Sydney Harbour Bridge Cycleway – Northern Access Project

Traffic Impact Assessment

Transport for NSW

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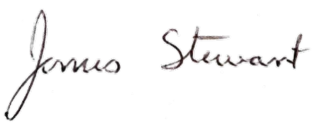
Author signature		Approver signature	
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1 Introduction

This report has been prepared to accompany the Sydney Harbour Bridge (SHB) Cycleway – Northern Access Project (the Project), which will be a sensitive and beautifully resolved work of architecture that successfully addresses the multiple challenges of its heritage and parkland setting, cyclists' needs, Country, and engineering. It will enhance its setting and be an asset to cyclists and non-cyclists alike.

The project will provide a solution to the long-standing problem of cycle access – the existing 55 steps – at the northern end of the busiest cycleway in Sydney which currently causes safety, capacity, and equity issues.

The project consists of two key components which will be seamlessly integrated:

1. Cycleway Ramp - A bidirectional cycle ramp connecting to the northern end of the Sydney Harbour Bridge Cycleway to the shared path in Bradfield Park North, on the eastern side of Alfred Street.

2. Alfred Street Cycleway - A shared path facility from the edge of the Milsons Point Station Plaza to the ramp connection point in Bradfield Park North, and a separated cycleway north from this point which crosses Alfred Street and then Lavender Street before re-joining with the existing cycleway and pedestrian paths.

The project will become an international benchmark for active transport in a sensitive heritage setting.

1.1 Project objectives

In addition to the operational purpose of the works, the Project Objectives are to:

- Enable cycling to become a competitive choice for travel for shorter trips in and around our city and a predicted cycling travel mode share increase
- Improve infrastructure that supports growth by more sustainable travel options
- Reduce the number of safety incidents at the access to the SHB cycleway
- Respect both Aboriginal and non-Aboriginal heritage and open space amenities
- Provide equity of access

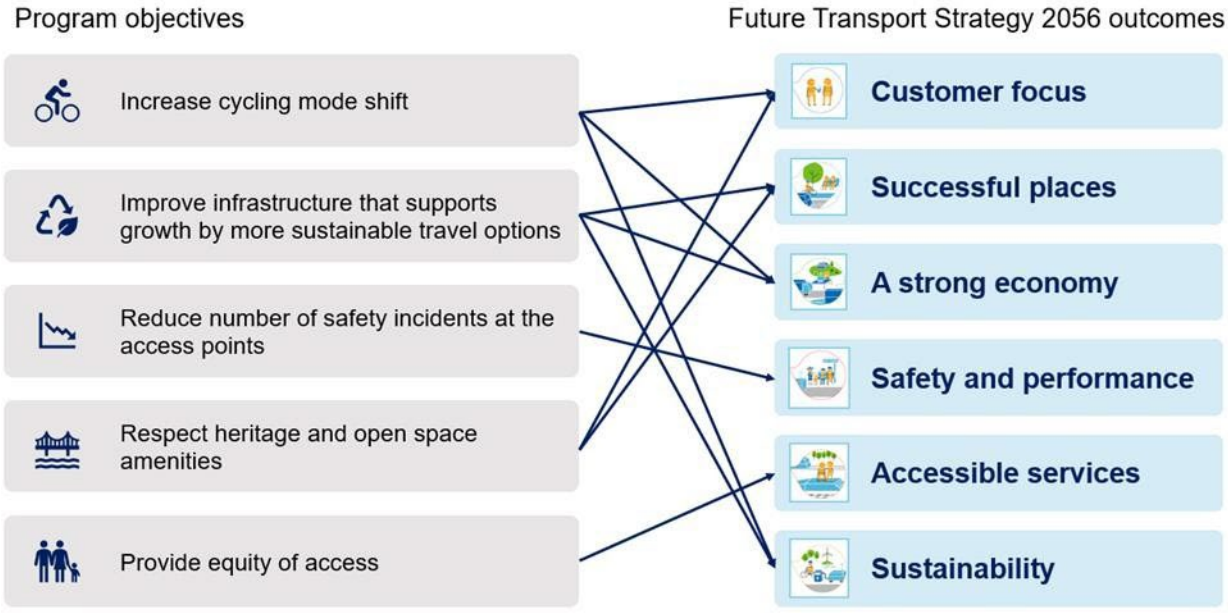


Figure 1-1: Program objectives and alignment to Future Transport Strategy 2056's outcomes

1.2 Report purpose

This report has been prepared to provide a traffic impact assessment in accordance with Austroads Guideline to Traffic Management Part 2, Australian Standard/New Zealand Standards, and relevant local environmental and developmental plans. The assessment of the anticipated transport implication of the proposed development includes consideration of the following:

- Existing condition of traffic and parking surrounding the development site
- Interfacing with the existing environment
- The transport impact of the development proposal on the surrounding road network

1.3 Data collection

Traffic surveys and pedestrian surveys were undertaken along the Alfred Street South corridor at the following locations the traffic survey results are summarised in section 2.3:

- Roundabout at Alfred Street South / Lavender Street / Middlemiss Street / Entry and Exit ramps to the Warringah Freeway
- Intersection at Alfred Street South / Burton Street
- Signalised pedestrian crossing in Alfred Street South, immediately outside the Milsons Point Station

2 Existing Area Conditions

2.1 Study Area

The site is located in Milsons Point, North Sydney along the western side of the Warringah Freeway, towards the northern side of the Sydney Harbour Bridge. The site is located within the 'Milsons Point Town Centre' within the 'Lavender Bay Planning Area' as detailed in the 'North Sydney Development Control Plan 2013' document.

Figure 2-1: Aerial image of existing site. Source: Nearmaps

The local environmental plans (LEP) of 2013 outlines the land uses of the existing site, with Alfred Street as a B4 mixed use land zone, Milson Point Station as a SP2 infrastructure Railway, and the remainder of the site is a mix of RE1 public recreational and historical land zones.

2.2 Surrounding Road Network

The road hierarchy allocated to the road network in the vicinity of the site by Transport for New South Wales (TfNSW) is as follows.

2.2.1 Warringah Freeway

Warringah Freeway is a state road east of the proposed cycleway, connecting to an off ramp for the Harbour Bridge northbound traffic to Milsons Point and an on ramp to the northbound traffic. Warringah Freeway Exit ramp westbound leg connects to the Alfred Street / Lavender Street roundabout, including a left turn slip lane connection with Alfred Street. Northbound connection with the Pacific Highway from the Alfred Street / Lavender Street roundabout.

2.2.2 Alfred Street South

Alfred Street South is a two-way single-carriage local street with parallel kerbside parking provisions on both sides of the street. The roundabout north of Alfred Street South provides further connection to Pacific Highway, Lavender Street, and Middlemiss Street.

2.2.3 Lavender Street

Lavender Street is a two-way single-carriage local street with parallel kerbside parking provisions on both sides of the street. The street has no existing parking within the project extents. The roundabout east of Lavender Street provides access from the Harbour Bridge northbound off ramp, northbound connection with the Pacific Highway, as well as Alfred Street. East of Lavender Street has zebra crossing.

2.2.4 Middlemiss Street

Middlemiss Street is a one-way southbound local street with a contra flow cycle lane and parallel kerbside parking provisions.

2.2.5 Cliff Street

Cliff Street is a one-way westbound local street connecting Alfred Street to Lavender Street with parallel kerbside parking provisions.

2.2.6 Glen Street

Glen Street is a one-way northbound local street connecting to Alfred Street with parallel kerbside parking provisions.

2.2.7 Burton Street

Burton Street is a no through two-way single-carriage street with kerbside parking provisions on both sides of the road. The street is south of Milsons Point train Station, beneath the SHB, with access from Alfred Street South.

2.3 Traffic Volumes and Conditions

An indication of the existing traffic conditions on the road network in the vicinity of the subject site is provided by traffic surveys and pedestrian surveys which were undertaken as a part of this traffic study. The surveys were conducted over a period of seven (7) days, from Friday, 25 NOV 2022 to the Thursday, 1 DEC 2022, at the following locations:

- Roundabout at Alfred Street South / Lavender Street / Middlemiss Street / Entry and Exit ramps to the Warringah Freeway
- Intersection at Alfred Street South (S) / Burton Street
- Signalised pedestrian crossing in Alfred Street South, immediately outside the Milsons Point train Station

It is noted that on day 6 of the survey period, Wednesday 30th DEC 2022 ,the location was observed to have the highest vehicle counts across the network during the AM and PM peak hours which were 7:45am to 8:45am and 5:30pm to 6:30pm respectively. The full results of the traffic survey and pedestrian survey are provided in Appendix A.

Table 2-1: Traffic volumes for the roundabout north of Alfred Street

Road	AM Peak Volume	PM Peak Volume
Exit Ramp from Warringah Freeway	452	454
Middlemiss Street	117	57
Lavender Street	395	320
Alfred Street South (S)	422	492

Table 2-2: Traffic volumes of the signalised intersection on Alfred Street South

Road	AM Peak Volume	PM Peak Volume
Alfred Street S from Cliff Street	732	607
Alfred Street S from Burton Street	359	292

Table 2-3: Traffic volumes for Alfred Street South and Burton Street intersection

Road	AM Peak Volume	PM Peak Volume
Alfred Street S north of Burton Street		420
Burton Street	77	63
Alfred Street S of Burton Street	306	241

2.4 Vehicle Parking

Kerbside, on street, parking provisions are provided alongside Alfred Street South, Lavender Street, Middlemiss Street, Cliff Street, Glen Street, and Burton Street. The parking provisions are for short stay of two hours or less, with 4-hour parking available on Burton Street. The on-street parking in the area is shown in Figure 2-2.

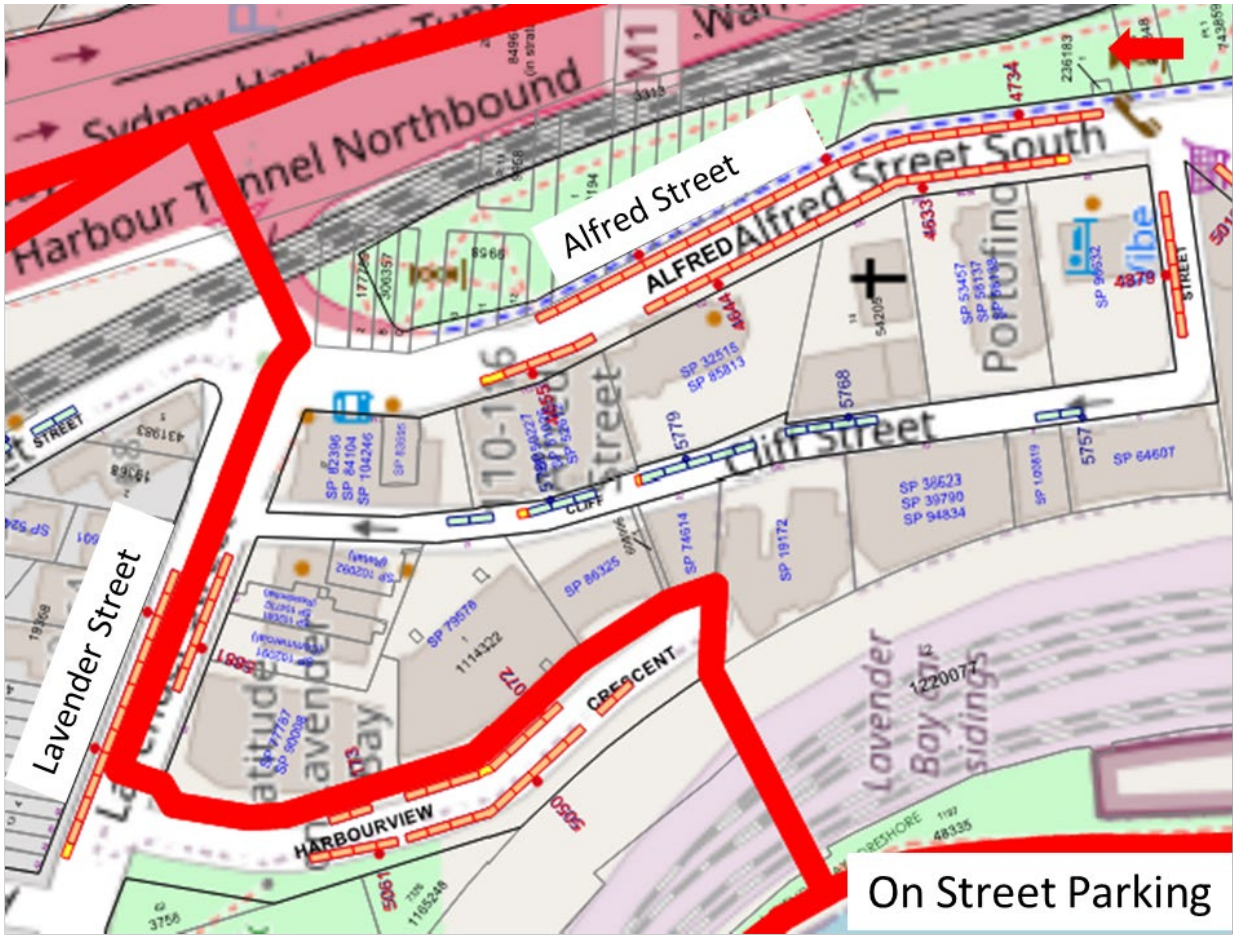


Figure 2-2: On Street Parking Map Source: City of North Sydney Mapping

2.5 Pedestrian Connectivity

The site is located in an area which experiences high levels of pedestrian activity due to its proximity to residential, commercial, and retail buildings. It is also noted Milsons Point Station, located just south of the site, is located within approximately 400m walking distance from Luna Park which is a large entertainment centre.

Table 2-4: Pedestrian crossing movement volumes

Road	AM Peak Volume	PM Peak Volume
Warringah Freeway Ramp	30	97
Middlemiss Street at roundabout near Alfred Street S	30	29
Lavender Street pedestrian crossing	147	134
Alfred Street S at roundabout near Lavender Street	21	74
Alfred Street S between Cliff Street and Burton Street	437	376
Alfred Street S north of Burton Street	5	15
Burton Street near Alfred Street S	146	194
Alfred Street S south of Burton Street	56	46

2.6 Cycle Connectivity

The project area is highly utilised by cyclists, multiple types of cyclist's infrastructure are provided on each street. For instance, a dedicated northbound on road cycle way provided on Middlemiss Street, and southbound cyclist are permitted on road. Cyclists on Alfred Street are currently using the eastern off road shared path or cycling on road to access. A summary of the cyclists count is provided in the Table 2-5.

Table 2-5: Cyclist movement volumes

Road	AM Peak Volume	PM Peak Volume
Warringah Freeway Ramp		0
Middlemiss Street at roundabout near Alfred Street S	93	33
Lavender Street pedestrian crossing	48	14
Alfred Street S at roundabout near Lavender Street	65	126
Alfred Street S between Cliff Street and Burton Street	182	99
Alfred Street S north of Burton Street	80	37
Burton Street near Alfred Street S	42	51
Alfred Street S south of Burton Street	3	2

2.7 Public Transport Connectivity

Milson Point Station represent the key transport infrastructure within the project area which provide access to the T1, T9 and The Central Coast and Newcastle services.

Bus services also service the project area with a bus stop on Alfred Street southbound and northbound, in addition to rail replacement buses. The bus stop on Alfred Street southbound services the 150X, 154X, 209, 228, 229, 230, 286, 287 and 622 bus services. The bus stop on Alfred Street northbound servicing the 150X,154X, 203, 209, 228, 229, 230, 269, 286, 287 and 622 bus services.

Table 2-6 and Table 2-7 below summarises the direction of each bus service at the Alfred Street South and Lavender Street intersection.

Another bus stop is located on Lavender Street eastbound approximately 20m west of the intersection of Alfred Street South and Lavender Street servicing the following bus services: 150X, 154X, 209, 228, 229,

230, 286, 287 and 622 services. All the bus services at this bus stop will continue southbound at the Alfred Street South and Lavender Street intersection.

Table 2-6: Inbound direction of travel for southbound buses services at bus stop on Alfred Street South

Southbound Bus Services at Bus Stop on Alfred Street		
Bus Service	Inbound Direction of Travel	
	Inbound Direction to Alfred Street South and Lavender Street Intersection	Inbound Leg Name
150X	West	Lavender Street
154X	West	Lavender Street
209	West	Lavender Street
228	West	Lavender Street
229	West	Lavender Street
230	West	Lavender Street
286	West	Lavender Street
287	West	Lavender Street
622	West	Lavender Street

Table 2-7: Outbound direction of travel for northbound buses services at bus stop on Alfred Street South

Northbound Bus Services at Bus Stop on Alfred Street		
Bus Service	Outbound Direction of Travel	
	Outbound Direction to Alfred Street South and Lavender Street Intersection	Outbound Leg Name
150X	East	Ramp
154X	East	Ramp
203	East	Ramp
209	East	Ramp
228	East	Ramp
229	East	Ramp
230	East	Ramp
269	East	Ramp
287	East	Ramp
622	East	Ramp

2.8 Crash Data

Based on the Crash Data available on TfNSW interactive crash map, two serios injury crashes were recorded for the period from 2017-2021.

One Crash involving cyclist recorder on Alfred St north of Burton Street and the second crash was a vehicle crash RUM code 80 crash recorded at the roundabout of Lavender Street and Alfred Street intersection.

Four minor damage crashes involving cyclists were recorded on Alfred Street for the same time period, one at the intersection of Lavender Street and Alfred Street roundabout and the other two crashes were at the midblock section of Alfred Street between Lavender Street and Burton Street.

3 Proposed Road Modifications or Improvements

3.1 Overview

The project can be broken into four sectors to help understand the key design features. Figure 3-1 below, indicates the sector extents over the length of the project. An abbreviated scope is described per sector, which is correct at the time of carrying out the assessment and modelling (Jan 2023).

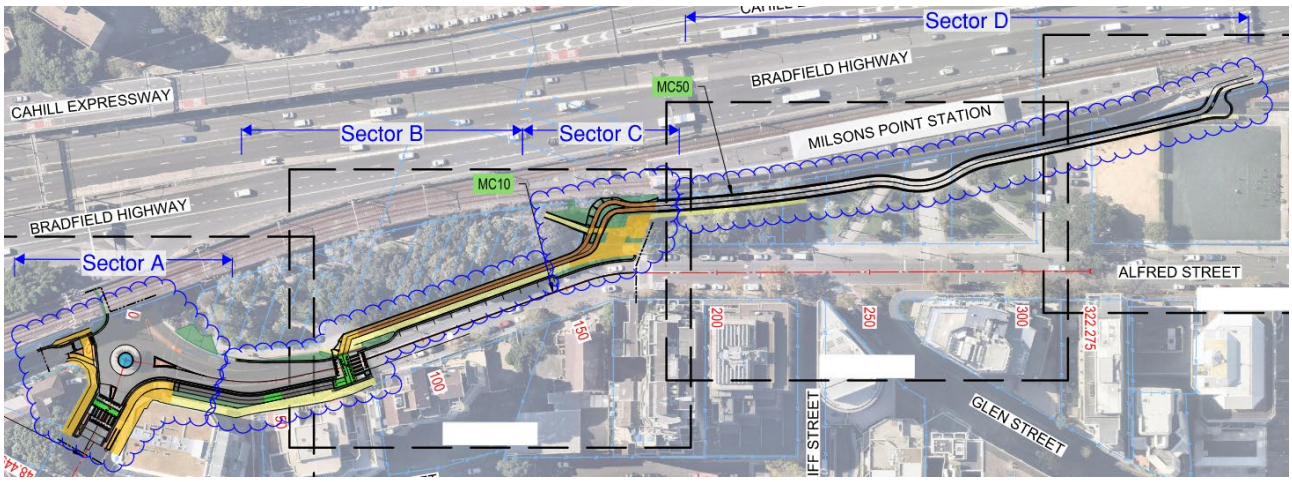


Figure 3-1: The Project Extent Source: Sydney Harbour Bridge Cycleway - Northern Access Project – Detailed Design Report, Aurecon

Sector A includes:

- Roundabout intersection of Alfred Street, Lavender Street and Middlemiss Street. Modifications to the existing roundabout include:
- A new shared zone crossing on Middlemiss Street
- A shared path connection between Middlemiss Street and Lavender Street crossing around the corner bordering Lavender St 68
- A combined pedestrian and cycle crossing on Lavender Street
- A shared path connection between Lavender Street crossing and 20m down Alfred Street, around the corner of Alfred St 126
- Narrowing the Alfred Street approach to the roundabout to accommodate the separated cycleway
- Modification to the median islands on Alfred St and Lavender St
- Removal of the pedestrian crossing of Alfred Street just south of the roundabout.
- Removal of the roundabout island, and replacement with a mountable roundabout
- Modifications to lighting and poles, and introduction of zebra / shared zone crossing lighting
- Surface drainage elements (no ‘pipe and pit’ is currently proposed)

Sector B includes:

- A separated cycleway and pedestrian footpath on the west of Alfred Street
- A new combined pedestrian and cycleway crossing on Alfred Street, including landscaping and lighting treatments
- Reduction in parking on Alfred Street to cater for the new combined cycleway and pedestrian crossing
- Separated cycleway and pedestrian path on the eastern side of Alfred Street including kerb alignment modifications north of the landing area

Sector C includes:

- Northern portion of the ramp connection from the Sydney Harbour Bridge cycleway
- New landscaping, lighting, and shared zone at the ramp landing in Bradfield Park
- Reduction in parking on Alfred Street to cater for new combined cycleway and pedestrian crossing
- Modifications to lighting and poles
- Surface drainage elements (no ‘pipe and pit’ is currently proposed)

Sector D includes:

- New ramp connection to the Sydney Harbour Bridge cycleway
- ‘Pipe and pit’ connection to accommodate structure drainage (structural drainage details TBC)
- Modification to the access road going south from Burton Street. Extents and details of change to be confirmed based upon Architectural / Structural details
- Relocation of the existing Alfred Street bus stop further south to an in-lane bus stop

4 Projected Traffic Analysis

4.1 Overview

To ensure the proposed intersections are operating efficiently with the increased school traffic, intersection performance analysis was undertaken using SIDRA (version 9). SIDRA is a vehicle and model parameter software, used to assess vehicle movement and the performance of the intersection, according to industry standard guidelines for intersection queuing and congestion. Level of Service (LOS) criteria, as per the Highway Capacity Manual definition, are used to access the performance of each intersection, with LOS A being a low level of delay, to LOS F being a high level of delay.

4.1.1 Scenarios

As part of this traffic study, the following scenarios were considered to understand the conditions of the existing network, conditions at the opening year which is expected to be 2024 and the network conditions after a 10 year growth period.

- Existing Base Year, this scenario will provide an indication of the current roads' capacity and intersections performance
- Opening Year 2024 No Development, this scenario will provide an indication of the roads' capacity and intersections performance with the expected growth within the area, without the development
- Opening Year 2024 With Development, this scenario will provide an indication of the roads' capacity and intersections performance with the expected growth within the area and the implementation of the project
- 2034 No Development, this scenario will provide an indication of the roads' capacity and intersections performance with the expected growth within the area after a 10 year growth period from 2024, without the development
- 2034 With Development, this scenario will provide an indication of the roads' capacity and intersections performance with the expected growth within the area after a 10 year growth period from 2024 and the implementation of the project

As part of the Opening Year 2024 and 10 Year Growth period to 2034 assessments, a number of cyclists distribution scenarios were also assessed to replicate the varying levels of experienced and unexperienced cyclists. The following crossing utilisation scenarios were considered at the zebra crossing on Lavender Street, just west of the Alfred Street / Lavender Street roundabout.

- 100% crossing utilisation
- 70% crossing utilisation
- 40% crossing utilisation.

4.1.2 Assumptions

In order to perform a conservative analysis of the network conditions at the opening year of 2024 and with a 10 year growth period, a number of assumptions and trip distributions were applied, as detailed below:

- The project is assumed to have an opening year of 2024
- The following growth factors assumptions were adopted:
  - All vehicle movements = 1.5% p.a.
  - All pedestrian movements = 1.5% p.a.
  - Eastbound cyclist movements = 0% p.a.
  - Westbound cyclist movements = 2.0% p.a. (up to 2026) & 0% (from 2026 to 2034)

  The following growth factors were supplied by TfNSW:

- Northbound cyclist = 3.8% p.a. (up to 2026) & 0.7% p.a. (from 2026 to 2034)
- Southbound cyclist = 7.0% p.a. (up to 2026) & 1.5% p.a. (from 2026 to 2034)

- No growth factors were applied to the cyclists in the existing scenarios projected to 2024 and 2034, assuming that cyclist numbers would not be likely to increase without the implementation of the project
- The proposed crossing will be located approximately 50m south of the Alfred Street / Lavender Street roundabout. The eastbound and westbound pedestrians and cyclist that were crossing Alfred Street South just south of the roundabout have been distributed to the proposed crossing
- The project aims to discourage pedestrians crossing the Warringah Freeway leg of the roundabout, soft landscaping (hedge) will be installed on the north-eastern corner of the roundabout. The pedestrians that were crossing at the Highway on and off ramps have been distributed to the pedestrian crossing located on the Lavender Street leg of the roundabout. All of pedestrians that were travelling southbound have been further distributed to the eastbound pedestrians at the proposed crossing
- The cyclists that were travelling southbound along Middlemiss Street and the eastbound cyclists that were turning right into Alfred Street have been distributed to the pedestrian crossing located on the Lavender Street leg of the roundabout. These movements have been further distributed to the eastbound movements at the proposed crossing. The crossing utilisation scenarios details in Section 4.1.1 of this report were considered
- The cyclists that were travelling northbound along the Alfred Street South leg of the roundabout have been distributed to the westbound movement at proposed crossing and to the pedestrian crossing located on the Lavender Street leg of the roundabout. The crossing utilisation scenarios details in Section 4.1.1 of this report were considered
- The left and right turning cyclists from the southern approach of Alfred Street South to the roundabout will continue to cycle on-road

4.1.3 Model Validation

To ensure the model outcomes are realistic considering the limitation of the software in providing network model and to analyse zebra crossings on roundabout approaches, the queuing length of the Lavender Street results were compared to the queuing length recorded on the traffic survey. The locations of the queue length surveys are shown in Figure 4-1. The results of the queue analysis during the AM and PM peak hours at the Alfred St South / Lavender Street roundabout, have been provided in the Table 4-1 and Table 4-2 below. The full results of the queuing length survey have been provided in Appendix A.

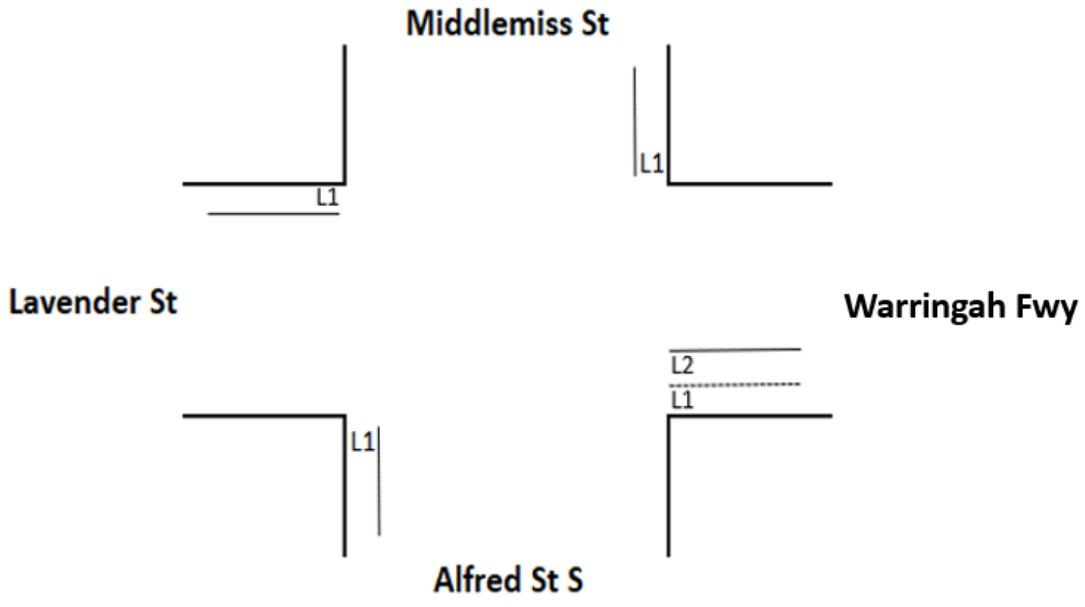


Figure 4-1: Queue Length Survey Locations Source: Matrix

Table 4-1: AM Peak Hour Queue Length Survey Results from Lavender Street and Warringah Freeway Ramp

AM			East Leg (Warringah Freeway Ramp)						West Leg (Lavender Street)		
			Lane 1			Lane 2			Lane 1		
			Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total
7:45	to	7:50	0	0	0	2	0	2	4	0	4
7:50	to	7:55	2	0	2	3	0	3	3	1	4
7:55	to	8:00	4	0	4	3	0	3	5	0	5
8:00	to	8:05	5	0	5	3	0	3	4	0	4
8:05	to	8:10	0	0	0	2	0	2	5	1	6
8:10	to	8:15	0	0	0	3	0	3	4	0	4
8:15	to	8:20	0	0	0	4	0	4	4	0	4
8:20	to	8:25	0	0	0	1	0	1	5	1	6
8:25	to	8:30	0	0	0	3	0	3	3	0	3
8:30	to	8:35	1	0	1	3	0	3	4	0	4
8:35	to	8:40	1	0	1	2	0	2	3	0	3
8:40	to	8:45	0	0	0	1	0	1	3	0	3

Table 4-2: PM Peak Hour Queue Length Survey Results from Lavender Street and Warringah Freeway Ramp

PM			East Leg (Warringah Freeway Ramp)						West Leg (Lavender Street)		
			Lane 1			Lane 2			Lane 1		
			Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total
17:30	to	17:35	0	0	0	1	0	1	4	0	4
17:35	to	17:40	0	0	0	1	0	1	1	0	1
17:40	to	17:45	0	0	0	1	0	1	5	0	5
17:45	to	17:50	1	0	1	1	0	1	3	0	3
17:50	to	17:55	0	0	0	2	0	2	4	0	4
17:55	to	18:00	0	0	0	1	0	1	3	0	3
18:00	to	18:05	2	0	2	1	0	1	5	0	5
18:05	to	18:10	2	0	2	1	0	1	3	1	4
18:10	to	18:15	0	0	0	1	0	1	3	0	3
18:15	to	18:20	0	0	0	1	0	1	4	0	4
18:20	to	18:25	1	0	1	1	1	2	3	0	3
18:25	to	18:30	0	0	0	4	0	4	4	0	4

4.1.4 Existing Base Year

As noted in the foregoing, Wednesday 30 NOV 2022, was observed to have the highest vehicle counts across the network during the AM and PM peak hours which were 7:45am to 8:45am and 5:30pm to 6:30pm respectively. A traffic flow diagram been provided in Appendix B. A model layout and the full results of the existing network has been provided in Appendix C.

The abovementioned AM and PM peak hours were modelled, and the results are summarised in Table 4-3 to Table 4-10, over page, revealing:

The eastbound approach of Lavender Street to the existing pedestrian crossing at the Alfred Street / Lavender Street / Ramp / Middlemiss Street Intersection currently operates at a Level of Service E under the existing AM peak traffic demand with Average Vehicle Delays in the order of 44.2 seconds. However, in this

instance, this is considered as acceptable as the Back of Queue in the order of 8.5 vehicles is reflective of the observed maximum back of queue which was 6 vehicles.

Table 4-3: Existing AM Peak hour results at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Alfred Street / Lavender Street / Ramp / Middlemiss St Roundabout – Existing SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
1	L2	169	5.3	169	5.3	0.563	3.6	LOS A	1.0	6.6
2	T1	35	0.0	35	0.0	0.563	1.3	LOS A	1.0	6.6
3	R2	209	15.3	209	15.3	0.563	6.8	LOS A	1.0	6.6
3u	U	9	0.0	9	0.0	0.563	8.0	LOS A	1.0	6.6
Approach		422	9.7	422	9.7	0.563	5.1	LOS A	1.0	6.6
East: Ramp										
4	L2	281	7.1	281	7.1	0.343	3.2	LOS A	1.2	8.5
5	T1	171	2.3	171	2.3	0.343	7.2	LOS A	1.2	8.5
6	R2	1	0.0	1	0.0	0.343	3.6	LOS A	1.2	8.5
6u	U	1	0.0	1	0.0	0.343	12.1	LOS B	1.2	8.5
Approach		454	5.3	454	5.3	0.343	4.7	LOS A	1.2	8.5
North: Middlemiss Street										
7	L2	7	0.0	7	0.0	0.157	7.5	LOS A	0.4	1.4
8	T1	107	0.9	107	0.9	0.157	4.8	LOS A	0.4	1.4
9	R2	3	0.0	3	0.0	0.157	10.8	LOS B	0.4	1.4
Approach		117	0.9	117	0.9	0.157	5.1	LOS A	0.4	1.4
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.403	1.7	LOS A	1.2	8.3
11	T1	50	4.0	50	4.0	0.403	3.5	LOS A	1.2	8.3
12	R2	335	14.9	335	14.9	0.403	6.0	LOS A	1.2	8.3
12u	U	10	0.0	10	0.0	0.403	7.6	LOS A	1.2	8.3
Approach		396	13.1	396	13.1	0.403	5.7	LOS A	1.2	8.3
All Vehicles		1389	8.5	1389	8.5	0.563	5.2	LOS A	1.2	8.5

Table 4-4: Existing AM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Existing SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
East: Lavender Street										
8	T1	353	3.7	353	3.7	0.482	3.7	LOS A	1.3	9.0
Approach		353	3.7	353	3.7	0.482	3.7	LOS A	1.3	9.0
West: Lavender Street										
2	T1	395	13.2	395	13.2	0.99	44.2	LOS E	8.5	61.8
Approach		395	13.2	395	13.2	0.99	44.2	LOS E	8.5	61.8
All Vehicles		748	8.7	748	8.7	0.99	25.1	NA	8.5	61.8

Table 4-5: Existing AM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

AM Peak Existing Signalised Pedestrian Crossing Outside Milsons Point Station – Existing SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
2	T1	359	11.1	359	11.1	0.43	9.0	LOS A	3.1	22.4
Approach		359	11.1	359	11.1	0.43	9.0	LOS A	3.1	22.4
North: Alfred Street S										
8	T1	732	9.7	732	9.7	0.82	15.8	LOS B	9.5	64.2
Approach		732	9.7	732	9.7	0.82	15.8	LOS B	9.5	64.2
All Vehicles		1091	10.2	1091	10.2	0.82	13.6	LOS B	9.5	64.2

Table 4-6: Existing AM Peak hour results at Alfred Street/ Burton St Intersection

AM Peak Alfred Street / Burton Street Intersection – Existing SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
2	T1	298	12.8	298	12.8	0.241	0.2	LOS A	0.0	0.4
3	R2	8	0.0	8	0.0	0.241	6.5	LOS A	0.0	0.4
Approach		306	12.4	306	12.4	0.241	0.3	NA	0.0	0.4
East: Burton Street										
4	L2	16	0.0	16	0.0	0.178	5.3	LOS A	0.2	0.9
6	R2	61	3.3	61	3.3	0.178	7.2	LOS A	0.2	0.9
Approach		77	2.6	77	2.6	0.178	6.8	LOS A	0.2	0.9
North: Alfred Street S										
7	L2	106	0.9	106	0.9	0.322	2.5	LOS A	0.0	0.0
8	T1	530	12.8	530	12.8	0.322	0	LOS A	0.0	0.0.
Approach		636	10.8	636	10.8	0.322	0.4	NA	0.0	00
All Vehicles		1019	10.7	1019	10.7	0.322	0.9	NA	0.2	0.9

Table 4-7: Existing PM Peak hour results at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Existing SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
1	L2	156	1.3	156	1.3	0.567	3.6	LOS A	1.2	7.3
2	T1	63	0.0	63	0.0	0.567	1.4	LOS A	1.2	7.3
3	R2	252	11.5	252	11.5	0.567	6.5	LOS A	1.2	7.3
3u	U	21	0.0	21	0.0	0.567	8.2	LOS A	1.2	7.3
Approach		492	6.3	492	6.3	0.567	5.0	LOS A	1.2	7.3
East: Ramp										
4	L2	274	0.7	274	0.7	0.435	2.4	LOS A	1.1	7.6
5	T1	180	1.1	180	1.1	0.435	6.4	LOS A	1.1	7.6
6	R2	1	0.0	1	0.0	0.435	2.8	LOS A	1.1	7.6
6u	U	2	50.0	2	50.0	0.435	12.4	LOS B	1.1	7.6
Approach		457	1.1	457	1.1	0.435	4.0	LOS A	1.1	7.6
North: Middlemiss Street										
7	L2	12	0.0	12	0.0	0.076	7.0	LOS A	0.2	0.7
8	T1	40	0.0	40	0.0	0.076	4.4	LOS A	0.2	0.7
9	R2	5	0.0	5	0.0	0.076	10.3	LOS B	0.2	0.7
Approach		57	0.0	57	0.0	0.076	5.5	LOS A	0.2	0.7
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.329	2.0	LOS A	0.9	6.3
11	T1	42	2.4	42	2.4	0.329	3.7	LOS A	0.9	6.3
12	R2	272	3.7	272	3.7	0.329	6.3	LOS A	0.9	6.3
12u	U	6	0.0	6	0.0	0.329	7.9	LOS A	0.9	6.3
Approach		321	3.4	321	3.4	0.329	6.0	LOS A	0.9	6.3
All Vehicles		1327	3.5	1327	3.5	0.567	4.9	LOS A	1.2	7.6

Table 4-8: Existing PM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss St Roundabout – Existing SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
East: Lavender Street										
8	T1	347	1.2	347	1.2	0.467	3.5	LOS A	1.3	8.6
Approach		347	1.2	347	1.2	0.467	3.5	LOS A	1.3	8.6
West: Lavender Street										
2	T1	320	3.4	320	3.4	0.58	6.7	LOS A	1.5	10.2
Approach		320	3.4	320	3.4	0.58	6.7	LOS A	1.5	10.2
All Vehicles		667	2.2	667	2.2	0.58	5.0	NA	1.5	10.2

Table 4-9: Existing PM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

PM Peak Existing Signalised Pedestrian Crossing outside Milsons Point Station – Existing SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	292	11.0	292	11.0	0.334	8.6	LOS A	2.4	16.6
Approach		292	11.0	292	11.0	0.334	8.6	LOS A	2.4	16.6
North: Alfred Street S										
8	T1	607	2.0	607	2.0	0.702	11.4	LOS B	6.5	43.9
Approach		607	2.0	607	2.0	0.702	11.4	LOS B	6.5	43.9
All Vehicles		899	4.9	899	4.9	0.702	10.5	LOS B	6.5	43.9

Table 4-10: Existing PM Peak hour results at Alfred Street / Burton St Intersection

PM Peak Alfred Street / Burton St Intersection – Existing SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	237	13.5	237	13.5	0.136	0.0	LOS A	0.0	0.1
3	R2	3	0.0	3	0.0	0.136	5.2	LOS A	0.0	0.1
Approach		240	13.3	240	13.3	0.136	0.1	NA	0.0	0.1
East: Burton Street										
4	L2	8	12.5	8	12.5	0.084	4.7	LOS A	0.1	0.4
6	R2	55	0.0	55	0.0	0.084	3.8	LOS A	0.1	0.4
Approach		63	1.6	63	1.6	0.084	3.9	LOS A	0.1	0.4
North: Alfred Street S										
7	L2	46	2.2	46	2.2	0.205	2.5	LOS A	0.0	0.0
8	T1	374	1.9	374	1.9	0.205	0.0	LOS A	0.0	0.0
Approach		420	1.9	420	1.9	0.205	0.3	NA	0.0	0.0
All Vehicles		723	5.7	723	5.7	0.205	0.5	NA	0.1	0.4

4.1.5 Opening Year 2024 No Development

The existing scenario was projected to the project opening year 2024 to assess how the Opening Year No Project scenario would perform under the growth factors detailed in section 4.1.1 of this report. A model layout and the full results of the existing network has been provided in Appendix D.

The results are summarized in Table 4-11 to Table 4-18 below, revealing that:

The western approach of Lavender Street to the existing pedestrian crossing at the Alfred Street / Lavender Street / Ramp / Middlemiss Street Intersection will reach a LOS F with the anticipated vehicle and pedestrian growth in the area. Thereby, the existing layout will reach a LOS F regardless of the distribution of pedestrians and cyclists that would have occurred due to the project.

Table 4-11: Existing (Projected to Opening Year 2024) AM Peak hour results at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Existing (Projected to Opening Year 2024) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
1	L2	174	5.3	174	5.3	0.583	3.7	LOS A	1.0	6.9
2	T1	35	0.0	35	0.0	0.583	1.3	LOS A	1.0	6.9
3	R2	215	15.3	215	15.3	0.583	6.8	LOS A	1.0	6.9
3u	U	9	0.0	9	0.0	0.583	8.1	LOS A	1.0	6.9
Approach		433	9.8	433	9.8	0.583	5.2	LOS A	1.0	6.9
East: Ramp										
4	L2	289	7.1	289	7.1	0.356	3.3	LOS A	1.2	9.0
5	T1	176	2.3	176	2.3	0.356	7.4	LOS A	1.2	9.0
6	R2	1	0.0	1	0.0	0.356	3.7	LOS A	1.2	9.0
6u	U	1	0.0	1	0.0	0.356	12.2	LOS B	1.2	9.0
Approach		468	5.3	468	5.3	0.356	4.9	LOS A	1.2	9.0
North: Middlemiss Street										
7	L2	7	0.0	7	0.0	0.161	7.7	LOS A	0.4	1.4
8	T1	107	1.0	107	1.0	0.161	5.0	LOS A	0.4	1.4
9	R2	3	0.0	3	0.0	0.161	11.0	LOS B	0.4	1.4
Approach		118	0.9	118	0.9	0.161	5.3	LOS A	0.4	1.4
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.417	1.8	LOS A	1.2	8.7
11	T1	52	4.0	52	4.0	0.417	3.5	LOS A	1.2	8.7
12	R2	344	15.0	344	15.0	0.417	6.1	LOS A	1.2	8.7
12u	U	10	0.0	10	0.0	0.417	7.7	LOS A	1.2	8.7
Approach		406	13.2	406	13.2	0.417	5.8	LOS A	1.2	8.7
All Vehicles		1424	8.5	1424	8.5	0.583	5.3	LOS A	1.2	8.7

Table 4-12: Existing (Projected to Opening Year 2024) AM Peak hour results at Pedestrian Crossing at Alfred Street/ Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Existing (Projected to Opening Year 2024) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
East: Lavender Street										
8	T1	363	3.7	363	3.7	0.499	4.0	LOS A	1.3	9.0
Approach		363	3.7	363	3.7	0.499	4.0	LOS A	1.3	9.0
West: Lavender Street										
2	T1	405	13.2	405	13.2	1.108	126.2	LOS F	18.3	133.3
Approach		405	13.2	405	13.2	1.108	126.2	LOS F	18.3	133.3
All Vehicles		769	8.7	769	8.7	0.99	68.5	NA	8.5	133.3

Table 4-13: Existing (Projected to Opening Year 2024) AM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Train Station

AM Peak Existing Signalised Pedestrian Crossing Outside Milsons Point Station – Existing (Projected to Opening Year 2024) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
2	T1	369	11.2	369	11.2	0.348	7.1	LOS A	3.1	22.4
Approach		3569	11.2	369	11.2	0.348	7.1	LOS A	3.1	22.4
North: Alfred Street S										
8	T1	750	9.8	750	9.8	0.663	9.1	LOS A	8.1	55.2
Approach		750	9.8	750	9.8	0.663	9.1	LOS A	8.1	55.2
All Vehicles		1118	10.2	1118	10.2	0.663	8.5	LOS A	8.1	55.2

Table 4-14: Existing (Projected to Opening Year 2024) AM Peak hour results at Alfred Street/ Burton Street Intersection

AM Peak Alfred Street / Burton Street Intersection – Existing (Projected to Opening Year 2024) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
2	T1	307	12.8	307	12.8	0.254	0.2	LOS A	0.1	0.4
3	R2	8	0.0	8	0.0	0.254	6.7	LOS A	0.1	0.4
Approach		315	12.4	315	12.4	0.254	0.3	NA	0.1	0.4
East: Burton Street										
4	L2	16	0.0	16	0.0	0.189	5.4	LOS A	0.2	0.9
6	R2	62	3.3	62	3.3	0.189	7.6	LOS A	0.2	0.9
Approach		78	2.6	78	2.6	0.189	7.1	LOS A	0.2	0.9
North: Alfred Street S										
7	L2	107	1.0	107	1.0	0.331	2.5	LOS A	0.0	0.0
8	T1	546	12.8	546	12.8	0.331	0.0	LOS A	0.0	0.0
Approach		653	10.9	653	10.9	0.331	0.4	NA	0.0	0.0
All Vehicles		1046	10.7	1046	10.7	0.331	0.9	NA	0.2	0.9

Table 4-15: Existing (Projected to Opening Year 2024) PM Peak hour results at Alfred Street / Lavender Street/ Ramp / Middlemiss Street Roundabout

PM Peak Alfred Street / Lavender Street / Ramp / Middlemiss St Roundabout – Existing (Projected to Opening Year 2024) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
1	L2	160	1.3	160	1.3	0.606	3.7	LOS A	1.2	7.6
2	T1	63	0.0	63	0.0	0.606	1.5	LOS A	1.2	7.6
3	R2	258	11.6	258	11.6	0.606	6.6	LOS A	1.2	7.6
3u	U	22	0.0	22	0.0	0.606	8.2	LOS A	1.2	7.6
Approach		503	6.3	503	6.3	0.606	5.1	LOS A	1.2	7.6
East: Ramp										
4	L2	282	0.7	282	0.7	0.470	2.5	LOS A	1.1	8.0
5	T1	185	1.1	185	1.1	0.470	6.5	LOS A	1.1	8.0
6	R2	1	0.0	1	0.0	0.470	2.9	LOS A	1.1	8.0
6u	U	2	50.0	2	50.0	0.470	12.5	LOS B	1.1	8.0
Approach		471	1.1	471	1.1	0.470	4.1	LOS A	1.1	8.0
North: Middlemiss Street										
7	L2	12	0.0	12	0.0	0.079	7.1	LOS A	0.2	0.8
8	T1	40	0.0	40	0.0	0.079	4.6	LOS A	0.2	0.8
9	R2	5	0.0	5	0.0	0.079	10.5	LOS B	0.2	0.8
Approach		58	0.0	58	0.0	0.079	5.7	LOS A	0.2	0.8
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.342	2.1	LOS A	0.9	6.6
11	T1	43	2.4	43	2.4	0.342	3.8	LOS A	0.9	6.6
12	R2	280	3.7	280	3.7	0.342	6.4	LOS A	0.9	6.6
12u	U	6	0.0	6	0.0	0.342	8.0	LOS A	0.9	6.6
Approach		330	3.4	330	3.4	0.342	6.1	LOS A	0.9	6.6
All Vehicles		1362	3.6	1362	3.6	0.606	5.0	LOS A	1.2	8.0

Table 4-16: Existing (Projected to Opening Year 2024) PM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Existing (Projected to Opening Year 2024) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
East: Lavender Street										
8	T1	357	1.2	357	1.2	0.476	3.4	LOS A	1.3	8.9
Approach		357	1.2	357	1.2	0476	3.4	LOS A	1.3	8.9
West: Lavender Street										
2	T1	329	3.4	329	3.4	0.61	6.9	LOS A	1.6	11.1
Approach		329	3.4	329	3.4	0.61	6.9	LOS A	1.6	11.1
All Vehicles		686	2.2	667	686	261	5.1	NA	1.6	11.1

Table 4-17: Existing (Projected to Opening Year 2024) PM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

PM Peak Existing Signalised Pedestrian Crossing outside Milsons Point Train Station – Existing (Projected to Opening Year 2024) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
2	T1	299	11.0	299	11.0	0.343	8.7	LOS A	2.5	17.1
Approach		299	11.0	299	11.0	0.343	8.7	LOS A	2.5	17.1
North: Alfred Street S										
8	T1	624	2.0	624	2.0	0.723	11.9	LOS B	6.8	46.5
Approach		624	2.0	624	2.0	0.723	11.9	LOS B	6.8	46.5
All Vehicles		923	4.9	923	4.9	0.723	10.9	LOS B	6.8	46.5

Table 4-18: Existing (Projected to Opening Year 2024) PM Peak hour results at Alfred Street / Burton Street Intersection

PM Peak Alfred Street / Burton Street Intersection – Existing SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
2	T1	244	13.5	244	13.5	0.145	0.0	LOS A	0.0	0.1
3	R2	3	0.0	3	0.0	0.145	5.3	LOS A	0.0	0.1
Approach		247	13.3	247	13.3	0.145	0.1	NA	0.0	0.1
East: Burton Street										
4	L2	8	12.5	8	12.5	0.084	4.7	LOS A	0.1	0.4
6	R2	55	0.0	55	0.0	0.084	3.9	LOS A	0.1	0.4
Approach		63	1.6	63	1.6	0.084	4.0	LOS A	0.1	0.4
North: Alfred Street S										
7	L2	46	2.2	46	2.2	0.211	2.5	LOS A	0.0	0.0
8	T1	385	1.9	385	1.9	0.211	0.0	LOS A	0.0	0.0.
Approach		431	1.9	431	1.9	0.211	0.3	NA	0.0	00
All Vehicles		742	5.7	742	5.7	0.211	0.5	NA	0.1	0.4

4.1.6 2034 No Project

The existing scenario was projected to the year 2034 to assess how the existing scenario would perform with a 10 year growth period from the opening year 2024. The growth factors detailed in section 4.1.1 of this report were applied. A model layout and the full results of the existing network has been provided in Appendix E.

