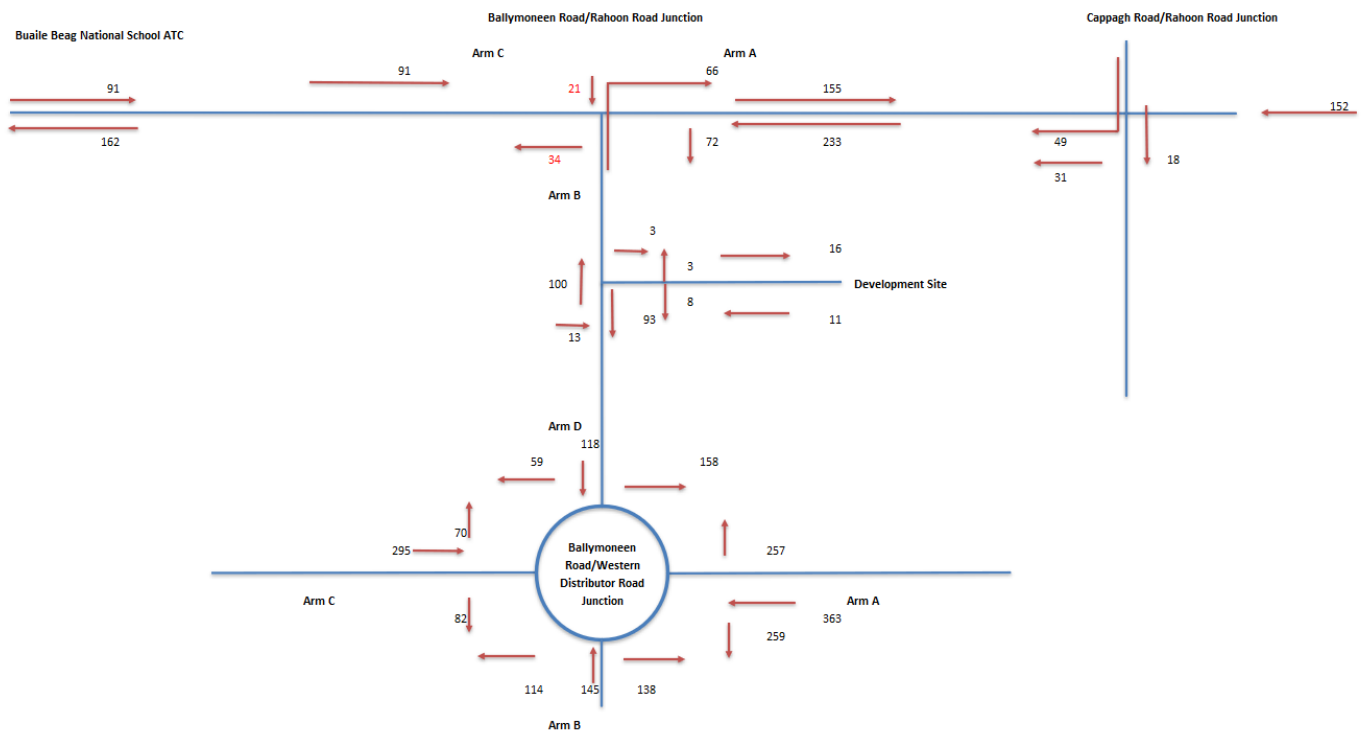
Ballymoneen Road/Western Distributor Road Year 2027 AM

From/To	A	B	C	D
A	-	238	306	213
B	142	-	77	226
C	434	161	-	159
D	224	272	77	-

Table 3.14 Ballymoneen Road/Development Site Access Road Junction Year 2027 AM

Ballymoneen Road/Development Site Access Road Junction Year 2027 AM

From/To	A	B	C
A	-	1	96
B	7	-	12
C	334	6	-

Figure 3.7 Year 2027 PM Traffic Flows**Table 3.15 Ballymoneen Road/Rahoon Road Junction Year 2027 PM**

Ballymoneen Road/Rahoon Road Junction Year 2027 PM

From/To	A	B	C
A	-	72	233
B	66	-	34
C	91	21	-

Table 3.16 Ballymoneen Road/Western Distributor Road Year 2027 PM

Ballymoneen Road/Western Distributor Road Year 2027 PM

From/To	A	B	C	D
A	-	259	363	257
B	138	-	114	145
C	295	82	-	70
D	158	118	59	-

Table 3.17 Ballymoneen Road/Development Site Access Road Junction Year 2027 PM

Ballymoneen Road/Development Site Access Road Junction Year 2027 PM

From/To	A	B	C
A	-	3	93
B	3	-	8
C	100	13	-

Figure 3.8 Year 2037 AM Traffic Flows

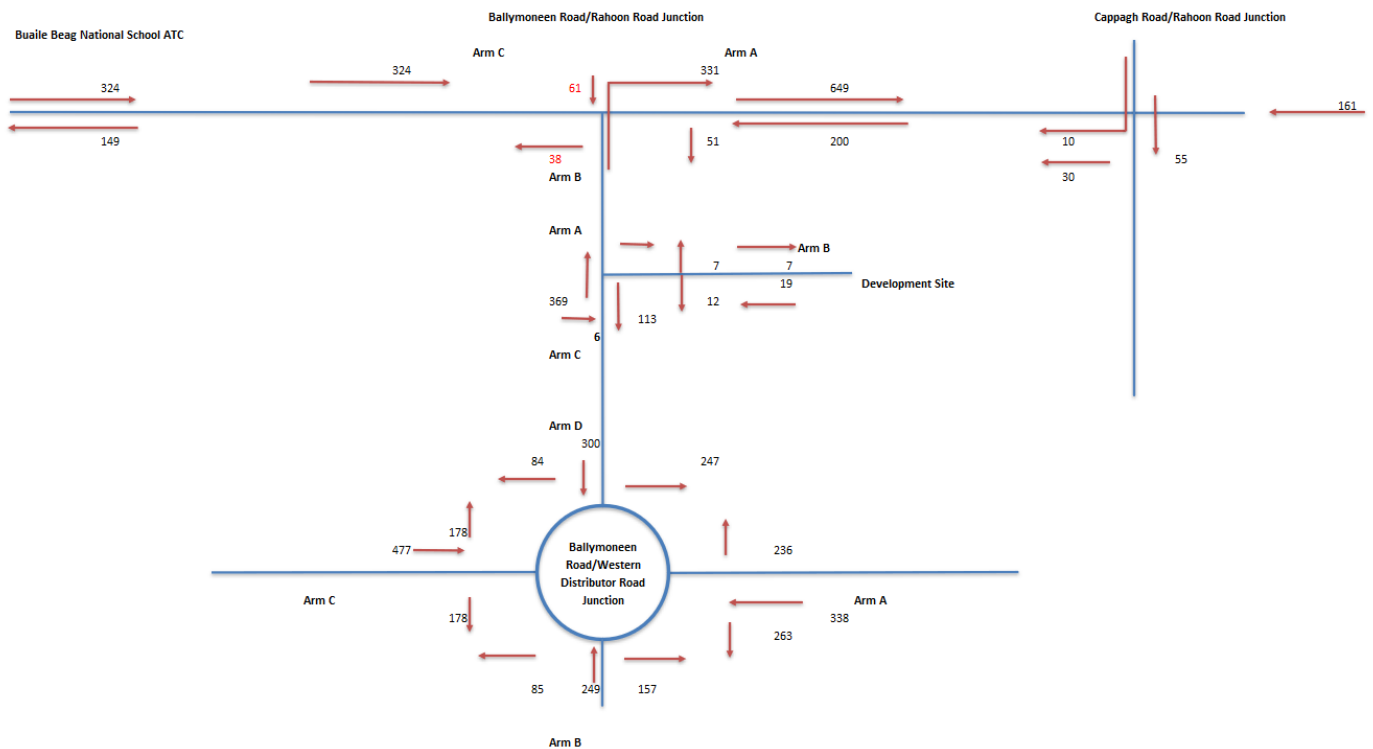


Table 3.18 Ballymoneen Road/Rahoon Road Junction Year 2037 AM

Ballymoneen Road/Rahoon Road Junction Year 2037 AM

From/To	A	B	C
A	-	51	200
B	331	-	38
C	324	55	-

Table 3.19 Ballymoneen Road/Western Distributor Road Year 2037 AM

Ballymoneen Road/Western Distributor Road Year 2037 AM

From/To	A	B	C	D
A	-	263	338	236
B	157	-	85	249
C	477	178	-	178
D	247	300	84	-

Table 3.20 Ballymoneen Road/Development Site Access Road Junction Year 2037 AM

Ballymoneen Road/Development Site Access Road Junction Year 2037 AM

From/To	A	B	C
A	-	1	107
B	7	-	12
C	369	6	-

Figure 3.9 Year 2037 PM Traffic Flows

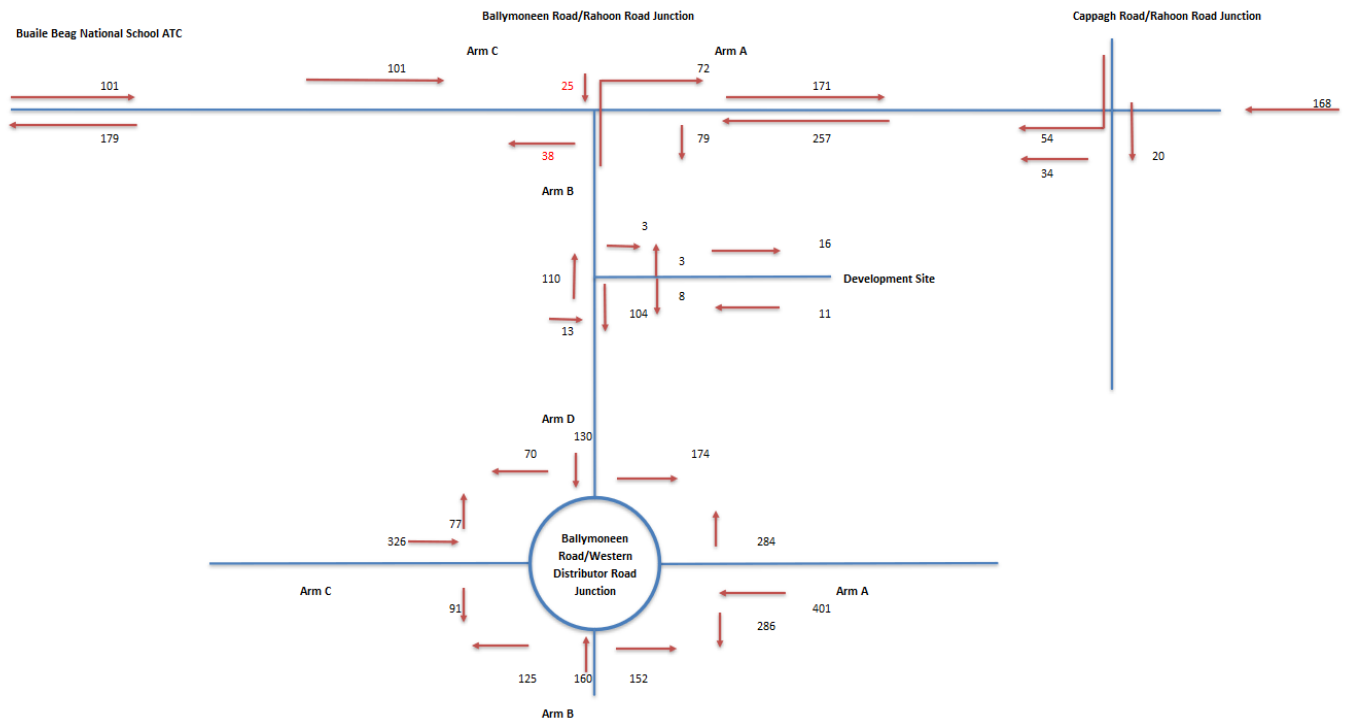


Table 3.21 Ballymoneen Road/Rahoon Road Junction Year 2037 PM

Ballymoneen Road/Rahoon Road Junction Year 2037 PM

From/To	A	B	C
A	-	79	257
B	72	-	38
C	109	25	-

Table 3.22 Ballymoneen Road/Western Distributor Road Year 2037 PM

Ballymoneen Road/Western Distributor Road Year 2037 PM

From/To	A	B	C	D
A	-	286	401	284
B	152	-	125	160
C	326	91	-	77
D	174	130	70	-

Table 3.23 Ballymoneen Road/Development Site Access Road Junction Year 2037 PM

Ballymoneen Road/Development Site Access Road Junction Year 2037 PM

From/To	A	B	C
A	-	3	104
B	3	-	8
C	104	13	-

4 TRAFFIC ANALYSIS RESULTS

4.1 Ballymoneen Road/Rahoon Road Junction

The results of the traffic modelling carried out on the Ballymoneen Road/Rahoon Road junction are shown in **Table 4.1** below. Detailed reports from the traffic modelling carried out are included in **Appendix B**.

Table 4.1 Ballymoneen Road/Rahoon Road Junction Traffic Modelling Results

	2020 Baseline AM		2020 Baseline PM		2022 Opening Year AM		2022 Opening Year PM		2027 AM		2027 PM		2037 AM		2037 PM	
Stream	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
B-AC	0.81	4	0.21	0	0.86	5	0.23	0	0.94	9	0.25	0	1.07	23	0.28	0
C-AB	0.11	0	0.03	0	0.10	0	0.03	0	0.11	0	0.04	0	0.12	0	0.05	0

The above traffic analysis results given by the traffic model indicates little difference in junction operation following the opening of the proposed development. Only 1 additional PCU was shown to be queuing in the AM peak period scenario on the Ballymoneen Road junction arm and no cars queued on the Rahoon Road East or West junction arms in the opening year 2022. No cars queued at the junction in the PM peak period scenario.

Queuing increased during the AM peak period scenarios in the years 2027 and 2037, increasing to 9 and 23 PCU's respectively. This would indicate that queuing observed in the future years modelled does not result solely from the proposed development and is likely due to the increased traffic added to the network by the growth factors used. This is proven when the junction was modelled for the year worst case scenario, the 2037 AM peak period scenario without the proposed development traffic added to the network. The following results were observed;

Table 4.2 Ballymoneen Road/Rahoon Road Junction 2037 AM Traffic Modelling Results Without Proposed Development

	2037 Without Proposed Development AM	
Stream	Max RFC	Max Queue
B-AC	1.05	20
C-AB	0.12	0

This means that in the worst case scenario, the 2037 AM peak period without the proposed development traffic there would be a queue of 20 PCU's. Therefore, the proposed development generates only an additional 3 PCU's in a queue during this worst case scenario.

4.2 Ballymoneen Road/Development Site Access Road Junction

The results of the traffic modelling carried out on the Ballymoneen Road/Development Site Access Road junction are shown in **Table 4.3** below. Detailed reports from the traffic modelling carried out are included in **Appendix B**.

Table 4.3 Ballymoneen Road/Development Site Access Road Junction Traffic Modelling Results

	2022 Opening Year AM		2022 Opening Year PM		2027 AM		2027 PM		2037 AM		2037 PM	
Stream	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
B-AC	0.04	0	0.02	0	0.04	0	0.02	0	0.04	0	0.02	0
C-AB	0.01	0	0.02	0	0.01	0	0.02	0	0.01	0	0.02	0

The above traffic analysis results given by the traffic model indicates that the new junction from the development site to the Ballymoneen Road will have no negative effect on Ballymoneen traffic throughout the AM and PM peak periods.

4.3 Ballymoneen Road/Western Distributor Road Junction

The results of the traffic modelling carried out on the Ballymoneen Road/Western Distributor Road junction are shown in **Table 4.4** below. Detailed reports from the traffic modelling carried out are included in **Appendix B**.

Table 4.4 Ballymoneen Road/Western Distributor Road Junction Traffic Modelling Results

	2020 Baseline AM		2020 Baseline PM		2022 Opening Year AM		2022 Opening Year PM		2027 AM		2027 PM		2037 AM		2037 PM	
Stream	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
Arm A	0.63	2	0.65	2	0.66	2	0.68	2	0.72	3	0.74	3	0.82	4	0.74	3
Arm B	0.47	1	0.43	1	0.49	1	0.46	1	0.55	1	0.51	1	0.63	2	0.51	1
Arm C	0.65	2	0.38	1	0.68	2	0.39	1	0.75	3	0.44	1	0.86	6	0.44	1
Arm D	0.68	2	0.35	1	0.73	3	0.38	1	0.82	4	0.42	1	0.95	12	0.42	1

The above traffic analysis results given by the traffic model indicates little difference in junction operation following the opening of the proposed development. Only 1 additional PCU was shown to be queuing in the AM peak period scenario on the Ballymoneen Road North junction arm following the opening of the development. Additional cars queued similar to that shown on the Ballymoneen Road/Rahoon Road junction as the traffic volume on the surrounding road network increased as growth factors were applied. This would indicate that queuing observed in the future years modelled does not result solely from the proposed development and is likely due to the increased traffic added to the network. This is proven when the junction was modelled for the year worst case scenario, the 2037 AM peak period scenario without the proposed development traffic added to the network. The following results were observed;

Table 4.5 Ballymoneen Road/Western Distributor Road Junction 2037 AM Traffic Modelling Results Without Proposed Development

Stream	2037 Without Proposed Development AM	
	Max RFC	Max Queue
Arm A	0.81	4
Arm B	0.62	2
Arm C	0.86	5
Arm D	0.93	10

The above traffic analysis results show the effect of the proposed development on the Ballymoneen Road/Western Distributor Road is not significant. The proposed development results in an additional 2 PCU's queuing at the Ballymoneen North Junction arm and 1 PCU at the Western Distributor Road West arm.

5 FUTURE DEVELOPMENT OF GALWAY CITY RING ROAD

As stated in Section 2.4, the proposed development site is located approximately 350m north of the proposed N6 Galway City Ring Road (GCRR) route. The Ballymoneen Road will form part of a connecting road to the GCRR and will junction it to the south of the proposed development site at a new junction. This new junction will increase traffic volumes on the Ballymoneen Road as commuters look to access the GCRR. The effects of this increased traffic volume and the proposed development traffic on the Ballymoneen Road were also assessed for completeness.

The predicted future traffic, including the traffic generated by the GCRR on the Ballymoneen Road was extracted from the Environmental Impact Assessment Report (EIAR) which was carried out as part of the application to An Bord Pleanála for the scheme. The 2039 predicted AADT on the Ballymoneen Road was used for this assessment. This AADT takes into account the traffic volume generated by the GCRR with consideration given to the implementation of the Galway Transport Strategy and its effects on traffic volumes.

The predicted AADT for the section of the Ballymoneen Road that junctions the proposed development site is 6797.

5.1.1 Establishment of Traffic Flows

The predicted AADT for the Ballymoneen Road was converted to peak period flows using the TII Project Appraisal Guidelines Unit 16.2 Expansion Factors for Short Period Traffic Counts which gives the below proportion factors for major inter-urban areas (excluding the Greater Dublin Area);

- Peak AM Period Proportion of daily traffic = 0.076
- Peak PM Proportion of daily traffic = 0.090

When the above factors are applied to the predicted AADT the below two-way traffic flows are established;

- Peak AM Period Traffic Volume: 517 PCU's
- Peak PM Period Traffic Volume: 612 PCU's

In order to establish the directional traffic flows a ratio of trip patterns was required to be established. The two-way directional flows on the section of the Ragoon Road between the Ballymoneen/Ragoon Road and Cappagh Road/Ragoon Road junction was used. This section was considered to be a reasonable representation of a potential two-way traffic flow ratio as it is a rural section of road used during the peak AM and PM periods by commuters to and from Galway City. It is envisaged that following the opening of the GCRR, the section of the Ballymoneen Road that junctions the proposed development site will operate in a similar way.

