
NOVOT HOLDINGS LIMITED

**RESIDENTIAL DEVELOPMENT AT CAIRNS
ROAD, SLIGO**

TRAFFIC AND TRANSPORT ASSESSMENT

March 2022

Job No. 6665



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EXECUTIVE SUMMARY

This traffic and transport assessment (TTA) has been carried out by Jennings O'Donovan and Partners Limited. The purpose of the TTA is to determine the effects of the traffic generated by the proposed residential development at Cairns Road, Sligo on the public road network.

The proposed development will consist of a 74 unit residential development with landscaped grounds, vehicle and bicycle parking.

The residential development will be accessed from a proposed priority junction on the Cairns Road, the development junction will replace an existing residential access and an agricultural access.

The proposed development junction is currently located in a 60km/h speed limit zone. It is our understanding with Sligo County Council that proposed footpath/road re-alignment works will take place on Cairns Road in the near term to medium term and the current speed limit will be reduced to 50km/h as part of these works.

The proposed residential development is linked to Sligo City Centre and the surrounding area via an existing pedestrian footpath. The existing footpath network is to be upgraded as part of the proposed residential development boundary works, additional footpath and road upgrade works on the Cairns Road are scheduled to be carried out by Sligo County Council in the near to medium term.

Visibility splays of 65m (60 kph speed limit), in accordance with Design Manual for Urban Roads and Streets (DMURS) requirements are available in both directions at the proposed residential development junction on the Cairns Road.

During the AM peak hour, the proposed development will contribute 45 additional trips to the public road network, resulting in a total of 15 arrivals and 30 departures during this period.

During the PM peak hour, the proposed development will contribute 45 additional trips to the public road network resulting in a of 30 arrivals and 15 departures during this period.

The results of the traffic analysis show that the proposed residential development junction on the Cairns Road will operate within capacity in 2023 when the development is occupied and will continue to operate within capacity beyond 2038 fifteen years after the development has opened.

The results of the traffic analysis show that the existing junctions in the vicinity of the residential development have capacity to accommodate the additional traffic generated by the development.

Car and bicycle parking are provided for residents and visitors within the proposed development grounds.

The proposed residential development has been subject to an independent road safety audit.

1. INTRODUCTION

Brief

1.1 Jennings O'Donovan & Partners Limited has been appointed by Novot Holdings Limited, to carry out a Traffic and Transport Assessment (TTA) to review the impact of traffic associated with a proposed housing development at Cairns Road Sligo. The TTA has been carried out to accompany the planning application as the development will generate turning movements on the public road network.

Objectives

1.2 The objective of this report is to examine the traffic implications associated with the proposed residential development in terms of how traffic generated by the development integrates with the existing traffic in the area. The TTA will determine and quantify the volume of traffic generated by the development and the impact of the development traffic on the public road network. The TTA will examine the impact of the development on the Cairns Road development access junction, Pearse Road / Cairns Road signalised junction and the existing development junctions on the Cairns Road.

1.3 Statement of Authority

1.4 This report has been prepared by Jennings O'Donovan & Partners Limited, Finisklin Sligo. Established in Sligo in 1950 Jennings O'Donovan & Partners Limited is a Clean Tech Company providing consulting engineering services in the areas of road design, renewable energy, civil and structural engineering, water supply, wastewater collection and treatment, environmental resource management and impact assessment and in the area of industrial and commercial development.

Design References / Standards

The TTA for the proposed residential development has been based on the following technical documents:

- Sligo County Council Development Plan.
- Transport Infrastructure Ireland publications:
 - PE-PDV-02045 Traffic and Transport Assessment Guidelines.
 - PE-PAG-02017 Travel Demand Projections.
 - PE-PAG-02039, Expansion Factors for Short Period Traffic Counts.
 - Spatial Planning and National Roads.
 - Design Manual for Roads and Bridges.
 - Specification for Road Works.

- Design Manual for Urban Roads and Streets - DMURS
- Junctions 9 Traffic Analysis Software.

Consultation with Local Authority

1.5 A Pre-Planning meeting has been held between the developer and Sligo County Council regarding the proposed development. A subsequent site meeting then took place to discuss the site entrance to the residential development and road upgrade works on the Cairns Road that are to be carried out by Sligo County Council in the vicinity of the proposed development. The meeting was conducted between Mark Forbes (JOD), Darren Gilsenan (JOD), Thomas Kerins (SCC) and Conor McCann (SCC) on Friday the 28th of February 2022.

It was agreed that pedestrian and cycling linkages will be provided between the proposed development to the existing Ard Cairn housing estate to the North. The proposed development includes a dedicated pedestrian/cycling link to the Ard Cairn estate which will provide further access Northwards towards Sligo City Centre.

It was also noted during the site meeting that it would not be feasible to provide future road linkages between the proposed development site and lands to the South West due to the ground level differences between the lands.

In the site meeting, it was conveyed by Sligo County Council that road upgrade works would be carried out on Cairns Road in the near to medium term adjacent to the proposed development. The proposed road upgrade works would include footpath works, vertical realignment of the existing road to remove an existing crest curve, public lighting, drainage and relocation of the existing 50km/h speed limit beyond the proposed site entrance. Following the Cairns Road upgrade works, it is our understanding that the proposed residential development junction will be located within the 50km/h speed limit zone.

Subsequent discussions with SCC confirmed that visibility splays of 65m (60 kph speed limit), in accordance with Design Manual for Urban Roads and Streets (DMURS) requirements are applicable and achievable at the proposed entrance location.

2. PROPOSED DEVELOPMENT

2.1 Site Location

The proposed residential development is located approximately 2.0km to the south of Sligo City Centre near Markievicz Park. The site of the proposed development consists of a single residential dwelling and a greenfield site which are currently used for residential and agricultural purposes. The location

of the proposed development site is shown in **Figure 1** and the location of the proposed site entrance is shown on **Plate 1**.



Plate 1 – Site Location



Figure 1 – Site Location

2.2 Proposed Development

The proposed residential development will consist of 74 residential units and will occupy an area of 2.1ha. The layout of the proposed residential development is shown in **Figure 2**.

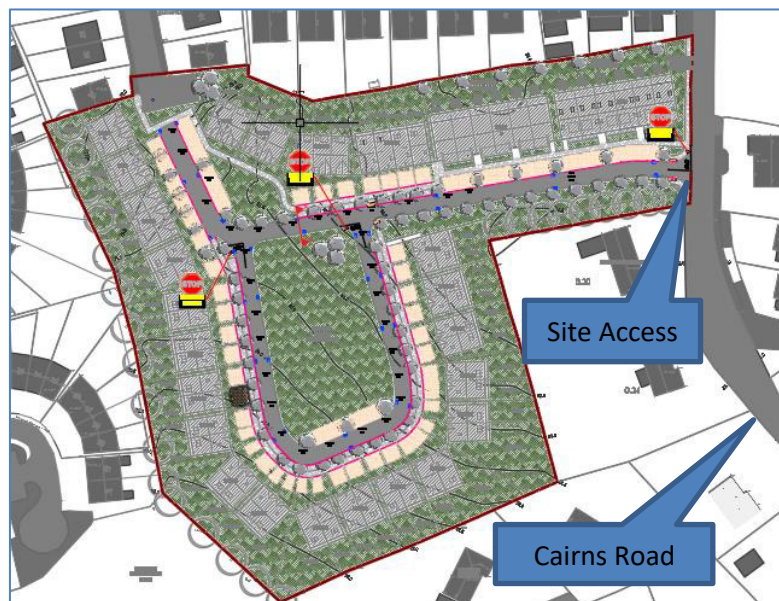


Figure 2 – Proposed Development Layout Plan

3. EXISTING ROAD NETWORK AND TRAFFIC

3.1 Existing Traffic Flows

In order to assess the impact of the proposed development on the existing road network when the residential development is constructed and fully occupied, baseline traffic volumes in the area are required. Jennings O’Donovan carried out classified traffic counts at the R287 Pearse Road / Cairns Road signalised junction and at the Cairns Road / Markievicz Road junction out on Tuesday 02nd February between the hours of 7.30am and 9.15am in the morning and between 4.00pm and 6.00pm in the evening. The recorded traffic flows at the R287 Pearse Road / Cairns Road junction are summarised in **Table 1**.

	Total Vehicles Through Junction
7.30am to 7.45am	139
7.45am to 8.00am	199
8.00am to 8.15am	197
8.15am to 8.30am	316
8.30am to 8.45am	383
8.45am to 9.00am	383
9.00am to 9.15am	281
16.00pm to 16.15pm	340
16.15pm to 16.30pm	361
16.30pm to 16.45pm	327

16.45pm to 17.00pm	307
17.00pm to 17.15pm	390
17.15pm to 17.30pm	388
17.30pm to 17.45pm	385
17.45pm to 18.00pm	348

Table 1 – R287 Pearse Road / Cairns Road Junction Traffic Flows

Peak hour traffic periods for the public road network in the vicinity of the proposed residential development are obtained from the traffic count data shown in **Table 1**. The Traffic data shows that peak traffic occurs during the morning period between the hours of 8.15am and 9.15am and between the hours of 4.45pm and 5.45pm during the evening period. The peak hour periods shown in **Table 2** are used to carry out capacity analysis at the junction.

AM Peak Hour	8.15 – 9.15
PM Peak Hour	17.00 – 18.00

Table 2 –Peak Hour Traffic Periods

3.2 Proposed Residential Development Junction on Cairns Road

Access to the proposed residential development will be from a new priority junction on the Cairns Road (Reference Plate 1), the development access will replace an existing residential access and a field access. The junction will consist of a simple T-junction with priority for Cairns Road traffic. Visibility at the proposed junction exceeds DMURS requirements for a junction located in a 60km/h speed limit zone. The junction will have visibility splays in excess of 65m measured in both directions from a setback distance of 2.4m from the Cairns Road carriageway edge. The development junction is lit by existing public lighting on the Cairns Road. The Cairns Road has a 6.0m wide carriageway and a raised pedestrian footpath which is to be upgraded as part of proposed residential development boundary treatment works which will connect to the existing Cairns Road footpath to provide a continuous link between the development and Sligo City Centre.

It is our understanding that the section of the Cairns Road in the vicinity of the development junction is to be improved by Sligo County Council. The Cairns Road improvement works would include footpath works, vertical realignment of the existing road to remove an existing crest curve, public lighting, drainage and extending of the existing 50km/h speed limit. Following the Cairns Road upgrade works, the proposed residential development junction is to be located within the 50km/h speed limit zone.

3.3 Existing R287 Pearse Road / Cairns Road Junction

The existing R287 Pearse Road / Cairns Road junction is a signalised T-Junction with pedestrian crossing points. The junction is located in a 50km/h speed limit zone and is lit by public lighting. The junction is marked with roadmarkings and is clearly signposted. No capacity issues or significant delays were observed at the junction during the traffic count period. Traffic analysis carried out at the junction show that the junction is operating within capacity and can accommodate development traffic. A summary of the traffic analysis is shown in **Figure 3**.



Plate 2 – R287 Pearse Road / Cairns Road Junction

	AM								PM									
	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	DOS	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	DOS	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
Pearse Road / Cairns Road - 2022 Existing Traffic Flows																		
Arm A		4.4	?	10.80	0.41	B			-14 %		8.1	?	9.10	0.61	A			-100 %
Arm B	D1	6.3	?	45.00	0.79	D	22.32	C	[Arm B - Traffic Stream 1]	D2	4.6	?	70.91	0.73	E	13.64	B	[Arm B - Traffic Stream 1]
Arm C		8.2	?	20.24	0.73	C					5.4	?	7.47	0.41	A			

Figure 3 –Traffic Analysis - Existing Traffic Flows R287 Pearse Road / Cairns Road Junction

3.4 Cairns Road / Markievicz Heights Junction

The existing Cairns Road / Markievicz Heights junction is a simple T-junction with priority for Cairns Road traffic. The junction is representative of the existing junctions on Cairns Road which will be impacted by traffic from the proposed residential development. The junction is located in a 50km/h speed limit zone and is lit by public lighting. The junction is marked by roadmarkings and signage. There is a raised pedestrian footpath with dropped kerbs and tactile paving at the junction.

No capacity issues or significant delays were observed at the junction during the traffic count period. Traffic analysis carried out at the junction shows that the junction is operating within capacity and can accommodate development traffic. The additional construction traffic generated during the construction of the proposed development will not adversely affect the capacity of existing junctions on Cairns Road. A summary of the traffic analysis is shown in **Figure 4**.



Plate 3 – Cairns Road / Markievicz Heights Junction

		AM								PM									
	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity		Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
Cairns Road / Markievicz Heights - 2022 Existing Traffic Flows																			
Stream B-AC	D1	0.1	0.5	10.00	0.12	B	1.32	A	255 % [Stream B-AC]	D2	0.1	0.5	9.59	0.08	A	0.93	A	284 % [Stream B-AC]	
Stream C-AB		0.0	0.5	5.17	0.01	A													

Figure 4 –Traffic Analysis - Cairns Road / Markievicz Heights Junction

3.5 Accident Data

Latest mapped statistics for accident data taken from the RSA website show that there were a number of minor accidents on the road network in the vicinity the proposed development. The accident data from the RSI website is shown in **Figure 5**.

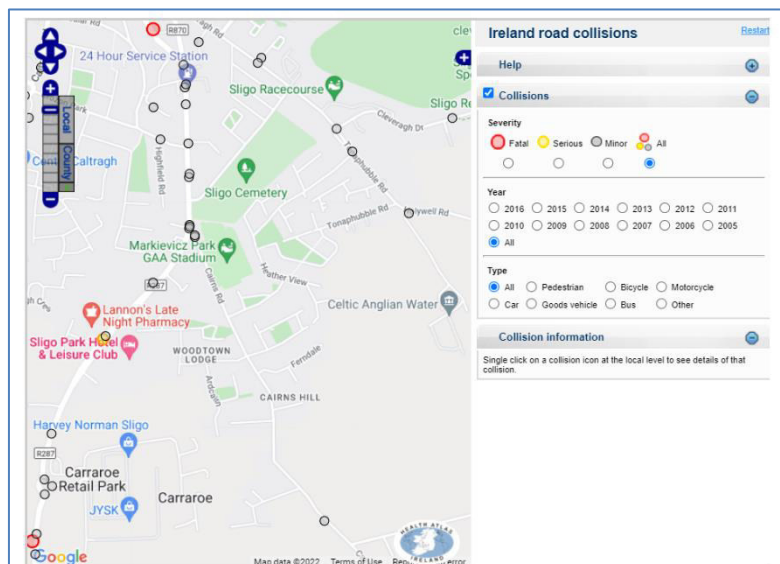


Figure 5 – Accident Data

3.6 Parking Facilities

Car and bicycle parking facilities are provided within the grounds of the residential development, The parking spaces are provided in accordance with the requirements of the Sligo County Council Development Plan Table 13c.

3.7 Facilities for Pedestrians and Cyclists

The proposed residential development can be accessed from Sligo City Centre via. the existing pedestrian footpath on Cairns Road. Pedestrian facilities on the Cairns Road will be upgraded as part of the residential development boundary treatment works and will connect to the existing Cairns Road footpath. The upgraded footpath will provide a continuous link between the development and the existing Sligo City footpath network. There is a pelican crossing located at the Pearse Road / Cairns Road signalised junction. There are no dedicated facilities for cyclists on the Cairns Road, cycle lanes are provided on the Pearse road. Bicycle parking facilities are provided at the development in accordance with SCC requirements set out in Table 13c of Development Plan.

3.8 Public Transport Accessibility of the Proposed Development

The proposed residential development is located 2.0km from Sligo City Centre near Markievicz Park. The development is located on Bus Route S1 which run between Cairns Road and Carton via Sligo City Centre. The proposed residential development is located 400m from the nearest bus stop on Cairns Road. Sligo City is serviced by national and local bus services, rail and private taxi services.

4. TRAFFIC GENERATION AND TRIP DISTRIBUTION

Trip Generation Associated with the Proposed Development

The proposed development will consist of a residential development. The development will consist of 74 residential units.

4.1

The trip rates for the proposed development are based on published data for similar sized developments in Ireland which has been verified for the Sligo region by traffic counts carried out by JOD at the existing Willow Park development on the L61013 in Ballisodare and at Markievicz Heights in Sligo. Trip rates for residential units are shown in **Table 3**. The resultant trip rates for the proposed development are shown in **Table 4**. All trips to and from the development are analysed as new trips on the road network.

	Trip Rate Arrivals (AM Peak Hour)	Trip Rate Departures (AM Peak Hour)	Trip Rate Arrivals (PM Peak Hour)	Trip Rate Departures (PM Peak Hour)
Per Dwelling	0.2	0.4	0.4	0.2

Table 3 – Trip Rates for Residential Dwellings

	Trip Rate Arrivals (AM Peak Hour)	Trip Rate Departures (AM Peak Hour)	Trip Rate Arrivals (PM Peak Hour)	Trip Rate Departures (PM Peak Hour)
74 Units	15	30	30	15

4.2

Table 4 – Trip Rates Generated by the Proposed Development

Traffic Distribution

The distribution of traffic generated by the proposed residential development to the public road network is based on recorded traffic flows taken at the Cairns Road / Markievicz Heights road junction and at the R287 Pearse Road / Cairns Road Junction during the morning and evening periods. During the morning period 95% of departures from the development will exit via the R287 Pearse Road / Cairns road Junction and 90% of arrivals to the development will approach from the Pearse Road via the signalised junction. During the evening period 90% of arrivals to the development will approach from the R287 Pearse Road /Cairns Road Junction. The distribution of development traffic for the purpose of the junction analysis is shown in **Table 5**.