The results are summarized in Table 4-19 to Table 4-26 below, revealing that:

- The western approach of Lavender Street to the existing pedestrian crossing at the Alfred Street / Lavender Street / Ramp / Middlemiss Street Intersection will reach a LOS F with the anticipated vehicle and pedestrian growth in the area.

Table 4-19: Existing (Projected to 2034) AM Peak hour results at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Existing (Projected to 2034) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
1	L2	200	5.6	200	5.6	0.696	4.9	LOS A	1.5	10.3
2	T1	41	0.0	41	0.0	0.696	2.5	LOS A	1.5	10.3
3	R2	246	15.5	246	15.5	0.696	8.1	LOS A	1.5	10.3
3u	U	11	0.0	11	0.0	0.696	9.3	LOS A	1.5	10.3
Approach		498	9.9	498	9.9	0.696	6.4	LOS A	1.5	10.3
East: Ramp										
4	L2	334	7	334	7.0	0.408	3.5	LOS A	1.5	10.8
5	T1	203	2.2	203	2.2	0.408	7.5	LOS A	1.5	10.8
6	R2	1	0.0	1	0.0	0.408	3.9	LOS A	1.5	10.8
6u	U	1	0.0	1	0.0	0.408	12.4	LOS B	1.5	10.8
Approach		539	5.2	539	5.2	0.408	5.0	LOS A	1.5	10.8
North: Middlemiss Street										
7	L2	8	0.0	8	0.0	0.206	7.9	LOS A	0.5	1.8
8	T1	139	0.8	139	0.8	0.206	5.1	LOS A	0.5	1.8
9	R2	3	0.0	3	0.0	0.206	11.2	LOS B	0.5	1.8
Approach		150	0.7	150	0.7	0.206	5.4	LOS A	0.5	1.8
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.413	2.1	LOS A	1.2	8.5
11	T1	59	3.8	48	3.8	0.413	3.8	LOS A	1.2	8.5
12	R2	405	14.7	325	14.7	0.413	6.4	LOS A	1.2	8.5
12u	U	12	0.0	10	0.0	0.413	7.9	LOS A	1.2	8.5
Approach		477	12.9	384	12.9	0.413	6.1	LOS A	1.2	8.5
All Vehicles		1664	8.4	1570	8.9	0.696	5.8	LOS A	1.2	8.5

Table 4-20: 20 Existing (Projected to 2034) AM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Existing (Projected to 2034) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
East: Lavender Street										
8	T1	416	3.8	414	3.8	0.586	5.6	LOS A	1.3	9.0
Approach		416	3.8	414	3.8	0.586	5.6	LOS A	1.3	9.0
West: Lavender Street										
2	T1	475	13	475	13	1.272	264	LOS F	32.7	235.6
Approach		475	13	475	13	1.272	264	LOS F	32.7	235.6
All Vehicles		891	8.7	889	8.7	1.272	143.7	NA	32.7	235.6

Table 4-21: Existing (Projected to 2034) AM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

AM Peak Existing Signalised Pedestrian Crossing Outside Milsons Point Station – Existing (Projected to 2034) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	537	8.8	537	8.8	0.508	8.0	LOS A	3.9	28.0
Approach		537	8.8	537	8.8	0.508	8.0	LOS A	3.9	28.0
North: Alfred Street S										
8	T1	887	9.5	818	9.0	0.706	9.6	LOS A	9.3	61.6
Approach		887	9.5	818	9.0	0.706	9.6	LOS A	9.3	61.6
All Vehicles		1425	9.2	1355	9.7	0.706	9.0	LOS A	9.3	61.6

Table 4-22: Existing (Projected to 2034) AM Peak hour results at Alfred Street / Burton Street Intersection

AM Peak Alfred Street / Burton Street Intersection – Existing (Projected to 2034) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	354	12.7	354	12.7	0.205	0.2	LOS A	1.0	8.0
3	R2	9	0.0	9	0.0	0.205	7.3	LOS A	1.0	8.0
Approach		363	12.4	363	12.4	0.205	0.4	NA	1.0	8.0
East: Burton Street										
4	L2	20	0.0	20	0.0	0.322	6.7	LOS A	0.3	1.3
6	R2	71	3.2	71	3.2	0.322	9.7	LOS A	0.3	1.3
Approach		90	2.5	90	2.5	0.322	9.1	LOS A	0.3	1.3
North: Alfred Street S										
7	L2	112	1	106	1	0.353	2.5	LOS A	0.0	0.0
8	T1	630	12.8	587	12.4	0.353	0	LOS A	0.0	0.0
Approach		742	11	693	10.6	0.353	0.4	NA	0.0	0.0
All Vehicles		1195	10.8	1146	11.2	0.353	1.1	NA	1.0	8.0

Table 4-23: Existing (Projected to 2034) PM Peak hour results at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Existing (Projected to 2034) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
1	L2	160	1.3	160	1.3	0.606	3.7	LOS A	1.2	7.6
2	T1	63	0	63	0	0.606	1.5	LOS A	1.2	7.6
3	R2	258	11.6	258	11.6	0.606	6.6	LOS A	1.2	7.6
3u	U	22	0	22	0	0.606	8.2	LOS A	1.2	7.6
Approach		503	6.3	503	6.3	0.606	5.1	LOS A	1.2	7.6
East: Ramp										
4	L2	282	0.7	282	0.7	0.470	2.5	LOS A	1.1	8.0
5	T1	185	1.1	185	1.1	0.470	6.5	LOS A	1.1	8.0
6	R2	1	0	1	0	0.470	2.9	LOS A	1.1	8.0
6u	U	2	50.0	2	50.0	0.470	12.5	LOS B	1.1	8.0
Approach		471	1.1	471	1.1	0.470	4.1	LOS A	1.1	8.0
North: Middlemiss Street										
7	L2	12	0	12	0	0.079	7.1	LOS A	0.2	0.8
8	T1	40	0	40	0	0.079	4.6	LOS A	0.2	0.8
9	R2	5	0	5	0	0.079	10.5	LOS B	0.2	0.8
Approach		58	0	58	0	0.079	5.7	LOS A	0.2	0.8
West: Lavender Street										
10	L2	1	0	1	0	0.342	2.1	LOS A	0.9	6.6
11	T1	43	2.4	43	2.4	0.342	3.8	LOS A	0.9	6.6
12	R2	280	3.7	280	3.7	0.342	6.4	LOS A	0.9	6.6
12u	U	6	0	6	0	0.342	8	LOS A	0.9	6.6
Approach		330	3.4	330	3.4	0.342	6.1	LOS A	0.9	6.6
All Vehicles		1362	3.6	1362	3.6	0.606	5.0	LOS A	1.2	8.0

Table 4-24: Existing (Projected to 2034) PM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Existing (Projected to 2034) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
East: Lavender Street										
8	T1	357	1.2	357	1.2	0.476	3.4	LOS A	1.3	8.9
Approach		357	1.2	357	1.2	0476	3.4	LOS A	1.3	8.9
West: Lavender Street										
2	T1	329	3.4	329	3.4	0.61	6.9	LOS A	1.6	11.1
Approach		329	3.4	329	3.4	0.61	6.9	LOS A	1.6	11.1
All Vehicles		686	2.2	667	686	261	5.1	NA	1.6	11.1

Table 4-25: Existing (Projected to 2034) PM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

PM Peak Existing Signalised Pedestrian Crossing outside Milsons Point Station – Existing (Projected to 2034) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	299	11	299	11	0.343	8.7	LOS A	2.5	17.1
Approach		299	11	299	11	0.343	8.7	LOS A	2.5	17.1
North: Alfred Street S										
8	T1	624	2	624	2	0.723	11.9	LOS B	6.8	46.5
Approach		624	2	624	2	0.723	11.9	LOS B	6.8	46.5
All Vehicles		923	4.9	923	4.9	0.723	10.9	LOS B	6.8	46.5

Table 4-26: Existing (Projected to 2034) PM Peak hour results at Alfred Street / Burton Street Intersection

PM Peak Alfred Street / Burton Street Intersection – Existing (Projected to 2034) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	244	13.5	244	13.5	0.145	0	LOS A	0	0.1
3	R2	3	0	3	0	0.145	5.3	LOS A	0	0.1
Approach		247	13.3	247	13.3	0.145	0.1	NA	0	0.1
East: Burton Street										
4	L2	8	12.5	8	12.5	0.084	4.7	LOS A	0.1	0.4
6	R2	55	0	55	0	0.084	3.9	LOS A	0.1	0.4
Approach		63	1.6	63	1.6	0.084	4.0	LOS A	0.1	0.4
North: Alfred Street S										
7	L2	46	2.2	46	2.2	0.211	2.5	LOS A	0	0
8	T1	385	1.9	385	1.9	0.211	0	LOS A	0	0
Approach		431	1.9	431	1.9	0.211	0.3	NA	0	0
All Vehicles		742	5.7	742	5.7	0.211	0.5	NA	0.1	0.4

4.1.7 Opening Year 2024 With Development (100% Crossing Utilisation) Model

The opening year is expected to be 2024, as detailed in section 4.1.1 of this report, growth factors were applied to simulate the anticipated growth expected in the area. To perform a conservative analysis, a 100% crossing utilisation scenario was modelled to assess the road network performance when all the anticipated cyclist traffic will be diverted through the proposed crossing and the zebra crossing located in Lavender St, just west of the Alfred Street S / Lavender Street roundabout. A model layout of the opening year network has been provided in Appendix F.

The results are summarised in Table 4-27 to Table 4-36, over page, revealing that:

- The western approach of Lavender Street to the existing pedestrian crossing at the Alfred Street / Lavender Street / Ramp / Middlemiss Street Intersection will operate at a LOS F under the opening year 2024 AM peak traffic demand. Given the existing scenario operated with a LOS E, it is understood that with the increased pedestrians and cyclist volumes at the pedestrian crossing, the Level of Service at this approach would have reached LOS F irrespective of light and heavy vehicle volumes increasing. In this instance, this is considered as acceptable and reflective of the realistic operation given an increased network demand.
- The implementation of the proposed crossing in Alfred Street S, approximately 50m south of the roundabout does not affect the operational characteristic of the roundabout which is able to maintain an overall Level of Service A.

Table 4-27: Opening Year 2024 (100% Crossing Utilisation) AM Peak hour results at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Alfred Street / Lavender Street / Ramp / Middlemiss St Roundabout – Opening Year 2024 (100% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
1	L2	174	5.3	174	5.3	0.535	3.7	LOS A	1.0	7.5
2	T1	1	0.0	1	0.0	0.535	1.3	LOS A	1.0	7.5
3	R2	215	15.3	215	15.3	0.535	6.8	LOS A	1.0	7.5
3u	U	9	0.0	9	0.0	0.535	8.1	LOS A	1.0	7.5
Approach		399	10.6	399	10.6	0.535	5.4	LOS A	1.0	7.5
East: Ramp										
4	L2	289	7.1	289	7.1	0.341	2.5	LOS A	1.1	8.1
5	T1	176	2.3	176	2.3	0.341	6.6	LOS A	1.1	8.1
6	R2	1	0.0	1	0.0	0.341	3.0	LOS A	1.1	8.1
6u	U	1	0.0	1	0.0	0.341	11.5	LOS B	1.1	8.1
Approach		468	5.3	468	5.3	0.341	4.1	LOS A	1.1	8.1
North: Middlemiss Street										
7	L2	7	0.0	7	0.0	0.037	6.9	LOS A	0.1	0.5
8	T1	14	7.1	14	7.1	0.037	7.2	LOS A	0.1	0.5
9	R2	3	0.0	3	0.0	0.037	10.2	LOS B	0.1	0.5
Approach		25	4.2	25	4.2	0.037	7.5	LOS A	0.1	0.5
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.371	1.6	LOS A	0.9	7.3
11	T1	52	4.0	50	4	0.371	3.3	LOS A	0.9	7.3
12	R2	296	17.4	287	17.4	0.371	6.1	LOS A	0.9	7.3
12u	U	10	0.0	10	0	0.371	7.4	LOS A	0.9	7.3
Approach		358	14.9	348	14.9	0.371	5.7	LOS A	0.9	7.3
All Vehicles		1250	9.7	1240	9.8	0.535	5.1	LOS A	1.1	8.1

Table 4-28: Opening Year 2024 (100% Crossing Utilisation) AM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Opening Year 2024 (100% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
East: Lavender Street										
8	T1	364	3.7	364	3.7	0.670	11.2	LOS B	1.3	9.0
Approach		364	3.7	364	3.7	0.670	11.2	LOS B	1.3	9.0
West: Lavender Street										
2	T1	357	15.0	357	15.0	1.071	103.6	LOS F	12.3	96.8
Approach		357	15.0	357	15.0	1.071	103.6	LOS F	12.3	96.8
All Vehicles		721	9.3	721	9.3	1.071	57.0	NA	12.3	96.8

Table 4-29: Opening Year 2024 (100% Crossing Utilisation) AM Peak hour results at Proposed Crossing

AM Peak Proposed Crossing on Alfred Street – Opening Year 2024 (100% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	372	11.1	372	11.1	0.371	3.5	LOS A	0.6	4.4
Approach		372	11.1	372	11.1	0.371	3.5	LOS A	0.6	4.4
Southeast: Cycleway										
22	T1	59	0.0	59	0.0	0.010	0.0	LOS A	0.0	0.0
Approach		59	0.0	59	0.0	0.010	0.0	NA	0.0	0.0
North: Alfred Street S										
8	T1	609	12.0	605	12.0	0.607	5.3	LOS A	2.4	18.3
Approach		609	12.0	605	12.0	0.607	5.3	LOS A	2.4	18.3
Northwest Cycleway										
28	T1	162	0.0	162	0.0	0.026	0.0	LOS A	0.0	0.0
Approach		162	0.0	162	0.0	0.026	0.0	NA	0.0	0.0
All Vehicles		1201	9.5	1198	9.5	0.607	3.8	NA	2.4	18.3

Table 4-30: Opening Year 2024 (100% Crossing Utilisation) AM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

AM Peak Existing Signalised Pedestrian Crossing outside Milsons Point Station – Opening Year 2024 (100% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	372	11.1	372	11.1	0.444	9.1	LOS A	3.3	23.3
Approach		372	11.1	372	11.1	0.444	9.1	LOS A	3.3	23.3
North: Alfred Steet S										
8	T1	609	12.0	609	12.0	0.792	14.8	LOS B	7.6	59.0
Approach		609	12.0	609	12.0	0.792	14.8	LOS B	7.6	59.0
All Vehicles		980	11.7	980	11.7	0.792	12.6	LOS B	7.6	59.0

Table 4-31: Opening Year 2024 (100% Crossing Utilisation) AM Peak hour results at Alfred Street / Burton Street Intersection

AM Peak Alfred Street / Burton Street Intersection – Opening Year 2024 (100% Crossing Utilisation) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
2	T1	307	12.7	307	12.7	0.262	0.2	LOS A	0.1	0.4
3	R2	8	0.0	8	0.0	0.262	6.7	LOS A	0.1	0.4
Approach		315	12.4	315	12.4	0.262	0.3	NA	0.1	0.4
East: Burton Street										
4	L2	17	0.0	17	0.0	0.203	5.4	LOS A	0.2	1.0
6	R2	65	3.2	65	3.2	0.203	7.5	LOS A	0.2	1.0
Approach		81	2.5	81	2.5	0.203	7.1	LOS A	0.2	1.0
North: Alfred Street S										
7	L2	107	1.0	107	1.0	0.331	2.5	LOS A	0.0	0.0
8	T1	546	12.8	546	12.8	0.331	0.0	LOS A	0.0	0.0
Approach		653	10.9	653	10.9	0.331	0.4	NA	0.0	0.0
All Vehicles		1050	10.7	1050	10.7	0.331	0.9	NA	0.2	1.0

Table 4-32: Opening Year 2024 (100% Crossing Utilisation) PM Peak hour results at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Opening Year 2024 (100% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
1	L2	161	1.3	161	1.3	0.554	3.6	LOS A	1.1	7.8
2	T1	1	0.0	1	0.0	0.554	1.4	LOS A	1.1	7.8
3	R2	258	11.6	258	11.6	0.554	6.5	LOS A	1.1	7.8
3u	U	22	0.0	22	0.0	0.554	8.2	LOS A	1.1	7.8
Approach		442	7.2	442	7.2	0.554	5.5	LOS A	1.1	7.8
East: Ramp										
4	L2	282	0.7	282	0.7	0.333	2.2	LOS A	1.1	7.6
5	T1	185	1.1	185	1.1	0.333	6.3	LOS A	1.1	7.6
6	R2	1	0.0	1	0.0	0.333	2.7	LOS A	1.1	7.6
6u	U	1	0.0	1	0.0	0.333	11.2	LOS B	1.1	7.6
Approach		470	0.9	470	0.9	0.333	3.9	LOS A	1.1	7.6
North: Middlemiss Street										
7	L2	12	0.0	12	0.0	0.038	6.8	LOS A	0.1	0.5
8	T1	7	0.0	7	0.0	0.038	6.8	LOS A	0.1	0.5
9	R2	5	0.0	5	0.0	0.038	10.1	LOS B	0.1	0.5
Approach		25	0.0	25	0.0	0.038	7.5	LOS A	0.1	0.5
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.335	1.8	LOS A	0.8	5.9
11	T1	43	2.4	43	2.4	0.335	3.5	LOS A	0.8	5.9
12	R2	266	3.9	266	3.9	0.335	6.2	LOS A	0.8	5.9
12u	U	6	0.0	6	0.0	0.335	7.7	LOS A	0.8	5.9
Approach		316	3.6	316	3.6	0.335	5.8	LOS A	0.8	5.9
All Vehicles		1253	3.8	1253	3.8	0.554	5.0	LOS A	1.1	7.8

Table 4-33: Opening Year 2024 (100% Crossing Utilisation) PM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Opening Year 2024 (100% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
East: Lavender Street										
8	T1	358	1.2	358	1.2	0.650	10.6	LOS B	1.3	9.0
Approach		358	1.2	358	1.2	0.650	10.6	LOS B	1.3	9.0
West: Lavender Street										
2	T1	315	3.6	315	3.6	0.747	15.4	LOS C	2.4	17.6
Approach		315	3.6	315	3.6	0.747	15.4	LOS C	2.4	17.6
All Vehicles		673	2.3	673	2.3	0.747	12.8	NA	2.4	17.6

Table 4-34: Opening Year 2024 (100% Crossing Utilisation) PM Peak hour results at Proposed Crossing

PM Peak Proposed Crossing on Alfred Street – Opening Year 2024 (100% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	306	10.8	306	10.8	0.327	1.5	LOS A	0.7	4.5
Approach		306	10.8	306	10.8	0.327	1.5	NA	0.7	4.5
Southeast: Cycleway										
22	T1	81	0.0	81	0.0	0.013	0.0	LOS A	0.0	0.0
Approach		81	0.0	81	0.0	0.013	0.0	LOS A	0.0	0.0
North: Alfred Street S										
8	T1	577	2.1	577	2.1	0.587	3.1	LOS A	2.7	19.4
Approach		577	2.1	577	2.1	0.587	3.1	NA	2.7	19.4
northwest: Cycleway										
28	T1	54	0.0	54	0.0	0.009	0.0	LOS A	0.0	0.0
Approach		54	0.0	54	0.0	0.009	0.0	LOS A	0.0	0.0
All Vehicles		1017	4.5	1017	4.5	0.587	2.2	NA	2.7	19.4

Table 4-35: Opening Year 2024 (100% Crossing Utilisation) PM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

PM Peak Existing Signalised Pedestrian Crossing outside Milsons Point Station – Opening Year 2024 (100% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	303	10.9	303	10.9	0.344	8.7	LOS A	2.5	17.2
Approach		303	10.9	303	10.9	0.344	8.7	LOS A	2.5	17.2
North: Alfred Street S										
8	T1	593	2.1	593	2.1	0.711	11.7	LOS B	6.4	45.1
Approach		593	2.1	593	2.1	0.711	11.7	LOS B	6.4	45.1
All Vehicles		896	5.1	896	5.1	0.711	10.7	LOS B	6.4	45.1

Table 4-36: Opening Year 2024 (100% Crossing Utilisation) PM Peak hour results at Alfred Street / Burton Street Intersection

PM Peak Alfred Street / Burton Street Intersection – Opening Year 2024 (100% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	244	13.5	244	13.5	0.145	0.0	LOS A	0.0	0.1
3	R2	3	0.0	3	0.0	0.145	5.3	LOS A	0.0	0.1
Approach		247	13.3	247	13.3	0.145	0.1	NA	0.0	0.1
East: Burton Street										
4	L2	8	12.3	8	12.3	0.094	4.7	LOS A	0.1	0.4
6	R2	59	0.0	59	0.0	0.094	3.9	LOS A	0.1	0.4
Approach		67	1.5	67	1.5	0.094	4.0	LOS A	0.1	0.4
North: Alfred Street S										
7	L2	46	2.2	46	2.2	0.211	2.5	LOS A	0.0	0.0
8	T1	385	1.9	385	1.9	0.211	0.0	LOS A	0.0	0.0
Approach		432	1.9	432	1.9	0.211	0.3	NA	0.0	0.0
All Vehicles		746	5.7	746	5.7	0.211	0.6	NA	0.1	0.4

4.1.8 Opening Year 2024 With Development (70% Crossing Utilisation) Model

The opening year is expected to be 2024, as detailed in section 4.1.1 of this report, growth factors were applied to simulate the anticipated growth expected in the area. A 70% crossing utilisation scenario was modelled to assess the road network performance when the behaviour of experienced and unexperienced cyclists is considered. It is assumed that experienced cyclists will continue to cycle on the road while the unexperienced cyclists will utilise the proposed crossing and the zebra crossing located in Lavender Street, just west of the Alfred Street S / Lavender Street roundabout. A model layout of the opening year network has been provided in Appendix G.

The results are summarised in Table 4-37 to Table 4-46 below, revealing that:

- The western approach of Lavender Street to the existing pedestrian crossing at the Alfred Street / Lavender Street / Ramp / Middlemiss Street Intersection will operate at a LOS F under the opening year 2024 AM peak traffic demand. As noted in the foregoing, given the existing scenario operated with a LOS E, it is understood that with the increased pedestrians and cyclist volumes at the pedestrian crossing, the Level of Service at this approach would have reached LOS F irrespective of light and heavy vehicle volumes increasing. In this instance, this is considered as acceptable and reflective of the realistic operation given an increased network demand
- The implementation of the proposed crossing in Alfred Street S, approximately 50m south of the roundabout does not affect the operational characteristic of the roundabout which is able to maintain an overall Level of Service A

Table 4-37: Opening Year 2024 (70% Crossing Utilisation) AM Peak hour results at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Opening Year 2024 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
1	L2	174	5.3	174	5.3	0.544	3.7	LOS A	1.1	7.6
2	T1	12	0.0	12	0.0	0.544	1.3	LOS A	1.1	7.6
3	R2	215	15.3	215	15.3	0.544	6.8	LOS A	1.1	7.6
3u	U	9	0.0	9	0.0	0.544	8.1	LOS A	1.1	7.6
Approach		410	10.3	410	10.3	0.544	5.3	LOS A	1.1	7.6
East: Ramp										
4	L2	289	7.1	289	7.1	0.347	2.8	LOS A	1.2	8.4
5	T1	176	2.3	176	2.3	0.347	6.9	LOS A	1.2	8.4
6	R2	1	0.0	1	0.0	0.347	3.3	LOS A	1.2	8.4
6u	U	1	0.0	1	0.0	0.347	11.8	LOS B	1.2	8.4
Approach		468	5.3	468	5.3	0.347	4.4	LOS A	1.2	8.4
North: Middlemiss Street										
7	L2	7	0.0	7	0.0	0.078	7.2	LOS A	0.2	0.8
8	T1	45	2.3	45	2.3	0.078	5.4	LOS A	0.2	0.8
9	R2	3	0.0	3	0.0	0.078	10.5	LOS B	0.2	0.8
Approach		55	1.9	55	1.9	0.078	5.9	LOS A	0.2	0.8
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.392	1.6	LOS A	1.0	7.8
11	T1	52	4.0	51	4.0	0.392	3.4	LOS A	1.0	7.8
12	R2	312	16.5	308	16.5	0.392	6.1	LOS A	1.0	7.8
12u	U	10	0.0	10	0.0	0.392	7.5	LOS A	1.0	7.8
Approach		3774	14.3	371	14.3	0.392	5.8	LOS A	1.0	7.8
All Vehicles		1307	9.3	1303	9.3	0.544	5.1	LOS A	1.2	8.4

Table 4-38: Opening Year 2024 (70% Crossing Utilisation) AM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Opening Year 2024 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
East: Lavender Street										
8	T1	364	3.7	364	3.7	0.621	9.0	LOS B	1.3	9.0
Approach		364	3.7	364	3.7	0.621	9.0	LOS B	1.3	9.0
West: Lavender Street										
2	T1	371	14.4	371	14.4	1.080	108.9	LOS F	13.5	103.9
Approach		371	14.4	371	14.4	1.080	108.9	LOS F	13.5	103.9
All Vehicles		735	9.1	735	9.3	1.080	59.5	NA	13.5	103.9

Table 4-39: Opening Year 2024 (70% Crossing Utilisation) AM Peak hour results at Proposed Crossing

AM Peak Proposed Crossing on Alfred Street – Opening Year 2024 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	372	11.1	372	11.1	0.344	3.0	LOS A	0.6	4.1
Approach		372	11.1	372	11.1	0.344	3.0	LOS A	0.6	4.1
Southeast: Cycleway										
22	T1	33	0.0	33	0.0	0.005	0.0	LOS A	0.0	0.0
Approach		33	0.0	33	0.0	0.005	0.0	NA	0.0	0.0
North: Alfred Street S										
8	T1	657	11.1	657	11.1	0.609	4.3	LOS A	2.4	17.9
Approach		657	11.1	657	11.1	0.609	4.3	LOS A	2.4	17.9
Northwest Cycleway										
28	T1	49	0.0	49	0.0	0.008	0.0	LOS A	0.0	0.0
Approach		49	0.0	49	0.0	0.008	0.0	NA	0.0	0.0
All Vehicles		1111	10.3	1111	10.3	0.609	3.5	NA	2.4	17.9

Table 4-40: Opening Year 2024 (70% Crossing Utilisation) AM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

AM Peak Existing Signalised Pedestrian Crossing outside Milsons Point Station – Opening Year 2024 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	372	11.1	372	11.1	0.444	9.1	LOS A	3.3	23.3
Approach		372	11.1	372	11.1	0.444	9.1	LOS A	3.3	23.3
North: Alfred Street S										
8	T1	657	11.1	657	11.1	0.809	15.5	LOS B	8.5	62.3
Approach		657	11.1	657	11.1	0.809	15.5	LOS B	8.5	62.3
All Vehicles		1028	11.1	1028	11.1	0.809	13.2	LOS B	8.5	62.3

Table 4-41: Opening Year 2024 (70% Crossing Utilisation) AM Peak hour results at Alfred Street / Burton Street Intersection

AM Peak Alfred Street / Burton Street Intersection – Opening Year 2024 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	307	12.7	307	12.7	0.262	0.2	LOS A	0.1	0.4
3	R2	8	0.0	8	0.0	0.262	6.7	LOS A	0.1	0.4
Approach		315	12.4	315	12.4	0.262	0.3	NA	0.1	0.4
East: Burton Street										
4	L2	17	0.0	17	0.0	0.203	5.4	LOS A	0.2	1.0
6	R2	65	3.2	65	3.2	0.203	7.5	LOS A	0.2	1.0
Approach		81	2.5	81	2.5	0.203	7.1	LOS A	0.2	1.0
North: Alfred Street S										
7	L2	107	1.0	107	1.0	0.331	2.5	LOS A	0.0	0.0
8	T1	546	12.8	546	12.8	0.331	0.0	LOS A	0.0	0.0
Approach		653	10.9	653	10.9	0.331	0.4	NA	0.0	0.0
All Vehicles		1050	10.7	1050	10.7	0.331	0.9	NA	0.2	1.0

Table 4-42: Opening Year 2024 (70% Crossing Utilisation) PM Peak hour results at Alfred Street Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Opening Year 2024 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
1	L2	161	1.3	161	1.3	0.569	3.6	LOS A	1.2	8.1
2	T1	20	0.0	20	0.0	0.569	1.4	LOS A	1.2	8.1
3	R2	258	11.6	258	11.6	0.569	6.5	LOS A	1.2	8.1
3u	U	22	0.0	22	0.0	0.569	8.2	LOS A	1.2	8.1
Approach		461	6.9	461	6.9	0.569	5.4	LOS A	1.2	8.1
East: Ramp										
4	L2	282	0.7	282	0.7	0.335	2.3	LOS A	1.1	7.7
5	T1	185	1.1	185	1.1	0.335	6.3	LOS A	1.1	7.7
6	R2	1	0.0	1	0.0	0.335	2.8	LOS A	1.1	7.7
6u	U	1	0.0	1	0.0	0.335	11.2	LOS B	1.1	7.7
Approach		470	0.9	470	0.9	0.335	3.9	LOS A	1.1	7.7
North: Middlemiss Street										
7	L2	12	0.0	12	0.0	0.053	6.9	LOS A	0.1	0.6
8	T1	19	0.0	19	0.0	0.053	5.3	LOS A	0.1	0.6
9	R2	5	0.0	5	0.0	0.053	10.2	LOS B	0.1	0.6
Approach		36	0.0	36	0.0	0.053	6.5	LOS A	0.1	0.6
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.340	1.9	LOS A	0.8	6.0
11	T1	43	2.4	43	2.4	0.340	3.6	LOS A	0.8	6.0
12	R2	270	3.8	270	3.8	0.340	6.2	LOS A	0.8	6.0
12u	U	6	0.0	6	0.0	0.340	7.7	LOS A	0.8	6.0
Approach		321	3.5	321	3.5	0.340	5.9	LOS A	0.8	6.0
All Vehicles		1288	3.7	1288	3.7	0.569	5.0	LOS A	1.2	8.1

Table 4-43: Opening Year 2024 (70% Crossing Utilisation) PM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Opening Year 2024 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
East: Lavender Street										
8	T1	358	1.2	358	1.2	0.608	8.8	LOS A	1.3	9.0
Approach		358	1.2	358	1.2	0.608	8.8	LOS A	1.3	9.0
West: Lavender Street										
2	T1	319	3.5	319	3.5	0.715	13.1	LOS B	2.2	16.1
Approach		319	3.5	319	3.5	0.715	13.1	LOS B	2.2	16.1
All Vehicles		377	2.3	677	2.3	0.715	10.8	NA	2.2	16.1

Table 4-44: Opening Year 2024 (70% Crossing Utilisation) PM Peak hour results at Proposed Crossing

PM Peak Proposed Crossing on Alfred Street – Opening Year 2024 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	306	10.8	306	10.8	0.319	1.3	LOS A	0.6	4.4
Approach		306	10.8	306	10.8	0.319	1.3	NA	0.6	4.4
Southeast: Cycleway										
22	T1	60	0.0	60	0.0	0.010	0.0	LOS A	0.0	0.0
Approach		60	0.0	60	0.0	0.010	0.0	LOS A	0.0	0.0
North: Alfred Street S										
8	T1	594	2.1	594	2.1	0.589	2.6	LOS A	2.7	18.6
Approach		594	2.1	594	2.1	0.589	2.6	NA	2.7	18.6
northwest: Cycleway										
28	T1	38	0.0	38	0.0	0.006	0.0	LOS A	0.0	0.0
Approach		38	0.0	38	0.0	0.006	0.0	LOS A	0.0	0.0
All Vehicles		998	4.5	998	4.5	0.589	2.0	NA	2.7	18.6

Table 4-45: Opening Year 2024 (70% Crossing Utilisation) PM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

PM Peak Existing Signalised Pedestrian Crossing outside Milsons Point Station – Opening Year 2024 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	303	10.9	303	10.9	0.344	8.7	LOS A	2.5	17.2
Approach		303	10.9	303	10.9	0.344	8.7	LOS A	2.5	17.2
North: Alfred Street S										
8	T1	593	2.1	593	2.1	0.711	11.7	LOS B	6.4	45.1
Approach		593	2.1	593	2.1	0.711	11.7	LOS B	6.4	45.1
All Vehicles		896	5.1	896	5.1	0.711	10.7	LOS B	6.4	45.1

Table 4-46: Opening Year 2024 (70% Crossing Utilisation) PM Peak hour results at Alfred Street / Burton Street Intersection

PM Peak Alfred Street / Burton Street Intersection – Opening Year 2024 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	244	13.5	244	13.5	0.145	0.0	LOS A	0.0	0.1
3	R2	3	0.0	3	0.0	0.145	5.3	LOS A	0.0	0.1
Approach		247	13.3	247	13.3	0.145	0.1	NA	0.0	0.1
East: Burton Street										
4	L2	8	12.3	8	12.3	0.094	4.7	LOS A	0.1	0.4
6	R2	59	0.0	8	0.0	0.094	3.9	LOS A	0.1	0.4
Approach		67	1.5	59	1.5	0.094	4.0	LOS A	0.1	0.4
North: Alfred Street S										
7	L2	46	2.2	46	2.2	0.211	2.5	LOS A	0.0	0.0
8	T1	385	1.9	385	1.9	0.211	0.0	LOS A	0.0	0.0
Approach		432	1.9	432	1.9	0.211	0.3	NA	0.0	0.0
All Vehicles		746	5.7	746	5.7	0.211	0.6	NA	0.1	0.4

4.1.9 Opening Year 2024 With Development (40% Crossing Utilisation) Model

The opening year is expected to be 2024, as detailed in section 4.1.1 of this report, growth factors were applied to simulate the anticipated growth expected in the area. A 40% crossing utilisation scenario was modelled to assess the road network performance when the behaviour of experienced and unexperienced cyclists is considered. It is assumed that experienced cyclists will continue to cycle on the road while the unexperienced cyclists will utilise the proposed crossing and the zebra crossing located in Lavender Street, just west of the Alfred Street S / Lavender Street roundabout. A model layout of the opening year network has been provided in Appendix H.

The results are summarised in Table 4-47 to Table 4-56, over page, revealing that:

- The western approach of Lavender Street to the existing pedestrian crossing at the Alfred Street / Lavender Street / Ramp / Middlemiss Street Intersection will operate at a LOS F under the opening year 2024 AM peak traffic demand. As noted in the foregoing, given the existing scenario operated with a LOS E, it is understood that with the increased pedestrians and cyclist volumes at the pedestrian crossing, the Level of Service at this approach would have reached LOS F irrespective of light and heavy vehicle volumes increasing. In this instance, this is considered as acceptable and reflective of the realistic operation given an increased network demand
- The implementation of the proposed crossing in Alfred Street S, approximately 50m south of the roundabout does not affect the operational characteristic of the roundabout which is able to maintain an overall Level of Service A

Table 4-47: Opening Year 2024 (40% Crossing Utilisation) AM Peak hour results at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Opening Year 2024 (40% Crossing Utilisation) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
1	L2	174	5.3	174	5.3	0.553	3.7	LOS A	1.1	7.8
2	T1	23	0.0	23	0.0	0.553	1.3	LOS A	1.1	7.8
3	R2	215	15.3	215	15.3	0.553	6.8	LOS A	1.1	7.8
3u	U	9	0.0	9	0.0	0.553	8.1	LOS A	1.1	7.8
Approach		421	10.0	421	10.0	0.553	5.2	LOS A	1.1	7.8
East: Ramp										
4	L2	289	7.1	289	7.1	0.352	3.1	LOS A	1.2	8.7
5	T1	176	2.3	176	2.3	0.352	7.1	LOS A	1.2	8.7
6	R2	1	0.0	1	0.0	0.352	3.5	LOS A	1.2	8.7
6u	U	1	0.0	1	0.0	0.352	12.0	LOS B	1.2	8.7
Approach		468	5.3	468	5.3	0.352	4.6	LOS A	1.2	8.7
North: Middlemiss Street										
7	L2	7	0.0	7	0.0	0.118	7.4	LOS A	0.3	1.0
8	T1	75	1.4	75	1.4	0.118	5.0	LOS A	0.3	1.0
9	R2	3	0.0	3	0.0	0.118	10.7	LOS B	0.3	1.0
Approach		85	1.2	85	1.2	0.118	5.4	LOS A	0.3	1.0
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.408	1.7	LOS A	1.1	8.1
11	T1	52	4.0	51	4.0	0.408	3.4	LOS A	1.1	8.1
12	R2	329	15.7	328	15.7	0.408	6.1	LOS A	1.1	8.1
12u	U	10	0.0	10	0.0	0.408	7.6	LOS A	1.1	8.1
Approach		392	13.7	391	13.7	0.408	5.8	LOS A	1.1	8.1
All Vehicles		1365	8.9	1365	8.9	0.553	5.2	LOS A	1.2	8.7

Table 4-48: Opening Year 2024 (40% Crossing Utilisation) AM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Opening Year 2024 (40% Crossing Utilisation) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
East: Lavender Street										
8	T1	364	3.7	364	3.7	0.576	7.1	LOS A	1.3	9.0
Approach		364	3.7	364	3.7	0.576	7.1	LOS A	1.3	9.0
West: Lavender Street										
2	T1	386	13.9	386	13.9	1.095	117.9	LOS F	15.2	114.1
Approach		386	13.9	386	13.9	1.095	117.9	LOS F	15.2	114.1
All Vehicles		750	8.9	750	8.9	1.095	64.2	NA	15.2	114.1

Table 4-49: Opening Year 2024 (40% Crossing Utilisation) AM Peak hour results at Proposed Crossing

AM Peak Proposed Crossing on Alfred Street – Opening Year 2024 (40% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	372	11.1	372	11.1	0.344	3.0	LOS A	0.6	4.1
Approach		372	11.1	372	11.1	0.344	3.0	LOS A	0.6	4.1
Southeast: Cycleway										
22	T1	37	0.0	37	0.0	0.006	0.0	LOS A	0.0	0.0
Approach		37	0.0	37	0.0	0.006	0.0	NA	0.0	0.0
North: Alfred Street S										
8	T1	609	12.0	609	12.0	0.566	3.9	LOS A	2.0	15.1
Approach		609	12.0	609	12.0	0.566	3.9	LOS A	2.0	15.1
Northwest Cycleway										
28	T1	43	0.0	43	43	0.007	0.0	LOS A	0.0	0.0
Approach		43	0.0	43	43	0.007	0.0	NA	0.0	0.0
All Vehicles		1060	10.8	1060	1060	0.566	3.3	NA	2.0	15.1

Table 4-50: Opening Year 2024 (40% Crossing Utilisation) AM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

AM Peak Existing Signalised Pedestrian Crossing outside Milsons Point Station – Opening Year 2024 (40% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	372	11.1	372	11.1	0.444	9.1	LOS A	3.3	23.3
Approach		372	11.1	372	11.1	0.444	9.1	LOS A	3.3	23.3
North: Alfred Street S										
8	T1	706	10.4	706	10.4	0.827	16.3	LOS B	9.4	66.0
Approach		706	10.4	706	10.4	0.827	16.3	LOS B	9.4	66.0
All Vehicles		1077	10.6	1077	10.6	0.827	13.8	LOS B	9.4	66.0

Table 4-51: Opening Year 2024 (40% Crossing Utilisation) AM Peak hour results at Alfred Street / Burton Street Intersection

AM Peak Alfred Street / Burton Street Intersection – Opening Year 2024 (40% Crossing Utilisation) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
2	T1	307	12.7	307	12.7	0.262	0.2	LOS A	0.1	0.4
3	R2	8	0.0	8	0.0	0.262	6.7	LOS A	0.1	0.4
Approach		315	12.4	315	12.4	0.262	0.3	NA	0.1	0.4
East: Burton Street										
4	L2	17	0.0	17	0.0	0.203	5.4	LOS A	0.2	1.0
6	R2	65	3.2	65	3.2	0.203	7.5	LOS A	0.2	1.0
Approach		81	2.5	81	2.5	0.203	7.1	LOS A	0.2	1.0
North: Alfred Street S										
7	L2	107	1.0	107	1.0	0.331	2.5	LOS A	0.0	0.0
8	T1	546	12.8	546	12.8	0.331	0.0	LOS A	0.0	0.0
Approach		653	10.9	653	10.9	0.331	0.4	NA	0.0	0.0
All Vehicles		1050	10.7	1050	10.7	0.331	0.9	NA	0.2	1.0

Table 4-52: Opening Year 2024 (40% Crossing Utilisation) PM Peak hour results at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Opening Year 2024 (40% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
1	L2	161	1.3	161	1.3	0.585	3.6	LOS A	1.3	8.4
2	T1	41	0.0	41	0.0	0.585	1.4	LOS A	1.3	8.4
3	R2	258	11.6	258	11.6	0.585	6.6	LOS A	1.3	8.4
3u	U	22	0.0	22	0.0	0.585	8.2	LOS A	1.3	8.4
Approach		482	6.6	482	6.6	0.585	5.2	LOS A	1.3	8.4
East: Ramp										
4	L2	282	0.7	282	0.7	0.336	2.4	LOS A	1.1	7.8
5	T1	185	1.1	185	1.1	0.336	6.4	LOS A	1.1	7.8
6	R2	1	0.0	1	0.0	0.336	2.8	LOS A	1.1	7.8
6u	U	1	0.0	1	0.0	0.336	11.3	LOS B	1.1	7.8
Approach		470	0.9	470	0.9	0.336	4.0	LOS A	1.1	7.8
North: Middlemiss Street										
7	L2	12	0.0	12	0.0	0.068	7.0	LOS A	0.1	0.7
8	T1	30	0.0	30	0.0	0.068	4.7	LOS A	0.1	0.7
9	R2	5	0.0	5	0.0	0.068	10.3	LOS B	0.1	0.7
Approach		48	0.0	48	0.0	0.068	5.9	LOS A	0.1	0.7
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.341	2.0	LOS A	0.9	6.1
11	T1	43	2.4	43	2.4	0.341	3.7	LOS A	0.9	6.1
12	R2	275	3.7	275	3.7	0.341	6.3	LOS A	0.9	6.1
12u	U	6	0.0	6	0.0	0.341	7.8	LOS A	0.9	6.1
Approach		325	3.5	325	3.5	0.341	6.0	LOS A	0.9	6.1
All Vehicles		1324	3.6	1324	3.6	0.585	5.0	LOS A	1.3	8.4

Table 4-53: Opening Year 2024 (40% Crossing Utilisation) PM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – Opening Year 2024 (40% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
East: Lavender Street										
8	T1	358	1.2	358	1.2	0.580	7.6	LOS A	1.3	9.0
Approach		358	1.2	358	1.2	0.580	7.6	LOS A	1.3	9.0
West: Lavender Street										
2	T1	323	3.5	323	3.5	0.699	11.9	LOS B	2.2	15.3
Approach		323	3.5	323	3.5	0.699	11.9	LOS B	2.2	15.3
All Vehicles		681	2.3	681	2.3	0.699	9.7	NA	2.2	15.3

Table 4-54: Opening Year 2024 (40% Crossing Utilisation) PM Peak hour results at Proposed Crossing

PM Peak Proposed Crossing on Alfred Street – Opening Year 2024 (40% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	306	10.8	306	10.8	0.311	1.1	LOS A	0.6	4.3
Approach		306	10.8	306	10.8	0.311	1.1	NA	0.6	4.3
Southeast: Cycleway										
22	T1	40	0.0	40	0.0	0.006	0.0	LOS A	0.0	0.0
Approach		40	0.0	40	0.0	0.006	0.0	LOS A	0.0	0.0
North: Alfred Street S										
8	T1	610	2.0	610	2.0	0.591	2.1	LOS A	2.5	17.1
Approach		610	2.0	610	2.0	0.591	2.1	NA	2.5	17.1
northwest: Cycleway										
28	T1	22	0.0	22	0.0	0.003	0.0	LOS A	0.0	0.0
Approach		22	0.0	22	0.0.	0.003	0.0	LOS A	0.0	0.0
All Vehicles		978	4.6	978	4.6	0.591	1.6	NA	2.5	17.1

Table 4-55: Opening Year 2024 (40% Crossing Utilisation) PM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

PM Peak Existing Signalised Pedestrian Crossing outside Milsons Point Station – Opening Year 2024 (40% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	303	10.9	303	10.9	0.344	8.7	LOS A	2.5	17.2
Approach		303	10.9	303	10.9	0.344	8.7	LOS A	2.5	17.2
North: Alfred Street S										
8	T1	609	2.0	609	2.0	0.717	11.8	LOS B	6.6	45.8
Approach		609	2.0	609	2.0	0.717	11.8	LOS B	6.6	45.8
All Vehicles		912	5.0	912	5.0	0.717	10.8	LOS B	6.6	45.8

Table 4-56: Opening Year 2024 (40% Crossing Utilisation) PM Peak hour results at Alfred Street/ Burton Street Intersection

PM Peak Alfred Street / Burton Street Intersection – Opening Year 2024 (40% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	244	13.5	244	13.5	0.145	0.0	LOS A	0.0	0.1
3	R2	3	0.0	3	0.0	0.145	5.3	LOS A	0.0	0.1
Approach		247	13.3	247	13.3	0.145	0.1	NA	0.0	0.1
East: Burton Street										
4	L2	8	12.3	8	12.3	0.094	4.7	LOS A	0.1	0.4
6	R2	59	0.0	59	0.0	0.094	3.9	LOS A	0.1	0.4
Approach		67	1.5	67	1.5	0.094	4.0	LOS A	0.1	0.4
North: Alfred Street S										
7	L2	46	2.2	46	2.2	0.211	2.5	LOS A	0.0	0.0
8	T1	385	1.9	385	1.9	0.211	0.0	LOS A	0.0	0.0
Approach		432	1.9	432	1.9	0.211	0.3	NA	0.0	0.0
All Vehicles		746	5.7	746	5.7	0.211	0.6	NA	0.1	0.4

4.1.10 2034 With Development (100% Crossing Utilisation) Model

To assess the performance of the road network post project, with a 10 year growth period as detailed in section 4.1.1 of this report, growth factors were applied to simulate the anticipated growth expected in the area. The conservative 100% crossing utilisation scenario was modelled to assess the road network performance, assuming that all cyclists will utilise the proposed crossing and the zebra crossing located in Lavender Street, just west of the Alfred Street S / Lavender Street roundabout. A model layout of the opening year network has been provided in Appendix I.