Table 5.1 Established Traffic Flow Ratios

AM (based on baseline flows, see Figure 3.2 also)		
Direction	Volume	Ratio
To Galway City	528	0.76
From Galway City	163	0.24
PM (based on baseline flows see Figure 3.3 also)		
Direction	Volume	Ratio
To Galway City	139	0.4
From Galway City	209	0.6

These ratios were applied to the two-way traffic flow establish the directional flows of traffic on the Ballymoreen Road in the peak AM and PM periods following the opening of the GCRR. These directional flows are given below;

Table 5.2 Established Directional Traffic Flow

AM			
Direction	Volume	Ratio	Established Traffic Flow
To Galway City	517	0.76	393
From Galway City		0.24	124
PM			
Direction	Volume	Ratio	Established Traffic Flow
To Galway City	612	0.4	245
From Galway City		0.6	367

5.1.2 Traffic Analysis

The established Ballymoneen Road predicted traffic flows and the proposed development traffic were used to create a traffic model of the proposed development junction to the Ballymoneen Road to assess the impact of this development on the GCRR traffic. The below **Figures 5.1 and 5.2** show the traffic flows that were modelled at this junction;

Figure 5.1 Year 2039 AM Traffic Flows (following opening of GCRR)

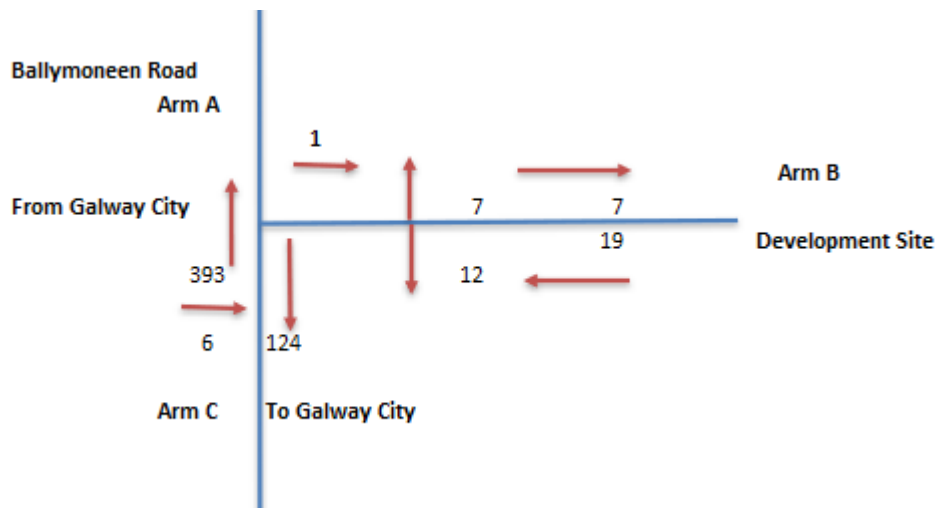
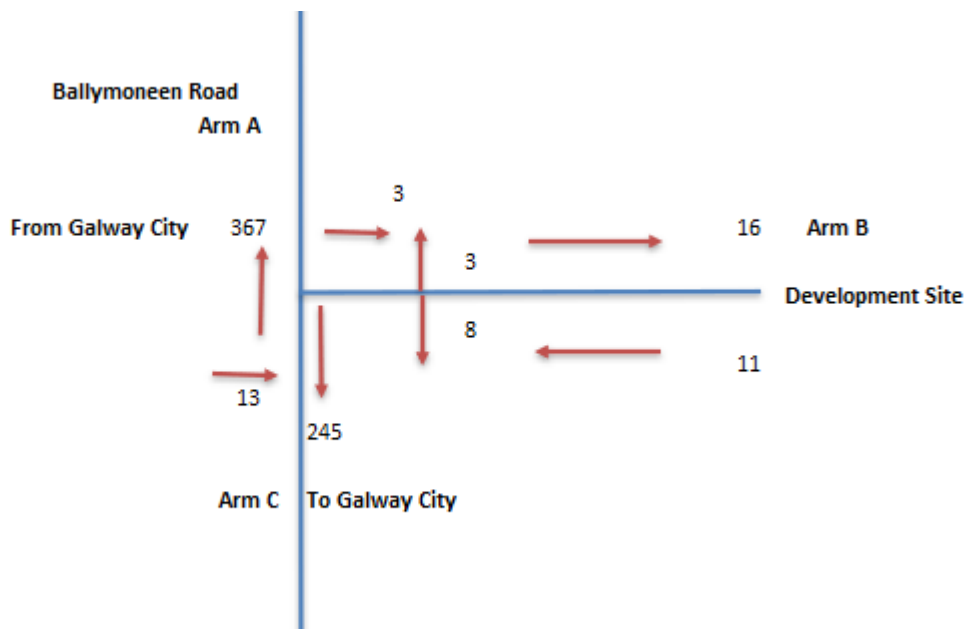


Figure 5.2 Year 2039 PM Traffic Flows (following opening of GCRR)



The revised geometry of the section of the Ballymoneen Road that junctions the development site as described in Section 2.4 was taken from the EIAR and used to in the modelling process to give further accuracy to the model.

5.1.3 Traffic Analysis Results

The results of the traffic modelling of the Ballymoneen Road and the proposed development site junction following the opening of the GCRR are shown in the below Tables;

Table 5.3 Ballymoneen Road/Development Site 2039 AM Traffic Modelling Results with GCRR

Stream	2039 Following Opening of GCRR	
	Max RFC	Max Queue
Arm B-AC	0.04	0
Arm C-AB	0.01	0

Table 5.4 Ballymoneen Road/Development Site 2039 PM Traffic Modelling Results with GCRR

Stream	2039 Following Opening of GCRR	
	Max RFC	Max Queue
Arm B-AC	0.02	0
Arm C-AB	0.03	0

The above traffic analysis results show the effect of the proposed development on the Ballymoneen Road/Proposed Development Site is not significant. No queueing will result on the Ballymoneen Road in this model as a result of the Proposed Development.

The junction of the Ballymoneen Road and the GCRR has been designed with cognisance of future traffic volumes and no negative impact on this junction is envisaged as a result of this proposed development based on the negative impact on the Ballymoneen Road from the Proposed Development.

6 ROAD LAYOUT, PARKING AND VISIBILITY

6.1 Internal Roads

The internal road network within the development will have a carriageway width of 5.5m and a minimum 1.8m footpath width in accordance with the guidance set out in DMURS. Corner radii will not be greater than 6m and will allow for the swept path of a 7.90m refuse truck and 8.68m fire engine.

6.2 Parking

Parking volume has been provided in accordance with the Galway City Development Plan 2017-2023. This results in 100 parking spaces within the main development area. Two large parking spaces have been provided for each of the Traveller Appropriate Accommodation houses. This brings the total number of parking spaces within the site to 116.

Section 11.3.1(g) of the GCDP sets out various options for car parking standards that should not be exceeded in the design of residential developments as follows:

- 2 on-site spaces per dwelling and 1 grouped visitor space per 3 dwellings
- 1 on-site space per dwelling and 1 grouped visitor space per dwelling
- 1.5 grouped spaces per dwelling and 1 grouped visitor space per 3 dwellings
- 3 spaces for dwellings over 200m² and 1 grouped visitor space per 3 dwellings
- 1 space for one bedroom residential dwellings and 1 grouped visitor per 3 dwellings

Section 4.0 of 'Sustainable Urban Housing: Design Standards for New Apartments 2020' provides additional guidelines on the parking provision for apartments based on various types of locations within town and cities. For Peripheral Urban Locations, the guidelines suggest:

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

House numbers @ car parking spaces required	Number of spaces provided
28no. Social Houses @ 1.5 spaces / house	42no. spaces
35no. Apartments/Duplexes @ 1 space / unit	35no. spaces
8no. Traveller Houses @ 2 Spaces / house	16no. spaces
71no. Dwellings @ 1 visitor space / 3 units	23no. spaces
Total Number of Spaces Provided	116no. spaces

6.3 Visibility

A visibility splay of 160m based on a speed limit of 80km/h in accordance with TII Publication DN-GEO-03060 is achieved to the south of the proposed development access. A visibility splay of 90m to the north of the site can be achieved. This is illustrated in Drawing No. MGC0716-RPS-00-XX-C-KP0004 in Appendix A. This visibility to the north is interrupted by a boundary wall as shown in **Figure 6.1** below.

Figure 6.1 Junction Visibility Splay



This visibility splay to the north is considered acceptable as a two-step relaxation from the desirable minimum standard in accordance with TII Publication DN-GEO-0301 (Table 2.1) and TII Publication DN-GEO-03060 (Table 5.5).

7 CONCLUSION

The traffic impacts resulting from the proposed development was assessed in accordance with the TII Traffic and Transport Assessment Guidelines.

The traffic growth as a result of this development was calculated using TRICS and growth factors obtained from the TII Project Appraisal Guidelines Unit 5.5: Link Based Traffic Growth Forecasting were used to determine future traffic volumes on the surrounding road network.

The traffic impacts as a result of the proposed development is summarised as follows:

- The traffic impact at the junction of the Ballymoneen Road/Rahoon Road caused by the proposed development is minor and results in 3 additional PCU's queuing on the Ballymoneen Road junction arm in the worst case future year 2037. It does not negatively affect the traffic flow on the Rahoon Road
- The traffic impact at the junction of the Ballymoneen Road/Proposed Development Site Access Road caused by the proposed development is minor and does not result in any queuing.
- The traffic impact at the junction of the Ballymoneen Road/Western Distributor Road caused by the proposed development is minor and results in 2 additional PCU's queuing on the Ballymoneen Road North junction, and an additional 1 PCU on the Western Distributor Road West junction arm in the worst case future year 2037.
- The traffic impact resulting from this development following the opening of the GCRR is negligible.

The analysis shows that the impact of the proposed development on the surrounding road network is not significant but that there are likely junction capacity issues at the Ballymoneen Road/Rahoon Road and Ballymoneen Road/Western Distributor Road in future years should the GCRR not be constructed and traffic growth on the surrounding road network grow as per the growth rates in TII Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections May 2019.

It is noted that the surrounding road network will change following the construction of the GCRR. The Ballymoneen Road will benefit from a revised alignment and cross section which will include footpaths following the construction of the GCRR. This revised alignment will include revised junction arrangements which will increase the capacity and reduce queuing.

The area of the proposed development site and surrounding road networks are within an area included in the Galway Transport Strategy (GTS). The continuous implementation of GTS is likely to reduce traffic congestion on the road network within Galway City which may improve junction operation, particularly at the Ballymoneen Road/Western Distributor Road junction which has good pedestrian and cyclists' facilities to encourage modal shift in this area.

In conclusion and following this assessment the construction of 63 housing units (mix of 1 – 4 bed housing units) and 8no. culturally appropriate Traveller specific units at Keeraun in Galway City will not have a negative impact on the surrounding road network. There may be a need for junction improvements on the surrounding road network in the future should traffic growth grow as per the growth rates in TII Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections May 2019.

Appendix A

Drawings

S:\MGC0716 - Keeraun Social Housing Galway CC\6.0 Drawings\KPMGC0716-RPS-00-XX-C-KP0001 - Kerb and Pavement Layout.dwg



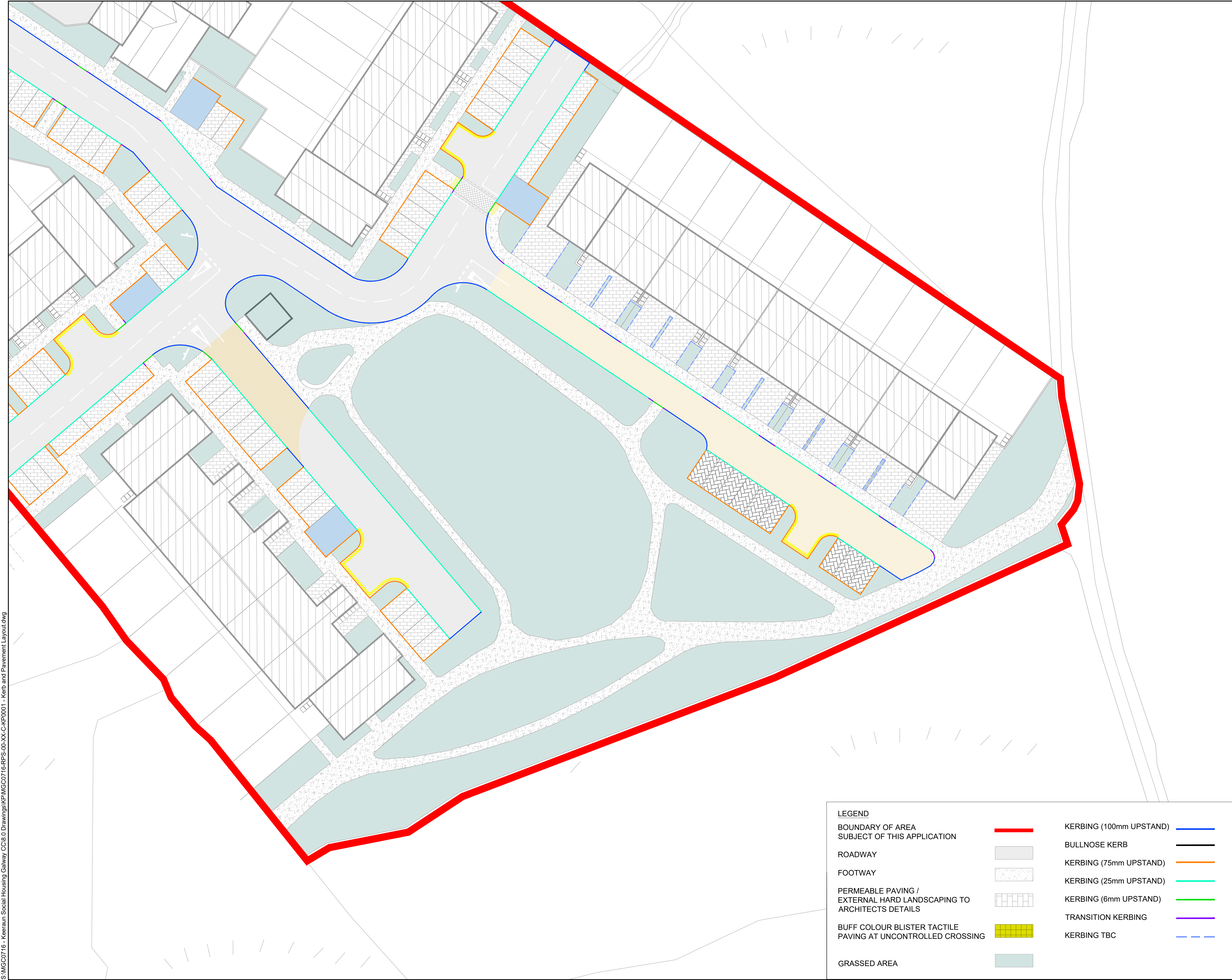
LEGEND	
BOUNDARY OF AREA SUBJECT OF THIS APPLICATION	
ROADWAY	
FOOTWAY	
PERMEABLE PAVING / EXTERNAL HARD LANDSCAPING TO ARCHITECTS DETAILS	
BUFF COLOUR BLISTER TACTILE PAVING AT UNCONTROLLED CROSSING	
GRASSED AREA	
KERBING (100mm UPSTAND)	
BULLNOSE KERB	
KERBING (75mm UPSTAND)	
KERBING (25mm UPSTAND)	
KERBING (6mm UPSTAND)	
TRANSITION KERBING	
KERBING TBC	

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- Verifying Dimensions - The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
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- Datum: Ordnance Survey Datum, Malin Head
- Drawing to be read in conjunction with all other relevant Engineers drawings and specifications. Report all discrepancies to the Designer before proceeding.
- Refer to Architects drawings for all setting out, finishes, Insulation, DPC, DPM, Radon protection details, Cladding etc.
- Concrete Grades as follows:
Blinding/Leanmix C12/15
Foundations C35/45
RC Walls / Slabs C30/37
Ground Slab C30/37
Screed to Slabs C30/37
All concrete shall be designed for exposure class XC1, XC2, XC3, XD1, XS1 & XA1 in accordance with IS EN 206 part 1 and maximum size of aggregate 20mm, all in accordance with EN 206
All concrete shall have a min cement content of 320kg/m³ and a max. water/cement ratio of 0.55 and maximum size of aggregate 20mm.
- Only use dimensions shown. Do not scale.
- All details to be read in conjunction with Architects details & drawings.
- Levels - S.F.L. denotes Structural Finish Level.
- Engineer to be informed by the contractor of any discrepancies before any work commences
- Co-ordination between specialists is the responsibility of the main contractor. Any work carried out without adequate co-ordination is at the main contractor's risk.

Additional Notes:

P04	31.08.21	CS	Issue for Stage Approval	DT
Rev	Date	Dm	Amendment / Issue	App
Client				
 Galway City Council				
 Lyrr 2, IDA Business & Technology Park, Mervue, Galway T +353 91 400200 W www.rpsgroup.com/ireland E ireland@rpsgroup.com				
Project Keeraun Social Housing Scheme, Ballymoneen Road, Galway City				
Title Kerb and Pavement Layout				
Model File Identifier MGC0716-RPS-00-XX-C-KP0001				
File Identifier MGC0716-RPS-00-XX-C-KP0001-01				
Created on February 2021		Sheets 01 02		
Scale 1:250 @ A1 1:500 @ A3		Status S4	Rev P04	



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6. Drawing to be read in conjunction with all other relevant Engineers drawings and specifications. Report all discrepancies to the Designer before proceeding.
7. Refer to Architects drawings for all setting out, finishes, insulation, DPC, DPM, Radon protection details, Cladding etc.
8. Concrete Grades as follows:
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Foundations C35/45
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All concrete shall be designed for exposure class XC1, XC2, XC3, XD1, XS1 & XA1 in accordance with IS EN 206 part 1 and maximum size of aggregate 20mm, all in accordance with EN 206
All concrete shall have a min cement content of 320kg/m³ and a max. water/cement ratio of 0.55 and maximum size of aggregate 20mm.
9. Only use dimensions shown. Do not scale.
10. All details to be read in conjunction with Architects details & drawings.
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12. Engineer to be informed by the contractor of any discrepancies before any work commences
13. Co-ordination between specialists is the responsibility of the main contractor. Any work carried out without adequate co-ordination is at the main contractor's risk.

Additional Notes:

P04	31.08.21	CS Dm CHK	Issue for Stage Approval	D+
Rev	Date	Dm CHK	Amendment / Issue	App

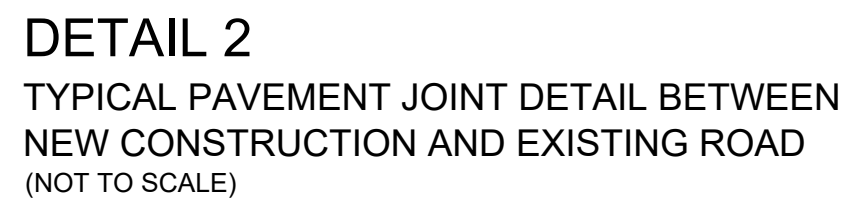
Client

Galway City Council

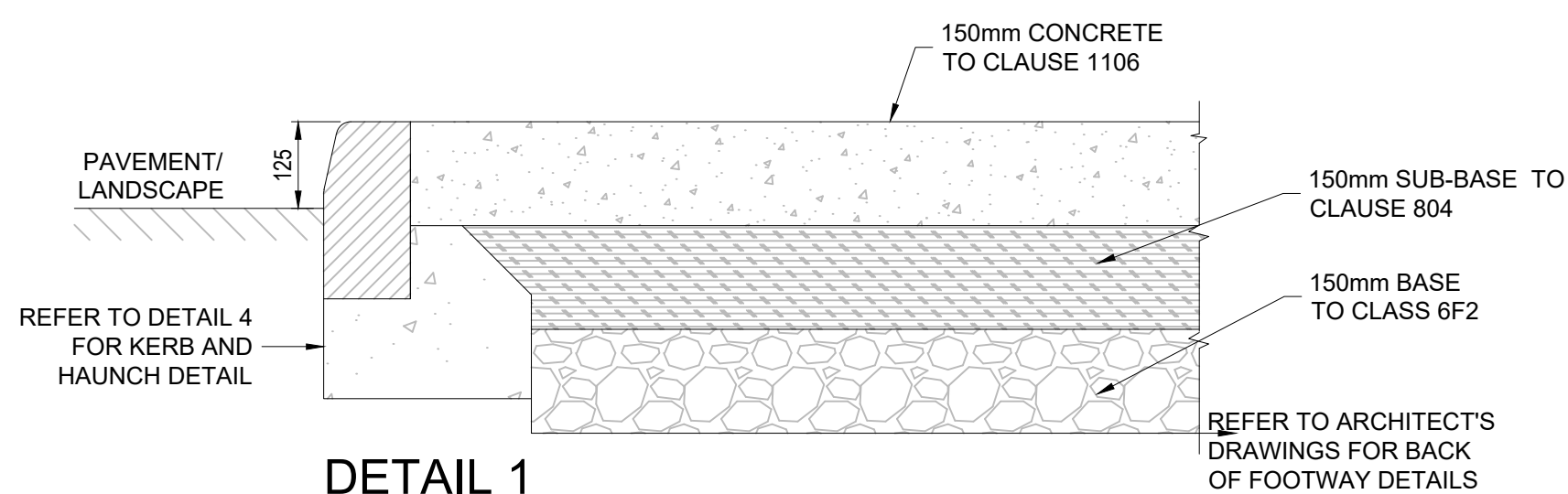
Lyrr 2, IDA Business & Technology Park, Mervue, Galway
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Project Keeraun Social Housing Scheme, Ballymoneen Road, Galway City		
Title Kerb and Pavement Layout		
Model File Identifier MGC0712-RPS-00-XX-C-KP0001		
File Identifier MGC0712-RPS-00-XX-C-KP0001-02		
Created on February 2021	Sheets 02 02	
Scale 1:250 @ A1 1:500 @ A3	Status S4	Rev P04

LEGEND		
BOUNDARY OF AREA SUBJECT OF THIS APPLICATION		KERBING (100mm UPSTAND)
ROADWAY		BULLNOSE KERB
FOOTWAY		KERBING (75mm UPSTAND)
PERMEABLE PAVING / EXTERNAL HARD LANDSCAPING TO ARCHITECTS DETAILS		KERBING (25mm UPSTAND)
BUFF COLOUR BLISTER TACTILE PAVING AT UNCONTROLLED CROSSING		KERBING (6mm UPSTAND)
GRASSED AREA		TRANSITION KERBING
		KERBING TBC

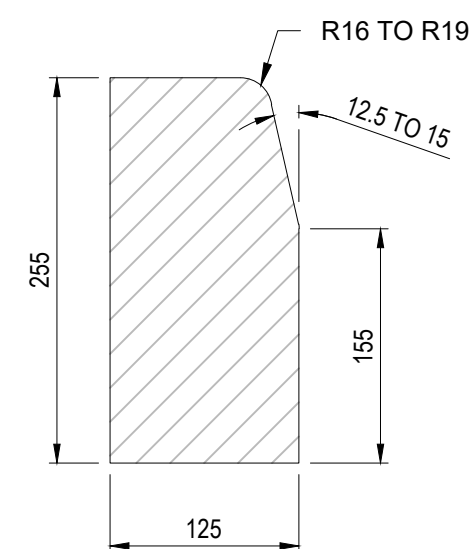


- NOTES:**
1. EDGES OF EXISTING CARRIAGEWAY TO BE CUT BACK WITH A ROTARY SAW TO FORM A VERTICAL FACE AND PRIMED WITH BITUMEN PAINT.
 2. WHERE THE BASECOURSE IS TO BE LAID IN TWO LAYERS, THE UPPER LAYER OF BASE COURSE SHOULD BE STEPPED INTO THE EXISTING PAVEMENT BY 100 MM. WITH THE BINDER COURSE AND SURFACE COURSE TO BE EACH STEPPED IN A FURTHER 100 MM. RESPECTIVELY.
 3. DRAWING DETAILS TO BE READ IN CONJUNCTION WITH PAVEMENT DRAWINGS, DETAILS AND APPENDIX 7/1.



