Prepared for
Sydney Metro
ABN: 12 354 063 515

Block 1 Report

Sydney Metro C&SW - Traffic and Interchange Monitoring

11-Aug-2023
Sydney Metro City and Southwest - Traffic and Interchange Monitoring
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Block 1 Report

Sydney Metro C&SW - Traffic and Interchange Monitoring

Client: Sydney Metro

ABN: 12 354 063 515

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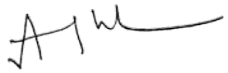
B	11-Aug-2023	Final report - updated to incorporate Sydney Metro comments	Anoop Sridhar Principal Traffic Engineer	

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Terms and abbreviations

Term	Definition
AECOM	AECOM Australia Pty Ltd
Block 1	The first study block of the traffic and interchange monitoring program
BOAM	Bus Opal Assignment Model
CBD	Central Business District
CoA	Conditions of Approval
Condition D12	Refers to Item D12 of the Sydney Metro City & Southwest Chatswood to Sydenham conditions of approval, which specifies requirements for traffic operational monitoring of the Sydney Metro City & Southwest Chatswood to Sydenham.
CSELR	CBD and South-East Light Rail
CSSI	Critical State Significant Infrastructure
IAP	Interchange Access Plan
LOS	Level of Service
post-opening	denotes post-opening scenarios of the Sydney Metro City & Southwest line operating between Chatswood to Sydenham
pre-opening	denotes pre-opening scenarios of the Sydney Metro City & Southwest line operating between Chatswood to Sydenham
PTIPS	Public Transport Information and Priority Systems
SCATS	Sydney Coordinated Adaptive Traffic System
SIDRA Intersection	SIDRA Intersection modelling software, the modelling software used to assess the traffic performance.
SHB	Sydney Harbour Bridge
Sydney Metro	A New South Wales Government Agency constituted under the *Transport Administration Act 1988 (NSW)*).
Sydney Metro City & Southwest	The metro railway between Chatswood and Bankstown, including 15.5 kilometres of twin metro railway tunnels from Chatswood to Marrickville under Sydney Harbour.
Sydney Metro Northwest	The former Northwest Rail Link, i.e. operating metro railway between Tallawong Station at Rouse Hill and Chatswood.
Sydney Metro West	The metro railway that will connect the Sydney CBD and Parramatta, linking communities along the way with a new underground railway.
Sydney Metro Western Sydney Airport	The metro railway that will link St Marys to the Western Sydney International (Nancy Bird Walton) airport and the Aerotropolis.
TfNSW	Transport for NSW (A New South Wales Government Agency constituted under the *Transport Administration Act 1988 (NSW)*).
the Project	Traffic and interchange monitoring assessments for the Sydney Metro City & Southwest Chatswood to Sydenham
TCS	Traffic Control Signal
TSN	Transit Stop Number

1.0 Introduction

This section provides an introduction of the traffic and interchange monitoring for the Sydney Metro City & Southwest (C&SW) between Chatswood Station and Sydenham Station (the Project), including the project overview, project objectives and overall scope of works covered under this Project.

1.1 Project overview

Sydney Metro is the largest public transport project in Australia, designed to address congestion, enhance connectivity, and meet the evolving needs of Sydney's population and economy. It encompasses four major metro lines: Sydney Metro Northwest, Sydney Metro West, Sydney Metro Western Sydney Airport, and Sydney Metro City & Southwest.

AECOM Australia Pty Ltd (AECOM) has been appointed by Sydney Metro to conduct traffic and interchange monitoring assessments for the Sydney Metro City & Southwest between Chatswood Station and Sydenham Station (the Project).

The purpose of this assessment is to evaluate the impact of the Sydney Metro City & Southwest (Chatswood to Sydenham) operations on the nine stations and their surrounding intersections and interchange facilities. The study involves evaluating the performance of these intersections and interchange both before and after the introduction of the metro line. This assessment is crucial for fulfilling the requirements of the Critical State Significant Infrastructure (CSSI) application Conditions of Approval (CoA) overseen by the NSW Department of Planning and Environment.

Traffic and interchange monitoring will be conducted in six study blocks, spanning a period of 12-months before the commencement of the CSSI operations (pre-opening) and 12-months after the commencement (post-opening). This comprehensive monitoring approach will provide insights into the traffic and interchange dynamics during different stages of the Sydney Metro City & Southwest Line (Chatswood to Sydenham), allowing for a thorough and robust impact assessment.

Figure 1-1 presents a timeline overview of the study blocks, highlighting the specific periods under observation.

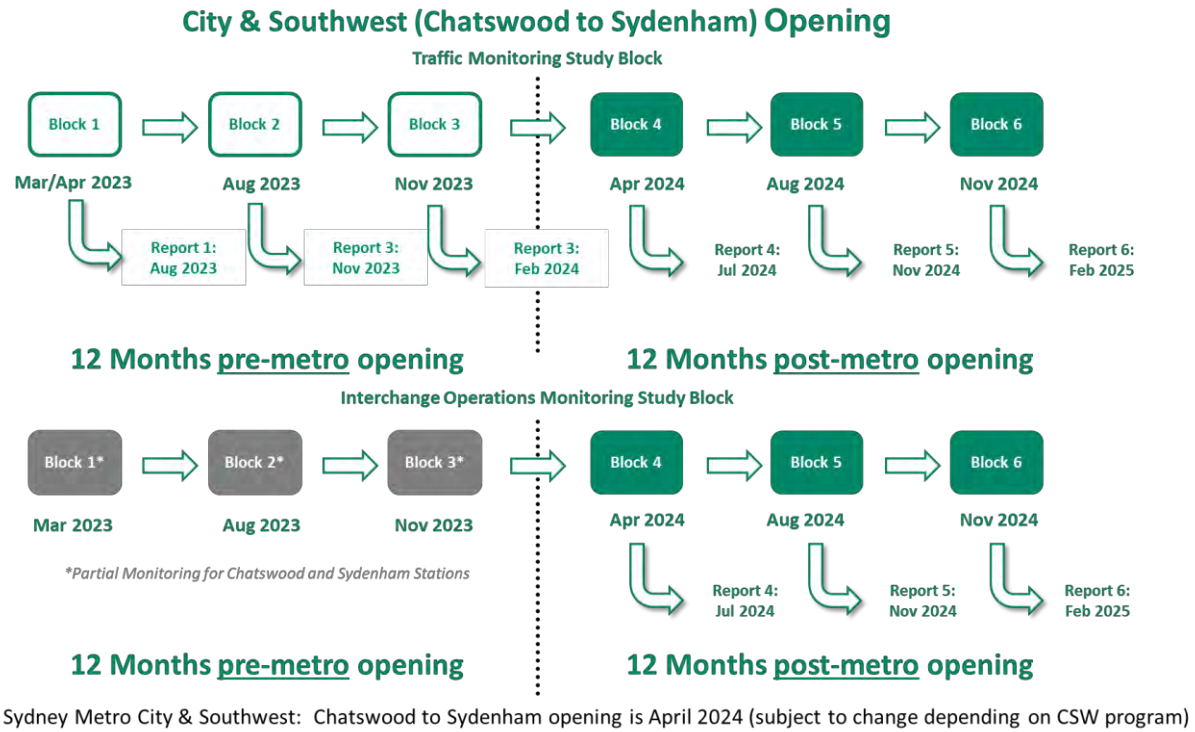


Figure 1-1 Traffic and interchange monitoring program

1.2 Purpose of this report

The Sydney Metro City & Southwest Chatswood to Sydenham – Traffic and Interchange Operation Monitoring report (this report) is prepared to meet the requirements of Condition D12 of the CoA (outlined in **Section 2.2**).

This report provides traffic and interchange operation assessments of the nine stations along the Sydney Metro City & Southwest Line (Chatswood to Sydenham) during the monitoring timeframe between March 2023 to April 2023 (Block 1).

1.3 Scope of this study

The overall scope of works for the Block 1 study covers the following:

- **Traffic monitoring**: Intersection surveys were conducted in late-March 2023, early-April 2023 and early-May (re-surveys) 2023, including:
  - classified intersection count surveys conducted continuously for a one-week period, including light vehicles, heavy vehicles, buses, cyclist and pedestrian counts
  - vehicular queue length surveys (at the signal change to green for signalised intersections and aggregated every 2 minutes for priority intersections) conducted for the following nominated peak periods during the same one-week period:
    - weekday AM peak: 6am–10am
    - weekday PM peak: 3pm–7pm
    - weekend peak: 10am–2pm.
- **Transport interchange monitoring:** only Chatswood Station and Sydenham Station were considered for the interchange monitoring for the Block 1 study due to the existing operational train/metro stations. Interchange operation surveys were conducted at these two stations continuously for a one-week period same as intersection surveys in late-March 2023, early-April 2023 and early-May (re-surveys) 2023. Interchange operation surveys collected the following information for taxi, bus stop and kiss and ride facilities at each station:
  - vehicle counts
  - vehicle occupancy (boarding and alighting passengers only)
  - vehicle dwell time
  - vehicle queue length outside the bay on a lane-by-lane basis.
- **Site observations**: Site visits were undertaken in conjunction with the traffic and interchange operation monitoring for at least one weekday AM peak, one weekday PM peak, and one weekday peak period at each station.
- **Intersection assessment**: To assess the intersection operation performance during Block 1, a combination of isolated and network traffic modelling assessments was undertaken using SIDRA Intersection modelling software (SIDRA Intersection). The following data were obtained from Sydney Metro for developing the SIDRA Intersection models:
  - Sydney Coordinated Adaptive Traffic System (SCATS) traffic detector count data
  - SCATS traffic signal data and sub-systems information.
- **Stakeholder consultation:** Key findings of the Block 1 study were provided to Sydney Metro and the following key stakeholders in July 2023 for review and feedback:
  - Transport for NSW (TfNSW)
  - Willoughby City Council
  - North Sydney City Council

- City of Sydney
- Inner West Council.