The results are summarised in Table 4-57 to Table 4-6, over page, revealing that:

- The western approach of Lavender Street to the existing pedestrian crossing at the Alfred Street / Lavender Street / Ramp / Middlemiss Street Intersection will operate at a LOS F under the 2034 AM peak traffic demand. As noted in the foregoing, given the existing scenario operated with a LOS E, it is understood that with the increased pedestrians and cyclist volumes at the pedestrian crossing, the Level of Service at this approach would have reached LOS F irrespective of light and heavy vehicle volumes increasing. In this instance, this is considered as acceptable and reflective of the realistic operation given an increased network demand
- The implementation of the proposed crossing in Alfred Street S, approximately 50m south of the roundabout does not affect the operational characteristic of the roundabout which is able to maintain an overall Level of Service A

Table 4-57: 2034 (100% Crossing Utilisation) AM Peak hour results at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – 2034 (100% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
1	L2	200	5.6	200	5.6	0.629	4.2	LOS A	2.1	15.6
2	T1	1	0.0	1	0.0	0.629	1.8	LOS A	2.1	15.6
3	R2	246	15.5	246	15.5	0.629	7.4	LOS A	2.1	15.6
3u	U	11	0.0	11	0.0	0.629	8.6	LOS A	2.1	15.6
Approach		458	10.8	458	10.8	0.629	6.0	LOS A	2.1	15.6
East: Ramp										
4	L2	334	7.0	334	7.0	0.383	2.4	LOS A	2.2	15.7
5	T1	203	2.2	203	2.2	0.383	6.5	LOS A	2.2	15.7
6	R2	1	0.0	1	0.0	0.383	2.9	LOS A	2.2	15.7
6u	U	1	0.0	1	0.0	0.383	11.3	LOS B	2.2	15.7
Approach		539	5.2	539	5.2	0.383	3.9	LOS A	2.2	15.7
North: Middlemiss Street										
7	L2	8	0.0	8	0.0	0.041	6.9	LOS A	0.1	0.5
8	T1	16	7.1	16	7.1	0.041	7.1	LOS A	0.1	0.5
9	R2	3	0.0	3	0.0	0.041	10.2	LOS B	0.1	0.5
Approach		27	4.2	27	4.25	0.041	7.4	LOS A	0.1	0.5
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.354	1.8	LOS A	0.9	6.7
11	T1	59	3.8	44	3.8	0.354	3.5	LOS A	0.9	6.7
12	R2	342	17.4	255	3.8	0.354	6.4	LOS A	0.9	6.7
12u	U	12	0.0	9	0.0	0.354	7.6	LOS A	0.9	6.7
Approach		414	14.9	310	14.8	0.354	6.0	LOS A	0.9	6.7
All Vehicles		1438	9.7	1333	10.5	0.629	5.2	LOS A	2.2	15.7

Table 4-58: 2034 (100% Crossing Utilisation) AM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout 2034 (100% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
East: Lavender Street										
8	T1	418	3.8	415	3.8	0.881	25.7	LOS D	1.3	9.0
Approach		418	3.8	415	3.8	0.881	25.7	LOS D	1.3	9.0
West: Lavender Street										
2	T1	412	14.9	412	14.9	1.336	325.3	LOS F	30.3	239.2
Approach		412	14.9	412	14.9	1.336	325.3	LOS F	30.3	239.2
All Vehicles		830	9.3	9.3	9.3	1.336	175.0	NA	30.3	239.2

Table 4-59: 2034 (100% Crossing Utilisation) AM Peak hour results at Proposed Crossing

AM Peak Proposed Crossing on Alfred Street – 2034 (100% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	428	11.0	428	11.0	0.490	4.3	LOS A	1.0	7.1
Approach		428	11.0	428	11.0	0.490	4.3	LOS A	1.0	7.1
Southeast: Cycleway										
22	T1	63	0.0	63	0.0	0.010	0.0	LOS A	0.0	0.0
Approach		63	0.0	63	0.0	0.010	0.0	NA	0.0	0.0
North: Alfred Street S										
8	T1	702	12.0	616	11.2	0.628	5.7	LOS A	2.6	19.7
Approach		702	12.0	616	11.2	0.628	5.7	LOS A	2.6	19.7
Northwest Cycleway										
28	T1	159	0.0	159	0.0	0.026	0.0	LOS A	0.0	0.0
Approach		159	0.0	159	0.0	0.026	0.0	NA	0.0	0.0
All Vehicles		1353	9.7	1266	10.3	0.628	4.2	NA	2.6	19.7

Table 4-60: 2034 (100% Crossing Utilisation) AM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

AM Peak Existing Signalised Pedestrian Crossing outside Milsons Point Station – 2034 (100% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	428	11.0	428	11.0	0.511	9.4	LOS A	3.9	27.8
Approach		428	11.0	428	11.0	0.511	9.4	LOS A	3.9	27.8
North: Alfred Street S										
8	T1	702	12.0	616	11.2	0.798	15.1	LOS B	7.8	60.0
Approach		702	12.0	616	11.2	0.798	15.1	LOS B	7.8	60.0
All Vehicles		1130	11.6	1044	12.5	0.798	12.8	LOS B	7.8	60.0

Table 4-61: 2034 (100% Crossing Utilisation) AM Peak hour results at Alfred Street / Burton Street Intersection

AM Peak Alfred Street / Burton Street Intersection – 2034 (100% Crossing Utilisation) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
2	T1	354	12.7	354	12.7	0.398	0.2	LOS A	0.1	0.6
3	R2	9	0.0	9	0.0	0.398	7.0	LOS A	0.1	0.6
Approach		363	12.4	363	12.4	0.398	0.4	NA	0.1	0.6
East: Burton Street										
4	L2	20	0.0	20	0.0	0.313	6.2	LOS A	0.3	1.3
6	R2	73	3.1	73	3.1	0.313	9.1	LOS A	0.3	1.3
Approach		93	2.4	93	2.4	0.313	8.5	LOS A	0.3	1.3
North: Alfred Street S										
7	L2	112	1.0	108	0.9	0.334	2.5	LOS A	0.0	0.0
8	T1	631	12.8	555	12.0	0.334	0.0	LOS A	0.0	0.0
Approach		742	11.0	662	10.2	0.334	0.4	NA	0.0	0.0
All Vehicles		1198	10.7	1118	11.5	0.398	1.1	NA	0.3	1.3

Table 4-62: 2034 (100% Crossing Utilisation) PM Peak hour results at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – 2034 (100% Crossing Utilisation) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
1	L2	183	1.2	183	1.2	0.653	4.5	LOS A	1.6	10.8
2	T1	1	0.0	1	0.0	0.653	2.2	LOS A	1.6	10.8
3	R2	292	11.9	292	11.9	0.653	7.5	LOS A	1.6	10.8
3u	U	25	0.0	25	0.0	0.653	9.0	LOS A	1.6	10.8
Approach		501	7.4	501	7.4	0.653	6.5	LOS A	1.6	10.8
East: Ramp										
4	L2	326	0.7	326	0.7	0.391	2.7	LOS A	1.6	11.0
5	T1	214	1.0	214	1.0	0.391	6.7	LOS A	1.6	11.0
6	R2	1	0.0	1	0.0	0.391	3.1	LOS A	1.6	11.0
6u	U	1	0.0	1	0.0	0.391	11.6	LOS B	1.6	11.0
Approach		542	0.8	542	0.8	0.391	4.3	LOS A	1.6	11.0
North: Middlemiss Street										
7	L2	15	0.0	15	0.0	0.049	7.4	LOS A	0.1	0.6
8	T1	8	0.0	8	0.0	0.049	7.5	LOS A	0.1	0.6
9	R2	6	0.0	6	0.0	0.049	10.7	LOS B	0.1	0.6
Approach		28	0.0	28	0.0	0.049	8.1	LOS A	0.1	0.6
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.455	2.2	LOS A	1.0	7.1
11	T1	50	2.2	48	2.2	0.455	3.9	LOS A	1.0	7.1
12	R2	307	4.0	294	4.0	0.455	6.5	LOS A	1.0	7.1
12u	U	7	0.0	6	0.0	0.455	8.0	LOS A	1.0	7.1
Approach		365	3.7	350	3.7	0.455	6.2	LOS A	1.0	7.1
All Vehicles		1436	3.8	1420	3.9	0.653	5.6	LOS A	1.6	11.0

Table 4-63: 2034 (100% Crossing Utilisation) PM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – 2034 (100% Crossing Utilisation) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
East: Lavender Street										
8	T1	410	1.1	410	1.1	0.810	18.0	LOS C	1.3	9.0
Approach		410	1.1	410	1.1	0.810	18.0	LOS C	1.3	9.0
West: Lavender Street										
2	T1	364	3.7	364	3.7	1.068	101.9	LOS F	12.0	86.7
Approach		364	3.7	364	3.7	1.068	101.9	LOS F	12.0	86.7
All Vehicles		774	2.3	774	2.3	1.068	57.4	NA	12.0	86.7

Table 4-64: Opening Year 2034 (100% Crossing Utilisation) PM Peak hour results at Proposed Crossing

PM Peak Proposed Crossing on Alfred Street – 2034 (100% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	349	10.0	349	10.0	0.379	1.8	LOS A	0.8	5.4
Approach		349	10.0	349	10.0	0.379	1.8	NA	0.8	5.4
Southeast: Cycleway										
22	T1	86	0.0	86	0.0	0.014	0.0	LOS A	0.0	0.0
Approach		86	0.0	86	0.0	0.014	0.0	LOS A	0.0	0.0
North: Alfred Street S										
8	T1	666	2.2	658	2.2	0.683	5.1	LOS A	4.5	31.9
Approach		666	2.2	658	2.2	0.683	5.1	NA	4.5	31.9
northwest: Cycleway										
28	T1	53	0.0	53	0.0	0.008	0.0	LOS A	0.0	0.0
Approach		53	0.0	53	0.0	0.008	0.0	LOS A	0.0	0.0
All Vehicles		1154	4.3	1145	4.3	0.683	3.5	NA	4.5	31.9

Table 4-65: 2034 (100% Crossing Utilisation) PM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

PM Peak Existing Signalised Pedestrian Crossing outside Milsons Point Station – 2034 (100% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	349	10.9	349	10.9	0.397	8.9	LOS A	3.0	20.4
Approach		349	10.9	349	10.9	0.397	8.9	LOS A	3.0	20.4
North: Alfred Street S										
8	T1	666	2.2	664	2.2	0.813	15.7	LOS B	8.6	61.5
Approach		666	2.2	664	2.2	0.813	15.7	LOS B	8.6	61.5
All Vehicles		1015	5.2	1013	5.2	0.813	13.4	LOS B	8.6	61.5

Table 4-66: 2034 (100% Crossing Utilisation) PM Peak hour results at Alfred Street / Burton Street Intersection

PM Peak Alfred Street / Burton Street Intersection – Opening Year 2024 (40% Crossing Utilisation) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
2	T1	282	13.5	282	13.5	0.201	0.0	LOS A	0.0	0.1
3	R2	3	0.0	3	0.0	0.201	5.7	LOS A	0.0	0.1
Approach		285	13.3	285	13.3	0.201	0.1	NA	0.0	0.1
East: Burton Street										
4	L2	9	12.5	9	12.5	0.139	5.1	LOS A	0.2	0.6
6	R2	67	0.0	67	0.0	0.139	4.7	LOS A	0.2	0.6
Approach		76	1.5	76	1.5	0.139	4.7	LOS A	0.2	0.6
North: Alfred Street S										
7	L2	48	2.3	48	2.3	0.243	2.5	LOS A	0.0	0.0
8	T1	444	1.8	444	1.8	0.243	0.0	LOS A	0.0	0.0
Approach		492	1.8	492	1.8	0.243	0.3	NA	0.0	0.0
All Vehicles		853	5.6	853	5.6	0.243	0.6	NA	0.2	0.6

4.1.11 2034 With Development (70% Crossing Utilisation) Model

To assess the performance of the road network post project, with a 10 year growth period as detailed in section 4.1.1 of this report, growth factors were applied to simulate the anticipated growth expected in the area. The 70% crossing utilisation scenario was modelled to assess the road network performance, continuing to assume that experienced and unexperienced cyclists will have different cycling behaviours when approaching the proposed crossing and the zebra crossing located in Lavender Street, just west of the Alfred St S / Lavender Street roundabout. A model layout of the opening year network has been provided in Appendix J.

The results are summarised in Table 4-67 to Table 4-7, over page, revealing that:

- The western approach of Lavender Street to the existing pedestrian crossing at the Alfred Street / Lavender St / Ramp / Middlemiss Street Intersection will operate at a LOS F under the 2034 AM peak traffic demand. As noted in the foregoing, given the existing scenario operated with a LOS E, it is understood that with the increased pedestrians and cyclist volumes at the pedestrian crossing, the Level of Service at this approach would have reached LOS F irrespective of light and heavy vehicle volumes increasing. In this instance, this is considered as acceptable and reflective of the realistic operation given an increased network demand
- The implementation of the proposed crossing in Alfred Street S, approximately 50m south of the roundabout does not affect the operational characteristic of the roundabout which is able to maintain an overall Level of Service A

Table 4-67: 2034 (70% Crossing Utilisation) AM Peak hour results at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Alfred S Street / Lavender Street / Ramp / Middlemiss Street Roundabout – 2034 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street										
1	L2	200	5.6	200	5.6	0.650	4.4	LOS A	1.5	10.5
2	T1	25	0.0	25	0.0	0.650	2.1	LOS A	1.5	10.5
3	R2	246	15.5	246	15.5	0.650	7.5	LOS A	1.5	10.5
3u	U	11	0.0	11	0.0	0.650	8.8	LOS A	1.5	10.5
Approach		482	10.2	482	10.2	0.650	6.1	LOS A	1.5	10.5
East: Ramp										
4	L2	334	7.0	334	7.0	0.391	2.7	LOS A	1.4	10.3
5	T1	203	2.2	203	2.2	0.391	6.8	LOS A	1.4	10.3
6	R2	1	0.0	1	0.0	0.391	3.2	LOS A	1.4	10.3
6u	U	1	0.0	1	0.0	0.391	11.7	LOS B	1.4	10.3
Approach		539	5.2	539	5.2	0.391	4.3	LOS A	1.4	10.3
North: Middlemiss Street										
7	L2	8	0.0	8	0.0	0.101	7.2	LOS A	0.2	0.9
8	T1	57	2.0	57	2.0	0.101	5.1	LOS A	0.2	0.9
9	R2	3	0.0	3	0.0	0.101	10.5	LOS B	0.2	0.9
Approach		68	1.6	68	5.2	0.101	5.6	LOS A	0.2	0.9
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.394	1.9	LOS A	0.9	7.2
11	T1	59	3.8	59	3.8	0.394	3.6	LOS A	0.9	7.2
12	R2	363	16.4	277	16.3	0.394	6.4	LOS A	0.9	7.2
12u	U	12	0.0	9	0.0	0.394	7.8	LOS A	0.9	7.2
Approach		436	14.1	332	14.1	0.394	6.1	LOS A	0.9	7.2
All Vehicles		1525	9.2	1421	9.9	0.650	5.4	LOS A	1.5	10.5

Table 4-68: 2034 (70% Crossing Utilisation) AM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout 2034 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
East: Lavender Street										
8	T1	418	3.8	415	3.8	0.791	16.2	LOS C	1.3	9.0
Approach		418	3.8	415	3.8	0.791	16.2	LOS C	1.3	9.0
West: Lavender Street										
2	T1	431	14.3	431	14.3	1.306	297.2	LOS F	30.0	230.4
Approach		431	14.3	431	14.3	1.306	297.2	LOS F	30.0	230.4
All Vehicles		849	9.1	846	9.1	1.306	159.4	NA	30.0	230.4

Table 4-69: 2034 (70% Crossing Utilisation) AM Peak hour results at Proposed Crossing

AM Peak Proposed Crossing on Alfred Street – 2034 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	428	11.0	428	11.0	0.422	3.7	LOS A	0.8	5.9
Approach		428	11.0	428	11.0	0.422	3.7	LOS A	0.8	5.9
Southeast: Cycleway										
22	T1	51	0.0	51	0.0	0.008	0.0	LOS A	0.0	0.0
Approach		51	0.0	51	0.0	0.008	0.0	NA	0.0	0.0
North: Alfred Street S										
8	T1	759	11.1	673	10.3	0.661	5.7	LOS A	3.0	22.2
Approach		759	11.1	673	10.3	0.661	5.7	LOS A	3.0	22.2
Northwest Cycleway										
28	T1	112	0.0	112	0.0	0.018	0.0	LOS A	0.0	0.0
Approach		112	0.0	112	0.0	0.018	0.0	NA	0.0	0.0
All Vehicles		1350	9.7	1264	10.4	0.661	4.3	NA	3.0	22.2

Table 4-70: 2034 (70% Crossing Utilisation) AM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

AM Peak Existing Signalised Pedestrian Crossing outside Milsons Point Station – 2034 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	428	11.0	428	11.0	0.511	9.4	LOS A	3.9	27.8
Approach		428	11.0	428	11.0	0.511	9.4	LOS A	3.9	27.8
North: Alfred Street S										
8	T1	764	11.0	678	10.3	0.824	16.3	LOS B	9.0	65.2
Approach		764	11.0	678	10.3	0.824	16.3	LOS B	9.0	65.2
All Vehicles		1192	11.0	1106	11.9	0.824	13.6	LOS B	9.0	65.2

Table 4-71: 2034 (70% Crossing Utilisation) AM Peak hour results at Alfred Street / Burton Street Intersection

AM Peak Alfred Street / Burton St Intersection – 2034 (70% Crossing Utilisation) SIDRA Results										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
2	T1	354	12.7	354	12.7	0.398	0.2	LOS A	0.1	0.6
3	R2	9	0.0	9	0.0	0.398	7.0	LOS A	0.1	0.6
Approach		363	12.4	363	12.4	0.398	0.4	NA	0.1	0.6
East: Burton Street										
4	L2	20	0.0	20	0.0	0.315	6.3	LOS A	0.3	1.3
6	R2	73	3.1	73	3.1	0.315	9.2	LOS A	0.3	1.3
Approach		93	2.4	93	2.4	0.315	8.6	LOS A	0.3	1.3
North: Alfred Street S										
7	L2	112	1.0	104	0.9	0.337	2.5	LOS A	0.0	0.0
8	T1	631	12.8	560	12.1	0.337	0.0	LOS A	0.0	0.0
Approach		742	11.0	664	10.3	0.337	0.4	NA	0.0	0.0
All Vehicles		1198	10.7	1120	11.5	0.398	1.1	NA	0.3	1.3

Table 4-72: 2034 (70% Crossing Utilisation) PM Peak hour results at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – 2034 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
1	L2	183	1.2	183	1.2	0.673	4.7	LOS A	1.7	11.5
2	T1	23	0.0	23	0.0	0.673	2.5	LOS A	1.7	11.5
3	R2	292	11.9	292	11.9	0.673	7.8	LOS A	1.7	11.5
3u	U	25	0.0	25	0.0	0.673	9.3	LOS A	1.7	11.5
Approach		523	7.1	523	7.1	0.673	6.6	LOS A	1.7	11.5
East: Ramp										
4	L2	326	0.7	326	0.7	0.395	2.9	LOS A	1.4	10.0
5	T1	214	1.0	214	1.0	0.395	6.9	LOS A	1.4	10.0
6	R2	1	0.0	1	0.0	0.395	3.3	LOS A	1.4	10.0
6u	U	1	0.0	1	0.0	0.395	11.7	LOS B	1.4	10.0
Approach		542	0.8	542	0.8	0.395	4.5	LOS A	1.4	10.0
North: Middlemiss Street										
7	L2	15	0.0	15	0.0	0.076	7.6	LOS A	0.1	0.7
8	T1	22	0.0	22	0.0	0.076	5.8	LOS A	0.1	0.7
9	R2	6	0.0	6	0.0	0.076	10.9	LOS B	0.1	0.7
Approach		43	0.0	43	0.0	0.076	7.1	LOS A	0.1	0.7
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.491	2.3	LOS A	1.1	7.5
11	T1	50	2.2	49	2.2	0.491	4.0	LOS A	1.1	7.5
12	R2	314	3.9	307	3.9	0.491	6.6	LOS A	1.1	7.5
12u	U	7	0.0	7	0.0	0.491	8.1	LOS A	1.1	7.5
Approach		372	3.6	364	3.6	0.491	6.3	LOS A	1.1	7.5
All Vehicles		1479	3.7	1472	3.7	0.673	5.7	LOS A	1.7	11.5

Table 4-73: 2034 (70% Crossing Utilisation) PM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – 2034 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
East: Lavender Street										
8	T1	410	1.1	410	1.1	0.761	14.4	LOS B	1.3	9.0
Approach		410	1.1	410	1.1	0.761	14.4	LOS B	1.3	9.0
West: Lavender Street										
2	T1	370	3.6	370	3.6	1.073	104.1	LOS F	12.5	89.7
Approach		370	3.6	370	3.6	1.073	104.1	LOS F	12.5	89.7
All Vehicles		780	2.3	780	2.3	1.073	59.6	NA	12.5	89.7

Table 4-74: Opening Year 2034 (70% Crossing Utilisation) PM Peak hour results at Proposed Crossing

PM Peak Proposed Crossing on Alfred Street – 2034 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	349	10.0	349	10.0	0.369	1.6	LOS A	0.8	5.3
Approach		349	10.0	349	10.0	0.369	1.6	NA	0.8	5.3
Southeast: Cycleway										
22	T1	64	0.0	64	0.0	0.010	0.0	LOS A	0.0	0.0
Approach		64	0.0	64	0.0	0.010	0.0	LOS A	0.0	0.0
North: Alfred Street S										
8	T1	688	2.1	687	2.1	0.695	4.8	LOS A	4.8	33.5
Approach		688	2.1	687	2.1	0.695	4.8	NA	4.8	33.5
northwest: Cycleway										
28	T1	37	0.0	37	0.0	0.006	0.0	LOS A	0.0	0.0
Approach		37	0.0	37	0.0	0.006	0.0	LOS A	0.0	0.0
All Vehicles		1138	4.3	1137	4.3	0.695	3.4	NA	4.8	33.5

Table 4-75: 2034 (70% Crossing Utilisation) PM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

PM Peak Existing Signalised Pedestrian Crossing outside Milsons Point Station – 2034 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	349	10.9	349	10.9	0.397	8.9	LOS A	3.0	20.4
Approach		349	10.9	349	10.9	0.397	8.9	LOS A	3.0	20.4
North: Alfred Street S										
8	T1	711	2.0	711	2.0	0.832	13.6	LOS B	9.6	65.5
Approach		711	2.0	711	2.0	0.832	13.6	LOS B	9.6	65.5
All Vehicles		1060	5.0	1060	5.0	0.832	14.1	LOS B	9.6	65.5

Table 4-76: 2034 (70% Crossing Utilisation) PM Peak hour results at Alfred Street / Burton Street Intersection

PM Peak Alfred Street / Burton Street Intersection – Opening Year 2024 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	282	13.5	282	13.5	0.201	0.0	LOS A	0.0	0.1
3	R2	3	0.0	3	0.0	0.201	5.7	LOS A	0.0	0.1
Approach		285	13.3	285	13.3	0.201	0.1	NA	0.0	0.1
East: Burton Street										
4	L2	9	12.5	9	12.5	0.139	5.1	LOS A	0.2	0.6
6	R2	67	0.0	67	0.0	0.139	4.7	LOS A	0.2	0.6
Approach		76	1.5	76	1.5	0.139	4.7	LOS A	0.2	0.6
North: Alfred Street S										
7	L2	48	2.3	48	2.3	0.243	2.5	LOS A	0.0	0.0
8	T1	444	1.8	444	1.8	0.243	0.0	LOS A	0.0	0.0
Approach		492	1.8	492	1.8	0.243	0.3	NA	0.0	0.0
All Vehicles		853	5.6	853	5.6	0.243	0.6	NA	0.2	0.6

4.1.12 2034 With Development (40% Crossing Utilisation) Model

To assess the performance of the road network post project, with a 10 year growth period as detailed in section 4.1.1 of this report, growth factors were applied to simulate the anticipated growth expected in the area. The 40% crossing utilisation scenario was modelled to assess the road network performance, continuing to assume that experienced and unexperienced cyclists will have different cycling behaviours when approaching the proposed crossing and the zebra crossing located in Lavender Street, just west of the Alfred Street S / Lavender Street roundabout. A model layout of the opening year network has been provided in Appendix K.

The results are summarised in Table 4-77 to Table 4-86, over page, revealing that:

- The western approach of Lavender Street to the existing pedestrian crossing at the Alfred Street / Lavender Street / Ramp / Middlemiss Street Intersection will operate at a LOS F under the 2034 AM peak traffic demand. Given the existing scenario operated with a LOS E, it is understood that with the increased pedestrians and cyclist volumes at the pedestrian crossing, the Level of Service at this approach would have reached LOS F irrespective of light and heavy vehicle volumes increasing. In this instance, this is considered as acceptable and reflective of the realistic operation given an increased network demand
- The implementation of the proposed crossing in Alfred Street S, approximately 50m south of the roundabout does not affect the operational characteristic of the roundabout which is able to maintain an overall Level of Service A

Table 4-77: 2034 (40% Crossing Utilisation) AM Peak hour results at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – 2034 (40% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
1	L2	200	5.6	200	5.6	0.650	4.5	LOS A	1.5	10.6
2	T1	25	0.0	25	0.0	0.650	2.1	LOS A	1.5	10.6
3	R2	246	15.5	246	15.5	0.650	7.6	LOS A	1.5	10.6
3u	U	11	0.0	11	0.0	0.650	8.8	LOS A	1.5	10.6
Approach		482	10.2	482	10.2	0.650	6.1	LOS A	1.5	10.6
East: Ramp										
4	L2	334	7.0	334	7.0	0.399	3.0	LOS A	1.4	10.2
5	T1	203	2.2	203	2.2	0.399	7.1	LOS A	1.4	10.2
6	R2	1	0.0	1	0.0	0.399	3.5	LOS A	1.4	10.2
6u	U	1	0.0	1	0.0	0.399	12.0	LOS B	1.4	10.2
Approach		539	5.2	539	5.2	0.399	4.6	LOS A	1.4	10.2
North: Middlemiss Street										
7	L2	8	0.0	8	0.0	0.151	7.5	LOS A	0.3	1.3
8	T1	97	1.1	97	1.1	0.151	4.9	LOS A	0.3	1.3
9	R2	3	0.0	3	0.0	0.151	10.8	LOS B	0.3	1.3
Approach		109	1.0	109	1.0	0.151	5.3	LOS A	0.3	1.3
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.394	1.9	LOS A	1.0	7.6
11	T1	59	3.8	46	3.8	0.394	3.7	LOS A	1.0	7.6
12	R2	384	15.5	299	15.4	0.394	6.4	LOS A	1.0	7.6
12u	U	12	0.0	10	0.0	0.394	7.8	LOS A	1.0	7.6
Approach		457	13.5	356	13.4	0.394	6.0	LOS A	1.0	7.6
All Vehicles		1586	8.8	1485	9.4	0.650	5.5	LOS A	1.5	10.6

Table 4-78: 2034 (40% Crossing Utilisation) AM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

AM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout 2034 (40% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
East: Lavender Street										
8	T1	418	3.8	415	3.8	0.711	11.2	LOS B	1.3	9.0
Approach		418	3.8	415	3.8	0.711	11.2	LOS B	1.3	9.0
West: Lavender Street										
2	T1	450	13.7	450	13.7	1.276	269.2	LOS F	29.8	221.9
Approach		450	13.7	450	13.7	1.276	269.2	LOS F	29.8	221.9
All Vehicles		868	8.9	865	8.9	1.276	145.5	NA	29.8	221.9

Table 4-79: 2034 (40% Crossing Utilisation) AM Peak hour results at Proposed Crossing

AM Peak Proposed Crossing on Alfred Street – 2034 (40% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	428	11.0	428	11.0	0.409	3.3	LOS A	0.7	5.2
Approach		428	11.0	428	11.0	0.409	3.3	LOS A	0.7	5.2
Southeast: Cycleway										
22	T1	39	0.0	39	0.0	0.006	0.0	LOS A	0.0	0.0
Approach		39	0.0	39	0.0	0.006	0.0	NA	0.0	0.0
North: Alfred Street S										
8	T1	700	11.7	622	11.0	0.595	4.6	LOS A	2.3	17.5
Approach		700	11.7	622	11.0	0.595	4.6	LOS A	2.3	17.5
Northwest Cycleway										
28	T1	64	0.0	64	0.0	0.010	0.0	LOS A	0.0	0.0
Approach		64	0.0	64	0.0	0.010	0.0	NA	0.0	0.0
All Vehicles		1231	10.5	1154	11.2	0.595	3.7	NA	2.3	17.5

Table 4-80: 2034 (40% Crossing Utilisation) AM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

AM Peak Existing Signalised Pedestrian Crossing outside Milsons Point Station – 2034 (40% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	428	11.0	428	11.0	0.402	7.4	LOS A	3.8	27.2
Approach		428	11.0	428	11.0	0.402	7.4	LOS A	3.8	27.2
North: Alfred Street S										
8	T1	827	10.2	748	9.4	0.672	9.1	LOS A	8.2	56.1
Approach		827	10.2	748	9.4	0.672	9.1	LOS A	8.2	56.1
All Vehicles		1255	10.4	1177	11.1	0.672	8.5	LOS A	8.2	56.1

Table 4-81: 2034 (40% Crossing Utilisation) AM Peak hour results at Alfred Street / Burton Street Intersection

AM Peak Alfred Street / Burton Street Intersection – 2034 (40% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	354	12.7	354	12.7	0.383	0.2	LOS A	0.1	0.6
3	R2	9	0.0	9	0.0	0.383	7.1	LOS A	0.1	0.6
Approach		363	12.4	363	12.4	0.383	0.4	NA	0.1	0.6
East: Burton Street										
4	L2	20	0.0	20	0.0	0.307	6.3	LOS A	0.3	1.3
6	R2	73	3.1	73	3.1	0.307	9.2	LOS A	0.3	1.3
Approach		93	2.4	93	2.4	0.307	8.6	LOS A	0.3	1.3
North: Alfred Street S										
7	L2	112	1.0	108	0.9	0.340	2.5	LOS A	0.0	0.0
8	T1	631	12.8	564	12.1	0.340	0.0	LOS A	0.0	0.0
Approach		742	11.0	672	10.3	0.340	0.4	NA	0.0	0.0
All Vehicles		1198	10.7	1128	11.4	0.383	1.1	NA	0.3	1.3

Table 4-82: 2034 (40% Crossing Utilisation) PM Peak hour results at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Alfred S Street / Lavender Street / Ramp / Middlemiss Street Roundabout – 2034 (70% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
1	L2	183	1.2	183	1.2	0.693	5.0	LOS A	1.9	12.4
2	T1	46	0.0	46	0.0	0.693	2.8	LOS A	1.9	12.4
3	R2	292	11.9	292	11.9	0.693	8.1	LOS A	1.9	12.4
3u	U	25	0.0	25	0.0	0.693	9.6	LOS A	1.9	12.4
Approach		546	6.8	546	6.8	0.693	6.7	LOS A	1.9	12.4
East: Ramp										
4	L2	326	0.7	326	0.7	0.399	3.0	LOS A	1.5	10.3
5	T1	214	1.0	214	1.0	0.399	7.0	LOS A	1.5	10.3
6	R2	1	0.0	1	0.0	0.399	3.4	LOS A	1.5	10.3
6u	U	1	0.0	1	0.0	0.399	11.9	LOS B	1.5	10.3
Approach		542	0.8	542	0.8	0.399	4.6	LOS A	1.5	10.3
North: Middlemiss Street										
7	L2	15	0.0	15	0.0	0.105	7.8	LOS A	0.2	0.9
8	T1	37	0.0	37	0.0	0.105	5.4	LOS A	0.2	0.9
9	R2	6	0.0	6	0.0	0.105	11.1	LOS B	0.2	0.9
Approach		57	0.0	57	0.0	0.105	6.6	LOS A	0.2	0.9
West: Lavender Street										
10	L2	1	0.0	1	0.0	0.519	2.6	LOS A	1.1	7.9
11	T1	50	2.2	50	2.2	0.519	4.3	LOS A	1.1	7.9
12	R2	319	3.9	319	3.9	0.519	6.9	LOS A	1.1	7.9
12u	U	7	0.0	7	0.0	0.519	8.4	LOS A	1.1	7.9
Approach		377	3.6	377	3.6	0.519	6.6	LOS A	1.1	7.9
All Vehicles		1523	3.6	1523	3.6	0.693	5.9	LOS A	1.9	12.4

Table 4-83: 2034 (40% Crossing Utilisation) PM Peak hour results at Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout

PM Peak Existing Pedestrian Crossing at Alfred Street / Lavender Street / Ramp / Middlemiss Street Roundabout – 2034 (40% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
East: Lavender Street										
8	T1	410	1.1	410	1.1	0.714	11.7	LOS B	1.3	9.0
Approach		410	1.1	410	1.1	0.714	11.7	LOS B	1.3	9.0
West: Lavender Street										
2	T1	375	3.6	370	3.6	1.081	108.3	LOS F	13.3	94.0
Approach		375	3.6	370	3.6	1.081	108.3	LOS F	13.3	94.0
All Vehicles		785	2.3	785	2.3	1.081	57.8	NA	13.3	94.0

Table 4-84: Opening Year 2034 (40% Crossing Utilisation) PM Peak hour results at Proposed Crossing

PM Peak Proposed Crossing on Alfred Street – 2034 (40% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred Street S										
2	T1	349	10.0	349	10.0	0.361	1.4	LOS A	0.8	5.2
Approach		349	10.0	349	10.0	0.361	1.4	NA	0.8	5.2
Southeast: Cycleway										
22	T1	42	0.0	42	0.0	0.007	0.0	LOS A	0.0	0.0
Approach		42	0.0	42	0.0	0.007	0.0	LOS A	0.0	0.0
North: Alfred Street S										
8	T1	710	2.1	710	2.1	0.703	4.5	LOS A	5.0	34.2
Approach		710	2.1	710	2.1	0.703	4.5	NA	5.0	34.2
northwest: Cycleway										
28	T1	28	0.0	28	0.0	0.005	0.0	LOS A	0.0	0.0
Approach		28	0.0	28	0.0	0.005	0.0	LOS A	0.0	0.0
All Vehicles		1129	4.4	1129	4.4	0.703	3.2	NA	5.0	34.2

Table 4-85: 2034 (40% Crossing Utilisation) PM Peak hour results at Signalised Pedestrian Crossing Outside Milsons Point Station

PM Peak Existing Signalised Pedestrian Crossing outside Milsons Point Station – 2034 (40% Crossing Utilisation) SIDRA Results										
Mov ID	Turn	Demand Flows		Arrival Flows		Deg Satn	Aver Delay	Level of Service	Average Back of Queue	
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m
South: Alfred St S										
2	T1	349	10.9	349	10.9	0.397	8.9	LOS A	3.0	20.4
Approach		349	10.9	349	10.9	0.397	8.9	LOS A	3.0	20.4
North: Alfred St S										
8	T1	711	2.0	711	2.0	0.832	13.6	LOS B	9.6	65.5
Approach		711	2.0	711	2.0	0.832	13.6	LOS B	9.6	65.5
All Vehicles		1060	5.0	1060	5.0	0.832	14.1	LOS B	9.6	65.5

Table 4-86: 2034 (40% Crossing Utilisation) PM Peak hour results at Alfred Street / Burton Street Intersection

PM Peak Alfred Street / Burton Street Intersection – Opening Year 2024 (40% Crossing Utilisation) SIDRA										
Mov ID	**Turn**	**Demand Flows**		**Arrival Flows**		**Deg Satn**	**Aver Delay**	**Level of Service**	**Average Back of Queue**	
		Total veh/h	**HV %**	**Total veh/h**	**HV %**	**v/c**	**sec**		**veh**	**m**
South: Alfred Street S										
2	T1	282	13.5	282	13.5	0.201	0.0	LOS A	0.0	0.1
3	R2	3	0.0	3	0.0	0.201	5.7	LOS A	0.0	0.1
Approach		285	13.3	285	13.3	0.201	0.1	NA	0.0	0.1
East: Burton Street										
4	L2	9	12.5	9	12.5	0.139	5.1	LOS A	0.2	0.6
6	R2	67	0.0	67	0.0	0.139	4.7	LOS A	0.2	0.6
Approach		76	1.5	76	1.5	0.139	4.7	LOS A	0.2	0.6
North: Alfred Street S										
7	L2	48	2.3	48	2.3	0.243	2.5	LOS A	0.0	0.0
8	T1	444	1.8	444	1.8	0.243	0.0	LOS A	0.0	0.0
Approach		492	1.8	492	1.8	0.243	0.3	NA	0.0	0.0
All Vehicles		853	5.6	853	5.6	0.243	0.6	NA	0.2	0.6

5 Conclusion

The traffic survey results and the traffic analysis for existing conditions at the intersection of Alfred Street and Lavender Street indicate that the Lavender Street eastbound approach to the roundabout is currently operating at a low level of service (LOS E) with an average back of queue of 8.5 vehicles (61.8m).

Applying a growth factor of 1.5% per annum to the vehicle and pedestrian traffic to determine the LOS of the road network for opening year 2024 without the project. The results indicate the performance of the Lavender Street eastbound approach to the existing zebra crossing drops to LOS F, causing further delays and extended queuing on Lavender Street to 18.3 vehicles (133.3m) in 2024 and to 32.7 vehicles (235.6m) in 2034. Table 5.1 below summarises the key measures between the existing, opening year with no project 2024, 10 year scenario with no project, opening year 2024 (40% crossing utilisation) and project 10 year growth period to 2034 (40% crossing utilisation) scenarios. The project analysis scenarios were developed in conjunction with the growth factors provided by TfNSW and the assumed growth factors. The SIDRA results indicate that the LOS F will remain irrespective of the project as a result of the existing conditions for the Lavender St eastbound approach to the existing zebra crossing, with an average back of queue of 15.2 vehicles (114.1m) in the project opening year of 2024 (40% crossing utilisation) and to 29.8 vehicles (221.9m) in 2034 post project.

It is pertinent to note that other locations within the modelled network can operate at an acceptable LOS C and above. It is also noted that the eastern approach to the Lavender Street zebra crossing will drop to a LOS D post-project in 2034, when considering a conservative scenario with a 100% cyclist crossing utilisation. However, this is expected considering the existing conditions.

Table 5-1: Key measures summary for Lavender Street eastbound approach to the zebra crossing

	Existing	Opening Year, No Project 2024	10 Years Scenario No Project	Opening Year 2024 (40% Crossing Utilisation)	Project 10-year growth period to 2034 (40% Crossing Utilisation)
Level of Service (LOS)	E	F	F	F	F
Average Vehicle Delay	44.2 seconds	126.2 seconds	264.0 seconds	117.9 seconds	269.2 seconds
Average Back of Queue	8.5 vehicles (61.8m)	18.3 vehicles (133.3m)	32.7 vehicles (235.6m)	15.2 vehicles (114.1m)	29.8 vehicles (221.9m)
Degree of Saturation (DoS)	0.99	1.108	1.272	1.095	1.276

The SIDRA results also indicate that there is no potential queuing impact onto the Warringah Freeway with the introduction of the new design including at the midblock crossing. Table 5.2 and Table 5.3, over page, summarises the queue length at the northern approach to the new crossing and at the freeway off ramp with and without the project, when considering the 40% cyclists crossing utilisation scenario. The traffic analysis demonstrates the proposed design will improve active transport connection and accessibility to key cycling corridor and public transport hubs with no major impact on the road network operations.

Table 5-2: Key measures summary for the northern approach to the new crossing

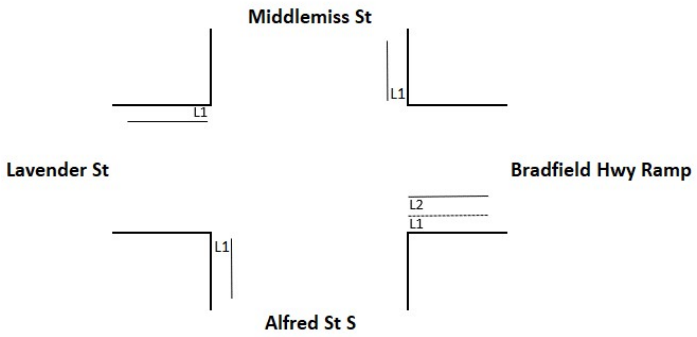
	Opening Year 2024 (40% Crossing Utilisation)	Project 10-year growth period to 2034 (40% Crossing Utilisation)
Level of Service (LOS)	A	A
Average Vehicle Delay	4.1 seconds	4.8 seconds
Average Back of Queue	2.0 vehicles (15.1m)	2.3 vehicles (17.5m)
Degree of Saturation (DoS)	0.566	0.595

Table 5-3: Key measures summary for the eastern ramp approach to the Alfred Street S / Lavender Street Roundabout

	Existing	Opening Year, No Project 2024	10 Years Scenario No Project	Opening Year 2024 (40% Crossing Utilisation)	Project 10-year growth period to 2034 (40% Crossing Utilisation)
Level of Service (LOS)	A	A	A	A	A
Average Vehicle Delay	4.7 seconds	4.9 seconds	5.0 seconds	4.6 seconds	4.6 seconds
Average Back of Queue	1.2 vehicles (8.5m)	1.2 vehicles (9.0 m)	1.5 vehicles (10.8m)	1.2 vehicles (8.7m)	1.4 vehicles (10.2m)
Degree of Saturation (DoS)	0.343	0.356	0.408	0.352	0.399

Appendix A – Traffic Survey and Pedestrian Survey Results

Client	Aurecon Australasia Pty Lt
Location	1. Alfred St S & Bradfield Hwy Ramp & Middlemiss St & Lavender St
Date	Wednesday, 30 November 2022
Survey Time	6:00-10:00 & 15:00-19:00
Description	Queue Length Surveys



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* Max Queue

AM	South Leg (Alfred St S)			East Leg (Bradfield Hwy Ramp)						North Leg (Middlemiss St)			West Leg (Lavender St)		
	Lane 1			Lane 1			Lane 2			Lane 1			Lane 1		
	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total
6:00 to 6:05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:05 to 6:10	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
6:10 to 6:15	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
6:15 to 6:20	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
6:20 to 6:25	1	0	1	1	0	1	3	0	3	0	0	0	1	0	1
6:25 to 6:30	2	0	2	1	0	1	1	0	1	0	0	0	1	0	1
6:30 to 6:35	1	0	1	1	0	1	0	0	0	0	0	0	1	0	1
6:35 to 6:40	0	0	0	0	0	0	2	0	2	0	0	0	1	0	1
6:40 to 6:45	1	0	1	0	0	0	1	0	1	0	0	0	1	0	1
6:45 to 6:50	2	0	2	0	0	0	1	0	1	0	0	0	1	0	1
6:50 to 6:55	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1
6:55 to 7:00	1	0	1	3	0	3	1	0	1	0	0	0	1	0	1
7:00 to 7:05	1	1	2	1	0	1	1	0	1	0	0	0	1	0	1
7:05 to 7:10	5	0	5	0	0	0	1	0	1	0	0	0	2	1	3
7:10 to 7:15	2	0	2	1	0	1	1	0	1	1	0	1	1	0	1
7:15 to 7:20	2	0	2	0	0	0	3	0	3	0	0	0	1	0	1
7:20 to 7:25	3	0	3	0	0	0	2	0	2	1	0	1	3	0	3
7:25 to 7:30	1	1	2	1	0	1	2	0	2	1	0	1	2	0	2
7:30 to 7:35	3	0	3	0	0	0	1	0	1	0	0	0	3	0	3
7:35 to 7:40	1	0	1	0	0	0	1	0	1	0	0	0	3	0	3
7:40 to 7:45	2	0	2	0	0	0	2	0	2	0	0	0	2	0	2
7:45 to 7:50	4	1	5	0	0	0	2	0	2	1	0	1	4	0	4
7:50 to 7:55	1	1	2	2	0	2	3	0	3	0	0	0	3	1	4
7:55 to 8:00	1	0	1	4	0	4	3	0	3	1	0	1	5	0	5
8:00 to 8:05	3	0	3	5	0	5	3	0	3	1	0	1	4	0	4
8:05 to 8:10	5	0	5	0	0	0	2	0	2	0	0	0	5	1	6

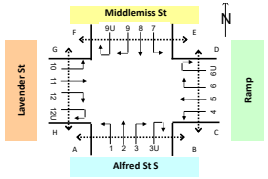
PM	South Leg (Alfred St S)			East Leg (Bradfield Hwy Ramp)						North Leg (Middlemiss St)			West Leg (Lavender St)		
	Lane 1			Lane 1			Lane 2			Lane 1			Lane 1		
	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total
15:00 to 15:05	2	0	2	0	0	0	1	0	1	1	0	1	1	0	1
15:05 to 15:10	3	0	3	1	0	1	1	0	1	1	0	1	4	0	4
15:10 to 15:15	3	0	3	1	0	1	1	0	1	1	0	1	3	0	3
15:15 to 15:20	1	1	2	0	0	0	1	0	1	0	0	0	3	0	3
15:20 to 15:25	3	0	3	0	0	0	0	0	0	0	0	0	4	0	4
15:25 to 15:30	2	0	2	0	0	0	1	0	1	1	0	1	3	0	3
15:30 to 15:35	2	0	2	0	0	0	1	0	1	1	0	1	8	0	8
15:35 to 15:40	1	1	2	1	0	1	0	0	0	1	0	1	8	0	8
15:40 to 15:45	2	0	2	0	0	0	0	0	0	0	0	0	2	0	2
15:45 to 15:50	1	0	1	0	0	0	1	0	1	0	0	0	1	0	1
15:50 to 15:55	1	0	1	0	0	0	1	0	1	0	0	0	1	0	1
15:55 to 16:00	0	0	0	0	0	0	2	0	2	0	0	0	1	0	1
16:00 to 16:05	2	0	2	0	0	0	1	0	1	1	0	1	3	0	3
16:05 to 16:10	1	1	2	0	0	0	2	0	2	1	0	1	2	0	2
16:10 to 16:15	2	1	3	0	0	0	1	0	1	0	0	0	1	0	1
16:15 to 16:20	2	0	2	0	0	0	0	0	0	1	0	1	4	0	4
16:20 to 16:25	2	0	2	0	0	0	2	0	2	1	0	1	3	0	3
16:25 to 16:30	1	0	1	1	0	1	1	0	1	1	0	1	1	0	1
16:30 to 16:35	1	0	1	0	0	0	0	0	0	0	0	0	3	0	3
16:35 to 16:40	1	0	1	0	0	0	1	0	1	0	0	0	2	0	2
16:40 to 16:45	3	0	3	0	0	0	1	0	1	0	0	0	2	0	2
16:45 to 16:50	1	0	1	0	0	0	1	0	1	1	0	1	3	0	3
16:50 to 16:55	2	0	2	0	0	0	1	0	1	0	0	0	2	1	3
16:55 to 17:00	1	0	1	0	0	0	0	0	0	1	0	1	2	1	3
17:00 to 17:05	4	0	4	0	0	0	2	0	2	2	0	2	2	0	2
17:05 to 17:10	1	0	1	1	0	1	3	0	3	0	0	0	3	0	3

8:10	to	8:15	2	0	2	0	0	0	3	0	3	1	0	1	4	0	4
8:15	to	8:20	4	0	4	0	0	0	4	0	4	1	0	1	4	0	4
8:20	to	8:25	4	0	4	0	0	0	1	0	1	1	0	1	5	1	6
8:25	to	8:30	1	0	1	0	0	0	3	0	3	1	0	1	3	0	3
8:30	to	8:35	3	1	4	1	0	1	3	0	3	0	0	0	4	0	4
8:35	to	8:40	2	1	3	1	0	1	2	0	2	1	0	1	3	0	3
8:40	to	8:45	4	0	4	0	0	0	1	0	1	0	0	0	3	0	3
8:45	to	8:50	2	0	2	1	0	1	3	0	3	1	0	1	3	0	3
8:50	to	8:55	4	0	4	0	0	0	3	0	3	0	0	0	2	0	2
8:55	to	9:00	3	0	3	0	0	0	2	0	2	1	0	1	2	0	2
9:00	to	9:05	5	0	5	2	0	2	4	0	4	2	0	2	1	0	1
9:05	to	9:10	1	0	1	1	0	1	2	0	2	0	0	0	1	1	2
9:10	to	9:15	2	0	2	4	0	4	2	0	2	0	0	0	2	1	3
9:15	to	9:20	2	0	2	0	0	0	2	0	2	1	0	1	1	0	1
9:20	to	9:25	2	0	2	0	0	0	2	0	2	1	0	1	3	0	3
9:25	to	9:30	1	0	1	0	0	0	1	0	1	1	0	1	1	0	1
9:30	to	9:35	2	0	2	1	0	1	1	0	1	1	0	1	2	0	2
9:35	to	9:40	1	0	1	0	0	0	2	0	2	1	0	1	2	0	2
9:40	to	9:45	3	0	3	0	0	0	1	0	1	1	0	1	2	0	2
9:45	to	9:50	2	0	2	0	0	0	1	0	1	0	0	0	2	0	2
9:50	to	9:55	4	0	4	1	0	1	1	0	1	0	0	0	1	0	1
9:55	to	10:00	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1
MAX			5	1	5	5	0	5	4	0	4	2	0	2	5	1	6
MIN			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