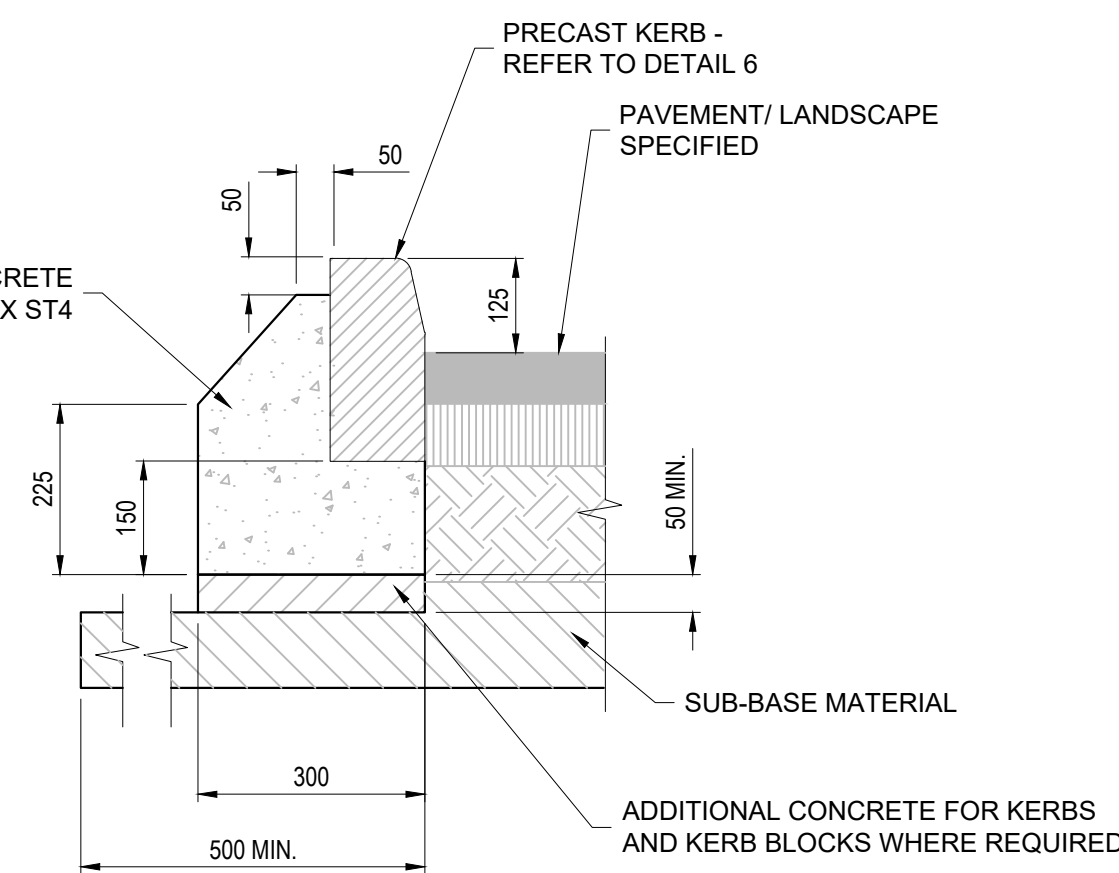
DETAIL 1

CONCRETE FOOTPATH (NOT TO SCALE)



- NOTES:**
1. PRECAST KERBS SHALL BE LAID AND LEVELLED IN ACCORDANCE WITH B.S 7533: PART 4.
 2. A RAISED LIP OF 0-6mm SHOULD BE USED FOR PEDESTRIAN CROSSINGS.
 3. PRECAST CONCRETE KERB UNITS SHALL COMPLY WITH IS EN 1340.

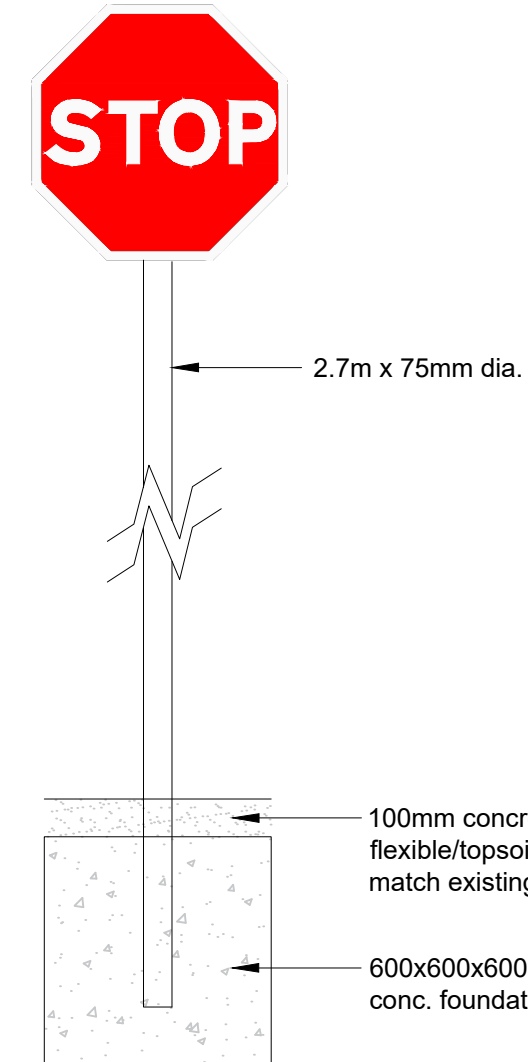
DETAIL 6 - KERB 'TYPE A'
TYPICAL PRECAST KERB DETAIL
(NOT TO SCALE)



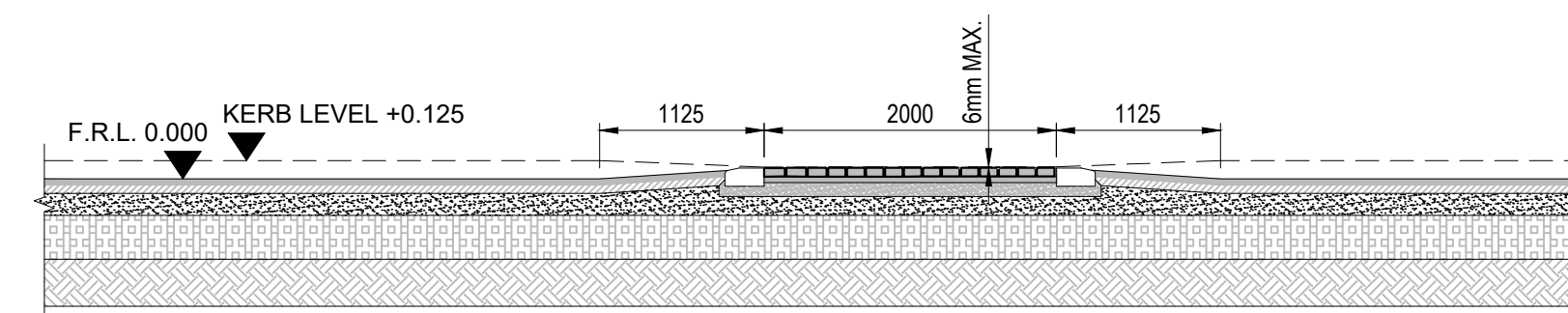
DETAIL 4 - KERB 'TYPE A'

TYPICAL PRECAST KERB & HAUNCH DETAIL

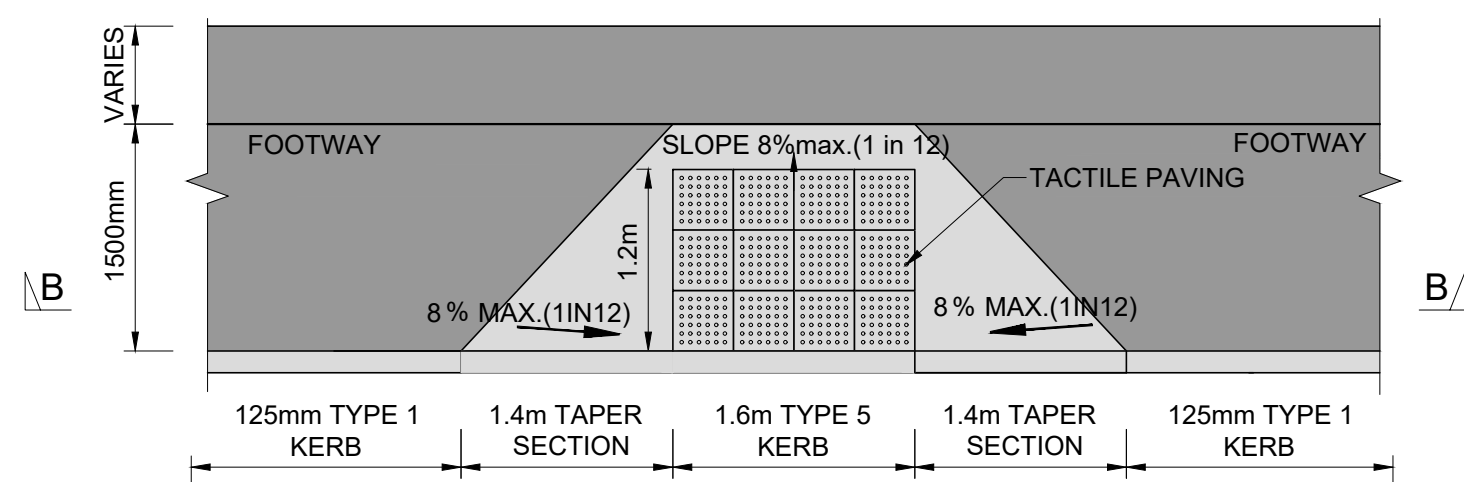
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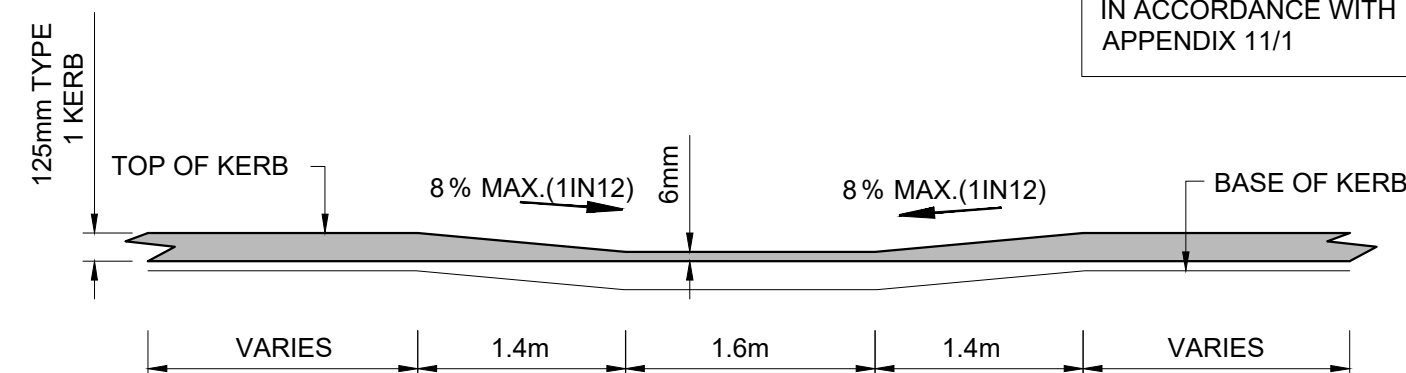
TYPICAL SIGN FOUNDATION AND MOUNTING



SECTION X-X

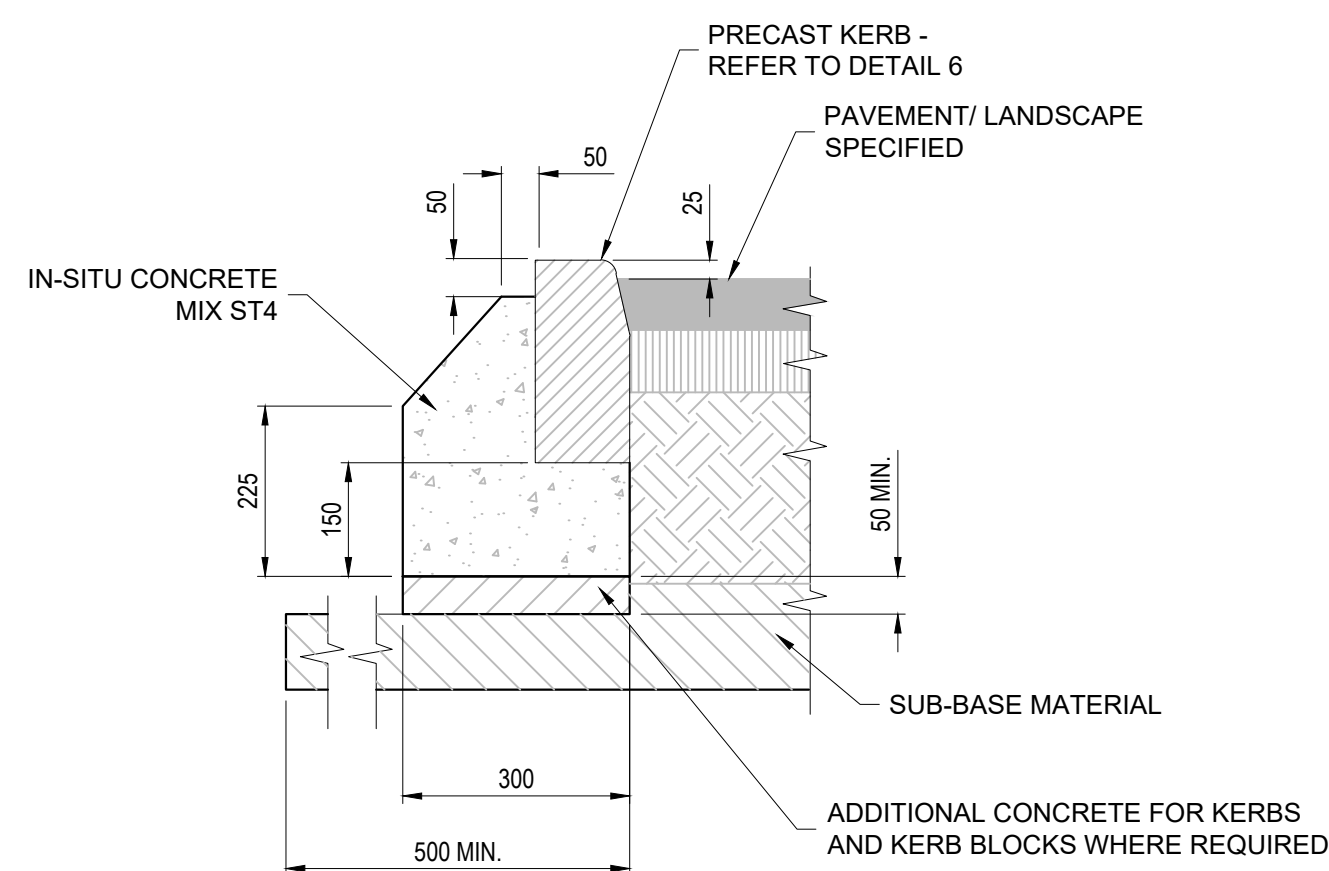
UNCONTROLLED PEDESTRIAN CROSSING DETAIL
FLUSH KERB PLAN

NOTE:
TACTILE PAVING SHALL BE LAID
IN ACCORDANCE WITH
APPENDIX 11/1



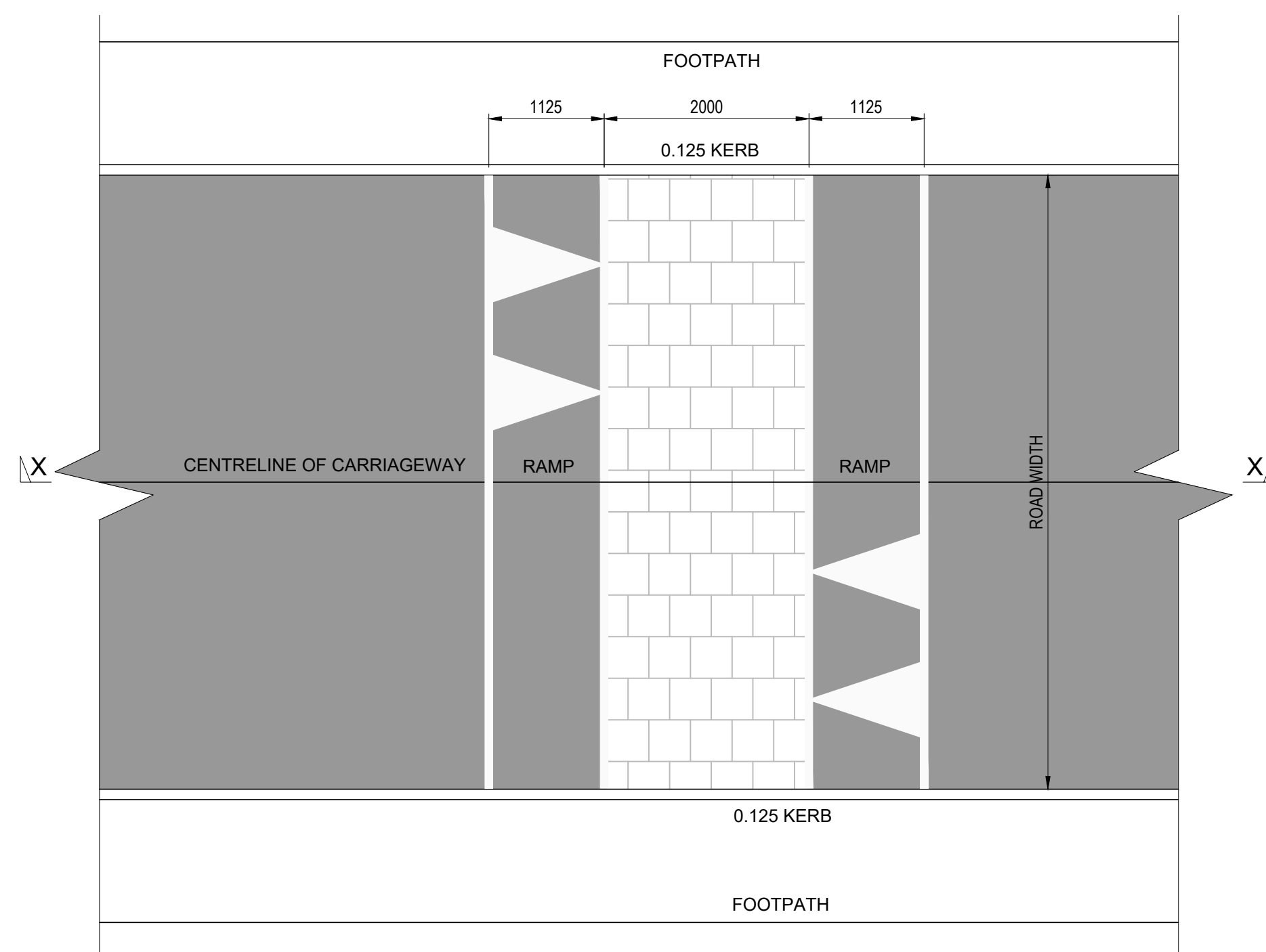
UNCONTROLLED PEDESTRIAN CROSSING DETAIL
FLUSH (DROPPED) KERB SECTION B-B

DETAIL 3 (NOT TO SCALE)



DETAIL 5 - KERB 'TYPE D'
PRECAST KERB DETAIL TO BE USED AT
DROPPED KERB LOCATIONS

(NOT TO SCALE)



DETAIL 7
PLAN OF SPEED TABLE
(NOT TO SCALE)

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5. Datum: Ordnance Survey Datum, Mean High
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Blinding/Service C12/15
Foundations C35/45
Ground Slabs C30/37
Screed to Slabs C30/37
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P04	31.08.21	OS Mob	Issue for Stage Approval	Dt
Rev	Date	Dr / Ink	Amendment / Issue	App



Galway City Council



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Project	Keeraun Social Housing Scheme, Ballymoneen Road, Galway City
---------	---