Additionally, Block 1 study findings were presented to TfNSW, Willoughby City Council and Inner West Council. **Appendix A** provides the minutes from these stakeholder meetings.

1.4 Structure of this report

This report is structured as follows:

- Section 1.0 provides an introduction to the Project.
- Section 2.0 provides the context and background of the Project.
- Section 3.0 outlines the study area of the Project.
- Section 4.0 describes the methodology adopted for the traffic and interchange operation assessments.
- Section 5.0 details the traffic monitoring and intersection performance.
- Section 6.0 details the interchange monitoring performance.
- Section 7.0 provides a summary of the traffic and interchange monitoring.

2.0 Context and background

This section provides an overview of the strategic context of the Project within the overall Sydney Metro program and the background of the CSSI Conditions of Approval (CoA) for the Sydney Metro City & Southwest Line (Chatswood to Sydenham).

2.1 Context

Sydney Metro is Australia's largest public transport project, aiming to alleviate congestion, improve connectivity, and support the growing population and economic needs of Sydney. The main objectives of Sydney Metro are to enhance the overall transport experience, establish a robust and sustainable transport system, increase public transport usage and enhance the resilience of the transport network.

By 2030, Sydney Metro is expected to create a network of four metro lines (Northwest, West, Western Sydney Airport, and City & Southwest), spanning 113 kilometres, and encompassing 46 stations.

2.1.1 Sydney Metro Northwest

Sydney Metro Northwest marked the initial phase of the Sydney Metro project, commencing operations in May 2019. Spanning approximately 36 kilometres from Tallawong to Chatswood, this line consists of 13 stations.

2.1.2 Sydney Metro City & Southwest

Sydney Metro City & Southwest further extends the constructed Sydney Metro Northwest from Chatswood to Bankstown via the Sydney Central Business District (CBD) with 30 kilometres of metro rail. Sydney Metro City & Southwest between Chatswood and Sydenham is due to open in 2024 with seven new metro stations and 11 upgraded stations, as shown in **Figure 2-1**. This will establish connectivity between metro stations in the city and southwest with those further west, including future metro stations on the Sydney Metro West and Sydney Metro Western Sydney Airport.

Sydney Metro City & Southwest project consists of two phases: Chatswood to Sydenham; and Sydenham to Bankstown. This study focuses on the assessments for the Chatswood to Sydenham phase of the Sydney Metro City & Southwest project.

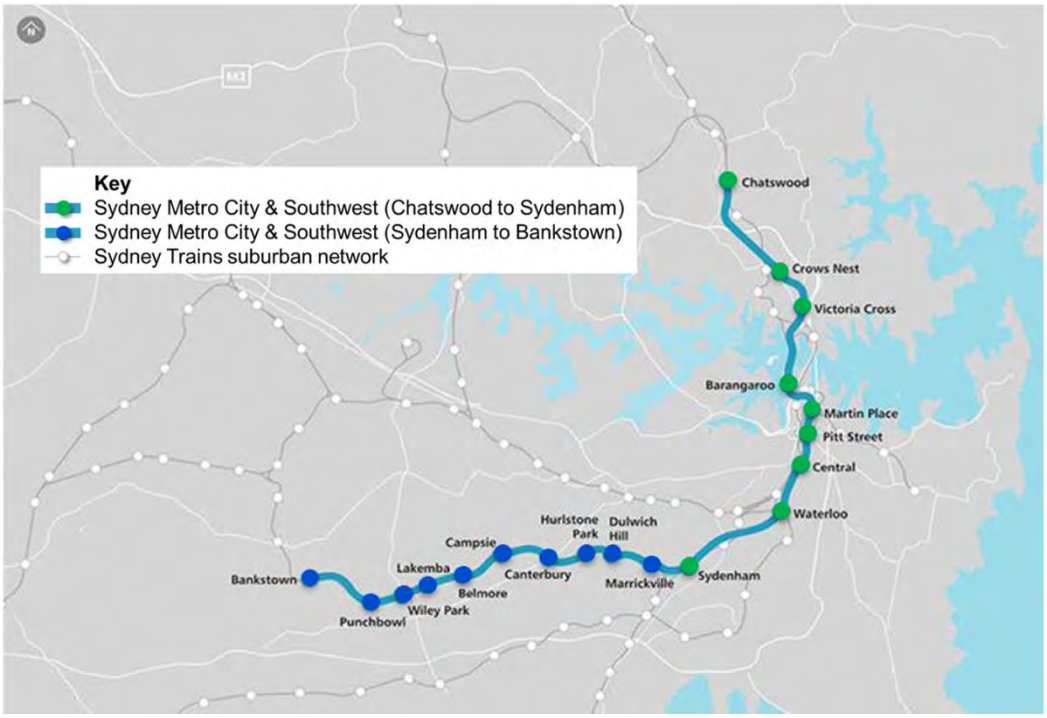


Figure 2-1 Sydney Metro City & Southwest overview

2.1.3 Sydney Metro West

Sydney Metro West is an upcoming 24-kilometre metro line that will establish a vital connection between Greater Parramatta and the Sydney CBD, linking the communities along its route. This line will incorporate 10 new metro stations, located at key destinations including Westmead, Parramatta, Sydney Olympic Park, The Bays Precinct, and the Sydney CBD.

Construction for the Sydney Metro West project commenced in 2020 and is currently in progress.

2.1.4 Sydney Metro Western Sydney Airport

Sydney Metro Western Sydney Airport line is an upcoming 23-kilometre line and will link the new Western Sydney International (Nancy-Bird Walton) Airport with the Western Sydney Aerotropolis, and St Marys. The Sydney Metro Western Sydney Airport project includes the construction of six new metro stations and will provide connectivity to the existing Sydney Trains suburban T1 Western Line.

Construction for the Sydney Metro Western Sydney Airport project commenced in 2020 and is currently in progress.

2.2 Background

On 10 January 2017, the NSW Minister for Planning granted approval to the CSSI application for the Sydney Metro City & Southwest Chatswood to Sydenham. The infrastructure approval, which is regulated under Section 115ZB of the *Environmental Planning and Assessment Act 1979*, is subject to the Minister's conditions of approval for the CSSI.

The Conditions of Approval are administered by the NSW Department of Planning and Environment (previously the NSW Department of Planning, Industry and Environment) and delivered by the Proponent – Sydney Metro.

Part D of the Conditions of Approval outlines conditions for environmental management during operations of the project. Condition D12 specifies the requirement for traffic operational monitoring of the Project as per the following requirement:

> *"Traffic on local roads around each station must be monitored 12 months before the CSSI commences operation and for a period of no less than 12 months after commencement of operation. If monitoring indicates unacceptable traffic intrusion on local roads/streets as a result of operation of the CSSI beyond those that could reasonably be predicted in the EIS and/or Interchange Access Plan(s) in Condition E92, appropriate traffic management measures to mitigate the monitored impacts must be implemented following consultation with the Sydney Coordination Office and Relevant Road Authorities."*

3.0 Study area

This section provides an overview of the study area for both traffic and interchange monitoring, which was identified by Sydney Metro in consultation with key stakeholders (as listed in **Section 1.3)** during late 2022.

3.1 Overview

The Sydney Metro City & Southwest Line (Chatswood to Sydenham) includes a total of nine stations. For ease of referencing, each station has been assigned a three-character identifier based on the TfNSW Asset Reference Codes Register[1]. **Table 3-1** displays the list of these stations along with their corresponding identifiers.

Table 3-1 Station three-character identifiers

Station	Station ID[1]
Chatswood	CWD[3]
Chatswood Dive Site[2]	
Crows Nest	CST
Victoria Cross	VIC
Barangaroo	BGU
Martin Place	MPL
Pitt Street	PIT
Central	CEN
Waterloo	WLO
Sydenham	SYD

Notes:

1) *TfNSW Asset Codes Register TS 01499:2.00 Version 2 has been used as a reference.*
2) *Chatswood Dive Site is not a station*
3) *Note CWD refers to Chatswood Dive Site in the context of the traffic assessment and Chatswood Station in the context of the interchange operation monitoring assessment.*

All stations in Block 1, except Sydenham Station, had either traffic monitoring or interchange operation monitoring, while Sydenham Station had both intersection and interchange monitoring.
Table 3-2 outlines the type of assessment undertaken for each station in the Block 1 study.

Table 3-2 Assessments undertaken for each station in Block 1

Station	Traffic monitoring	Interchange monitoring	Remarks
Chatswood	✗	✓	No changes to road network
Chatswood Dive Site	✓	✗	No new kerbside usage proposed
Crows Nest	✓	✗	Interchanges not operational during Block 1
Victoria Cross	✓	✗	Interchanges not operational during Block 1
Barangaroo	✓	✗	Interchanges not operational during Block 1
Martin Place	✓	✗	No new kerbside usage proposed

Station	Traffic monitoring	Interchange monitoring	Remarks
Pitt Street	✓	✗	No new kerbside usage proposed
Central	✓	✗	No new kerbside usage proposed
Waterloo	✓	✗	Interchanges not operational during Block 1
Sydenham	✓	✓	Nil

3.2 Traffic monitoring

The study area for traffic monitoring comprises a total of 65 intersections spread across the nine stations. To facilitate ease of reference, each intersection is assigned two unique identifiers:

- Intersection ID: A five-character code formed by combining the three-character identifier of the corresponding station (as listed in **Table 3-1**) with the index of the intersection within the study area surrounding that station. For example, CEN03 represents the third intersection in the Central Station study area.
- S.ID: A two-character identifier used to index all intersections within the Project study area.

Table 3-3 outlines each intersection's S.ID, Intersection ID, traffic control signal (TCS) ID designated by TfNSW, name, and control type. Of the 65 intersections within the study area, 60 intersections were assessable via SIDRA Intersection modelling during Block 1. The following pedestrian mid-block crossings were not operational during Block 1 and hence excluded from the analysis:

- BGU16 – New Pedestrian Mid-block Crossing at New Hickson Road (north of Metro Station)
- BGU17 – New Pedestrian Mid-block Crossing at New Hickson Road (south of Metro Station)
- CEN04 – New Pedestrian Mid-block Crossing at Randle Lane
- WLO06 – New Pedestrian Mid-block Crossing at Cope Street.