	Arrivals	Arrivals	Departures	Departures
	From Pearse Road	From L3602 (Lough Gill)	To Pearse Road	To L3602 (Lough Gill)
AM Peak Hour Development Traffic	13	2	27	3
PM Peak Hour Development Traffic	27	3	13	2

Table 5 – Distribution of Development Traffic to the Public Road Network

5. FUTURE TRAFFIC GENERATION

5.1 Future Traffic Growth on the Public Road Network

Traffic Infrastructure Ireland (TII) forecasts for future traffic growth on the public road network are published in PE-PAG-02017 “Travel Demand Projections”. The growth factors are applied to the baseline traffic flows to approximate the traffic flows on the public road network in the future when the development is opened in 2023, five years after opening in 2028 and fifteen years after opening in 2038. The growth factors for the relevant assessment years are shown in **Table 6**.

Year	Growth Factor
2022	1.0
2023	1.01
2028	1.07
2038	1.13

Table 6 – Traffic Growth Factors for Public Roads

5.2 Traffic Analysis of the Proposed Cairns Road / Residential Development Junction

A traffic analysis of the proposed residential development junction on the Cairns Road has been carried with the development in place to determine if the proposed junction will operate within capacity when the development is opened in 2023, five years after opening in 2028 and fifteen years after opening in 2038. The traffic analysis has been carried out using traffic volumes obtained from the traffic counts at the Cairns Road / Markievicz Heights junction. The results of the analysis show that the junction will not exceed the 0.85 ratio of flow to capacity (RFC) value during the AM or PM hours in 2023, 2028 and will continue to operate with reserve capacity beyond 2038. The ratio of flow to capacity (RFC) is calculated from Junctions 9 PICADY software. An RFC value of 1.0 indicates that the junction is operating at full capacity with a value of 0.85 considered to be the maximum RFC value after which the junction will begin to experience some capacity issues. The results of the analysis are summarized in **Figure 6**, full results from the analysis are included in **Appendix A**.

AM										PM								
Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	
Cairns Road / Residential Development - 2023 Year of Opening																		
Stream B-AC	D1	0.1	0.5	6.90	0.06	A	0.87	A	418 %	D2	0.0	0.5	6.41	0.03	A	0.91	A	435 %
Stream C-AB		0.0	0.5	6.19	0.03	A			[Stream B-AC]		0.1	0.5	5.53	0.06	A			[Stream C-AB]
Cairns Road / Residential Development - 2028 Year of Opening + 5 Years																		
Stream B-AC	D3	0.1	0.5	6.96	0.06	A	0.83	A	393 %	D4	0.0	0.5	6.44	0.03	A	0.86	A	412 %
Stream C-AB		0.0	0.5	6.20	0.03	A			[Stream B-AC]		0.1	0.5	5.48	0.06	A			[Stream C-AB]
Cairns Road / Residential Development - 2038 Year of Opening + 15 Years																		
Stream B-AC	D5	0.1	0.5	7.01	0.06	A	0.79	A	376 %	D6	0.0	0.5	6.46	0.03	A	0.83	A	393 %
Stream C-AB		0.0	0.5	6.19	0.03	A			[Stream B-AC]		0.1	0.5	5.45	0.06	A			[Stream C-AB]

Figure 6 – Traffic Analysis Summary for the Proposed Cairns Road / Residential Development Junction - Future Traffic Flows 2023, 2028 and 2038 With Proposed Development in Place

5.3 Traffic Analysis of the R287 Pearse Road / Cairns Road Junction Without Proposed Development

In order to determine if the R287 Pearse Road / Cairns Road junction has sufficient capacity to accommodate traffic volumes from the proposed residential development, a traffic analysis of the junction has been completed without the development in place. The results of the analysis show that the junction will not exceed the 1.0 Degree of saturation (DOS) value during the AM or PM hours in 2023, 2028 and would continue to operate within capacity beyond 2038 without the development in place. The Degree of Saturation (DOS) is calculated from Junctions 9 PICADY software. A DOS value of 1.0 indicates that the junction is operating at full capacity with a value of 0.85 considered to be the maximum RFC value after which the junction will begin to experience some capacity issues. The results of the analysis are summarized in **Figure 7**, full results from the analysis are included in **Appendix A**.

AM										PM								
Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	DOS	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	DOS	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	
Pearse Road / Cairns Road - 2022 Existing Traffic Flows																		
Arm A	D1	4.4	?	10.80	0.41	B	22.32	C	-14 %	D2	8.1	?	9.10	0.61	A	13.64	B	-100 %
Arm B		6.3	?	45.00	0.79	D			[Arm B - Traffic Stream 1]		4.6	?	70.91	0.73	E			[Arm B - Traffic Stream 1]
Arm C		8.2	?	20.24	0.73	C			5.4		?	7.47	0.41	A	[Arm B - Traffic Stream 1]			
Pearse Road / Cairns Road - 2023 Year of Opening Without Development																		
Arm A	D3	4.4	?	10.65	0.41	B	22.80	C	-18 %	D4	8.4	?	9.66	0.62	A	13.55	B	-100 %
Arm B		6.6	?	48.32	0.81	D			[Arm B - Traffic Stream 1]		4.4	?	63.93	0.69	E			[Arm B - Traffic Stream 1]
Arm C		8.3	?	19.90	0.73	B			5.6		?	7.90	0.42	A	[Arm B - Traffic Stream 1]			
Pearse Road / Cairns Road - 2028 Year of Opening + 5 Without Development																		
Arm A	D5	4.9	?	11.19	0.43	B	24.67	C	-20 %	D6	9.3	?	10.15	0.65	B	14.29	B	-100 %
Arm B		7.3	?	50.93	0.83	D			[Arm B - Traffic Stream 1]		4.9	?	69.44	0.72	E			[Arm B - Traffic Stream 1]
Arm C		9.3	?	22.39	0.78	C			6.1		?	8.08	0.44	A	[Arm B - Traffic Stream 1]			
Pearse Road / Cairns Road - 2038 Year of Opening + 15 Without Development																		
Arm A	D7	5.4	?	11.81	0.45	B	26.72	C	-23 %	D8	9.9	?	11.08	0.69	B	15.46	B	-100 %
Arm B		8.1	?	53.56	0.84	D			[Arm B - Traffic Stream 1]		5.5	?	74.86	0.76	E			[Arm B - Traffic Stream 1]
Arm C		10.6	?	25.11	0.81	C			6.5		?	8.44	0.46	A	[Arm B - Traffic Stream 1]			

Figure 7 – Traffic Analysis Summary for the Existing R287 Pearse Road / Cairns Road Junction - Future Traffic Flows 2023, 2028 and 2038 Without Proposed Development in Place

5.4 Traffic Analysis of the R287 Pearse Road / Cairns Road Junction With Proposed Development in Place

A traffic analysis of the R287 Pearse Road / Cairns Road signalised Junction has been carried out with the proposed development in place and fully occupied to determine if the existing junction will operate within capacity when the development is opened in 2023, five years after opening in 2028 and fifteen years after opening in 2038. The results of the analysis show that the junction will not exceed the 1.0 Degree of saturation (DOS) value during the AM or PM hours in 2023, 2028 and will continue to operate within capacity beyond 2038 with the development in place. The Degree of Saturation (DOS) is calculated from Junctions 9 PICADY software. A DOS value of 1.0 indicates that the junction is operating at full capacity with a value of 0.85 considered to be the maximum RFC value after which the junction will begin to experience some capacity issues. The results of the analysis are summarized in **Figure 8**, full results from the analysis are included in **Appendix A**.

	AM									PM								
	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	DOS	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	DOS	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
Pearse Road / Cairns Road - 2022 Existing Traffic Flows																		
Arm A		4.4	?	10.62	0.41	B			-17 %		8.3	?	9.34	0.61	A			-100 %
Arm B	D1	6.5	?	47.17	0.80	D	22.43	C	[Arm B - Traffic Stream 1]	D2	4.4	?	65.72	0.69	E	13.82	B	[Arm B - Traffic Stream 1]
Arm C		8.1	?	19.65	0.72	B					5.7	?	8.81	0.41	A			
Pearse Road / Cairns Road - 2023 Year of Opening With Development																		
Arm A		4.3	?	10.56	0.43	B			-22 %		8.5	?	9.63	0.62	A			-100 %
Arm B	D3	8.4	?	64.88	0.90	E	27.35	C	[Arm B - Traffic Stream 1]	D4	5.1	?	70.75	0.75	E	15.13	B	[Arm B - Traffic Stream 1]
Arm C		8.2	?	21.34	0.77	C					5.9	?	9.77	0.48	A			
Pearse Road / Cairns Road - 2028 Year of Opening + 5 With Development																		
Arm A		5.2	?	11.85	0.45	B			-18 %		9.4	?	10.46	0.66	B			-100 %
Arm B	D5	7.8	?	49.62	0.83	D	26.09	C	[Arm B - Traffic Stream 1]	D6	5.4	?	71.52	0.75	E	16.12	B	[Arm B - Traffic Stream 1]
Arm C		10.0	?	24.84	0.80	C					6.7	?	11.33	0.58	B			
Pearse Road / Cairns Road - 2038 Year of Opening + 15 With Development																		
Arm A		5.6	?	12.22	0.46	B			-23 %		10.0	?	10.89	0.68	B			-100 %
Arm B	D7	9.2	?	58.06	0.87	E	29.35	C	[Arm B - Traffic Stream 1]	D8	5.9	?	80.20	0.79	F	17.47	B	[Arm B - Traffic Stream 1]
Arm C		11.2	?	27.55	0.83	C					7.3	?	12.80	0.66	B			

Figure 8 – Traffic Analysis Summary for the Existing R287 Pearse Road / Cairns Road Junction - Future Traffic Flows 2023, 2028 and 2038 With Proposed Development in Place

5.5 Road and Junction Improvements

Access to the proposed residential development will be from a new priority junction constructed on the Cairns Road, the junction will replace an existing field access. The layout of the proposed junction is shown on **Figure 9**. Although the proposed development entrance complies with current DMURS

recommendations with regard to footpath connectivity and visibility, it is our understanding, following discussions with Sligo County Council, that the existing Cairns Road is to be upgraded by Sligo County Council in the vicinity of the development entrance. The road upgrade works will include footpath works, realignment to remove existing crest in the vertical alignment and the relocation of the existing speed limit classification. The Sligo County Council upgrade works will improve safety, improve sightlines and reduce the speed limit from 60km/h to 50km/h at the proposed residential access.

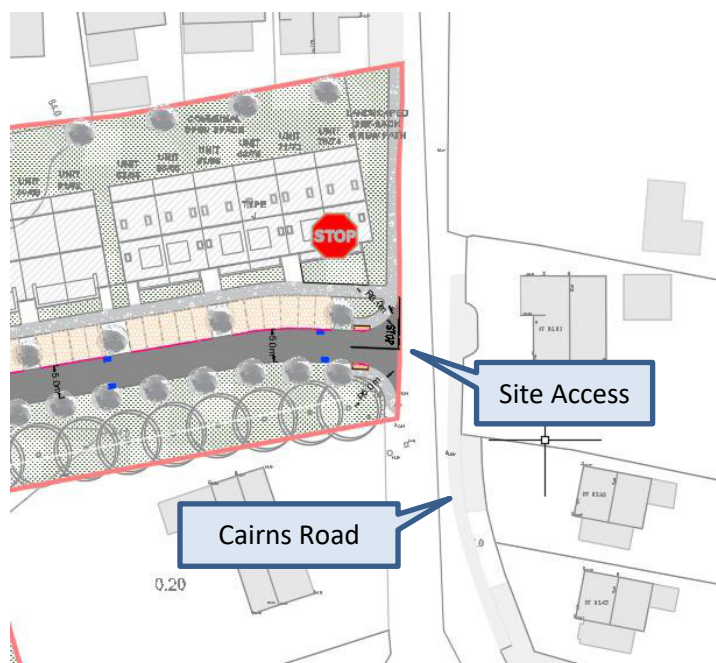


Figure 9 – Proposed Development Junction

6. SUMMARY

This transport assessment was carried out by Jennings O'Donovan and Partners Limited. The purpose of the TTA is to determine the effects of the traffic generated by the proposed residential development and associated junction on the public road network with the development opening and fully occupied in 2023, five years after opening in 2028 and fifteen years after opening in 2038.

- The proposed development will consist of a 74 unit residential development.
- The residential development will be accessed from a proposed priority junction on the Cairns Road.
- The proposed development junction is located in a 60km/h speed limit zone on the Cairns Road. Visibility splays of 65m will be available in each direction at the proposed residential junction on

Cairns Road in accordance with DMURS requirements for this 60km/h speed limit zone. It is our understanding that the existing 50km/h speed limit zone on Cairns Road is to be extended and will include the development junction following road improvement works which are scheduled to be carried out by Sligo County Council in the near to medium term.

- The location of the proposed development junction is lit by existing public lighting on the Cairns Road.
- The proposed development will be linked to Sligo City Centre and the surrounding area via the existing pedestrian footpath network.
- Pedestrian and cycling linkages will be provided between the proposed development and the existing Ard Cairn housing estate to the North. The proposed development includes a dedicated pedestrian/cycling path that will link the Ard Cairn estate and will provide a clear link Northwards towards Sligo City Centre via existing footpaths.
- During the AM peak hour, the proposed development will contribute 45 additional trips to the public road network, resulting in a total of 15 arrivals and 30 departures during this period.
- During the PM peak hour, the proposed development will contribute 45 additional trips to the public road network resulting in a total of 30 arrivals and 15 departures during this period.
- The results of the traffic analysis show that the proposed residential development junction will operate within capacity in 2023 when the development is occupied and will continue to operate within capacity beyond 2038 fifteen years after the development has opened.
- The results of the traffic analysis show that the existing junctions in the vicinity of the residential development have capacity to accommodate the additional traffic generated by the development.
- Car and bicycle parking are provided for residents and visitors within the proposed development grounds.
- The proposed residential junction has been subject to an independent stage 1 road safety audit carried out by the CST group.

7. CONCLUSION

The traffic and transport assessment shows that the proposed residential development will generate turning movements at the development access junction with the Cairns Road and at the signalised junction between the Cairns Road and the Pearse Road. The traffic analysis carried out at the junctions shows that the traffic generated by residential development will not impact adversely on the public road network. The traffic analysis shows that the junction will operate within capacity when the development is opened in 2023, five years after opening in 2028, fifteen years after opening in 2038 and will cater for increased traffic growth on the public road network beyond 2038.

,

Appendix A

Traffic Analysis

Junctions 9
PICADY 9 - Priority Intersection Module
Version: 9.5.1.7462 © Copyright TRL Limited, 2019
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Filename: Cairns Road Markievicz Heights - 2022 Existing Traffic.j9
Path: P:\Jod-jobs\6665 Cairns Hill Hsing\400 Planning\403 Planning Application\1 Submissions\TTA\Traffic Analysis
Report generation date: 04/03/2022 16:15:49

- »Cairns Road / Markievicz Heights - 2022 Existing Traffic Flows, AM
- »Cairns Road / Markievicz Heights - 2022 Existing Traffic Flows, PM

Summary of junction performance

	AM									PM								
	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
Cairns Road / Markievicz Heights - 2022 Existing Traffic Flows																		
Stream B-AC	D1	0.1	0.5	10.00	0.12	B	1.32	A	255 % [Stream B-AC]	D2	0.1	0.5	9.59	0.08	A	0.93	A	284 % [Stream B-AC]
Stream C-AB	0.0	0.5	5.17	0.01	A	0.0				0.5	5.93	0.01	A					

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

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

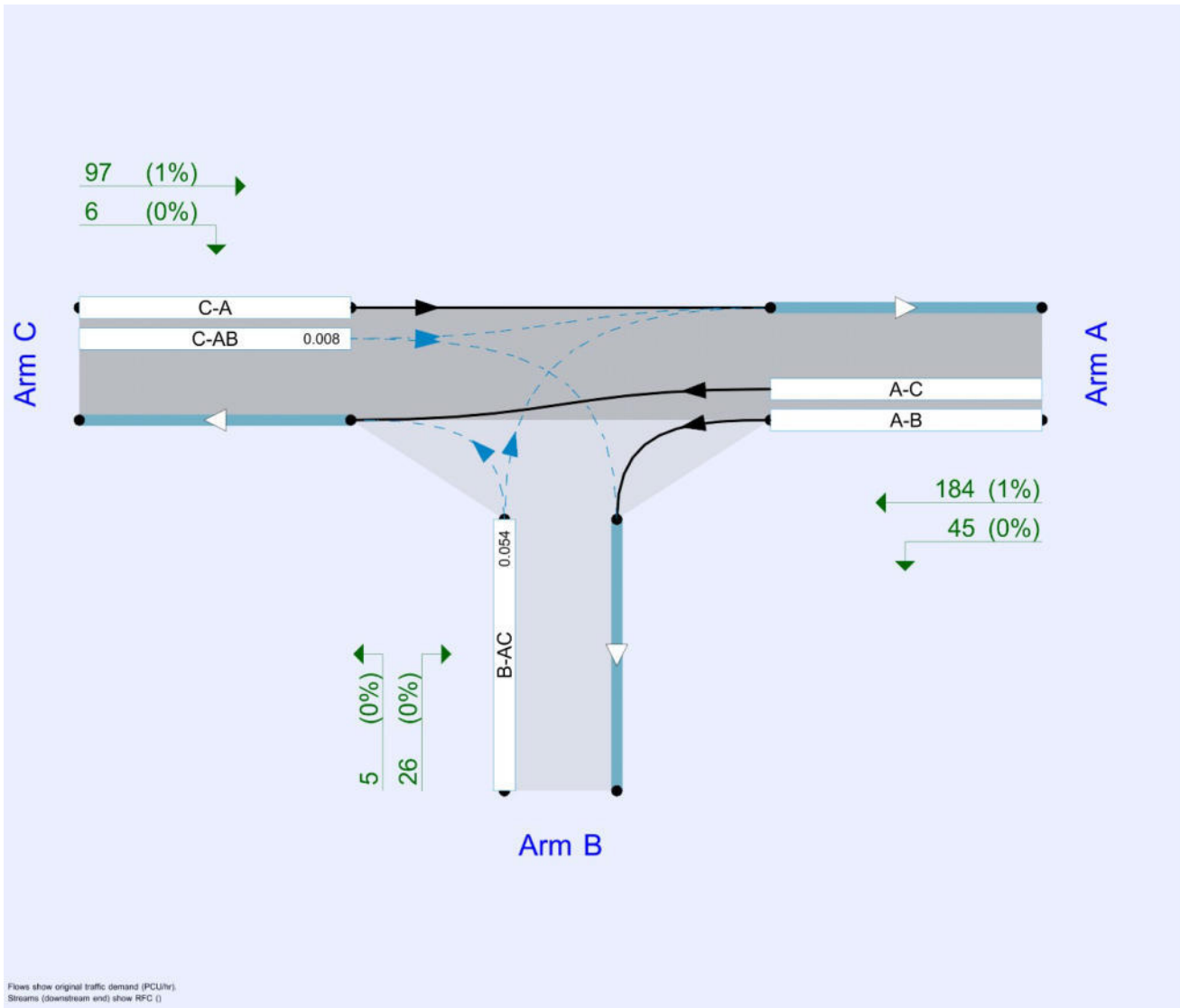
File summary

File Description

Title	Cairns Road - Markievicz Heights
Location	Sligo
Site number	
Date	22/02/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	JODIRELAND\jdoogan
Description	