Title	Details
Road Construction Details	Details

Model File Identifier
MGC0716-RPS-00-XX-C-KP0002

File Identifier
MGC0716-RPS-00-XX-C-KP0002-01

Created on
February 2021

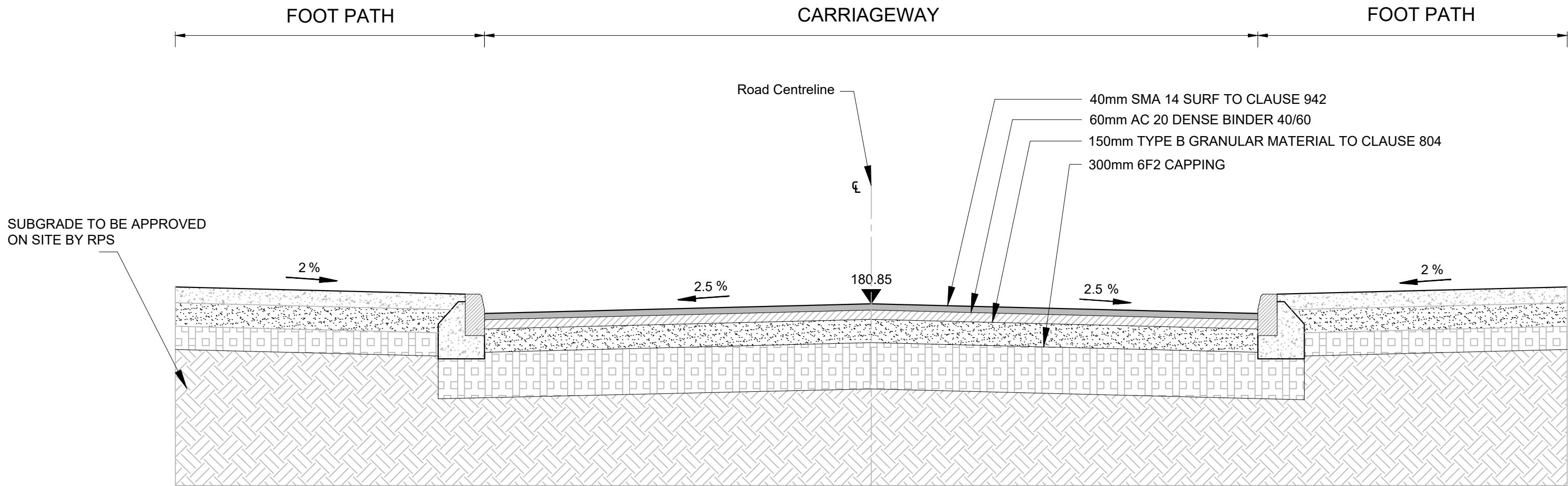
Scale
As shown @ A1
As shown @ A3

Status	
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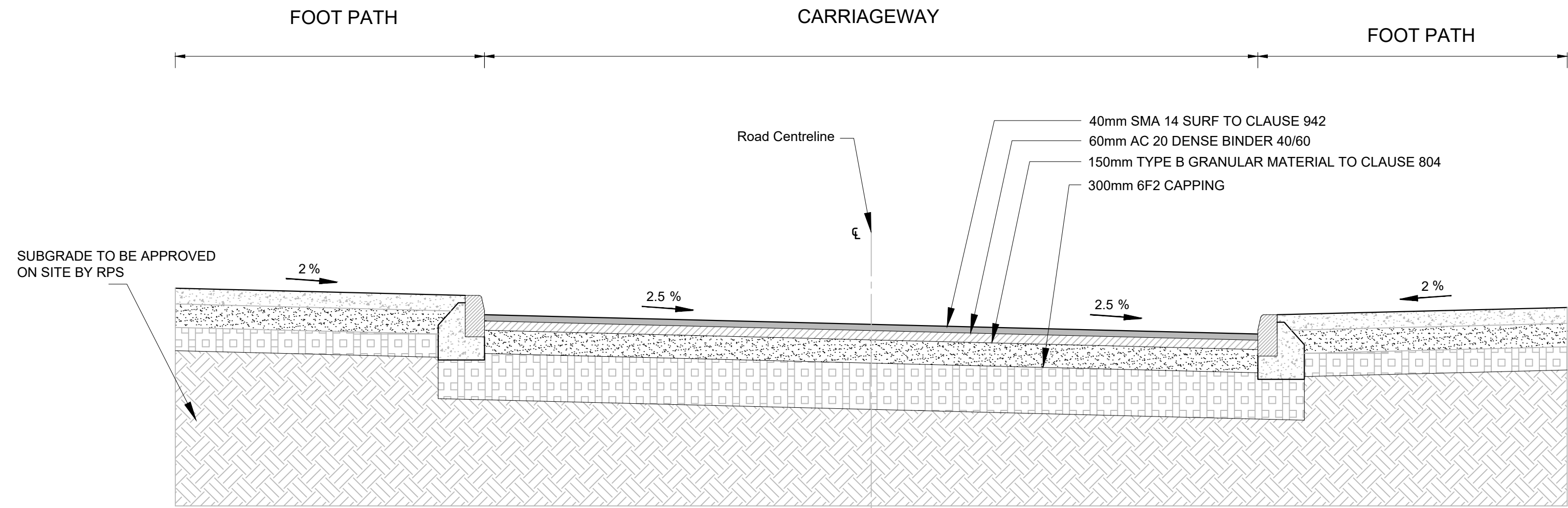
Rev
P04

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SCALE 1:25 @A1 ; 1:50 @A3 TYPICAL ROAD BUILDUP



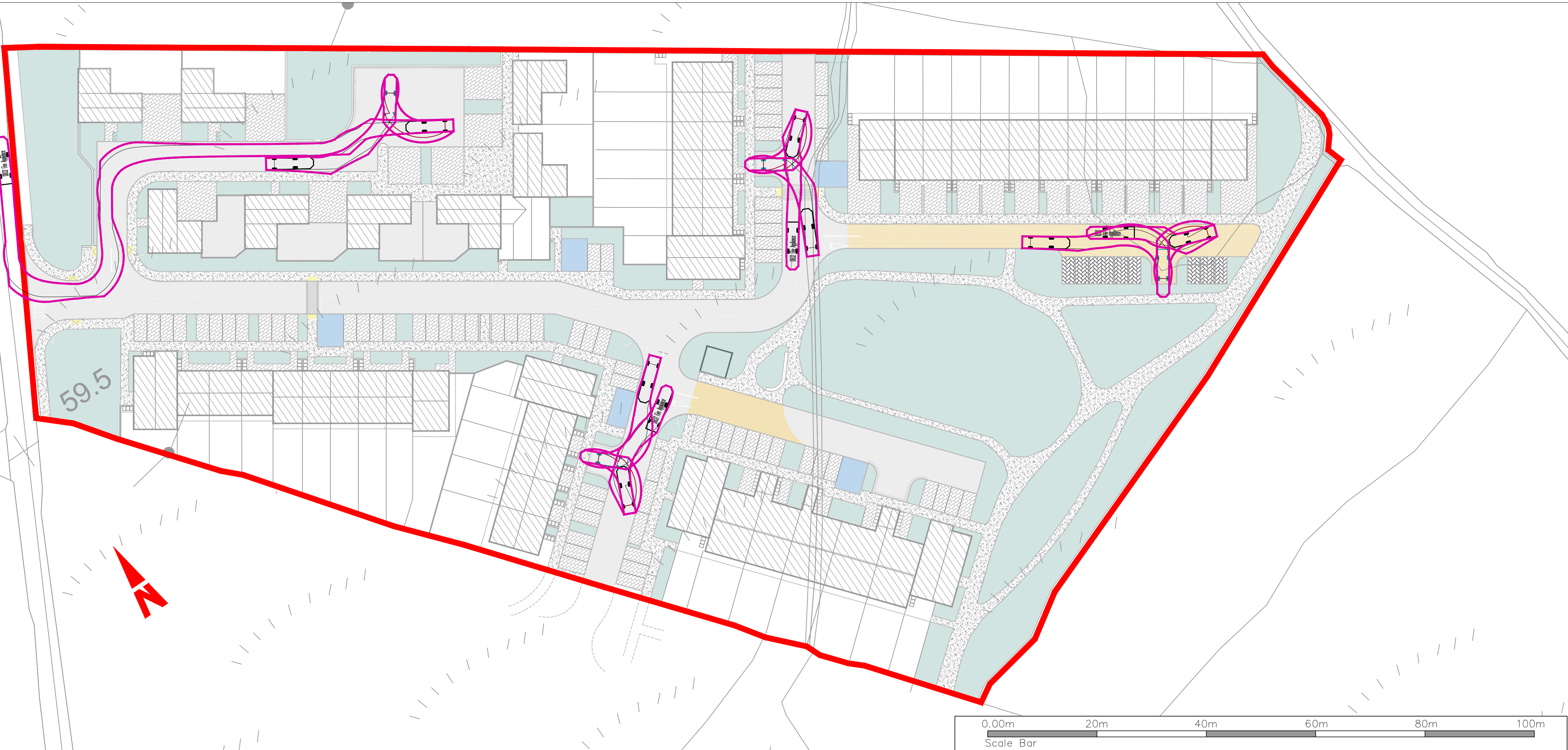
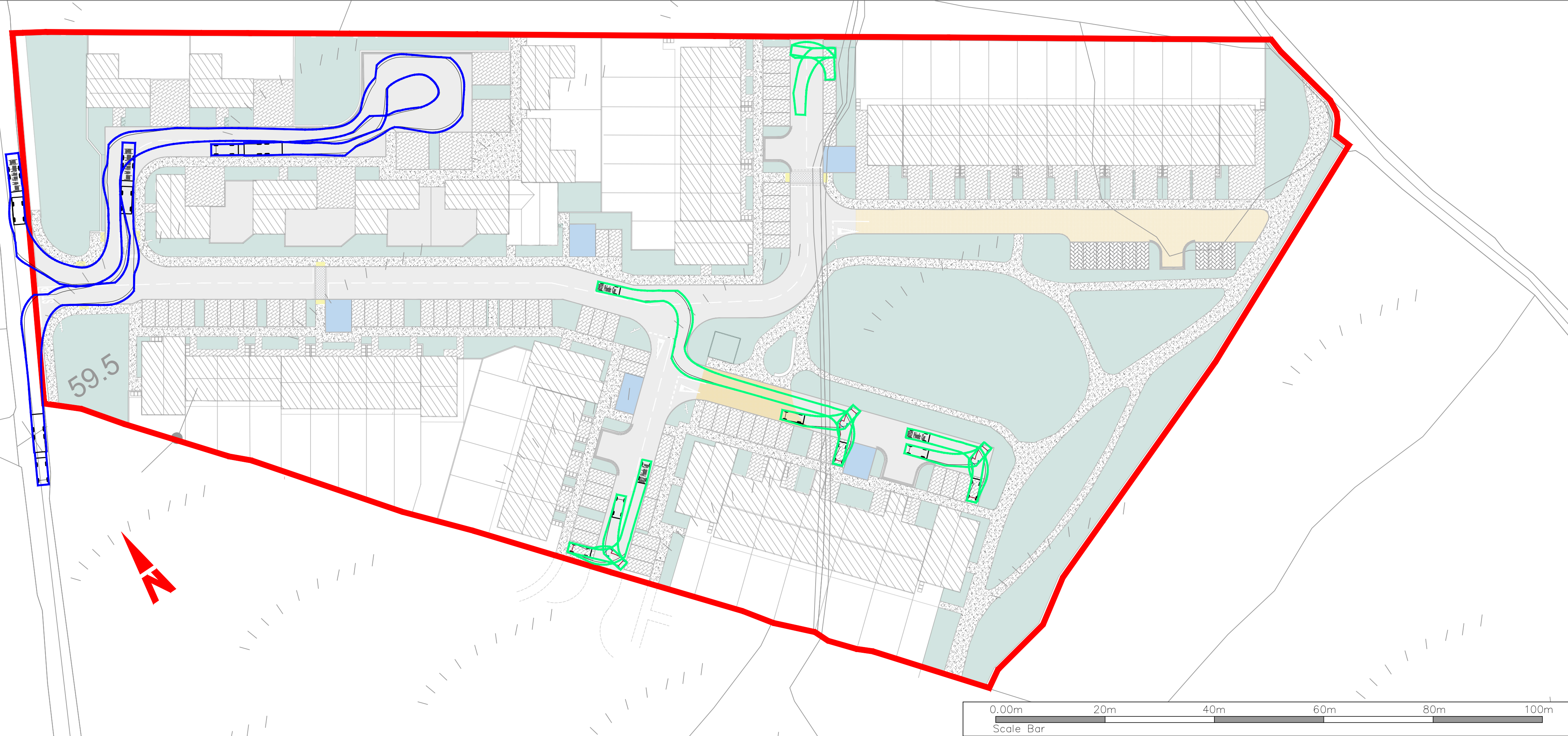
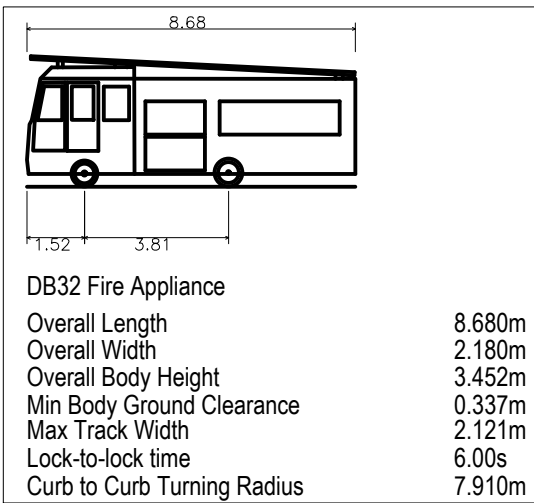
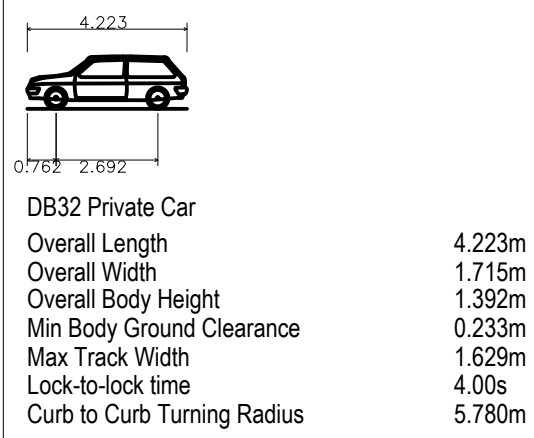
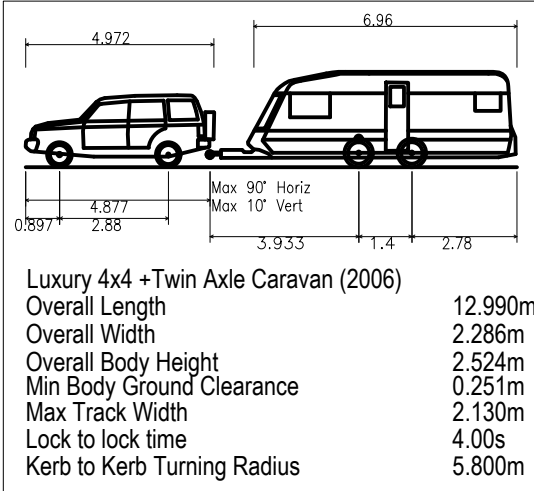
SCALE 1:25 @A1 ; 1:50 @A3 TYPICAL ROAD BUILDUP

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Foundations C35/45
RC Walls / Slabs C30/37
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Additional Notes:

P04	31.08.21	CS	Issue for Stage Approval		OK
Rev	Date	Dm	Amendment / Issue	App	
Client					
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Project Keeraun Social Housing Scheme, Ballymoneen Road, Galway City					
Title Road Construction Details Cross Sections					
Model File Identifier MGC0716-RPS-00-XX-C-KP0002					
File Identifier MGC0716-RPS-00-XX-C-KP0002-02					
Created on February 2021			Sheets 02 of 02		
Scale As shown @ A1 As shown @ A3			Status S4	Rev P04	



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Additional Notes:

LEGEND

AUTO TRACKING - LUXURY 4X4 WITH CARAVAN	
AUTO TRACKING - FIRE TRUCK	
AUTO TRACKING - REFUSE TRUCK	
AUTO TRACKING - PRIVATE CAR	
AUTO TRACKING - LUXURY 4X4	

P02	31.08.21	CS	WKS	Issue for Stage Approval	OK
Rev	Date	Dm	CHK	Amendment / Issue	App

Client

Galway City Council

MAKING COMPLEX EASY

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Project
Keeraun Social Housing Scheme,
Ballymoneen Road, Galway City

Title
Autotracking Layout

Model File Identifier
MGC0716-RPS-00-XX-C-KP0003

File Identifier
MGC0716-RPS-00-XX-C-KP0003-01

Created on February 2021	Sheets 01 OF 02	
Scale 1:500 @ A1 1:1000 @ A3	Status S4	Rev P02

7.9

1.454

4

DB32 Refuse Vehicle

Overall Length

Overall Width

Overall Body Height

Min Body Ground Clearance

Max Track Width

Lock-to-lock time

Curb to Curb Turning Radius

7.900m

2.400m

3.183m

0.388m

2.400m

6.00s

9.625m

4.972

0.897

2.88

Luxury 4x4 (2006)

Overall Length

Overall Width

Overall Body Height

Min Body Ground Clearance

Max Track Width

Lock-to-lock time

Curb to Curb Turning Radius

4.972m

2.034m

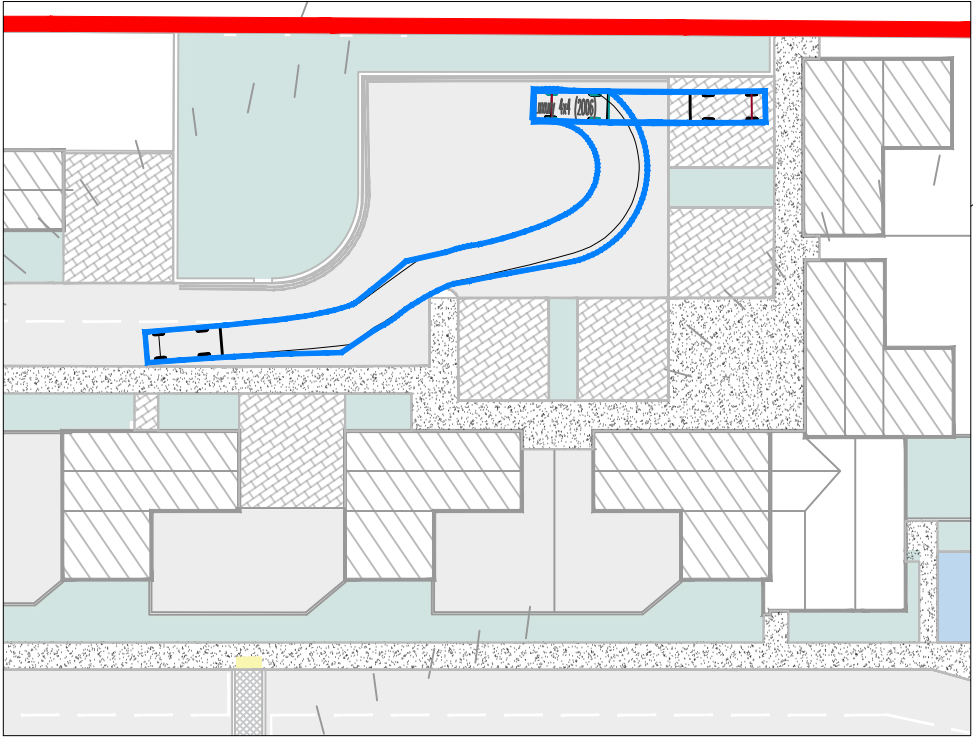
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0.279m

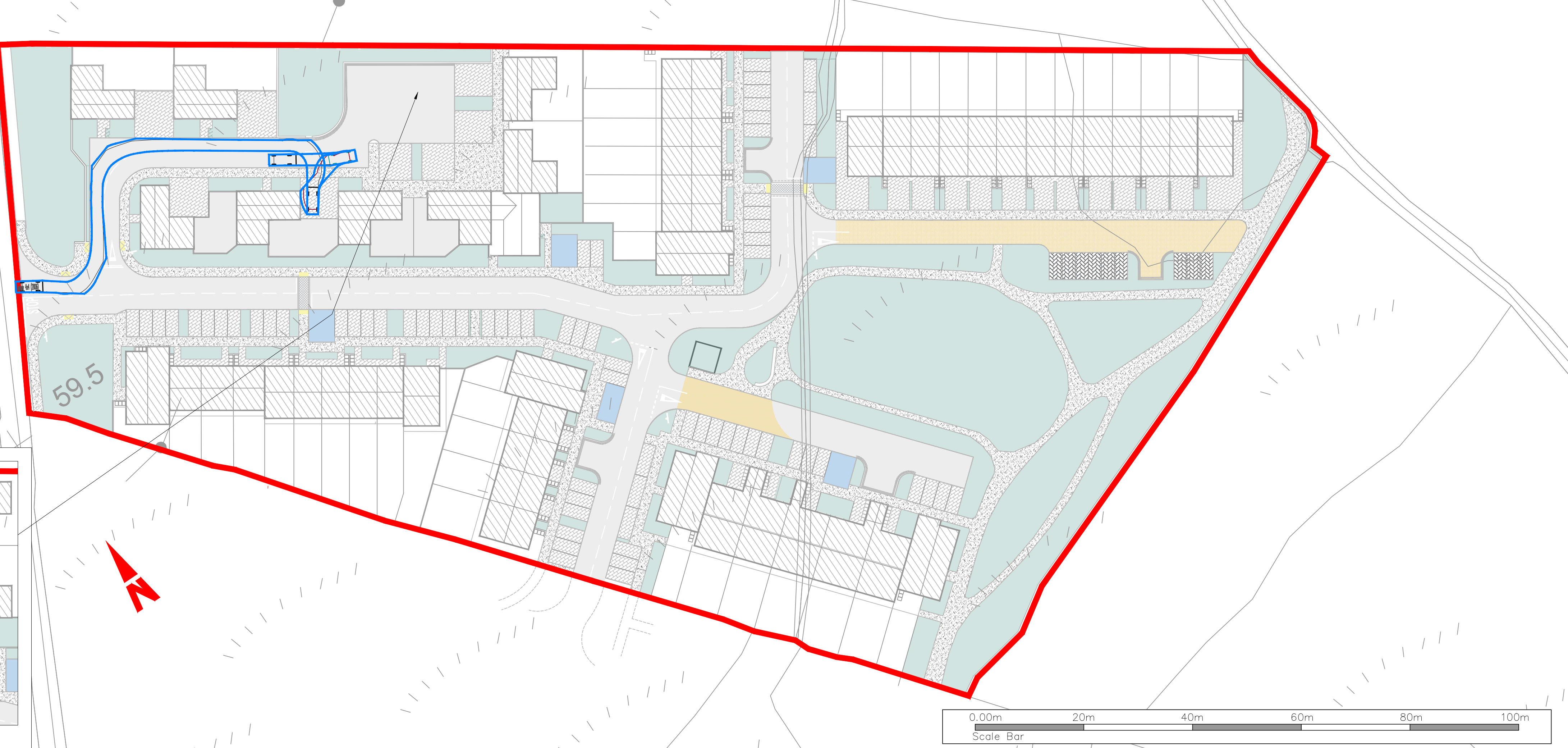
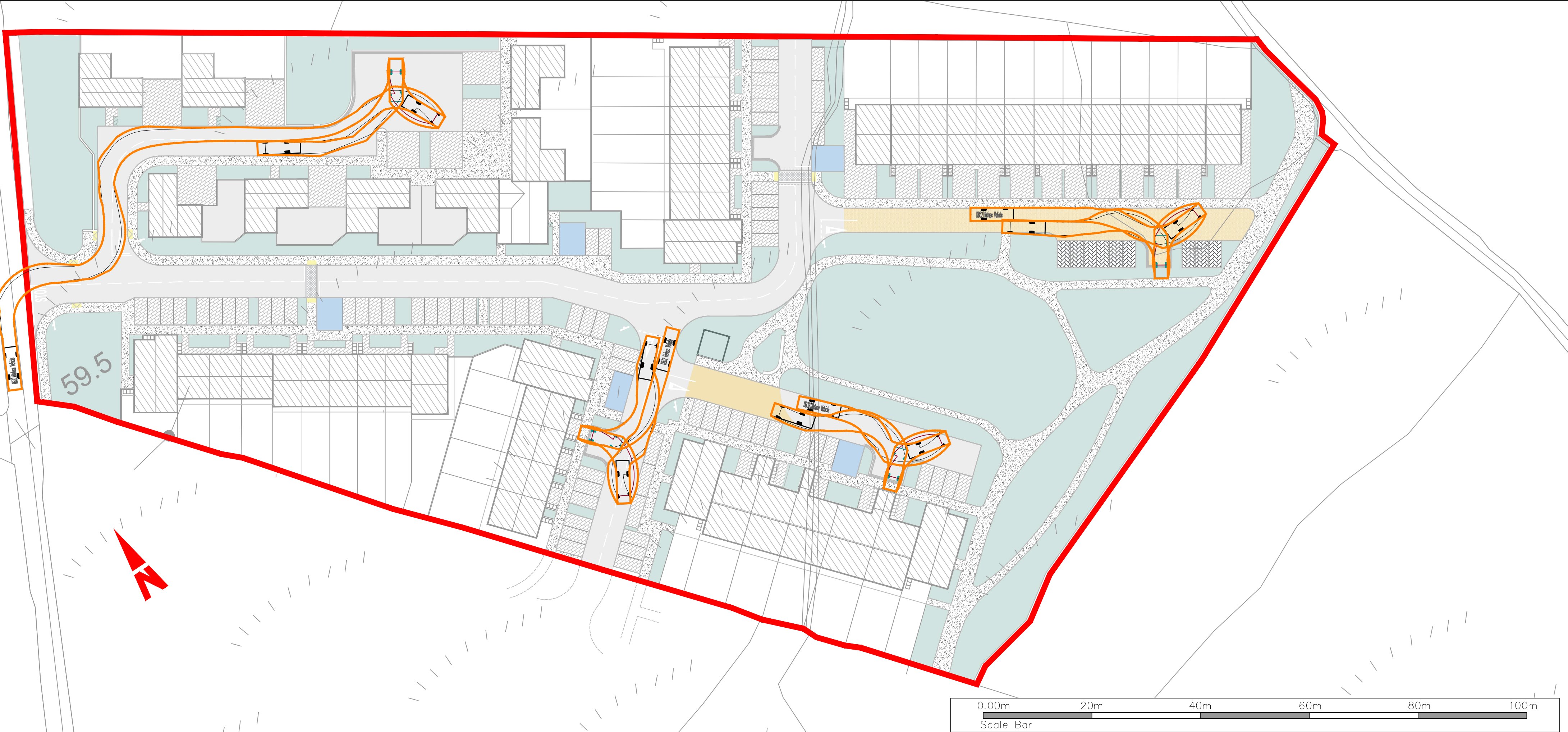
1.884m