Additionally, the pedestrian bridge crossing along Mowbray Road (CWD02) was solely included in traffic surveys for data collection and was not modelled.

Figure 3-1 to Figure 3-9 depict the location of each intersection within each station's study area based on their Intersection ID.

Table 3-3 Traffic assessment intersections

S.ID	Intersection ID	TCS ID	Intersection name	Intersection control type
01	CWD01	3037	Mowbray Road / Hampden Road	Signal
02	CWD02	-	Pedestrian Bridge Crossing along Mowbray Road	Pedestrian only - Bridge Crossing
03	CST01	768	Pacific Highway / Albany Street	Signal
04	CST02	767	Pacific Highway / Oxley Street	Signal
05	CST03	766	Pacific Highway / Hume Street	Signal
06	CST04	765	Pacific Highway / Falcon Street / Shirley Road	Signal
07	CST05	-	Clarke Street / Oxley Street	Priority - Give Way
08	CST06	-	Clarke Street / Hume Street	Priority - Give Way
09	CST07	-	Clarke Street / Willoughby Road	Priority - Give Way

S.ID	Intersection ID	TCS ID	Intersection name	Intersection control type
10	CST08	516	Albany Street / Willoughby Road	Signal
11	CST09	-	Albany Street / Oxley Street	Roundabout
12	CST10	-	Albany Street / Clarke Lane	Priority - Give Way
13	CST11	-	Oxley Street / Clarke Lane	Priority - Give Way
14	CST12	-	Hume Street / Clarke Lane	Priority - Stop
15	CST13	763	Pacific Highway / Alexander Street	Signal
16	CST14	764	Falcon Street / Alexander Street	Signal
17	VIC01	1206	Pacific Highway / Berry Street	Signal
18	VIC02	874	Miller Street / Berry Street	Signal
19	VIC03	1156	Miller Street / McLaren Street	Signal
20	VIC04	630	Pacific Highway / Miller Street	Signal
21	BGU01	-	Hickson Road / Towns Place	Priority - Give Way
22	BGU02	-	Dalgety Road / Towns Place	Roundabout
23	BGU03	-	Kent Street / Argyle Street	Priority - Give Way
24	BGU04	4272	Pedestrian Mid-block Crossing at Kent Street near Gas Lane	Pedestrian only - Signal
25	BGU05	4272	Kent Street / Sydney Harbour Bridge (SHB) On-ramp	Signal
26	BGU06	4625	Hickson Road / Napoleon Street / Sussex Street	Signal
27	BGU07	308	Margaret Street / Kent Street / Napoleon Street	Signal
28	BGU08	319	Margaret Street / Clarence Street	Signal
29	BGU09	3042	Margaret Street / York Street	Signal
30	BGU10	3939	Pedestrian Mid-block Crossing at Sussex Street under Exchange Place	Pedestrian only - Signal
31	BGU11	4109	Pedestrian Mid-block Crossing at Kent Street near Margaret Street	Pedestrian only - Signal
32	BGU12	310	Sussex Street / Erskine Street	Signal
33	BGU13	307	Kent Street / Erskine Street	Signal
34	BGU14	284	Sussex Street / King Street	Signal
35	BGU15	283	Kent Street / King Street	Signal
36	BGU16	-*	New Pedestrian Mid-block Crossing at New Hickson Road (north of Metro Station)	Pedestrian only - Signal
37	BGU17	-*	New Pedestrian Mid-block Crossing at New Hickson Road (south of Metro Station)	Pedestrian only - Signal
38	BGU18	305	Shelley Street / Erskine Street	Signal

S.ID	Intersection ID	TCS ID	Intersection name	Intersection control type
39	MPL01	244	Hunter Street / Castlereagh Street / Bligh Street	Signal
40	MPL02	302	Hunter Street / Elizabeth Street / Chifley Square	Signal
41	MPL03	1412	Bent Street / Bligh Street	Signal
42	MPL04	242	Bent Street / Phillip Street	Signal
43	MPL05	245	Pedestrian Mid-block Crossing at Castlereagh Street	Pedestrian only - Signal
44	MPL06	287	Pedestrian Mid-block Crossing at Elizabeth Street	Pedestrian only - Signal
45	PIT01	2312	Pitt Street / Bathurst Street	Signal
46	PIT02	2281	Castlereagh Street / Bathurst Street	Signal
47	PIT03	250	Park Street / Castlereagh Street	Signal
48	PIT04	235	Park Street / Pitt Street	Signal
49	CEN01	293	Elizabeth Street / Eddy Avenue	Signal
50	CEN02	293	Elizabeth Street / Foveaux Street	Signal
51	CEN03	-	Elizabeth Street / Cooper Street	Priority - Give Way
52	CEN04	-*	New Pedestrian Mid-block Crossing at Randle Lane	Pedestrian only - Signal
53	CEN05	2916	Elizabeth Street / Randle Street	Signal
54	WLO01	47	Botany Road / Raglan Street / Henderson Road	Signal
55	WLO02	-	Raglan Street / Cope Street	Roundabout
56	WLO03	137	Botany Road / Wellington Street / Buckland Street	Signal
57	WLO04	-	Cope Street / Wellington Street	Roundabout
58	WLO05	55	Wyndham Street / Henderson Road	Signal
59	WLO06	-*	New Pedestrian Mid-block Crossing at Cope Street	Pedestrian only - Signal
60	SYD01	3320	Railway Parade / Gleeson Avenue	Signal
61	SYD02	1152	Burrows Avenue / Gleeson Avenue	Signal
62	SYD03	-	Burrows Avenue / George Street	Priority - Give Way
63	SYD04	4946	Pedestrian Mid-block Crossing at Sydenham Road	Pedestrian only - Signal
64	SYD05	-	Marrickville Road / Buckley Street	Priority - Give Way
65	SYD06	-	Sydenham Road / Buckley Street	Priority - Give Way

**Note: The new pedestrian mid-block crossings were under construction during Block 1 and were not assigned a TCS number.*