17:10	to	17:15	1	0	1	4	0	4	2	0	2	1	0	1	2	0	2
17:15	to	17:20	2	0	2	0	0	0	1	0	1	0	0	0	2	0	2
17:20	to	17:25	2	0	2	0	0	0	4	0	4	1	0	1	3	0	3
17:25	to	17:30	1	0	1	0	0	0	0	0	0	0	0	0	2	0	2
17:30	to	17:35	2	1	3	0	0	0	1	0	1	1	0	1	4	0	4
17:35	to	17:40	4	1	5	0	0	0	1	0	1	0	0	0	1	0	1
17:40	to	17:45	4	0	4	0	0	0	1	0	1	1	0	1	5	0	5
17:45	to	17:50	4	0	4	1	0	1	1	0	1	1	0	1	3	0	3
17:50	to	17:55	3	0	3	0	0	0	2	0	2	2	0	2	4	0	4
17:55	to	18:00	3	0	3	0	0	0	1	0	1	0	0	0	3	0	3
18:00	to	18:05	4	0	4	2	0	2	1	0	1	0	0	0	5	0	5
18:05	to	18:10	3	0	3	2	0	2	1	0	1	2	0	2	3	1	4
18:10	to	18:15	1	1	2	0	0	0	1	0	1	0	0	0	3	0	3
18:15	to	18:20	3	0	3	0	0	0	1	0	1	1	0	1	4	0	4
18:20	to	18:25	4	0	4	1	0	1	1	1	2	1	0	1	3	0	3
18:25	to	18:30	4	0	4	0	0	0	4	0	4	0	0	0	4	0	4
18:30	to	18:35	2	0	2	0	0	0	1	0	1	1	0	1	2	0	2
18:35	to	18:40	2	0	2	0	0	0	1	0	1	1	0	1	2	0	2
18:40	to	18:45	1	1	2	0	0	0	2	0	2	1	0	1	3	0	3
18:45	to	18:50	3	0	3	0	0	0	0	0	0	0	0	0	2	0	2
18:50	to	18:55	3	0	3	0	0	0	2	0	2	1	0	1	3	0	3
18:55	to	19:00	3	0	3	1	0	1	3	0	3	1	0	1	2	0	2
MAX			4	1	5	4	0	4	4	1	4	2	0	2	8	1	8
MIN			0	0	0	0	0	0	0	0	0	0	0	0	1	0	1

Job No. : AUNSW4853
Client : Aurecon Australasia Pty Ltd (NSW)
Suburb : Milsons Point
Location : 1. Alfred St S / Bradfield Hwy Ramp / Middlemiss St / Lavender St

Day/Date : Wed, 30 Nov 2022
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



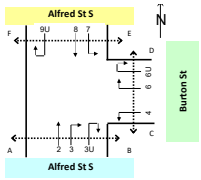
MATRIX Traffic and Transport Data

Approach	Alfred St S												Ramp											
Direction	Direction 1 (Left Turn)				Direction 2 (Through)				Direction 3 (Right Turn)				Direction 3U (U Turn)				Direction 4 (Left Turn)				Direction 5 (Through)				Direction 6 (Right Turn)				Direction 6U (U Turn)			
Time Period	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total
6:00 to 7:00	32	3	1	36	0	0	8	8	47	6	1	54	0	1	0	1	194	11	0	205	134	1	0	135	0	0	0	0	0	0	0	0
6:15 to 7:15	43	3	3	49	0	0	12	12	59	9	1	69	1	1	0	2	221	14	0	235	163	1	0	164	0	0	0	0	0	0	0	0
6:30 to 7:30	53	6	4	63	0	0	13	13	73	14	2	89	1	1	0	2	222	17	0	239	185	1	0	186	0	0	0	0	0	0	0	0
6:45 to 7:45	64	7	5	76	0	0	23	23	101	17	3	121	5	0	0	5	228	14	0	242	195	3	0	198	0	0	0	0	0	0	0	0
7:00 to 8:00	75	10	6	91	0	0	23	23	113	22	6	141	7	0	0	7	238	14	0	252	196	4	0	200	0	0	0	0	0	0	0	0
7:15 to 8:15	108	8	8	124	0	0	27	27	135	29	9	173	10	0	0	10	253	17	0	270	193	4	0	197	0	0	0	0	0	0	0	0
7:30 to 8:30	126	5	10	141	0	0	31	31	157	29	12	198	13	0	0	13	260	18	0	278	186	5	0	191	0	0	0	0	0	0	0	0
7:45 to 8:45	144	9	16	169	0	0	35	35	163	32	14	209	9	0	0	9	261	20	0	281	167	4	0	171	0	0	0	0	0	0	0	0
8:00 to 9:00	149	8	15	172	0	0	35	35	178	29	10	217	13	0	0	13	227	21	0	248	177	3	0	180	0	0	0	0	1	0	0	1
8:15 to 9:15	123	10	13	146	0	0	32	32	172	22	9	203	12	0	0	12	218	22	0	240	177	5	0	182	0	0	0	0	1	0	0	1
8:30 to 9:30	107	9	13	129	0	0	26	26	143	17	6	166	13	1	0	14	207	20	0	227	180	3	0	183	0	0	0	0	1	0	0	1
8:45 to 9:45	108	5	6	119	0	0	15	15	122	13	3	138	17	1	0	18	204	20	0	224	183	4	0	187	0	0	0	0	2	0	0	2
9:00 to 10:00	109	4	7	120	0	0	11	11	107	12	3	122	16	2	0	18	213	20	0	233	168	6	0	174	0	0	0	0	2	0	0	2
AM Totals	**365**	**25**	**29**	**419**	**0**	**0**	**77**	**77**	**445**	**69**	**20**	**534**	**36**	**3**	**0**	**39**	**872**	**66**	**0**	**938**	**675**	**14**	**0**	**689**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**3**
15:00 to 16:00	125	1	2	128	0	0	14	14	138	43	2	183	11	1	0	12	168	6	0	174	97	2	0	99	0	0	0	0	0	0	0	0
15:15 to 16:15	115	1	3	119	0	0	16	16	132	43	2	177	16	2	0	18	160	5	0	165	102	2	0	104	0	0	0	0	0	0	0	0
15:30 to 16:30	101	1	6	108	0	0	15	15	114	35	5	154	15	2	0	17	165	2	0	167	113	1	0	114	0	0	0	0	0	0	0	0
15:45 to 16:45	103	1	5	109	0	0	19	19	127	23	9	159	18	1	0	19	168	1	0	169	121	0	0	121	0	0	0	0	0	0	0	0
16:00 to 17:00	102	2	8	112	0	0	25	25	132	25	9	166	16	1	0	17	174	0	0	174	146	0	0	146	0	0	0	0	0	0	0	0
16:15 to 17:15	100	3	11	114	0	0	29	29	139	28	14	181	14	0	0	14	205	0	0	205	150	1	0	151	0	0	0	0	1	0	0	1
16:30 to 17:30	108	2	14	124	0	0	31	31	138	29	21	188	12	0	0	12	209	0	0	209	155	2	0	157	0	0	0	0	1	0	0	1
16:45 to 17:45	109	3	19	131	0	0	36	36	144	35	29	208	9	0	0	9	241	1	0	242	170	2	0	172	0	0	0	0	1	0	0	1
17:00 to 18:00	113	3	18	134	0	0	43	43	163	32	39	234	13	0	0	13	251	2	0	253	162	2	0	164	0	0	0	0	1	0	0	1
17:15 to 18:15	133	2	23	158	0	0	53	53	167	35	46	248	15	0	0	15	256	2	0	258	162	1	0	163	0	0	0	0	0	0	0	0
17:30 to 18:30	131	2	23	156	0	0	63	63	183	29	40	252	21	0	0	21	272	2	0	274	178	2	0	180	0	0	0	0	0	0	0	0
17:45 to 18:45	130	1	23	154	0	0	62	62	187	26	35	248	23	0	0	23	267	1	0	268	182	2	0	184	0	0	0	0	0	0	0	0
18:00 to 19:00	132	1	24	157	0	0	55	55	170	23	24	217	20	0	0	20	267	1	0	268	189	2	0	191	0	0	0	0	0	0	0	0
PM Totals	**472**	**7**	**52**	**531**	**0**	**0**	**137**	**137**	**603**	**123**	**74**	**800**	**60**	**2**	**0**	**62**	**860**	**9**	**0**	**869**	**594**	**6**	**0**	**600**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**

Approach	Middlemiss St												Lavender St												Crossing Pedestrians																							
Direction	Direction 7 (Left Turn)				Direction 8 (Through)				Direction 9 (Right Turn)				Direction 9U (U Turn)				Direction 10 (Left Turn)				Direction 11 (Through)				Direction 12 (Right Turn)				Direction 12U (U Turn)				B to A			A to B			C			D			E			F			G			G to H		
Time Period	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total
6:00 to 7:00	2	0	0	2	1	0	25	26	6	0	0	6	0	0	0	0	0	0	0	0	23	0	0	23	65	10	16	91	0	0	0	0	16	2	18	37	0	37	32	0	32	21	0	21	9	1	10	3	0	3	24	0	24	23	0	23
6:15 to 7:15	4	0	0	4	1	0	37	38	7	0	0	7	0	0	0	0	0	0	0	0	27	0	0	27	73	17	22	112	0	0	0	0	20	2	22	40	0	40	35	0	35	25	0	25	7	1	8	7	0	7	23	0	23	27	0	27
6:30 to 7:30	4	0	0	4	5	0	56	61	9	0	0	9	0	0	0	0	0	0	0	0	32	0	0	32	98	17	34	149	1	0	0	1	24	1	25	49	0	49	33	0	33	33	0	33	5	1	6	7	0	7	29	0	29	32	0	32
6:45 to 7:45	4	0	0	4	6	0	68	74	8	0	0	8	0	0	0	0	0	0	0	0	33	1	0	34	121	28	40	189	1	0	0	1	28	2	30	54	0	54	30	0	30	35	0	35	8	0	8	8	0	8	40	0	40	44	0	44
7:00 to 8:00	4	0	0	4	6	1	69	76	4	0	0	4	0	0	0	0	0	0	0	0	38	1	0	39	158	41	43	242	5	0	0	5	27	2	29	56	0	56	39	0	39	35	0	35	12	0	12	8	0	8	52	0	52	55	0	55
7:15 to 8:15	6	0	0	6	10	1	86	97	3	0	0	3	0	0	0	0	0	0	0	0	41	2	0	43	200	46	49	295	8	0	0	8	39	9	48	66	1	67	56	0	56	43	0	43	16	0	16	7	0	7	65	0	65	64	2	66
7:30 to 8:30	7	0	0	7	9	1	90	100	2	0	0	2	0	0	0	0	0	0	0	0	43	3	0	46	226	50	45	321	8	0	0	8	45	14	59	76	1	77	63	0	63	47	0	47	21	0	21	7	0	7	78	0	78	63	2	65
7:45 to 8:45	7	0	0	7	13	1	93	107	3	0	0	3	0	0	0	0	0	0	0	0	48	2	0	50	237	50	48	335	10	0	0	10	41	20	61	77	1	78	65	0	65	54	0	54	24	0	24	6	0	6	88	0	88	59	2	61
8:00 to 9:00	7	0	0	7	15	0	88	103	5	0	0	5	0	0	0	0	0	0	0	0	45	2	0	47	223	45	49	317	7	1	0	8	43	21	64	72	1	73	59	0	59	54	0	54	22	0	22	10	0	10	87	0	87	57	2	59
8:15 to 9:15	3	0	0	3	14	0	66	80	7	0	0	7	0	0	0	0	0	0	0	0	42	1	0	43	191	42	39	272	5	1	0	6	36	14	50	61	0	61	46	0	46	46	0	46	24	0	24	8	0	8	82	0	82	49	0	49
8:30 to 9:30	6	0	0	6	12	0	49	61	7	0	0	7	0	0	0	0	0	0	0	0	42	0	0	42	178	40	39	257	6	1	0	7	25	10	35	50	0	50	40	0	40	34	0	34	22	0	22	9	0	9	69	0	69	51	0	51
8:45 to 9:45	8	0	0	8	11	0	40	51	8	0	0	8	0	0	0	0	0	0	0	0	37	0	0	37	170	30	26	226	5	1	0	6	26	3	29	42	0	42	32	0	32	25	0	25	20	0	20	8	0	8	55	0	55	42	1	43
9:00 to 10:00	8	0	0	8	9	0	32	41	9	0	0	9	0	0	0	0	0	0	0	0	50	1	0	51	153	20	14	187	6	0	0	6	26	1	27	38	0	38	29	0	29	22	0	22	21	0	21	4	0	4	49	0	49	39	1	40
AM Totals	**21**	**0**	**0**	**21**	**31**	**1**	**214**	**246**	**24**	**0**	**0**	**24**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**156**	**4**	**0**	**160**	**599**	**116**	**122**	**837**	**18**	**1**	**0**	**19**	**112**	**26**	**138**	**203**	**1**	**204**	**159**	**0**	**159**	**132**	**0**	**132**	**64**	**1**	**65**	**25**	**0**	**25**	**212**	**0**	**212**	**174**	**3**	**177**
15:00 to 16:00	8	0	0	8	8	0	12	20	6	0	0	6	0	0	0	0	0	0	1	1	60	1	0	61	158	12	3	173	3	0	0	3	8	6	14	36	0	36	20	0	20	14	0	14	5	0	5	15	0	15	35	0	35	60	0	60
15:15 to 16:15	9	0	0	9	3	0	16	19	4	0	0	4	0	0	0	0	0	0	1	1	59	2	0	61	149	12	5	166	3	0	0	3	7	7	14	36	0	36	18	0	18	14	0	14	4	0	4	13	0	13	25	0	25	56	0	56
15:30 to 16:30	8	0	0	8	4	0	20	24	5	0	0	5	0	0	0	0	0	0	0	0	54	2	0	56	134	8	5	147	5	0	0	5	9	5	14	40	0	40	20	0	20	16	0	16	4	0	4	9	0	9	20	0	20	50	0	50
15:45 to 16:45	5	0	0	5	5	0	23	28	3	0	0	3	0	0	0	0	0	0	0	0	43	1	0	44	133	8	7	148	4	0	0	4	10	2	12	35	0	35	21	0	21	17	0	17	6	0	6	11	0	11	20	0	20	52	0	52
16:00 to 17:00	8	0	0	8	5	0	24	29	3	0	0	3	0	0	0	0	0	0	0	0	40	1	0	41	150	9	8	167	3	0	0	3	12	3	15	33	0	33	28	0	28	24	0	24	6	0	6	8	0	8	25	0	25	47	0	47
16:15 to 17:15	13	0	0	13	7	0	30	37	3	0	0	3	0	0	0	0	0	0	0	0	36	1	0	37	166	8	16	190	2	0	0	2	13	2	15	40	1	41	45	0	45	25	0	25	6	0	6	9	0	9	30	0	30	69	2	71
16:30 to 17:30	14	0	0	14	6	0	32	38	1	0	0	1	0	0	0	0	0	0	0	0	40	1	0	41	184	7	20	211	0	0	0	0	23	2	25	38	3	41	59	0	59	25	0	25	10	0	10	10	0	10	36	0	36	79	4	83
16:45 to 17:45	15	0	0	15	5	0	40	45	3	0	0	3	0	0	0	0	0	0	0	0	46	1	0	47	209	8	19	236	1	0	0	1	28	4	32	42	3	45	64	0	64	28	0	28	16	0	16	11	0	11	48	0	48	78	4	82
17:00 to 18:00	15	0	0	15	6	0	41	47	4	0	0	4	0	0	0	0	0	0	0	0	49	1	0	50	227	7	20	254	4	0	0	4	37	7	44	43	3	46	66	0	66	31	0	31	16	0	16	12	0	12	55	0	55	90	4	94
17:15 to 18:15	12	0	0	12	6	0	36	42	4	0	0	4	0	0	0	0	0	0	0	0	48	0	0	48	230	7	11	248	4	0	0	4	45	12	57	35	2	37	62	0	62	34	0	34	18	0	18	10	0	10	54	2	56	77	2	79
17:30 to 18:30	12	0	0	12	7	0	33	40	5	0	0	5	0	0	0	0	0	0	0	0	41	1	0	42	248	10	14	272	6	0	0	6	41	12	53	33	0	33	65	0	65	32	0	32	16	0	16	13	0	13	61	2	63	73	0	73
17:45 to 18:45	14	0	0	14	9	0	21	30	3	0	0	3	0	0	0	0	0	0	0	0	43	3	0	46	226	10	13	249	6	0	0	6	39	12	51	30	0	30	58	0	58	33	0	33	9	0	9	9	0	9	49	2	51	64	1	65
18:00 to 19:00	11	0	0	11	9	0	15	24	3	0	0	3	0	0	0	0	0	0	0	0	41	3	0	44	203	9	11	223	4	0	0	4	44	11	55	20	0	20	52	0	52	28	0	28	9	0	9	9	0	9	40	3	43	48	1	49
PM Totals	**42**	**0**	**0**	**42**	**28**	**0**	**92**	**120**	**16**	**0**	**0**	**16**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**190**	**6**	**0**	**196**	**738**	**37**	**42**	**817**	**14**	**0**	**0**	**14**	**101**	**27**	**128**	**132**	**3**	**135**	**166**	**0**	**166**	**97**	**0**	**97**	**36**	**0**	**36**	**44**	**0**	**44**	**155**	**3**	**158**	**245**	**5**	**250**

Job No. : AUNSW4853
Client : Aurecon Australasia Pty Ltd (NSW)
Suburb : Milsons Point
Location : 2. Alfred St S / Burton St

Day/Date : Wed, 30 Nov 2022
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



Approach	Alfred St S												Burton St											
Direction	Direction 2 (Through)				Direction 3 (Right Turn)				Direction 3U (U Turn)				Direction 4 (Left Turn)				Direction 6 (Right Turn)				Direction 6U (U Turn)			
Time Period	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total
6:00 to 7:00	46	7	1	**54**	5	0	0	**5**	1	0	0	**1**	5	0	1	**6**	6	2	7	**15**	0	0	0	**0**
6:15 to 7:15	77	11	2	**90**	2	0	2	**4**	1	0	0	**1**	3	0	1	**4**	1	0	11	**12**	0	0	0	**0**
6:30 to 7:30	102	20	2	**124**	3	0	2	**5**	1	0	0	**1**	2	0	0	**2**	3	0	16	**19**	0	0	0	**0**
6:45 to 7:45	135	26	2	**163**	3	1	2	**6**	1	0	0	**1**	4	0	1	**5**	6	0	24	**30**	0	0	0	**0**
7:00 to 8:00	160	31	1	**192**	5	1	2	**8**	0	0	0	**0**	7	0	3	**10**	14	1	27	**42**	0	0	0	**0**
7:15 to 8:15	202	38	1	**241**	7	1	1	**9**	0	0	0	**0**	11	0	3	**14**	19	1	28	**48**	0	0	0	**0**
7:30 to 8:30	236	33	2	**271**	8	1	1	**10**	0	0	0	**0**	13	0	4	**17**	19	2	30	**51**	0	0	0	**0**
7:45 to 8:45	258	38	2	**298**	7	0	1	**8**	0	0	0	**0**	13	0	3	**16**	20	2	39	**61**	0	0	0	**0**
8:00 to 9:00	282	38	2	**322**	4	0	1	**5**	0	0	0	**0**	11	0	1	**12**	15	1	36	**52**	0	0	0	**0**
8:15 to 9:15	252	32	1	**285**	5	0	1	**6**	0	0	0	**0**	11	0	1	**12**	13	1	35	**49**	0	0	0	**0**
8:30 to 9:30	225	28	0	**253**	3	0	2	**5**	0	0	0	**0**	9	0	0	**9**	12	0	29	**41**	0	0	0	**0**
8:45 to 9:45	205	21	0	**226**	4	0	2	**6**	0	0	0	**0**	6	0	0	**6**	10	0	13	**23**	0	0	0	**0**
9:00 to 10:00	188	16	0	**204**	7	0	2	**9**	0	0	0	**0**	6	0	0	**6**	10	0	11	**21**	0	0	0	**0**
AM Totals	**676**	**92**	**4**	**772**	**21**	**1**	**5**	**27**	**1**	**0**	**0**	**1**	**29**	**0**	**5**	**34**	**45**	**4**	**81**	**130**	**0**	**0**	**0**	**0**
15:00 to 16:00	222	44	0	**266**	6	0	1	**7**	2	0	0	**2**	6	0	1	**7**	18	0	14	**32**	0	0	0	**0**
15:15 to 16:15	223	44	0	**267**	6	0	1	**7**	2	0	0	**2**	6	0	1	**7**	16	0	18	**34**	0	0	0	**0**
15:30 to 16:30	197	36	0	**233**	6	0	1	**7**	3	0	0	**3**	6	0	1	**7**	8	1	21	**30**	0	0	0	**0**
15:45 to 16:45	201	21	0	**222**	4	0	0	**4**	2	0	0	**2**	6	0	1	**7**	7	1	30	**38**	0	0	0	**0**
16:00 to 17:00	200	27	0	**227**	4	0	0	**4**	1	0	0	**1**	6	0	0	**6**	8	1	36	**45**	0	0	0	**0**
16:15 to 17:15	193	32	2	**227**	2	0	0	**2**	1	0	0	**1**	6	1	0	**7**	8	1	41	**50**	0	0	0	**0**
16:30 to 17:30	203	32	2	**237**	3	0	0	**3**	1	0	0	**1**	6	1	1	**8**	5	0	50	**55**	0	0	0	**0**
16:45 to 17:45	212	41	2	**255**	3	0	0	**3**	1	0	0	**1**	9	1	1	**11**	6	0	64	**70**	0	0	0	**0**
17:00 to 18:00	234	36	3	**273**	3	0	0	**3**	1	0	0	**1**	10	1	2	**13**	6	0	74	**80**	0	0	0	**0**
17:15 to 18:15	250	37	2	**289**	3	0	0	**3**	1	0	0	**1**	10	0	2	**12**	6	0	100	**106**	0	0	0	**0**
17:30 to 18:30	260	31	2	**293**	3	0	0	**3**	0	0	0	**0**	6	0	1	**7**	8	0	99	**107**	0	0	0	**0**
17:45 to 18:45	270	29	4	**303**	4	0	0	**4**	0	0	0	**0**	10	0	1	**11**	6	0	96	**102**	0	0	0	**0**
18:00 to 19:00	258	25	3	**286**	4	0	0	**4**	0	0	0	**0**	12	0	0	**12**	6	0	86	**92**	0	0	0	**0**
PM Totals	**914**	**132**	**6**	**1,052**	**17**	**0**	**1**	**18**	**4**	**0**	**0**	**4**	**34**	**1**	**3**	**38**	**38**	**1**	**210**	**249**	**0**	**0**	**0**	**0**

Approach	Alfred St S											
Time Period	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total	Lights	Heavies	Cyclists	Total
6:00 to 7:00	12	1	27	**40**	231	19	3	**253**	2	0	0	**2**
6:15 to 7:15	8	2	40	**50**	268	30	3	**301**	0	0	0	**0**
6:30 to 7:30	10	2	73	**85**	302	32	3	**337**	0	0	0	**0**
6:45 to 7:45	13	2	90	**105**	317	36	0	**353**	0	0	0	**0**
7:00 to 8:00	19	1	87	**107**	345	51	0	**396**	0	0	0	**0**
7:15 to 8:15	29	0	90	**119**	407	55	0	**462**	0	0	0	**0**
7:30 to 8:30	30	1	79	**110**	434	62	1	**497**	0	0	0	**0**
7:45 to 8:45	27	1	78	**106**	460	68	2	**530**	0	0	0	**0**
8:00 to 9:00	23	1	83	**107**	435	64	2	**501**	0	0	0	**0**
8:15 to 9:15	16	1	72	**89**	387	60	2	**449**	0	0	0	**0**
8:30 to 9:30	13	0	63	**76**	371	59	1	**431**	0	0	0	**0**
8:45 to 9:45	13	0	53	**66**	356	49	0	**405**	0	0	0	**0**
9:00 to 10:00	12	0	37	**49**	352	37	0	**389**	0	0	0	**0**
AM Totals	**66**	**3**	**234**	**303**	**1,363**	**171**	**5**	**1,539**	**2**	**0**	**0**	**2**
15:00 to 16:00	11	0	14	**25**	313	18	1	**332**	0	0	0	**0**
15:15 to 16:15	7	1	18	**26**	294	17	1	**312**	0	0	0	**0**
15:30 to 16:30	5	1	20	**26**	283	12	1	**296**	0	0	0	**0**
15:45 to 16:45	6	1	25	**32**	288	10	1	**299**	0	0	0	**0**
16:00 to 17:00	5	2	23	**30**	308	8	2	**318**	0	0	0	**0**
16:15 to 17:15	6	1	29	**36**	341	8	2	**351**	0	0	0	**0**
16:30 to 17:30	10	1	35	**46**	365	7	2	**374**	0	0	0	**0**
16:45 to 17:45	13	1	38	**52**	406	8	2	**416**	0	0	0	**0**
17:00 to 18:00	17	0	42	**59**	427	9	1	**437**	0	0	0	**0**
17:15 to 18:15	18	0	38	**56**	452	9	0	**461**	0	0	0	**0**
17:30 to 18:30	18	0	40	**58**	478	11	0	**489**	1	0	0	**1**
17:45 to 18:45	20	0	31	**51**	455	9	1	**465**	1	0	0	**1**
18:00 to 19:00	21	0	24	**45**	430	8	1	**439**	1	0	0	**1**
PM Totals	**54**	**2**	**103**	**159**	**1,478**	**43**	**5**	**1,526**	**1**	**0**	**0**	**1**

Crossing Pedestrians																								
B to A			A to B			D to C			C to D			F to E			E to F								
Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total	Peds	Cyclists	Total						
16	0	**16**	7	0	**7**	71	0	**71**	34	0	**34**	2	0	**2**	9	0	**9**						
19	0	**19**	9	0	**9**	62	0	**62**	26	0	**26**	2	0	**2**	9	0	**9**						
22	0	**22**	10	0	**10**	55	0	**55**	29	0	**29**	4	0	**4**	9	0	**9**						
18	0	**18**	9	0	**9**	38	0	**38**	31	0	**31**	4	0	**4**	8	0	**8**						
27	0	**27**	10	0	**10**	40	0	**40**	34	0	**34**	2	0	**2**	5	0	**5**						
27	0	**27**	11	1	**12**	48	0	**48**	44	0	**44**	2	0	**2**	5	0	**5**						
34	0	**34**	10	1	**11**	51	0	**51**	66	0	**66**	0	0	**0**	3	0	**3**						
44	0	**44**	12	1	**13**	71	0	**71**	75	0	**75**	0	0	**0**	5	0	**5**						
49	0	**49**	12	1	**13**	86	0	**86**	87	0	**87**	0	0	**0**	6	0	**6**						
52	0	**52**	11	0	**11**	89	0	**89**	88	0	**88**	1	0	**1**	6	0	**6**						
44	0	**44**	14	0	**14**	82	0	**82**	74	0	**74**	1	0	**1**	10	0	**10**						
37	0	**37**	11	0	**11**	68	0	**68**	62	0	**62**	2	0	**2**	8	0	**8**						
22	0	**22**	9	0	**9**	53	0	**53**	47	0	**47**	2	0	**2**	10	0	**10**						
114	**0**	**114**	**38**	**1**	**39**	**250**	**0**	**250**	**202**	**0**	**202**	**6**	**0**	**6**	**30**	**0**	**30**						
10	0	**10**	14	0	**14**	60	0	**60**	93	0	**93**	6	0	**6**	8	0	**8**						
11	0	**11**	21	0	**21**	56	1	**57**	96	0	**96**	6	0	**6**	10	0	**10**						
13	0	**13**	18	0	**18**	49	1	**50**	103	0	**103**	5	0	**5**	11	0	**11**						
13	0	**13**	23	0	**23**	44	1	**45**	109	0	**109**	4	0	**4**	9	0	**9**						
17	0	**17**	26	0	**26**	44	1	**45**	89	0	**89**	5	0	**5**	7	0	**7**						
20	0	**20**	33	0	**33**	53	0	**53**	101	0	**101**	5	0	**5**	5	0	**5**						
19	0	**19**	41	0	**41**	61	0	**61**	109	0	**109**	5	0	**5**	6	0	**6**						
16	0	**16**	48	0	**48**	64	0	**64**	117	0	**117**	7	0	**7**	7	0	**7**						
17	0	**17**	46	0	**46**	88	0	**88**	121	0	**121**	7	0	**7**	7	0	**7**						
12	0	**12**	37	0	**37**	96	0	**96**	103	0	**103**	6	0	**6**	8	0	**8**						
12	0	**12**	34	0	**34**	108	0	**108**	86	0	**86**	7	0	**7**	8	0	**8**						
12	0	**12**	30	0	**30**	103	0	**103**	65	0	**65**	5	0	**5**	8	0	**8**						
12	0	**12**	26	0	**26**	83	0	**83**	50	0	**50**	2	0	**2**	7	0	**7**						
56	**0**	**56**	**112**	**0**	**112**	**275**	**1**	**276**	**353**	**0**	**353**	**20**	**0**	**20**	**29**	**0**	**29**						

Client	Aurecon Australasia Pty Ltd (NSW)
Location	1. Alfred St signalized crossing outside Milsons Point Station
Date	Wednesday, 30 November 2022
Survey Time	6:00-10:00 & 15:00-19:00
Description	Pedestrian Survey

MATRIX Traffic and Transport Data

[Peak Hour Summary]

Time Periods	EB			WB			Grand Total
	Peds	Cyclists	Total	Peds	Cyclists	Total	
AM			261			207	468
PM			188			207	395

[15mins interval]

Time Periods	EB			WB			Grand Total
	Peds	Cyclists	Total	Peds	Cyclists	Total	
			6			3	9
			9			7	16
			9			13	22
			12			24	36
			14			23	37
			26			12	38
			20			26	46
			47			46	93
			75			42	117
			77			58	135
			54			56	110
			55			51	106
			40			39	79
			23			25	48
			37			33	70
			21			29	50
Totals	523	2	525	456	31	487	1,012
			25			85	110
			18			133	151
			34			28	62
			25			32	57
			35			38	73
			4			17	21
			21			34	55
			25			41	66
			38			41	79
			38			43	81
			52			64	116
			52			52	104
			34			52	86
18:15 to 18:30	50	0	50			39	89
18:30 to 18:45	35	0	35			40	75
18:45 to 19:00	17	0	17			38	55
Totals	503	0	503	749	28	777	1,280

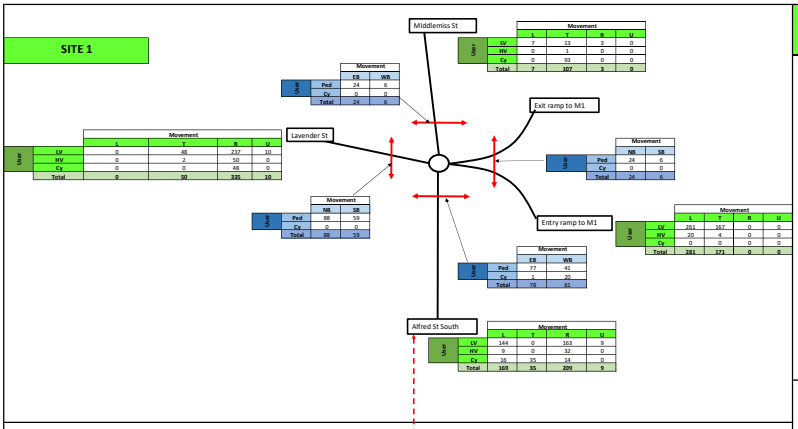
[Hourly Summary]

Time Periods	EB			WB			Grand Total
	Peds	Cyclists	Total	Peds	Cyclists	Total	
			36			47	83
			44			67	111
			61			72	133
			72			85	157
			107			107	214
			168			126	294
			219			172	391
			253			202	455
			261			207	468
			226			204	430
			172			171	343
			155			148	303
			121			126	247
Totals	523	2	525	456	31	487	1,012
			102			278	380
			112			231	343
			98			115	213
			85			121	206
			85			130	215
			88			133	221
			122			159	281
			153			189	342
			180			200	380
			176			211	387
			188			207	395
			171			183	354
			136			169	305
Totals	503	0	503	749	28	777	1,280

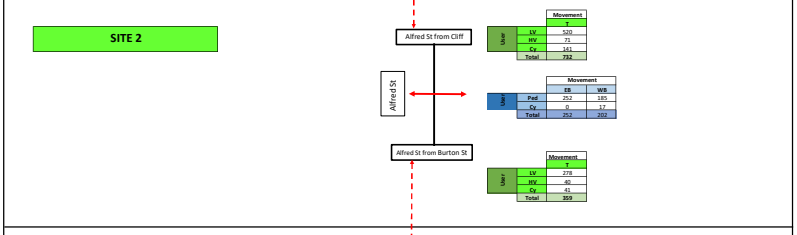
Appendix B – Existing Scenario Traffic Flow Diagram

Time	Wednesday 30/11/2022		
AM Peak	7:45	to	8:45

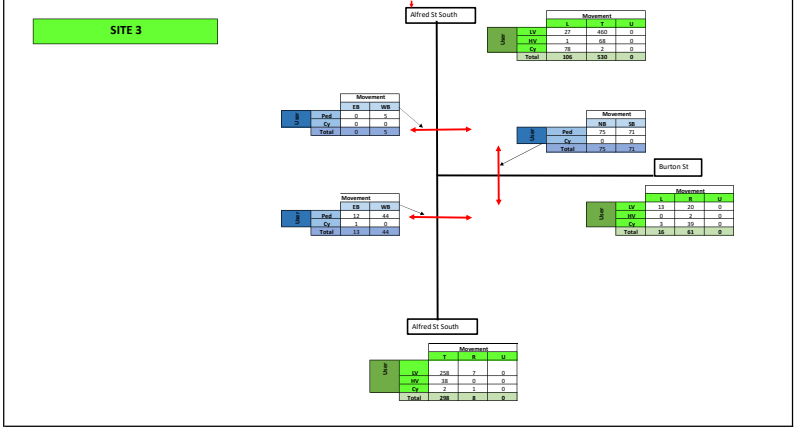
SITE 1



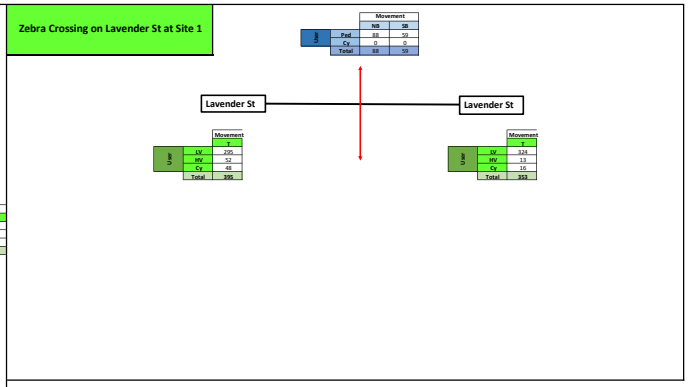
SITE 2



SITE 3

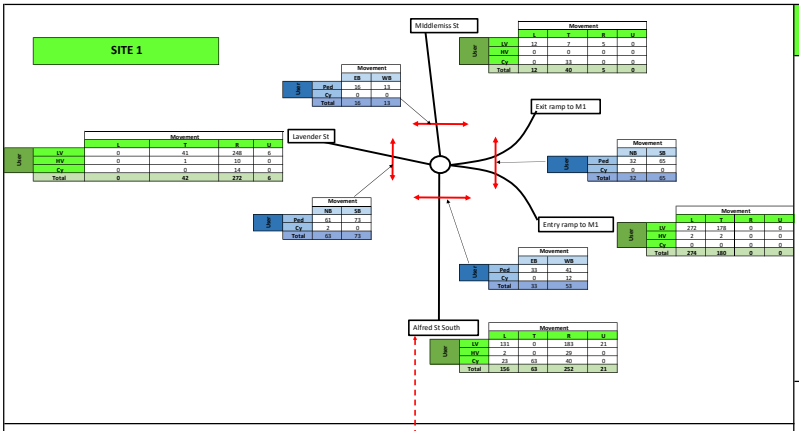


Zebra Crossing on Lavender St at Site 1

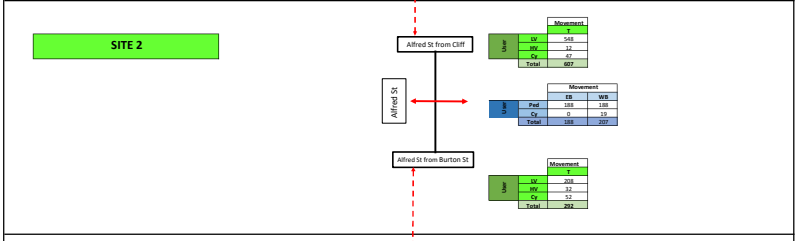


Time	Wednesday 30/11/2022		
AM Peak	17:30	to	18:30

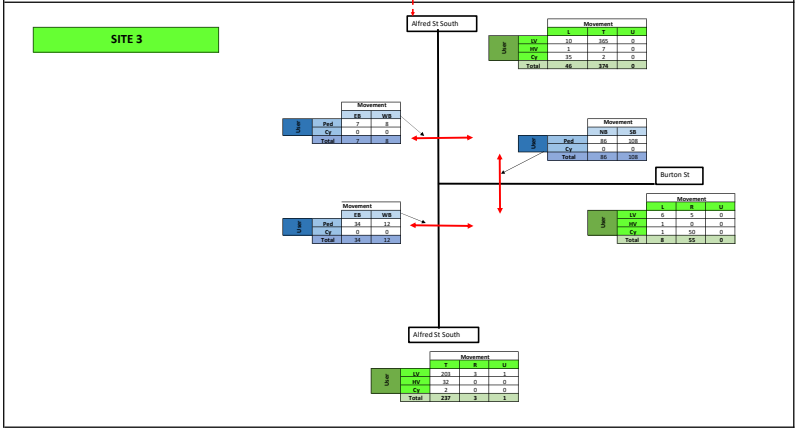
SITE 1



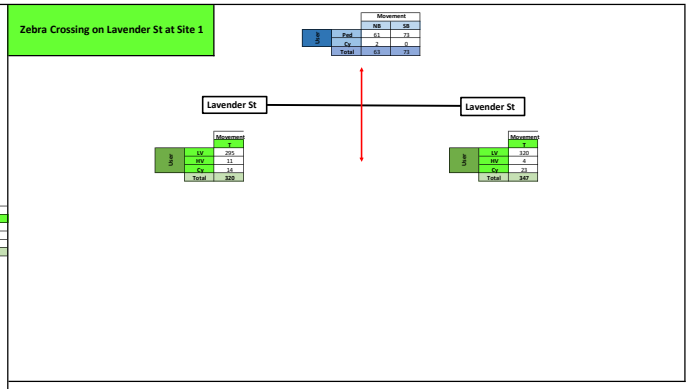
SITE 2



SITE 3



Zebra Crossing on Lavender St at Site 1



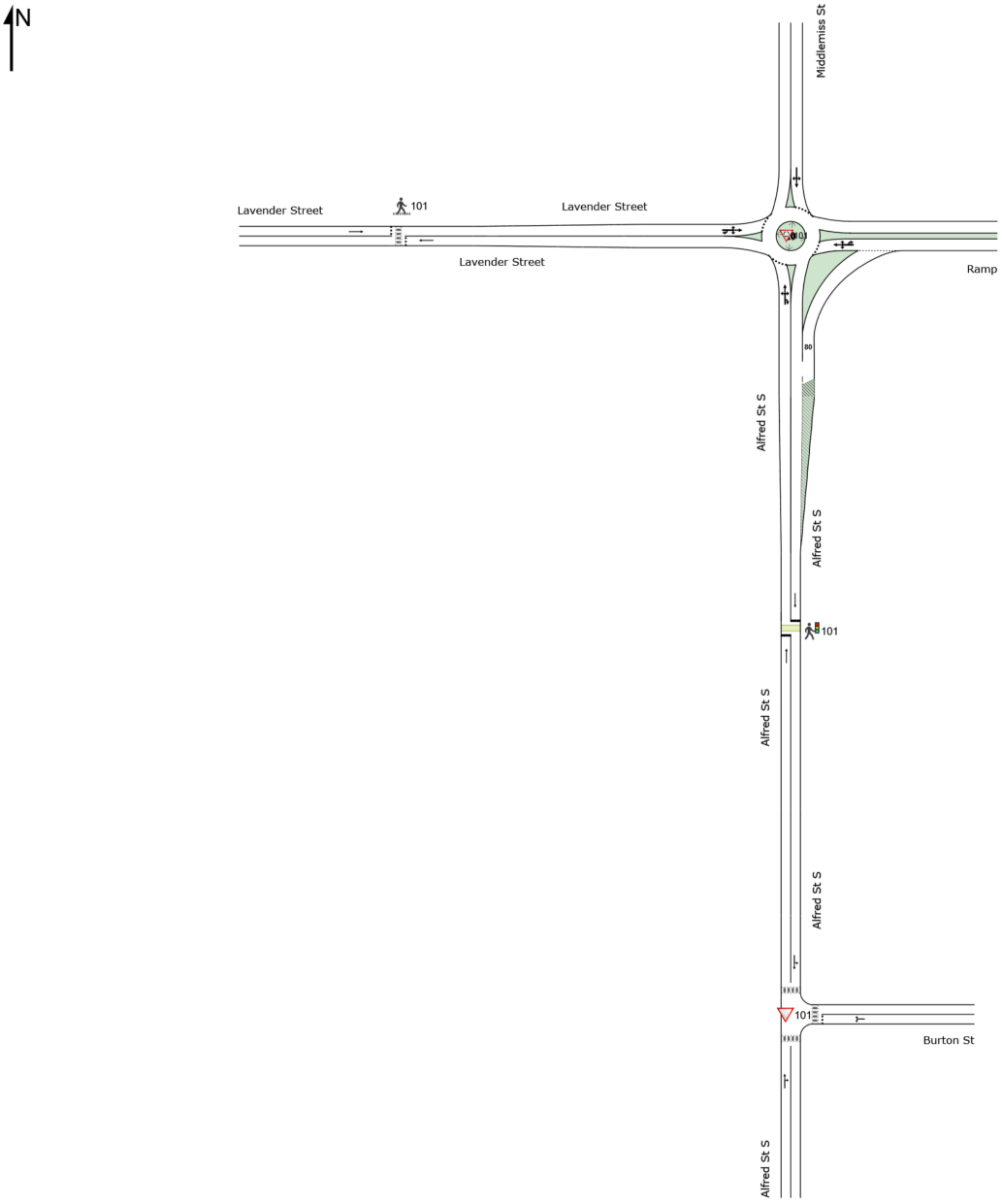
Appendix C – Existing SIDRA Layout and Results

NETWORK LAYOUT

Network: N101 [AM Existing (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	AM Alfred St / Lavender St
101	NA	AM Alfred St / Lavender St Zebra Crossing
101	NA	AM Existing Signalized Pedestrian Crossing
101	NA	AM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St (Site Folder: Existing)]

Network: N101 [AM Existing (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Day 6 - Wednesday 30th, November 2022
Existing AM Peak hour
Site Category: Existing Design
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	169	5.3	169	5.3	0.563	3.6	LOS A	1.0	6.6	0.42	0.55	0.42	30.0
2	T1	35	0.0	35	0.0	0.563	1.3	LOS A	1.0	6.6	0.42	0.55	0.42	24.2
3	R2	209	15.3	209	15.3	0.563	6.8	LOS A	1.0	6.6	0.42	0.55	0.42	22.3
3u	U	9	0.0	9	0.0	0.563	8.0	LOS A	1.0	6.6	0.42	0.55	0.42	30.0
Approach		422	9.7	422	9.7	0.563	5.1	LOS A	1.0	6.6	0.42	0.55	0.42	24.8
East: Ramp														
4	L2	281	7.1	281	7.1	0.343	3.2	LOS A	1.2	8.5	0.57	0.56	0.57	20.7
5	T1	171	2.3	171	2.3	0.343	7.2	LOS A	1.2	8.5	0.57	0.56	0.57	20.7
6	R2	1	0.0	1	0.0	0.343	3.6	LOS A	1.2	8.5	0.57	0.56	0.57	22.3
6u	U	1	0.0	1	0.0	0.343	12.1	LOS B	1.2	8.5	0.57	0.56	0.57	14.6
Approach		454	5.3	454	5.3	0.343	4.7	LOS A	1.2	8.5	0.57	0.56	0.57	20.6
North: Middlemiss St														
7	L2	7	0.0	7	0.0	0.157	7.5	LOS A	0.4	1.4	0.69	0.63	0.69	18.3
8	T1	107	0.9	107	0.9	0.157	4.8	LOS A	0.4	1.4	0.69	0.63	0.69	22.1
9	R2	3	0.0	3	0.0	0.157	10.8	LOS B	0.4	1.4	0.69	0.63	0.69	22.1
Approach		117	0.9	117	0.9	0.157	5.1	LOS A	0.4	1.4	0.69	0.63	0.69	21.8
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.403	1.7	LOS A	1.2	8.3	0.56	0.66	0.56	19.4
11	T1	50	4.0	50	4.0	0.403	3.5	LOS A	1.2	8.3	0.56	0.66	0.56	13.6
12	R2	335	14.9	335	14.9	0.403	6.0	LOS A	1.2	8.3	0.56	0.66	0.56	16.4
12u	U	10	0.0	10	0.0	0.403	7.6	LOS A	1.2	8.3	0.56	0.66	0.56	16.4
Approach		396	13.1	396	13.1	0.403	5.7	LOS A	1.2	8.3	0.56	0.66	0.56	15.5
All Vehicles		1389	8.5	1389	8.5	0.563	5.2	LOS A	1.2	8.5	0.53	0.59	0.53	22.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St Zebra Crossing (Site Folder: Existing)]

Network: N101 [AM Existing (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Day 6 - Wednesday 30th, November 2022
Existing AM Peak hour
Site Category: Existing Design
Pedestrian Crossing (Unsignalised)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	353	3.7	353	3.7	0.482	3.7	LOS A	1.3	9.0	0.47	0.58	0.53	38.8
Approach		353	3.7	353	3.7	0.482	3.7	LOS A	1.3	9.0	0.47	0.58	0.53	38.8
West: Lavender Street														
2	T1	395	13.2	395	13.2	0.990	44.2	LOS E	8.5	61.8	0.54	1.64	2.22	13.1
Approach		395	13.2	395	13.2	0.990	44.2	LOS E	8.5	61.8	0.54	1.64	2.22	13.1
All Vehicles		748	8.7	748	8.7	0.990	25.1	NA	8.5	61.8	0.51	1.14	1.42	19.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [AM Existing Signalized Pedestrian Crossing (Site Folder: Existing)]

Network: N101 [AM Existing (Network Folder: General)]

Existing Signalized Crossing outside Milsons Point Station
Day 6 - Wednesday 30th, November 2022
Existing AM Peak hour
Site Category: Existing Design
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	359	11.1	359	11.1	0.430	9.0	LOS A	3.1	22.4	0.75	0.64	0.75	10.8
Approach		359	11.1	359	11.1	0.430	9.0	LOS A	3.1	22.4	0.75	0.64	0.75	10.8
North: Alfred St S														
8	T1	732	9.7	732	9.7	* 0.820	15.8	LOS B	9.5	64.2	0.95	1.02	1.18	22.7
Approach		732	9.7	732	9.7	0.820	15.8	LOS B	9.5	64.2	0.95	1.02	1.18	22.7
All Vehicles		1091	10.2	1091	10.2	0.820	13.6	LOS B	9.5	64.2	0.88	0.90	1.04	21.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	454	14.7	LOS B	0.4	0.4	0.87	0.87	175.2	208.6	1.19
All Pedestrians		454	14.7	LOS B	0.4	0.4	0.87	0.87	175.2	208.6	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Burton St (Site Folder: Existing)]

Network: N101 [AM Existing (Network Folder: General)]