4.00s

5.800m



2ND AUTO TRACKING 4 X 4 LUXURY

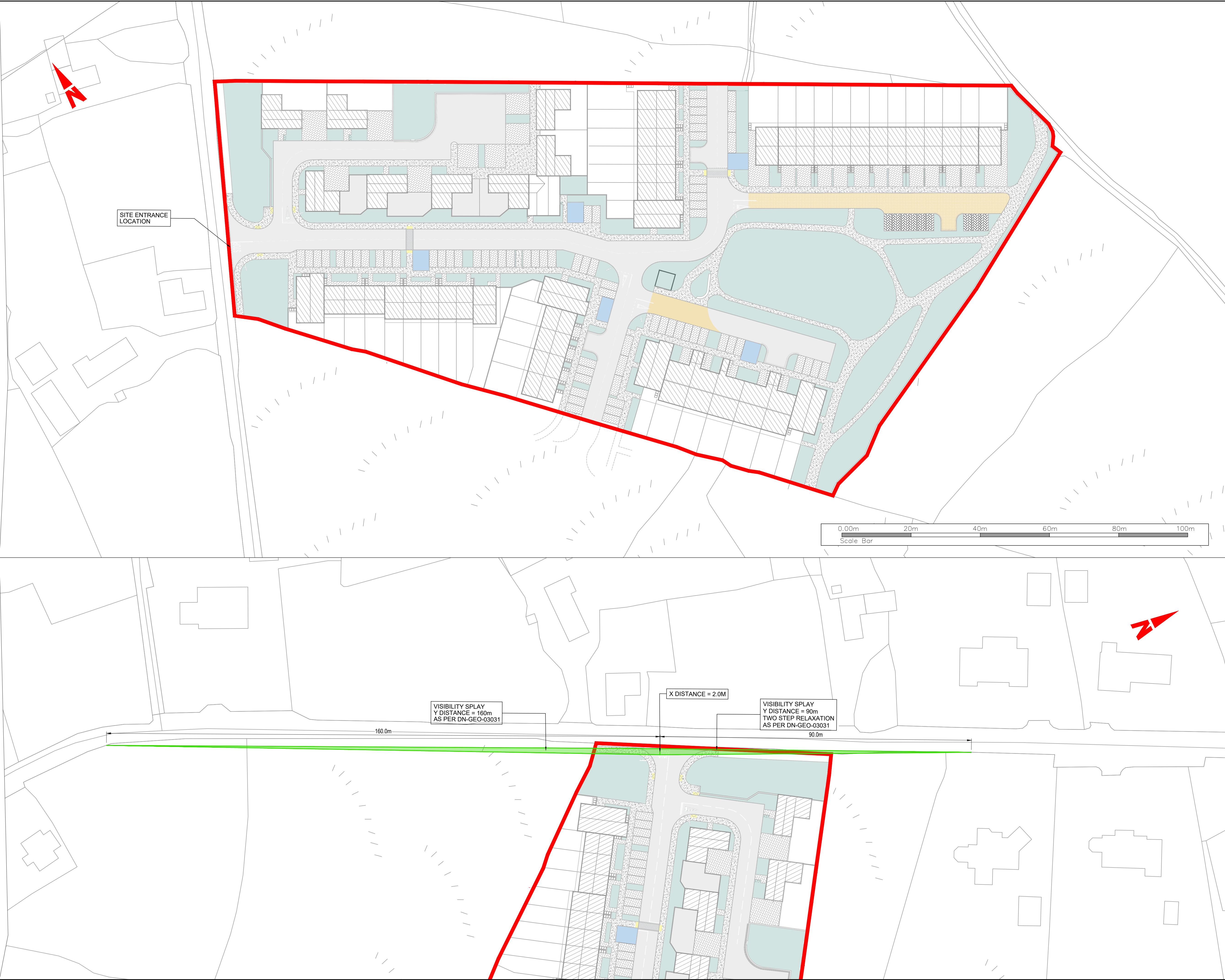


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Additional Notes:

LEGEND	
AUTO TRACKING - LUXURY 4X4 WITH CARAVAN	
AUTO TRACKING - FIRE TRUCK	
AUTO TRACKING - REFUSE TRUCK	
AUTO TRACKING - PRIVATE CAR	
AUTO TRACKING - LUXURY 4X4	

P02	31.08.21	CS	WKS	Issue for Stage Approval	DT
Rev	Date	Dm	CHK	Amendment / Issue	App
Client					
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Project Keeraun Social Housing Scheme, Ballymoneen Road, Galway City					
Title Autotracking Layout					
Model File Identifier MGC0716-RPS-00-XX-C-KP0003					
File Identifier MGC0716-RPS-00-XX-C-KP0003-02					
Created on February 2021			Sheets 02 OF 02		
Scale 1:500 @ A1 1:1000 @ A3			Status S4	Rev P02	



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Additional Notes:

P01	31.08.21	CS	WIP	Issue for Stage Approval	OK
Rev	Date	Dm	CHK	Amendment / Issue	App
Client					
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Project Keeraun Social Housing Scheme, Ballymoneen Road, Galway City					
Title Visibility Splay Layout					
Model File Identifier MGC0716-RPS-00-XX-C-KP0004					
File Identifier MGC0716-RPS-00-XX-C-KP0004-01					
Created on August 2021			Sheets 01 OF 01		
Scale 1:500 @ A1 1:1000 @ A3		Status S4		Rev P01	

Appendix B

Traffic Modelling Reports

Junctions 8				
PICADY 8 - Priority Intersection Module				
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2021				
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk				
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution				

Filename: Ballymoreen Road-Rahoon Road Junction Baseline.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 22/02/2021 16:22:32

« (Default Analysis Set) - Scenario 1, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	3.72	44.05	0.81	E
Stream C-AB	0.11	6.70	0.10	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - Scenario 1, AM " model duration: 07:45 - 09:15

Run using Junctions 8.0.4.487 at 22/02/2021 16:22:32

File summary

Title	(untitled)
Location	
Site Number	
Date	22/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ballymoreen Road/Rahoon Road Junction	T-Junction	Two-way	A,B,C	38.46	E

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Rahoon Road East		Major
B	B	Ballymoreen Road		Minor
C	C	Rahoon Road West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	100.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.50										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	492.551	0.090	0.227	0.143	0.324
1	B-C	622.604	0.095	0.241	-	-
1	C-B	631.874	0.245	0.245	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	205.00	100.000
B	ONE HOUR	✓	294.00	100.000
C	ONE HOUR	✓	314.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	42.000	163.000
	B	264.000	0.000	30.000
	C	264.000	50.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.00	0.20	0.80
	B	0.90	0.00	0.10
	C	0.84	0.16	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.81	44.05	3.72	E
C-AB	0.10	6.70	0.11	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	221.34	217.33	0.00	434.00	0.510	1.00	16.332	C
C-AB	38.44	38.17	0.00	602.47	0.064	0.07	6.376	A
C-A	197.96	197.96	0.00	-	-	-	-	-
A-B	31.62	31.62	0.00	-	-	-	-	-
A-C	122.71	122.71	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	264.30	261.93	0.00	420.38	0.629	1.59	22.368	C
C-AB	46.34	46.28	0.00	598.89	0.077	0.08	6.514	A
C-A	235.94	235.94	0.00	-	-	-	-	-
A-B	37.76	37.76	0.00	-	-	-	-	-
A-C	146.53	146.53	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	323.70	316.34	0.00	401.60	0.806	3.43	39.110	E
C-AB	57.70	57.60	0.00	595.19	0.097	0.11	6.696	A
C-A	288.02	288.02	0.00	-	-	-	-	-
A-B	46.24	46.24	0.00	-	-	-	-	-
A-C	179.47	179.47	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	323.70	322.54	0.00	401.57	0.806	3.72	44.055	E
C-AB	57.70	57.70	0.00	595.19	0.097	0.11	6.697	A
C-A	288.02	288.02	0.00	-	-	-	-	-
A-B	46.24	46.24	0.00	-	-	-	-	-
A-C	179.47	179.47	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	264.30	271.99	0.00	420.33	0.629	1.80	25.361	D
C-AB	46.34	46.44	0.00	598.89	0.077	0.09	6.516	A
C-A	235.94	235.94	0.00	-	-	-	-	-
A-B	37.76	37.76	0.00	-	-	-	-	-
A-C	146.53	146.53	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	221.34	224.23	0.00	433.89	0.510	1.08	17.399	C
C-AB	38.44	38.51	0.00	602.47	0.064	0.07	6.383	A
C-A	197.96	197.96	0.00	-	-	-	-	-
A-B	31.62	31.62	0.00	-	-	-	-	-
A-C	122.71	122.71	0.00	-	-	-	-	-

Junctions 8				
ARCADY 8 - Roundabout Module				
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2021				
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Filename: Ballymoneen Road-Western Distributor Road Baseline AM.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 12:44:38

« (Default Analysis Set) - Scenario 1, AM

» Junction Network

» Arms

» Traffic Flows

» Entry Flows

» Turning Proportions

» Vehicle Mix

» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Arm 1	1.67	8.12	0.63	A
Arm 2	0.87	7.23	0.47	A
Arm 3	1.83	8.98	0.65	A
Arm 4	2.11	14.05	0.68	B

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

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using Junctions 8.0.4.487 at 23/02/2021 12:44:37

File summary

Title	(untitled)
Location	
Site Number	
Date	23/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	Ballymoreen Road/Western Distributor Road	Roundabout	1,2,3,4			9.54	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Western Distributor Road East	
2	2	Ballymoreen Road South	
3	3	Western Distributor Road West	
4	4	Ballymoreen Road North	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00
4	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.00	5.60	24.00	20.00	48.00	34.00	
2	2.90	4.90	14.00	20.00	48.00	43.00	
3	3.00	5.30	23.00	20.00	48.00	22.00	
4	3.00	5.00	10.00	15.00	48.00	51.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.569	1473.263
2		(calculated)	(calculated)	0.515	1236.184
3		(calculated)	(calculated)	0.582	1476.844
4		(calculated)	(calculated)	0.488	1164.507

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	679.00	100.000
2	ONE HOUR	✓	397.00	100.000
3	ONE HOUR	✓	676.00	100.000
4	ONE HOUR	✓	503.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

	To				
		1	2	3	4
From	1	0.000	214.000	275.000	190.000
	2	128.000	0.000	69.000	200.000
	3	388.000	145.000	0.000	143.000
	4	197.000	239.000	67.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To				
		1	2	3	4
From	1	0.00	0.32	0.41	0.28
	2	0.32	0.00	0.17	0.50
	3	0.57	0.21	0.00	0.21
	4	0.39	0.48	0.13	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	To				
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To				
		1	2	3	4
From	1	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.63	8.12	1.67	A
2	0.47	7.23	0.87	A
3	0.65	8.98	1.83	A
4	0.68	14.05	2.11	B

Main Results for each time segment

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	511.19	508.55	337.28	0.00	1281.23	0.399	0.66	4.643	A
2	298.88	297.26	398.35	0.00	1031.12	0.290	0.41	4.894	A
3	508.93	506.21	387.90	0.00	1251.03	0.407	0.68	4.816	A
4	378.68	375.94	494.97	0.00	922.85	0.410	0.69	6.550	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	610.41	609.23	404.28	0.00	1243.09	0.491	0.95	5.669	A
2	356.89	356.28	477.26	0.00	990.50	0.360	0.56	5.670	A
3	607.71	606.42	464.84	0.00	1206.24	0.504	1.00	5.988	A
4	452.19	450.74	593.01	0.00	874.99	0.517	1.05	8.456	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	747.59	744.83	493.41	0.00	1192.34	0.627	1.64	7.994	A
2	437.11	435.88	583.32	0.00	935.90	0.467	0.86	7.182	A
3	744.29	741.08	568.55	0.00	1145.87	0.650	1.80	8.824	A
4	553.81	549.77	724.85	0.00	810.62	0.683	2.06	13.590	B

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	747.59	747.50	496.41	0.00	1190.63	0.628	1.67	8.120	A
2	437.11	437.07	585.65	0.00	934.70	0.468	0.87	7.233	A
3	744.29	744.18	570.28	0.00	1144.86	0.650	1.83	8.977	A
4	553.81	553.60	727.68	0.00	809.24	0.684	2.11	14.051	B

Main results: (09:00-09:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	610.41	613.15	408.61	0.00	1240.62	0.492	0.98	5.761	A
2	356.89	358.10	480.68	0.00	988.74	0.361	0.57	5.720	A
3	607.71	610.91	467.43	0.00	1204.73	0.504	1.03	6.093	A
4	452.19	456.26	597.14	0.00	872.97	0.518	1.10	8.720	A

Main results: (09:15-09:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	511.19	512.42	340.77	0.00	1279.25	0.400	0.67	4.703	A
2	298.88	299.51	401.57	0.00	1029.46	0.290	0.41	4.937	A
3	508.93	510.28	390.85	0.00	1249.32	0.407	0.69	4.879	A
4	378.68	380.24	498.90	0.00	920.93	0.411	0.71	6.678	A

Junctions 8				
PICADY 8 - Priority Intersection Module				
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Filename: Ballymoreen Road-Rahoon Road Junction Baseline PM.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 08:12:49

« (Default Analysis Set) - Scenario 1, PM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.26	9.99	0.21	A
Stream C-AB	0.03	6.63	0.03	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - Scenario 1, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 23/02/2021 08:12:48

File summary

Title	(untitled)
Location	
Site Number	
Date	22/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ballymoreen Road/Rahoon Road Junction	T-Junction	Two-way	A,B,C	9.47	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Rahoon Road East		Major
B	B	Ballymoreen Road		Minor
C	C	Rahoon Road West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	100.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.50										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	492.551	0.090	0.227	0.143	0.324
1	B-C	622.604	0.095	0.241	-	-
1	C-B	631.874	0.245	0.245	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	273.00	100.000
B	ONE HOUR	✓	87.00	100.000
C	ONE HOUR	✓	98.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	64.000	209.000
	B	57.000	0.000	30.000
	C	82.000	16.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.00	0.23	0.77
	B	0.66	0.00	0.34
	C	0.84	0.16	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.21	9.99	0.26	A
C-AB	0.03	6.63	0.03	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	65.50	64.87	0.00	479.84	0.137	0.16	8.662	A
C-AB	12.07	11.99	0.00	582.42	0.021	0.02	6.311	A
C-A	61.71	61.71	0.00	-	-	-	-	-
A-B	48.18	48.18	0.00	-	-	-	-	-
A-C	157.35	157.35	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	78.21	78.05	0.00	469.88	0.166	0.20	9.183	A
C-AB	14.43	14.41	0.00	573.05	0.025	0.03	6.443	A
C-A	73.67	73.67	0.00	-	-	-	-	-
A-B	57.53	57.53	0.00	-	-	-	-	-
A-C	187.89	187.89	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.79	95.53	0.00	456.11	0.210	0.26	9.976	A
C-AB	17.71	17.68	0.00	560.25	0.032	0.03	6.634	A
C-A	90.19	90.19	0.00	-	-	-	-	-
A-B	70.47	70.47	0.00	-	-	-	-	-
A-C	230.11	230.11	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.79	95.78	0.00	456.10	0.210	0.26	9.990	A
C-AB	17.71	17.71	0.00	560.25	0.032	0.03	6.634	A
C-A	90.19	90.19	0.00	-	-	-	-	-
A-B	70.47	70.47	0.00	-	-	-	-	-
A-C	230.11	230.11	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	78.21	78.46	0.00	469.87	0.166	0.20	9.203	A
C-AB	14.43	14.46	0.00	573.05	0.025	0.03	6.444	A
C-A	73.67	73.67	0.00	-	-	-	-	-
A-B	57.53	57.53	0.00	-	-	-	-	-
A-C	187.89	187.89	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	65.50	65.67	0.00	479.81	0.137	0.16	8.697	A
C-AB	12.07	12.09	0.00	582.42	0.021	0.02	6.314	A
C-A	61.71	61.71	0.00	-	-	-	-	-
A-B	48.18	48.18	0.00	-	-	-	-	-
A-C	157.35	157.35	0.00	-	-	-	-	-

Junctions 8				
ARCADY 8 - Roundabout Module				
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Filename: Ballymoneen Road-Western Distributor Baseline PM.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 12:56:13

« (Default Analysis Set) - Scenario 1, PM

» Junction Network

» Arms

» Traffic Flows

» Entry Flows

» Turning Proportions

» Vehicle Mix

» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
A1 - Scenario 1				
Arm 1	1.83	7.71	0.65	A
Arm 2	0.76	7.12	0.43	A
Arm 3	0.60	4.93	0.38	A
Arm 4	0.54	6.07	0.35	A

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

"D1 - Scenario 1, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 23/02/2021 12:56:12

File summary

Title	(untitled)
Location	
Site Number	
Date	23/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	Ballymoreen Road/Western Distributor Road	Roundabout	1,2,3,4			6.72	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Western Distributor Road East	
2	2	Ballymoreen Road South	
3	3	Western Distributor Road West	
4	4	Ballymoreen Road North	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00
4	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.00	5.60	24.00	20.00	48.00	34.00	
2	2.90	4.90	14.00	20.00	48.00	43.00	
3	3.00	5.30	23.00	20.00	48.00	22.00	
4	3.00	5.00	10.00	15.00	48.00	51.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.569	1473.263
2		(calculated)	(calculated)	0.515	1236.184
3		(calculated)	(calculated)	0.582	1476.844
4		(calculated)	(calculated)	0.488	1164.507

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	784.00	100.000
2	ONE HOUR	✓	353.00	100.000
3	ONE HOUR	✓	401.00	100.000
4	ONE HOUR	✓	293.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	0.000	233.000	326.000	225.000
	2	124.000	0.000	102.000	127.000
	3	265.000	74.000	0.000	62.000
	4	138.000	103.000	52.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	0.00	0.30	0.42	0.29
	2	0.35	0.00	0.29	0.36
	3	0.66	0.18	0.00	0.15
	4	0.47	0.35	0.18	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.65	7.71	1.83	A
2	0.43	7.12	0.76	A
3	0.38	4.93	0.60	A
4	0.35	6.07	0.54	A

Main Results for each time segment

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	590.24	587.26	171.58	0.00	1375.58	0.429	0.74	4.549	A
2	265.76	264.33	451.67	0.00	1003.67	0.265	0.36	4.861	A
3	301.89	300.65	356.49	0.00	1269.32	0.238	0.31	3.711	A
4	220.59	219.45	347.02	0.00	995.09	0.222	0.28	4.635	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	704.80	703.50	205.60	0.00	1356.21	0.520	1.07	5.504	A
2	317.34	316.81	541.11	0.00	957.63	0.331	0.49	5.613	A
3	360.49	360.08	427.16	0.00	1228.18	0.294	0.41	4.145	A
4	263.40	263.04	415.69	0.00	961.56	0.274	0.37	5.151	A

Main results: (17:15-17:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	863.20	860.25	251.65	0.00	1329.99	0.649	1.81	7.615	A
2	388.66	387.60	661.72	0.00	895.54	0.434	0.76	7.073	A
3	441.51	440.77	522.48	0.00	1172.69	0.376	0.60	4.913	A
4	322.60	321.94	508.77	0.00	916.12	0.352	0.54	6.053	A

Main results: (17:30-17:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	863.20	863.11	252.13	0.00	1329.72	0.649	1.83	7.712	A
2	388.66	388.64	663.85	0.00	894.45	0.435	0.76	7.116	A
3	441.51	441.50	524.04	0.00	1171.78	0.377	0.60	4.929	A
4	322.60	322.59	509.75	0.00	915.64	0.352	0.54	6.069	A

Main results: (17:45-18:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	704.80	707.73	206.34	0.00	1355.78	0.520	1.10	5.581	A
2	317.34	318.39	544.26	0.00	956.01	0.332	0.50	5.656	A
3	360.49	361.22	429.50	0.00	1226.82	0.294	0.42	4.162	A
4	263.40	264.04	417.21	0.00	960.82	0.274	0.38	5.170	A