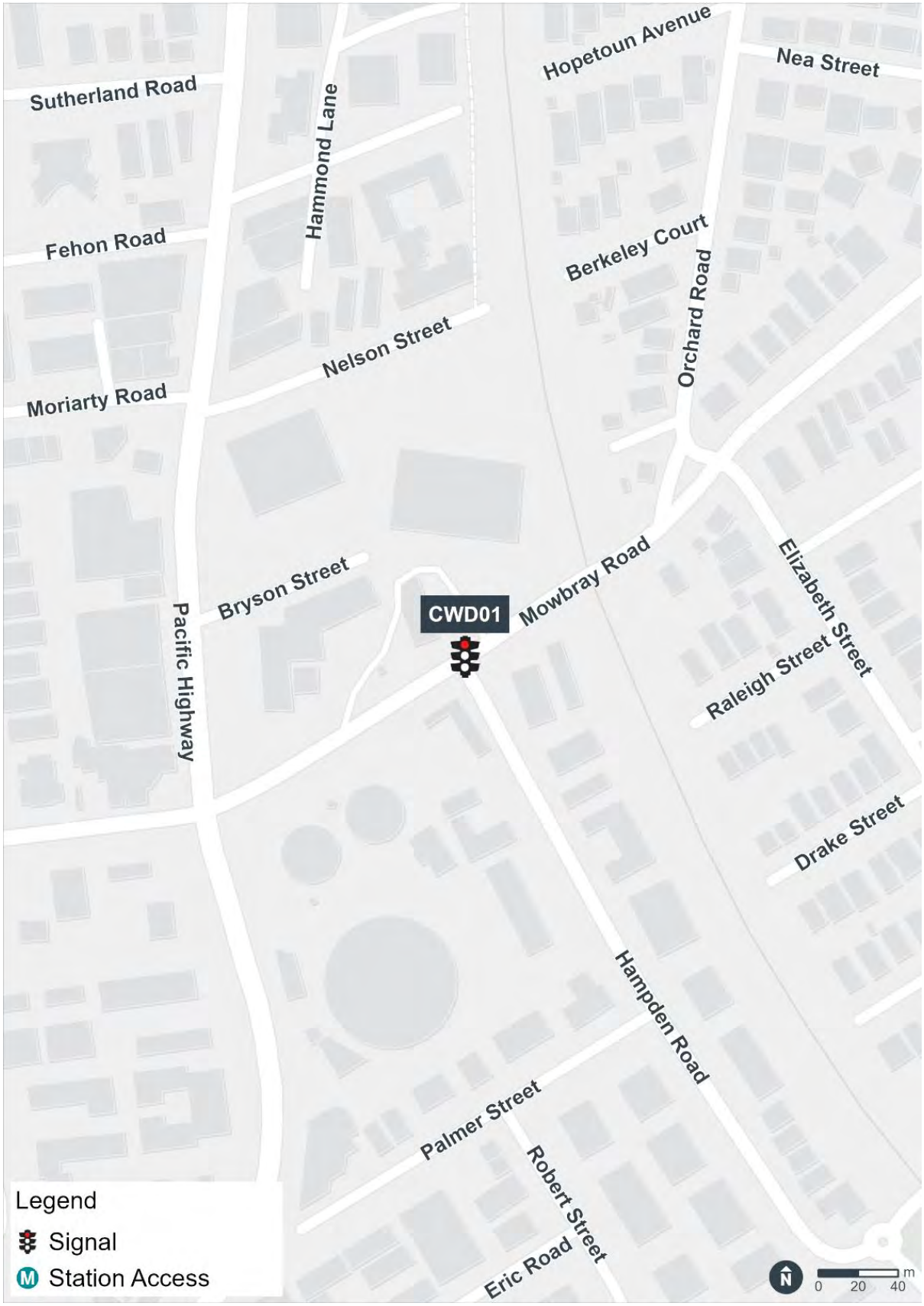


Figure 3-1 Block 1 – Chatswood Dive Site traffic study area

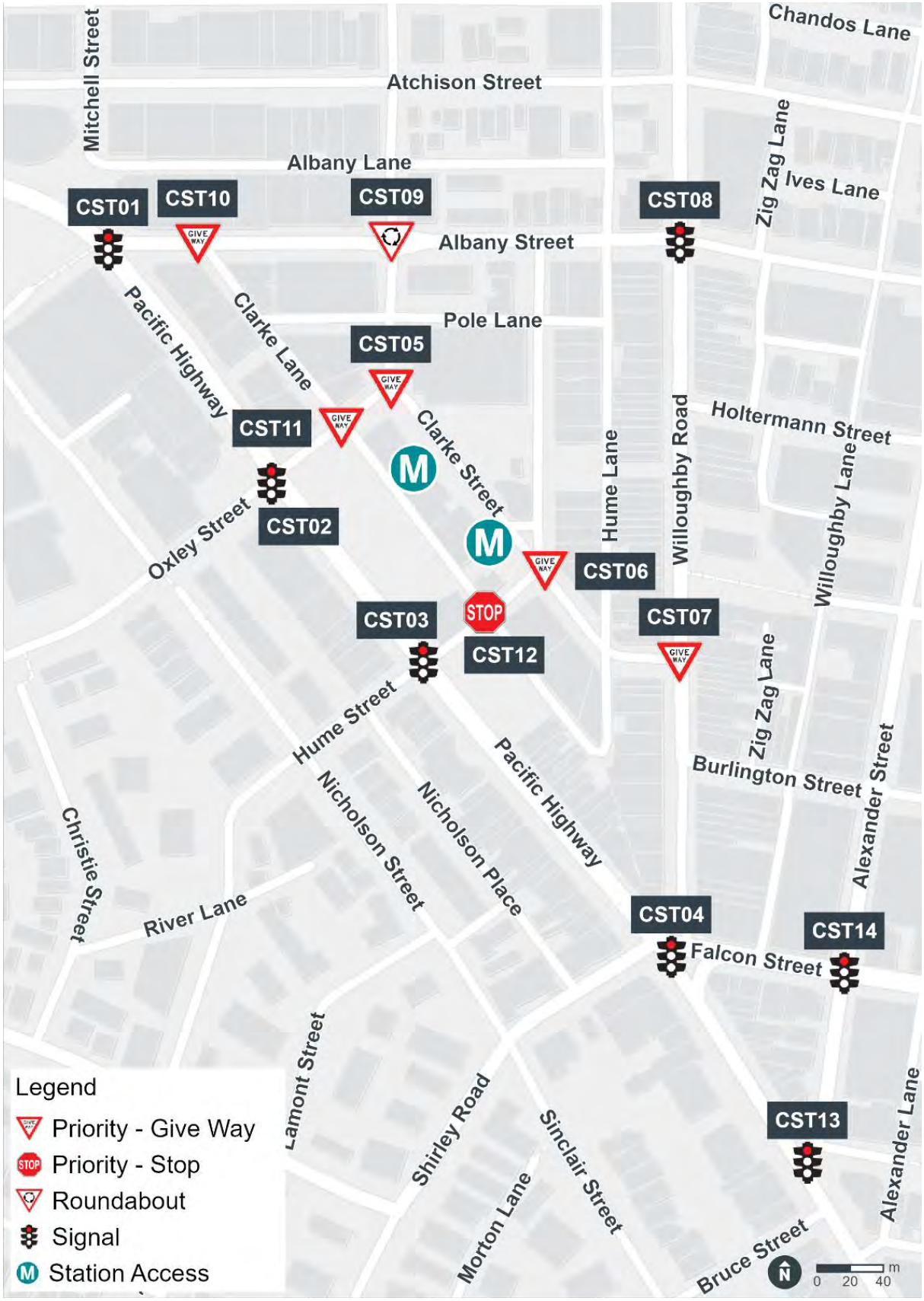


Figure 3-2 Block 1 – Crows Nest Station traffic study area

Figure 3-3 Block 1 – Victoria Cross Station traffic study area

Figure 3-4 Block 1 – Barangaroo Station traffic study area

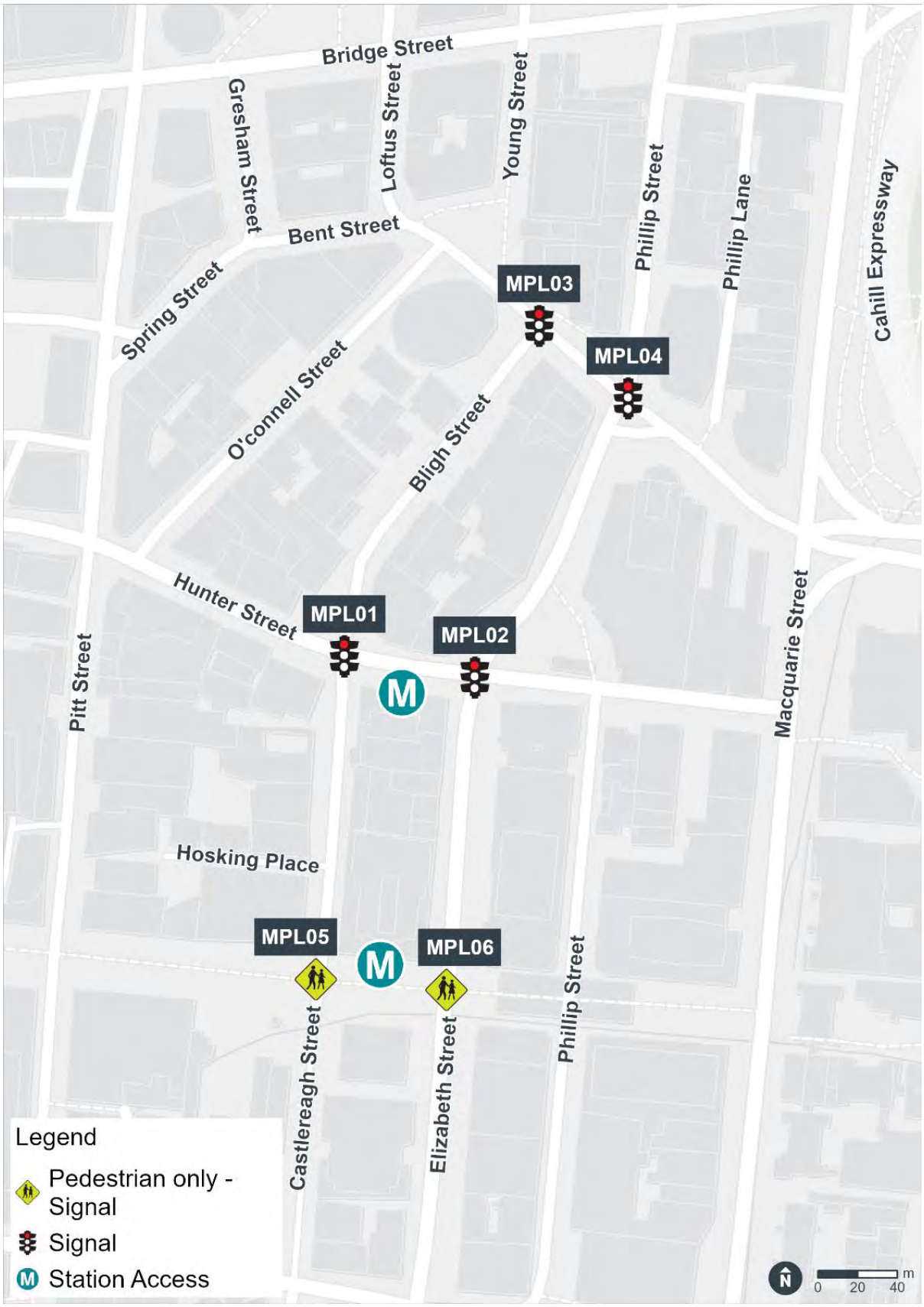


Figure 3-5 Block 1 – Martin Place Station traffic study area

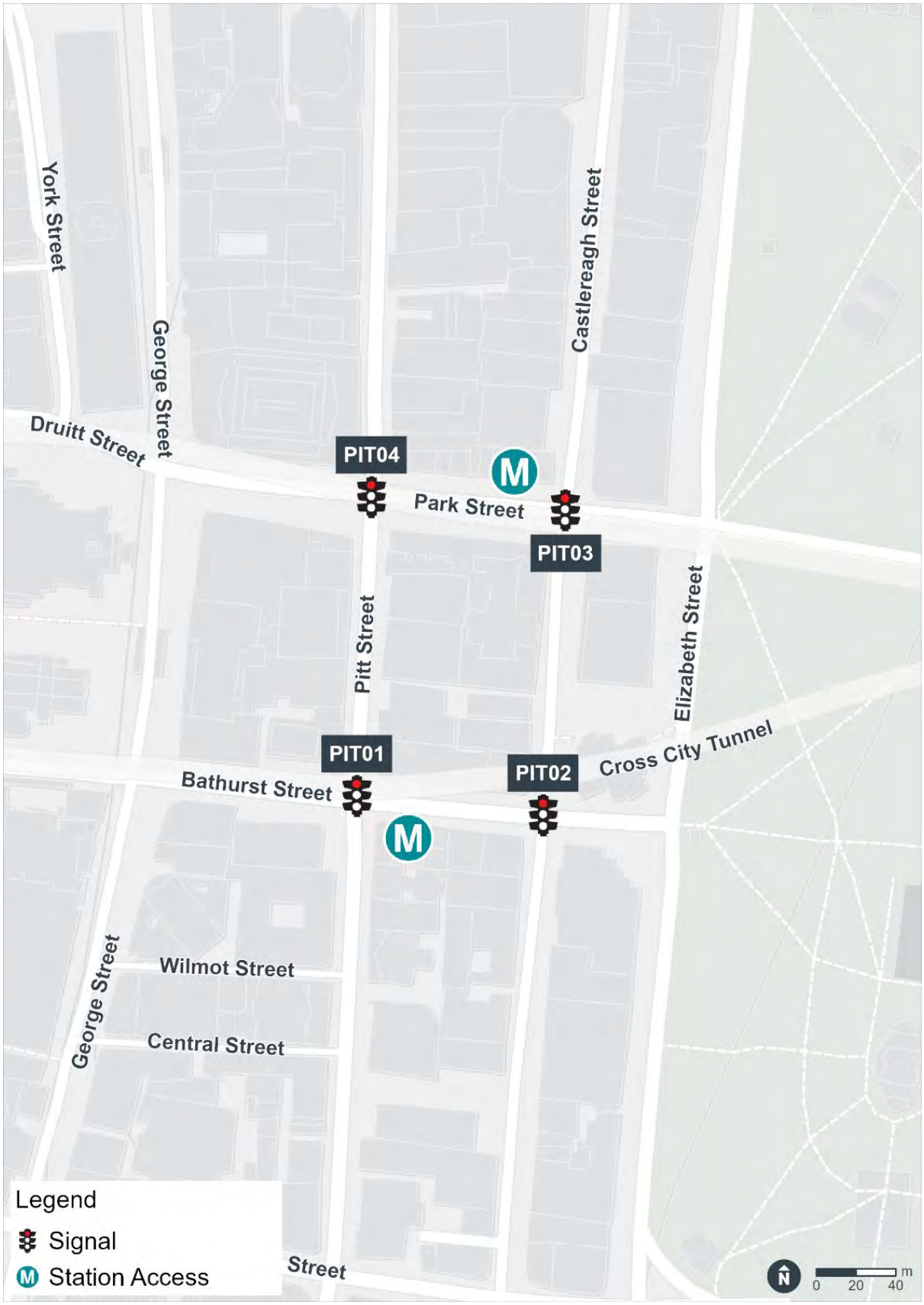


Figure 3-6 Block 1 – Pitt Street Station traffic study area

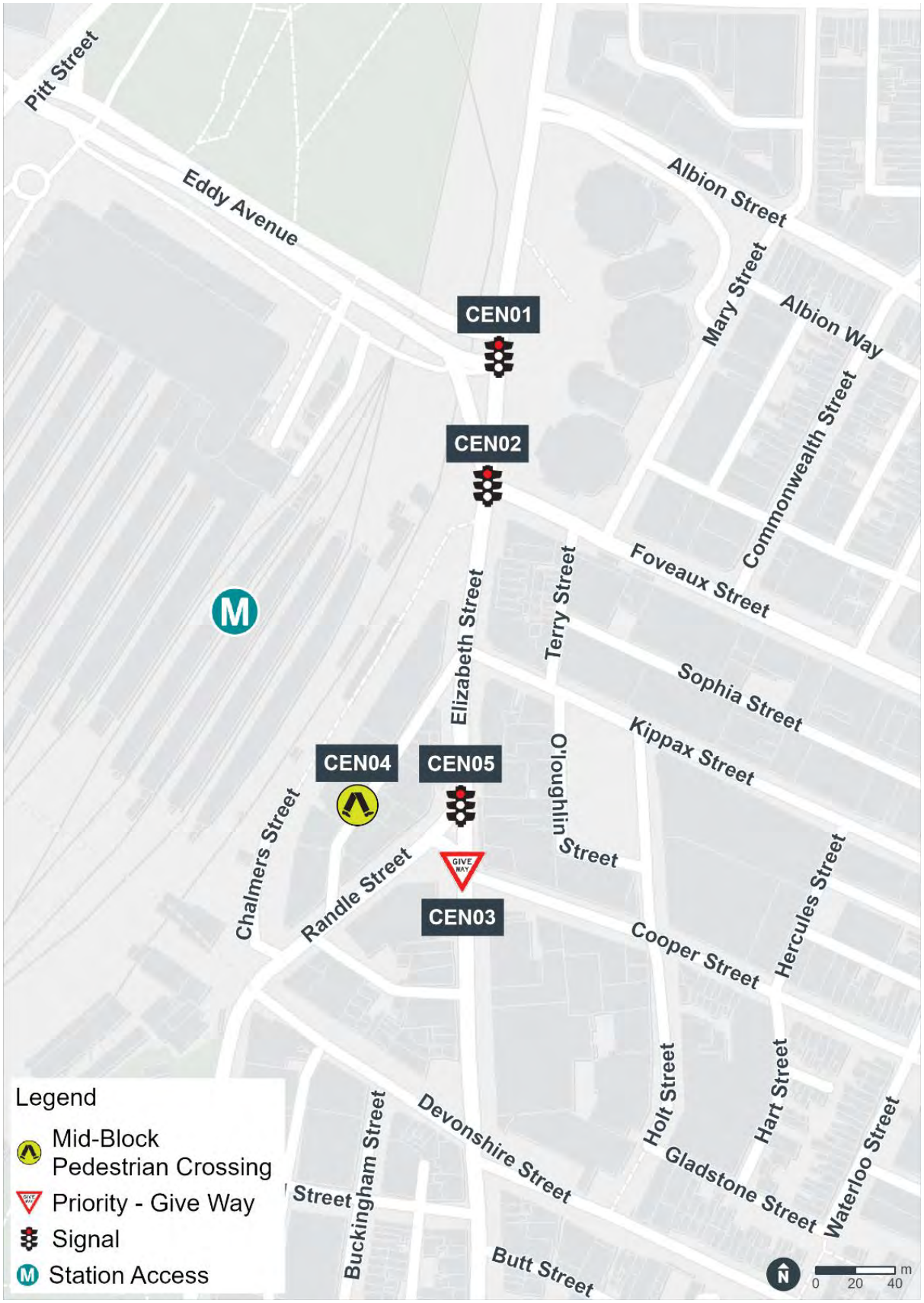


Figure 3-7 Block 1 – Central Station traffic study area

Figure 3-8 Block 1 – Waterloo Station traffic study area

Figure 3-9 Block 1 – Sydenham Station traffic study area

3.3 Transport interchange monitoring

The transport interchange monitoring study area includes taxi, bus stop and kiss and ride facilities located near the nine stations along the City & Southwest Line (Chatswood to Sydenham). In Block 1, surveys were conducted only for facilities near operating interchanges, namely Chatswood Station and Sydenham Station.

Similar to the intersections in the traffic study area, a five-character identifier was assigned to each taxi, bus stop and kiss and ride facility for ease of referencing, with the first three-characters matching the station identifiers in **Table 3-1**. The fourth character identifies the type of interchange facility and the fifth character indexes it.

Table 3-4 outlines the interchange facilities assessed in the Block 1 study, including the associated type, identifier, station, street and side of road location, and number of bays.

Table 3-4 Block 1 – park and ride facilities

Type	ID	Station	Street	Side of road	Number of bays
Kiss and ride	CWDK1	Chatswood	Railway Street	West	1
Kiss and ride	CWDK2	Chatswood	Albert Avenue	North	2
Kiss and ride	CWDK3	Chatswood	Endeavour Street	North	2
Taxi	CWDT1	Chatswood	Victoria Avenue	North	11
Taxi	CWDT2	Chatswood	Endeavour Street	North	2
Bus*	SYDB1	Sydenham	Railway Parade	South	3
Kiss and ride	SYDK1	Sydenham	Burrows Avenue	North	4