Alfred St / Burton St Intersection
Day 6 - Wednesday 30th, November 2022
Existing AM Peak hour
Site Category: Existing Design
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	298	12.8	298	12.8	0.241	0.2	LOS A	0.0	0.4	0.05	0.01	0.05	38.5
3	R2	8	0.0	8	0.0	0.241	6.5	LOS A	0.0	0.4	0.05	0.01	0.05	37.7
Approach		306	12.4	306	12.4	0.241	0.3	NA	0.0	0.4	0.05	0.01	0.05	38.5
East: Burton St														
4	L2	16	0.0	16	0.0	0.178	5.3	LOS A	0.2	0.9	0.58	0.71	0.58	25.4
6	R2	61	3.3	61	3.3	0.178	7.2	LOS A	0.2	0.9	0.58	0.71	0.58	18.5
Approach		77	2.6	77	2.6	0.178	6.8	LOS A	0.2	0.9	0.58	0.71	0.58	20.5
North: Alfred St S														
7	L2	106	0.9	106	0.9	0.322	2.5	LOS A	0.0	0.0	0.00	0.07	0.00	36.5
8	T1	530	12.8	530	12.8	0.322	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	34.4
Approach		636	10.8	636	10.8	0.322	0.4	NA	0.0	0.0	0.00	0.07	0.00	34.7
All Vehicles		1019	10.7	1019	10.7	0.322	0.9	NA	0.2	0.9	0.06	0.10	0.06	34.0

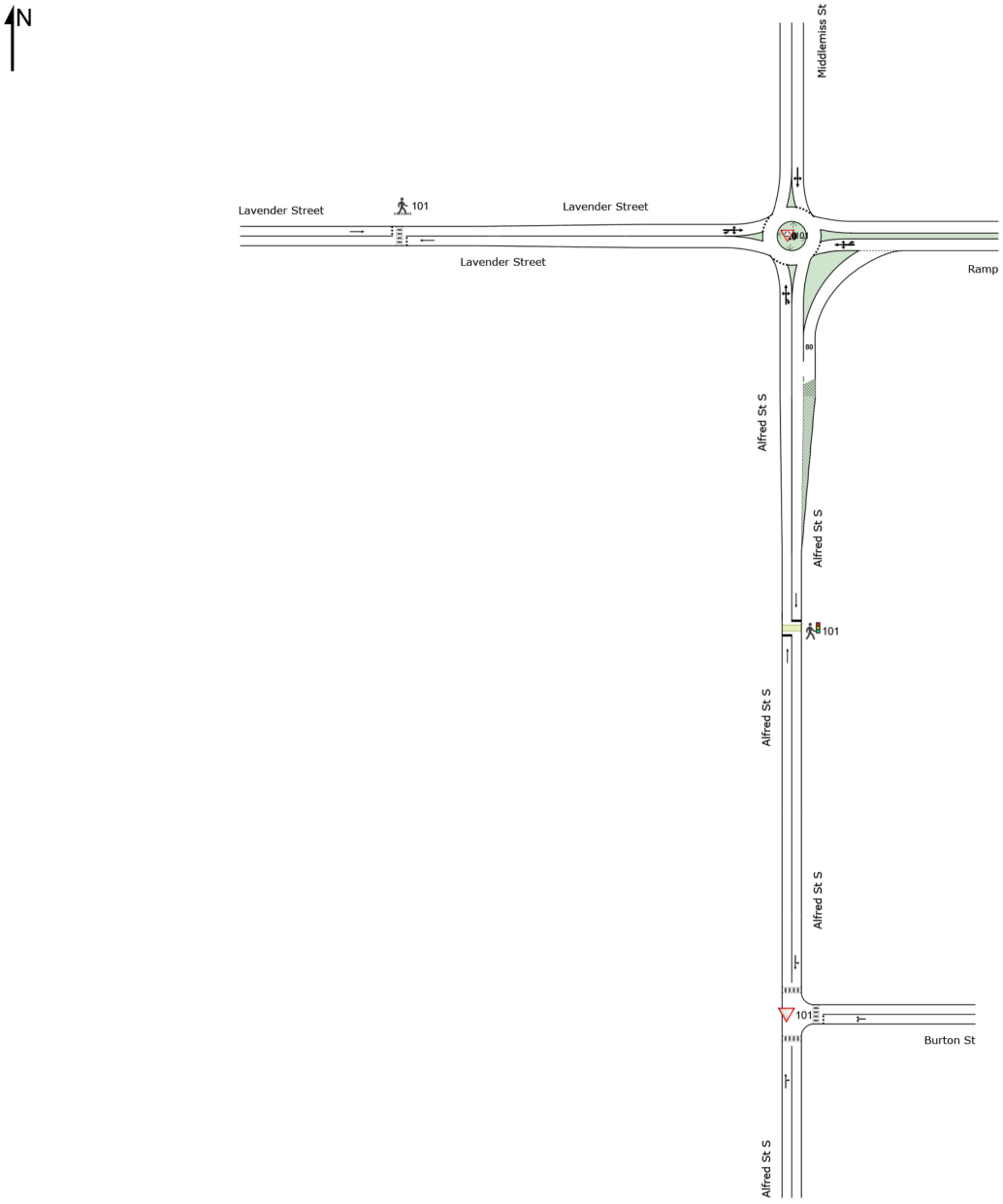
Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

NETWORK LAYOUT

Network: N101 [PM Existing (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	PM Alfred St / Lavender St
101	NA	PM Alfred St / Lavender St Zebra Crossing
101	NA	PM Existing Signalized Pedestrian Crossing
101	NA	PM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St (Site Folder: Existing)]

Network: N101 [PM Existing (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Day 6 - Wednesday 30th, November 2022
Existing PM Peak hour
Site Category: Existing Design
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	156	1.3	156	1.3	0.544	3.6	LOS A	1.2	7.3	0.44	0.55	0.44	28.5
2	T1	63	0.0	63	0.0	0.544	1.4	LOS A	1.2	7.3	0.44	0.55	0.44	23.7
3	R2	252	11.5	252	11.5	0.544	6.5	LOS A	1.2	7.3	0.44	0.55	0.44	21.6
3u	U	21	0.0	21	0.0	0.544	8.2	LOS A	1.2	7.3	0.44	0.55	0.44	28.5
Approach		492	6.3	492	6.3	0.544	5.0	LOS A	1.2	7.3	0.44	0.55	0.44	23.7
East: Ramp														
4	L2	274	0.7	274	0.7	0.414	2.4	LOS A	1.1	7.6	0.51	0.50	0.51	21.6
5	T1	180	1.1	180	1.1	0.414	6.4	LOS A	1.1	7.6	0.51	0.50	0.51	21.6
6	R2	1	0.0	1	0.0	0.414	2.8	LOS A	1.1	7.6	0.51	0.50	0.51	22.6
6u	U	2	50.0	2	50.0	0.414	12.4	LOS B	1.1	7.6	0.51	0.50	0.51	14.4
Approach		457	1.1	457	1.1	0.414	4.0	LOS A	1.1	7.6	0.51	0.50	0.51	21.5
North: Middlemiss St														
7	L2	12	0.0	12	0.0	0.075	7.0	LOS A	0.2	0.7	0.64	0.59	0.64	15.4
8	T1	40	0.0	40	0.0	0.075	4.4	LOS A	0.2	0.7	0.64	0.59	0.64	25.3
9	R2	5	0.0	5	0.0	0.075	10.3	LOS B	0.2	0.7	0.64	0.59	0.64	25.3
Approach		57	0.0	57	0.0	0.075	5.5	LOS A	0.2	0.7	0.64	0.59	0.64	21.8
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.328	2.0	LOS A	0.9	6.3	0.57	0.68	0.57	19.4
11	T1	42	2.4	42	2.4	0.328	3.7	LOS A	0.9	6.3	0.57	0.68	0.57	13.6
12	R2	272	3.7	272	3.7	0.328	6.3	LOS A	0.9	6.3	0.57	0.68	0.57	16.1
12u	U	6	0.0	6	0.0	0.328	7.9	LOS A	0.9	6.3	0.57	0.68	0.57	16.1
Approach		321	3.4	321	3.4	0.328	6.0	LOS A	0.9	6.3	0.57	0.68	0.57	15.4
All Vehicles		1327	3.5	1327	3.5	0.544	4.9	LOS A	1.2	7.6	0.51	0.57	0.51	22.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St Zebra Crossing (Site Folder: Existing)]

Network: N101 [PM Existing (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Day 6 - Wednesday 30th, November 2022
Existing PM Peak hour
Site Category: Existing Design
Pedestrian Crossing (Unsignalised)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	347	1.2	347	1.2	0.460	3.2	LOS A	1.2	8.1	0.44	0.54	0.47	39.6
Approach		347	1.2	347	1.2	0.460	3.2	LOS A	1.2	8.1	0.44	0.54	0.47	39.6
West: Lavender Street														
2	T1	320	3.4	320	3.4	0.572	6.3	LOS A	1.4	9.7	0.42	0.62	0.52	35.3
Approach		320	3.4	320	3.4	0.572	6.3	LOS A	1.4	9.7	0.42	0.62	0.52	35.3
All Vehicles		667	2.2	667	2.2	0.572	4.7	NA	1.4	9.7	0.43	0.58	0.49	37.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Existing Signalized Pedestrian Crossing (Site Folder: Existing)]

Network: N101 [PM Existing (Network Folder: General)]

Existing Signalized Crossing outside Milsons Point Station
Day 6 - Wednesday 30th, November 2022
Existing PM Peak hour
Site Category: Existing Design
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	292	11.0	292	11.0	0.334	8.6	LOS A	2.4	16.6	0.71	0.60	0.71	11.1
Approach		292	11.0	292	11.0	0.334	8.6	LOS A	2.4	16.6	0.71	0.60	0.71	11.1
North: Alfred St S														
8	T1	607	2.0	607	2.0	* 0.702	11.4	LOS B	6.5	43.9	0.88	0.82	0.94	26.3
Approach		607	2.0	607	2.0	0.702	11.4	LOS B	6.5	43.9	0.88	0.82	0.94	26.3
All Vehicles		899	4.9	899	4.9	0.702	10.5	LOS B	6.5	43.9	0.82	0.75	0.87	24.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	395	14.7	LOS B	0.4	0.4	0.86	0.86	175.2	208.6	1.19
All Pedestrians		395	14.7	LOS B	0.4	0.4	0.86	0.86	175.2	208.6	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Burton St (Site Folder: Existing)]

Network: N101 [PM Existing (Network Folder: General)]

Alfred St / Burton St Intersection
Day 6 - Wednesday 30th, November 2022
Existing PM Peak hour
Site Category: Existing Design
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	237	13.5	237	13.5	0.136	0.0	LOS A	0.0	0.1	0.02	0.01	0.02	39.4
3	R2	3	0.0	3	0.0	0.136	5.2	LOS A	0.0	0.1	0.02	0.01	0.02	38.7
Approach		240	13.3	240	13.3	0.136	0.1	NA	0.0	0.1	0.02	0.01	0.02	39.4
East: Burton St														
4	L2	8	12.5	8	12.5	0.084	4.7	LOS A	0.1	0.4	0.47	0.53	0.47	25.4
6	R2	55	0.0	55	0.0	0.084	3.8	LOS A	0.1	0.4	0.47	0.53	0.47	18.3
Approach		63	1.6	63	1.6	0.084	3.9	LOS A	0.1	0.4	0.47	0.53	0.47	19.6
North: Alfred St S														
7	L2	46	2.2	46	2.2	0.205	2.5	LOS A	0.0	0.0	0.00	0.05	0.00	38.0
8	T1	374	1.9	374	1.9	0.205	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	36.0
Approach		420	1.9	420	1.9	0.205	0.3	NA	0.0	0.0	0.00	0.05	0.00	36.2
All Vehicles		723	5.7	723	5.7	0.205	0.5	NA	0.1	0.4	0.05	0.08	0.05	34.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

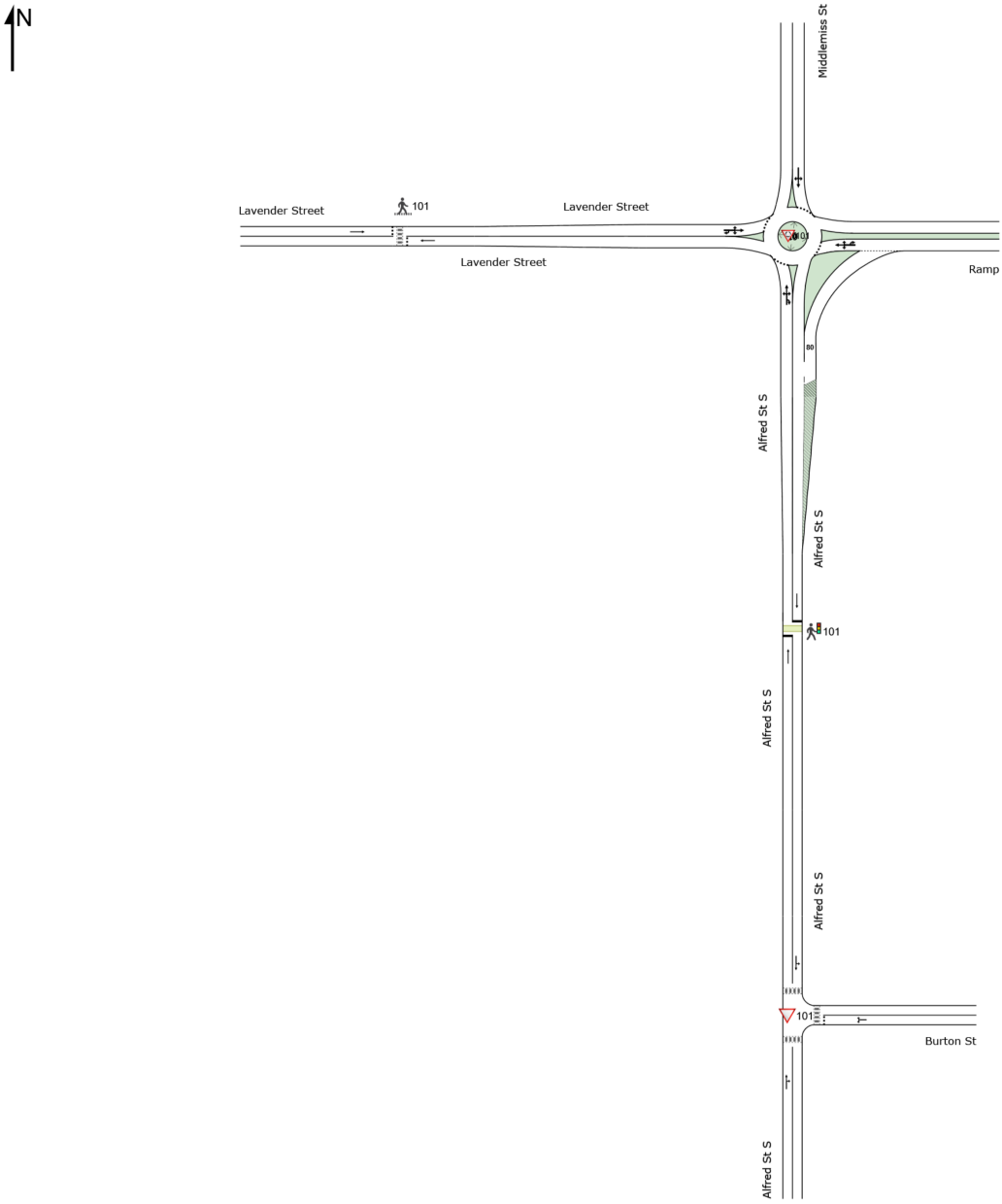
Appendix D – Existing (Projected to 2024) SIDRA Layout and Results

NETWORK LAYOUT

Network: N101 [AM Existing Projected to 2024 (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	AM Alfred St / Lavender St
101	NA	AM Alfred St / Lavender St Zebra Crossing
101	NA	AM Existing Signalized Pedestrian Crossing
101	NA	AM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St (Site Folder: Existing Projected to 2024)]

Network: N101 [AM Existing Projected to 2024 (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Day 6 - Wednesday 30th, November 2022
Existing AM Peak hour
Site Category: Existing Design
Roundabout
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	174	5.3	174	5.3	0.583	3.7	LOS A	1.0	6.9	0.43	0.56	0.43	30.0
2	T1	35	0.0	35	0.0	0.583	1.3	LOS A	1.0	6.9	0.43	0.56	0.43	24.3
3	R2	215	15.3	215	15.3	0.583	6.8	LOS A	1.0	6.9	0.43	0.56	0.43	22.3
3u	U	9	0.0	9	0.0	0.583	8.1	LOS A	1.0	6.9	0.43	0.56	0.43	30.0
Approach		433	9.8	433	9.8	0.583	5.2	LOS A	1.0	6.9	0.43	0.56	0.43	24.8
East: Ramp														
4	L2	289	7.1	289	7.1	0.356	3.3	LOS A	1.2	9.0	0.59	0.57	0.59	20.5
5	T1	176	2.3	176	2.3	0.356	7.4	LOS A	1.2	9.0	0.59	0.57	0.59	20.5
6	R2	1	0.0	1	0.0	0.356	3.7	LOS A	1.2	9.0	0.59	0.57	0.59	22.3
6u	U	1	0.0	1	0.0	0.356	12.2	LOS B	1.2	9.0	0.59	0.57	0.59	14.6
Approach		468	5.3	468	5.3	0.356	4.9	LOS A	1.2	9.0	0.59	0.57	0.59	20.5
North: Middlemiss St														
7	L2	7	0.0	7	0.0	0.161	7.7	LOS A	0.4	1.4	0.70	0.64	0.70	18.3
8	T1	107	1.0	107	1.0	0.161	5.0	LOS A	0.4	1.4	0.70	0.64	0.70	22.2
9	R2	3	0.0	3	0.0	0.161	11.0	LOS B	0.4	1.4	0.70	0.64	0.70	22.2
Approach		118	0.9	118	0.9	0.161	5.3	LOS A	0.4	1.4	0.70	0.64	0.70	21.8
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.417	1.8	LOS A	1.2	8.7	0.57	0.67	0.57	19.4
11	T1	52	4.0	52	4.0	0.417	3.5	LOS A	1.2	8.7	0.57	0.67	0.57	13.6
12	R2	344	15.0	344	15.0	0.417	6.1	LOS A	1.2	8.7	0.57	0.67	0.57	16.2
12u	U	10	0.0	10	0.0	0.417	7.7	LOS A	1.2	8.7	0.57	0.67	0.57	16.2
Approach		406	13.2	406	13.2	0.417	5.8	LOS A	1.2	8.7	0.57	0.67	0.57	15.4
All Vehicles		1424	8.5	1424	8.5	0.583	5.3	LOS A	1.2	9.0	0.55	0.60	0.55	22.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St Zebra Crossing (Site Folder: Existing Projected to 2024)]

Network: N101 [AM Existing Projected to 2024 (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Day 6 - Wednesday 30th, November 2022
Existing AM Peak hour
Site Category: Existing Design
Pedestrian Crossing (Unsignalised)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	363	3.7	363	3.7	0.499	4.0	LOS A	1.3	9.0	0.49	0.60	0.57	38.4
Approach		363	3.7	363	3.7	0.499	4.0	LOS A	1.3	9.0	0.49	0.60	0.57	38.4
West: Lavender Street														
2	T1	405	13.2	405	13.2	1.108	126.2	LOS F[11]	18.3	133.3	1.00	3.01	4.67	5.6
Approach		405	13.2	405	13.2	1.108	126.2	LOS F[11]	18.3	133.3	1.00	3.01	4.67	5.6
All Vehicles		769	8.7	769	8.7	1.108	68.5	NA	18.3	133.3	0.76	1.87	2.73	9.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

MOVEMENT SUMMARY

Site: 101 [AM Existing Signalized Pedestrian Crossing (Site Folder: Existing Projected to 2024)]

Network: N101 [AM Existing Projected to 2024 (Network Folder: General)]

Existing Signalized Crossing outside Milsons Point Station
Day 6 - Wednesday 30th, November 2022
Existing AM Peak hour
Site Category: Existing Design
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	369	11.2	369	11.2	0.348	7.1	LOS A	3.2	22.7	0.60	0.52	0.60	12.7
Approach		369	11.2	369	11.2	0.348	7.1	LOS A	3.2	22.7	0.60	0.52	0.60	12.7
North: Alfred St S														
8	T1	750	9.8	750	9.8	* 0.663	9.1	LOS A	8.1	55.2	0.77	0.70	0.77	27.0
Approach		750	9.8	750	9.8	0.663	9.1	LOS A	8.1	55.2	0.77	0.70	0.77	27.0
All Vehicles		1118	10.2	1118	10.2	0.663	8.5	LOS A	8.1	55.2	0.72	0.64	0.72	25.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	468	19.7	LOS B	0.6	0.6	0.90	0.90	180.2	208.6	1.16
All Pedestrians		468	19.7	LOS B	0.6	0.6	0.90	0.90	180.2	208.6	1.16

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Burton St (Site Folder: Existing Projected to 2024)]

Network: N101 [AM Existing Projected to 2024 (Network Folder: General)]

Alfred St / Burton St Intersection
Day 6 - Wednesday 30th, November 2022
Existing AM Peak hour
Site Category: Existing Design
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	307	12.8	307	12.8	0.254	0.2	LOS A	0.1	0.4	0.05	0.01	0.05	38.5
3	R2	8	0.0	8	0.0	0.254	6.7	LOS A	0.1	0.4	0.05	0.01	0.05	37.7
Approach		315	12.4	315	12.4	0.254	0.3	NA	0.1	0.4	0.05	0.01	0.05	38.4
East: Burton St														
4	L2	16	0.0	16	0.0	0.189	5.4	LOS A	0.2	0.9	0.60	0.72	0.60	25.3
6	R2	62	3.3	62	3.3	0.189	7.6	LOS A	0.2	0.9	0.60	0.72	0.60	18.3
Approach		78	2.6	78	2.6	0.189	7.1	LOS A	0.2	0.9	0.60	0.72	0.60	20.3
North: Alfred St S														
7	L2	107	1.0	107	1.0	0.331	2.5	LOS A	0.0	0.0	0.00	0.07	0.00	36.6
8	T1	546	12.8	546	12.8	0.331	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	34.5
Approach		653	10.9	653	10.9	0.331	0.4	NA	0.0	0.0	0.00	0.07	0.00	34.8
All Vehicles		1046	10.7	1046	10.7	0.331	0.9	NA	0.2	0.9	0.06	0.10	0.06	34.0

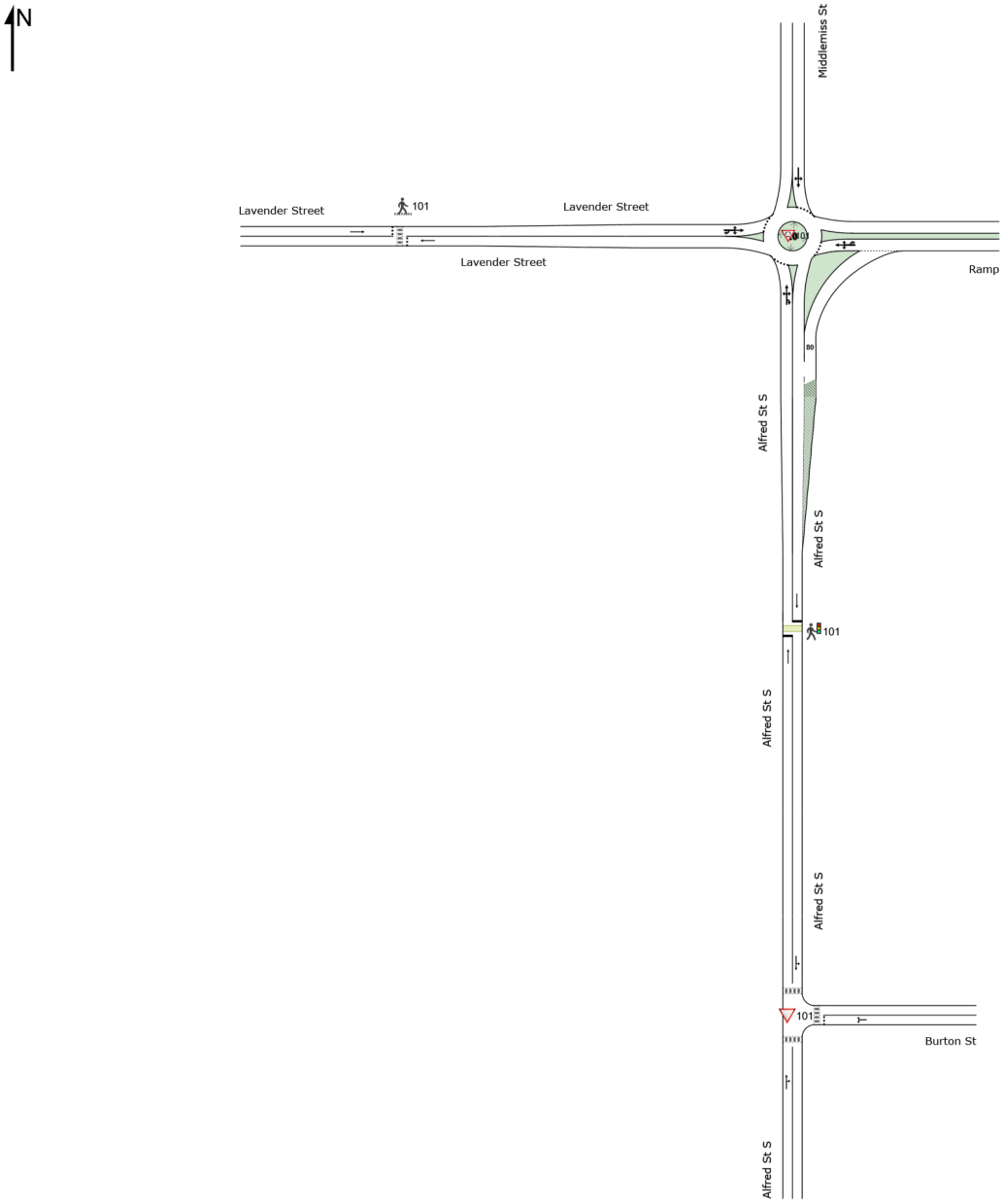
Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

NETWORK LAYOUT

Network: N101 [PM Existing Projected to 2024 (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	PM Alfred St / Lavender St
101	NA	PM Alfred St / Lavender St Zebra Crossing
101	NA	PM Existing Signalized Pedestrian Crossing
101	NA	PM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St (Site Folder: Existing Projected to 2024)]

Network: N101 [PM Existing Projected to 2024 (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Day 6 - Wednesday 30th, November 2022
Existing PM Peak hour
Site Category: Existing Design
Roundabout
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	160	1.3	160	1.3	0.606	3.7	LOS A	1.2	7.6	0.46	0.56	0.46	28.5
2	T1	63	0.0	63	0.0	0.606	1.5	LOS A	1.2	7.6	0.46	0.56	0.46	23.7
3	R2	258	11.6	258	11.6	0.606	6.6	LOS A	1.2	7.6	0.46	0.56	0.46	21.6
3u	U	22	0.0	22	0.0	0.606	8.2	LOS A	1.2	7.6	0.46	0.56	0.46	28.5
Approach		503	6.3	503	6.3	0.606	5.1	LOS A	1.2	7.6	0.46	0.56	0.46	23.7
East: Ramp														
4	L2	282	0.7	282	0.7	0.470	2.5	LOS A	1.1	8.0	0.53	0.52	0.53	21.4
5	T1	185	1.1	185	1.1	0.470	6.5	LOS A	1.1	8.0	0.53	0.52	0.53	21.4
6	R2	1	0.0	1	0.0	0.470	2.9	LOS A	1.1	8.0	0.53	0.52	0.53	22.5
6u	U	2	50.0	2	50.0	0.470	12.5	LOS B	1.1	8.0	0.53	0.52	0.53	14.4
Approach		471	1.1	471	1.1	0.470	4.1	LOS A	1.1	8.0	0.53	0.52	0.53	21.4
North: Middlemiss St														
7	L2	12	0.0	12	0.0	0.079	7.1	LOS A	0.2	0.8	0.65	0.60	0.65	15.4
8	T1	40	0.0	40	0.0	0.079	4.6	LOS A	0.2	0.8	0.65	0.60	0.65	25.4
9	R2	5	0.0	5	0.0	0.079	10.5	LOS B	0.2	0.8	0.65	0.60	0.65	25.4
Approach		58	0.0	58	0.0	0.079	5.7	LOS A	0.2	0.8	0.65	0.60	0.65	21.8
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.342	2.1	LOS A	0.9	6.6	0.58	0.69	0.58	19.3
11	T1	43	2.4	43	2.4	0.342	3.8	LOS A	0.9	6.6	0.58	0.69	0.58	13.6
12	R2	280	3.7	280	3.7	0.342	6.4	LOS A	0.9	6.6	0.58	0.69	0.58	16.0
12u	U	6	0.0	6	0.0	0.342	8.0	LOS A	0.9	6.6	0.58	0.69	0.58	16.0
Approach		330	3.4	330	3.4	0.342	6.1	LOS A	0.9	6.6	0.58	0.69	0.58	15.3
All Vehicles		1362	3.6	1362	3.6	0.606	5.0	LOS A	1.2	8.0	0.52	0.58	0.52	22.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St Zebra Crossing (Site Folder: Existing Projected to 2024)]

Network: N101 [PM Existing Projected to 2024 (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Day 6 - Wednesday 30th, November 2022
Existing PM Peak hour
Site Category: Existing Design
Pedestrian Crossing (Unsignalised)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	357	1.2	357	1.2	0.476	3.4	LOS A	1.3	8.9	0.45	0.55	0.50	39.2
Approach		357	1.2	357	1.2	0.476	3.4	LOS A	1.3	8.9	0.45	0.55	0.50	39.2
West: Lavender Street														
2	T1	329	3.4	329	3.4	0.610	6.9	LOS A	1.6	11.1	0.44	0.65	0.57	34.4
Approach		329	3.4	329	3.4	0.610	6.9	LOS A	1.6	11.1	0.44	0.65	0.57	34.4
All Vehicles		686	2.3	686	2.3	0.610	5.1	NA	1.6	11.1	0.44	0.60	0.53	36.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Existing Signalized Pedestrian Crossing (Site Folder: Existing Projected to 2024)]

Network: N101 [PM Existing Projected to 2024 (Network Folder: General)]

Existing Signalized Crossing outside Milsons Point Station
Day 6 - Wednesday 30th, November 2022
Existing PM Peak hour
Site Category: Existing Design
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	299	11.0	299	11.0	0.343	8.7	LOS A	2.5	17.1	0.71	0.61	0.71	11.1
Approach		299	11.0	299	11.0	0.343	8.7	LOS A	2.5	17.1	0.71	0.61	0.71	11.1
North: Alfred St S														
8	T1	624	2.0	624	2.0	* 0.723	11.9	LOS B	6.8	46.5	0.89	0.85	0.98	26.0
Approach		624	2.0	624	2.0	0.723	11.9	LOS B	6.8	46.5	0.89	0.85	0.98	26.0
All Vehicles		923	4.9	923	4.9	0.723	10.9	LOS B	6.8	46.5	0.83	0.77	0.89	23.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	407	14.7	LOS B	0.4	0.4	0.86	0.86	175.2	208.6	1.19
All Pedestrians		407	14.7	LOS B	0.4	0.4	0.86	0.86	175.2	208.6	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Burton St (Site Folder: Existing Projected to 2024)]

Network: N101 [PM Existing Projected to 2024 (Network Folder: General)]

Alfred St / Burton St Intersection
Day 6 - Wednesday 30th, November 2022
Existing PM Peak hour
Site Category: Existing Design
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	244	13.5	244	13.5	0.145	0.0	LOS A	0.0	0.1	0.02	0.01	0.02	39.4
3	R2	3	0.0	3	0.0	0.145	5.3	LOS A	0.0	0.1	0.02	0.01	0.02	38.7
Approach		247	13.3	247	13.3	0.145	0.1	NA	0.0	0.1	0.02	0.01	0.02	39.4
East: Burton St														
4	L2	8	12.5	8	12.5	0.088	4.7	LOS A	0.1	0.4	0.48	0.55	0.48	25.3
6	R2	55	0.0	55	0.0	0.088	3.9	LOS A	0.1	0.4	0.48	0.55	0.48	18.3
Approach		63	1.6	63	1.6	0.088	4.0	LOS A	0.1	0.4	0.48	0.55	0.48	19.6
North: Alfred St S														
7	L2	46	2.2	46	2.2	0.211	2.5	LOS A	0.0	0.0	0.00	0.05	0.00	38.0
8	T1	385	1.9	385	1.9	0.211	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	36.1
Approach		431	1.9	431	1.9	0.211	0.3	NA	0.0	0.0	0.00	0.05	0.00	36.3
All Vehicles		742	5.7	742	5.7	0.211	0.5	NA	0.1	0.4	0.05	0.08	0.05	34.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

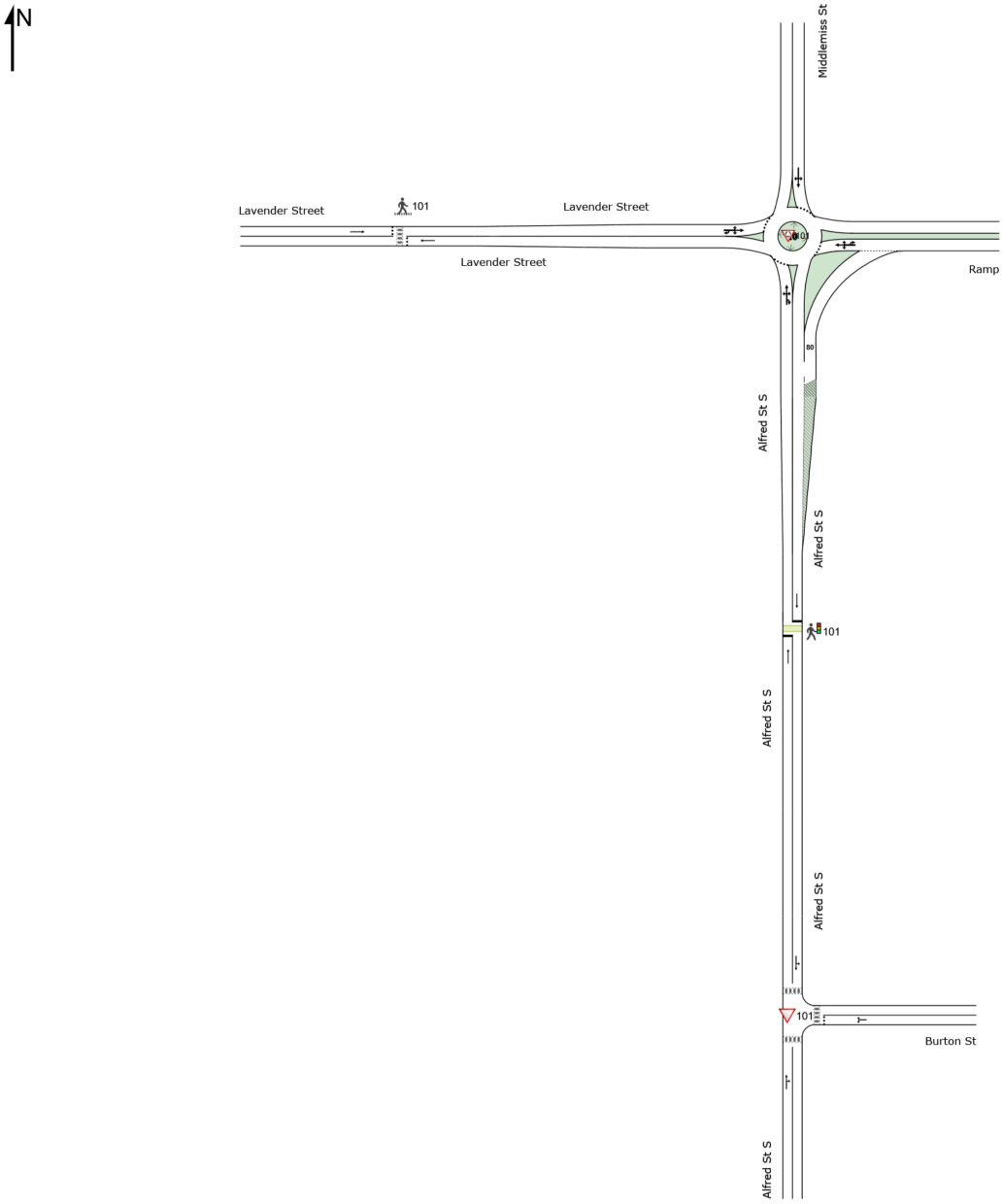
Appendix E – Existing (Projected to 2034) SIDRA Layout and Results

NETWORK LAYOUT

Network: N101 [AM Existing Projected to 2034 (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	AM Alfred St / Lavender St
101	NA	AM Alfred St / Lavender St Zebra Crossing
101	NA	AM Existing Signalized Pedestrian Crossing
101	NA	AM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St (Site Folder: Existing Projected to 2034)]

Network: N101 [AM Existing Projected to 2034 (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Day 6 - Wednesday 30th, November 2022
Existing AM Peak hour
Site Category: Existing Design
Roundabout
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	200	5.6	200	5.6	0.696	4.9	LOS A	1.5	10.3	0.49	0.63	0.54	29.1
2	T1	41	0.0	41	0.0	0.696	2.5	LOS A	1.5	10.3	0.49	0.63	0.54	23.9
3	R2	246	15.5	246	15.5	0.696	8.1	LOS A	1.5	10.3	0.49	0.63	0.54	21.9
3u	U	11	0.0	11	0.0	0.696	9.3	LOS A	1.5	10.3	0.49	0.63	0.54	29.1
Approach		498	9.9	498	9.9	0.696	6.4	LOS A	1.5	10.3	0.49	0.63	0.54	24.3
East: Ramp														
4	L2	334	7.0	334	7.0	0.408	3.5	LOS A	1.5	10.8	0.61	0.59	0.61	20.3
5	T1	203	2.2	203	2.2	0.408	7.5	LOS A	1.5	10.8	0.61	0.59	0.61	20.3
6	R2	1	0.0	1	0.0	0.408	3.9	LOS A	1.5	10.8	0.61	0.59	0.61	22.2
6u	U	1	0.0	1	0.0	0.408	12.4	LOS B	1.5	10.8	0.61	0.59	0.61	14.5
Approach		539	5.2	539	5.2	0.408	5.0	LOS A	1.5	10.8	0.61	0.59	0.61	20.3
North: Middlemiss St														
7	L2	8	0.0	8	0.0	0.206	7.9	LOS A	0.5	1.8	0.72	0.67	0.72	18.0
8	T1	139	0.8	139	0.8	0.206	5.1	LOS A	0.5	1.8	0.72	0.67	0.72	21.7
9	R2	3	0.0	3	0.0	0.206	11.2	LOS B	0.5	1.8	0.72	0.67	0.72	21.7
Approach		150	0.7	150	0.7	0.206	5.4	LOS A	0.5	1.8	0.72	0.67	0.72	21.4
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.413	2.1	LOS A	1.2	8.5	0.61	0.69	0.61	19.3
11	T1	59	3.8	48	3.8	0.413	3.8	LOS A	1.2	8.5	0.61	0.69	0.61	13.5
12	R2	405	14.7	325	14.7	0.413	6.4	LOS A	1.2	8.5	0.61	0.69	0.61	15.7
12u	U	12	0.0	10	0.0	0.413	7.9	LOS A	1.2	8.5	0.61	0.69	0.61	15.7
Approach		477	12.9	384 N1	12.9	0.413	6.1	LOS A	1.2	8.5	0.61	0.69	0.61	15.0
All Vehicles		1664	8.4	1570 N1	8.9	0.696	5.8	LOS A	1.5	10.8	0.58	0.64	0.60	22.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St Zebra Crossing (Site Folder: Existing Projected to 2034)]

Network: N101 [AM Existing Projected to 2034 (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Day 6 - Wednesday 30th, November 2022
Existing AM Peak hour
Site Category: Existing Design
Pedestrian Crossing (Unsignalised)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	416	3.8	414	3.8	0.586	5.6	LOS A	1.3	9.0	0.58	0.73	0.78	35.8
Approach		416	3.8	414[N1]	3.8	0.586	5.6	LOS A	1.3	9.0	0.58	0.73	0.78	35.8
West: Lavender Street														
2	T1	475	13.0	475	13.0	1.272	264.0	LOS F[11]	32.7	235.6	1.00	5.10	8.20	2.8
Approach		475	13.0	475	13.0	1.272	264.0	LOS F[11]	32.7	235.6	1.00	5.10	8.20	2.8
All Vehicles		891	8.7	889[N1]	8.7	1.272	143.7	NA	32.7	235.6	0.80	3.06	4.75	5.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [AM Existing Signalized Pedestrian Crossing (Site Folder: Existing Projected to 2034)]

Network: N101 [AM Existing Projected to 2034 (Network Folder: General)]

Existing Signalized Crossing outside Milsons Point Station
Day 6 - Wednesday 30th, November 2022
Existing AM Peak hour
Site Category: Existing Design
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	537	8.8	537	8.8	0.508	8.0	LOS A	3.9	28.0	0.68	0.60	0.68	11.8
Approach		537	8.8	537	8.8	0.508	8.0	LOS A	3.9	28.0	0.68	0.60	0.68	11.8
North: Alfred St S														
8	T1	887	9.5	818	9.0	* 0.706	9.6	LOS A	9.3	61.6	0.80	0.73	0.81	26.3
Approach		887	9.5	818 N1	9.0	0.706	9.6	LOS A	9.3	61.6	0.80	0.73	0.81	26.3
All Vehicles		1425	9.2	1355 N1	9.7	0.706	9.0	LOS A	9.3	61.6	0.75	0.68	0.76	23.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	543	19.8	LOS B	0.7	0.7	0.90	0.90	180.3	208.6	1.16
All Pedestrians		543	19.8	LOS B	0.7	0.7	0.90	0.90	180.3	208.6	1.16

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Burton St (Site Folder: Existing Projected to 2034)]

Network: N101 [AM Existing Projected to 2034 (Network Folder: General)]

Alfred St / Burton St Intersection
Day 6 - Wednesday 30th, November 2022
Existing AM Peak hour
Site Category: Existing Design
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	354	12.7	354	12.7	0.205	0.2	LOS A	1.0	8.0	0.05	0.01	0.05	38.4
3	R2	9	0.0	9	0.0	0.205	7.3	LOS A	1.0	8.0	0.05	0.01	0.05	37.7
Approach		363	12.4	363	12.4	0.205	0.4	NA	1.0	8.0	0.05	0.01	0.05	38.4
East: Burton St														
4	L2	20	0.0	20	0.0	0.322	6.7	LOS A	0.3	1.3	0.65	0.82	0.76	23.6
6	R2	71	3.2	71	3.2	0.322	9.7	LOS A	0.3	1.3	0.65	0.82	0.76	16.6
Approach		90	2.5	90	2.5	0.322	9.1	LOS A	0.3	1.3	0.65	0.82	0.76	18.6
North: Alfred St S														
7	L2	112	1.0	106	1.0	0.353	2.5	LOS A	0.0	0.0	0.00	0.06	0.00	37.0
8	T1	630	12.8	587	12.4	0.353	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	34.9
Approach		742	11.0	693 N1	10.6	0.353	0.4	NA	0.0	0.0	0.00	0.06	0.00	35.1
All Vehicles		1195	10.8	1146 N1	11.2	0.353	1.1	NA	1.0	8.0	0.07	0.11	0.08	33.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

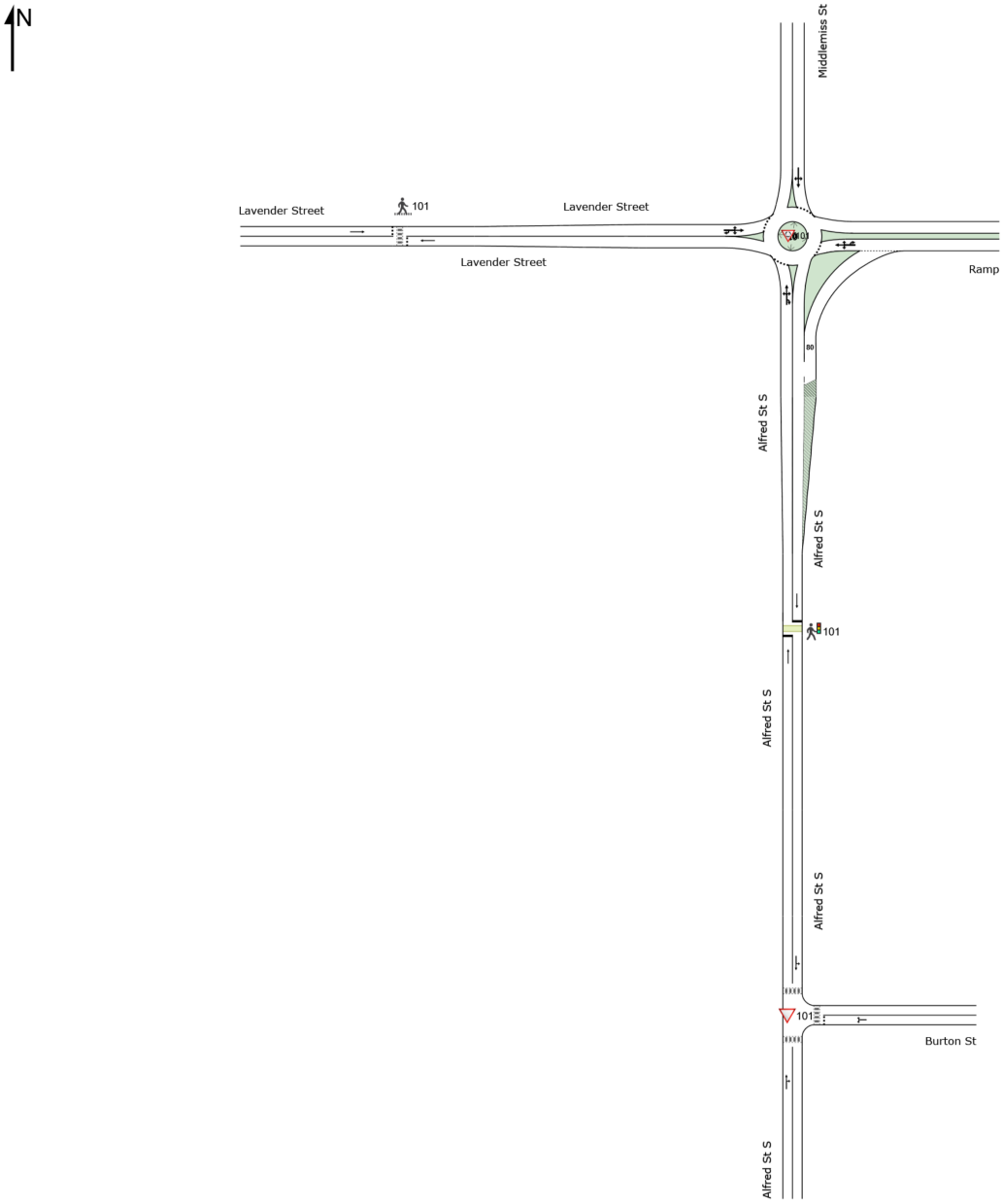
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

NETWORK LAYOUT

Network: N101 [PM Existing Projected to 2034 (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	PM Alfred St / Lavender St
101	NA	PM Alfred St / Lavender St Zebra Crossing
101	NA	PM Existing Signalized Pedestrian Crossing
101	NA	PM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St (Site Folder: Existing Projected to 2034)]