Units

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



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2022 Existing Traffic Flows	AM	ONE HOUR	08:00	09:30	15
D2	2022 Existing Traffic Flows	PM	ONE HOUR	00:00	01:30	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Cairns Road / Markievicz Heights	100.000

Cairns Road / Markievicz Heights - 2022 Existing Traffic Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.32	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	255	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm type
A	Cairns Road North		Major
B	Markievicz heights		Minor
C	Cairns Road South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.20	20	20

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	454	0.083	0.209	0.132	0.299
B-C	586	0.090	0.227	-	-
C-B	603	0.234	0.234	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2022 Existing Traffic Flows	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	93	100.000
B		✓	45	100.000
C		✓	231	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	21	72
	B	42	0	3
	C	226	5	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
B-AC	0.12	10.00	0.1	0.5	B
C-AB	0.01	5.17	0.0	0.5	A
C-A					
A-B					
A-C					

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34	426	0.080	34	0.1	9.170	A
C-AB	5	701	0.007	5	0.0	5.169	A
C-A	169			169			
A-B	16			16			
A-C	54			54			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	40	419	0.097	40	0.1	9.507	A
C-AB	6	721	0.009	6	0.0	5.038	A
C-A	201			201			
A-B	19			19			
A-C	65			65			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	50	409	0.121	49	0.1	9.998	A
C-AB	8	748	0.011	8	0.0	4.867	A
C-A	246			246			
A-B	23			23			
A-C	79			79			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	50	409	0.121	50	0.1	10.004	B
C-AB	8	748	0.011	8	0.0	4.869	A
C-A	246			246			
A-B	23			23			
A-C	79			79			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	40	419	0.097	41	0.1	9.519	A
C-AB	6	721	0.009	6	0.0	5.040	A
C-A	201			201			
A-B	19			19			
A-C	65			65			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34	426	0.080	34	0.1	9.188	A
C-AB	5	701	0.007	5	0.0	5.169	A
C-A	169			169			
A-B	16			16			
A-C	54			54			

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.09	0.00	0.00	0.09	0.09			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.11	0.00	0.00	0.11	0.11			N/A	N/A
C-AB	0.01	0.01	0.25	0.45	0.48			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.14	0.03	0.26	0.47	0.49			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.14	0.03	0.25	0.45	0.48			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.11	0.00	0.00	0.11	0.11			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

09:15 - 09:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.09	0.00	0.00	0.09	0.09			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

Cairns Road / Markievicz Heights - 2022 Existing Traffic Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.93	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	284	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2022 Existing Traffic Flows	PM	ONE HOUR	00:00	01:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	229	100.000
B		✓	31	100.000
C		✓	103	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	45	184
	B	26	0	5
	C	97	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
B-AC	0.08	9.59	0.1	0.5	A
C-AB	0.01	5.93	0.0	0.5	A
C-A					
A-B					
A-C					

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	429	0.054	23	0.1	8.862	A
C-AB	5	613	0.008	5	0.0	5.930	A
C-A	72			72			
A-B	34			34			
A-C	139			139			

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28	421	0.066	28	0.1	9.157	A
C-AB	6	615	0.010	6	0.0	5.919	A
C-A	86			86			
A-B	40			40			
A-C	165			165			

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34	410	0.083	34	0.1	9.585	A
C-AB	8	619	0.013	8	0.0	5.904	A
C-A	105			105			
A-B	50			50			
A-C	203			203			

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34	410	0.083	34	0.1	9.589	A
C-AB	8	619	0.013	8	0.0	5.905	A
C-A	105			105			
A-B	50			50			
A-C	203			203			

01:00 - 01:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28	421	0.066	28	0.1	9.162	A
C-AB	6	615	0.010	6	0.0	5.924	A
C-A	86			86			
A-B	40			40			
A-C	165			165			

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	429	0.054	23	0.1	8.873	A
C-AB	5	613	0.008	5	0.0	5.933	A
C-A	72			72			
A-B	34			34			
A-C	139			139			

Queue Variation Results for each time segment

00:00 - 00:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.06	0.00	0.00	0.06	0.06			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

00:15 - 00:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.07	0.03	0.25	0.45	0.48			N/A	N/A
C-AB	0.01	0.01	0.25	0.45	0.48			N/A	N/A

00:30 - 00:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.09	0.03	0.26	0.47	0.49			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

00:45 - 01:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.09	0.03	0.25	0.45	0.48			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

01:00 - 01:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.07	0.00	0.00	0.07	0.07			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A

01:15 - 01:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.06	0.00	0.00	0.06	0.06			N/A	N/A
C-AB	0.01	0.00	0.00	0.01	0.01			N/A	N/A



Junctions 9
PICADY 9 - Priority Intersection Module
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Filename: Cairns Road Residential Development - 2022 Existing Traffic.j9
Path: P:\Jod-jobs\6665 Cairns Hill Hsing\400 Planning\403 Planning Application\1 Submissions\TTA\Traffic Analysis
Report generation date: 04/03/2022 16:19:33

- » Cairns Road / Residential Development - 2023 Year of Opening, AM
- » Cairns Road / Residential Development - 2023 Year of Opening, PM
- » Cairns Road / Residential Development - 2028 Year of Opening + 5 Years, AM
- » Cairns Road / Residential Development - 2028 Year of Opening + 5 Years, PM
- » Cairns Road / Residential Development - 2038 Year of Opening + 15 Years, AM
- » Cairns Road / Residential Development - 2038 Year of Opening + 15 Years, PM

Summary of junction performance

AM										PM								
Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	
Cairns Road / Residential Development - 2023 Year of Opening																		
Stream B-AC	D1	0.1	0.5	6.90	0.06	A	0.87	A	418 % [Stream B-AC]	D2	0.0	0.5	6.41	0.03	A	0.91	A	435 % [Stream C-AB]
Stream C-AB		0.0	0.5	6.19	0.03	A					0.1	0.5	5.53	0.06	A			
Cairns Road / Residential Development - 2028 Year of Opening + 5 Years																		
Stream B-AC	D3	0.1	0.5	6.96	0.06	A	0.83	A	393 % [Stream B-AC]	D4	0.0	0.5	6.44	0.03	A	0.86	A	412 % [Stream C-AB]
Stream C-AB		0.0	0.5	6.20	0.03	A					0.1	0.5	5.48	0.06	A			
Cairns Road / Residential Development - 2038 Year of Opening + 15 Years																		
Stream B-AC	D5	0.1	0.5	7.01	0.06	A	0.79	A	376 % [Stream B-AC]	D6	0.0	0.5	6.46	0.03	A	0.83	A	393 % [Stream C-AB]
Stream C-AB		0.0	0.5	6.19	0.03	A					0.1	0.5	5.45	0.06	A			

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

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

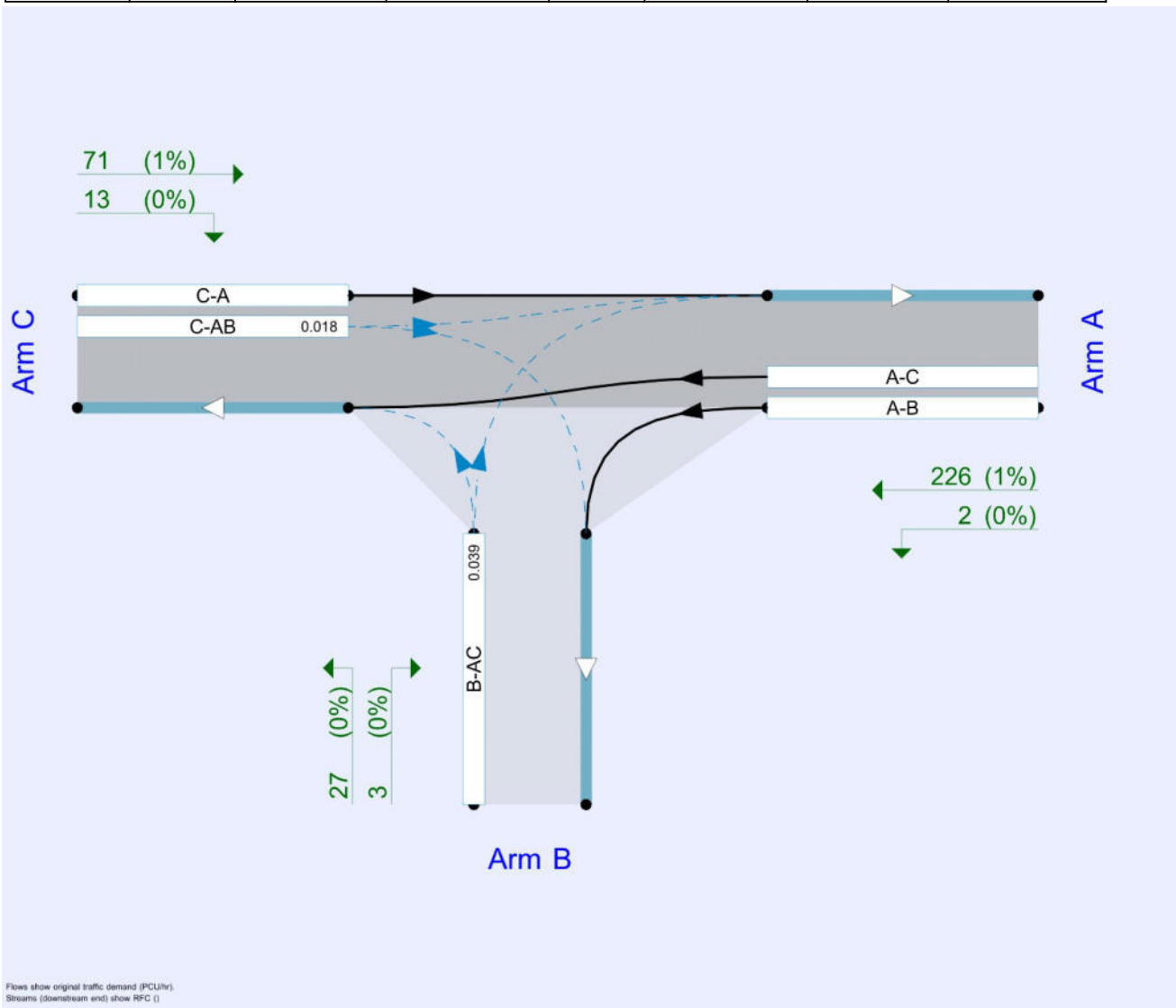
File summary

File Description

Title	Cairns Road - Residential Development
Location	Sligo
Site number	
Date	22/02/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	JODIRELAND\jdoogan
Description	

Units

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



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2023 Year of Opening	AM	ONE HOUR	08:00	09:30	15
D2	2023 Year of Opening	PM	ONE HOUR	00:00	01:30	15
D3	2028 Year of Opening + 5 Years	AM	ONE HOUR	08:00	09:30	15
D4	2028 Year of Opening + 5 Years	PM	ONE HOUR	00:00	01:30	15
D5	2038 Year of Opening + 15 Years	AM	ONE HOUR	08:00	09:30	15
D6	2038 Year of Opening + 15 Years	PM	ONE HOUR	00:00	01:30	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Cairns Road / Residential Development	100.000

Cairns Road / Residential Development - 2023 Year of Opening, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.87	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	418	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm type
A	Cairns Road South		Major
B	Development Access		Minor
C	Cairns Road North		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	20	20

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	494	0.090	0.227	0.143	0.325
B-C	637	0.098	0.247	-	-
C-B	603	0.234	0.234	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2023 Year of Opening	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	228	100.000
B		✓	30	100.000
C		✓	84	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	2	226
	B	3	0	27
	C	71	13	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
B-AC	0.06	6.90	0.1	0.5	A
C-AB	0.03	6.19	0.0	0.5	A
C-A					
A-B					
A-C					

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	575	0.039	22	0.0	6.513	A
C-AB	11	600	0.018	11	0.0	6.118	A
C-A	52			52			
A-B	2			2			
A-C	170			170			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	27	566	0.048	27	0.0	6.671	A
C-AB	13	599	0.022	13	0.0	6.147	A
C-A	62			62			
A-B	2			2			
A-C	203			203			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	33	555	0.060	33	0.1	6.899	A
C-AB	16	599	0.028	16	0.0	6.188	A
C-A	76			76			
A-B	2			2			
A-C	249			249			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	33	555	0.060	33	0.1	6.899	A
C-AB	16	599	0.028	16	0.0	6.189	A
C-A	76			76			
A-B	2			2			
A-C	249			249			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	27	566	0.048	27	0.1	6.675	A
C-AB	13	599	0.022	13	0.0	6.152	A
C-A	62			62			
A-B	2			2			
A-C	203			203			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	575	0.039	23	0.0	6.517	A
C-AB	11	600	0.018	11	0.0	6.120	A
C-A	52			52			
A-B	2			2			
A-C	170			170			

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.05	0.03	0.25	0.45	0.48			N/A	N/A
C-AB	0.03	0.03	0.25	0.45	0.48			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.06	0.03	0.26	0.47	0.49			N/A	N/A
C-AB	0.03	0.00	0.00	0.03	0.03			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.06	0.00	0.00	0.06	0.06			N/A	N/A
C-AB	0.04	0.00	0.00	0.04	0.04			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.05	0.00	0.00	0.05	0.05			N/A	N/A
C-AB	0.03	0.00	0.00	0.03	0.03			N/A	N/A

09:15 - 09:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

Cairns Road / Residential Development - 2023 Year of Opening, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.91	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	435	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2023 Year of Opening	PM	ONE HOUR	00:00	01:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	100	100.000
B		✓	15	100.000
C		✓	211	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	3	97
	B	2	0	13
	C	184	27	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
B-AC	0.03	6.41	0.0	0.5	A
C-AB	0.06	5.53	0.1	0.5	A
C-A					
A-B					
A-C					

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	589	0.019	11	0.0	6.229	A
C-AB	26	679	0.038	25	0.1	5.519	A
C-A	133			133			
A-B	2			2			
A-C	73			73			

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	584	0.023	13	0.0	6.305	A
C-AB	32	694	0.046	32	0.1	5.450	A
C-A	158			158			
A-B	3			3			
A-C	87			87			

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	578	0.029	16	0.0	6.413	A
C-AB	42	715	0.058	41	0.1	5.362	A
C-A	191			191			
A-B	3			3			
A-C	107			107			

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	578	0.029	17	0.0	6.413	A
C-AB	42	715	0.058	42	0.1	5.363	A
C-A	191			191			
A-B	3			3			
A-C	107			107			

01:00 - 01:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	584	0.023	14	0.0	6.308	A
C-AB	32	694	0.046	32	0.1	5.457	A
C-A	158			158			
A-B	3			3			
A-C	87			87			

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	589	0.019	11	0.0	6.230	A
C-AB	26	679	0.038	26	0.1	5.526	A
C-A	133			133			
A-B	2			2			
A-C	73			73			

Queue Variation Results for each time segment

00:00 - 00:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-AB	0.05	0.00	0.00	0.05	0.05			N/A	N/A

00:15 - 00:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.02	0.02	0.25	0.45	0.48			N/A	N/A
C-AB	0.07	0.03	0.25	0.45	0.48			N/A	N/A

00:30 - 00:45

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

00:45 - 01:00

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

01:00 - 01:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-AB	0.07	0.00	0.00	0.07	0.07			N/A	N/A

01:15 - 01:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-AB	0.05	0.00	0.00	0.05	0.05			N/A	N/A

Cairns Road / Residential Development - 2028 Year of Opening + 5 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.83	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	393	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2028 Year of Opening + 5 Years	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	245	100.000
B		✓	30	100.000
C		✓	89	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	2	243
	B	3	0	27
	C	76	13	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
B-AC	0.06	6.96	0.1	0.5	A
C-AB	0.03	6.20	0.0	0.5	A
C-A					
A-B					
A-C					