Main results: (18:00-18:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	590.24	591.59	172.68	0.00	1374.95	0.429	0.76	4.603	A
2	265.76	266.31	454.99	0.00	1001.97	0.265	0.36	4.898	A
3	301.89	302.31	359.14	0.00	1267.78	0.238	0.31	3.732	A
4	220.59	220.96	349.12	0.00	994.06	0.222	0.29	4.660	A

Junctions 8				
ARCADY 8 - Roundabout Module				
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2021				
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Filename: Ballymoreen Road-Western Distributor Road Opening Year 2022 AM.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 12:47:57

« (Default Analysis Set) - Scenario 1, AM

» Junction Network

» Arms

» Traffic Flows

» Entry Flows

» Turning Proportions

» Vehicle Mix

» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
A1 - Scenario 1				
Arm 1	1.89	8.93	0.66	A
Arm 2	0.96	7.67	0.49	A
Arm 3	2.09	9.94	0.68	A
Arm 4	2.65	16.77	0.73	C

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

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using Junctions 8.0.4.487 at 23/02/2021 12:47:57

File summary

Title	(untitled)
Location	
Site Number	
Date	23/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	Ballymoreen Road/Western Distributor Road	Roundabout	1,2,3,4			10.78	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Western Distributor Road East	
2	2	Ballymoreen Road South	
3	3	Western Distributor Road West	
4	4	Ballymoreen Road North	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00
4	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.00	5.60	24.00	20.00	48.00	34.00	
2	2.90	4.90	14.00	20.00	48.00	43.00	
3	3.00	5.30	23.00	20.00	48.00	22.00	
4	3.00	5.00	10.00	15.00	48.00	51.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.569	1473.263
2		(calculated)	(calculated)	0.515	1236.184
3		(calculated)	(calculated)	0.582	1476.844
4		(calculated)	(calculated)	0.488	1164.507

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	703.00	100.000
2	ONE HOUR	✓	412.00	100.000
3	ONE HOUR	✓	699.00	100.000
4	ONE HOUR	✓	531.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	0.000	221.000	284.000	198.000
	2	132.000	0.000	71.000	209.000
	3	400.000	150.000	0.000	149.000
	4	208.000	252.000	71.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	0.00	0.31	0.40	0.28
	2	0.32	0.00	0.17	0.51
	3	0.57	0.21	0.00	0.21
	4	0.39	0.47	0.13	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.66	8.93	1.89	A
2	0.49	7.67	0.96	A
3	0.68	9.94	2.09	A
4	0.73	16.77	2.65	C

Main Results for each time segment

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	529.26	526.43	353.61	0.00	1271.93	0.416	0.71	4.810	A
2	310.18	308.45	413.98	0.00	1023.07	0.303	0.43	5.025	A
3	526.24	523.33	403.56	0.00	1241.91	0.424	0.73	4.990	A
4	399.76	396.70	510.60	0.00	915.22	0.437	0.77	6.904	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	631.98	630.65	423.84	0.00	1231.95	0.513	1.04	5.973	A
2	370.38	369.70	495.99	0.00	980.86	0.378	0.60	5.884	A
3	628.39	626.93	483.62	0.00	1195.31	0.526	1.09	6.317	A
4	477.36	475.61	611.74	0.00	865.84	0.551	1.20	9.183	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	774.02	770.74	516.66	0.00	1179.10	0.656	1.86	8.744	A
2	453.62	452.23	605.89	0.00	924.28	0.491	0.95	7.602	A
3	769.61	765.77	591.37	0.00	1132.58	0.680	2.05	9.712	A
4	584.64	579.23	747.43	0.00	799.60	0.731	2.56	15.952	C

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	774.02	773.89	520.53	0.00	1176.90	0.658	1.89	8.926	A
2	453.62	453.58	608.73	0.00	922.82	0.492	0.96	7.671	A
3	769.61	769.46	593.38	0.00	1131.41	0.680	2.09	9.936	A
4	584.64	584.28	750.77	0.00	797.97	0.733	2.65	16.774	C

Main results: (09:00-09:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	631.98	635.26	429.41	0.00	1228.78	0.514	1.07	6.097	A
2	370.38	371.75	500.12	0.00	978.73	0.378	0.62	5.943	A
3	628.39	632.24	486.61	0.00	1193.57	0.526	1.13	6.458	A
4	477.36	482.89	616.57	0.00	863.48	0.553	1.26	9.590	A

Main results: (09:15-09:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	529.26	530.66	357.58	0.00	1269.67	0.417	0.72	4.882	A
2	310.18	310.88	417.55	0.00	1021.24	0.304	0.44	5.074	A
3	526.24	527.78	406.76	0.00	1240.05	0.424	0.74	5.066	A
4	399.76	401.66	514.88	0.00	913.13	0.438	0.79	7.066	A

Junctions 8				
PICADY 8 - Priority Intersection Module				
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Filename: Ballymoneen Road-Rahoon Road Junction Opening Year 2022.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 22/02/2021 16:24:11

« (Default Analysis Set) - Scenario 1, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	4.98	56.48	0.86	F
Stream C-AB	0.12	6.73	0.10	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - Scenario 1, AM " model duration: 07:45 - 09:15

Run using Junctions 8.0.4.487 at 22/02/2021 16:24:11

File summary

Title	(untitled)
Location	
Site Number	
Date	22/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ballymoneen Road/Rahoon Road Junction	T-Junction	Two-way	A,B,C	49.10	E

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Rahoon Road East		Major
B	B	Ballymoneen Road		Minor
C	C	Rahoon Road West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	100.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.50										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	492.551	0.090	0.227	0.143	0.324
1	B-C	622.604	0.095	0.241	-	-
1	C-B	631.874	0.245	0.245	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	211.00	100.000
B	ONE HOUR	✓	310.00	100.000
C	ONE HOUR	✓	324.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	43.000	168.000
	B	278.000	0.000	32.000
	C	272.000	52.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.00	0.20	0.80
	B	0.90	0.00	0.10
	C	0.84	0.16	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.86	56.48	4.98	F
C-AB	0.10	6.73	0.12	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	233.38	228.88	0.00	431.94	0.540	1.13	17.373	C
C-AB	40.04	39.75	0.00	601.98	0.067	0.07	6.400	A
C-A	203.88	203.88	0.00	-	-	-	-	-
A-B	32.37	32.37	0.00	-	-	-	-	-
A-C	126.48	126.48	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	278.68	275.75	0.00	417.88	0.667	1.86	24.792	C
C-AB	48.31	48.24	0.00	598.47	0.081	0.09	6.542	A
C-A	242.96	242.96	0.00	-	-	-	-	-
A-B	38.66	38.66	0.00	-	-	-	-	-
A-C	151.03	151.03	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	341.32	331.05	0.00	398.50	0.857	4.43	47.269	E
C-AB	60.22	60.12	0.00	594.96	0.101	0.12	6.731	A
C-A	296.51	296.51	0.00	-	-	-	-	-
A-B	47.34	47.34	0.00	-	-	-	-	-
A-C	184.97	184.97	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	341.32	339.12	0.00	398.47	0.857	4.98	56.478	F
C-AB	60.22	60.22	0.00	594.96	0.101	0.12	6.734	A
C-A	296.51	296.51	0.00	-	-	-	-	-
A-B	47.34	47.34	0.00	-	-	-	-	-
A-C	184.97	184.97	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	278.68	289.94	0.00	417.83	0.667	2.16	30.162	D
C-AB	48.31	48.41	0.00	598.47	0.081	0.09	6.545	A
C-A	242.96	242.96	0.00	-	-	-	-	-
A-B	38.66	38.66	0.00	-	-	-	-	-
A-C	151.03	151.03	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	233.38	237.14	0.00	431.83	0.540	1.22	18.828	C
C-AB	40.04	40.11	0.00	601.98	0.067	0.07	6.409	A
C-A	203.88	203.88	0.00	-	-	-	-	-
A-B	32.37	32.37	0.00	-	-	-	-	-
A-C	126.48	126.48	0.00	-	-	-	-	-

Junctions 8				
PICADY 8 - Priority Intersection Module				
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2021				
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Filename: Ballymoreen Road-Development Site Junction Opening Year 2022.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 09:04:52

« (Default Analysis Set) - Scenario 1, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.04	6.60	0.04	A
Stream C-AB	0.01	5.98	0.01	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - Scenario 1, AM " model duration: 07:45 - 09:15

Run using Junctions 8.0.4.487 at 23/02/2021 09:04:51

File summary

Title	(untitled)
Location	
Site Number	
Date	22/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ballymoreen Road/Development Site Junction	T-Junction	Two-way	A,B,C	6.45	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ballymoreen Road North		Major
B	B	Development Site Access Road		Minor
C	C	Ballymoreen Road South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	100.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.75										160	90

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	561.810	0.102	0.259	0.163	0.369
1	B-C	663.560	0.102	0.257	-	-
1	C-B	631.874	0.245	0.245	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	96.00	100.000
B	ONE HOUR	✓	19.00	100.000
C	ONE HOUR	✓	316.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.000	1.000	95.000
	B	7.000	0.000	12.000
	C	310.000	6.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.00	0.01	0.99
	B	0.37	0.00	0.63
	C	0.98	0.02	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.04	6.60	0.04	A
C-AB	0.01	5.98	0.01	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	14.30	14.20	0.00	584.58	0.024	0.02	6.312	A
C-AB	4.53	4.50	0.00	615.31	0.007	0.01	5.893	A
C-A	233.37	233.37	0.00	-	-	-	-	-
A-B	0.75	0.75	0.00	-	-	-	-	-
A-C	71.52	71.52	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	17.08	17.06	0.00	577.06	0.030	0.03	6.428	A
C-AB	5.42	5.41	0.00	612.37	0.009	0.01	5.930	A
C-A	278.66	278.66	0.00	-	-	-	-	-
A-B	0.90	0.90	0.00	-	-	-	-	-
A-C	85.40	85.40	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.92	20.89	0.00	566.54	0.037	0.04	6.597	A
C-AB	6.65	6.64	0.00	608.46	0.011	0.01	5.981	A
C-A	341.28	341.28	0.00	-	-	-	-	-
A-B	1.10	1.10	0.00	-	-	-	-	-
A-C	104.60	104.60	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.92	20.92	0.00	566.53	0.037	0.04	6.597	A
C-AB	6.65	6.65	0.00	608.46	0.011	0.01	5.981	A
C-A	341.28	341.28	0.00	-	-	-	-	-
A-B	1.10	1.10	0.00	-	-	-	-	-
A-C	104.60	104.60	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	17.08	17.11	0.00	577.06	0.030	0.03	6.431	A
C-AB	5.42	5.42	0.00	612.37	0.009	0.01	5.933	A
C-A	278.66	278.66	0.00	-	-	-	-	-
A-B	0.90	0.90	0.00	-	-	-	-	-
A-C	85.40	85.40	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	14.30	14.33	0.00	584.57	0.024	0.03	6.315	A
C-AB	4.53	4.54	0.00	615.31	0.007	0.01	5.893	A
C-A	233.37	233.37	0.00	-	-	-	-	-
A-B	0.75	0.75	0.00	-	-	-	-	-
A-C	71.52	71.52	0.00	-	-	-	-	-

Junctions 8				
ARCADY 8 - Roundabout Module				
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Filename: Ballymoneen Road-Western Distributor Opening Year 2022 PM.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 13:59:30

« (Default Analysis Set) - Scenario 1, PM

» Junction Network

» Arms

» Traffic Flows

» Entry Flows

» Turning Proportions

» Vehicle Mix

» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
A1 - Scenario 1				
Arm 1	2.08	8.45	0.68	A
Arm 2	0.85	7.59	0.46	A
Arm 3	0.65	5.15	0.39	A
Arm 4	0.60	6.35	0.38	A

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

"D1 - Scenario 1, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 23/02/2021 13:59:29

File summary

Title	(untitled)
Location	
Site Number	
Date	23/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	Ballymoreen Road/Western Distributor Road	Roundabout	1,2,3,4			7.23	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Western Distributor Road East	
2	2	Ballymoreen Road South	
3	3	Western Distributor Road West	
4	4	Ballymoreen Road North	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00
4	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.00	5.60	24.00	20.00	48.00	34.00	
2	2.90	4.90	14.00	20.00	48.00	43.00	
3	3.00	5.30	23.00	20.00	48.00	22.00	
4	3.00	5.00	10.00	15.00	48.00	51.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.569	1473.263
2		(calculated)	(calculated)	0.515	1236.184
3		(calculated)	(calculated)	0.582	1476.844
4		(calculated)	(calculated)	0.488	1164.507

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	815.00	100.000
2	ONE HOUR	✓	368.00	100.000
3	ONE HOUR	✓	414.00	100.000
4	ONE HOUR	✓	310.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	0.000	240.000	336.000	239.000
	2	128.000	0.000	105.000	135.000
	3	273.000	76.000	0.000	65.000
	4	146.000	109.000	55.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	0.00	0.29	0.41	0.29
	2	0.35	0.00	0.29	0.37
	3	0.66	0.18	0.00	0.16
	4	0.47	0.35	0.18	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.68	8.45	2.08	A
2	0.46	7.59	0.85	A
3	0.39	5.15	0.65	A
4	0.38	6.35	0.60	A

Main Results for each time segment

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	613.57	610.36	179.80	0.00	1370.90	0.448	0.80	4.714	A
2	277.05	275.51	471.81	0.00	993.30	0.279	0.38	5.006	A
3	311.68	310.37	375.89	0.00	1258.02	0.248	0.33	3.794	A
4	233.38	232.16	357.47	0.00	989.98	0.236	0.31	4.742	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	732.67	731.20	215.46	0.00	1350.59	0.542	1.17	5.798	A
2	330.82	330.23	565.25	0.00	945.21	0.350	0.53	5.847	A
3	372.18	371.73	450.43	0.00	1214.63	0.306	0.44	4.269	A
4	278.68	278.28	428.23	0.00	955.44	0.292	0.41	5.312	A

Main results: (17:15-17:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	897.33	893.81	263.70	0.00	1323.13	0.678	2.05	8.317	A
2	405.18	403.95	691.03	0.00	880.46	0.460	0.84	7.535	A
3	455.82	455.00	550.80	0.00	1156.20	0.394	0.64	5.127	A
4	341.32	340.57	524.07	0.00	908.65	0.376	0.60	6.329	A

Main results: (17:30-17:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	897.33	897.22	264.23	0.00	1322.82	0.678	2.08	8.452	A
2	405.18	405.14	693.56	0.00	879.15	0.461	0.85	7.594	A
3	455.82	455.81	552.66	0.00	1155.12	0.395	0.65	5.147	A
4	341.32	341.30	525.16	0.00	908.11	0.376	0.60	6.350	A

Main results: (17:45-18:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	732.67	736.17	216.29	0.00	1350.12	0.543	1.20	5.896	A
2	330.82	332.03	568.96	0.00	943.30	0.351	0.55	5.900	A
3	372.18	372.99	453.18	0.00	1213.03	0.307	0.45	4.290	A
4	278.68	279.42	429.92	0.00	954.61	0.292	0.42	5.337	A

Main results: (18:00-18:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	613.57	615.11	180.99	0.00	1370.22	0.448	0.82	4.776	A
2	277.05	277.67	475.46	0.00	991.43	0.279	0.39	5.049	A
3	311.68	312.14	378.83	0.00	1256.32	0.248	0.33	3.813	A
4	233.38	233.80	359.71	0.00	988.89	0.236	0.31	4.769	A

Junctions 8				
PICADY 8 - Priority Intersection Module				
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Filename: Ballymoneen Road-Rahoon Road Junction Opening Year 2022 PM.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 07:43:15

« (Default Analysis Set) - Scenario 1, PM

» Junction Network

» Arms

» Traffic Flows

» Entry Flows

» Turning Proportions

» Vehicle Mix

» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.29	10.25	0.23	B
Stream C-AB	0.03	6.68	0.03	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - Scenario 1, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 23/02/2021 07:43:15

File summary

Title	(untitled)
Location	
Site Number	
Date	22/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ballymoreen Road/Rahoon Road Junction	T-Junction	Two-way	A,B,C	9.69	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Rahoon Road East		Major
B	B	Ballymoreen Road		Minor
C	C	Rahoon Road West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	100.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.50										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	492.551	0.090	0.227	0.143	0.324
1	B-C	622.604	0.095	0.241	-	-
1	C-B	631.874	0.245	0.245	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	282.00	100.000
B	ONE HOUR	✓	93.00	100.000
C	ONE HOUR	✓	101.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

	To			
		A	B	C
	A	0.000	67.000	215.000
	B	61.000	0.000	32.000
	C	84.000	17.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.00	0.24	0.76
	B	0.66	0.00	0.34
	C	0.83	0.17	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.23	10.25	0.29	B
C-AB	0.03	6.68	0.03	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.02	69.34	0.00	478.12	0.146	0.17	8.793	A
C-AB	12.83	12.74	0.00	580.84	0.022	0.02	6.337	A
C-A	63.21	63.21	0.00	-	-	-	-	-
A-B	50.44	50.44	0.00	-	-	-	-	-
A-C	161.86	161.86	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	83.61	83.42	0.00	467.84	0.179	0.21	9.361	A
C-AB	15.34	15.32	0.00	571.19	0.027	0.03	6.475	A
C-A	75.46	75.46	0.00	-	-	-	-	-
A-B	60.23	60.23	0.00	-	-	-	-	-
A-C	193.28	193.28	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	102.39	102.10	0.00	453.63	0.226	0.29	10.233	B
C-AB	18.82	18.79	0.00	558.01	0.034	0.03	6.675	A
C-A	92.38	92.38	0.00	-	-	-	-	-
A-B	73.77	73.77	0.00	-	-	-	-	-
A-C	236.72	236.72	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	102.39	102.39	0.00	453.62	0.226	0.29	10.249	B
C-AB	18.82	18.82	0.00	558.01	0.034	0.03	6.675	A
C-A	92.38	92.38	0.00	-	-	-	-	-
A-B	73.77	73.77	0.00	-	-	-	-	-
A-C	236.72	236.72	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	83.61	83.88	0.00	467.83	0.179	0.22	9.382	A
C-AB	15.34	15.37	0.00	571.19	0.027	0.03	6.476	A
C-A	75.46	75.46	0.00	-	-	-	-	-
A-B	60.23	60.23	0.00	-	-	-	-	-
A-C	193.28	193.28	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.02	70.20	0.00	478.09	0.146	0.17	8.829	A
C-AB	12.83	12.85	0.00	580.84	0.022	0.02	6.340	A
C-A	63.21	63.21	0.00	-	-	-	-	-
A-B	50.44	50.44	0.00	-	-	-	-	-
A-C	161.86	161.86	0.00	-	-	-	-	-

Junctions 8				
PICADY 8 - Priority Intersection Module				
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Filename: Ballymoreen Road-Development Site Junction Opening Year 2022 PM.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 10:21:40

« (Default Analysis Set) - Scenario 1, PM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.02	6.12	0.02	A
Stream C-AB	0.02	6.04	0.02	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - Scenario 1, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 23/02/2021 10:21:40

File summary

Title	(untitled)
Location	
Site Number	
Date	22/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ballymoreen Road/Development Site Junction	T-Junction	Two-way	A,B,C	6.08	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ballymoreen Road North		Major
B	B	Development Site Access Road		Minor
C	C	Ballymoreen Road South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	100.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.75										160	90

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	561.810	0.102	0.259	0.163	0.369
1	B-C	663.560	0.102	0.257	-	-
1	C-B	631.874	0.245	0.245	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	87.00	100.000
B	ONE HOUR	✓	11.00	100.000
C	ONE HOUR	✓	106.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	3.000	84.000
	B	3.000	0.000	8.000
	C	93.000	13.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.00	0.03	0.97
	B	0.27	0.00	0.73
	C	0.88	0.12	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.02	6.12	0.02	A
C-AB	0.02	6.04	0.02	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	8.28	8.23	0.00	610.38	0.014	0.01	5.978	A
C-AB	9.80	9.74	0.00	616.57	0.016	0.02	5.932	A
C-A	70.00	70.00	0.00	-	-	-	-	-
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	63.24	63.24	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	9.89	9.88	0.00	606.08	0.016	0.02	6.037	A
C-AB	11.72	11.70	0.00	613.78	0.019	0.02	5.978	A
C-A	83.57	83.57	0.00	-	-	-	-	-
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	75.51	75.51	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	12.11	12.10	0.00	600.12	0.020	0.02	6.121	A
C-AB	14.37	14.35	0.00	610.02	0.024	0.02	6.043	A
C-A	102.34	102.34	0.00	-	-	-	-	-
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	92.49	92.49	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	12.11	12.11	0.00	600.12	0.020	0.02	6.121	A
C-AB	14.37	14.37	0.00	610.02	0.024	0.02	6.043	A
C-A	102.34	102.34	0.00	-	-	-	-	-
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	92.49	92.49	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	9.89	9.90	0.00	606.08	0.016	0.02	6.040	A
C-AB	11.72	11.74	0.00	613.78	0.019	0.02	5.981	A
C-A	83.57	83.57	0.00	-	-	-	-	-
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	75.51	75.51	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	8.28	8.29	0.00	610.37	0.014	0.01	5.978	A
C-AB	9.80	9.82	0.00	616.57	0.016	0.02	5.932	A
C-A	70.00	70.00	0.00	-	-	-	-	-
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	63.24	63.24	0.00	-	-	-	-	-

Junctions 8			
ARCADY 8 - Roundabout Module			
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Filename: Ballymoneen Road-Western Distributor Opening Year 2027 PM.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 14:01:14

« (Default Analysis Set) - Scenario 1, PM

» Junction Network

» Arms

» Traffic Flows

» Entry Flows

» Turning Proportions

» Vehicle Mix

» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
A1 - Scenario 1				
Arm 1	2.76	10.47	0.74	B
Arm 2	1.04	8.68	0.51	A
Arm 3	0.77	5.64	0.44	A
Arm 4	0.71	6.94	0.42	A

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

"D1 - Scenario 1, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 23/02/2021 14:01:13