Network: N101 [PM Existing Projected to 2034 (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Day 6 - Wednesday 30th, November 2022
Existing PM Peak hour
Site Category: Existing Design
Roundabout
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	183	1.2	183	1.2	0.718	5.2	LOS A	1.9	11.9	0.53	0.64	0.59	27.5
2	T1	73	0.0	73	0.0	0.718	3.0	LOS A	1.9	11.9	0.53	0.64	0.59	23.3
3	R2	292	11.9	292	11.9	0.718	8.2	LOS A	1.9	11.9	0.53	0.64	0.59	21.2
3u	U	26	0.0	26	0.0	0.718	9.7	LOS A	1.9	11.9	0.53	0.64	0.59	27.5
Approach		574	6.4	574	6.4	0.718	6.7	LOS A	1.9	11.9	0.53	0.64	0.59	23.1
East: Ramp														
4	L2	326	0.7	326	0.7	0.402	3.2	LOS A	1.5	10.5	0.61	0.58	0.61	20.7
5	T1	214	1.0	214	1.0	0.402	7.1	LOS A	1.5	10.5	0.61	0.58	0.61	20.7
6	R2	1	0.0	1	0.0	0.402	3.5	LOS A	1.5	10.5	0.61	0.58	0.61	22.3
6u	U	1	0.0	1	0.0	0.402	12.0	LOS B	1.5	10.5	0.61	0.58	0.61	14.7
Approach		542	0.8	542	0.8	0.402	4.7	LOS A	1.5	10.5	0.61	0.58	0.61	20.7
North: Middlemiss St														
7	L2	15	0.0	15	0.0	0.106	8.0	LOS A	0.2	1.1	0.71	0.65	0.71	14.9
8	T1	51	0.0	51	0.0	0.106	5.4	LOS A	0.2	1.1	0.71	0.65	0.71	24.2
9	R2	6	0.0	6	0.0	0.106	11.3	LOS B	0.2	1.1	0.71	0.65	0.71	24.2
Approach		71	0.0	71	0.0	0.106	6.4	LOS A	0.2	1.1	0.71	0.65	0.71	21.0
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.414	2.6	LOS A	1.2	8.5	0.66	0.73	0.66	19.2
11	T1	50	2.2	50	2.2	0.414	4.3	LOS A	1.2	8.5	0.66	0.73	0.66	13.3
12	R2	325	3.8	325	3.8	0.414	6.9	LOS A	1.2	8.5	0.66	0.73	0.66	15.2
12u	U	7	0.0	7	0.0	0.414	8.4	LOS A	1.2	8.5	0.66	0.73	0.66	15.2
Approach		383	3.5	383	3.5	0.414	6.6	LOS A	1.2	8.5	0.66	0.73	0.66	14.6
All Vehicles		1570	3.5	1570	3.5	0.718	6.0	LOS A	1.9	11.9	0.60	0.64	0.62	21.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St Zebra Crossing (Site Folder: Existing Projected to 2034)]

Network: N101 [PM Existing Projected to 2034 (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Day 6 - Wednesday 30th, November 2022
Existing PM Peak hour
Site Category: Existing Design
Pedestrian Crossing (Unsignalised)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	410	1.1	410	1.1	0.563	4.9	LOS A	1.3	9.0	0.54	0.67	0.69	36.6
Approach		410	1.1	410	1.1	0.563	4.9	LOS A	1.3	9.0	0.54	0.67	0.69	36.6
West: Lavender Street														
2	T1	382	3.5	382	3.5	0.945	28.8	LOS D	6.1	42.5	0.52	1.35	1.76	17.7
Approach		382	3.5	382	3.5	0.945	28.8	LOS D	6.1	42.5	0.52	1.35	1.76	17.7
All Vehicles		792	2.3	792	2.3	0.945	16.5	NA	6.1	42.5	0.53	1.00	1.21	24.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Existing Signalized Pedestrian Crossing (Site Folder: Existing Projected to 2034)]

Network: N101 [PM Existing Projected to 2034 (Network Folder: General)]

Existing Signalized Crossing outside Milsons Point Station
Day 6 - Wednesday 30th, November 2022
Existing PM Peak hour
Site Category: Existing Design
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	346	11.0	346	11.0	0.396	8.9	LOS A	2.9	20.3	0.73	0.63	0.73	10.9
Approach		346	11.0	346	11.0	0.396	8.9	LOS A	2.9	20.3	0.73	0.63	0.73	10.9
North: Alfred St S														
8	T1	728	2.0	728	2.0	* 0.838	17.0	LOS B	9.9	66.9	0.96	1.07	1.24	22.8
Approach		728	2.0	728	2.0	0.838	17.0	LOS B	9.9	66.9	0.96	1.07	1.24	22.8
All Vehicles		1074	4.9	1074	4.9	0.838	14.4	LOS B	9.9	66.9	0.89	0.93	1.08	21.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	470	14.7	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19
All Pedestrians		470	14.7	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Burton St (Site Folder: Existing Projected to 2034)]

Network: N101 [PM Existing Projected to 2034 (Network Folder: General)]

Alfred St / Burton St Intersection
Day 6 - Wednesday 30th, November 2022
Existing PM Peak hour
Site Category: Existing Design
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	281	13.6	281	13.6	0.199	0.0	LOS A	0.0	0.1	0.02	0.01	0.02	39.4
3	R2	3	0.0	3	0.0	0.199	5.7	LOS A	0.0	0.1	0.02	0.01	0.02	38.7
Approach		284	13.4	284	13.4	0.199	0.1	NA	0.0	0.1	0.02	0.01	0.02	39.4
East: Burton St														
4	L2	9	12.7	9	12.7	0.132	5.1	LOS A	0.1	0.5	0.52	0.62	0.52	24.7
6	R2	64	0.0	64	0.0	0.132	4.7	LOS A	0.1	0.5	0.52	0.62	0.52	17.5
Approach		72	1.5	72	1.5	0.132	4.7	LOS A	0.1	0.5	0.52	0.62	0.52	18.8
North: Alfred St S														
7	L2	48	2.3	48	2.3	0.243	2.5	LOS A	0.0	0.0	0.00	0.04	0.00	38.3
8	T1	444	1.8	444	1.8	0.243	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	36.4
Approach		493	1.8	493	1.8	0.243	0.3	NA	0.0	0.0	0.00	0.04	0.00	36.6
All Vehicles		849	5.7	849	5.7	0.243	0.6	NA	0.1	0.5	0.05	0.08	0.05	34.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

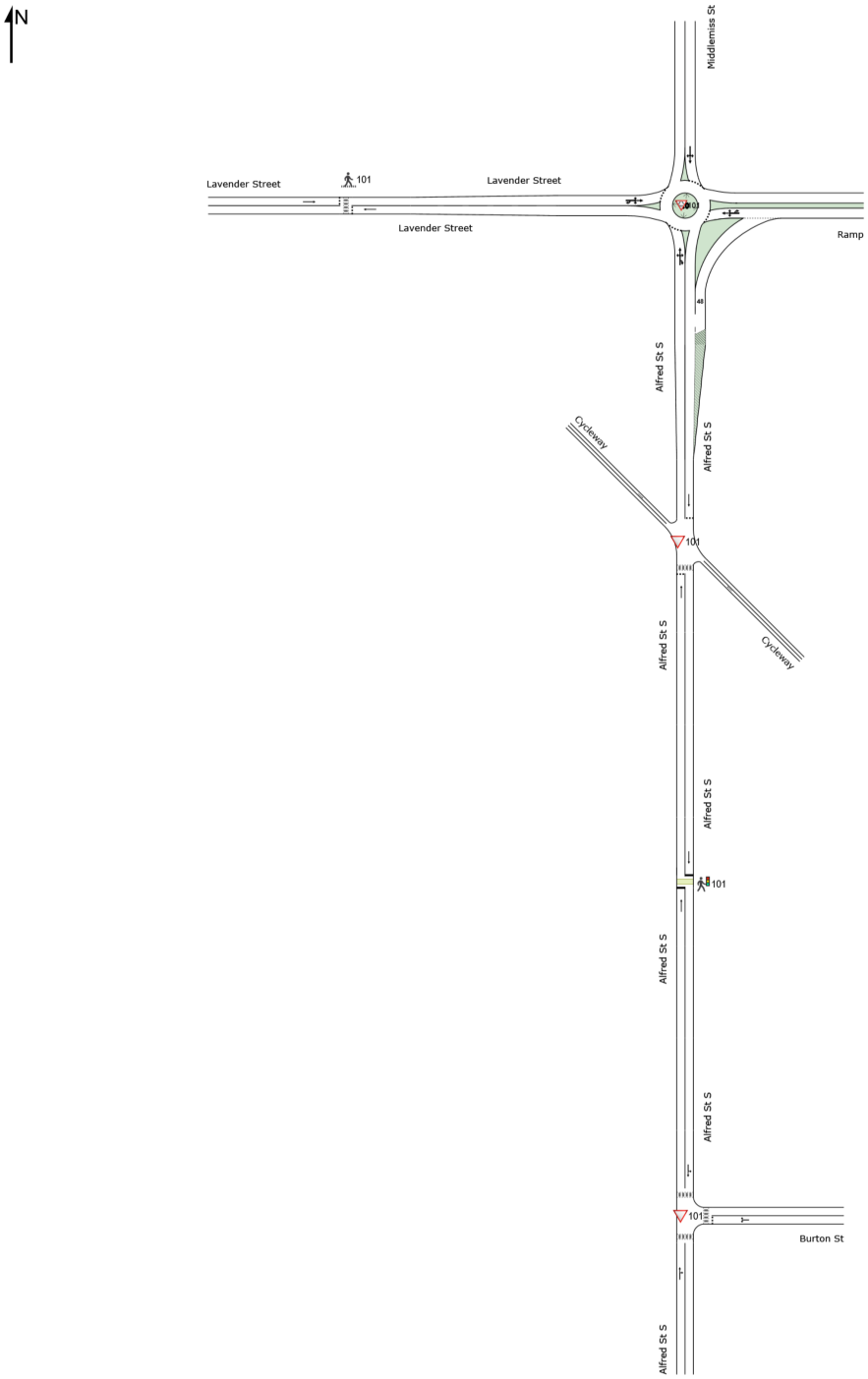
Appendix F – Opening Year 2024 SIDRA Layout and Results (100% Crossing Utilisation)

NETWORK LAYOUT

Network: N101 [AM Project Opening Year 2024 100% Crossing Utilisation (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	AM Alfred St / Lavender St
101	NA	AM Alfred St / Lavender St Zebra Crossing

101	NA	AM Proposed Crossing
101	NA	AM Existing Signalized Pedestrian Crossing
101	NA	AM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St (Site Folder: Project Opening Year 2024 100% Crossing Utilisation)]

Network: N101 [AM Project Opening Year 2024 100% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Opening Year 2024 100% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Roundabout
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	174	5.3	174	5.3	0.535	3.7	LOS A	1.0	7.5	0.49	0.59	0.49	20.9
2	T1	1	0.0	1	0.0	0.535	1.3	LOS A	1.0	7.5	0.49	0.59	0.49	20.2
3	R2	215	15.3	215	15.3	0.535	6.8	LOS A	1.0	7.5	0.49	0.59	0.49	25.8
3u	U	9	0.0	9	0.0	0.535	8.1	LOS A	1.0	7.5	0.49	0.59	0.49	20.9
Approach		399	10.6	399	10.6	0.535	5.4	LOS A	1.0	7.5	0.49	0.59	0.49	24.1
East: Ramp														
4	L2	289	7.1	289	7.1	0.341	2.5	LOS A	1.1	8.1	0.53	0.51	0.53	21.3
5	T1	176	2.3	176	2.3	0.341	6.6	LOS A	1.1	8.1	0.53	0.51	0.53	21.3
6	R2	1	0.0	1	0.0	0.341	3.0	LOS A	1.1	8.1	0.53	0.51	0.53	22.5
6u	U	1	0.0	1	0.0	0.341	11.5	LOS B	1.1	8.1	0.53	0.51	0.53	25.8
Approach		468	5.3	468	5.3	0.341	4.1	LOS A	1.1	8.1	0.53	0.51	0.53	21.4
North: Middlemiss St														
7	L2	7	0.0	7	0.0	0.037	6.9	LOS A	0.1	0.5	0.63	0.63	0.63	36.7
8	T1	14	7.1	14	7.1	0.037	7.2	LOS A	0.1	0.5	0.63	0.63	0.63	36.2
9	R2	3	0.0	3	0.0	0.037	10.2	LOS B	0.1	0.5	0.63	0.63	0.63	36.2
Approach		25	4.2	25	4.2	0.037	7.5	LOS A	0.1	0.5	0.63	0.63	0.63	36.4
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.371	1.6	LOS A	0.9	7.3	0.53	0.67	0.53	19.5
11	T1	52	4.0	50	4.0	0.371	3.3	LOS A	0.9	7.3	0.53	0.67	0.53	27.0
12	R2	296	17.4	287	17.4	0.371	6.1	LOS A	0.9	7.3	0.53	0.67	0.53	16.8
12u	U	10	0.0	10	0.0	0.371	7.4	LOS A	0.9	7.3	0.53	0.67	0.53	16.8
Approach		358	14.9	348 N1	14.9	0.371	5.7	LOS A	0.9	7.3	0.53	0.67	0.53	19.1
All Vehicles		1250	9.7	1240 N1	9.8	0.535	5.1	LOS A	1.1	8.1	0.52	0.58	0.52	22.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St Zebra Crossing (Site Folder: Project Opening Year 2024 100% Crossing Utilisation)]

Network: N101 [AM Project Opening Year 2024 100% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Opening Year 2024 100% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Unsignalised)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	364	3.7	364	3.7	0.670	11.2	LOS B	1.3	9.0	0.76	1.12	1.39	28.8
Approach		364	3.7	364	3.7	0.670	11.2	LOS B	1.3	9.0	0.76	1.12	1.39	28.8
West: Lavender Street														
2	T1	357	15.0	357	15.0	1.071	103.6	LOS F[11]	12.3	96.8	1.00	3.24	6.16	6.7
Approach		357	15.0	357	15.0	1.071	103.6	LOS F[11]	12.3	96.8	1.00	3.24	6.16	6.7
All Vehicles		721	9.3	721	9.3	1.071	57.0	NA	12.3	96.8	0.88	2.17	3.76	11.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

MOVEMENT SUMMARY

Site: 101 [AM Proposed Crossing (Site Folder: Project Opening Year 2024 100% Crossing Utilisation)]

Network: N101 [AM Project Opening Year 2024 100% Crossing Utilisation (Network Folder: General)]

Proposed Crossing
Opening Year 2024 100% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	372	11.1	372	11.1	0.371	3.5	LOS A	0.6	4.4	0.33	0.48	0.34	32.8
Approach		372	11.1	372	11.1	0.371	3.5	LOS A	0.6	4.4	0.33	0.48	0.34	32.8
SouthEast: Cycleway														
22	T1	59	0.0	59	0.0	0.010	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		59	0.0	59	0.0	0.010	0.0	NA	0.0	0.0	0.00	0.00	0.00	20.0
North: Alfred St S														
8	T1	609	12.0	605	12.0	0.607	5.4	LOS A	2.4	18.3	0.55	0.73	0.75	20.0
Approach		609	12.0	605[N1]	12.0	0.607	5.4	LOS A	2.4	18.3	0.55	0.73	0.75	20.0
NorthWest: Cycleway														
28	T1	162	0.0	162	0.0	0.026	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		162	0.0	162	0.0	0.026	0.0	NA	0.0	0.0	0.00	0.00	0.00	20.0
All Vehicles		1201	9.5	1198[N1]	9.5	0.607	3.8	NA	2.4	18.3	0.38	0.52	0.48	21.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [AM Existing Signalized Pedestrian Crossing (Site Folder: Project Opening Year 2024 100% Crossing Utilisation)]

Network: N101 [AM Project Opening Year 2024 100% Crossing Utilisation (Network Folder: General)]

Existing Signalized Pedestrian Crossing
Opening Year 2024 100% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	372	11.1	372	11.1	0.444	9.1	LOS A	3.3	23.3	0.75	0.64	0.75	10.8
Approach		372	11.1	372	11.1	0.444	9.1	LOS A	3.3	23.3	0.75	0.64	0.75	10.8
North: Alfred St S														
8	T1	609	12.0	609	12.0	* 0.792	14.8	LOS B	7.6	59.0	0.93	0.98	1.14	22.1
Approach		609	12.0	609	12.0	0.792	14.8	LOS B	7.6	59.0	0.93	0.98	1.14	22.1
All Vehicles		980	11.7	980	11.7	0.792	12.6	LOS B	7.6	59.0	0.86	0.86	0.99	19.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	468	14.7	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19
All Pedestrians		468	14.7	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Burton St (Site Folder: Project Opening Year 2024 100% Crossing Utilisation)]

Network: N101 [AM Project Opening Year 2024 100% Crossing Utilisation (Network Folder: General)]

Alfred St / Burton St Intersection
Opening Year 2024 100% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	307	12.7	307	12.7	0.262	0.2	LOS A	0.1	0.4	0.05	0.01	0.05	38.5
3	R2	8	0.0	8	0.0	0.262	6.7	LOS A	0.1	0.4	0.05	0.01	0.05	37.7
Approach		315	12.4	315	12.4	0.262	0.3	NA	0.1	0.4	0.05	0.01	0.05	38.4
East: Burton St														
4	L2	17	0.0	17	0.0	0.203	5.4	LOS A	0.2	1.0	0.60	0.72	0.60	25.1
6	R2	65	3.2	65	3.2	0.203	7.5	LOS A	0.2	1.0	0.60	0.72	0.60	18.2
Approach		81	2.5	81	2.5	0.203	7.1	LOS A	0.2	1.0	0.60	0.72	0.60	20.1
North: Alfred St S														
7	L2	107	1.0	107	1.0	0.331	2.5	LOS A	0.0	0.0	0.00	0.07	0.00	36.6
8	T1	546	12.8	546	12.8	0.331	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	34.5
Approach		653	10.9	653	10.9	0.331	0.4	NA	0.0	0.0	0.00	0.07	0.00	34.8
All Vehicles		1050	10.7	1050	10.7	0.331	0.9	NA	0.2	1.0	0.06	0.10	0.06	33.9

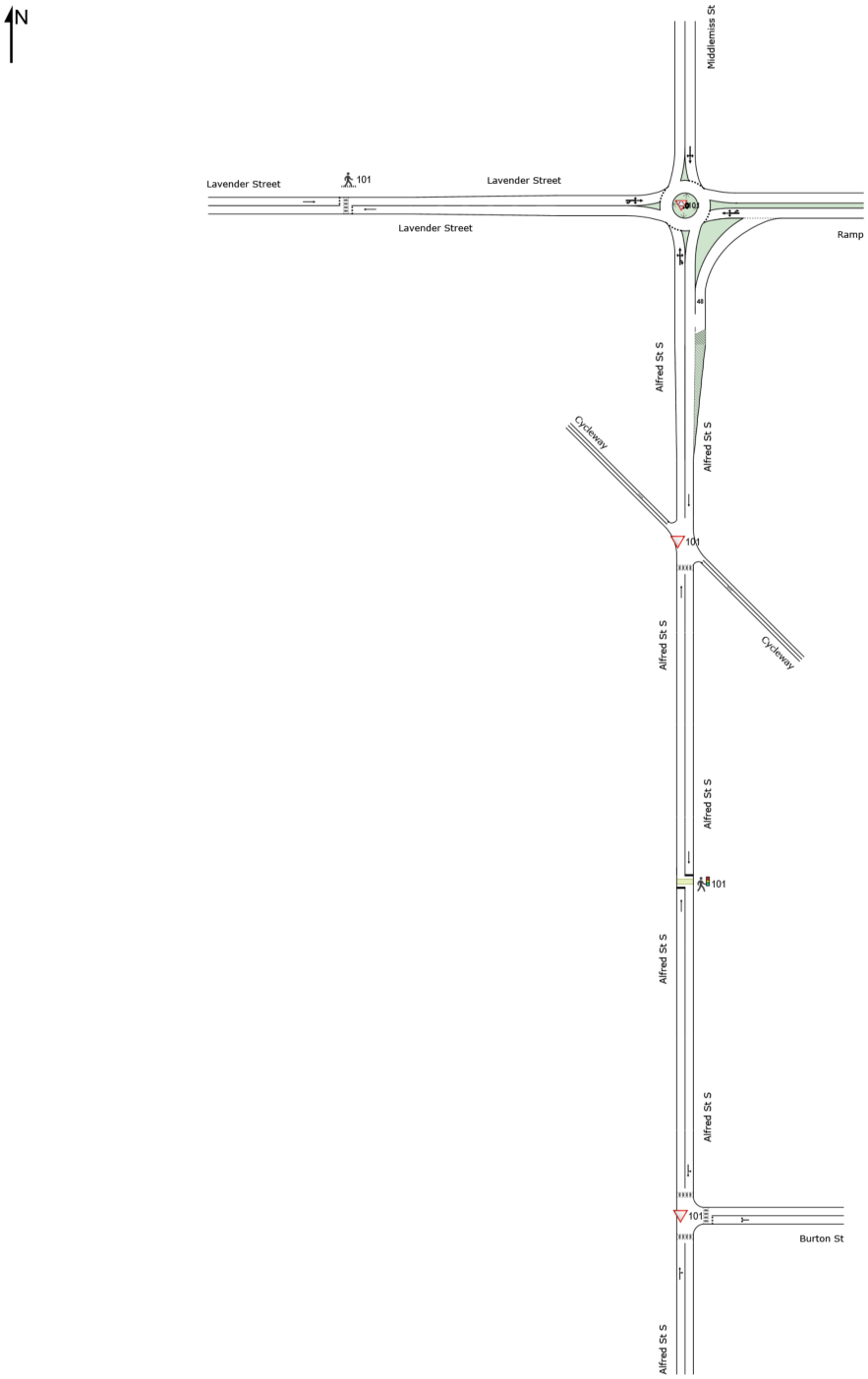
Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

NETWORK LAYOUT

Network: N101 [PM Project Opening Year 2024 100% Crossing Utilisation (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	PM Alfred St / Lavender St
101	NA	PM Alfred St / Lavender St Zebra Crossing

101	NA	PM Proposed Crossing
101	NA	PM Existing Signalized Pedestrian Crossing
101	NA	PM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St (Site Folder: Project Opening Year 2024 100% Crossing Utilisation)]

Network: N101 [PM Project Opening Year 2024 100% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Opening Year 2024 100% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Roundabout
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	161	1.3	161	1.3	0.554	3.6	LOS A	1.1	7.8	0.51	0.60	0.51	20.5
2	T1	1	0.0	1	0.0	0.554	1.4	LOS A	1.1	7.8	0.51	0.60	0.51	20.1
3	R2	258	11.6	258	11.6	0.554	6.5	LOS A	1.1	7.8	0.51	0.60	0.51	25.6
3u	U	22	0.0	22	0.0	0.554	8.2	LOS A	1.1	7.8	0.51	0.60	0.51	20.5
Approach		442	7.2	442	7.2	0.554	5.5	LOS A	1.1	7.8	0.51	0.60	0.51	24.0
East: Ramp														
4	L2	282	0.7	282	0.7	0.333	2.2	LOS A	1.1	7.6	0.50	0.48	0.50	21.6
5	T1	185	1.1	185	1.1	0.333	6.3	LOS A	1.1	7.6	0.50	0.48	0.50	21.6
6	R2	1	0.0	1	0.0	0.333	2.7	LOS A	1.1	7.6	0.50	0.48	0.50	22.6
6u	U	1	0.0	1	0.0	0.333	11.2	LOS B	1.1	7.6	0.50	0.48	0.50	26.0
Approach		470	0.9	470	0.9	0.333	3.9	LOS A	1.1	7.6	0.50	0.48	0.50	21.7
North: Middlemiss St														
7	L2	12	0.0	12	0.0	0.038	6.8	LOS A	0.1	0.5	0.62	0.64	0.62	36.6
8	T1	7	0.0	7	0.0	0.038	6.8	LOS A	0.1	0.5	0.62	0.64	0.62	36.0
9	R2	5	0.0	5	0.0	0.038	10.1	LOS B	0.1	0.5	0.62	0.64	0.62	36.0
Approach		25	0.0	25	0.0	0.038	7.5	LOS A	0.1	0.5	0.62	0.64	0.62	36.3
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.335	1.8	LOS A	0.8	5.9	0.55	0.69	0.55	19.5
11	T1	43	2.4	43	2.4	0.335	3.5	LOS A	0.8	5.9	0.55	0.69	0.55	26.9
12	R2	266	3.9	266	3.9	0.335	6.2	LOS A	0.8	5.9	0.55	0.69	0.55	16.6
12u	U	6	0.0	6	0.0	0.335	7.7	LOS A	0.8	5.9	0.55	0.69	0.55	16.6
Approach		316	3.6	316	3.6	0.335	5.8	LOS A	0.8	5.9	0.55	0.69	0.55	18.8
All Vehicles		1253	3.8	1253	3.8	0.554	5.0	LOS A	1.1	7.8	0.52	0.58	0.52	22.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St Zebra Crossing (Site Folder: Project Opening Year 2024 100% Crossing Utilisation)]

Network: N101 [PM Project Opening Year 2024 100% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Opening Year 2024 100% Crossing Utilisation PM Peak hour
Site Category: Future Conditions 1
Pedestrian Crossing (Unsignalised)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	358	1.2	358	1.2	0.650	10.6	LOS B	1.3	9.0	0.75	1.09	1.32	29.3
Approach		358	1.2	358	1.2	0.650	10.6	LOS B	1.3	9.0	0.75	1.09	1.32	29.3
West: Lavender Street														
2	T1	315	3.6	315	3.6	0.747	15.4	LOS C	2.4	17.6	0.70	1.18	1.50	25.6
Approach		315	3.6	315	3.6	0.747	15.4	LOS C	2.4	17.6	0.70	1.18	1.50	25.6
All Vehicles		673	2.3	673	2.3	0.747	12.8	NA	2.4	17.6	0.73	1.13	1.41	27.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Proposed Crossing (Site Folder: Project Opening Year 2024 100% Crossing Utilisation)]

Network: N101 [PM Project Opening Year 2024 100% Crossing Utilisation (Network Folder: General)]

Proposed Crossing
Opening Year 2024 100% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	306	10.8	306	10.8	0.327	1.5	LOS A	0.7	4.5	0.32	0.21	0.32	35.3
Approach		306	10.8	306	10.8	0.327	1.5	NA	0.7	4.5	0.32	0.21	0.32	35.3
SouthEast: Cycleway														
22	T1	81	0.0	81	0.0	0.013	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		81	0.0	81	0.0	0.013	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
North: Alfred St S														
8	T1	577	2.1	577	2.1	0.587	3.1	LOS A	2.7	19.4	0.55	0.45	0.65	25.4
Approach		577	2.1	577	2.1	0.587	3.1	NA	2.7	19.4	0.55	0.45	0.65	25.4
NorthWest: Cycleway														
28	T1	54	0.0	54	0.0	0.009	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		54	0.0	54	0.0	0.009	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
All Vehicles		1017	4.5	1017	4.5	0.587	2.2	NA	2.7	19.4	0.41	0.32	0.47	23.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Existing Signalized Pedestrian Crossing (Site Folder: Project Opening Year 2024 100% Crossing Utilisation)]

Network: N101 [PM Project Opening Year 2024 100% Crossing Utilisation (Network Folder: General)]

Existing Signalized Pedestrian Crossing
Opening Year 2024 100% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	303	10.9	303	10.9	0.344	8.7	LOS A	2.5	17.2	0.71	0.61	0.71	11.1
Approach		303	10.9	303	10.9	0.344	8.7	LOS A	2.5	17.2	0.71	0.61	0.71	11.1
North: Alfred St S														
8	T1	593	2.1	593	2.1	* 0.711	11.7	LOS B	6.4	45.1	0.88	0.84	0.96	24.4
Approach		593	2.1	593	2.1	0.711	11.7	LOS B	6.4	45.1	0.88	0.84	0.96	24.4
All Vehicles		896	5.1	896	5.1	0.711	10.7	LOS B	6.4	45.1	0.82	0.76	0.88	22.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	407	14.7	LOS B	0.4	0.4	0.86	0.86	175.2	208.6	1.19
All Pedestrians		407	14.7	LOS B	0.4	0.4	0.86	0.86	175.2	208.6	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Burton St (Site Folder: Project Opening Year 2024 100% Crossing Utilisation)]

Network: N101 [PM Project Opening Year 2024 100% Crossing Utilisation (Network Folder: General)]

Alfred St / Burton St Intersection
Opening Year 2024 100% Crossing Utilisation PM Peak hour
Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	244	13.5	244	13.5	0.145	0.0	LOS A	0.0	0.1	0.02	0.01	0.02	39.4
3	R2	3	0.0	3	0.0	0.145	5.3	LOS A	0.0	0.1	0.02	0.01	0.02	38.7
Approach		247	13.3	247	13.3	0.145	0.1	NA	0.0	0.1	0.02	0.01	0.02	39.4
East: Burton St														
4	L2	8	12.3	8	12.3	0.094	4.7	LOS A	0.1	0.4	0.48	0.55	0.48	25.2
6	R2	59	0.0	59	0.0	0.094	3.9	LOS A	0.1	0.4	0.48	0.55	0.48	18.2
Approach		67	1.5	67	1.5	0.094	4.0	LOS A	0.1	0.4	0.48	0.55	0.48	19.4
North: Alfred St S														
7	L2	46	2.2	46	2.2	0.211	2.5	LOS A	0.0	0.0	0.00	0.05	0.00	38.0
8	T1	385	1.9	385	1.9	0.211	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	36.1
Approach		432	1.9	432	1.9	0.211	0.3	NA	0.0	0.0	0.00	0.05	0.00	36.3
All Vehicles		746	5.7	746	5.7	0.211	0.6	NA	0.1	0.4	0.05	0.08	0.05	34.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

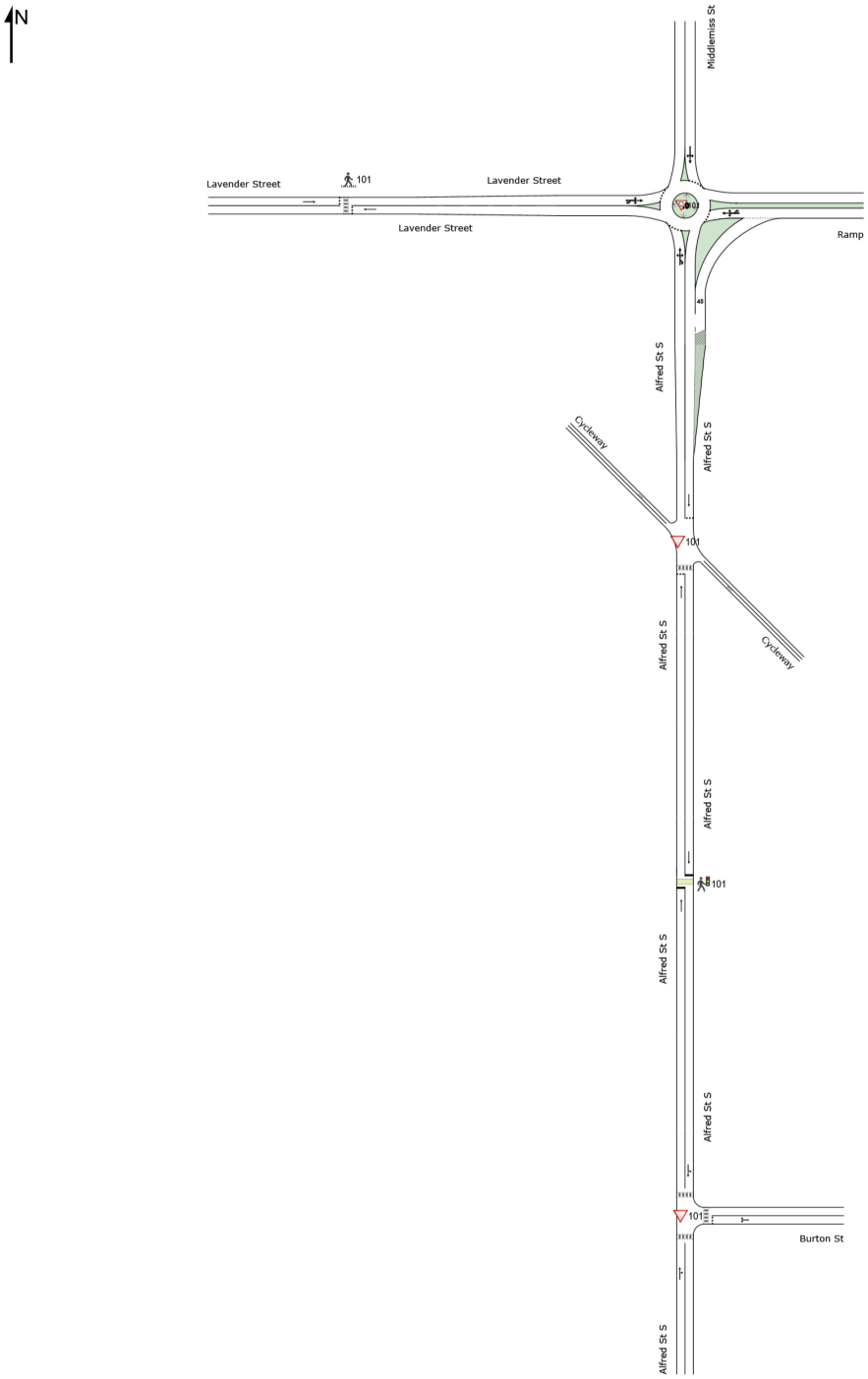
Appendix G – Opening Year 2024 SIDRA Layout and Results (70% Crossing Utilisation)

NETWORK LAYOUT

Network: N101 [AM Project Opening Year 2024 70% Crossing Utilisation (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	AM Alfred St / Lavender St
101	NA	AM Alfred St / Lavender St Zebra Crossing

101	NA	AM Proposed Crossing
101	NA	AM Existing Signalized Pedestrian Crossing
101	NA	AM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St (Site Folder: Project Opening Year 2024 70% Crossing Utilisation)]

Network: N101 [AM Project Opening Year 2024 70% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Opening Year 2024 70% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Roundabout
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	174	5.3	174	5.3	0.544	3.7	LOS A	1.1	7.6	0.50	0.59	0.50	20.7
2	T1	12	0.0	12	0.0	0.544	1.3	LOS A	1.1	7.6	0.50	0.59	0.50	20.2
3	R2	215	15.3	215	15.3	0.544	6.8	LOS A	1.1	7.6	0.50	0.59	0.50	25.7
3u	U	9	0.0	9	0.0	0.544	8.1	LOS A	1.1	7.6	0.50	0.59	0.50	20.7
Approach		410	10.3	410	10.3	0.544	5.3	LOS A	1.1	7.6	0.50	0.59	0.50	23.6
East: Ramp														
4	L2	289	7.1	289	7.1	0.347	2.8	LOS A	1.2	8.4	0.55	0.53	0.55	21.1
5	T1	176	2.3	176	2.3	0.347	6.9	LOS A	1.2	8.4	0.55	0.53	0.55	21.1
6	R2	1	0.0	1	0.0	0.347	3.3	LOS A	1.2	8.4	0.55	0.53	0.55	22.4
6u	U	1	0.0	1	0.0	0.347	11.8	LOS B	1.2	8.4	0.55	0.53	0.55	25.6
Approach		468	5.3	468	5.3	0.347	4.4	LOS A	1.2	8.4	0.55	0.53	0.55	21.1
North: Middlemiss St														
7	L2	7	0.0	7	0.0	0.078	7.2	LOS A	0.2	0.8	0.65	0.63	0.65	27.0
8	T1	45	2.3	45	2.3	0.078	5.4	LOS A	0.2	0.8	0.65	0.63	0.65	26.9
9	R2	3	0.0	3	0.0	0.078	10.5	LOS B	0.2	0.8	0.65	0.63	0.65	26.9
Approach		55	1.9	55	1.9	0.078	5.9	LOS A	0.2	0.8	0.65	0.63	0.65	27.0
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.392	1.6	LOS A	1.0	7.8	0.55	0.68	0.55	19.5
11	T1	52	4.0	51	4.0	0.392	3.4	LOS A	1.0	7.8	0.55	0.68	0.55	26.9
12	R2	312	16.5	308	16.5	0.392	6.1	LOS A	1.0	7.8	0.55	0.68	0.55	16.6
12u	U	10	0.0	10	0.0	0.392	7.5	LOS A	1.0	7.8	0.55	0.68	0.55	16.6
Approach		374	14.3	371 N1	14.3	0.392	5.8	LOS A	1.0	7.8	0.55	0.68	0.55	18.8
All Vehicles		1307	9.3	1303 N1	9.3	0.544	5.1	LOS A	1.2	8.4	0.54	0.60	0.54	22.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St Zebra Crossing (Site Folder: Project Opening Year 2024 70% Crossing Utilisation)]

Network: N101 [AM Project Opening Year 2024 70% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Opening Year 2024 70% Crossing UtilisationAM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Unsignalised)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	364	3.7	364	3.7	0.621	9.0	LOS A	1.3	9.0	0.71	1.00	1.15	31.2
Approach		364	3.7	364	3.7	0.621	9.0	LOS A	1.3	9.0	0.71	1.00	1.15	31.2
West: Lavender Street														
2	T1	371	14.4	371	14.4	1.080	108.9	LOS F[11]	13.5	103.9	1.00	3.34	6.05	6.4
Approach		371	14.4	371	14.4	1.080	108.9	LOS F[11]	13.5	103.9	1.00	3.34	6.05	6.4
All Vehicles		735	9.1	735	9.1	1.080	59.5	NA	13.5	103.9	0.85	2.18	3.63	10.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

MOVEMENT SUMMARY

Site: 101 [AM Proposed Crossing (Site Folder: Project Opening Year 2024 70% Crossing Utilisation)]

Network: N101 [AM Project Opening Year 2024 70% Crossing Utilisation (Network Folder: General)]

Proposed Crossing
Opening Year 2024 70% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	372	11.1	372	11.1	0.344	3.0	LOS A	0.6	4.1	0.27	0.42	0.27	33.6
Approach		372	11.1	372	11.1	0.344	3.0	LOS A	0.6	4.1	0.27	0.42	0.27	33.6
SouthEast: Cycleway														
22	T1	33	0.0	33	0.0	0.005	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		33	0.0	33	0.0	0.005	0.0	NA	0.0	0.0	0.00	0.00	0.00	20.0
North: Alfred St S														
8	T1	657	11.1	657	11.1	0.609	4.4	LOS A	2.4	17.9	0.48	0.58	0.58	21.9
Approach		657	11.1	657	11.1	0.609	4.4	LOS A	2.4	17.9	0.48	0.58	0.58	21.9
NorthWest: Cycleway														
28	T1	49	0.0	49	0.0	0.008	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		49	0.0	49	0.0	0.008	0.0	NA	0.0	0.0	0.00	0.00	0.00	20.0
All Vehicles		1111	10.3	1111	10.3	0.609	3.6	NA	2.4	17.9	0.37	0.49	0.43	24.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [AM Existing Signalized Pedestrian Crossing (Site Folder: Project Opening Year 2024 70% Crossing Utilisation)]

Network: N101 [AM Project Opening Year 2024 70% Crossing Utilisation (Network Folder: General)]

Existing Signalized Pedestrian Crossing
Opening Year 2024 100% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	372	11.1	372	11.1	0.444	9.1	LOS A	3.3	23.3	0.75	0.64	0.75	10.8
Approach		372	11.1	372	11.1	0.444	9.1	LOS A	3.3	23.3	0.75	0.64	0.75	10.8
North: Alfred St S														
8	T1	657	11.1	657	11.1	* 0.809	15.5	LOS B	8.5	62.3	0.94	1.01	1.17	21.6
Approach		657	11.1	657	11.1	0.809	15.5	LOS B	8.5	62.3	0.94	1.01	1.17	21.6
All Vehicles		1028	11.1	1028	11.1	0.809	13.2	LOS B	8.5	62.3	0.87	0.88	1.02	19.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	468	14.7	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19
All Pedestrians		468	14.7	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Burton St (Site Folder: Project Opening Year 2024 70% Crossing Utilisation)]

Network: N101 [AM Project Opening Year 2024 70% Crossing Utilisation (Network Folder: General)]

Alfred St / Burton St Intersection
Opening Year 2024 70% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	307	12.7	307	12.7	0.262	0.2	LOS A	0.1	0.4	0.05	0.01	0.05	38.5
3	R2	8	0.0	8	0.0	0.262	6.7	LOS A	0.1	0.4	0.05	0.01	0.05	37.7
Approach		315	12.4	315	12.4	0.262	0.3	NA	0.1	0.4	0.05	0.01	0.05	38.4
East: Burton St														
4	L2	17	0.0	17	0.0	0.203	5.4	LOS A	0.2	1.0	0.60	0.72	0.60	25.1
6	R2	65	3.2	65	3.2	0.203	7.5	LOS A	0.2	1.0	0.60	0.72	0.60	18.2
Approach		81	2.5	81	2.5	0.203	7.1	LOS A	0.2	1.0	0.60	0.72	0.60	20.1
North: Alfred St S														
7	L2	107	1.0	107	1.0	0.331	2.5	LOS A	0.0	0.0	0.00	0.07	0.00	36.6
8	T1	546	12.8	546	12.8	0.331	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	34.5
Approach		653	10.9	653	10.9	0.331	0.4	NA	0.0	0.0	0.00	0.07	0.00	34.8
All Vehicles		1050	10.7	1050	10.7	0.331	0.9	NA	0.2	1.0	0.06	0.10	0.06	33.9

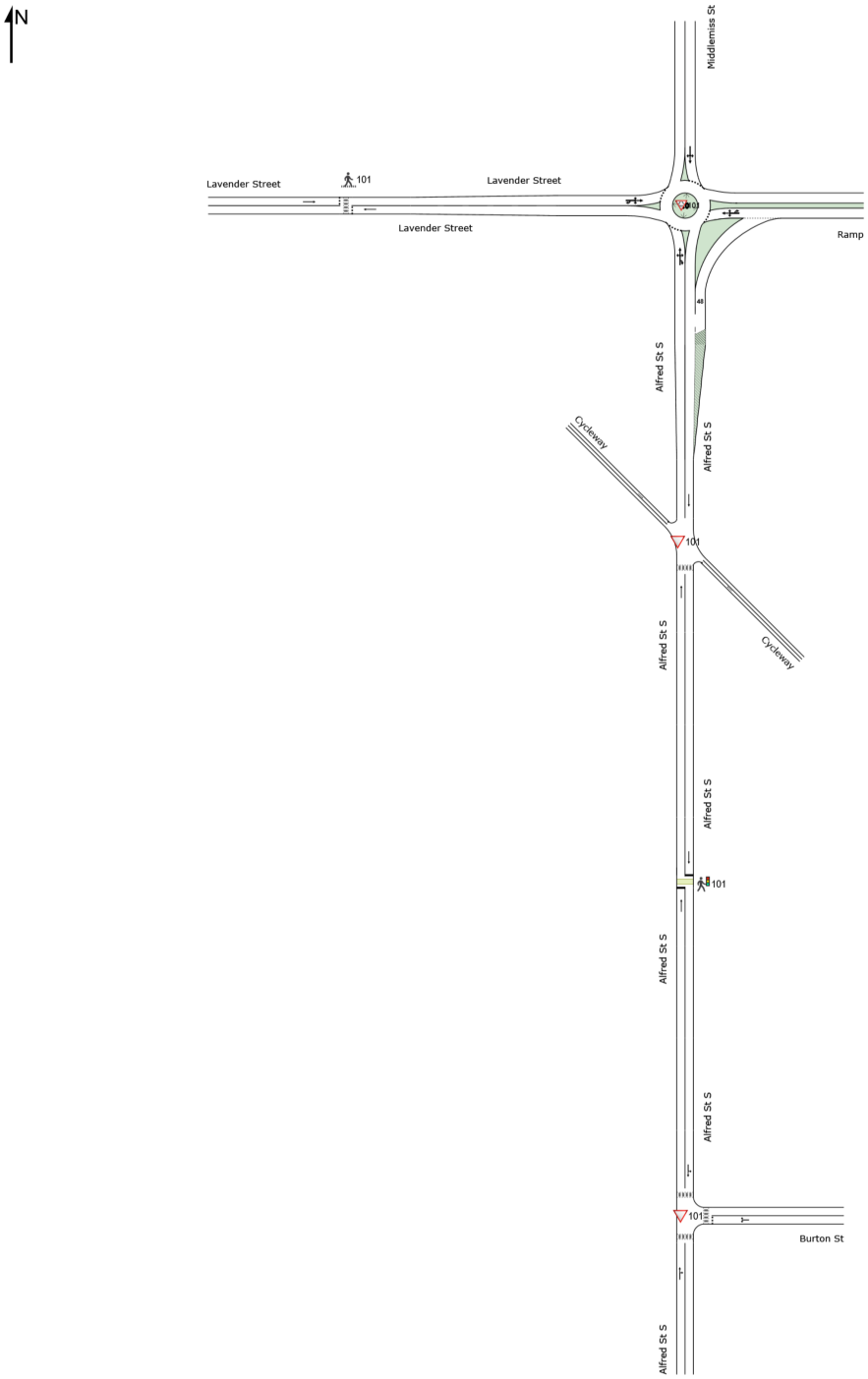
Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

NETWORK LAYOUT

Network: N101 [PM Project Opening Year 2024 70% Crossing Utilisation (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	PM Alfred St / Lavender St
101	NA	PM Alfred St / Lavender St Zebra Crossing

101	NA	PM Proposed Crossing
101	NA	PM Existing Signalized Pedestrian Crossing
101	NA	PM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St (Site Folder: Project Opening Year 2024 70% Crossing Utilisation)]

Network: N101 [PM Project Opening Year 2024 70% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Opening Year 2024 70% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Roundabout
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	161	1.3	161	1.3	0.569	3.6	LOS A	1.2	8.1	0.52	0.59	0.52	20.3
2	T1	20	0.0	20	0.0	0.569	1.4	LOS A	1.2	8.1	0.52	0.59	0.52	20.1
3	R2	258	11.6	258	11.6	0.569	6.5	LOS A	1.2	8.1	0.52	0.59	0.52	25.4
3u	U	22	0.0	22	0.0	0.569	8.2	LOS A	1.2	8.1	0.52	0.59	0.52	20.3
Approach		461	6.9	461	6.9	0.569	5.4	LOS A	1.2	8.1	0.52	0.59	0.52	23.3
East: Ramp														
4	L2	282	0.7	282	0.7	0.335	2.3	LOS A	1.1	7.7	0.51	0.49	0.51	21.6
5	T1	185	1.1	185	1.1	0.335	6.3	LOS A	1.1	7.7	0.51	0.49	0.51	21.6
6	R2	1	0.0	1	0.0	0.335	2.8	LOS A	1.1	7.7	0.51	0.49	0.51	22.6
6u	U	1	0.0	1	0.0	0.335	11.2	LOS B	1.1	7.7	0.51	0.49	0.51	26.0
Approach		470	0.9	470	0.9	0.335	3.9	LOS A	1.1	7.7	0.51	0.49	0.51	21.6
North: Middlemiss St														
7	L2	12	0.0	12	0.0	0.053	6.9	LOS A	0.1	0.6	0.62	0.63	0.62	30.1
8	T1	19	0.0	19	0.0	0.053	5.3	LOS A	0.1	0.6	0.62	0.63	0.62	30.5
9	R2	5	0.0	5	0.0	0.053	10.2	LOS B	0.1	0.6	0.62	0.63	0.62	30.5
Approach		36	0.0	36	0.0	0.053	6.5	LOS A	0.1	0.6	0.62	0.63	0.62	30.4
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.340	1.9	LOS A	0.8	6.0	0.56	0.70	0.56	19.4
11	T1	43	2.4	43	2.4	0.340	3.6	LOS A	0.8	6.0	0.56	0.70	0.56	26.7
12	R2	270	3.8	270	3.8	0.340	6.2	LOS A	0.8	6.0	0.56	0.70	0.56	16.4
12u	U	6	0.0	6	0.0	0.340	7.7	LOS A	0.8	6.0	0.56	0.70	0.56	16.4
Approach		321	3.5	321	3.5	0.340	5.9	LOS A	0.8	6.0	0.56	0.70	0.56	18.6
All Vehicles		1288	3.7	1288	3.7	0.569	5.0	LOS A	1.2	8.1	0.53	0.58	0.53	22.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St Zebra Crossing (Site Folder: Project Opening Year 2024 70% Crossing Utilisation)]

Network: N101 [PM Project Opening Year 2024 70% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Opening Year 2024 70% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Unsignalised)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	358	1.2	358	1.2	0.608	8.8	LOS A	1.3	9.0	0.70	0.99	1.13	31.3
Approach		358	1.2	358	1.2	0.608	8.8	LOS A	1.3	9.0	0.70	0.99	1.13	31.3
West: Lavender Street														
2	T1	319	3.5	319	3.5	0.715	13.1	LOS B	2.2	16.1	0.66	1.09	1.28	27.4
Approach		319	3.5	319	3.5	0.715	13.1	LOS B	2.2	16.1	0.66	1.09	1.28	27.4
All Vehicles		677	2.3	677	2.3	0.715	10.8	NA	2.2	16.1	0.68	1.04	1.20	29.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Proposed Crossing (Site Folder: Project Opening Year 2024 70% Crossing Utilisation)]

Network: N101 [PM Project Opening Year 2024 70% Crossing Utilisation (Network Folder: General)]