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	572	0.040	22	0.0	6.552	A
C-AB	11	599	0.018	11	0.0	6.123	A
C-A	56			56			
A-B	2			2			
A-C	183			183			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	27	563	0.048	27	0.0	6.720	A
C-AB	13	599	0.022	13	0.0	6.152	A
C-A	67			67			
A-B	2			2			
A-C	218			218			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	33	550	0.060	33	0.1	6.963	A
C-AB	17	598	0.028	17	0.0	6.194	A
C-A	81			81			
A-B	2			2			
A-C	268			268			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	33	550	0.060	33	0.1	6.963	A
C-AB	17	598	0.028	17	0.0	6.195	A
C-A	81			81			
A-B	2			2			
A-C	268			268			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	27	563	0.048	27	0.1	6.721	A
C-AB	13	599	0.022	13	0.0	6.155	A
C-A	67			67			
A-B	2			2			
A-C	218			218			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	572	0.040	23	0.0	6.555	A
C-AB	11	599	0.018	11	0.0	6.124	A
C-A	56			56			
A-B	2			2			
A-C	183			183			

Queue Variation Results for each time segment
08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.05	0.03	0.25	0.45	0.48			N/A	N/A
C-AB	0.03	0.03	0.25	0.45	0.48			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.06	0.03	0.26	0.47	0.49			N/A	N/A
C-AB	0.04	0.00	0.00	0.04	0.04			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.06	0.00	0.00	0.06	0.06			N/A	N/A
C-AB	0.04	0.00	0.00	0.04	0.04			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.05	0.00	0.00	0.05	0.05			N/A	N/A
C-AB	0.03	0.00	0.00	0.03	0.03			N/A	N/A

09:15 - 09:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

Cairns Road / Residential Development - 2028 Year of Opening + 5 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.86	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	412	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2028 Year of Opening + 5 Years	PM	ONE HOUR	00:00	01:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	107	100.000
B		✓	15	100.000
C		✓	224	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	3	104
	B	2	0	13
	C	197	27	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
B-AC	0.03	6.44	0.0	0.5	A
C-AB	0.06	5.48	0.1	0.5	A
C-A					
A-B					
A-C					

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	587	0.019	11	0.0	6.247	A
C-AB	26	684	0.038	26	0.1	5.477	A
C-A	143			143			
A-B	2			2			
A-C	78			78			

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	582	0.023	13	0.0	6.326	A
C-AB	33	700	0.046	32	0.1	5.402	A
C-A	169			169			
A-B	3			3			
A-C	93			93			

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	575	0.029	16	0.0	6.440	A
C-AB	43	723	0.059	42	0.1	5.305	A
C-A	204			204			
A-B	3			3			
A-C	115			115			

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	575	0.029	17	0.0	6.440	A
C-AB	43	723	0.059	43	0.1	5.309	A
C-A	204			204			
A-B	3			3			
A-C	115			115			

01:00 - 01:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	582	0.023	14	0.0	6.327	A
C-AB	33	701	0.047	33	0.1	5.409	A
C-A	169			169			
A-B	3			3			
A-C	93			93			

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	587	0.019	11	0.0	6.250	A
C-AB	26	684	0.038	26	0.1	5.482	A
C-A	143			143			
A-B	2			2			
A-C	78			78			

Queue Variation Results for each time segment

00:00 - 00:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-AB	0.05	0.00	0.00	0.05	0.05			N/A	N/A

00:15 - 00:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.02	0.02	0.25	0.45	0.48			N/A	N/A
C-AB	0.07	0.03	0.25	0.45	0.48			N/A	N/A

00:30 - 00:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-AB	0.09	0.03	0.26	0.48	0.52			N/A	N/A

00:45 - 01:00

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

01:00 - 01:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-AB	0.07	0.00	0.00	0.07	0.07			N/A	N/A

01:15 - 01:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-AB	0.05	0.00	0.00	0.05	0.05			N/A	N/A

Cairns Road / Residential Development - 2038 Year of Opening + 15 Years, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.79	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	376	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2038 Year of Opening + 15 Years	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	257	100.000
B		✓	30	100.000
C		✓	94	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	2	255
	B	3	0	27
	C	81	13	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
B-AC	0.06	7.01	0.1	0.5	A
C-AB	0.03	6.19	0.0	0.5	A
C-A					
A-B					
A-C					

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	569	0.040	22	0.0	6.579	A
C-AB	11	600	0.018	11	0.0	6.118	A
C-A	60			60			
A-B	2			2			
A-C	192			192			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	27	560	0.048	27	0.1	6.754	A
C-AB	13	600	0.022	13	0.0	6.146	A
C-A	71			71			
A-B	2			2			
A-C	229			229			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	33	547	0.060	33	0.1	7.009	A
C-AB	17	599	0.028	17	0.0	6.187	A
C-A	87			87			
A-B	2			2			
A-C	281			281			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	33	547	0.060	33	0.1	7.009	A
C-AB	17	599	0.028	17	0.0	6.190	A
C-A	87			87			
A-B	2			2			
A-C	281			281			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	27	560	0.048	27	0.1	6.756	A
C-AB	13	600	0.022	13	0.0	6.149	A
C-A	71			71			
A-B	2			2			
A-C	229			229			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	569	0.040	23	0.0	6.583	A
C-AB	11	600	0.018	11	0.0	6.119	A
C-A	60			60			
A-B	2			2			
A-C	192			192			

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.05	0.03	0.25	0.45	0.48			N/A	N/A
C-AB	0.03	0.03	0.25	0.45	0.48			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.06	0.03	0.26	0.47	0.49			N/A	N/A
C-AB	0.04	0.00	0.00	0.04	0.04			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.06	0.00	0.00	0.06	0.06			N/A	N/A
C-AB	0.04	0.00	0.00	0.04	0.04			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.05	0.00	0.00	0.05	0.05			N/A	N/A
C-AB	0.03	0.00	0.00	0.03	0.03			N/A	N/A

09:15 - 09:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-AB	0.02	0.00	0.00	0.02	0.02			N/A	N/A

Cairns Road / Residential Development - 2038 Year of Opening + 15 Years, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.83	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	393	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2038 Year of Opening + 15 Years	PM	ONE HOUR	00:00	01:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	113	100.000
B		✓	15	100.000
C		✓	235	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	3	110
	B	2	0	13
	C	208	27	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
B-AC	0.03	6.46	0.0	0.5	A
C-AB	0.06	5.45	0.1	0.5	A
C-A					
A-B					
A-C					

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	586	0.019	11	0.0	6.262	A
C-AB	26	689	0.038	26	0.1	5.442	A
C-A	151			151			
A-B	2			2			
A-C	83			83			

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	581	0.023	13	0.0	6.345	A
C-AB	33	706	0.047	33	0.1	5.364	A
C-A	178			178			
A-B	3			3			
A-C	99			99			

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	573	0.029	16	0.0	6.464	A
C-AB	43	730	0.059	43	0.1	5.261	A
C-A	215			215			
A-B	3			3			
A-C	121			121			

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	573	0.029	17	0.0	6.464	A
C-AB	43	730	0.060	43	0.1	5.261	A
C-A	215			215			
A-B	3			3			
A-C	121			121			

01:00 - 01:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	581	0.023	14	0.0	6.348	A
C-AB	33	706	0.047	33	0.1	5.369	A
C-A	178			178			
A-B	3			3			
A-C	99			99			

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	586	0.019	11	0.0	6.262	A
C-AB	26	689	0.038	26	0.1	5.450	A
C-A	151			151			
A-B	2			2			
A-C	83			83			

Queue Variation Results for each time segment
00:00 - 00:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-AB	0.05	0.00	0.00	0.05	0.05			N/A	N/A

00:15 - 00:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.02	0.02	0.25	0.45	0.48			N/A	N/A
C-AB	0.07	0.03	0.25	0.45	0.48			N/A	N/A

00:30 - 00:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-AB	0.10	0.03	0.26	0.48	0.54			N/A	N/A

00:45 - 01:00

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

01:00 - 01:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-AB	0.07	0.00	0.00	0.07	0.07			N/A	N/A

01:15 - 01:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.02	0.00	0.00	0.02	0.02			N/A	N/A
C-AB	0.05	0.00	0.00	0.05	0.05			N/A	N/A



<h1>Junctions 9</h1>
<h2>OSCADY 9 - Signalised Intersection Module</h2>
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Filename: Cairns Road Pearse Road - 2022 2023 2028 2038 without Development.j9

Path: P:\Jod-jobs\6665 Cairns Hill Hsing\400 Planning\403 Planning Application\1 Submissions\TTA\Traffic Analysis

Report generation date: 04/03/2022 16:22:50

-
- »Pearse Road / Cairns Road - 2022 Esisting Traffic Flows, AM
 - »Pearse Road / Cairns Road - 2022 Esisting Traffic Flows, PM
 - »Pearse Road / Cairns Road - 2023 Year of Opening Without Development, AM
 - »Pearse Road / Cairns Road - 2023 Year of Opening Without Development, PM
 - »Pearse Road / Cairns Road - 2028 Year of Opening + 5 Without Development, AM
 - »Pearse Road / Cairns Road - 2028 Year of Opening + 5 Without Development, PM
 - »Pearse Road / Cairns Road - 2038 Year of Opening + 15 Without Development, AM
 - »Pearse Road / Cairns Road - 2038 Year of Opening + 15 Without Development, PM

Summary of junction performance

		AM									PM								
	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	DOS	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	DOS	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	
Pearse Road / Cairns Road - 2022 Existing Traffic Flows																			
Arm A	D1	4.4	?	10.80	0.41	B	22.32	C	-14 % [Arm B - Traffic Stream 1]	D2	8.1	?	9.10	0.61	A	13.64	B	-100 % [Arm B - Traffic Stream 1]	
Arm B		6.3	?	45.00	0.79	D					4.6	?	70.91	0.73	E				
Arm C		8.2	?	20.24	0.73	C					5.4	?	7.47	0.41	A				
Pearse Road / Cairns Road - 2023 Year of Opening Without Development																			
Arm A	D3	4.4	?	10.65	0.41	B	22.80	C	-18 % [Arm B - Traffic Stream 1]	D4	8.4	?	9.66	0.62	A	13.55	B	-100 % [Arm B - Traffic Stream 1]	
Arm B		6.6	?	48.32	0.81	D					4.4	?	63.93	0.69	E				
Arm C		8.3	?	19.90	0.73	B					5.6	?	7.90	0.42	A				
Pearse Road / Cairns Road - 2028 Year of Opening + 5 Without Development																			
Arm A	D5	4.9	?	11.19	0.43	B	24.67	C	-20 % [Arm B - Traffic Stream 1]	D6	9.3	?	10.15	0.65	B	14.29	B	-100 % [Arm B - Traffic Stream 1]	
Arm B		7.3	?	50.93	0.83	D					4.9	?	69.44	0.72	E				
Arm C		9.3	?	22.39	0.78	C					6.1	?	8.08	0.44	A				
Pearse Road / Cairns Road - 2038 Year of Opening + 15 Without Development																			
Arm A	D7	5.4	?	11.81	0.45	B	26.72	C	-23 % [Arm B - Traffic Stream 1]	D8	9.9	?	11.08	0.69	B	15.46	B	-100 % [Arm B - Traffic Stream 1]	
Arm B		8.1	?	53.56	0.84	D					5.5	?	74.86	0.76	E				
Arm C		10.6	?	25.11	0.81	C					6.5	?	8.44	0.46	A				

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

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

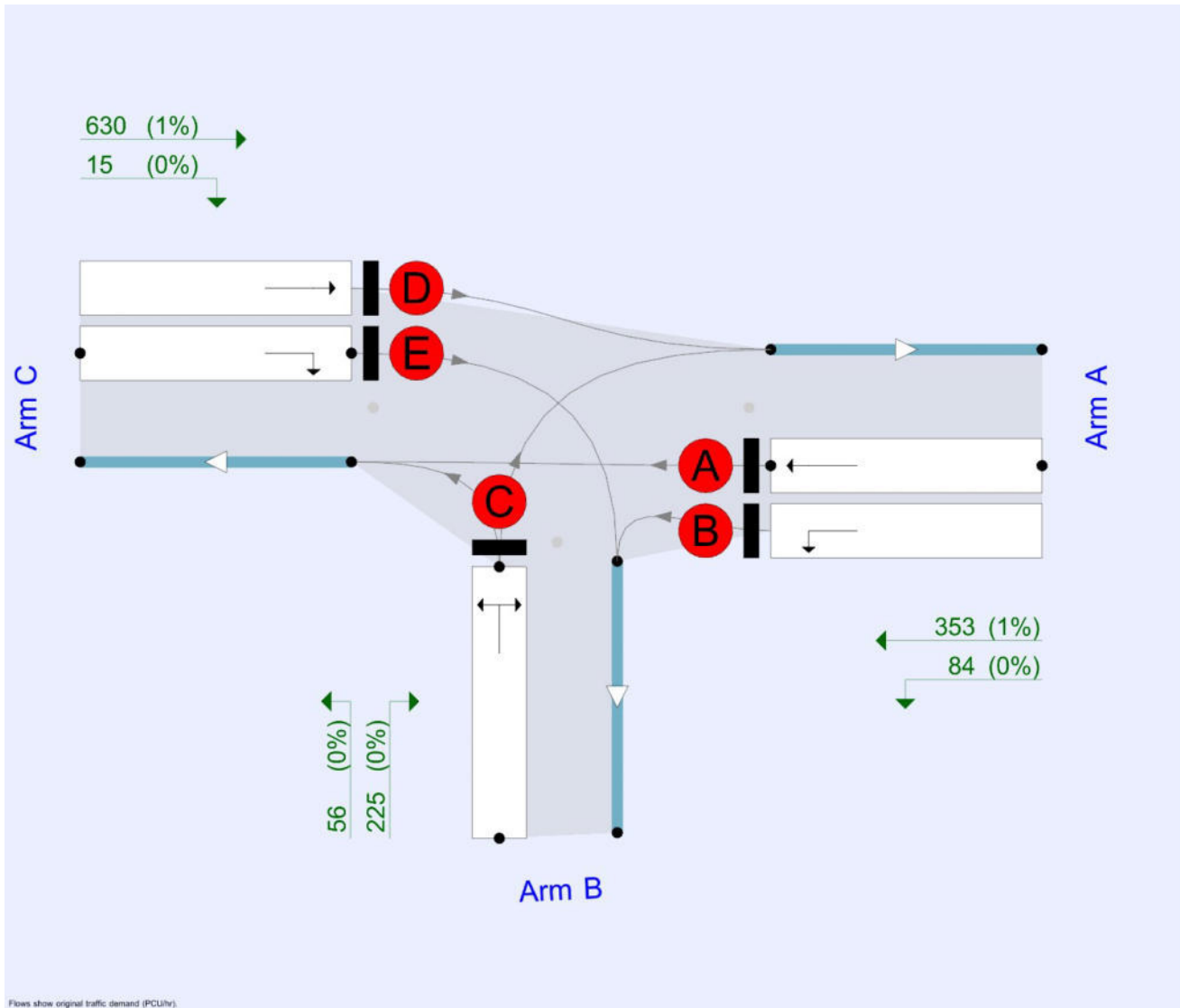
File summary

File Description

Title	Residential Development at Cairns Road
Location	
Site number	
Date	21/02/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	JODIRELAND\jdoogan
Description	

Units

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



Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	Residual capacity criteria type	DOS Threshold	Average Delay threshold (s)	Queue threshold (PCU)
✓	✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2022 Existing Traffic Flows	AM	ONE HOUR	08:15	09:45	15
D2	2022 Existing Traffic Flows	PM	ONE HOUR	17:00	18:30	15
D3	2023 Year of Opening Without Development	AM	ONE HOUR	08:15	09:45	15
D4	2023 Year of Opening Without Development	PM	ONE HOUR	17:00	18:30	15
D5	2028 Year of Opening + 5 Without Development	AM	ONE HOUR	08:15	09:45	15
D6	2028 Year of Opening + 5 Without Development	PM	ONE HOUR	17:00	18:30	15
D7	2038 Year of Opening + 15 Without Development	AM	ONE HOUR	08:15	09:45	15
D8	2038 Year of Opening + 15 Without Development	PM	ONE HOUR	17:00	18:30	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Pearse Road / Cairns Road	100.000

Pearse Road / Cairns Road - 2022 Existing Traffic Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue percentiles	Analysis Options	Queue percentiles cannot be calculated for signalised junction unless in Lane Simulation mode.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Signalised		22.32	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-14	Arm B - Traffic Stream 1

Arms

Arms

Arm	Name	Description
A	Pearse Road - R287 (North)	
B	Cairns Road	
C	Pearse Road - R287 (South)	

OSCADY Traffic Streams

Arm	Traffic Stream	Phase	Destination arms	Straight move
A	1	B	B	C
	2	A	C	C
B	1	C	A, C	
C	1	D	A	A
	2	E	B	A

OSCADY Lanes

Arm	Traffic Stream	Destination arms	Gradient (%)	Width (m)	Turning radius (m)	Nearside lane	Has bay
A	1	B	0	3.00	10.00	✓	
	2	C	0	3.00		✓	
B	1	A, C	0	3.00	10.00	✓	
C	1	A	0	3.00		✓	
	2	B	0	3.00	10.00	✓	

Signal Timings

Junction 1

Junction	Sequence to use	Cycle time (s)	Maximum cycle time (s)	Start displacement (s)	End displacement (s)
1	1	70	300	1.40	2.90

Optimisation options

Junction	Optimise stage lengths	Optimise cycle time	Optimiser demand source	Optimiser message
1	✓	✓	Average	Timings provide delay minimisation..