File summary

Title	(untitled)
Location	
Site Number	
Date	23/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	Ballymoreen Road/Western Distributor Road	Roundabout	1,2,3,4			8.50	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Western Distributor Road East	
2	2	Ballymoreen Road South	
3	3	Western Distributor Road West	
4	4	Ballymoreen Road North	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00
4	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.00	5.60	24.00	20.00	48.00	34.00	
2	2.90	4.90	14.00	20.00	48.00	43.00	
3	3.00	5.30	23.00	20.00	48.00	22.00	
4	3.00	5.00	10.00	15.00	48.00	51.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.569	1473.263
2		(calculated)	(calculated)	0.515	1236.184
3		(calculated)	(calculated)	0.582	1476.844
4		(calculated)	(calculated)	0.488	1164.507

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	879.00	100.000
2	ONE HOUR	✓	397.00	100.000
3	ONE HOUR	✓	447.00	100.000
4	ONE HOUR	✓	335.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	0.000	259.000	363.000	257.000
	2	138.000	0.000	114.000	145.000
	3	295.000	82.000	0.000	70.000
	4	158.000	118.000	59.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	0.00	0.29	0.41	0.29
	2	0.35	0.00	0.29	0.37
	3	0.66	0.18	0.00	0.16
	4	0.47	0.35	0.18	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.74	10.47	2.76	B
2	0.51	8.68	1.04	A
3	0.44	5.64	0.77	A
4	0.42	6.94	0.71	A

Main Results for each time segment

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	661.76	658.02	193.99	0.00	1362.82	0.486	0.93	5.082	A
2	298.88	297.13	508.31	0.00	974.52	0.307	0.44	5.300	A
3	336.53	335.05	404.20	0.00	1241.54	0.271	0.37	3.965	A
4	252.21	250.82	385.86	0.00	976.12	0.258	0.35	4.955	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	790.20	788.29	232.48	0.00	1340.90	0.589	1.41	6.492	A
2	356.89	356.15	608.97	0.00	922.70	0.387	0.62	6.347	A
3	401.84	401.31	484.36	0.00	1194.88	0.336	0.50	4.533	A
4	301.16	300.67	462.27	0.00	938.82	0.321	0.47	5.641	A

Main results: (17:15-17:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	967.80	962.62	284.48	0.00	1311.29	0.738	2.70	10.174	B
2	437.11	435.48	743.78	0.00	853.30	0.512	1.03	8.581	A
3	492.16	491.13	591.88	0.00	1132.29	0.435	0.76	5.605	A
4	368.84	367.91	565.59	0.00	888.37	0.415	0.70	6.904	A

Main results: (17:30-17:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	967.80	967.57	285.15	0.00	1310.91	0.738	2.76	10.466	B
2	437.11	437.05	747.43	0.00	851.42	0.513	1.04	8.685	A
3	492.16	492.13	594.45	0.00	1130.79	0.435	0.77	5.636	A
4	368.84	368.82	566.99	0.00	887.69	0.416	0.71	6.937	A

Main results: (17:45-18:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	790.20	795.40	233.51	0.00	1340.32	0.590	1.46	6.667	A
2	356.89	358.51	614.23	0.00	919.99	0.388	0.64	6.431	A
3	401.84	402.86	488.12	0.00	1192.69	0.337	0.51	4.563	A
4	301.16	302.07	464.39	0.00	937.78	0.321	0.48	5.672	A

Main results: (18:00-18:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	661.76	663.78	195.36	0.00	1362.04	0.486	0.96	5.172	A
2	298.88	299.66	512.70	0.00	972.25	0.307	0.45	5.360	A
3	336.53	337.07	407.68	0.00	1239.52	0.272	0.37	3.992	A
4	252.21	252.71	388.45	0.00	974.86	0.259	0.35	4.988	A

Junctions 8				
PICADY 8 - Priority Intersection Module				
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Filename: Ballymoreen Road-Rahoon Road Junction Opening Year 2027 PM.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 07:44:30

« (Default Analysis Set) - Scenario 1, PM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.33	10.72	0.25	B
Stream C-AB	0.04	6.80	0.04	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - Scenario 1, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 23/02/2021 07:44:30

File summary

Title	(untitled)
Location	
Site Number	
Date	22/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ballymoneen Road/Rahoon Road Junction	T-Junction	Two-way	A,B,C	10.04	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Rahoon Road East		Major
B	B	Ballymoneen Road		Minor
C	C	Rahoon Road West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	100.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.50										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	492.551	0.090	0.227	0.143	0.324
1	B-C	622.604	0.095	0.241	-	-
1	C-B	631.874	0.245	0.245	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	305.00	100.000
B	ONE HOUR	✓	100.00	100.000
C	ONE HOUR	✓	112.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	72.000	233.000
	B	66.000	0.000	34.000
	C	91.000	21.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.00	0.24	0.76
	B	0.66	0.00	0.34
	C	0.81	0.19	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.25	10.72	0.33	B
C-AB	0.04	6.80	0.04	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	75.29	74.54	0.00	472.73	0.159	0.19	9.025	A
C-AB	15.86	15.75	0.00	576.94	0.027	0.03	6.412	A
C-A	68.46	68.46	0.00	-	-	-	-	-
A-B	54.21	54.21	0.00	-	-	-	-	-
A-C	175.41	175.41	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	89.90	89.69	0.00	461.48	0.195	0.24	9.678	A
C-AB	18.97	18.94	0.00	566.62	0.033	0.03	6.572	A
C-A	81.72	81.72	0.00	-	-	-	-	-
A-B	64.73	64.73	0.00	-	-	-	-	-
A-C	209.46	209.46	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	110.10	109.77	0.00	445.93	0.247	0.32	10.698	B
C-AB	23.30	23.26	0.00	552.58	0.042	0.04	6.800	A
C-A	100.02	100.02	0.00	-	-	-	-	-
A-B	79.27	79.27	0.00	-	-	-	-	-
A-C	256.54	256.54	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	110.10	110.09	0.00	445.92	0.247	0.33	10.719	B
C-AB	23.30	23.30	0.00	552.58	0.042	0.04	6.800	A
C-A	100.02	100.02	0.00	-	-	-	-	-
A-B	79.27	79.27	0.00	-	-	-	-	-
A-C	256.54	256.54	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	89.90	90.22	0.00	461.47	0.195	0.25	9.705	A
C-AB	18.97	19.01	0.00	566.62	0.033	0.04	6.576	A
C-A	81.72	81.72	0.00	-	-	-	-	-
A-B	64.73	64.73	0.00	-	-	-	-	-
A-C	209.46	209.46	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	75.29	75.50	0.00	472.69	0.159	0.19	9.069	A
C-AB	15.86	15.89	0.00	576.94	0.027	0.03	6.416	A
C-A	68.46	68.46	0.00	-	-	-	-	-
A-B	54.21	54.21	0.00	-	-	-	-	-
A-C	175.41	175.41	0.00	-	-	-	-	-

Junctions 8				
PICADY 8 - Priority Intersection Module				
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Filename: Ballymoreen Road-Development Site Junction Opening Year 2027 PM.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 10:23:07

« (Default Analysis Set) - Scenario 1, PM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.02	6.15	0.02	A
Stream C-AB	0.02	6.07	0.02	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - Scenario 1, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 23/02/2021 10:23:07

File summary

Title	(untitled)
Location	
Site Number	
Date	22/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ballymoneen Road/Development Site Junction	T-Junction	Two-way	A,B,C	6.11	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ballymoneen Road North		Major
B	B	Development Site Access Road		Minor
C	C	Ballymoneen Road South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	100.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.75										160	90

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	561.810	0.102	0.259	0.163	0.369
1	B-C	663.560	0.102	0.257	-	-
1	C-B	631.874	0.245	0.245	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	96.00	100.000
B	ONE HOUR	✓	11.00	100.000
C	ONE HOUR	✓	113.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	3.000	93.000
	B	3.000	0.000	8.000
	C	100.000	13.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.00	0.03	0.97
	B	0.27	0.00	0.73
	C	0.88	0.12	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.02	6.15	0.02	A
C-AB	0.02	6.07	0.02	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	8.28	8.23	0.00	608.31	0.014	0.01	5.999	A
C-AB	9.81	9.74	0.00	614.97	0.016	0.02	5.948	A
C-A	75.27	75.27	0.00	-	-	-	-	-
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	70.02	70.02	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	9.89	9.88	0.00	603.60	0.016	0.02	6.062	A
C-AB	11.72	11.71	0.00	611.88	0.019	0.02	5.997	A
C-A	89.87	89.87	0.00	-	-	-	-	-
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	83.61	83.61	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	12.11	12.10	0.00	597.08	0.020	0.02	6.153	A
C-AB	14.37	14.36	0.00	607.72	0.024	0.02	6.066	A
C-A	110.04	110.04	0.00	-	-	-	-	-
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	102.39	102.39	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	12.11	12.11	0.00	597.08	0.020	0.02	6.153	A
C-AB	14.37	14.37	0.00	607.72	0.024	0.02	6.066	A
C-A	110.04	110.04	0.00	-	-	-	-	-
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	102.39	102.39	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	9.89	9.90	0.00	603.60	0.016	0.02	6.065	A
C-AB	11.72	11.74	0.00	611.88	0.019	0.02	6.000	A
C-A	89.87	89.87	0.00	-	-	-	-	-
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	83.61	83.61	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	8.28	8.29	0.00	608.30	0.014	0.01	5.999	A
C-AB	9.81	9.82	0.00	614.97	0.016	0.02	5.948	A
C-A	75.27	75.27	0.00	-	-	-	-	-
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	70.02	70.02	0.00	-	-	-	-	-

Junctions 8				
ARCADY 8 - Roundabout Module				
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2021				
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Filename: Ballymoneen Road-Western Distributor Road Opening Year 2037 AM.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 12:53:43

« (Default Analysis Set) - Scenario 1, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Arm 1	4.28	17.43	0.82	C
Arm 2	1.64	11.10	0.63	B
Arm 3	5.65	23.38	0.86	C
Arm 4	11.57	63.30	0.95	F

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

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using Junctions 8.0.4.487 at 23/02/2021 12:53:43

File summary

Title	(untitled)
Location	
Site Number	
Date	23/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	Ballymoreen Road/Western Distributor Road	Roundabout	1,2,3,4			28.46	D

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Western Distributor Road East	
2	2	Ballymoreen Road South	
3	3	Western Distributor Road West	
4	4	Ballymoreen Road North	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00
4	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.00	5.60	24.00	20.00	48.00	34.00	
2	2.90	4.90	14.00	20.00	48.00	43.00	
3	3.00	5.30	23.00	20.00	48.00	22.00	
4	3.00	5.00	10.00	15.00	48.00	51.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.569	1473.263
2		(calculated)	(calculated)	0.515	1236.184
3		(calculated)	(calculated)	0.582	1476.844
4		(calculated)	(calculated)	0.488	1164.507

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	837.00	100.000
2	ONE HOUR	✓	491.00	100.000
3	ONE HOUR	✓	833.00	100.000
4	ONE HOUR	✓	631.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

	To				
		1	2	3	4
From	1	0.000	263.000	338.000	236.000
	2	157.000	0.000	85.000	249.000
	3	477.000	178.000	0.000	178.000
	4	247.000	300.000	84.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To				
		1	2	3	4
From	1	0.00	0.31	0.40	0.28
	2	0.32	0.00	0.17	0.51
	3	0.57	0.21	0.00	0.21
	4	0.39	0.48	0.13	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	To				
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To				
		1	2	3	4
From	1	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.82	17.43	4.28	C
2	0.63	11.10	1.64	B
3	0.86	23.38	5.65	C
4	0.95	63.30	11.57	F

Main Results for each time segment

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	630.14	626.02	419.30	0.00	1234.54	0.510	1.03	5.878	A
2	369.65	367.26	491.93	0.00	982.95	0.376	0.60	5.825	A
3	627.13	622.79	480.20	0.00	1197.30	0.524	1.08	6.221	A
4	475.05	470.32	607.14	0.00	868.09	0.547	1.18	8.949	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	752.45	749.80	502.03	0.00	1187.44	0.634	1.69	8.175	A
2	441.40	440.25	589.16	0.00	932.90	0.473	0.88	7.289	A
3	748.85	745.77	575.45	0.00	1141.85	0.656	1.85	9.018	A
4	567.26	563.08	727.18	0.00	809.48	0.701	2.23	14.364	B

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	921.55	912.27	599.38	0.00	1132.01	0.814	4.01	15.750	C
2	540.60	537.74	714.50	0.00	868.37	0.623	1.60	10.793	B
3	917.15	903.63	701.87	0.00	1068.26	0.859	5.23	20.378	C
4	694.74	667.63	882.48	0.00	733.66	0.947	9.01	43.144	E

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	921.55	920.46	612.17	0.00	1124.72	0.819	4.28	17.425	C
2	540.60	540.44	722.36	0.00	864.33	0.625	1.64	11.102	B
3	917.15	915.47	706.42	0.00	1065.61	0.861	5.65	23.383	C
4	694.74	684.49	892.66	0.00	728.69	0.953	11.57	63.297	F

Main results: (09:00-09:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	752.45	762.20	530.28	0.00	1171.35	0.642	1.84	8.999	A
2	441.40	444.25	603.01	0.00	925.76	0.477	0.93	7.521	A
3	748.85	763.53	582.26	0.00	1137.89	0.658	1.98	9.972	A
4	567.26	603.27	742.43	0.00	802.04	0.707	2.57	20.977	C

Main results: (09:15-09:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	630.14	633.25	427.05	0.00	1230.12	0.512	1.06	6.061	A
2	369.65	370.90	498.22	0.00	979.71	0.377	0.61	5.924	A
3	627.13	630.57	485.25	0.00	1194.36	0.525	1.12	6.425	A
4	475.05	480.33	614.42	0.00	864.53	0.549	1.25	9.495	A

Junctions 8				
PICADY 8 - Priority Intersection Module				
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Filename: Ballymoreen Road-Rahoon Road Junction Opening Year 2037.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 07:39:45

« (Default Analysis Set) - Scenario 1, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	23.22	202.22	1.07	F
Stream C-AB	0.14	6.92	0.12	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - Scenario 1, AM " model duration: 07:45 - 09:15

Run using Junctions 8.0.4.487 at 23/02/2021 07:39:44

File summary

Title	(untitled)
Location	
Site Number	
Date	22/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ballymoneen Road/Rahoon Road Junction	T-Junction	Two-way	A,B,C	173.22	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Rahoon Road East		Major
B	B	Ballymoneen Road		Minor
C	C	Rahoon Road West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	100.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.50										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	492.551	0.090	0.227	0.143	0.324
1	B-C	622.604	0.095	0.241	-	-
1	C-B	631.874	0.245	0.245	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	251.00	100.000
B	ONE HOUR	✓	369.00	100.000
C	ONE HOUR	✓	385.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	51.000	200.000
	B	331.000	0.000	38.000
	C	324.000	61.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.00	0.20	0.80
	B	0.90	0.00	0.10
	C	0.84	0.16	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	1.07	202.22	23.22	F
C-AB	0.12	6.92	0.14	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	277.80	270.49	0.00	418.40	0.664	1.83	23.333	C
C-AB	47.42	47.08	0.00	598.38	0.079	0.09	6.525	A
C-A	242.42	242.42	0.00	-	-	-	-	-
A-B	38.40	38.40	0.00	-	-	-	-	-
A-C	150.57	150.57	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	331.72	323.85	0.00	401.67	0.826	3.80	42.311	E
C-AB	57.47	57.38	0.00	595.17	0.097	0.11	6.694	A
C-A	288.64	288.64	0.00	-	-	-	-	-
A-B	45.85	45.85	0.00	-	-	-	-	-
A-C	179.80	179.80	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	406.28	362.39	0.00	378.57	1.073	14.77	115.575	F
C-AB	72.22	72.08	0.00	592.70	0.122	0.14	6.913	A
C-A	351.68	351.68	0.00	-	-	-	-	-
A-B	56.15	56.15	0.00	-	-	-	-	-
A-C	220.20	220.20	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	406.28	372.47	0.00	378.53	1.073	23.22	202.218	F
C-AB	72.22	72.21	0.00	592.70	0.122	0.14	6.919	A
C-A	351.68	351.68	0.00	-	-	-	-	-
A-B	56.15	56.15	0.00	-	-	-	-	-
A-C	220.20	220.20	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	331.72	385.02	0.00	401.60	0.826	9.90	163.230	F
C-AB	57.47	57.61	0.00	595.17	0.097	0.11	6.700	A
C-A	288.64	288.64	0.00	-	-	-	-	-
A-B	45.85	45.85	0.00	-	-	-	-	-
A-C	179.80	179.80	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	277.80	308.74	0.00	418.27	0.664	2.16	39.852	E
C-AB	47.42	47.51	0.00	598.38	0.079	0.09	6.538	A
C-A	242.42	242.42	0.00	-	-	-	-	-
A-B	38.40	38.40	0.00	-	-	-	-	-
A-C	150.57	150.57	0.00	-	-	-	-	-

Junctions 8				
PICADY 8 - Priority Intersection Module				
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Filename: Ballymoreen Road-Development Site Junction Opening Year 2037 AM.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 10:14:10

« (Default Analysis Set) - Scenario 1, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.04	6.71	0.04	A
Stream C-AB	0.01	6.01	0.01	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - Scenario 1, AM " model duration: 07:45 - 09:15

Run using Junctions 8.0.4.487 at 23/02/2021 10:14:09

File summary

Title	(untitled)
Location	
Site Number	
Date	22/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ballymoreen Road/Development Site Junction	T-Junction	Two-way	A,B,C	6.54	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ballymoreen Road North		Major
B	B	Development Site Access Road		Minor
C	C	Ballymoreen Road South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	100.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.75										160	90

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	561.810	0.102	0.259	0.163	0.369
1	B-C	663.560	0.102	0.257	-	-
1	C-B	631.874	0.245	0.245	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	108.00	100.000
B	ONE HOUR	✓	19.00	100.000
C	ONE HOUR	✓	375.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.000	1.000	107.000
	B	7.000	0.000	12.000
	C	369.000	6.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.00	0.01	0.99
	B	0.37	0.00	0.63
	C	0.98	0.02	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.04	6.71	0.04	A
C-AB	0.01	6.01	0.01	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	14.30	14.20	0.00	578.59	0.025	0.03	6.378	A
C-AB	4.53	4.50	0.00	613.32	0.007	0.01	5.912	A
C-A	277.79	277.79	0.00	-	-	-	-	-
A-B	0.75	0.75	0.00	-	-	-	-	-
A-C	80.56	80.56	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	17.08	17.06	0.00	569.81	0.030	0.03	6.512	A
C-AB	5.42	5.41	0.00	610.05	0.009	0.01	5.953	A
C-A	331.70	331.70	0.00	-	-	-	-	-
A-B	0.90	0.90	0.00	-	-	-	-	-
A-C	96.19	96.19	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.92	20.89	0.00	557.47	0.038	0.04	6.708	A
C-AB	6.65	6.65	0.00	605.72	0.011	0.01	6.008	A
C-A	406.23	406.23	0.00	-	-	-	-	-
A-B	1.10	1.10	0.00	-	-	-	-	-
A-C	117.81	117.81	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.92	20.92	0.00	557.47	0.038	0.04	6.708	A
C-AB	6.65	6.65	0.00	605.72	0.011	0.01	6.008	A
C-A	406.23	406.23	0.00	-	-	-	-	-
A-B	1.10	1.10	0.00	-	-	-	-	-
A-C	117.81	117.81	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	17.08	17.11	0.00	569.81	0.030	0.03	6.515	A
C-AB	5.42	5.43	0.00	610.05	0.009	0.01	5.955	A
C-A	331.70	331.70	0.00	-	-	-	-	-
A-B	0.90	0.90	0.00	-	-	-	-	-
A-C	96.19	96.19	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	14.30	14.33	0.00	578.58	0.025	0.03	6.382	A
C-AB	4.53	4.54	0.00	613.32	0.007	0.01	5.915	A
C-A	277.79	277.79	0.00	-	-	-	-	-
A-B	0.75	0.75	0.00	-	-	-	-	-
A-C	80.56	80.56	0.00	-	-	-	-	-

Junctions 8				
PICADY 8 - Priority Intersection Module				
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Filename: Ballymoneen Road-Rahoon Road Junction Opening Year 2037 PM.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 07:54:12

« (Default Analysis Set) - Scenario 1, PM

» Junction Network

» Arms

» Traffic Flows

» Entry Flows

» Turning Proportions

» Vehicle Mix

» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.38	11.42	0.28	B
Stream C-AB	0.05	6.95	0.05	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - Scenario 1, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 23/02/2021 07:54:12

File summary

Title	(untitled)
Location	
Site Number	
Date	22/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ballymoneen Road/Rahoon Road Junction	T-Junction	Two-way	A,B,C	10.59	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Rahoon Road East		Major
B	B	Ballymoneen Road		Minor
C	C	Rahoon Road West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	100.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.50										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	492.551	0.090	0.227	0.143	0.324
1	B-C	622.604	0.095	0.241	-	-
1	C-B	631.874	0.245	0.245	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	336.00	100.000
B	ONE HOUR	✓	110.00	100.000
C	ONE HOUR	✓	134.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	79.000	257.000
	B	72.000	0.000	38.000
	C	109.000	25.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.00	0.24	0.76
	B	0.65	0.00	0.35
	C	0.81	0.19	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.28	11.42	0.38	B
C-AB	0.05	6.95	0.05	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	82.81	81.96	0.00	466.43	0.178	0.21	9.343	A
C-AB	18.91	18.77	0.00	571.79	0.033	0.03	6.508	A
C-A	81.97	81.97	0.00	-	-	-	-	-
A-B	59.48	59.48	0.00	-	-	-	-	-
A-C	193.48	193.48	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	98.89	98.64	0.00	453.80	0.218	0.27	10.128	B
C-AB	22.63	22.60	0.00	560.64	0.040	0.04	6.690	A
C-A	97.83	97.83	0.00	-	-	-	-	-
A-B	71.02	71.02	0.00	-	-	-	-	-
A-C	231.04	231.04	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	121.11	120.70	0.00	436.33	0.278	0.38	11.391	B
C-AB	27.84	27.79	0.00	545.56	0.051	0.05	6.952	A
C-A	119.70	119.70	0.00	-	-	-	-	-
A-B	86.98	86.98	0.00	-	-	-	-	-
A-C	282.96	282.96	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	121.11	121.10	0.00	436.32	0.278	0.38	11.420	B
C-AB	27.84	27.83	0.00	545.56	0.051	0.05	6.952	A
C-A	119.70	119.70	0.00	-	-	-	-	-
A-B	86.98	86.98	0.00	-	-	-	-	-
A-C	282.96	282.96	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	98.89	99.28	0.00	453.78	0.218	0.28	10.166	B
C-AB	22.63	22.68	0.00	560.64	0.040	0.04	6.691	A
C-A	97.83	97.83	0.00	-	-	-	-	-
A-B	71.02	71.02	0.00	-	-	-	-	-
A-C	231.04	231.04	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	82.81	83.07	0.00	466.39	0.178	0.22	9.399	A
C-AB	18.91	18.94	0.00	571.79	0.033	0.03	6.511	A
C-A	81.97	81.97	0.00	-	-	-	-	-
A-B	59.48	59.48	0.00	-	-	-	-	-
A-C	193.48	193.48	0.00	-	-	-	-	-