Kiss and ride**	SYDK2	Sydenham	Sydenham Road	East	2
Taxi	SYDT1	Sydenham	Burrows Avenue	North	2
Accessible kiss and ride***	SYDA1	Sydenham	Bolton Street	North	1

**Note: SYDB1 encompasses transit stop number (TSN) 220421, TSN 2204125 and TSN 220450.*

***Note: SYDK2 is a proposed kiss and ride facility and did not operate as such during Block 1. It has been included as part of the Block 1 study for comparison with future study blocks.*

****Note: SYDA1 is a proposed accessible kiss and ride facility and operated as an accessible parking space during Block 1. It has been included as part of the Block 1 study for comparison with future study blocks.*

Figure 3-10 and **Figure 3-11** depict the location of each taxi, bus stop and kiss and ride facility assessed surrounding Chatswood Station and Sydenham Station, respectively.

Figure 3-10 Block 1 – Chatswood Station interchange study area

Figure 3-11 Sydenham Station interchange assessment study area

4.0 Assessment methodology

This section details the traffic and transport interchange monitoring assessment methodology undertaken for the intersections within study area and the park and ride facilities surrounding the stations identified in **Section 3.2** and **Section 3.3**, respectively.

4.1 Traffic monitoring

Figure 4-1 provides an overview of the adopted methodology for the traffic monitoring, with further clarifications and details are provided in the subsequent sections.

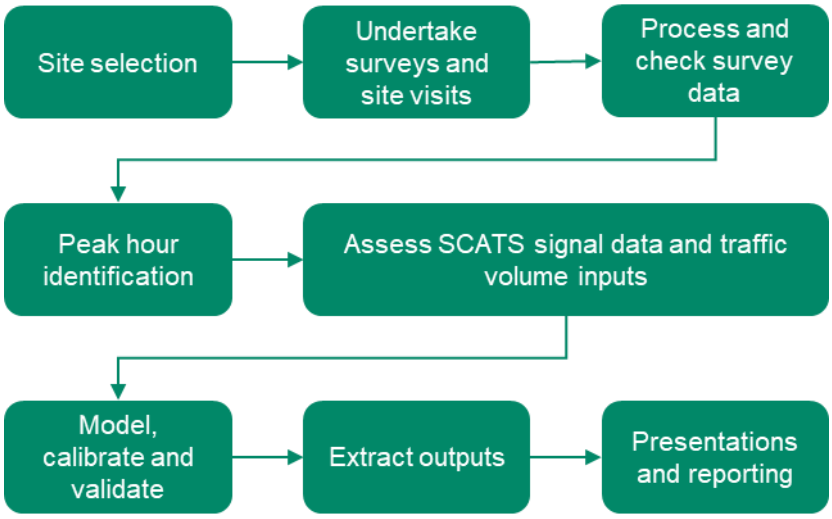


Figure 4-1 Traffic assessment methodology overview

4.1.1 Traffic surveys

Classified intersection counts were undertaken for 61 of the 65 study area intersections (as outlined in **Section 3.2**). The traffic surveys were carried out over a one-week period, and the data was aggregated in 15-minute intervals. In cases where data was corrupted or unavailable due to vandalism, re-surveys were conducted. The survey dates were as follows:

- **Traffic Surveys**: Monday 27 March 2023 to Sunday 3 April 2023 or Tuesday 28 March 2023 to Monday 3 April 2023
- **Re-Surveys**: Monday 1 May 2023 to Sunday 7 May 2023.