Phases

Junction	Phase	Name	Minimum green (s)
1	A		7
	B		7
	C		7
	D		7
	E		7
	PED		7

Library Stages

Junction	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	D, E	1		
	2	A, D, B, E	1		
	3	B, C	1		
	4	PED	1		

Stage Sequences

Junction	Sequence	Name	Stage IDs	Stage ends
1	1		2, 3, 4	38, 58, 0
	2		2, 4, 3	34, 73, 111
	3		1, 2, 3, 4	21, 48, 80, 111
	4		1, 2, 4, 3	21, 48, 80, 111
	5		1, 3, 2, 4	24, 53, 82, 111
	6		1, 3, 4, 2	21, 53, 85, 0
	7		1, 4, 2, 3	24, 53, 82, 111
	8		1, 4, 3, 2	21, 53, 85, 0

Intergreen Matrix for Junction 1

		To						
		A	B	C	D	E	PED	
From	A			5				5
	B							5
	C	5			5	5		5
	D			5				5
	E			5				5
	PED	5	5	5	5	5		

Interstage Matrix for Junction 1

		To			
		1	2	3	4
From	1	0	0	5	5
	2	0	0	5	5
	3	5	5	0	5
	4	5	5	5	0

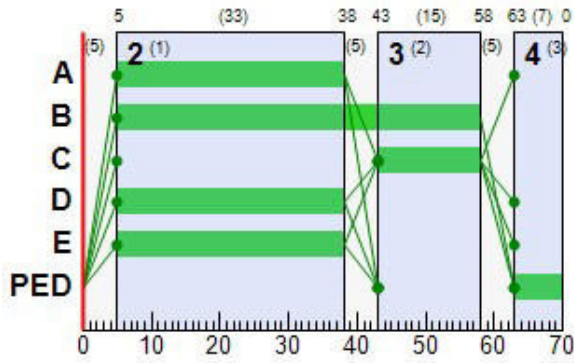
Resultant Stages

Junction	Resultant Stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	2	A,D,B,E	5	38	33	1	7
	2	3	B,C	43	58	15	1	7
	3	4	PED	63	0	7	1	7

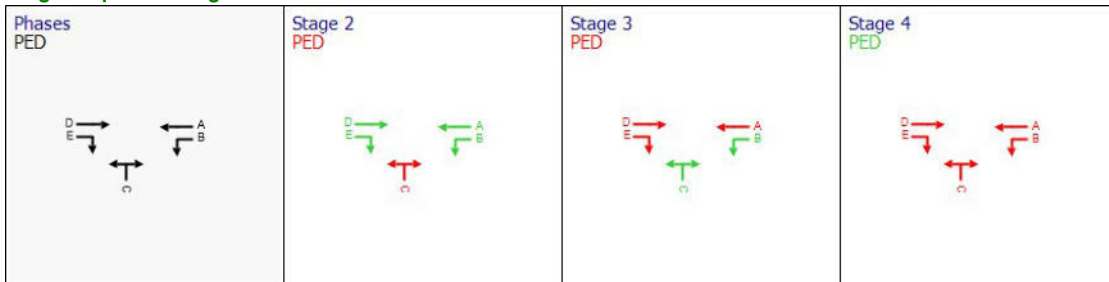
Resultant Phase Green Periods

Junction	Phase	Green period	Start time (s)	End time (s)	Duration (s)
1	A	1	5	38	33
	B	1	5	58	53
	C	1	43	58	15
	D	1	5	38	33
	E	1	5	38	33
	PED	1	63	0	7

Phase Timings Diagram for Junction 1



Stage Sequence Diagram for Junction 1



Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2022 Existing Traffic Flows	AM	ONE HOUR	08:15	09:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	437	100.000
B		✓	281	100.000
C		✓	645	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	84	353
	B	225	0	56
	C	630	15	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max DOS	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
A	0.41	10.80	4.4	?	B
B	0.79	45.00	6.3	?	D
C	0.73	20.24	8.2	?	C

Main Results for each time segment
08:15 - 08:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	63	1665	54.50	0.00	1296	0.049	62	0.3	1.869	A
	2	266	1915	34.50	0.00	944	0.282	255	2.7	11.354	B
B	1	212	1665	16.50	0.00	393	0.539	197	3.5	29.580	C
C	1	474	1915	34.50	0.00	944	0.503	454	5.0	14.265	B
	2	11	1665	34.50	0.00	821	0.014	11	0.1	9.100	A

08:30 - 08:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	76	1665	54.50	0.00	1296	0.058	75	0.3	1.901	A
	2	317	1915	34.50	0.00	944	0.336	315	3.2	11.956	B
B	1	253	1665	16.50	0.00	393	0.644	249	4.4	33.504	C
C	1	566	1915	34.50	0.00	944	0.600	562	6.1	16.187	B
	2	13	1665	34.50	0.00	821	0.016	13	0.1	9.119	A

08:45 - 09:00

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	92	1665	54.50	0.00	1296	0.071	92	0.4	1.945	A
	2	389	1915	34.50	0.00	944	0.412	386	4.0	12.902	B
B	1	309	1665	16.50	0.00	393	0.788	302	6.2	42.430	D
C	1	694	1915	34.50	0.00	944	0.735	686	8.0	20.203	C
	2	17	1665	34.50	0.00	821	0.020	16	0.2	9.146	A

09:00 - 09:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	92	1665	54.50	0.00	1296	0.071	92	0.4	1.945	A
	2	389	1915	34.50	0.00	944	0.412	389	4.0	12.912	B
B	1	309	1665	16.50	0.00	393	0.788	309	6.3	45.004	D
C	1	694	1915	34.50	0.00	944	0.735	694	8.1	20.503	C
	2	17	1665	34.50	0.00	821	0.020	17	0.2	9.146	A

09:15 - 09:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	76	1665	54.50	0.00	1296	0.058	76	0.3	1.901	A
	2	317	1915	34.50	0.00	944	0.336	320	3.2	11.967	B
B	1	253	1665	16.50	0.00	393	0.644	260	4.5	34.867	C
C	1	566	1915	34.50	0.00	944	0.600	574	6.1	16.345	B
	2	13	1665	34.50	0.00	821	0.016	14	0.1	9.119	A

09:30 - 09:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	63	1665	54.50	0.00	1296	0.049	63	0.3	1.869	A
	2	266	1915	34.50	0.00	944	0.282	268	2.7	11.362	B
B	1	212	1665	16.50	0.00	393	0.539	215	3.5	30.121	C
C	1	474	1915	34.50	0.00	944	0.503	479	5.0	14.334	B
	2	11	1665	34.50	0.00	821	0.014	11	0.1	9.100	A

Queue Variation Results for each time segment

08:15 - 08:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

08:30 - 08:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

08:45 - 09:00

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:00 - 09:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:15 - 09:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:30 - 09:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

Pearse Road / Cairns Road - 2022 Existing Traffic Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue percentiles	Analysis Options	Queue percentiles cannot be calculated for signalised junction unless in Lane Simulation mode.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Signalised		13.64	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-100	Arm B - Traffic Stream 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2022 Existing Traffic Flows	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	885	100.000
B		✓	130	100.000
C		✓	556	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	157	728
	B	96	0	34
	C	493	63	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max DOS	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
A	0.61	9.10	8.1	?	A
B	0.73	70.91	4.6	?	E
C	0.41	7.47	5.4	?	A

Main Results for each time segment

17:00 - 17:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	118	1665	82.50	0.00	1402	0.084	116	0.5	1.461	A
	2	548	1915	67.50	0.00	1319	0.416	529	4.8	7.817	A
B	1	98	1665	11.50	0.00	195	0.501	87	2.6	50.907	D
C	1	371	1915	67.50	0.00	1319	0.281	358	3.2	6.533	A
	2	47	1665	67.50	0.00	1147	0.041	46	0.4	4.967	A

17:15 - 17:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	141	1665	82.50	0.00	1402	0.101	141	0.6	1.512	A
	2	654	1915	67.50	0.00	1319	0.496	650	5.8	8.828	A
B	1	117	1665	11.50	0.00	195	0.598	114	3.3	56.288	E
C	1	443	1915	67.50	0.00	1319	0.336	441	3.9	7.010	A
	2	57	1665	67.50	0.00	1147	0.049	56	0.5	5.011	A

17:30 - 17:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	173	1665	82.50	0.00	1402	0.123	172	0.8	1.584	A
	2	802	1915	67.50	0.00	1319	0.608	795	7.4	10.687	B
B	1	143	1665	11.50	0.00	195	0.732	138	4.5	66.886	E
C	1	543	1915	67.50	0.00	1319	0.412	539	4.8	7.775	A
	2	69	1665	67.50	0.00	1147	0.060	69	0.6	5.074	A

17:45 - 18:00

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	173	1665	82.50	0.00	1402	0.123	173	0.8	1.584	A
	2	802	1915	67.50	0.00	1319	0.608	802	7.4	10.724	B
B	1	143	1665	11.50	0.00	195	0.732	143	4.6	70.911	E
C	1	543	1915	67.50	0.00	1319	0.412	543	4.8	7.780	A
	2	69	1665	67.50	0.00	1147	0.060	69	0.6	5.074	A

18:00 - 18:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	141	1665	82.50	0.00	1402	0.101	142	0.6	1.512	A
	2	654	1915	67.50	0.00	1319	0.496	661	5.8	8.856	A
B	1	117	1665	11.50	0.00	195	0.598	122	3.4	59.318	E
C	1	443	1915	67.50	0.00	1319	0.336	447	3.9	7.016	A
	2	57	1665	67.50	0.00	1147	0.049	57	0.5	5.011	A

18:15 - 18:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	118	1665	82.50	0.00	1402	0.084	119	0.5	1.461	A
	2	548	1915	67.50	0.00	1319	0.416	552	4.8	7.832	A
B	1	98	1665	11.50	0.00	195	0.501	101	2.7	52.365	D
C	1	371	1915	67.50	0.00	1319	0.281	374	3.2	6.537	A
	2	47	1665	67.50	0.00	1147	0.041	48	0.4	4.967	A

Queue Variation Results for each time segment
17:00 - 17:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:15 - 17:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:30 - 17:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:45 - 18:00

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

18:00 - 18:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

18:15 - 18:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

Pearse Road / Cairns Road - 2023 Year of Opening Without Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue percentiles	Analysis Options	Queue percentiles cannot be calculated for signalised junction unless in Lane Simulation mode.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Signalised		22.80	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-18	Arm B - Traffic Stream 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2023 Year of Opening Without Development	AM	ONE HOUR	08:15	09:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	441	100.000
B		✓	284	100.000
C		✓	652	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	85	356
	B	227	0	57
	C	636	16	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max DOS	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
A	0.41	10.65	4.4	?	B
B	0.81	48.32	6.6	?	D
C	0.73	19.90	8.3	?	B

Main Results for each time segment

08:15 - 08:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	64	1665	55.50	0.00	1302	0.049	63	0.3	1.845	A
	2	268	1915	35.50	0.00	958	0.280	257	2.7	11.201	B
B	1	214	1665	16.50	0.00	387	0.552	199	3.6	30.571	C
C	1	479	1915	35.50	0.00	958	0.500	459	5.0	14.079	B
	2	12	1665	35.50	0.00	833	0.014	12	0.1	8.978	A

08:30 - 08:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	76	1665	55.50	0.00	1302	0.059	76	0.3	1.877	A
	2	320	1915	35.50	0.00	958	0.334	318	3.3	11.795	B
B	1	255	1665	16.50	0.00	387	0.660	251	4.6	34.875	C
C	1	572	1915	35.50	0.00	958	0.597	567	6.2	15.970	B
	2	14	1665	35.50	0.00	833	0.017	14	0.1	8.998	A

08:45 - 09:00

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	94	1665	55.50	0.00	1302	0.072	93	0.4	1.921	A
	2	392	1915	35.50	0.00	958	0.409	389	4.0	12.728	B
B	1	313	1665	16.50	0.00	387	0.808	305	6.5	44.966	D
C	1	700	1915	35.50	0.00	958	0.731	693	8.1	19.896	B
	2	18	1665	35.50	0.00	833	0.021	17	0.2	9.026	A

09:00 - 09:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	94	1665	55.50	0.00	1302	0.072	94	0.4	1.921	A
	2	392	1915	35.50	0.00	958	0.409	392	4.0	12.738	B
B	1	313	1665	16.50	0.00	387	0.808	312	6.6	48.318	D
C	1	700	1915	35.50	0.00	958	0.731	700	8.1	20.176	C
	2	18	1665	35.50	0.00	833	0.021	18	0.2	9.026	A

09:15 - 09:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	76	1665	55.50	0.00	1302	0.059	77	0.3	1.877	A
	2	320	1915	35.50	0.00	958	0.334	323	3.3	11.806	B
B	1	255	1665	16.50	0.00	387	0.660	263	4.7	36.570	D
C	1	572	1915	35.50	0.00	958	0.597	579	6.2	16.119	B
	2	14	1665	35.50	0.00	833	0.017	15	0.1	8.998	A

09:30 - 09:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	64	1665	55.50	0.00	1302	0.049	64	0.3	1.845	A
	2	268	1915	35.50	0.00	958	0.280	270	2.7	11.208	B
B	1	214	1665	16.50	0.00	387	0.552	218	3.7	31.205	C
C	1	479	1915	35.50	0.00	958	0.500	483	5.0	14.144	B
	2	12	1665	35.50	0.00	833	0.014	12	0.1	8.978	A

Queue Variation Results for each time segment
08:15 - 08:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

08:30 - 08:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

08:45 - 09:00

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:00 - 09:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:15 - 09:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:30 - 09:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

Pearse Road / Cairns Road - 2023 Year of Opening Without Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue percentiles	Analysis Options	Queue percentiles cannot be calculated for signalised junction unless in Lane Simulation mode.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Signalised		13.55	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-100	Arm B - Traffic Stream 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2023 Year of Opening Without Development	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	893	100.000
B		✓	132	100.000
C		✓	562	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	158	735
	B	97	0	35
	C	498	64	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max DOS	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
A	0.62	9.66	8.4	?	A
B	0.69	63.93	4.4	?	E
C	0.42	7.90	5.6	?	A

Main Results for each time segment

17:00 - 17:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	119	1665	83.50	0.00	1405	0.085	117	0.5	1.449	A
	2	553	1915	67.50	0.00	1306	0.424	533	5.0	8.268	A
B	1	99	1665	12.50	0.00	210	0.473	89	2.6	48.891	D
C	1	375	1915	67.50	0.00	1306	0.287	362	3.4	6.902	A
	2	48	1665	67.50	0.00	1135	0.042	46	0.4	5.245	A

17:15 - 17:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	142	1665	83.50	0.00	1405	0.101	142	0.6	1.499	A
	2	661	1915	67.50	0.00	1306	0.506	656	6.1	9.350	A
B	1	119	1665	12.50	0.00	210	0.564	116	3.3	53.232	D
C	1	448	1915	67.50	0.00	1306	0.343	445	4.0	7.410	A
	2	58	1665	67.50	0.00	1135	0.051	57	0.5	5.292	A

17:30 - 17:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	174	1665	83.50	0.00	1405	0.124	173	0.8	1.572	A
	2	809	1915	67.50	0.00	1306	0.620	803	7.7	11.359	B
B	1	145	1665	12.50	0.00	210	0.691	141	4.3	61.512	E
C	1	548	1915	67.50	0.00	1306	0.420	544	5.0	8.226	A
	2	70	1665	67.50	0.00	1135	0.062	70	0.6	5.359	A

17:45 - 18:00

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	174	1665	83.50	0.00	1405	0.124	174	0.8	1.572	A
	2	809	1915	67.50	0.00	1306	0.620	809	7.7	11.402	B
B	1	145	1665	12.50	0.00	210	0.691	145	4.4	63.925	E
C	1	548	1915	67.50	0.00	1306	0.420	548	5.0	8.232	A
	2	70	1665	67.50	0.00	1135	0.062	70	0.6	5.359	A

18:00 - 18:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	142	1665	83.50	0.00	1405	0.101	143	0.6	1.500	A
	2	661	1915	67.50	0.00	1306	0.506	667	6.1	9.382	A
B	1	119	1665	12.50	0.00	210	0.564	123	3.3	55.139	E
C	1	448	1915	67.50	0.00	1306	0.343	452	4.0	7.416	A
	2	58	1665	67.50	0.00	1135	0.051	58	0.5	5.292	A

18:15 - 18:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	119	1665	83.50	0.00	1405	0.085	119	0.5	1.449	A
	2	553	1915	67.50	0.00	1306	0.424	558	5.0	8.285	A
B	1	99	1665	12.50	0.00	210	0.473	102	2.6	49.865	D
C	1	375	1915	67.50	0.00	1306	0.287	378	3.4	6.906	A
	2	48	1665	67.50	0.00	1135	0.042	49	0.4	5.245	A

Queue Variation Results for each time segment
17:00 - 17:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:15 - 17:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:30 - 17:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:45 - 18:00

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

18:00 - 18:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

18:15 - 18:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

Pearse Road / Cairns Road - 2028 Year of Opening + 5 Without Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue percentiles	Analysis Options	Queue percentiles cannot be calculated for signalised junction unless in Lane Simulation mode.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Signalised		24.67	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-20	Arm B - Traffic Stream 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2028 Year of Opening + 5 Without Development	AM	ONE HOUR	08:15	09:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	468	100.000
B		✓	300	100.000
C		✓	690	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	90	378
	B	240	0	60
	C	674	16	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max DOS	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
A	0.43	11.19	4.9	?	B
B	0.83	50.93	7.3	?	D
C	0.78	22.39	9.3	?	C

Main Results for each time segment

08:15 - 08:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	68	1665	57.50	0.00	1312	0.052	67	0.3	1.805	A
	2	285	1915	36.50	0.00	958	0.297	273	3.0	11.676	B
B	1	226	1665	17.50	0.00	399	0.566	210	3.9	31.119	C
C	1	507	1915	36.50	0.00	958	0.530	485	5.5	14.939	B
	2	12	1665	36.50	0.00	833	0.014	12	0.1	9.230	A

08:30 - 08:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	81	1665	57.50	0.00	1312	0.062	81	0.4	1.838	A
	2	340	1915	36.50	0.00	958	0.355	337	3.6	12.342	B
B	1	270	1665	17.50	0.00	399	0.676	265	5.0	35.709	D
C	1	606	1915	36.50	0.00	958	0.633	601	6.8	17.187	B
	2	14	1665	36.50	0.00	833	0.017	14	0.1	9.250	A