Proposed Crossing
Opening Year 2024 70% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	306	10.8	306	10.8	0.319	1.3	LOS A	0.6	4.4	0.30	0.19	0.30	35.6
Approach		306	10.8	306	10.8	0.319	1.3	NA	0.6	4.4	0.30	0.19	0.30	35.6
SouthEast: Cycleway														
22	T1	60	0.0	60	0.0	0.010	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		60	0.0	60	0.0	0.010	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
North: Alfred St S														
8	T1	594	2.1	594	2.1	0.589	2.6	LOS A	2.7	18.6	0.52	0.38	0.59	26.8
Approach		594	2.1	594	2.1	0.589	2.6	NA	2.7	18.6	0.52	0.38	0.59	26.8
NorthWest: Cycleway														
28	T1	38	0.0	38	0.0	0.006	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		38	0.0	38	0.0	0.006	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
All Vehicles		998	4.5	998	4.5	0.589	2.0	NA	2.7	18.6	0.40	0.29	0.44	24.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Existing Signalized Pedestrian Crossing (Site Folder: Project Opening Year 2024 70% Crossing Utilisation)]

Network: N101 [PM Project Opening Year 2024 70% Crossing Utilisation (Network Folder: General)]

Existing Signalized Pedestrian Crossing
Opening Year 2024 70% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	303	10.9	303	10.9	0.344	8.7	LOS A	2.5	17.2	0.71	0.61	0.71	11.1
Approach		303	10.9	303	10.9	0.344	8.7	LOS A	2.5	17.2	0.71	0.61	0.71	11.1
North: Alfred St S														
8	T1	593	2.1	593	2.1	* 0.711	11.7	LOS B	6.4	45.1	0.88	0.84	0.96	24.4
Approach		593	2.1	593	2.1	0.711	11.7	LOS B	6.4	45.1	0.88	0.84	0.96	24.4
All Vehicles		896	5.1	896	5.1	0.711	10.7	LOS B	6.4	45.1	0.82	0.76	0.88	22.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	407	14.7	LOS B	0.4	0.4	0.86	0.86	175.2	208.6	1.19
All Pedestrians		407	14.7	LOS B	0.4	0.4	0.86	0.86	175.2	208.6	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Burton St (Site Folder: Project Opening Year 2024 70% Crossing Utilisation)]

Network: N101 [PM Project Opening Year 2024 70% Crossing Utilisation (Network Folder: General)]

Alfred St / Burton St Intersection
Opening Year 2024 70% Crossing Utilisation PM Peak hour
Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	244	13.5	244	13.5	0.145	0.0	LOS A	0.0	0.1	0.02	0.01	0.02	39.4
3	R2	3	0.0	3	0.0	0.145	5.3	LOS A	0.0	0.1	0.02	0.01	0.02	38.7
Approach		247	13.3	247	13.3	0.145	0.1	NA	0.0	0.1	0.02	0.01	0.02	39.4
East: Burton St														
4	L2	8	12.3	8	12.3	0.094	4.7	LOS A	0.1	0.4	0.48	0.55	0.48	25.2
6	R2	59	0.0	59	0.0	0.094	3.9	LOS A	0.1	0.4	0.48	0.55	0.48	18.2
Approach		67	1.5	67	1.5	0.094	4.0	LOS A	0.1	0.4	0.48	0.55	0.48	19.4
North: Alfred St S														
7	L2	46	2.2	46	2.2	0.211	2.5	LOS A	0.0	0.0	0.00	0.05	0.00	38.0
8	T1	385	1.9	385	1.9	0.211	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	36.1
Approach		432	1.9	432	1.9	0.211	0.3	NA	0.0	0.0	0.00	0.05	0.00	36.3
All Vehicles		746	5.7	746	5.7	0.211	0.6	NA	0.1	0.4	0.05	0.08	0.05	34.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

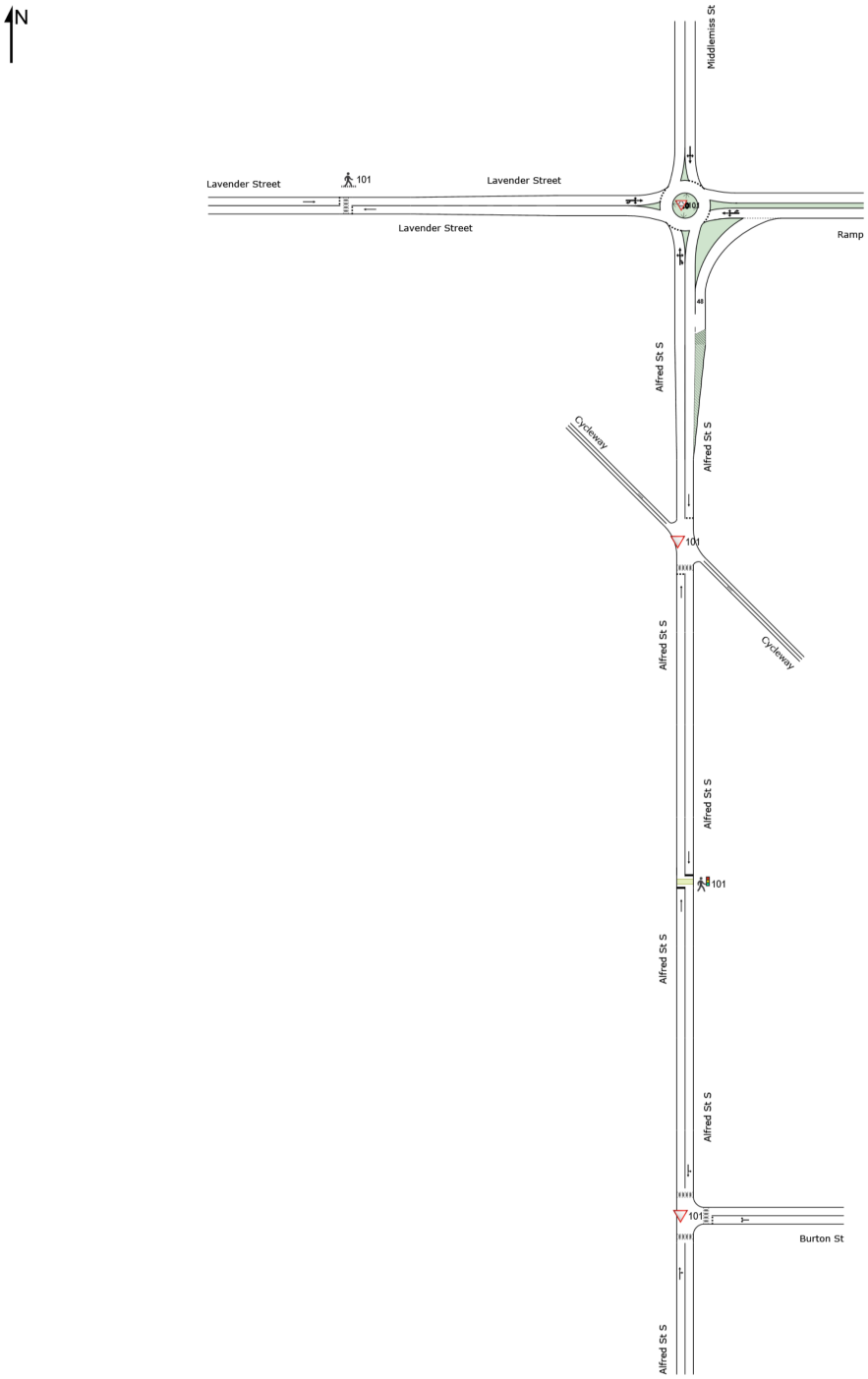
Appendix H – Opening Year 2024 SIDRA Layout and Results (40% Crossing Utilisation)

NETWORK LAYOUT

Network: N101 [AM Project Opening Year 2024 40% Crossing Utilisation (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	AM Alfred St / Lavender St
101	NA	AM Alfred St / Lavender St Zebra Crossing

101	NA	AM Proposed Crossing
101	NA	AM Existing Signalized Pedestrian Crossing
101	NA	AM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St (Site Folder: Project Opening Year 2024 40% Crossing Utilisation)]

Network: N101 [AM Project Opening Year 2024 40% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Opening Year 2024 40% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Roundabout
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	174	5.3	174	5.3	0.553	3.7	LOS A	1.1	7.8	0.51	0.58	0.51	20.6
2	T1	23	0.0	23	0.0	0.553	1.3	LOS A	1.1	7.8	0.51	0.58	0.51	20.1
3	R2	215	15.3	215	15.3	0.553	6.8	LOS A	1.1	7.8	0.51	0.58	0.51	25.6
3u	U	9	0.0	9	0.0	0.553	8.1	LOS A	1.1	7.8	0.51	0.58	0.51	20.6
Approach		421	10.0	421	10.0	0.553	5.2	LOS A	1.1	7.8	0.51	0.58	0.51	23.2
East: Ramp														
4	L2	289	7.1	289	7.1	0.352	3.1	LOS A	1.2	8.7	0.57	0.55	0.57	20.8
5	T1	176	2.3	176	2.3	0.352	7.1	LOS A	1.2	8.7	0.57	0.55	0.57	20.8
6	R2	1	0.0	1	0.0	0.352	3.5	LOS A	1.2	8.7	0.57	0.55	0.57	22.3
6u	U	1	0.0	1	0.0	0.352	12.0	LOS B	1.2	8.7	0.57	0.55	0.57	25.3
Approach		468	5.3	468	5.3	0.352	4.6	LOS A	1.2	8.7	0.57	0.55	0.57	20.8
North: Middlemiss St														
7	L2	7	0.0	7	0.0	0.118	7.4	LOS A	0.3	1.0	0.67	0.64	0.67	24.1
8	T1	75	1.4	75	1.4	0.118	5.0	LOS A	0.3	1.0	0.67	0.64	0.67	23.8
9	R2	3	0.0	3	0.0	0.118	10.7	LOS B	0.3	1.0	0.67	0.64	0.67	23.8
Approach		85	1.2	85	1.2	0.118	5.4	LOS A	0.3	1.0	0.67	0.64	0.67	23.8
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.408	1.7	LOS A	1.1	8.1	0.57	0.68	0.57	19.4
11	T1	52	4.0	51	4.0	0.408	3.4	LOS A	1.1	8.1	0.57	0.68	0.57	26.7
12	R2	329	15.7	328	15.7	0.408	6.1	LOS A	1.1	8.1	0.57	0.68	0.57	16.4
12u	U	10	0.0	10	0.0	0.408	7.6	LOS A	1.1	8.1	0.57	0.68	0.57	16.4
Approach		392	13.7	391 N1	13.7	0.408	5.8	LOS A	1.1	8.1	0.57	0.68	0.57	18.5
All Vehicles		1365	8.9	1365	8.9	0.553	5.2	LOS A	1.2	8.7	0.56	0.61	0.56	21.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St Zebra Crossing (Site Folder: Project Opening Year 2024 40% Crossing Utilisation)]

Network: N101 [AM Project Opening Year 2024 40% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Opening Year 2024 40% Crossing UtilisationAM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Unsignalised)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	364	3.7	364	3.7	0.576	7.1	LOS A	1.3	9.0	0.64	0.86	0.94	33.5
Approach		364	3.7	364	3.7	0.576	7.1	LOS A	1.3	9.0	0.64	0.86	0.94	33.5
West: Lavender Street														
2	T1	386	13.9	386	13.9	1.095	117.9	LOS F[11]	15.2	114.1	1.00	3.43	5.90	5.9
Approach		386	13.9	386	13.9	1.095	117.9	LOS F[11]	15.2	114.1	1.00	3.43	5.90	5.9
All Vehicles		750	8.9	750	8.9	1.095	64.2	NA	15.2	114.1	0.83	2.19	3.49	10.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

MOVEMENT SUMMARY

Site: 101 [AM Proposed Crossing (Site Folder: Project Opening Year 2024 40% Crossing Utilisation)]

Network: N101 [AM Project Opening Year 2024 40% Crossing Utilisation (Network Folder: General)]

Proposed Crossing
Opening Year 2024 40% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	372	11.1	372	11.1	0.344	3.0	LOS A	0.6	4.1	0.27	0.42	0.27	33.6
Approach		372	11.1	372	11.1	0.344	3.0	LOS A	0.6	4.1	0.27	0.42	0.27	33.6
SouthEast: Cycleway														
22	T1	37	0.0	37	0.0	0.006	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		37	0.0	37	0.0	0.006	0.0	NA	0.0	0.0	0.00	0.00	0.00	20.0
North: Alfred St S														
8	T1	609	12.0	609	12.0	0.566	4.1	LOS A	2.0	15.1	0.45	0.55	0.52	22.8
Approach		609	12.0	609	12.0	0.566	4.1	LOS A	2.0	15.1	0.45	0.55	0.52	22.8
NorthWest: Cycleway														
28	T1	43	0.0	43	0.0	0.007	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		43	0.0	43	0.0	0.007	0.0	NA	0.0	0.0	0.00	0.00	0.00	20.0
All Vehicles		1060	10.8	1060	10.8	0.566	3.4	NA	2.0	15.1	0.35	0.47	0.39	24.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [AM Existing Signalized Pedestrian Crossing (Site Folder: Project Opening Year 2024 40% Crossing Utilisation)]

Network: N101 [AM Project Opening Year 2024 40% Crossing Utilisation (Network Folder: General)]

Existing Signalized Pedestrian Crossing
Opening Year 2024 40% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	372	11.1	372	11.1	0.444	9.1	LOS A	3.3	23.3	0.75	0.64	0.75	10.8
Approach		372	11.1	372	11.1	0.444	9.1	LOS A	3.3	23.3	0.75	0.64	0.75	10.8
North: Alfred St S														
8	T1	706	10.4	706	10.4	* 0.827	16.3	LOS B	9.4	66.0	0.95	1.05	1.21	21.1
Approach		706	10.4	706	10.4	0.827	16.3	LOS B	9.4	66.0	0.95	1.05	1.21	21.1
All Vehicles		1077	10.6	1077	10.6	0.827	13.8	LOS B	9.4	66.0	0.88	0.91	1.05	19.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	468	14.7	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19
All Pedestrians		468	14.7	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Burton St (Site Folder: Project Opening Year 2024 40% Crossing Utilisation)]

Network: N101 [AM Project Opening Year 2024 40% Crossing Utilisation (Network Folder: General)]

Alfred St / Burton St Intersection
Opening Year 2024 40% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	307	12.7	307	12.7	0.262	0.2	LOS A	0.1	0.4	0.05	0.01	0.05	38.5
3	R2	8	0.0	8	0.0	0.262	6.7	LOS A	0.1	0.4	0.05	0.01	0.05	37.7
Approach		315	12.4	315	12.4	0.262	0.3	NA	0.1	0.4	0.05	0.01	0.05	38.4
East: Burton St														
4	L2	17	0.0	17	0.0	0.203	5.4	LOS A	0.2	1.0	0.60	0.72	0.60	25.1
6	R2	65	3.2	65	3.2	0.203	7.5	LOS A	0.2	1.0	0.60	0.72	0.60	18.2
Approach		81	2.5	81	2.5	0.203	7.1	LOS A	0.2	1.0	0.60	0.72	0.60	20.1
North: Alfred St S														
7	L2	107	1.0	107	1.0	0.331	2.5	LOS A	0.0	0.0	0.00	0.07	0.00	36.6
8	T1	546	12.8	546	12.8	0.331	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	34.5
Approach		653	10.9	653	10.9	0.331	0.4	NA	0.0	0.0	0.00	0.07	0.00	34.8
All Vehicles		1050	10.7	1050	10.7	0.331	0.9	NA	0.2	1.0	0.06	0.10	0.06	33.9

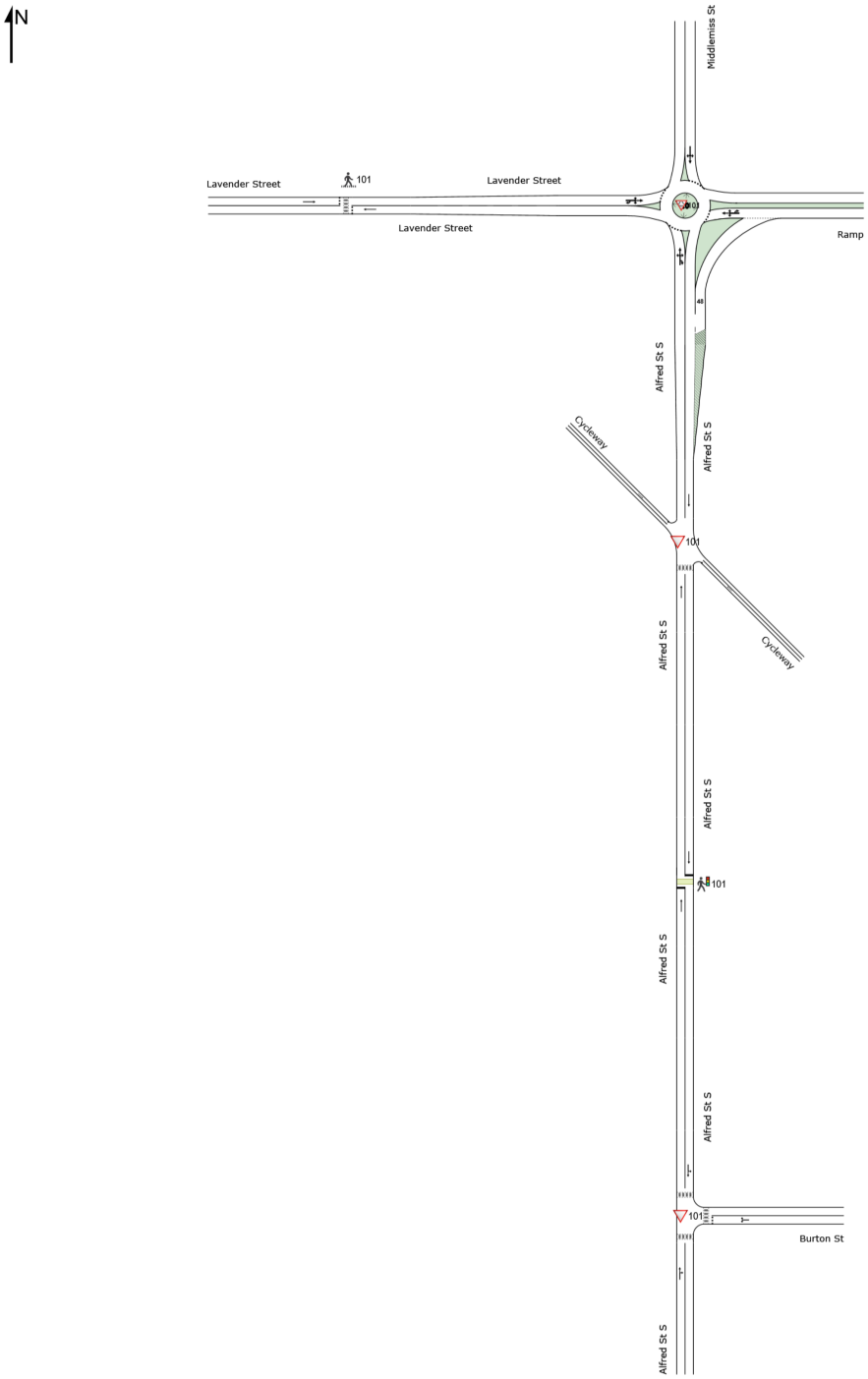
Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

NETWORK LAYOUT

Network: N101 [PM Project Opening Year 2024 40% Crossing Utilisation (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	PM Alfred St / Lavender St
101	NA	PM Alfred St / Lavender St Zebra Crossing

101	NA	PM Proposed Crossing
101	NA	PM Existing Signalized Pedestrian Crossing
101	NA	PM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St (Site Folder: Project Opening Year 2024 40% Crossing Utilisation)]

Network: N101 [PM Project Opening Year 2024 40% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Opening Year 2024 PM Peak hour

Site Category: Future Conditions 1
Roundabout
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	161	1.3	161	1.3	0.585	3.6	LOS A	1.3	8.4	0.53	0.59	0.53	20.1
2	T1	41	0.0	41	0.0	0.585	1.4	LOS A	1.3	8.4	0.53	0.59	0.53	20.0
3	R2	258	11.6	258	11.6	0.585	6.6	LOS A	1.3	8.4	0.53	0.59	0.53	25.2
3u	U	22	0.0	22	0.0	0.585	8.2	LOS A	1.3	8.4	0.53	0.59	0.53	20.1
Approach		482	6.6	482	6.6	0.585	5.2	LOS A	1.3	8.4	0.53	0.59	0.53	22.8
East: Ramp														
4	L2	282	0.7	282	0.7	0.336	2.4	LOS A	1.1	7.8	0.52	0.49	0.52	21.5
5	T1	185	1.1	185	1.1	0.336	6.4	LOS A	1.1	7.8	0.52	0.49	0.52	21.5
6	R2	1	0.0	1	0.0	0.336	2.8	LOS A	1.1	7.8	0.52	0.49	0.52	22.6
6u	U	1	0.0	1	0.0	0.336	11.3	LOS B	1.1	7.8	0.52	0.49	0.52	26.0
Approach		470	0.9	470	0.9	0.336	4.0	LOS A	1.1	7.8	0.52	0.49	0.52	21.6
North: Middlemiss St														
7	L2	12	0.0	12	0.0	0.068	7.0	LOS A	0.1	0.7	0.63	0.62	0.63	27.0
8	T1	30	0.0	30	0.0	0.068	4.7	LOS A	0.1	0.7	0.63	0.62	0.63	27.2
9	R2	5	0.0	5	0.0	0.068	10.3	LOS B	0.1	0.7	0.63	0.62	0.63	27.2
Approach		48	0.0	48	0.0	0.068	5.9	LOS A	0.1	0.7	0.63	0.62	0.63	27.2
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.341	2.0	LOS A	0.9	6.1	0.57	0.70	0.57	19.4
11	T1	43	2.4	43	2.4	0.341	3.7	LOS A	0.9	6.1	0.57	0.70	0.57	26.5
12	R2	275	3.7	275	3.7	0.341	6.3	LOS A	0.9	6.1	0.57	0.70	0.57	16.3
12u	U	6	0.0	6	0.0	0.341	7.8	LOS A	0.9	6.1	0.57	0.70	0.57	16.3
Approach		325	3.5	325	3.5	0.341	6.0	LOS A	0.9	6.1	0.57	0.70	0.57	18.4
All Vehicles		1324	3.6	1324	3.6	0.585	5.0	LOS A	1.3	8.4	0.54	0.58	0.54	22.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St Zebra Crossing (Site Folder: Project Opening Year 2024 40% Crossing Utilisation)]

Network: N101 [PM Project Opening Year 2024 40% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Opening Year 2024 PM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Unsignalised)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	358	1.2	358	1.2	0.580	7.6	LOS A	1.3	9.0	0.66	0.90	1.00	32.7
Approach		358	1.2	358	1.2	0.580	7.6	LOS A	1.3	9.0	0.66	0.90	1.00	32.7
West: Lavender Street														
2	T1	323	3.5	323	3.5	0.699	11.9	LOS B	2.2	15.3	0.63	1.01	1.16	28.5
Approach		323	3.5	323	3.5	0.699	11.9	LOS B	2.2	15.3	0.63	1.01	1.16	28.5
All Vehicles		681	2.3	681	2.3	0.699	9.7	NA	2.2	15.3	0.65	0.96	1.07	30.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Proposed Crossing (Site Folder: Project Opening Year 2024 40% Crossing Utilisation)]

Network: N101 [PM Project Opening Year 2024 40% Crossing Utilisation (Network Folder: General)]

Proposed Crossing
Opening Year 2024 PM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	306	10.8	306	10.8	0.311	1.1	LOS A	0.6	4.3	0.28	0.16	0.28	36.0
Approach		306	10.8	306	10.8	0.311	1.1	NA	0.6	4.3	0.28	0.16	0.28	36.0
SouthEast: Cycleway														
22	T1	40	0.0	40	0.0	0.006	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		40	0.0	40	0.0	0.006	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
North: Alfred St S														
8	T1	610	2.0	610	2.0	0.591	2.1	LOS A	2.5	17.1	0.49	0.32	0.53	28.6
Approach		610	2.0	610	2.0	0.591	2.1	NA	2.5	17.1	0.49	0.32	0.53	28.6
NorthWest: Cycleway														
28	T1	22	0.0	22	0.0	0.003	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		22	0.0	22	0.0	0.003	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
All Vehicles		978	4.6	978	4.6	0.591	1.6	NA	2.5	17.1	0.39	0.25	0.41	26.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Existing Signalized Pedestrian Crossing (Site Folder: Project Opening Year 2024 40% Crossing Utilisation)]

Network: N101 [PM Project Opening Year 2024 40% Crossing Utilisation (Network Folder: General)]

Existing Signalized Pedestrian Crossing
Opening Year 2024 PM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	303	10.9	303	10.9	0.344	8.7	LOS A	2.5	17.2	0.71	0.61	0.71	11.1
Approach		303	10.9	303	10.9	0.344	8.7	LOS A	2.5	17.2	0.71	0.61	0.71	11.1
North: Alfred St S														
8	T1	609	2.0	609	2.0	* 0.717	11.8	LOS B	6.6	45.8	0.88	0.84	0.97	24.3
Approach		609	2.0	609	2.0	0.717	11.8	LOS B	6.6	45.8	0.88	0.84	0.97	24.3
All Vehicles		912	5.0	912	5.0	0.717	10.8	LOS B	6.6	45.8	0.83	0.76	0.88	22.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	407	14.7	LOS B	0.4	0.4	0.86	0.86	175.2	208.6	1.19
All Pedestrians		407	14.7	LOS B	0.4	0.4	0.86	0.86	175.2	208.6	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Burton St (Site Folder: Project Opening Year 2024 40% Crossing Utilisation)]

Network: N101 [PM Project Opening Year 2024 40% Crossing Utilisation (Network Folder: General)]

Alfred St / Burton St Intersection
Opening Year 2024 PM Peak hour
Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 2 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	244	13.5	244	13.5	0.145	0.0	LOS A	0.0	0.1	0.02	0.01	0.02	39.4
3	R2	3	0.0	3	0.0	0.145	5.3	LOS A	0.0	0.1	0.02	0.01	0.02	38.7
Approach		247	13.3	247	13.3	0.145	0.1	NA	0.0	0.1	0.02	0.01	0.02	39.4
East: Burton St														
4	L2	8	12.3	8	12.3	0.094	4.7	LOS A	0.1	0.4	0.48	0.55	0.48	25.2
6	R2	59	0.0	59	0.0	0.094	3.9	LOS A	0.1	0.4	0.48	0.55	0.48	18.2
Approach		67	1.5	67	1.5	0.094	4.0	LOS A	0.1	0.4	0.48	0.55	0.48	19.4
North: Alfred St S														
7	L2	46	2.2	46	2.2	0.211	2.5	LOS A	0.0	0.0	0.00	0.05	0.00	38.0
8	T1	385	1.9	385	1.9	0.211	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	36.1
Approach		432	1.9	432	1.9	0.211	0.3	NA	0.0	0.0	0.00	0.05	0.00	36.3
All Vehicles		746	5.7	746	5.7	0.211	0.6	NA	0.1	0.4	0.05	0.08	0.05	34.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

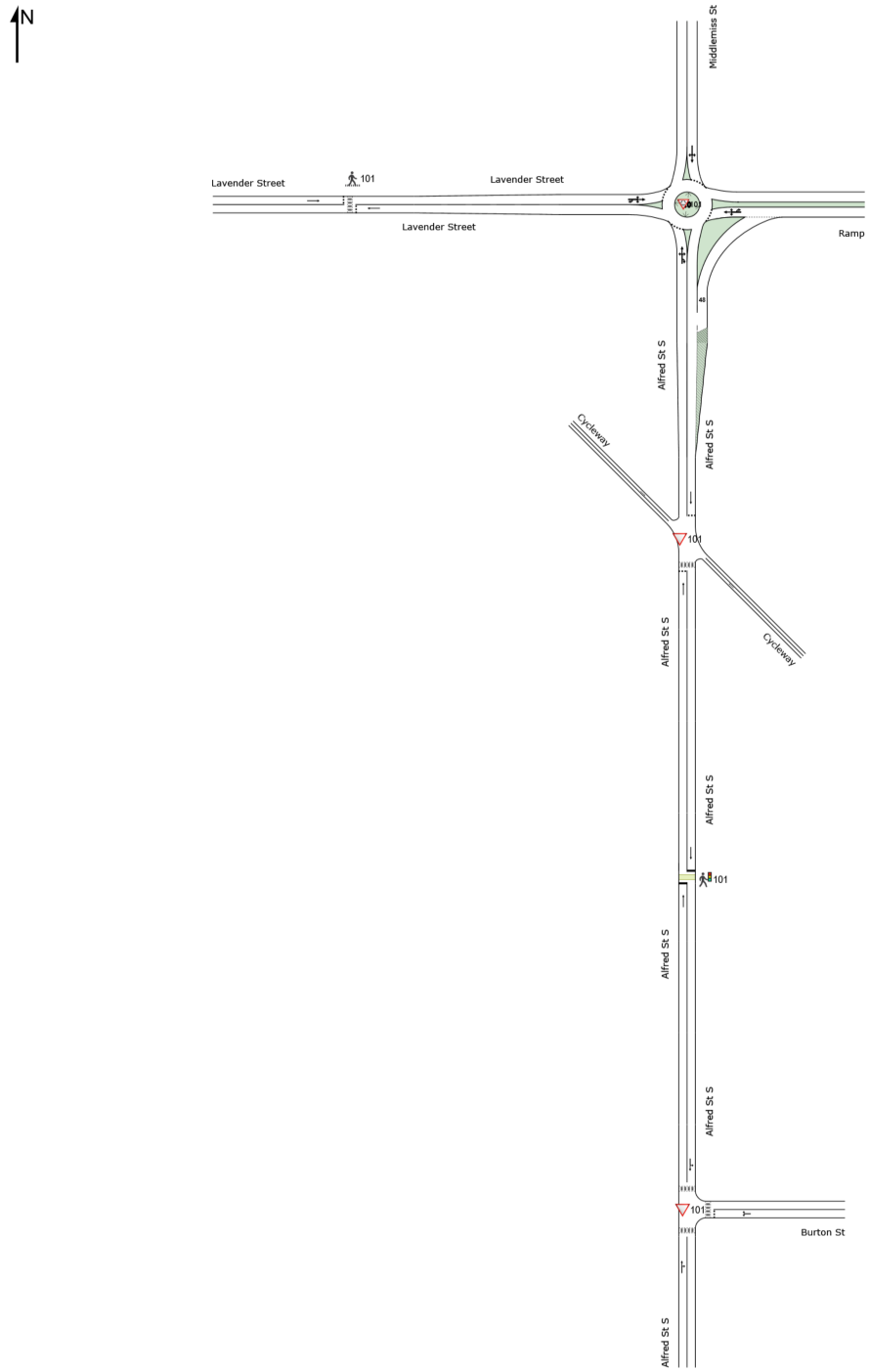
Appendix I – 2034 SIDRA Layout and Results (100% Crossing Utilisation)

NETWORK LAYOUT

Network: N101 [AM Project 2034 100% Crossing Utilisation (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	AM Alfred St / Lavender St
101	NA	AM Alfred St / Lavender St Zebra Crossing

101	NA	AM Proposed Crossing
101	NA	AM Existing Signalized Pedestrian Crossing
101	NA	AM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St (Site Folder: Project 2034 100% Crossing Utilisation)]

Network: N101 [AM Project 2034 100% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Project 2034 100% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Roundabout
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	200	5.6	200	5.6	0.629	4.2	LOS A	2.1	15.6	0.56	0.64	0.57	20.5
2	T1	1	0.0	1	0.0	0.629	1.8	LOS A	2.1	15.6	0.56	0.64	0.57	20.1
3	R2	246	15.5	246	15.5	0.629	7.4	LOS A	2.1	15.6	0.56	0.64	0.57	25.5
3u	U	11	0.0	11	0.0	0.629	8.6	LOS A	2.1	15.6	0.56	0.64	0.57	20.5
Approach		458	10.8	458	10.8	0.629	6.0	LOS A	2.1	15.6	0.56	0.64	0.57	23.7
East: Ramp														
4	L2	334	7.0	334	7.0	0.383	2.4	LOS A	2.2	15.7	0.52	0.50	0.52	21.5
5	T1	203	2.2	203	2.2	0.383	6.5	LOS A	2.2	15.7	0.52	0.50	0.52	21.5
6	R2	1	0.0	1	0.0	0.383	2.9	LOS A	2.2	15.7	0.52	0.50	0.52	22.5
6u	U	1	0.0	1	0.0	0.383	11.3	LOS B	2.2	15.7	0.52	0.50	0.52	25.9
Approach		539	5.2	539	5.2	0.383	3.9	LOS A	2.2	15.7	0.52	0.50	0.52	21.5
North: Middlemiss St														
7	L2	8	0.0	8	0.0	0.041	6.9	LOS A	0.1	0.5	0.62	0.63	0.62	36.7
8	T1	16	7.1	16	7.1	0.041	7.1	LOS A	0.1	0.5	0.62	0.63	0.62	36.2
9	R2	3	0.0	3	0.0	0.041	10.2	LOS B	0.1	0.5	0.62	0.63	0.62	36.2
Approach		27	4.2	27	4.2	0.041	7.4	LOS A	0.1	0.5	0.62	0.63	0.62	36.4
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.354	1.8	LOS A	0.9	6.7	0.56	0.69	0.56	19.4
11	T1	59	3.8	44	3.8	0.354	3.5	LOS A	0.9	6.7	0.56	0.69	0.56	26.6
12	R2	342	17.4	255	17.4	0.354	6.4	LOS A	0.9	6.7	0.56	0.69	0.56	16.4
12u	U	12	0.0	9	0.0	0.354	7.6	LOS A	0.9	6.7	0.56	0.69	0.56	16.4
Approach		414	14.9	310[N1]	14.8	0.354	6.0	LOS A	0.9	6.7	0.56	0.69	0.56	18.6
All Vehicles		1438	9.7	1333[N] [1]	10.5	0.629	5.2	LOS A	2.2	15.7	0.54	0.59	0.55	22.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St Zebra Crossing (Site Folder: Project 2034 100% Crossing Utilisation)]

Network: N101 [AM Project 2034 100% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Project 2034 100% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Unsignalised)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	418	3.8	415	3.8	0.881	25.7	LOS D	1.3	9.0	0.94	1.77	2.98	19.2
Approach		418	3.8	415[N1]	3.8	0.881	25.7	LOS D	1.3	9.0	0.94	1.77	2.98	19.2
West: Lavender Street														
2	T1	412	14.9	412	14.9	1.336	325.3	LOS F[11]	30.3	239.2	1.00	6.08	13.71	2.3
Approach		412	14.9	412	14.9	1.336	325.3	LOS F[11]	30.3	239.2	1.00	6.08	13.71	2.3
All Vehicles		830	9.3	827[N1]	9.3	1.336	175.0	NA	30.3	239.2	0.97	3.92	8.33	4.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [AM Proposed Crossing (Site Folder: Project 2034 100% Crossing Utilisation)]

Network: N101 [AM Project 2034 100% Crossing Utilisation (Network Folder: General)]

Proposed Crossing
Project 2034 100% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	428	11.0	428	11.0	0.490	4.3	LOS A	1.0	7.1	0.37	0.56	0.45	31.7
Approach		428	11.0	428	11.0	0.490	4.3	LOS A	1.0	7.1	0.37	0.56	0.45	31.7
SouthEast: Cycleway														
22	T1	63	0.0	63	0.0	0.010	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		63	0.0	63	0.0	0.010	0.0	NA	0.0	0.0	0.00	0.00	0.00	20.0
North: Alfred St S														
8	T1	702	12.0	616	11.2	0.628	5.9	LOS A	2.6	19.7	0.58	0.79	0.84	19.2
Approach		702	12.0	616[N1]	11.2	0.628	5.9	LOS A	2.6	19.7	0.58	0.79	0.84	19.2
NorthWest: Cycleway														
28	T1	159	0.0	159	0.0	0.026	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		159	0.0	159	0.0	0.026	0.0	NA	0.0	0.0	0.00	0.00	0.00	20.0
All Vehicles		1353	9.7	1266[N] [1]	10.3	0.628	4.3	NA	2.6	19.7	0.41	0.58	0.56	21.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [AM Existing Signalized Pedestrian Crossing (Site Folder: Project 2034 100% Crossing Utilisation)]

Network: N101 [AM Project 2034 100% Crossing Utilisation (Network Folder: General)]

Existing Signalized Pedestrian Crossing
Project 2034 100% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	428	11.0	428	11.0	0.511	9.4	LOS A	3.9	27.8	0.78	0.67	0.78	10.5
Approach		428	11.0	428	11.0	0.511	9.4	LOS A	3.9	27.8	0.78	0.67	0.78	10.5
North: Alfred St S														
8	T1	702	12.0	616	11.2	* 0.798	15.1	LOS B	7.8	60.0	0.93	1.00	1.15	21.9
Approach		702	12.0	616 N1	11.2	0.798	15.1	LOS B	7.8	60.0	0.93	1.00	1.15	21.9
All Vehicles		1130	11.6	1044 N1	12.5	0.798	12.8	LOS B	7.8	60.0	0.87	0.86	1.00	19.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	541	14.8	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19
All Pedestrians		541	14.8	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Burton St (Site Folder: Project 2034 100% Crossing Utilisation)]

Network: N101 [AM Project 2034 100% Crossing Utilisation (Network Folder: General)]

Alfred St / Burton St Intersection
Project 2034 100% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	354	12.7	354	12.7	0.398	0.2	LOS A	0.1	0.6	0.05	0.01	0.06	38.3
3	R2	9	0.0	9	0.0	0.398	7.0	LOS A	0.1	0.6	0.05	0.01	0.06	37.6
Approach		363	12.4	363	12.4	0.398	0.4	NA	0.1	0.6	0.05	0.01	0.06	38.3
East: Burton St														
4	L2	20	0.0	20	0.0	0.313	6.2	LOS A	0.3	1.3	0.63	0.79	0.73	23.9
6	R2	73	3.1	73	3.1	0.313	9.1	LOS A	0.3	1.3	0.63	0.79	0.73	17.0
Approach		93	2.4	93	2.4	0.313	8.5	LOS A	0.3	1.3	0.63	0.79	0.73	19.0
North: Alfred St S														
7	L2	112	1.0	108	0.9	0.334	2.5	LOS A	0.0	0.0	0.00	0.07	0.00	36.7
8	T1	631	12.8	555	12.0	0.334	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	34.5
Approach		742	11.0	662 N1	10.2	0.334	0.4	NA	0.0	0.0	0.00	0.07	0.00	34.8
All Vehicles		1198	10.7	1118 N1	11.5	0.398	1.1	NA	0.3	1.3	0.07	0.11	0.08	33.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

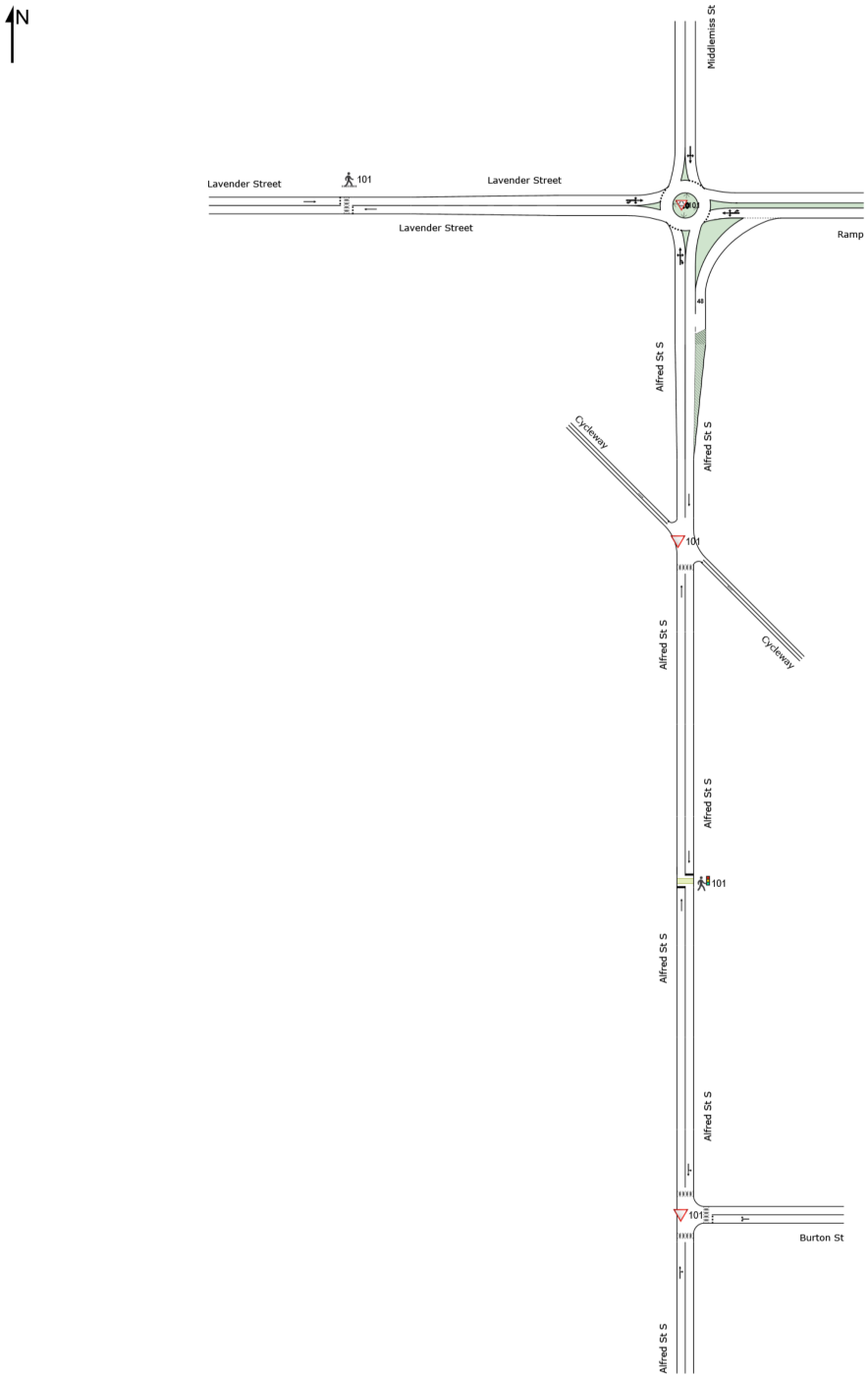
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

NETWORK LAYOUT

Network: N101 [PM Project 2034 100% Crossing Utilisation (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	PM Alfred St / Lavender St
101	NA	PM Alfred St / Lavender St Zebra Crossing

101	NA	PM Proposed Crossing
101	NA	PM Existing Signalized Pedestrian Crossing
101	NA	PM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St (Site Folder: Project 2034 100% Crossing Utilisation)]

Network: N101 [PM Project 2034 100% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Project 2034 100% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Roundabout
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	183	1.2	183	1.2	0.653	4.5	LOS A	1.6	10.8	0.59	0.66	0.62	19.8
2	T1	1	0.0	1	0.0	0.653	2.3	LOS A	1.6	10.8	0.59	0.66	0.62	19.9
3	R2	292	11.9	292	11.9	0.653	7.5	LOS A	1.6	10.8	0.59	0.66	0.62	24.9
3u	U	25	0.0	25	0.0	0.653	9.0	LOS A	1.6	10.8	0.59	0.66	0.62	19.8
Approach		501	7.4	501	7.4	0.653	6.5	LOS A	1.6	10.8	0.59	0.66	0.62	23.3
East: Ramp														
4	L2	326	0.7	326	0.7	0.391	2.7	LOS A	1.6	11.0	0.56	0.53	0.56	21.2
5	T1	214	1.0	214	1.0	0.391	6.7	LOS A	1.6	11.0	0.56	0.53	0.56	21.2
6	R2	1	0.0	1	0.0	0.391	3.1	LOS A	1.6	11.0	0.56	0.53	0.56	22.5
6u	U	1	0.0	1	0.0	0.391	11.6	LOS B	1.6	11.0	0.56	0.53	0.56	25.7
Approach		542	0.8	542	0.8	0.391	4.3	LOS A	1.6	11.0	0.56	0.53	0.56	21.2
North: Middlemiss St														
7	L2	15	0.0	15	0.0	0.049	7.4	LOS A	0.1	0.6	0.66	0.67	0.66	35.9
8	T1	8	0.0	8	0.0	0.049	7.5	LOS A	0.1	0.6	0.66	0.67	0.66	35.3
9	R2	6	0.0	6	0.0	0.049	10.7	LOS B	0.1	0.6	0.66	0.67	0.66	35.3
Approach		28	0.0	28	0.0	0.049	8.1	LOS A	0.1	0.6	0.66	0.67	0.66	35.7
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.455	2.2	LOS A	1.0	7.1	0.61	0.73	0.61	19.3
11	T1	50	2.2	48	2.2	0.455	3.9	LOS A	1.0	7.1	0.61	0.73	0.61	26.2
12	R2	307	4.0	294	4.0	0.455	6.5	LOS A	1.0	7.1	0.61	0.73	0.61	15.9
12u	U	7	0.0	6	0.0	0.455	8.0	LOS A	1.0	7.1	0.61	0.73	0.61	15.9
Approach		365	3.7	350 N1	3.7	0.455	6.2	LOS A	1.0	7.1	0.61	0.73	0.61	18.1
All Vehicles		1436	3.8	1420 N1	3.9	0.653	5.6	LOS A	1.6	11.0	0.59	0.63	0.60	22.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St Zebra Crossing (Site Folder: Project 2034 100% Crossing Utilisation)]

Network: N101 [PM Project 2034 100% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Project 2034 100% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Unsignalised)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	410	1.1	410	1.1	0.810	18.0	LOS C	1.3	9.0	0.89	1.47	2.22	23.3
Approach		410	1.1	410	1.1	0.810	18.0	LOS C	1.3	9.0	0.89	1.47	2.22	23.3
West: Lavender Street														
2	T1	364	3.7	364	3.7	1.068	101.9	LOS F[11]	12.0	86.7	1.00	3.22	6.51	6.8
Approach		364	3.7	364	3.7	1.068	101.9	LOS F[11]	12.0	86.7	1.00	3.22	6.51	6.8
All Vehicles		774	2.3	774	2.3	1.068	57.4	NA	12.0	86.7	0.94	2.29	4.24	11.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

MOVEMENT SUMMARY

Site: 101 [PM Proposed Crossing (Site Folder: Project 2034 100% Crossing Utilisation)]

Network: N101 [PM Project 2034 100% Crossing Utilisation (Network Folder: General)]

Proposed Crossing
Project 2034 100% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	349	10.0	349	10.0	0.379	1.8	LOS A	0.8	5.4	0.36	0.24	0.36	34.8
Approach		349	10.0	349	10.0	0.379	1.8	NA	0.8	5.4	0.36	0.24	0.36	34.8
SouthEast: Cycleway														
22	T1	86	0.0	86	0.0	0.014	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		86	0.0	86	0.0	0.014	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
North: Alfred St S														
8	T1	666	2.2	658	2.2	0.683	5.1	LOS A	4.5	31.9	0.65	0.65	0.91	20.6
Approach		666	2.2	658[N1]	2.2	0.683	5.1	NA	4.5	31.9	0.65	0.65	0.91	20.6
NorthWest: Cycleway														
28	T1	53	0.0	53	0.0	0.008	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		53	0.0	53	0.0	0.008	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
All Vehicles		1154	4.3	1145[N1]	4.3	0.683	3.5	NA	4.5	31.9	0.48	0.45	0.63	22.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [PM Existing Signalized Pedestrian Crossing (Site Folder: Project 2034 100% Crossing Utilisation)]

Network: N101 [PM Project 2034 100% Crossing Utilisation (Network Folder: General)]

Existing Signalized Pedestrian Crossing
Project 2034 100% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	349	10.9	349	10.9	0.397	8.9	LOS A	3.0	20.4	0.73	0.63	0.73	10.8
Approach		349	10.9	349	10.9	0.397	8.9	LOS A	3.0	20.4	0.73	0.63	0.73	10.8
North: Alfred St S														
8	T1	666	2.2	664	2.2	* 0.813	15.7	LOS B	8.6	61.5	0.94	1.02	1.18	21.5
Approach		666	2.2	664 N1	2.2	0.813	15.7	LOS B	8.6	61.5	0.94	1.02	1.18	21.5
All Vehicles		1015	5.2	1013 N1	5.2	0.813	13.4	LOS B	8.6	61.5	0.87	0.89	1.03	19.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	472	14.7	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19
All Pedestrians		472	14.7	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Burton St (Site Folder: Project 2034 100% Crossing Utilisation)]