During the traffic surveys, data was gathered for various vehicle types, such as light vehicles, heavy vehicles, and buses, as well as for cyclists and pedestrians. Furthermore, queue lengths were also documented during the traffic surveys to aid in validating the SIDRA Intersection models.

AECOM conducted site observations in conjunction with the traffic surveys, ensuring at least one observation was carried out for each intersection during each peak period specified in **Section 4.1.2** (excluding the Monday and Friday). The site observations were conducted to observe various aspects, including vehicle behaviours, any changes in lane geometry or capacity, and the condition of the traffic survey cameras to ensure that they were properly set up and not vandalised.

Sydney Coordinated Adaptive Traffic System (SCATS) traffic detector count data was provided by Sydney Metro, for the same dates traffic surveys were undertaken. The traffic survey data were reviewed against the SCATS traffic detector count data to identify any potential outliers. Intersections with traffic survey volumes greater than or less than 10 per cent of the SCATS volumes underwent additional investigation and / or recounting of the traffic surveys. Once the traffic survey data were reviewed and finalised, additional data analysis was conducted as detailed in the subsequent sections.

4.1.2 Peak hour identification

Peak one-hour periods were identified for each intersection during three peak periods listed below:

- weekday AM peak: 6am–10am, Monday to Friday
- weekday PM peak: 3pm–7pm, Monday to Friday
- weekend peak: 10am–2pm, Saturday to Sunday.

It is important to note that the identified peak hour varies between different locations. However, the peak hours fall within the time periods listed above.

Each intersection was modelled as either an isolated site or as part of a network, as described in **Appendix B**. In the case of intersections modelled as an isolated site, the peak hour was determined by considering the total hourly volume (light vehicles, heavy vehicles, and buses) at the intersection. Conversely, for intersections modelled as part of a network, the peak hour was determined by considering the total hourly volume across the network at approaches connecting to the external network.

4.1.3 Network flow diagrams

A review was undertaken to identify any variations in peak hour traffic volumes between mid-blocks connecting adjacent intersections within the same network. These variations were primarily due to minor counting discrepancies or due to side streets, property and parking access. In majority of the instances, survey volumes were used for the intersection modelling. However, for instances where there were no side streets, property or parking access, a conservative approach was adopted to balance the traffic volumes at such locations. Additionally, considering the fixed schedule of bus routes, adjustments were made to bus volumes whenever large discrepancies were observed.

The resulting peak hour volumes were utilised as the turning volume inputs for the SIDRA Intersection models. The network flow diagrams used to inform the traffic and pedestrian volume inputs for SIDRA Intersection modelling are included in **Appendix C**.

4.1.4 SCATS signal and sub-systems data

In addition to the SCATS detector count data, SCATS traffic signal data was also provided for each intersection during their respective peak hours, which aligned with the traffic survey dates.

The SCATS traffic signal data included historical information on the signal phase sequence and signal phase time frequency, as well as sub-system information for signalised intersections modelled as a part of a network. Furthermore, the signal phase sequence was reviewed against traffic survey footage to determine if any signal phases were not executed or ran in a different order. Moreover, the traffic survey footage was also examined to ascertain whether the early cut-off or late-start movements, observed during site visits, also occurred during the peak hours modelled.

4.1.5 SIDRA Intersection modelling

The performance of the intersections was assessed using either the site or network function (refer to **Appendix B**) of the SIDRA Intersection software, adopting the peak hour volumes, and SCATS traffic signal data. Detailed SIDRA Intersection modelling was conducted for the intersections within the study area. The geometry of the intersections was established using desktop aerial imagery from sources such as Nearmap and Google Streetview, which was then validated through on-site observations. The models were specifically developed for the identified peak hours within the peak periods (**Section 4.1.2**), incorporating the peak volume inputs derived from the network flow diagrams (**Section 4.1.3**), as well as the SCATS signal data and sub-systems information (**Section 4.1.4**).

The modelled queues were validated against the queue length surveys and traffic survey footage.

4.1.6 Intersection performance assessment

The standard measure of intersection performance is vehicle delay, which is used to assess the efficiency of an intersection. SIDRA Intersection adopts the Transport for NSW Traffic Modelling Guidelines which categorises average intersection delay into six bands of average delay per vehicle (seconds per vehicle). These bands are determined based on the criteria outlined in **Table 4-1**. By analysing the average delay, SIDRA Intersection determines the level of service (LoS) for the intersection, a measure of the intersection performance.

Table 4-1 Intersection level of service criteria

Level of service (LoS)	Average delay (seconds per vehicle)	Criteria for traffic signals	Criteria for give way and stop signs
A	< 14	Good operation	Good operation
B	15 to 28	Good operation with acceptable delays and spare capacity	Good operation with acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	42 to 56	Near capacity	Near capacity and accident study required
E	57 to 70	At capacity; at signals, incidents will cause excess delays	At capacity, requires other control mode
F	> 70	Extra capacity required	At capacity, requires other control mode

Source: TfNSW Traffic Modelling Guidelines, LOS definitions for vehicles (NSW method) based on delay only

It is noted that the critical movement for level of service at a roundabout or priority-controlled intersection is the movement with the worst delay, whereas for a signalised intersection, the average delay over all movements is adopted.

4.2 Transport interchange monitoring

Figure 4-2 provides an overview of the adopted methodology for the interchange monitoring, with further clarifications and details are provided in the subsequent sections.

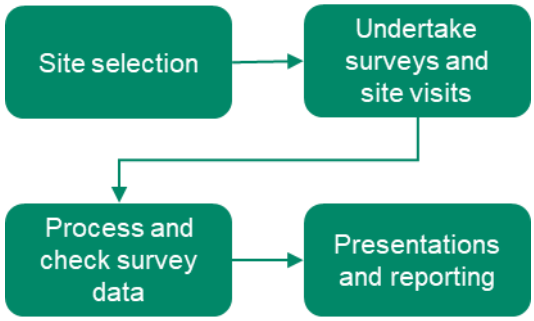


Figure 4-2 Interchange assessment methodology overview

4.2.1 Interchange surveys

Interchange surveys were undertaken at taxi, bus stop and kiss and ride facilities located at Chatswood Station and Sydenham Station (as outlined in **Section 3.3**).

The interchange surveys were carried out over a one-week period similar to intersection surveys, and re-surveys were conducted at sites where data was corrupted or unavailable due to vandalism. The survey dates are as follows:

- **Traffic Surveys**: Tuesday 28 March 2023 to Monday 3 April 2023
- **Re-Surveys**: Monday 1 May 2023 to Sunday 7 May 2023.

As part of the interchange surveys, data was gathered for the park and ride facilities, comprising bus bays/stops, taxi bays, and kiss and ride bays. The key data captured at each facility includes:

- vehicle counts
- vehicle occupancy (boarding and alighting passengers only)
- vehicle dwell time
- vehicle queue length outside the bay on a lane-by-lane basis.

Site observations were completed in conjunction with the interchange surveys, ensuring at least one observation was carried out for each park and ride facility during each of the following peak periods:

- weekday AM peak: 6am–10am, Tuesday to Thursday
- weekday PM peak: 3pm–7pm, Tuesday to Thursday
- weekend peak: 10am–2pm, Saturday to Sunday.

During the survey period, AECOM conducted site observations in conjunction with the data collection process. These observations aimed to monitor several aspects, such as kerbside lane usage, queuing outside the bays, and the condition of the interchange survey cameras, ensuring they were correctly set up and not subject to vandalism.

4.2.2 Aggregation and analysis

The interchange survey data was consolidated and analysed, categorising the data based on facility type (taxi, bus stop, or kiss and ride) to understand usage patterns at the park and ride facilities near the stations. A high-level exploratory analysis of the combined data was conducted to identify the daily vehicle trends for the key data types outlined in Section 4.2.1.

To ensure the accuracy and reliability of the findings, the identified trends were compared with the survey footage. In cases where discrepancies were detected, the survey data was recounted and/or rechecked to provide reliable results. The findings from this analysis are reported in Section 6.0.

5.0 Traffic monitoring and intersection performance

This section summarises the traffic monitoring and intersection performance outputs from traffic survey data and SIDRA Intersection modelling undertaken across the Block 1 study area.

Appendix D provides an overview of the average vehicle profile, traffic volumes, cyclist and pedestrian patterns for each station.

The SIDRA Intersection movement summary outputs for all modelled intersections during each peak period are shown in **Appendix E**.

5.1 Chatswood Dive Site

The Chatswood Dive Site is a temporary underground site facilitating excavation and construction works for the City & Southwest Line tunnel portal from Chatswood Station. Although not accessible to the general public, the Chatswood Dive Site facilitates the movement of workers and equipment to access the underground areas where crucial tunnelling and other metro construction operations take place. When the Sydney Metro City & Southwest Line (Chatswood to Sydenham) is operational, the Chatswood Dive Site will be used as a service facility for the operation of the Sydney Metro rail line between Chatswood and the Sydney CBD (and beyond).