08:45 - 09:00

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	99	1665	57.50	0.00	1312	0.076	99	0.4	1.884	A
	2	416	1915	36.50	0.00	958	0.435	413	4.4	13.398	B
B	1	330	1665	17.50	0.00	399	0.827	322	7.1	46.839	D
C	1	742	1915	36.50	0.00	958	0.775	733	9.1	22.205	C
	2	18	1665	36.50	0.00	833	0.021	17	0.2	9.279	A

09:00 - 09:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	99	1665	57.50	0.00	1312	0.076	99	0.4	1.884	A
	2	416	1915	36.50	0.00	958	0.435	416	4.4	13.410	B
B	1	330	1665	17.50	0.00	399	0.827	330	7.3	50.931	D
C	1	742	1915	36.50	0.00	958	0.775	742	9.1	22.703	C
	2	18	1665	36.50	0.00	833	0.021	18	0.2	9.279	A

09:15 - 09:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	81	1665	57.50	0.00	1312	0.062	81	0.4	1.838	A
	2	340	1915	36.50	0.00	958	0.355	343	3.6	12.355	B
B	1	270	1665	17.50	0.00	399	0.676	279	5.0	37.661	D
C	1	606	1915	36.50	0.00	958	0.633	615	6.8	17.411	B
	2	14	1665	36.50	0.00	833	0.017	15	0.1	9.250	A

09:30 - 09:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	68	1665	57.50	0.00	1312	0.052	68	0.3	1.805	A
	2	285	1915	36.50	0.00	958	0.297	287	3.0	11.685	B
B	1	226	1665	17.50	0.00	399	0.566	230	3.9	31.798	C
C	1	507	1915	36.50	0.00	958	0.530	513	5.5	15.026	B
	2	12	1665	36.50	0.00	833	0.014	12	0.1	9.230	A

Queue Variation Results for each time segment

08:15 - 08:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

08:30 - 08:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

08:45 - 09:00

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:00 - 09:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:15 - 09:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:30 - 09:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

Pearse Road / Cairns Road - 2028 Year of Opening + 5 Without Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue percentiles	Analysis Options	Queue percentiles cannot be calculated for signalised junction unless in Lane Simulation mode.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Signalised		14.29	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-100	Arm B - Traffic Stream 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2028 Year of Opening + 5 Without Development	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	947	100.000
B		✓	138	100.000
C		✓	596	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	168	779
	B	102	0	36
	C	528	68	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
A	0	0	1
B	0	0	0
C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max DOS	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
A	0.65	10.15	9.3	?	B
B	0.72	69.44	4.9	?	E
C	0.44	8.08	6.1	?	A

Main Results for each time segment

17:00 - 17:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	126	1665	90.50	0.00	1422	0.089	124	0.5	1.375	A
	2	586	1915	73.50	0.00	1328	0.442	564	5.5	8.471	A
B	1	104	1665	13.50	0.00	212	0.490	92	2.9	52.249	D
C	1	398	1915	73.50	0.00	1328	0.299	383	3.7	6.987	A
	2	51	1665	73.50	0.00	1155	0.044	49	0.5	5.227	A

17:15 - 17:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	151	1665	90.50	0.00	1422	0.106	151	0.7	1.427	A
	2	700	1915	73.50	0.00	1328	0.527	696	6.7	9.673	A
B	1	124	1665	13.50	0.00	212	0.585	121	3.7	57.043	E
C	1	475	1915	73.50	0.00	1328	0.357	472	4.4	7.535	A
	2	61	1665	73.50	0.00	1155	0.053	61	0.6	5.277	A

17:30 - 17:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	185	1665	90.50	0.00	1422	0.130	184	0.8	1.502	A
	2	858	1915	73.50	0.00	1328	0.646	851	8.4	11.965	B
B	1	152	1665	13.50	0.00	212	0.716	147	4.9	66.399	E
C	1	581	1915	73.50	0.00	1328	0.438	577	5.5	8.427	A
	2	75	1665	73.50	0.00	1155	0.065	74	0.7	5.347	A

17:45 - 18:00

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	185	1665	90.50	0.00	1422	0.130	185	0.8	1.502	A
	2	858	1915	73.50	0.00	1328	0.646	858	8.5	12.020	B
B	1	152	1665	13.50	0.00	212	0.716	152	4.9	69.442	E
C	1	581	1915	73.50	0.00	1328	0.438	581	5.5	8.434	A
	2	75	1665	73.50	0.00	1155	0.065	75	0.7	5.347	A

18:00 - 18:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	151	1665	90.50	0.00	1422	0.106	152	0.7	1.427	A
	2	700	1915	73.50	0.00	1328	0.527	707	6.7	9.711	A
B	1	124	1665	13.50	0.00	212	0.585	129	3.7	59.334	E
C	1	475	1915	73.50	0.00	1328	0.357	479	4.4	7.542	A
	2	61	1665	73.50	0.00	1155	0.053	62	0.6	5.277	A

18:15 - 18:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	126	1665	90.50	0.00	1422	0.089	127	0.5	1.375	A
	2	586	1915	73.50	0.00	1328	0.442	591	5.5	8.491	A
B	1	104	1665	13.50	0.00	212	0.490	107	3.0	53.373	D
C	1	398	1915	73.50	0.00	1328	0.299	400	3.7	6.991	A
	2	51	1665	73.50	0.00	1155	0.044	52	0.5	5.227	A

Queue Variation Results for each time segment
17:00 - 17:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:15 - 17:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:30 - 17:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:45 - 18:00

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

18:00 - 18:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

18:15 - 18:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

Pearse Road / Cairns Road - 2038 Year of Opening + 15 Without Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue percentiles	Analysis Options	Queue percentiles cannot be calculated for signalised junction unless in Lane Simulation mode.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Signalised		26.72	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-23	Arm B - Traffic Stream 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2038 Year of Opening + 15 Without Development	AM	ONE HOUR	08:15	09:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	494	100.000
B		✓	318	100.000
C		✓	729	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	95	399
	B	254	0	64
	C	712	17	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max DOS	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
A	0.45	11.81	5.4	?	B
B	0.84	53.56	8.1	?	D
C	0.81	25.11	10.6	?	C

Main Results for each time segment

08:15 - 08:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	72	1665	62.50	0.00	1334	0.054	70	0.3	1.701	A
	2	300	1915	39.50	0.00	970	0.310	287	3.3	12.273	B
B	1	239	1665	19.50	0.00	416	0.575	222	4.3	32.302	C
C	1	536	1915	39.50	0.00	970	0.553	511	6.1	15.921	B
	2	13	1665	39.50	0.00	843	0.015	12	0.1	9.615	A

08:30 - 08:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	85	1665	62.50	0.00	1334	0.064	85	0.4	1.734	A
	2	359	1915	39.50	0.00	970	0.370	356	4.0	13.006	B
B	1	286	1665	19.50	0.00	416	0.687	281	5.5	37.085	D
C	1	640	1915	39.50	0.00	970	0.660	634	7.6	18.523	B
	2	15	1665	39.50	0.00	843	0.018	15	0.2	9.637	A

08:45 - 09:00

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	105	1665	62.50	0.00	1334	0.078	104	0.5	1.781	A
	2	439	1915	39.50	0.00	970	0.453	435	4.9	14.179	B
B	1	350	1665	19.50	0.00	416	0.841	340	7.9	48.957	D
C	1	784	1915	39.50	0.00	970	0.808	773	10.3	24.693	C
	2	19	1665	39.50	0.00	843	0.022	19	0.2	9.668	A

09:00 - 09:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	105	1665	62.50	0.00	1334	0.078	105	0.5	1.781	A
	2	439	1915	39.50	0.00	970	0.453	439	4.9	14.193	B
B	1	350	1665	19.50	0.00	416	0.841	349	8.1	53.562	D
C	1	784	1915	39.50	0.00	970	0.808	784	10.4	25.482	C
	2	19	1665	39.50	0.00	843	0.022	19	0.2	9.668	A

09:15 - 09:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	85	1665	62.50	0.00	1334	0.064	86	0.4	1.734	A
	2	359	1915	39.50	0.00	970	0.370	363	4.0	13.021	B
B	1	286	1665	19.50	0.00	416	0.687	296	5.6	39.180	D
C	1	640	1915	39.50	0.00	970	0.660	651	7.6	18.828	B
	2	15	1665	39.50	0.00	843	0.018	15	0.2	9.637	A

09:30 - 09:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	72	1665	62.50	0.00	1334	0.054	72	0.3	1.701	A
	2	300	1915	39.50	0.00	970	0.310	303	3.3	12.283	B
B	1	239	1665	19.50	0.00	416	0.575	244	4.4	32.987	C
C	1	536	1915	39.50	0.00	970	0.553	542	6.2	16.028	B
	2	13	1665	39.50	0.00	843	0.015	13	0.1	9.615	A

Queue Variation Results for each time segment

08:15 - 08:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

08:30 - 08:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

08:45 - 09:00

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:00 - 09:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:15 - 09:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:30 - 09:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

Pearse Road / Cairns Road - 2038 Year of Opening + 15 Without Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue percentiles	Analysis Options	Queue percentiles cannot be calculated for signalised junction unless in Lane Simulation mode.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Signalised		15.46	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-100	Arm B - Traffic Stream 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2038 Year of Opening + 15 Without Development	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	1001	100.000
B		✓	148	100.000
C		✓	628	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	178	823
	B	109	0	39
	C	557	71	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max DOS	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
A	0.69	11.08	9.9	?	B
B	0.76	74.86	5.5	?	E
C	0.46	8.44	6.5	?	A

Main Results for each time segment

17:00 - 17:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	134	1665	89.50	0.00	1419	0.094	132	0.6	1.403	A
	2	620	1915	72.50	0.00	1322	0.469	596	5.8	8.877	A
B	1	111	1665	13.50	0.00	214	0.520	99	3.2	52.933	D
C	1	419	1915	72.50	0.00	1322	0.317	404	3.9	7.203	A
	2	53	1665	72.50	0.00	1150	0.046	52	0.5	5.288	A

17:15 - 17:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	160	1665	89.50	0.00	1419	0.113	160	0.7	1.459	A
	2	740	1915	72.50	0.00	1322	0.560	735	7.1	10.271	B
B	1	133	1665	13.50	0.00	214	0.621	130	4.0	58.594	E
C	1	501	1915	72.50	0.00	1322	0.379	498	4.7	7.813	A
	2	64	1665	72.50	0.00	1150	0.056	63	0.6	5.341	A

17:30 - 17:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	196	1665	89.50	0.00	1419	0.138	195	0.9	1.540	A
	2	906	1915	72.50	0.00	1322	0.685	898	9.1	13.050	B
B	1	163	1665	13.50	0.00	214	0.761	157	5.4	70.176	E
C	1	613	1915	72.50	0.00	1322	0.464	609	5.8	8.818	A
	2	78	1665	72.50	0.00	1150	0.068	78	0.7	5.415	A

17:45 - 18:00

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	196	1665	89.50	0.00	1419	0.138	196	0.9	1.540	A
	2	906	1915	72.50	0.00	1322	0.685	906	9.1	13.137	B
B	1	163	1665	13.50	0.00	214	0.761	163	5.5	74.855	E
C	1	613	1915	72.50	0.00	1322	0.464	613	5.8	8.826	A
	2	78	1665	72.50	0.00	1150	0.068	78	0.7	5.415	A

18:00 - 18:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	160	1665	89.50	0.00	1419	0.113	161	0.7	1.459	A
	2	740	1915	72.50	0.00	1322	0.560	748	7.1	10.324	B
B	1	133	1665	13.50	0.00	214	0.621	139	4.0	61.848	E
C	1	501	1915	72.50	0.00	1322	0.379	505	4.7	7.821	A
	2	64	1665	72.50	0.00	1150	0.056	64	0.6	5.341	A

18:15 - 18:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	134	1665	89.50	0.00	1419	0.094	134	0.6	1.403	A
	2	620	1915	72.50	0.00	1322	0.469	625	5.8	8.902	A
B	1	111	1665	13.50	0.00	214	0.520	115	3.2	54.401	D
C	1	419	1915	72.50	0.00	1322	0.317	422	3.9	7.209	A
	2	53	1665	72.50	0.00	1150	0.046	54	0.5	5.288	A

Queue Variation Results for each time segment
17:00 - 17:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:15 - 17:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:30 - 17:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:45 - 18:00

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

18:00 - 18:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

18:15 - 18:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

Junctions 9

OSCADY 9 - Signalised Intersection Module

Version: 9.5.1.7462

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Filename: Cairns Road Pearse Road - 2022 2023 2028 2038 With Development.j9

Path: P:\Jod-jobs\6665 Cairns Hill Hsing\400 Planning\403 Planning Application\1 Submissions\TTA\Traffic Analysis

Report generation date: 04/03/2022 16:29:37

-
- »Pearse Road / Cairns Road - 2022 Existing Traffic Flows, AM
 - »Pearse Road / Cairns Road - 2022 Existing Traffic Flows, PM
 - »Pearse Road / Cairns Road - 2023 Year of Opening With Development, AM
 - »Pearse Road / Cairns Road - 2023 Year of Opening With Development, PM
 - »Pearse Road / Cairns Road - 2028 Year of Opening + 5 With Development, AM
 - »Pearse Road / Cairns Road - 2028 Year of Opening + 5 With Development, PM
 - »Pearse Road / Cairns Road - 2038 Year of Opening + 15 With Development, AM
 - »Pearse Road / Cairns Road - 2038 Year of Opening + 15 With Development, PM

Summary of junction performance

		AM									PM								
	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	DOS	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	95% Queue (PCU)	Delay (s)	DOS	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	
Pearse Road / Cairns Road - 2022 Existing Traffic Flows																			
Arm A	D1	4.4	?	10.62	0.41	B	22.43	C	-17 % [Arm B - Traffic Stream 1]	D2	8.3	?	9.34	0.61	A	13.82	B	-100 % [Arm B - Traffic Stream 1]	
Arm B		6.5	?	47.17	0.80	D					4.4	?	65.72	0.69	E				
Arm C		8.1	?	19.65	0.72	B					5.7	?	8.81	0.41	A				
Pearse Road / Cairns Road - 2023 Year of Opening With Development																			
Arm A	D3	4.3	?	10.56	0.43	B	27.35	C	-22 % [Arm B - Traffic Stream 1]	D4	8.5	?	9.63	0.62	A	15.13	B	-100 % [Arm B - Traffic Stream 1]	
Arm B		8.4	?	64.88	0.90	E					5.1	?	70.75	0.75	E				
Arm C		8.2	?	21.34	0.77	C					5.9	?	9.77	0.48	A				
Pearse Road / Cairns Road - 2028 Year of Opening + 5 With Development																			
Arm A	D5	5.2	?	11.85	0.45	B	26.09	C	-18 % [Arm B - Traffic Stream 1]	D6	9.4	?	10.46	0.66	B	16.12	B	-100 % [Arm B - Traffic Stream 1]	
Arm B		7.8	?	49.62	0.83	D					5.4	?	71.52	0.75	E				
Arm C		10.0	?	24.84	0.80	C					6.7	?	11.33	0.58	B				
Pearse Road / Cairns Road - 2038 Year of Opening + 15 With Development																			
Arm A	D7	5.6	?	12.22	0.46	B	29.35	C	-23 % [Arm B - Traffic Stream 1]	D8	10.0	?	10.89	0.68	B	17.47	B	-100 % [Arm B - Traffic Stream 1]	
Arm B		9.2	?	58.06	0.87	E					5.9	?	80.20	0.79	F				
Arm C		11.2	?	27.55	0.83	C					7.3	?	12.80	0.66	B				

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

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

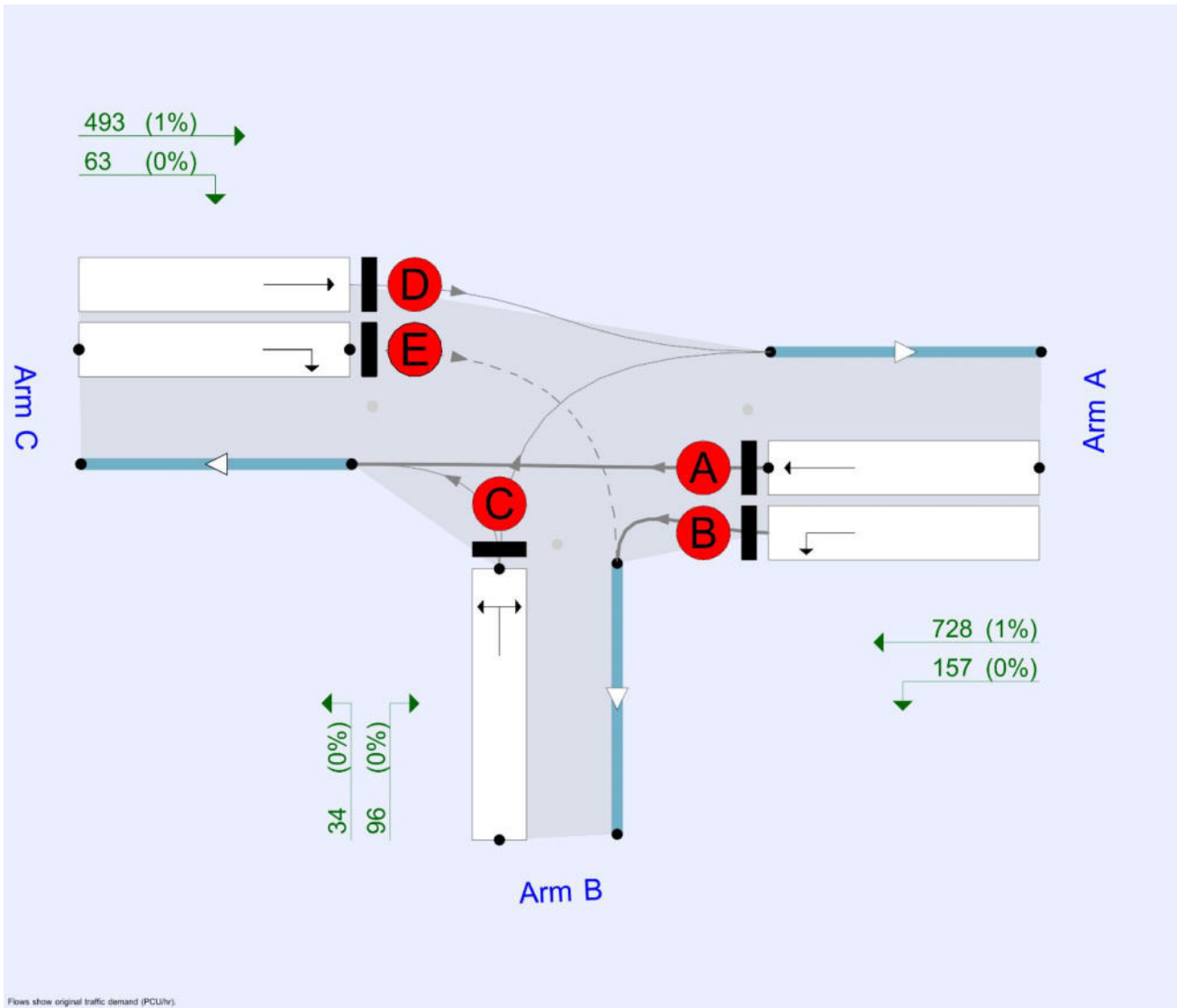
File summary

File Description

Title	Residential Development at Cairns Road
Location	
Site number	
Date	21/02/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	JODIRELAND\jdoogan
Description	