Network: N101 [PM Project 2034 100% Crossing Utilisation (Network Folder: General)]

Alfred St / Burton St Intersection
Project 2034 100% Crossing Utilisation PM Peak hour
Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	282	13.5	282	13.5	0.201	0.0	LOS A	0.0	0.1	0.02	0.01	0.02	39.4
3	R2	3	0.0	3	0.0	0.201	5.7	LOS A	0.0	0.1	0.02	0.01	0.02	38.7
Approach		285	13.3	285	13.3	0.201	0.1	NA	0.0	0.1	0.02	0.01	0.02	39.4
East: Burton St														
4	L2	9	12.5	9	12.5	0.139	5.1	LOS A	0.2	0.6	0.52	0.62	0.52	24.6
6	R2	67	0.0	67	0.0	0.139	4.7	LOS A	0.2	0.6	0.52	0.62	0.52	17.5
Approach		76	1.5	76	1.5	0.139	4.7	LOS A	0.2	0.6	0.52	0.62	0.52	18.6
North: Alfred St S														
7	L2	48	2.3	48	2.3	0.243	2.5	LOS A	0.0	0.0	0.00	0.04	0.00	38.3
8	T1	444	1.8	444	1.8	0.243	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	36.5
Approach		492	1.8	492	1.8	0.243	0.3	NA	0.0	0.0	0.00	0.04	0.00	36.6
All Vehicles		853	5.6	853	5.6	0.243	0.6	NA	0.2	0.6	0.05	0.08	0.05	34.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

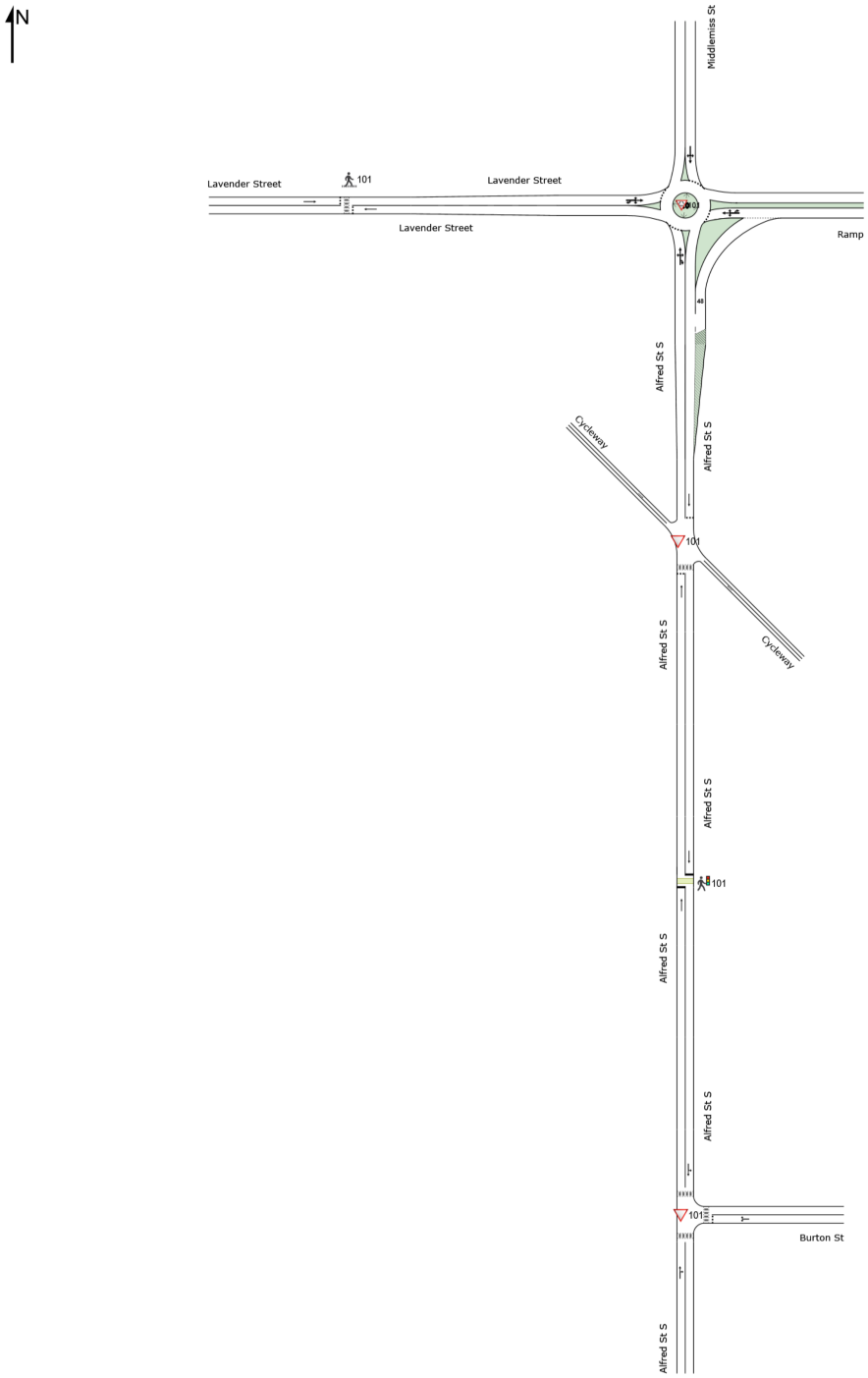
Appendix J – 2034 SIDRA Layout and Results (70% Crossing Utilisation)

NETWORK LAYOUT

Network: N101 [AM Project 2034 70% Crossing Utilisation (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	AM Alfred St / Lavender St
101	NA	AM Alfred St / Lavender St Zebra Crossing

101	NA	AM Proposed Crossing
101	NA	AM Existing Signalized Pedestrian Crossing
101	NA	AM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St (Site Folder: Project 2034 70% Crossing Utilisation)]

Network: N101 [AM Project 2034 70% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Project 2034 70% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Roundabout
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	200	5.6	200	5.6	0.650	4.5	LOS A	1.5	10.5	0.57	0.64	0.60	20.0
2	T1	25	0.0	25	0.0	0.650	2.1	LOS A	1.5	10.5	0.57	0.64	0.60	20.0
3	R2	246	15.5	246	15.5	0.650	7.6	LOS A	1.5	10.5	0.57	0.64	0.60	25.1
3u	U	11	0.0	11	0.0	0.650	8.8	LOS A	1.5	10.5	0.57	0.64	0.60	20.0
Approach		482	10.2	482	10.2	0.650	6.1	LOS A	1.5	10.5	0.57	0.64	0.60	22.8
East: Ramp														
4	L2	334	7.0	334	7.0	0.391	2.7	LOS A	1.4	10.3	0.55	0.53	0.55	21.2
5	T1	203	2.2	203	2.2	0.391	6.8	LOS A	1.4	10.3	0.55	0.53	0.55	21.2
6	R2	1	0.0	1	0.0	0.391	3.2	LOS A	1.4	10.3	0.55	0.53	0.55	22.5
6u	U	1	0.0	1	0.0	0.391	11.7	LOS B	1.4	10.3	0.55	0.53	0.55	25.7
Approach		539	5.2	539	5.2	0.391	4.3	LOS A	1.4	10.3	0.55	0.53	0.55	21.2
North: Middlemiss St														
7	L2	8	0.0	8	0.0	0.101	7.2	LOS A	0.2	0.9	0.65	0.63	0.65	26.0
8	T1	57	2.0	57	2.0	0.101	5.1	LOS A	0.2	0.9	0.65	0.63	0.65	25.9
9	R2	3	0.0	3	0.0	0.101	10.5	LOS B	0.2	0.9	0.65	0.63	0.65	25.9
Approach		68	1.6	68	1.6	0.101	5.6	LOS A	0.2	0.9	0.65	0.63	0.65	25.9
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.394	1.9	LOS A	0.9	7.2	0.58	0.71	0.58	19.3
11	T1	59	3.8	45	3.8	0.394	3.6	LOS A	0.9	7.2	0.58	0.71	0.58	26.3
12	R2	363	16.4	277	16.3	0.394	6.4	LOS A	0.9	7.2	0.58	0.71	0.58	16.1
12u	U	12	0.0	9	0.0	0.394	7.8	LOS A	0.9	7.2	0.58	0.71	0.58	16.1
Approach		436	14.1	332 N1	14.1	0.394	6.1	LOS A	0.9	7.2	0.58	0.71	0.58	18.2
All Vehicles		1525	9.2	1421 N1	9.9	0.650	5.4	LOS A	1.5	10.5	0.57	0.61	0.58	21.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St Zebra Crossing (Site Folder: Project 2034 70% Crossing Utilisation)]

Network: N101 [AM Project 2034 70% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Project 2034 70% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Unsignalised)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	418	3.8	415	3.8	0.791	16.2	LOS C	1.3	9.0	0.87	1.41	2.03	24.6
Approach		418	3.8	415[N1]	3.8	0.791	16.2	LOS C	1.3	9.0	0.87	1.41	2.03	24.6
West: Lavender Street														
2	T1	431	14.3	431	14.3	1.306	297.2	LOS F[11]	30.0	230.4	1.00	5.97	12.60	2.5
Approach		431	14.3	431	14.3	1.306	297.2	LOS F[11]	30.0	230.4	1.00	5.97	12.60	2.5
All Vehicles		849	9.1	846[N1]	9.1	1.306	159.4	NA	30.0	230.4	0.94	3.73	7.41	4.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [AM Proposed Crossing (Site Folder: Project 2034 70% Crossing Utilisation)]

Network: N101 [AM Project 2034 70% Crossing Utilisation (Network Folder: General)]

Proposed Crossing
Project 2034 70% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	428	11.0	428	11.0	0.422	3.7	LOS A	0.8	5.9	0.34	0.50	0.37	32.6
Approach		428	11.0	428	11.0	0.422	3.7	LOS A	0.8	5.9	0.34	0.50	0.37	32.6
SouthEast: Cycleway														
22	T1	51	0.0	51	0.0	0.008	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		51	0.0	51	0.0	0.008	0.0	NA	0.0	0.0	0.00	0.00	0.00	20.0
North: Alfred St S														
8	T1	759	11.1	673	10.3	0.661	5.8	LOS A	3.0	22.2	0.58	0.77	0.83	19.1
Approach		759	11.1	673[N1]	10.3	0.661	5.8	LOS A	3.0	22.2	0.58	0.77	0.83	19.1
NorthWest: Cycleway														
28	T1	112	0.0	112	0.0	0.018	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		112	0.0	112	0.0	0.018	0.0	NA	0.0	0.0	0.00	0.00	0.00	20.0
All Vehicles		1350	9.7	1264[N1]	10.4	0.661	4.3	NA	3.0	22.2	0.42	0.58	0.57	22.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [AM Existing Signalized Pedestrian Crossing (Site Folder: Project 2034 70% Crossing Utilisation)]

Network: N101 [AM Project 2034 70% Crossing Utilisation (Network Folder: General)]

Existing Signalized Pedestrian Crossing
Project 2034 70% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	428	11.0	428	11.0	0.511	9.4	LOS A	3.9	27.8	0.78	0.67	0.78	10.5
Approach		428	11.0	428	11.0	0.511	9.4	LOS A	3.9	27.8	0.78	0.67	0.78	10.5
North: Alfred St S														
8	T1	764	11.0	678	10.3	* 0.824	16.3	LOS B	9.0	65.2	0.95	1.04	1.21	21.2
Approach		764	11.0	678 N1	10.3	0.824	16.3	LOS B	9.0	65.2	0.95	1.04	1.21	21.2
All Vehicles		1192	11.0	1106 N1	11.9	0.824	13.6	LOS B	9.0	65.2	0.88	0.90	1.04	19.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	541	14.8	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19
All Pedestrians		541	14.8	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Burton St (Site Folder: Project 2034 70% Crossing Utilisation)]

Network: N101 [AM Project 2034 70% Crossing Utilisation (Network Folder: General)]

Alfred St / Burton St Intersection
Project 2034 70% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	354	12.7	354	12.7	0.398	0.2	LOS A	0.1	0.6	0.05	0.01	0.06	38.3
3	R2	9	0.0	9	0.0	0.398	7.0	LOS A	0.1	0.6	0.05	0.01	0.06	37.6
Approach		363	12.4	363	12.4	0.398	0.4	NA	0.1	0.6	0.05	0.01	0.06	38.3
East: Burton St														
4	L2	20	0.0	20	0.0	0.315	6.3	LOS A	0.3	1.3	0.63	0.80	0.74	23.8
6	R2	73	3.1	73	3.1	0.315	9.2	LOS A	0.3	1.3	0.63	0.80	0.74	16.9
Approach		93	2.4	93	2.4	0.315	8.6	LOS A	0.3	1.3	0.63	0.80	0.74	18.9
North: Alfred St S														
7	L2	112	1.0	104	0.9	0.337	2.5	LOS A	0.0	0.0	0.00	0.07	0.00	36.8
8	T1	631	12.8	560	12.1	0.337	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	34.7
Approach		742	11.0	664 N1	10.3	0.337	0.4	NA	0.0	0.0	0.00	0.07	0.00	35.0
All Vehicles		1198	10.7	1120 N 1	11.5	0.398	1.1	NA	0.3	1.3	0.07	0.11	0.08	33.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

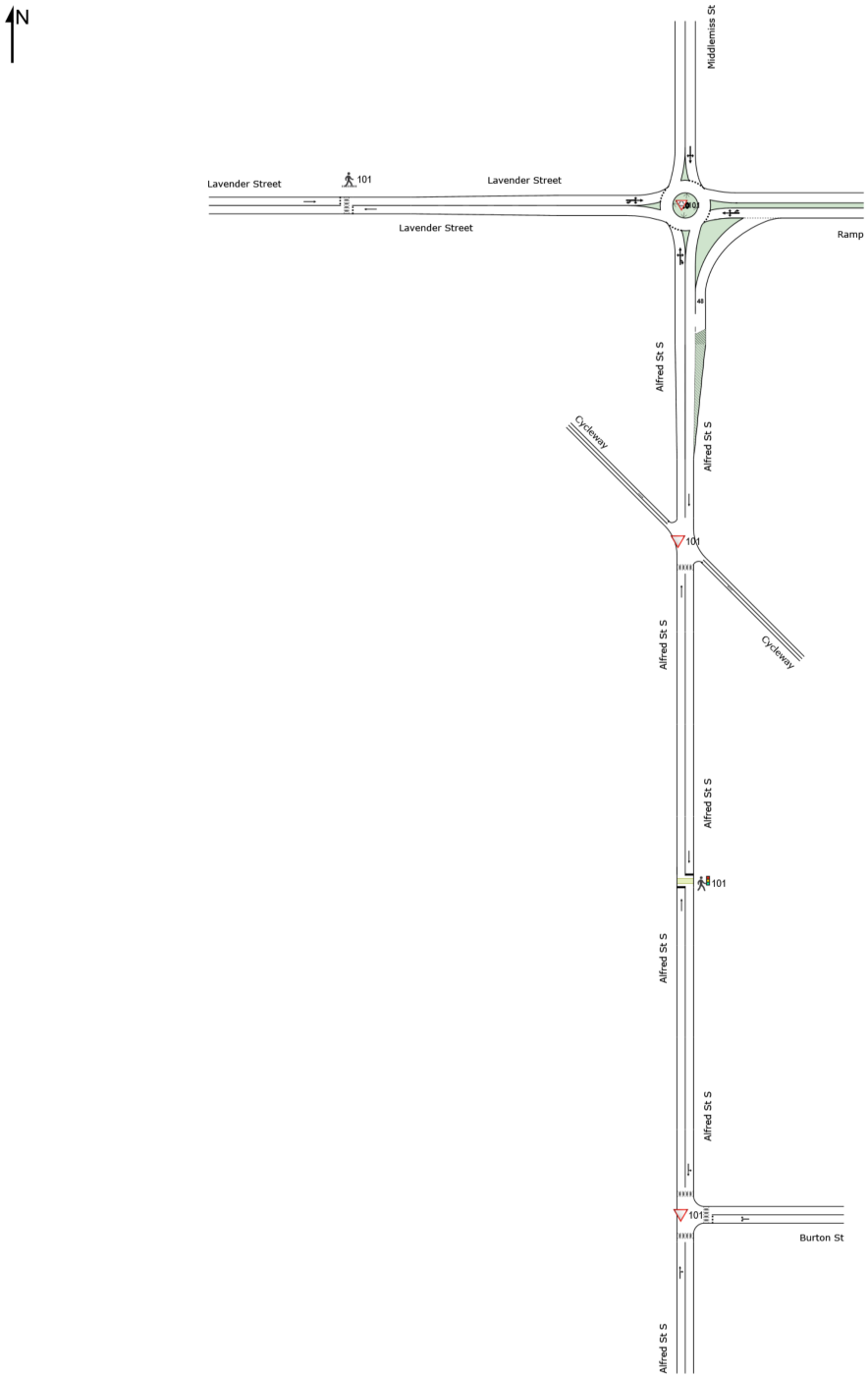
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

NETWORK LAYOUT

Network: N101 [PM Project 2034 70% Crossing Utilisation (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	PM Alfred St / Lavender St
101	NA	PM Alfred St / Lavender St Zebra Crossing

101	NA	PM Proposed Crossing
101	NA	PM Existing Signalized Pedestrian Crossing
101	NA	PM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St (Site Folder: Project 2034 70% Crossing Utilisation)]

Network: N101 [PM Project 2034 70% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Project 2034 70% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Roundabout
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	183	1.2	183	1.2	0.673	4.8	LOS A	1.7	11.6	0.60	0.67	0.65	19.3
2	T1	23	0.0	23	0.0	0.673	2.5	LOS A	1.7	11.6	0.60	0.67	0.65	19.8
3	R2	292	11.9	292	11.9	0.673	7.8	LOS A	1.7	11.6	0.60	0.67	0.65	24.5
3u	U	25	0.0	25	0.0	0.673	9.3	LOS A	1.7	11.6	0.60	0.67	0.65	19.3
Approach		523	7.1	523	7.1	0.673	6.6	LOS A	1.7	11.6	0.60	0.67	0.65	22.4
East: Ramp														
4	L2	326	0.7	326	0.7	0.395	2.9	LOS A	1.4	10.0	0.58	0.55	0.58	21.0
5	T1	214	1.0	214	1.0	0.395	6.9	LOS A	1.4	10.0	0.58	0.55	0.58	21.0
6	R2	1	0.0	1	0.0	0.395	3.3	LOS A	1.4	10.0	0.58	0.55	0.58	22.4
6u	U	1	0.0	1	0.0	0.395	11.7	LOS B	1.4	10.0	0.58	0.55	0.58	25.6
Approach		542	0.8	542	0.8	0.395	4.5	LOS A	1.4	10.0	0.58	0.55	0.58	21.1
North: Middlemiss St														
7	L2	15	0.0	15	0.0	0.076	7.6	LOS A	0.1	0.7	0.68	0.67	0.68	29.0
8	T1	22	0.0	22	0.0	0.076	5.8	LOS A	0.1	0.7	0.68	0.67	0.68	29.3
9	R2	6	0.0	6	0.0	0.076	10.9	LOS B	0.1	0.7	0.68	0.67	0.68	29.3
Approach		43	0.0	43	0.0	0.076	7.1	LOS A	0.1	0.7	0.68	0.67	0.68	29.2
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.491	2.3	LOS A	1.1	7.5	0.63	0.74	0.63	19.3
11	T1	50	2.2	49	2.2	0.491	4.0	LOS A	1.1	7.5	0.63	0.74	0.63	26.0
12	R2	314	3.9	307	3.9	0.491	6.6	LOS A	1.1	7.5	0.63	0.74	0.63	15.7
12u	U	7	0.0	7	0.0	0.491	8.1	LOS A	1.1	7.5	0.63	0.74	0.63	15.7
Approach		372	3.6	364[N1]	3.6	0.491	6.3	LOS A	1.1	7.5	0.63	0.74	0.63	17.9
All Vehicles		1479	3.7	1472[N1]	3.7	0.673	5.7	LOS A	1.7	11.6	0.60	0.64	0.62	21.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St Zebra Crossing (Site Folder: Project 2034 70% Crossing Utilisation)]

Network: N101 [PM Project 2034 70% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Project 2034 70% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Unsignalised)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	410	1.1	410	1.1	0.761	14.4	LOS B	1.3	9.0	0.84	1.32	1.83	25.9
Approach		410	1.1	410	1.1	0.761	14.4	LOS B	1.3	9.0	0.84	1.32	1.83	25.9
West: Lavender Street														
2	T1	370	3.6	370	3.6	1.073	104.1	LOS F[11]	12.5	89.7	1.00	3.27	6.42	6.6
Approach		370	3.6	370	3.6	1.073	104.1	LOS F[11]	12.5	89.7	1.00	3.27	6.42	6.6
All Vehicles		780	2.3	780	2.3	1.073	56.9	NA	12.5	89.7	0.92	2.25	4.01	11.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

MOVEMENT SUMMARY

Site: 101 [PM Proposed Crossing (Site Folder: Project 2034 70% Crossing Utilisation)]

Network: N101 [PM Project 2034 70% Crossing Utilisation (Network Folder: General)]

Proposed Crossing
Project 2034 70% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	349	10.0	349	10.0	0.369	1.6	LOS A	0.8	5.3	0.33	0.22	0.33	35.2
Approach		349	10.0	349	10.0	0.369	1.6	NA	0.8	5.3	0.33	0.22	0.33	35.2
SouthEast: Cycleway														
22	T1	64	0.0	64	0.0	0.010	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		64	0.0	64	0.0	0.010	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
North: Alfred St S														
8	T1	688	2.1	687	2.1	0.695	4.8	LOS A	4.8	33.5	0.64	0.60	0.86	21.1
Approach		688	2.1	687[N1]	2.1	0.695	4.8	NA	4.8	33.5	0.64	0.60	0.86	21.1
NorthWest: Cycleway														
28	T1	37	0.0	37	0.0	0.006	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		37	0.0	37	0.0	0.006	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
All Vehicles		1138	4.3	1137[N] 1	4.3	0.695	3.4	NA	4.8	33.5	0.49	0.43	0.62	23.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [PM Existing Signalized Pedestrian Crossing (Site Folder: Project 2034 70% Crossing Utilisation)]

Network: N101 [PM Project 2034 70% Crossing Utilisation (Network Folder: General)]

Existing Signalized Pedestrian Crossing
Project 2034 70% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	349	10.9	349	10.9	0.397	8.9	LOS A	3.0	20.4	0.73	0.63	0.73	10.8
Approach		349	10.9	349	10.9	0.397	8.9	LOS A	3.0	20.4	0.73	0.63	0.73	10.8
North: Alfred St S														
8	T1	711	2.0	711	2.0	* 0.832	16.6	LOS B	9.6	65.5	0.95	1.06	1.23	20.9
Approach		711	2.0	711	2.0	0.832	16.6	LOS B	9.6	65.5	0.95	1.06	1.23	20.9
All Vehicles		1060	5.0	1060	5.0	0.832	14.1	LOS B	9.6	65.5	0.88	0.92	1.06	19.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	472	14.7	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19
All Pedestrians		472	14.7	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Burton St (Site Folder: Project 2034 70% Crossing Utilisation)]

Network: N101 [PM Project 2034 70% Crossing Utilisation (Network Folder: General)]

Alfred St / Burton St Intersection
Project 2034 70% Crossing Utilisation PM Peak hour
Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	282	13.5	282	13.5	0.201	0.0	LOS A	0.0	0.1	0.02	0.01	0.02	39.4
3	R2	3	0.0	3	0.0	0.201	5.7	LOS A	0.0	0.1	0.02	0.01	0.02	38.7
Approach		285	13.3	285	13.3	0.201	0.1	NA	0.0	0.1	0.02	0.01	0.02	39.4
East: Burton St														
4	L2	9	12.5	9	12.5	0.139	5.1	LOS A	0.2	0.6	0.52	0.62	0.52	24.6
6	R2	67	0.0	67	0.0	0.139	4.7	LOS A	0.2	0.6	0.52	0.62	0.52	17.5
Approach		76	1.5	76	1.5	0.139	4.7	LOS A	0.2	0.6	0.52	0.62	0.52	18.6
North: Alfred St S														
7	L2	48	2.3	48	2.3	0.243	2.5	LOS A	0.0	0.0	0.00	0.04	0.00	38.3
8	T1	444	1.8	444	1.8	0.243	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	36.5
Approach		492	1.8	492	1.8	0.243	0.3	NA	0.0	0.0	0.00	0.04	0.00	36.6
All Vehicles		853	5.6	853	5.6	0.243	0.6	NA	0.2	0.6	0.05	0.08	0.05	34.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

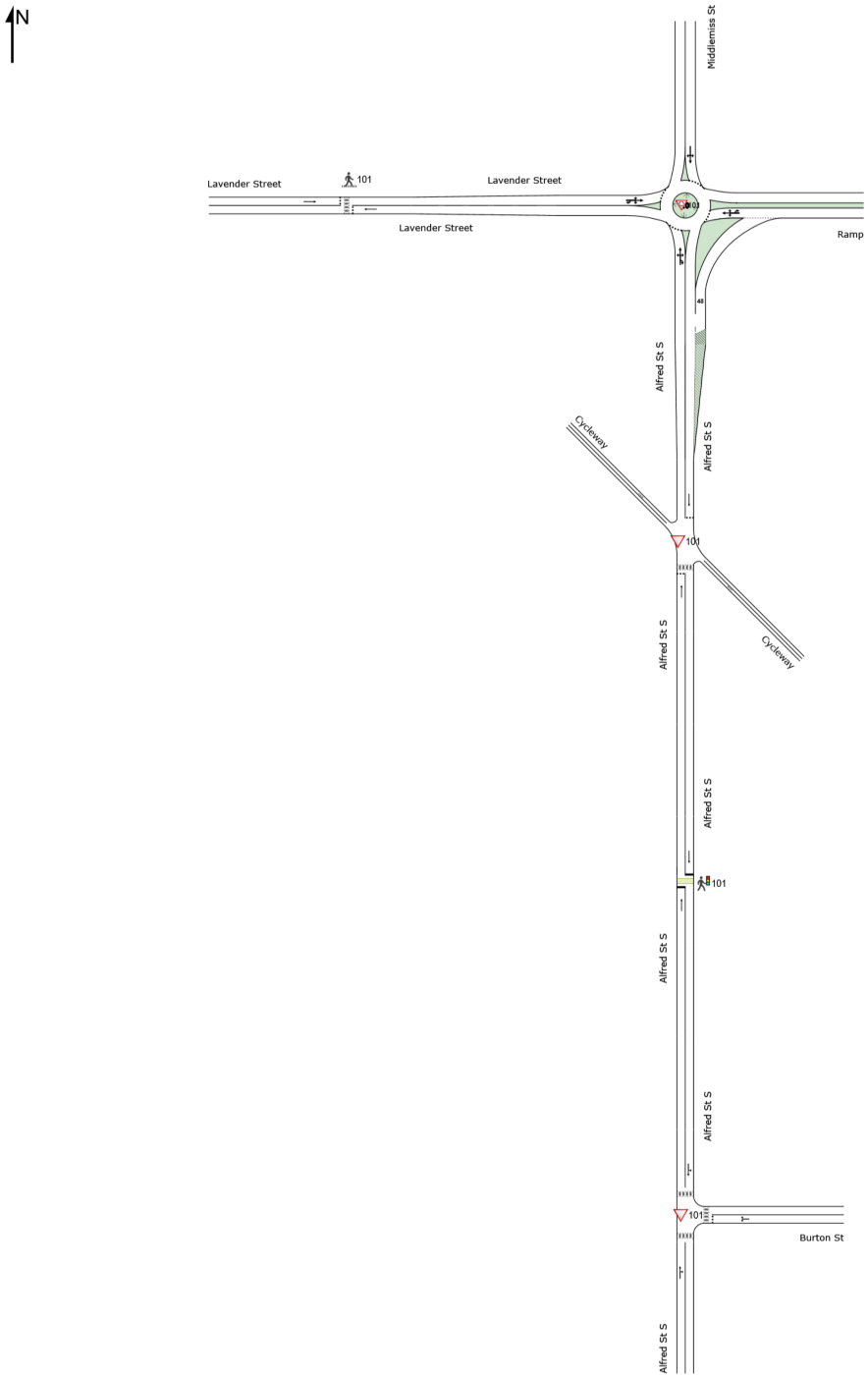
Appendix K – 2034 SIDRA Layout and Results (40% Crossing Utilisation)

NETWORK LAYOUT

Network: N101 [AM Project 2034 40% Crossing Utilisation (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	AM Alfred St / Lavender St
101	NA	AM Alfred St / Lavender St Zebra Crossing

101	NA	AM Proposed Crossing
101	NA	AM Existing Signalized Pedestrian Crossing
101	NA	AM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St (Site Folder: Project 2034 40% Crossing Utilisation)]

Network: N101 [AM Project 2034 40% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Project 2034 40% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Roundabout
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	200	5.6	200	5.6	0.650	4.5	LOS A	1.5	10.6	0.57	0.64	0.60	20.0
2	T1	25	0.0	25	0.0	0.650	2.1	LOS A	1.5	10.6	0.57	0.64	0.60	20.0
3	R2	246	15.5	246	15.5	0.650	7.6	LOS A	1.5	10.6	0.57	0.64	0.60	25.1
3u	U	11	0.0	11	0.0	0.650	8.8	LOS A	1.5	10.6	0.57	0.64	0.60	20.0
Approach		482	10.2	482	10.2	0.650	6.1	LOS A	1.5	10.6	0.57	0.64	0.60	22.8
East: Ramp														
4	L2	334	7.0	334	7.0	0.399	3.0	LOS A	1.4	10.2	0.58	0.56	0.58	20.8
5	T1	203	2.2	203	2.2	0.399	7.1	LOS A	1.4	10.2	0.58	0.56	0.58	20.8
6	R2	1	0.0	1	0.0	0.399	3.5	LOS A	1.4	10.2	0.58	0.56	0.58	22.4
6u	U	1	0.0	1	0.0	0.399	12.0	LOS B	1.4	10.2	0.58	0.56	0.58	25.3
Approach		539	5.2	539	5.2	0.399	4.6	LOS A	1.4	10.2	0.58	0.56	0.58	20.8
North: Middlemiss St														
7	L2	8	0.0	8	0.0	0.151	7.5	LOS A	0.3	1.3	0.68	0.64	0.68	23.3
8	T1	97	1.1	97	1.1	0.151	4.9	LOS A	0.3	1.3	0.68	0.64	0.68	23.0
9	R2	3	0.0	3	0.0	0.151	10.8	LOS B	0.3	1.3	0.68	0.64	0.68	23.0
Approach		109	1.0	109	1.0	0.151	5.3	LOS A	0.3	1.3	0.68	0.64	0.68	23.0
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.394	1.9	LOS A	1.0	7.6	0.60	0.71	0.60	19.3
11	T1	59	3.8	46	3.8	0.394	3.7	LOS A	1.0	7.6	0.60	0.71	0.60	26.2
12	R2	384	15.5	299	15.4	0.394	6.4	LOS A	1.0	7.6	0.60	0.71	0.60	15.9
12u	U	12	0.0	10	0.0	0.394	7.8	LOS A	1.0	7.6	0.60	0.71	0.60	15.9
Approach		457	13.5	356[N1]	13.4	0.394	6.0	LOS A	1.0	7.6	0.60	0.71	0.60	18.0
All Vehicles		1586	8.8	1485[N1]	9.4	0.650	5.5	LOS A	1.5	10.6	0.59	0.63	0.60	21.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Lavender St Zebra Crossing (Site Folder: Project 2034 40% Crossing Utilisation)]

Network: N101 [AM Project 2034 40% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Project 2034 40% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Unsignalised)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	418	3.8	415	3.8	0.711	11.2	LOS B	1.3	9.0	0.79	1.16	1.47	28.8
Approach		418	3.8	415[N1]	3.8	0.711	11.2	LOS B	1.3	9.0	0.79	1.16	1.47	28.8
West: Lavender Street														
2	T1	450	13.7	450	13.7	1.276	269.2	LOS F[11]	29.8	221.9	1.00	5.72	11.08	2.8
Approach		450	13.7	450	13.7	1.276	269.2	LOS F[11]	29.8	221.9	1.00	5.72	11.08	2.8
All Vehicles		868	8.9	865[N1]	8.9	1.276	145.5	NA	29.8	221.9	0.90	3.53	6.47	5.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [AM Proposed Crossing (Site Folder: Project 2034 40% Crossing Utilisation)]

Network: N101 [AM Project 2034 40% Crossing Utilisation (Network Folder: General)]

Proposed Crossing
Project 2034 40% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	428	11.0	428	11.0	0.409	3.3	LOS A	0.7	5.2	0.31	0.46	0.32	33.1
Approach		428	11.0	428	11.0	0.409	3.3	LOS A	0.7	5.2	0.31	0.46	0.32	33.1
SouthEast: Cycleway														
22	T1	39	0.0	39	0.0	0.006	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		39	0.0	39	0.0	0.006	0.0	NA	0.0	0.0	0.00	0.00	0.00	20.0
North: Alfred St S														
8	T1	700	11.7	622	11.0	0.595	4.8	LOS A	2.3	17.5	0.50	0.64	0.64	21.3
Approach		700	11.7	622[N1]	11.0	0.595	4.8	LOS A	2.3	17.5	0.50	0.64	0.64	21.3
NorthWest: Cycleway														
28	T1	64	0.0	64	0.0	0.010	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		64	0.0	64	0.0	0.010	0.0	NA	0.0	0.0	0.00	0.00	0.00	20.0
All Vehicles		1231	10.5	1154[N1]	11.2	0.595	3.8	NA	2.3	17.5	0.39	0.51	0.46	23.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

MOVEMENT SUMMARY

Site: 101 [AM Existing Signalized Pedestrian Crossing (Site Folder: Project 2034 40% Crossing Utilisation)]

Network: N101 [AM Project 2034 40% Crossing Utilisation (Network Folder: General)]

Existing Signalized Pedestrian Crossing
Project 2034 40% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	428	11.0	428	11.0	0.402	7.4	LOS A	3.8	27.2	0.63	0.55	0.63	12.4
Approach		428	11.0	428	11.0	0.402	7.4	LOS A	3.8	27.2	0.63	0.55	0.63	12.4
North: Alfred St S														
8	T1	827	10.2	748	9.4	* 0.672	9.1	LOS A	8.2	56.1	0.78	0.69	0.78	26.7
Approach		827	10.2	748 N1	9.4	0.672	9.1	LOS A	8.2	56.1	0.78	0.69	0.78	26.7
All Vehicles		1255	10.4	1177 N1	11.1	0.672	8.5	LOS A	8.2	56.1	0.72	0.64	0.72	24.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	520	19.8	LOS B	0.7	0.7	0.90	0.90	180.3	208.6	1.16
All Pedestrians		520	19.8	LOS B	0.7	0.7	0.90	0.90	180.3	208.6	1.16

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [AM Alfred St / Burton St (Site Folder: Project 2034 40% Crossing Utilisation)]

Network: N101 [AM Project 2034 40% Crossing Utilisation (Network Folder: General)]

Alfred St / Burton St Intersection
Project 2034 40% Crossing Utilisation AM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	354	12.7	354	12.7	0.383	0.2	LOS A	0.1	0.6	0.05	0.01	0.06	38.3
3	R2	9	0.0	9	0.0	0.383	7.1	LOS A	0.1	0.6	0.05	0.01	0.06	37.6
Approach		363	12.4	363	12.4	0.383	0.4	NA	0.1	0.6	0.05	0.01	0.06	38.3
East: Burton St														
4	L2	20	0.0	20	0.0	0.307	6.3	LOS A	0.3	1.3	0.63	0.80	0.74	23.8
6	R2	73	3.1	73	3.1	0.307	9.2	LOS A	0.3	1.3	0.63	0.80	0.74	16.9
Approach		93	2.4	93	2.4	0.307	8.6	LOS A	0.3	1.3	0.63	0.80	0.74	18.9
North: Alfred St S														
7	L2	112	1.0	108	0.9	0.340	2.5	LOS A	0.0	0.0	0.00	0.07	0.00	36.7
8	T1	631	12.8	564	12.1	0.340	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	34.5
Approach		742	11.0	672 N1	10.3	0.340	0.4	NA	0.0	0.0	0.00	0.07	0.00	34.8
All Vehicles		1198	10.7	1128 N1	11.4	0.383	1.1	NA	0.3	1.3	0.07	0.11	0.08	33.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

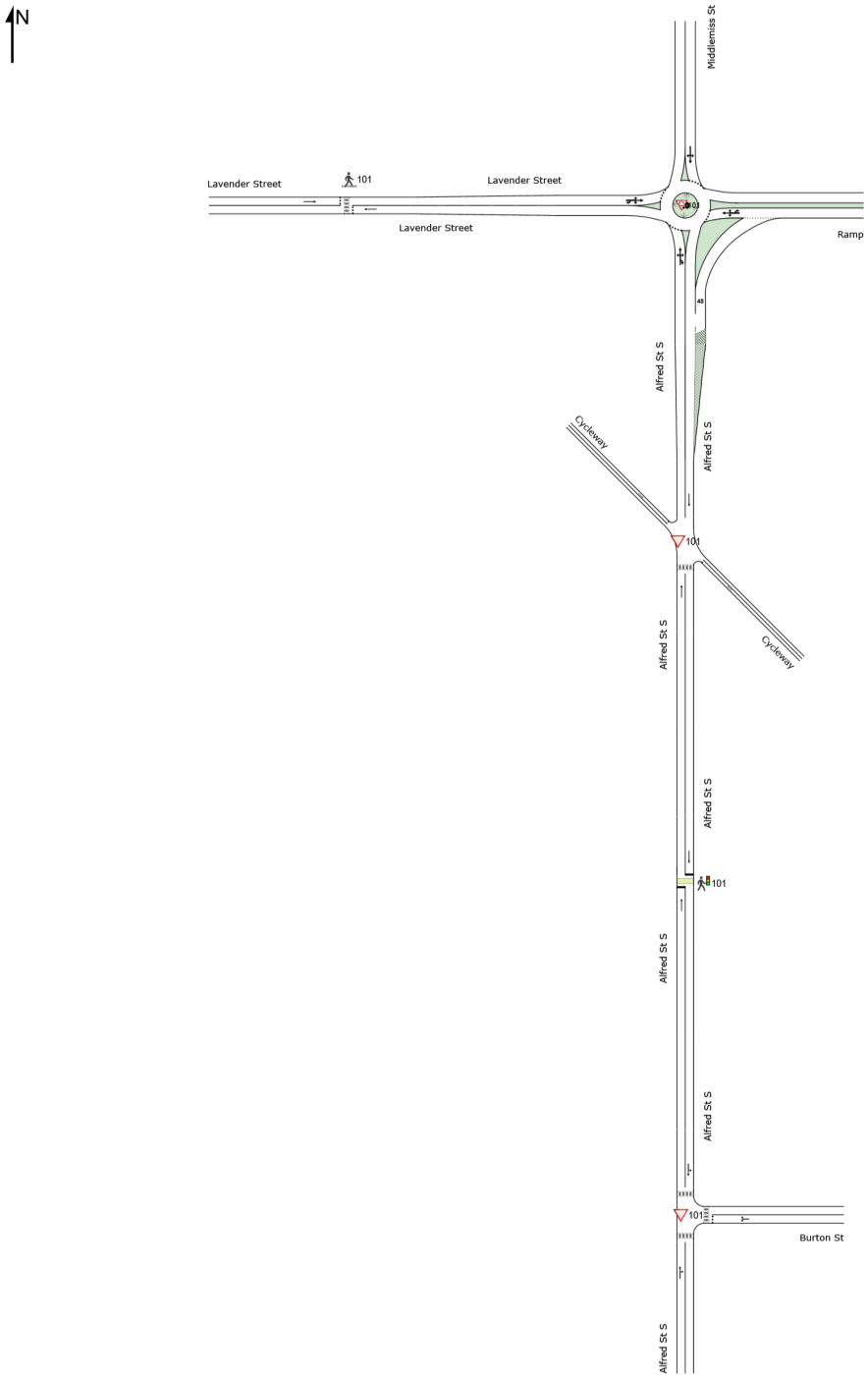
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

NETWORK LAYOUT

Network: N101 [PM Project 2034 40% Crossing Utilisation (Network Folder: General)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	PM Alfred St / Lavender St
101	NA	PM Alfred St / Lavender St Zebra Crossing

101	NA	PM Proposed Crossing
101	NA	PM Existing Signalized Pedestrian Crossing
101	NA	PM Alfred St / Burton St

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St (Site Folder: Project 2034 40% Crossing Utilisation)]

Network: N101 [PM Project 2034 40% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Project 2034 40% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Roundabout
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
1	L2	183	1.2	183	1.2	0.693	5.0	LOS A	1.9	12.4	0.62	0.67	0.67	18.8
2	T1	46	0.0	46	0.0	0.693	2.8	LOS A	1.9	12.4	0.62	0.67	0.67	19.7
3	R2	292	11.9	292	11.9	0.693	8.1	LOS A	1.9	12.4	0.62	0.67	0.67	24.1
3u	U	25	0.0	25	0.0	0.693	9.6	LOS A	1.9	12.4	0.62	0.67	0.67	18.8
Approach		546	6.8	546	6.8	0.693	6.7	LOS A	1.9	12.4	0.62	0.67	0.67	21.8
East: Ramp														
4	L2	326	0.7	326	0.7	0.399	3.0	LOS A	1.5	10.3	0.60	0.57	0.60	20.9
5	T1	214	1.0	214	1.0	0.399	7.0	LOS A	1.5	10.3	0.60	0.57	0.60	20.9
6	R2	1	0.0	1	0.0	0.399	3.4	LOS A	1.5	10.3	0.60	0.57	0.60	22.4
6u	U	1	0.0	1	0.0	0.399	11.9	LOS B	1.5	10.3	0.60	0.57	0.60	25.4
Approach		542	0.8	542	0.8	0.399	4.6	LOS A	1.5	10.3	0.60	0.57	0.60	20.9
North: Middlemiss St														
7	L2	15	0.0	15	0.0	0.105	7.8	LOS A	0.2	0.9	0.69	0.67	0.69	26.0
8	T1	37	0.0	37	0.0	0.105	5.4	LOS A	0.2	0.9	0.69	0.67	0.69	26.0
9	R2	6	0.0	6	0.0	0.105	11.1	LOS B	0.2	0.9	0.69	0.67	0.69	26.0
Approach		57	0.0	57	0.0	0.105	6.6	LOS A	0.2	0.9	0.69	0.67	0.69	26.0
West: Lavender Street														
10	L2	1	0.0	1	0.0	0.519	2.6	LOS A	1.2	8.2	0.65	0.76	0.66	19.2
11	T1	50	2.2	50	2.2	0.519	4.3	LOS A	1.2	8.2	0.65	0.76	0.66	25.5
12	R2	319	3.9	319	3.9	0.519	6.9	LOS A	1.2	8.2	0.65	0.76	0.66	15.2
12u	U	7	0.0	7	0.0	0.519	8.4	LOS A	1.2	8.2	0.65	0.76	0.66	15.2
Approach		377	3.6	377	3.6	0.519	6.6	LOS A	1.2	8.2	0.65	0.76	0.66	17.3
All Vehicles		1523	3.6	1523	3.6	0.693	5.9	LOS A	1.9	12.4	0.62	0.66	0.64	21.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Lavender St Zebra Crossing (Site Folder: Project 2034 40% Crossing Utilisation)]

Network: N101 [PM Project 2034 40% Crossing Utilisation (Network Folder: General)]

Alfred St / Lavender St / Ramp / Middlemiss St Intersection
Project 2034 40% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Unsignalised)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Lavender Street														
8	T1	410	1.1	410	1.1	0.714	11.7	LOS B	1.3	9.0	0.79	1.19	1.52	28.3
Approach		410	1.1	410	1.1	0.714	11.7	LOS B	1.3	9.0	0.79	1.19	1.52	28.3
West: Lavender Street														
2	T1	375	3.6	375	3.6	1.091	115.7	LOS F[11]	13.8	98.2	1.00	3.46	6.59	6.0
Approach		375	3.6	375	3.6	1.091	115.7	LOS F[11]	13.8	98.2	1.00	3.46	6.59	6.0
All Vehicles		785	2.3	785	2.3	1.091	61.4	NA	13.8	98.2	0.89	2.28	3.94	10.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: Akçelik M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

MOVEMENT SUMMARY

Site: 101 [PM Proposed Crossing (Site Folder: Project 2034 40% Crossing Utilisation)]

Network: N101 [PM Project 2034 40% Crossing Utilisation (Network Folder: General)]

Proposed Crossing
Project 2034 40% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	349	10.0	349	10.0	0.361	1.4	LOS A	0.8	5.2	0.31	0.19	0.31	35.6
Approach		349	10.0	349	10.0	0.361	1.4	NA	0.8	5.2	0.31	0.19	0.31	35.6
SouthEast: Cycleway														
22	T1	42	0.0	42	0.0	0.007	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		42	0.0	42	0.0	0.007	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
North: Alfred St S														
8	T1	710	2.1	710	2.1	0.703	4.5	LOS A	5.0	34.2	0.63	0.55	0.81	21.7
Approach		710	2.1	710	2.1	0.703	4.5	NA	5.0	34.2	0.63	0.55	0.81	21.7
NorthWest: Cycleway														
28	T1	28	0.0	28	0.0	0.005	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
Approach		28	0.0	28	0.0	0.005	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	20.0
All Vehicles		1129	4.4	1129	4.4	0.703	3.2	NA	5.0	34.2	0.49	0.40	0.61	24.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [PM Existing Signalized Pedestrian Crossing (Site Folder: Project 2034 40% Crossing Utilisation)]

Network: N101 [PM Project 2034 40% Crossing Utilisation (Network Folder: General)]

Existing Signalized Pedestrian Crossing
Project 2034 40% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	349	10.9	349	10.9	0.397	8.9	LOS A	3.0	20.4	0.73	0.63	0.73	10.8
Approach		349	10.9	349	10.9	0.397	8.9	LOS A	3.0	20.4	0.73	0.63	0.73	10.8
North: Alfred St S														
8	T1	711	2.0	711	2.0	* 0.832	16.6	LOS B	9.6	65.5	0.95	1.06	1.23	20.9
Approach		711	2.0	711	2.0	0.832	16.6	LOS B	9.6	65.5	0.95	1.06	1.23	20.9
All Vehicles		1060	5.0	1060	5.0	0.832	14.1	LOS B	9.6	65.5	0.88	0.92	1.06	19.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alfred St S											
P1	Full	472	14.7	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19
All Pedestrians		472	14.7	LOS B	0.5	0.5	0.87	0.87	175.2	208.6	1.19

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [PM Alfred St / Burton St (Site Folder: Project 2034 40% Crossing Utilisation)]

Network: N101 [PM Project 2034 40% Crossing Utilisation (Network Folder: General)]

Alfred St / Burton St Intersection
Project 2034 40% Crossing Utilisation PM Peak hour

Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 8 years

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Alfred St S														
2	T1	282	13.5	282	13.5	0.201	0.0	LOS A	0.0	0.1	0.02	0.01	0.02	39.4
3	R2	3	0.0	3	0.0	0.201	5.7	LOS A	0.0	0.1	0.02	0.01	0.02	38.7
Approach		285	13.3	285	13.3	0.201	0.1	NA	0.0	0.1	0.02	0.01	0.02	39.4
East: Burton St														
4	L2	9	12.5	9	12.5	0.139	5.1	LOS A	0.2	0.6	0.52	0.62	0.52	24.6
6	R2	67	0.0	67	0.0	0.139	4.7	LOS A	0.2	0.6	0.52	0.62	0.52	17.5
Approach		76	1.5	76	1.5	0.139	4.7	LOS A	0.2	0.6	0.52	0.62	0.52	18.6
North: Alfred St S														
7	L2	48	2.3	48	2.3	0.243	2.5	LOS A	0.0	0.0	0.00	0.04	0.00	38.3
8	T1	444	1.8	444	1.8	0.243	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	36.5
Approach		492	1.8	492	1.8	0.243	0.3	NA	0.0	0.0	0.00	0.04	0.00	36.6
All Vehicles		853	5.6	853	5.6	0.243	0.6	NA	0.2	0.6	0.05	0.08	0.05	34.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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