The Chatswood Dive Site is located south of Chatswood Station and north of Artarmon Station, bound by the Pacific Highway (A1), Mowbray Road and Nelson Street in Chatswood. Bus services are available within approximately 200 metres west of the Chatswood Dive Site on the Pacific Highway (A1) and Mowbray Road. Artarmon Station, approximately 600 metres south of the Chatswood Dive Site, offers the nearest rail service. The pedestrian bridge crossing along Mowbray Road connects residents to the east with the Pacific Highway (A1), facilitating walking and cycling in addition to general traffic.

The Chatswood Dive Site study area consists of two study sites; however, the pedestrian bridge crossing along Mowbray Road (CWD02) was not modelled given it does not function as an intersection or mid-block crossing. **Table 5-1** presents the peak hours utilised for modelling the intersections. **Table 5-2** provides a summary of the intersection level of service while

Figure 5-1 visualises a geospatial summary of the intersection level of service within the Chatswood Dive Site study area.

Table 5-1 Block 1 – Chatswood Dive Site peak hours modelled

Network ID	Intersection ID	Weekday AM peak hour		Weekday PM peak hour		Weekend peak hour	
		Day	Start time	Day	Start time	Day	Start time
-	CWD01	Wednesday	8.15am	Friday	3.15pm	Saturday	11.15am
-	CWD02	No modelling was undertaken					

Table 5-2 Block 1 - Chatswood Dive Site intersection performance summary

Intersection ID	Intersection	Level of service (LoS)		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
CWD01	Mowbray Road / Hampden Road (Signal)	LOS A	LOS B	LOS A
CWD02	Pedestrian Bridge Crossing along Mowbray Road (Bridge)	No modelling was undertaken.		

Overall, in the Chatswood Dive Site study area, the intersection performance during the peak periods is satisfactory, operating at LOS B or better.

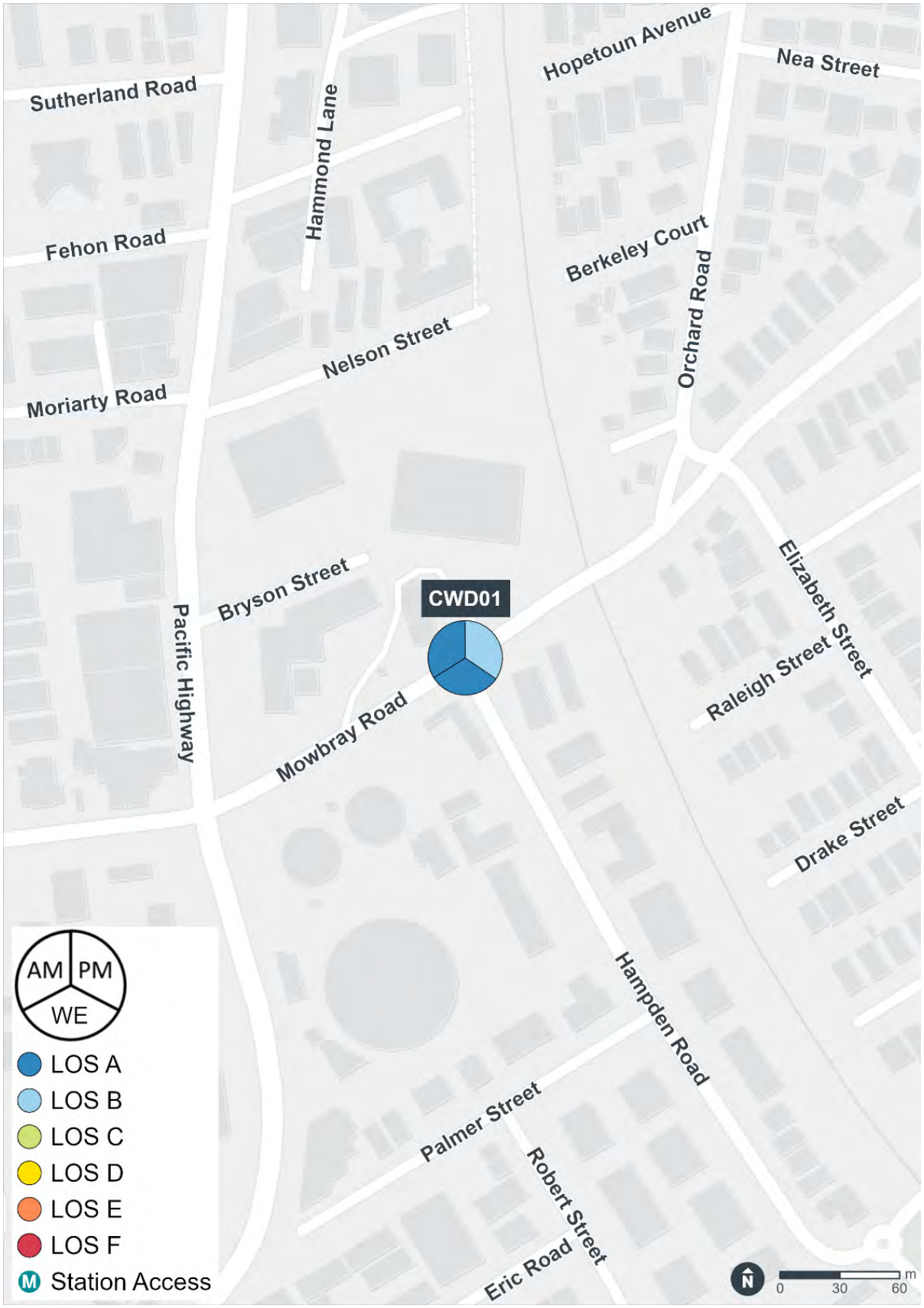


Figure 5-1 Block 1 - Chatswood Dive Site geospatial intersection performance summary

5.1.1 CWD01 – Mowbray Road / Hampden Road

This signalised intersection, composed of Mowbray Road, Hampden Road and the Chatswood Dive Site egress, is located directly south of the Chatswood Dive Site. This intersection serves as a connection point for the local road of Hampden Road, linking Chatswood and Artarmon, and the regional road of Mowbray Road, linking Willoughby to the Lane Cove. Furthermore, the Chatswood Dive Site exits on to Mowbray Road at this intersection. The pedestrian bridge crossing along Mowbray Road (CWD02) was modelled as part of eastern approach of this intersection.

Figure 5-2 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.

Source: Nearmap, accessed on 24 March 2023

Figure 5-2 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CWD01

Table 5-3 presents a performance summary of this intersection.

Table 5-3 Block 1 – Intersection performance summary of CWD01

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Mowbray Road / Hampden Road (Signal)	Weekday AM	South	0.641	64.5	105.7	LOS E
		East	0.409	12.2	119.3	LOS A
		North	0.426	84.0	6.0	LOS F
		West	0.531	4.3	86.5	LOS A
		Total	**0.641**	**12.9**	**119.3**	**LOS A**
	Weekday PM	South	0.574	56.1	89.4	LOS D
		East	0.555	16.3	179.9	LOS B
		North	0.242	73.6	6.3	LOS F
		West	0.445	5.2	58.9	LOS A

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
		Total	**0.574**	**15.0**	**179.9**	**LOS B**
	Weekend	South	0.585	44.0	100.2	LOS D
		East	0.441	11.0	106.0	LOS A
		North	0.002	2.6	0.0	LOS A
		West	0.455	2.4	45.0	LOS A
		Total	**0.585**	**9.7**	**106.0**	**LOS A**

Overall, the intersection of Mowbray Road and Hampden Road performs satisfactorily at LOS B or better. Mowbray Road (east approach) experiences consistent congestion, and vehicles often form queues that extend close to the intersection with Elizabeth Street and Orchard Road.

5.1.2 CWD02 – Pedestrian Bridge Crossing along Mowbray Road

This pedestrian bridge, located east of the intersection of Mowbray Road and Hampden Road and south of the Chatswood Dive Site, provides passage along Mowbray Road for pedestrians, cyclists, and general traffic over the T1 North Shore & Western and T9 Northern rail lines. Mowbray Road is an east-west thoroughfare that connects Willoughby in the east to Lane Cove in the West, intersecting with key roads such as the Pacific Highway (A1).

The pedestrian bridge was not modelled in SIDRA Intersection as it does not function as an intersection or mid-block crossing. Rather it was modelled as an extension of the eastern approach of the intersection of Mowbray Road and Hampden Road (CWD01, refer to **Section 5.1.1**).

5.2 Crows Nest Station

Crows Nest Station is a new underground station and the second stop along the City & Southwest Line (towards Sydenham). It is located in the south-east area of the St Leonards strategic centre, bounded by the Pacific Highway (A1), Oxley Street and Clarke Street in Crows Nest.

Crows Nest Station was still under construction during Block 1. The construction zone incorporated Clarke Lane, south of Oxley Street, and Hume Street, between the Pacific Highway (A1) and Clarke Street. Construction access and egress to the station was facilitated through Clarke Lane at the intersection of Oxley Street and Clarke Lane, while residential access to Clarke Lane was provided at the intersection of Hume Street and Clarke Lane via Clarke Street.

Bus services are available within approximately 150 metres of Crows Nest Station. Bus stops located on the Pacific Highway (A1) facilitate connections to the external Sydney network, while bus stops on Willoughby Road connect to the internal Crows Nest centre. St Leonards Station, approximately 500 metres north-west from Crows Nest Station, offers the nearest rail service. Within a 50-metre distance of Crow Nest Station, an existing cycleway runs along Oxley Street and Clarke Street and pedestrian footpaths are available throughout Crows Nest.

The Crows Nest Station study area consists of 14 intersections. **Table 5-4** presents the peak hours utilised for modelling the intersections. **Table 5-5** provides a summary of the intersection level of service while **Figure 5-3** visualises a geospatial summary of the intersection level of service within the Crows Nest Station study area.