Units

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



Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	Residual capacity criteria type	DOS Threshold	Average Delay threshold (s)	Queue threshold (PCU)
✓	✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2022 Existing Traffic Flows	AM	ONE HOUR	08:15	09:45	15
D2	2022 Existing Traffic Flows	PM	ONE HOUR	17:00	18:30	15
D3	2023 Year of Opening With Development	AM	ONE HOUR	08:15	09:45	15
D4	2023 Year of Opening With Development	PM	ONE HOUR	17:00	18:30	15
D5	2028 Year of Opening + 5 With Development	AM	ONE HOUR	08:15	09:45	15
D6	2028 Year of Opening + 5 With Development	PM	ONE HOUR	17:00	18:30	15
D7	2038 Year of Opening + 15 With Development	AM	ONE HOUR	08:15	09:45	15
D8	2038 Year of Opening + 15 With Development	PM	ONE HOUR	17:00	18:30	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Pearse Road / Cairns Road	100.000

Pearse Road / Cairns Road - 2022 Existing Traffic Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue percentiles	Analysis Options	Queue percentiles cannot be calculated for signalised junction unless in Lane Simulation mode.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Signalised		22.43	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-17	Arm B - Traffic Stream 1

Arms

Arms

Arm	Name	Description
A	Pearse Road - R287 (North)	
B	Cairns Road	
C	Pearse Road - R287 (South)	

OSCADY Traffic Streams

Arm	Traffic Stream	Phase	Right turners opposed	Destination arms	Straight move
A	1	B		B	C
	2	A		C	C
B	1	C		A, C	
C	1	D		A	A
	2	E	✓	B	A

OSCADY Lanes

Arm	Traffic Stream	Destination arms	Gradient (%)	Width (m)	Turning radius (m)	Nearside lane	Has bay	Storage for right turners (PCU)
A	1	B	0	3.00	10.00	✓		
	2	C	0	3.00		✓		
B	1	A, C	0	3.00	10.00	✓		
C	1	A	0	3.00		✓		
	2	B	0	3.00	10.00	✓		0.00

OSCADY Opposition

Arm	Traffic Stream	Opposed destination	Opposing arm ID	Opposing movements
C	2	B	A	B, C

Signal Timings

Junction 1

Junction	Sequence to use	Cycle time (s)	Maximum cycle time (s)	Start displacement (s)	End displacement (s)
1	1	71	300	1.40	2.90

Optimisation options

Junction	Optimise stage lengths	Optimise cycle time	Optimiser demand source	Optimiser message
1	✓	✓	Average	Timings provide delay minimisation.

Phases

Junction	Phase	Name	Minimum green (s)
1	A		7
	B		7
	C		7
	D		7
	E		7
	PED		7

Library Stages

Junction	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	D, E	1		
	2	A, B, E, D	1		
	3	B, C	1		
	4	PED	1		

Stage Sequences

Junction	Sequence	Name	Stage IDs	Stage ends
1	1		2, 3, 4	39, 59, 0
	2		2, 4, 3	95, 195, 295
	3		1, 2, 3, 4	67, 140, 218, 295
	4		1, 2, 4, 3	67, 140, 218, 295
	5		1, 3, 2, 4	70, 145, 220, 295
	6		1, 3, 4, 2	67, 145, 223, 0
	7		1, 4, 2, 3	70, 145, 220, 295
	8		1, 4, 3, 2	67, 145, 223, 0

Intergreen Matrix for Junction 1

		To						
		A	B	C	D	E	PED	
From	A			5				5
	B							5
	C	5			5	5		5
	D			5				5
	E			5				5
	PED	5	5	5	5	5		

Interstage Matrix for Junction 1

		To			
		1	2	3	4
From	1	0	0	5	5
	2	0	0	5	5
	3	5	5	0	5
	4	5	5	5	0

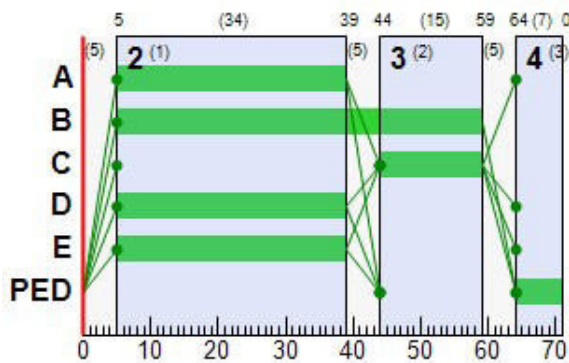
Resultant Stages

Junction	Resultant Stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	2	A,B,E,D	5	39	34	1	7
	2	3	B,C	44	59	15	1	7
	3	4	PED	64	0	7	1	7

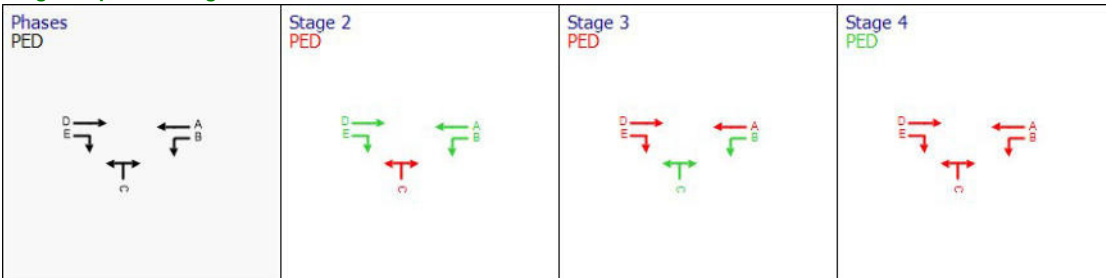
Resultant Phase Green Periods

Junction	Phase	Green period	Start time (s)	End time (s)	Duration (s)
1	A	1	5	39	34
	B	1	5	59	54
	C	1	44	59	15
	D	1	5	39	34
	E	1	5	39	34
	PED	1	64	0	7

Phase Timings Diagram for Junction 1



Stage Sequence Diagram for Junction 1



Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2022 Existing Traffic Flows	AM	ONE HOUR	08:15	09:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	437	100.000
B		✓	281	100.000
C		✓	645	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To		
	A	B	C
A	0	84	353
B	225	0	56
C	630	15	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
A	0	0	1
B	0	0	0
C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max DOS	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
A	0.41	10.62	4.4	?	B
B	0.80	47.17	6.5	?	D
C	0.72	19.65	8.1	?	B

Main Results for each time segment

08:15 - 08:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	63	1665	55.50	0.00	1302	0.049	62	0.3	1.843	A
	2	266	1915	35.50	0.00	958	0.278	255	2.7	11.176	B
B	1	212	1665	16.50	0.00	387	0.547	197	3.6	30.390	C
C	1	474	1915	35.50	0.00	958	0.495	454	5.0	14.001	B
	2	11	862	35.50	0.00	431	0.026	11	0.1	9.128	A

08:30 - 08:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	76	1665	55.50	0.00	1302	0.058	75	0.3	1.874	A
	2	317	1915	35.50	0.00	958	0.331	315	3.2	11.763	B
B	1	253	1665	16.50	0.00	387	0.653	249	4.5	34.546	C
C	1	566	1915	35.50	0.00	958	0.591	562	6.1	15.845	B
	2	13	722	35.50	0.00	361	0.037	13	0.1	9.276	A

08:45 - 09:00

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	92	1665	55.50	0.00	1302	0.071	92	0.4	1.918	A
	2	389	1915	35.50	0.00	958	0.406	386	4.0	12.682	B
B	1	309	1665	16.50	0.00	387	0.799	302	6.4	44.156	D
C	1	694	1915	35.50	0.00	958	0.724	686	8.0	19.633	B
	2	17	564	35.50	0.00	282	0.059	16	0.2	9.619	A

09:00 - 09:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	92	1665	55.50	0.00	1302	0.071	92	0.4	1.918	A
	2	389	1915	35.50	0.00	958	0.406	389	4.0	12.692	B
B	1	309	1665	16.50	0.00	387	0.799	309	6.5	47.174	D
C	1	694	1915	35.50	0.00	958	0.724	694	8.0	19.890	B
	2	17	564	35.50	0.00	282	0.059	17	0.2	9.620	A

09:15 - 09:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	76	1665	55.50	0.00	1302	0.058	76	0.3	1.875	A
	2	317	1915	35.50	0.00	958	0.331	320	3.2	11.773	B
B	1	253	1665	16.50	0.00	387	0.653	260	4.6	36.105	D
C	1	566	1915	35.50	0.00	958	0.591	574	6.1	15.985	B
	2	13	722	35.50	0.00	361	0.037	14	0.1	9.277	A

09:30 - 09:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	63	1665	55.50	0.00	1302	0.049	63	0.3	1.843	A
	2	266	1915	35.50	0.00	958	0.278	268	2.7	11.184	B
B	1	212	1665	16.50	0.00	387	0.547	215	3.6	30.990	C
C	1	474	1915	35.50	0.00	958	0.495	479	5.0	14.063	B
	2	11	862	35.50	0.00	431	0.026	11	0.1	9.128	A

Queue Variation Results for each time segment
08:15 - 08:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

08:30 - 08:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

08:45 - 09:00

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:00 - 09:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:15 - 09:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:30 - 09:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

Pearse Road / Cairns Road - 2022 Existing Traffic Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue percentiles	Analysis Options	Queue percentiles cannot be calculated for signalised junction unless in Lane Simulation mode.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Signalised		13.82	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-100	Arm B - Traffic Stream 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2022 Existing Traffic Flows	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	885	100.000
B		✓	130	100.000
C		✓	556	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	157	728
	B	96	0	34
	C	493	63	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max DOS	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
A	0.61	9.34	8.3	?	A
B	0.69	65.72	4.4	?	E
C	0.41	8.81	5.7	?	A

Main Results for each time segment

17:00 - 17:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	118	1665	85.50	0.00	1410	0.084	116	0.5	1.420	A
	2	548	1915	69.50	0.00	1318	0.416	528	5.0	8.052	A
B	1	98	1665	12.50	0.00	206	0.475	87	2.7	50.139	D
C	1	371	1915	69.50	0.00	1318	0.282	358	3.3	6.740	A
	2	47	504	69.50	0.00	347	0.137	46	0.4	6.405	A

17:15 - 17:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	141	1665	85.50	0.00	1410	0.100	141	0.6	1.470	A
	2	654	1915	69.50	0.00	1318	0.497	650	6.0	9.084	A
B	1	117	1665	12.50	0.00	206	0.567	114	3.3	54.612	D
C	1	443	1915	69.50	0.00	1318	0.336	441	4.0	7.228	A
	2	57	377	69.50	0.00	259	0.218	56	0.5	8.087	A

17:30 - 17:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	173	1665	85.50	0.00	1410	0.123	172	0.8	1.541	A
	2	802	1915	69.50	0.00	1318	0.608	795	7.6	10.981	B
B	1	143	1665	12.50	0.00	206	0.695	139	4.4	63.149	E
C	1	543	1915	69.50	0.00	1318	0.412	539	4.9	8.010	A
	2	69	252	69.50	0.00	174	0.399	68	0.8	14.692	B

17:45 - 18:00

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	173	1665	85.50	0.00	1410	0.123	173	0.8	1.541	A
	2	802	1915	69.50	0.00	1318	0.608	802	7.6	11.018	B
B	1	143	1665	12.50	0.00	206	0.695	143	4.4	65.720	E
C	1	543	1915	69.50	0.00	1318	0.412	543	4.9	8.015	A
	2	69	252	69.50	0.00	174	0.399	69	0.8	15.026	B

18:00 - 18:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	141	1665	85.50	0.00	1410	0.100	142	0.6	1.470	A
	2	654	1915	69.50	0.00	1318	0.497	661	6.0	9.113	A
B	1	117	1665	12.50	0.00	206	0.567	121	3.3	56.642	E
C	1	443	1915	69.50	0.00	1318	0.336	447	4.0	7.234	A
	2	57	377	69.50	0.00	259	0.218	58	0.5	8.145	A

18:15 - 18:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	118	1665	85.50	0.00	1410	0.084	119	0.5	1.421	A
	2	548	1915	69.50	0.00	1318	0.416	552	5.0	8.068	A
B	1	98	1665	12.50	0.00	206	0.475	101	2.7	51.172	D
C	1	371	1915	69.50	0.00	1318	0.282	374	3.3	6.744	A
	2	47	504	69.50	0.00	347	0.137	48	0.4	6.415	A

Queue Variation Results for each time segment
17:00 - 17:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:15 - 17:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:30 - 17:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:45 - 18:00

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

18:00 - 18:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

18:15 - 18:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

Pearse Road / Cairns Road - 2023 Year of Opening With Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue percentiles	Analysis Options	Queue percentiles cannot be calculated for signalised junction unless in Lane Simulation mode.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Signalised		27.35	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-22	Arm B - Traffic Stream 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2023 Year of Opening With Development	AM	ONE HOUR	08:15	09:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	452	100.000
B		✓	307	100.000
C		✓	654	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	96	356
	B	248	0	59
	C	636	18	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max DOS	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
A	0.43	10.56	4.3	?	B
B	0.90	64.88	8.4	?	E
C	0.77	21.34	8.2	?	C

Main Results for each time segment

08:15 - 08:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	72	1665	48.50	0.00	1262	0.057	71	0.3	2.066	A
	2	268	1915	30.50	0.00	913	0.294	258	2.6	11.183	B
B	1	231	1665	14.50	0.00	377	0.613	216	3.7	30.693	C
C	1	479	1915	30.50	0.00	913	0.525	460	4.8	14.282	B
	2	14	831	30.50	0.00	396	0.034	13	0.1	9.106	A

08:30 - 08:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	86	1665	48.50	0.00	1262	0.068	86	0.4	2.105	A
	2	320	1915	30.50	0.00	913	0.351	318	3.1	11.812	B
B	1	276	1665	14.50	0.00	377	0.732	271	4.9	36.979	D
C	1	572	1915	30.50	0.00	913	0.626	567	5.9	16.419	B
	2	16	691	30.50	0.00	329	0.049	16	0.2	9.317	A

08:45 - 09:00

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	106	1665	48.50	0.00	1262	0.084	105	0.5	2.161	A
	2	392	1915	30.50	0.00	913	0.429	389	3.8	12.811	B
B	1	338	1665	14.50	0.00	377	0.896	326	7.9	54.156	D
C	1	700	1915	30.50	0.00	913	0.767	692	8.0	21.173	C
	2	20	536	30.50	0.00	255	0.078	20	0.2	9.815	A

09:00 - 09:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	106	1665	48.50	0.00	1262	0.084	106	0.5	2.161	A
	2	392	1915	30.50	0.00	913	0.429	392	3.8	12.823	B
B	1	338	1665	14.50	0.00	377	0.896	336	8.4	64.876	E
C	1	700	1915	30.50	0.00	913	0.767	700	8.0	21.662	C
	2	20	536	30.50	0.00	255	0.078	20	0.2	9.816	A

09:15 - 09:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	86	1665	48.50	0.00	1262	0.068	87	0.4	2.105	A
	2	320	1915	30.50	0.00	913	0.351	323	3.1	11.826	B
B	1	276	1665	14.50	0.00	377	0.732	289	5.1	41.864	D
C	1	572	1915	30.50	0.00	913	0.626	580	6.0	16.647	B
	2	16	691	30.50	0.00	329	0.049	16	0.2	9.318	A

09:30 - 09:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	72	1665	48.50	0.00	1262	0.057	73	0.3	2.066	A
	2	268	1915	30.50	0.00	913	0.294	270	2.6	11.192	B
B	1	231	1665	14.50	0.00	377	0.613	236	3.8	31.906	C
C	1	479	1915	30.50	0.00	913	0.525	483	4.8	14.374	B
	2	14	831	30.50	0.00	396	0.034	14	0.1	9.106	A