Junctions 8				
ARCADY 8 - Roundabout Module				
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2021				
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Filename: Ballymoneen Road-Western Distributor Opening Year 2037 PM.arc8

Path: S:\MGC0716 - Keeraun Social Housing Galway CC\5.0 Reports\C&S Reports\RP0005 - MGC0716-RPS-00-XX-RP-C-RP0005 - Traffic and Transport Assessment\Keeraun TTA

Report generation date: 31/08/2021 08:22:27

« (Default Analysis Set) - Scenario 1, PM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
A1 - Scenario 1				
Arm 1	2.76	10.47	0.74	B
Arm 2	1.04	8.68	0.51	A
Arm 3	0.77	5.64	0.44	A
Arm 4	0.71	6.94	0.42	A

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

"D1 - Scenario 1, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 31/08/2021 08:22:27

File summary

Title	(untitled)
Location	
Site Number	
Date	23/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	Ballymoneen Road/Western Distributor Road	Roundabout	1,2,3,4			8.50	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Western Distributor Road East	
2	2	Ballymoneen Road South	
3	3	Western Distributor Road West	
4	4	Ballymoneen Road North	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00
4	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.00	5.60	24.00	20.00	48.00	34.00	
2	2.90	4.90	14.00	20.00	48.00	43.00	
3	3.00	5.30	23.00	20.00	48.00	22.00	
4	3.00	5.00	10.00	15.00	48.00	51.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.569	1473.263
2		(calculated)	(calculated)	0.515	1236.184
3		(calculated)	(calculated)	0.582	1476.844
4		(calculated)	(calculated)	0.488	1164.507

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	879.00	100.000
2	ONE HOUR	✓	397.00	100.000
3	ONE HOUR	✓	447.00	100.000
4	ONE HOUR	✓	335.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	0.000	259.000	363.000	257.000
	2	138.000	0.000	114.000	145.000
	3	295.000	82.000	0.000	70.000
	4	158.000	118.000	59.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	0.00	0.29	0.41	0.29
	2	0.35	0.00	0.29	0.37
	3	0.66	0.18	0.00	0.16
	4	0.47	0.35	0.18	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.74	10.47	2.76	B
2	0.51	8.68	1.04	A
3	0.44	5.64	0.77	A
4	0.42	6.94	0.71	A

Main Results for each time segment

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	661.76	658.02	193.99	0.00	1362.82	0.486	0.93	5.082	A
2	298.88	297.13	508.31	0.00	974.52	0.307	0.44	5.300	A
3	336.53	335.05	404.20	0.00	1241.54	0.271	0.37	3.965	A
4	252.21	250.82	385.86	0.00	976.12	0.258	0.35	4.955	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	790.20	788.29	232.48	0.00	1340.90	0.589	1.41	6.492	A
2	356.89	356.15	608.97	0.00	922.70	0.387	0.62	6.347	A
3	401.84	401.31	484.36	0.00	1194.88	0.336	0.50	4.533	A
4	301.16	300.67	462.27	0.00	938.82	0.321	0.47	5.641	A

Main results: (17:15-17:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	967.80	962.62	284.48	0.00	1311.29	0.738	2.70	10.174	B
2	437.11	435.48	743.78	0.00	853.30	0.512	1.03	8.581	A
3	492.16	491.13	591.88	0.00	1132.29	0.435	0.76	5.605	A
4	368.84	367.91	565.59	0.00	888.37	0.415	0.70	6.904	A

Main results: (17:30-17:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	967.80	967.57	285.15	0.00	1310.91	0.738	2.76	10.466	B
2	437.11	437.05	747.43	0.00	851.42	0.513	1.04	8.685	A
3	492.16	492.13	594.45	0.00	1130.79	0.435	0.77	5.636	A
4	368.84	368.82	566.99	0.00	887.69	0.416	0.71	6.937	A

Main results: (17:45-18:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	790.20	795.40	233.51	0.00	1340.32	0.590	1.46	6.667	A
2	356.89	358.51	614.23	0.00	919.99	0.388	0.64	6.431	A
3	401.84	402.86	488.12	0.00	1192.69	0.337	0.51	4.563	A
4	301.16	302.07	464.39	0.00	937.78	0.321	0.48	5.672	A

Main results: (18:00-18:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	661.76	663.78	195.36	0.00	1362.04	0.486	0.96	5.172	A
2	298.88	299.66	512.70	0.00	972.25	0.307	0.45	5.360	A
3	336.53	337.07	407.68	0.00	1239.52	0.272	0.37	3.992	A
4	252.21	252.71	388.45	0.00	974.86	0.259	0.35	4.988	A

Junctions 8				
PICADY 8 - Priority Intersection Module				
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Filename: Ballymoreen Road-Development Site Junction Opening Year 2037 PM.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 10:27:07

« (Default Analysis Set) - Scenario 1, PM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.02	6.19	0.02	A
Stream C-AB	0.02	6.10	0.02	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - Scenario 1, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 23/02/2021 10:27:07

File summary

Title	(untitled)
Location	
Site Number	
Date	22/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ballymoreen Road/Development Site Junction	T-Junction	Two-way	A,B,C	6.14	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ballymoreen Road North		Major
B	B	Development Site Access Road		Minor
C	C	Ballymoreen Road South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	100.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.75										160	90

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	561.810	0.102	0.259	0.163	0.369
1	B-C	663.560	0.102	0.257	-	-
1	C-B	631.874	0.245	0.245	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	107.00	100.000
B	ONE HOUR	✓	11.00	100.000
C	ONE HOUR	✓	117.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	3.000	104.000
	B	3.000	0.000	8.000
	C	104.000	13.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.00	0.03	0.97
	B	0.27	0.00	0.73
	C	0.89	0.11	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.02	6.19	0.02	A
C-AB	0.02	6.10	0.02	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	8.28	8.23	0.00	605.98	0.014	0.01	6.022	A
C-AB	9.81	9.74	0.00	612.98	0.016	0.02	5.967	A
C-A	78.28	78.28	0.00	-	-	-	-	-
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	78.30	78.30	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	9.89	9.88	0.00	600.81	0.016	0.02	6.091	A
C-AB	11.72	11.71	0.00	609.51	0.019	0.02	6.021	A
C-A	93.46	93.46	0.00	-	-	-	-	-
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	93.49	93.49	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	12.11	12.09	0.00	593.66	0.020	0.02	6.189	A
C-AB	14.38	14.36	0.00	604.84	0.024	0.02	6.096	A
C-A	114.44	114.44	0.00	-	-	-	-	-
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	114.51	114.51	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	12.11	12.11	0.00	593.66	0.020	0.02	6.189	A
C-AB	14.38	14.38	0.00	604.84	0.024	0.02	6.096	A
C-A	114.44	114.44	0.00	-	-	-	-	-
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	114.51	114.51	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	9.89	9.90	0.00	600.81	0.016	0.02	6.091	A
C-AB	11.72	11.74	0.00	609.51	0.019	0.02	6.024	A
C-A	93.46	93.46	0.00	-	-	-	-	-
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	93.49	93.49	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	8.28	8.29	0.00	605.97	0.014	0.01	6.022	A
C-AB	9.81	9.82	0.00	612.98	0.016	0.02	5.968	A
C-A	78.28	78.28	0.00	-	-	-	-	-
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	78.30	78.30	0.00	-	-	-	-	-

Junctions 8				
PICADY 8 - Priority Intersection Module				
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Filename: Ballymoreen Road-Rahoon Road Junction Opening Year 2037 Without Development.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 08:37:53

« (Default Analysis Set) - Scenario 1, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	20.25	181.53	1.05	F
Stream C-AB	0.14	6.92	0.12	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - Scenario 1, AM " model duration: 07:45 - 09:15

Run using Junctions 8.0.4.487 at 23/02/2021 08:37:53

File summary

Title	(untitled)
Location	
Site Number	
Date	22/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ballymoneen Road/Rahoon Road Junction	T-Junction	Two-way	A,B,C	155.18	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Rahoon Road East		Major
B	B	Ballymoneen Road		Minor
C	C	Rahoon Road West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	100.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.50										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	492.551	0.090	0.227	0.143	0.324
1	B-C	622.604	0.095	0.241	-	-
1	C-B	631.874	0.245	0.245	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	251.00	100.000
B	ONE HOUR	✓	362.00	100.000
C	ONE HOUR	✓	385.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	51.000	200.000
	B	325.000	0.000	37.000
	C	324.000	61.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.00	0.20	0.80
	B	0.90	0.00	0.10
	C	0.84	0.16	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	1.05	181.53	20.25	F
C-AB	0.12	6.92	0.14	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	272.53	265.58	0.00	418.30	0.652	1.74	22.664	C
C-AB	47.42	47.08	0.00	598.38	0.079	0.09	6.525	A
C-A	242.42	242.42	0.00	-	-	-	-	-
A-B	38.40	38.40	0.00	-	-	-	-	-
A-C	150.57	150.57	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	325.43	318.32	0.00	401.57	0.810	3.52	40.026	E
C-AB	57.47	57.38	0.00	595.17	0.097	0.11	6.694	A
C-A	288.64	288.64	0.00	-	-	-	-	-
A-B	45.85	45.85	0.00	-	-	-	-	-
A-C	179.80	179.80	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	398.57	359.65	0.00	378.47	1.053	13.25	106.898	F
C-AB	72.22	72.08	0.00	592.70	0.122	0.14	6.913	A
C-A	351.68	351.68	0.00	-	-	-	-	-
A-B	56.15	56.15	0.00	-	-	-	-	-
A-C	220.20	220.20	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	398.57	370.55	0.00	378.43	1.053	20.25	181.526	F
C-AB	72.22	72.21	0.00	592.70	0.122	0.14	6.919	A
C-A	351.68	351.68	0.00	-	-	-	-	-
A-B	56.15	56.15	0.00	-	-	-	-	-
A-C	220.20	220.20	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	325.43	381.08	0.00	401.50	0.811	6.34	135.010	F
C-AB	57.47	57.61	0.00	595.17	0.097	0.11	6.700	A
C-A	288.64	288.64	0.00	-	-	-	-	-
A-B	45.85	45.85	0.00	-	-	-	-	-
A-C	179.80	179.80	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	272.53	289.82	0.00	418.17	0.652	2.02	31.087	D
C-AB	47.42	47.51	0.00	598.38	0.079	0.09	6.538	A
C-A	242.42	242.42	0.00	-	-	-	-	-
A-B	38.40	38.40	0.00	-	-	-	-	-
A-C	150.57	150.57	0.00	-	-	-	-	-

Junctions 8				
ARCADY 8 - Roundabout Module				
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2021				
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Filename: Ballymoneen Road-Western Distributor Year 2037 Without Development AM.arc8

Path: X:\Monthly Folders\Feb 2021\Mark Finnegan

Report generation date: 23/02/2021 14:52:43

« (Default Analysis Set) - Scenario 1, AM

» Junction Network

» Arms

» Traffic Flows

» Entry Flows

» Turning Proportions

» Vehicle Mix

» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Arm 1	4.16	16.94	0.81	C
Arm 2	1.60	10.92	0.62	B
Arm 3	5.47	22.65	0.86	C
Arm 4	9.66	54.60	0.93	F

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

"D1 - Scenario 1, AM " model duration: 07:45 - 09:15

Run using Junctions 8.0.4.487 at 23/02/2021 14:52:43

File summary

Title	(untitled)
Location	
Site Number	
Date	23/02/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	Ballymoreen Road/Western Distributor Road	Roundabout	1,2,3,4			25.99	D

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Western Distributor Road East	
2	2	Ballymoreen Road South	
3	3	Western Distributor Road West	
4	4	Ballymoreen Road North	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00
4	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.00	5.60	24.00	20.00	48.00	34.00	
2	2.90	4.90	14.00	20.00	48.00	43.00	
3	3.00	5.30	23.00	20.00	48.00	22.00	
4	3.00	5.00	10.00	15.00	48.00	51.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.569	1473.263
2		(calculated)	(calculated)	0.515	1236.184
3		(calculated)	(calculated)	0.582	1476.844
4		(calculated)	(calculated)	0.488	1164.507

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	835.00	100.000
2	ONE HOUR	✓	488.00	100.000
3	ONE HOUR	✓	831.00	100.000
4	ONE HOUR	✓	618.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

	To				
		1	2	3	4
From	1	0.000	263.000	338.000	234.000
	2	157.000	0.000	85.000	246.000
	3	477.000	178.000	0.000	176.000
	4	242.000	294.000	82.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To				
		1	2	3	4
From	1	0.00	0.31	0.40	0.28
	2	0.32	0.00	0.17	0.50
	3	0.57	0.21	0.00	0.21
	4	0.39	0.48	0.13	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	To				
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To				
		1	2	3	4
From	1	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.81	16.94	4.16	C
2	0.62	10.92	1.60	B
3	0.86	22.65	5.47	C
4	0.93	54.60	9.66	F

Main Results for each time segment

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	628.63	624.56	413.41	0.00	1237.89	0.508	1.02	5.832	A
2	367.39	365.03	488.97	0.00	984.47	0.373	0.59	5.790	A
3	625.62	621.32	476.48	0.00	1199.47	0.522	1.07	6.182	A
4	465.26	460.74	607.17	0.00	868.07	0.536	1.13	8.744	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	750.65	748.07	495.05	0.00	1191.40	0.630	1.66	8.075	A
2	438.70	437.57	585.65	0.00	934.70	0.469	0.87	7.225	A
3	747.05	744.03	570.99	0.00	1144.45	0.653	1.83	8.922	A
4	555.57	551.73	727.23	0.00	809.46	0.686	2.09	13.763	B

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	919.35	910.37	593.20	0.00	1135.53	0.810	3.91	15.402	C
2	537.30	534.52	710.87	0.00	870.24	0.617	1.57	10.634	B
3	914.95	901.93	696.54	0.00	1071.36	0.854	5.08	19.877	C
4	680.43	657.45	882.87	0.00	733.47	0.928	7.83	39.106	E

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	919.35	918.35	605.20	0.00	1128.69	0.815	4.16	16.938	C
2	537.30	537.15	718.42	0.00	866.36	0.620	1.60	10.924	B
3	914.95	913.40	700.95	0.00	1068.79	0.856	5.47	22.647	C
4	680.43	673.15	892.76	0.00	728.64	0.934	9.66	54.597	F

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	750.65	760.08	518.77	0.00	1177.90	0.637	1.80	8.801	A
2	438.70	441.48	598.26	0.00	928.21	0.473	0.91	7.439	A
3	747.05	761.12	577.58	0.00	1140.61	0.655	1.95	9.817	A
4	555.57	584.69	741.95	0.00	802.27	0.693	2.37	18.513	C

Main results: (09:00-09:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	628.63	631.63	420.69	0.00	1233.75	0.510	1.05	6.009	A
2	367.39	368.61	495.05	0.00	981.34	0.374	0.60	5.888	A
3	625.62	628.99	481.41	0.00	1196.59	0.523	1.11	6.381	A
4	465.26	470.00	614.36	0.00	864.56	0.538	1.19	9.229	A

Junctions 8				
PICADY 8 - Priority Intersection Module				
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Filename: Ballymoreen Road-Development Site - GCRR Opened Year 2039 AM.arc8

Path: X:\Monthly Folders\April 2021\Mark Finnegan\Keeraun TTA

Report generation date: 03/06/2021 12:42:48

« (Default Analysis Set) - Scenario 1, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.04	7.28	0.04	A
Stream C-AB	0.01	6.05	0.01	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using Junctions 8.0.4.487 at 03/06/2021 12:42:48

File summary

Title	(untitled)
Location	
Site Number	
Date	03/06/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ballymoneen Road/Development Site	T-Junction	Two-way	A,B,C	6.98	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ballymoneen Road North		Major
B	B	Development Site		Minor
C	C	Ballymoneen Road South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	100.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.20										100	100

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	515.838	0.094	0.237	0.149	0.339
1	B-C	631.874	0.097	0.245	-	-
1	C-B	631.874	0.245	0.245	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	125.00	100.000
B	ONE HOUR	✓	19.00	100.000
C	ONE HOUR	✓	399.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.000	1.000	124.000
	B	7.000	0.000	12.000
	C	393.000	6.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.00	0.01	0.99
	B	0.37	0.00	0.63
	C	0.98	0.02	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.04	7.28	0.04	A
C-AB	0.01	6.05	0.01	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	14.30	14.20	0.00	537.70	0.027	0.03	6.874	A
C-AB	4.53	4.50	0.00	610.29	0.007	0.01	5.942	A
C-A	295.85	295.85	0.00	-	-	-	-	-
A-B	0.75	0.75	0.00	-	-	-	-	-
A-C	93.35	93.35	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	17.08	17.06	0.00	528.43	0.032	0.03	7.039	A
C-AB	5.42	5.42	0.00	606.45	0.009	0.01	5.989	A
C-A	353.27	353.27	0.00	-	-	-	-	-
A-B	0.90	0.90	0.00	-	-	-	-	-
A-C	111.47	111.47	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.92	20.88	0.00	515.39	0.041	0.04	7.279	A
C-AB	6.66	6.65	0.00	601.36	0.011	0.01	6.052	A
C-A	432.65	432.65	0.00	-	-	-	-	-
A-B	1.10	1.10	0.00	-	-	-	-	-
A-C	136.53	136.53	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.92	20.92	0.00	515.38	0.041	0.04	7.279	A
C-AB	6.66	6.66	0.00	601.36	0.011	0.01	6.052	A
C-A	432.65	432.65	0.00	-	-	-	-	-
A-B	1.10	1.10	0.00	-	-	-	-	-
A-C	136.53	136.53	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	17.08	17.11	0.00	528.42	0.032	0.03	7.040	A
C-AB	5.42	5.43	0.00	606.45	0.009	0.01	5.991	A
C-A	353.27	353.27	0.00	-	-	-	-	-
A-B	0.90	0.90	0.00	-	-	-	-	-
A-C	111.47	111.47	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	14.30	14.33	0.00	537.69	0.027	0.03	6.880	A
C-AB	4.53	4.54	0.00	610.29	0.007	0.01	5.942	A
C-A	295.85	295.85	0.00	-	-	-	-	-
A-B	0.75	0.75	0.00	-	-	-	-	-
A-C	93.35	93.35	0.00	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.4.487 [15039,24/03/2014]

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Filename: Ballymoreen Road-Development Site - GCRR Opened Year 2039 PM.arc8

Path: X:\Monthly Folders\April 2021\Mark Finnegan\Keeraun TTA

Report generation date: 03/06/2021 12:50:09

« (Default Analysis Set) - Scenario 1, PM

» Junction Network

» Arms

» Traffic Flows

» Entry Flows

» Turning Proportions

» Vehicle Mix

» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.02	7.35	0.02	A
Stream C-AB	0.03	6.46	0.03	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - Scenario 1, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 03/06/2021 12:50:09

File summary

Title	(untitled)
Location	
Site Number	
Date	03/06/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mark.finnegan
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ballymoreen Road/Development Site	T-Junction	Two-way	A,B,C	6.86	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ballymoreen Road North		Major
B	B	Development Site		Minor
C	C	Ballymoreen Road South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	100.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.20										100	100

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	515.838	0.094	0.237	0.149	0.339
1	B-C	631.874	0.097	0.245	-	-
1	C-B	631.874	0.245	0.245	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	248.00	100.000
B	ONE HOUR	✓	11.00	100.000
C	ONE HOUR	✓	380.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.000	3.000	245.000
	B	3.000	0.000	8.000
	C	367.000	13.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.00	0.01	0.99
	B	0.27	0.00	0.73
	C	0.97	0.03	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.02	7.35	0.02	A
C-AB	0.03	6.46	0.03	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	8.28	8.22	0.00	532.37	0.016	0.02	6.868	A
C-AB	9.86	9.80	0.00	589.27	0.017	0.02	6.212	A
C-A	276.22	276.22	0.00	-	-	-	-	-
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	184.45	184.45	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	9.89	9.87	0.00	519.72	0.019	0.02	7.060	A
C-AB	11.82	11.81	0.00	581.81	0.020	0.02	6.315	A
C-A	329.79	329.79	0.00	-	-	-	-	-
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	220.25	220.25	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	12.11	12.09	0.00	501.96	0.024	0.02	7.348	A
C-AB	14.57	14.55	0.00	572.01	0.025	0.03	6.457	A
C-A	403.82	403.82	0.00	-	-	-	-	-
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	269.75	269.75	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	12.11	12.11	0.00	501.96	0.024	0.02	7.348	A
C-AB	14.57	14.57	0.00	572.01	0.025	0.03	6.457	A
C-A	403.82	403.82	0.00	-	-	-	-	-
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	269.75	269.75	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	9.89	9.91	0.00	519.71	0.019	0.02	7.060	A
C-AB	11.82	11.84	0.00	581.81	0.020	0.02	6.318	A
C-A	329.79	329.79	0.00	-	-	-	-	-
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	220.25	220.25	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	8.28	8.30	0.00	532.36	0.016	0.02	6.871	A
C-AB	9.86	9.88	0.00	589.27	0.017	0.02	6.215	A
C-A	276.22	276.22	0.00	-	-	-	-	-
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	184.45	184.45	0.00	-	-	-	-	-