Queue Variation Results for each time segment

08:15 - 08:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

08:30 - 08:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

08:45 - 09:00

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:00 - 09:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:15 - 09:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:30 - 09:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

Pearse Road / Cairns Road - 2023 Year of Opening With Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue percentiles	Analysis Options	Queue percentiles cannot be calculated for signalised junction unless in Lane Simulation mode.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Signalised		15.13	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-100	Arm B - Traffic Stream 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2023 Year of Opening With Development	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	910	100.000
B		✓	145	100.000
C		✓	570	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	175	735
	B	107	0	38
	C	498	72	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max DOS	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
A	0.62	9.63	8.5	?	A
B	0.75	70.75	5.1	?	E
C	0.48	9.77	5.9	?	A

Main Results for each time segment

17:00 - 17:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	132	1665	82.50	0.00	1402	0.094	129	0.6	1.491	A
	2	553	1915	66.50	0.00	1299	0.426	533	5.0	8.356	A
B	1	109	1665	12.50	0.00	212	0.514	98	2.9	49.956	D
C	1	375	1915	66.50	0.00	1299	0.289	362	3.4	6.973	A
	2	54	488	66.50	0.00	331	0.164	52	0.5	6.963	A

17:15 - 17:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	157	1665	82.50	0.00	1402	0.112	157	0.7	1.548	A
	2	661	1915	66.50	0.00	1299	0.508	656	6.1	9.453	A
B	1	130	1665	12.50	0.00	212	0.614	127	3.6	55.403	E
C	1	448	1915	66.50	0.00	1299	0.345	445	4.0	7.487	A
	2	65	363	66.50	0.00	246	0.263	64	0.6	9.241	A

17:30 - 17:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	193	1665	82.50	0.00	1402	0.137	192	0.8	1.632	A
	2	809	1915	66.50	0.00	1299	0.623	803	7.7	11.493	B
B	1	160	1665	12.50	0.00	212	0.752	154	5.0	66.450	E
C	1	548	1915	66.50	0.00	1299	0.422	544	5.0	8.313	A
	2	79	242	66.50	0.00	164	0.483	78	1.0	19.021	B

17:45 - 18:00

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	193	1665	82.50	0.00	1402	0.137	193	0.8	1.632	A
	2	809	1915	66.50	0.00	1299	0.623	809	7.7	11.538	B
B	1	160	1665	12.50	0.00	212	0.752	159	5.1	70.754	E
C	1	548	1915	66.50	0.00	1299	0.422	548	5.0	8.319	A
	2	79	242	66.50	0.00	164	0.483	79	1.0	19.797	B

18:00 - 18:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	157	1665	82.50	0.00	1402	0.112	158	0.7	1.549	A
	2	661	1915	66.50	0.00	1299	0.508	667	6.1	9.486	A
B	1	130	1665	12.50	0.00	212	0.614	136	3.7	58.451	E
C	1	448	1915	66.50	0.00	1299	0.345	452	4.0	7.493	A
	2	65	363	66.50	0.00	246	0.263	66	0.6	9.358	A

18:15 - 18:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	132	1665	82.50	0.00	1402	0.094	132	0.6	1.491	A
	2	553	1915	66.50	0.00	1299	0.426	558	5.0	8.373	A
B	1	109	1665	12.50	0.00	212	0.514	112	2.9	51.359	D
C	1	375	1915	66.50	0.00	1299	0.289	378	3.4	6.978	A
	2	54	488	66.50	0.00	331	0.164	55	0.5	6.979	A

Queue Variation Results for each time segment
17:00 - 17:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:15 - 17:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:30 - 17:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:45 - 18:00

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

18:00 - 18:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

18:15 - 18:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

Pearse Road / Cairns Road - 2028 Year of Opening + 5 With Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue percentiles	Analysis Options	Queue percentiles cannot be calculated for signalised junction unless in Lane Simulation mode.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Signalised		26.09	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-18	Arm B - Traffic Stream 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2028 Year of Opening + 5 With Development	AM	ONE HOUR	08:15	09:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	479	100.000
B		✓	327	100.000
C		✓	692	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	101	378
	B	261	0	66
	C	674	18	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max DOS	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
A	0.45	11.85	5.2	?	B
B	0.83	49.62	7.8	?	D
C	0.80	24.84	10.0	?	C

Main Results for each time segment

08:15 - 08:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	76	1665	59.50	0.00	1321	0.058	75	0.3	1.778	A
	2	285	1915	36.50	0.00	932	0.305	272	3.1	12.630	B
B	1	246	1665	19.50	0.00	433	0.569	229	4.2	30.376	C
C	1	507	1915	36.50	0.00	932	0.544	484	5.8	16.188	B
	2	14	785	36.50	0.00	382	0.035	13	0.1	10.263	B

08:30 - 08:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	91	1665	59.50	0.00	1321	0.069	91	0.4	1.815	A
	2	340	1915	36.50	0.00	932	0.365	337	3.8	13.351	B
B	1	294	1665	19.50	0.00	433	0.679	289	5.4	34.832	C
C	1	606	1915	36.50	0.00	932	0.650	600	7.2	18.693	B
	2	16	644	36.50	0.00	313	0.052	16	0.2	10.511	B

08:45 - 09:00

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	111	1665	59.50	0.00	1321	0.084	111	0.5	1.867	A
	2	416	1915	36.50	0.00	932	0.447	413	4.7	14.500	B
B	1	360	1665	19.50	0.00	433	0.832	351	7.7	45.766	D
C	1	742	1915	36.50	0.00	932	0.796	732	9.7	24.498	C
	2	20	491	36.50	0.00	239	0.083	20	0.2	11.112	B

09:00 - 09:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	111	1665	59.50	0.00	1321	0.084	111	0.5	1.867	A
	2	416	1915	36.50	0.00	932	0.447	416	4.7	14.514	B
B	1	360	1665	19.50	0.00	433	0.832	359	7.8	49.615	D
C	1	742	1915	36.50	0.00	932	0.796	742	9.8	25.204	C
	2	20	491	36.50	0.00	239	0.083	20	0.2	11.115	B

09:15 - 09:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	91	1665	59.50	0.00	1321	0.069	91	0.4	1.815	A
	2	340	1915	36.50	0.00	932	0.365	343	3.8	13.366	B
B	1	294	1665	19.50	0.00	433	0.679	303	5.4	36.591	D
C	1	606	1915	36.50	0.00	932	0.650	616	7.2	18.983	B
	2	16	644	36.50	0.00	313	0.052	16	0.2	10.512	B

09:30 - 09:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	76	1665	59.50	0.00	1321	0.058	76	0.3	1.778	A
	2	285	1915	36.50	0.00	932	0.305	287	3.1	12.640	B
B	1	246	1665	19.50	0.00	433	0.569	251	4.3	30.971	C
C	1	507	1915	36.50	0.00	932	0.544	513	5.8	16.294	B
	2	14	785	36.50	0.00	382	0.035	14	0.1	10.263	B

Queue Variation Results for each time segment

08:15 - 08:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

08:30 - 08:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

08:45 - 09:00

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:00 - 09:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:15 - 09:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:30 - 09:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

Pearse Road / Cairns Road - 2028 Year of Opening + 5 With Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue percentiles	Analysis Options	Queue percentiles cannot be calculated for signalised junction unless in Lane Simulation mode.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Signalised		16.12	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-100	Arm B - Traffic Stream 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2028 Year of Opening + 5 With Development	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	966	100.000
B		✓	151	100.000
C		✓	604	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	187	779
	B	112	0	39
	C	528	76	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max DOS	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
A	0.66	10.46	9.4	?	B
B	0.75	71.52	5.4	?	E
C	0.58	11.33	6.7	?	B

Main Results for each time segment

17:00 - 17:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	141	1665	86.50	0.00	1412	0.100	138	0.6	1.456	A
	2	586	1915	69.50	0.00	1305	0.449	564	5.5	8.817	A
B	1	114	1665	13.50	0.00	220	0.516	101	3.1	50.973	D
C	1	398	1915	69.50	0.00	1305	0.305	383	3.7	7.264	A
	2	57	446	69.50	0.00	304	0.188	55	0.5	7.570	A

17:15 - 17:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	168	1665	86.50	0.00	1412	0.119	168	0.7	1.517	A
	2	700	1915	69.50	0.00	1305	0.537	696	6.7	10.082	B
B	1	136	1665	13.50	0.00	220	0.616	133	3.9	56.353	E
C	1	475	1915	69.50	0.00	1305	0.364	472	4.4	7.837	A
	2	68	326	69.50	0.00	222	0.307	68	0.7	10.773	B

17:30 - 17:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	206	1665	86.50	0.00	1412	0.146	205	0.9	1.605	A
	2	858	1915	69.50	0.00	1305	0.657	850	8.5	12.519	B
B	1	166	1665	13.50	0.00	220	0.754	161	5.3	67.329	E
C	1	581	1915	69.50	0.00	1305	0.446	577	5.5	8.771	A
	2	84	212	69.50	0.00	144	0.581	82	1.2	26.811	C

17:45 - 18:00

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	206	1665	86.50	0.00	1412	0.146	206	0.9	1.605	A
	2	858	1915	69.50	0.00	1305	0.657	858	8.5	12.583	B
B	1	166	1665	13.50	0.00	220	0.754	166	5.4	71.520	E
C	1	581	1915	69.50	0.00	1305	0.446	581	5.5	8.778	A
	2	84	212	69.50	0.00	144	0.581	84	1.2	29.046	C

18:00 - 18:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	168	1665	86.50	0.00	1412	0.119	169	0.7	1.517	A
	2	700	1915	69.50	0.00	1305	0.537	708	6.7	10.126	B
B	1	136	1665	13.50	0.00	220	0.616	141	4.0	59.269	E
C	1	475	1915	69.50	0.00	1305	0.364	479	4.4	7.845	A
	2	68	326	69.50	0.00	222	0.307	70	0.7	11.051	B

18:15 - 18:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	141	1665	86.50	0.00	1412	0.100	141	0.6	1.456	A
	2	586	1915	69.50	0.00	1305	0.449	591	5.5	8.839	A
B	1	114	1665	13.50	0.00	220	0.516	117	3.1	52.302	D
C	1	398	1915	69.50	0.00	1305	0.305	400	3.7	7.269	A
	2	57	446	69.50	0.00	304	0.188	58	0.5	7.598	A

Queue Variation Results for each time segment
17:00 - 17:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:15 - 17:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:30 - 17:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:45 - 18:00

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

18:00 - 18:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

18:15 - 18:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

Pearse Road / Cairns Road - 2038 Year of Opening + 15 With Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue percentiles	Analysis Options	Queue percentiles cannot be calculated for signalised junction unless in Lane Simulation mode.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Signalised		29.35	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-23	Arm B - Traffic Stream 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2038 Year of Opening + 15 With Development	AM	ONE HOUR	08:15	09:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	505	100.000
B		✓	347	100.000
C		✓	731	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	106	399
	B	275	0	72
	C	712	19	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max DOS	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
A	0.46	12.22	5.6	?	B
B	0.87	58.06	9.2	?	E
C	0.83	27.55	11.2	?	C

Main Results for each time segment

08:15 - 08:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	80	1665	62.50	0.00	1334	0.060	78	0.3	1.721	A
	2	300	1915	38.50	0.00	945	0.318	287	3.4	12.931	B
B	1	261	1665	20.50	0.00	438	0.597	242	4.7	32.065	C
C	1	536	1915	38.50	0.00	945	0.567	511	6.3	16.848	B
	2	14	749	38.50	0.00	370	0.039	14	0.2	10.432	B

08:30 - 08:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	95	1665	62.50	0.00	1334	0.071	95	0.4	1.758	A
	2	359	1915	38.50	0.00	945	0.379	356	4.1	13.711	B
B	1	312	1665	20.50	0.00	438	0.713	307	6.0	37.372	D
C	1	640	1915	38.50	0.00	945	0.677	634	7.9	19.715	B
	2	17	609	38.50	0.00	300	0.057	17	0.2	10.723	B

08:45 - 09:00

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	117	1665	62.50	0.00	1334	0.087	116	0.5	1.811	A
	2	439	1915	38.50	0.00	945	0.465	435	5.1	14.966	B
B	1	382	1665	20.50	0.00	438	0.873	370	8.9	51.427	D
C	1	784	1915	38.50	0.00	945	0.829	772	10.9	26.840	C
	2	21	458	38.50	0.00	226	0.092	21	0.2	11.449	B

09:00 - 09:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	117	1665	62.50	0.00	1334	0.087	117	0.5	1.811	A
	2	439	1915	38.50	0.00	945	0.465	439	5.1	14.983	B
B	1	382	1665	20.50	0.00	438	0.873	381	9.2	58.058	E
C	1	784	1915	38.50	0.00	945	0.829	784	10.9	27.977	C
	2	21	458	38.50	0.00	226	0.092	21	0.2	11.453	B

09:15 - 09:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	95	1665	62.50	0.00	1334	0.071	96	0.4	1.758	A
	2	359	1915	38.50	0.00	945	0.379	363	4.1	13.728	B
B	1	312	1665	20.50	0.00	438	0.713	324	6.1	40.164	D
C	1	640	1915	38.50	0.00	945	0.677	652	7.9	20.118	C
	2	17	609	38.50	0.00	300	0.057	17	0.2	10.724	B

09:30 - 09:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	80	1665	62.50	0.00	1334	0.060	80	0.3	1.721	A
	2	300	1915	38.50	0.00	945	0.318	303	3.4	12.943	B
B	1	261	1665	20.50	0.00	438	0.597	267	4.7	32.838	C
C	1	536	1915	38.50	0.00	945	0.567	542	6.3	16.977	B
	2	14	749	38.50	0.00	370	0.039	14	0.2	10.432	B

Queue Variation Results for each time segment

08:15 - 08:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

08:30 - 08:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

08:45 - 09:00

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:00 - 09:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:15 - 09:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

09:30 - 09:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

Pearse Road / Cairns Road - 2038 Year of Opening + 15 With Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue percentiles	Analysis Options	Queue percentiles cannot be calculated for signalised junction unless in Lane Simulation mode.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Signalised		17.47	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-100	Arm B - Traffic Stream 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2038 Year of Opening + 15 With Development	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	1018	100.000
B		✓	154	100.000
C		✓	636	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	196	822
	B	112	0	42
	C	557	79	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max DOS	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS
A	0.68	10.89	10.0	?	B
B	0.79	80.20	5.9	?	F
C	0.66	12.80	7.3	?	B

Main Results for each time segment

17:00 - 17:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	148	1665	89.50	0.00	1419	0.104	145	0.6	1.432	A
	2	619	1915	72.50	0.00	1322	0.468	596	5.8	8.869	A
B	1	116	1665	13.50	0.00	214	0.542	103	3.3	53.872	D
C	1	419	1915	72.50	0.00	1322	0.317	404	3.9	7.203	A
	2	59	416	72.50	0.00	287	0.207	57	0.6	7.816	A

17:15 - 17:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	176	1665	89.50	0.00	1419	0.124	176	0.8	1.495	A
	2	739	1915	72.50	0.00	1322	0.559	734	7.1	10.259	B
B	1	138	1665	13.50	0.00	214	0.647	135	4.2	60.269	E
C	1	501	1915	72.50	0.00	1322	0.379	498	4.7	7.813	A
	2	71	299	72.50	0.00	207	0.343	70	0.7	11.916	B

17:30 - 17:45

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	216	1665	89.50	0.00	1419	0.152	215	0.9	1.587	A
	2	905	1915	72.50	0.00	1322	0.684	897	9.1	13.027	B
B	1	170	1665	13.50	0.00	214	0.792	163	5.8	73.792	E
C	1	613	1915	72.50	0.00	1322	0.464	609	5.8	8.818	A
	2	87	190	72.50	0.00	131	0.664	84	1.5	35.543	D

17:45 - 18:00

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	216	1665	89.50	0.00	1419	0.152	216	0.9	1.587	A
	2	905	1915	72.50	0.00	1322	0.684	905	9.1	13.113	B
B	1	170	1665	13.50	0.00	214	0.792	169	5.9	80.198	F
C	1	613	1915	72.50	0.00	1322	0.464	613	5.8	8.826	A
	2	87	190	72.50	0.00	131	0.664	87	1.5	40.785	D

18:00 - 18:15

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	176	1665	89.50	0.00	1419	0.124	177	0.8	1.495	A
	2	739	1915	72.50	0.00	1322	0.559	747	7.1	10.312	B
B	1	138	1665	13.50	0.00	214	0.647	145	4.3	64.526	E
C	1	501	1915	72.50	0.00	1322	0.379	505	4.7	7.821	A
	2	71	299	72.50	0.00	207	0.343	74	0.8	12.504	B

18:15 - 18:30

Arm	Traffic Stream	Total Demand (PCU/hr)	Calculated saturation flow (PCU/hr)	Effective green time (s)	NEEG (s)	Capacity (PCU/hr)	DOS	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Signalised level of service
A	1	148	1665	89.50	0.00	1419	0.104	148	0.6	1.432	A
	2	619	1915	72.50	0.00	1322	0.468	624	5.8	8.895	A
B	1	116	1665	13.50	0.00	214	0.542	120	3.3	55.660	E
C	1	419	1915	72.50	0.00	1322	0.317	422	3.9	7.209	A
	2	59	416	72.50	0.00	287	0.207	60	0.6	7.857	A

Queue Variation Results for each time segment
17:00 - 17:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:15 - 17:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:30 - 17:45

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

17:45 - 18:00

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

18:00 - 18:15

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A

18:15 - 18:30

Arm	Traffic Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A
B	1	0.00	~1	~1	~1	~1			N/A	N/A
C	1	0.00	~1	~1	~1	~1			N/A	N/A
	2	0.00	~1	~1	~1	~1			N/A	N/A