Table 5-4 Block 1 - Crows Nest Station peak hours modelled

Network ID	Intersection ID	Weekday AM peak hour		Weekday PM peak hour		Weekend peak hour	
		Day	Start time	Day	Start time	Day	Start time
CST-N1	CST01	Wednesday	8.15am	Tuesday	4.45pm	Saturday	11.30am
	CST02						
	CST03						
	CST04						
	CST05						
	CST06						
	CST09						
	CST10						
	CST11						
	CST12						
	CST13						
	CST14						
-	CST07	Monday	8.30am	Friday	5.45pm	Saturday	11.45am
-	CST08	Monday	8.15am	Thursday	5.00pm	Saturday	11.30am

Table 5-5 Block 1 - Crows Nest Station intersection performance summary

Intersection ID	Intersection	Level of service (LOS)		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
CST01	Pacific Highway / Albany Street (Signal)	LOS B	LOS C	LOS C
CST02	Pacific Highway / Oxley Street (Signal)	LOS A	LOS B	LOS B
CST03	Pacific Highway / Hume Street (Signal)	LOS A	LOS A	LOS A
CST04	Pacific Highway / Falcon Street / Shirley Road (Signal)	LOS D	LOS C	LOS C
CST05	Clarke Street / Oxley Street (Priority – Give Way)	LOS A	LOS A	LOS A
CST06	Clarke Street / Hume Street (Priority – Give Way)	LOS A	LOS A	LOS A
CST07	Clarke Street / Willoughby Road (Priority – Give Way)	LOS A	LOS A	LOS A
CST08	Albany Street / Willoughby Road (Signal)	LOS B	LOS B	LOS B
CST09	Albany Street / Oxley Street (Roundabout)	LOS A	LOS B	LOS A
CST10	Albany Street / Clarke Lane (Priority – Give Way)	LOS C	LOS B	LOS B
CST11	Oxley Street / Clarke Lane (Priority – Give Way)	LOS A	LOS A	LOS A
CST12	Hume Street / Clarke Lane (Priority – Stop)	LOS A	LOS A	LOS A
CST13	Pacific Highway / Alexander Street (Signal)	LOS B	LOS B	LOS B
CST14	Falcon Street / Alexander Street (Signal)	LOS B	LOS B	LOS B

Overall, in the Crows Nest Station study area, the intersection performance during the peak periods is satisfactory, operating at LOS C or better with the exception of the intersection of the Pacific Highway (A1), Falcon Street and Shirley Road (CST04). While CST04 performs satisfactorily at LOS C during both the weekday PM peak and weekend peak periods, its performance is nearing capacity at LOS D during the weekday AM peak period. **Section 5.2.4** provides further details of CST04 analysis outputs.

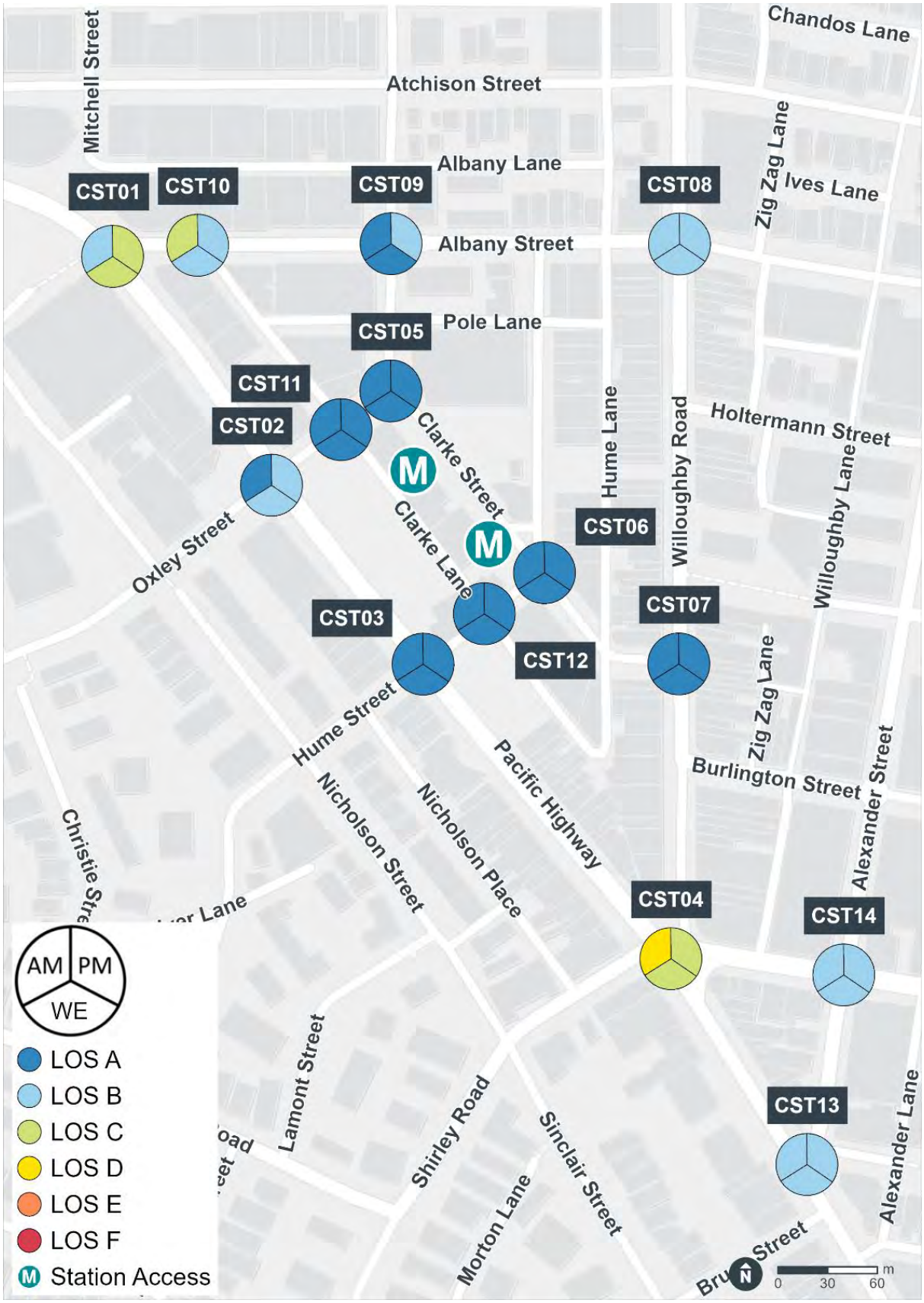
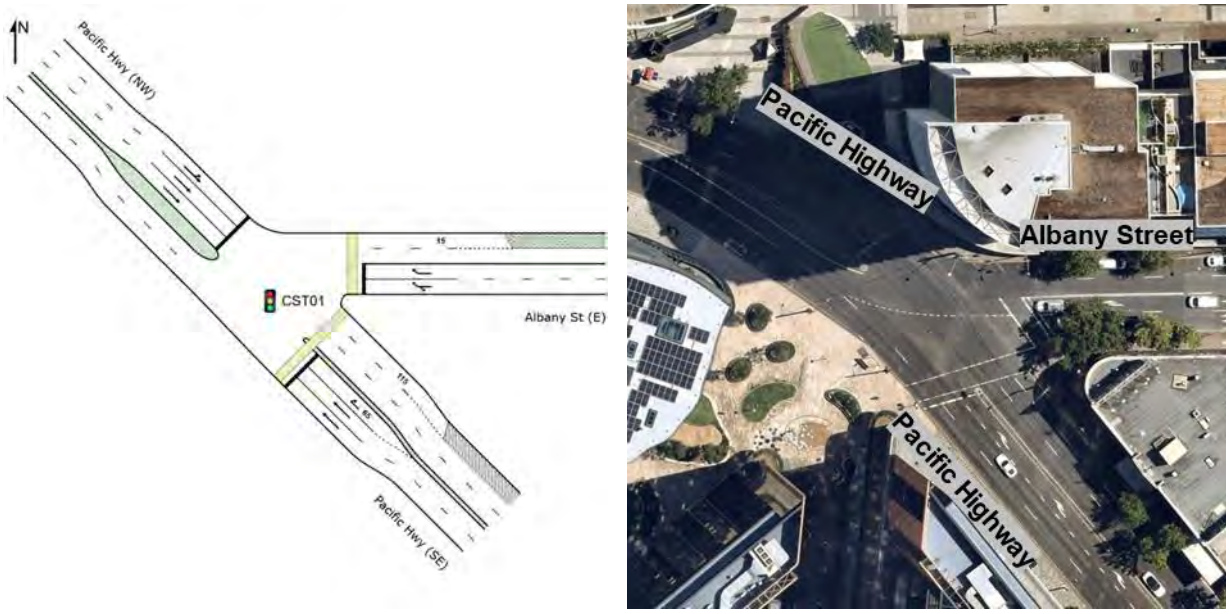


Figure 5-3 Block 1 – Crows Nest Station geospatial intersection performance summary

5.2.1 CST01 – Pacific Highway / Albany Street

This signalised intersection, composed of the Pacific Highway and Albany Street, is located north-west of Crows Nest Station. It connects the state road of the Pacific Highway (A1), linking Wahroonga and North Sydney, with the local road of Albany Street, linking Crows Nest and St Leonards.

Figure 5-4 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-4 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CST01

Table 5-6 presents a performance summary of this intersection.

Table 5-6 Block 1 – Intersection performance summary of CST01

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Pacific Highway / Albany Street (Signal)	Weekday AM	South-east	0.851	15.2	93.4	LOS B
		East	0.881	72.5	49.0	LOS F
		North-west	0.596	17.1	194.1	LOS B
		Total	**0.881**	**25.0**	**194.1**	**LOS B**
	Weekday PM	South-east	0.387	15.3	128.3	LOS B
		East	0.889	68.2	49.0	LOS E
		North-west	0.902	52.6	227.7	LOS D
		Total	**0.902**	**41.6**	**227.7**	**LOS C**
	Weekend	South-east	0.418	15.6	150.4	LOS B
		East	0.903	74.0	49.0	LOS F
		North-west	0.888	58.6	182.0	LOS E
		Total	**0.903**	**42.2**	**182.0**	**LOS C**

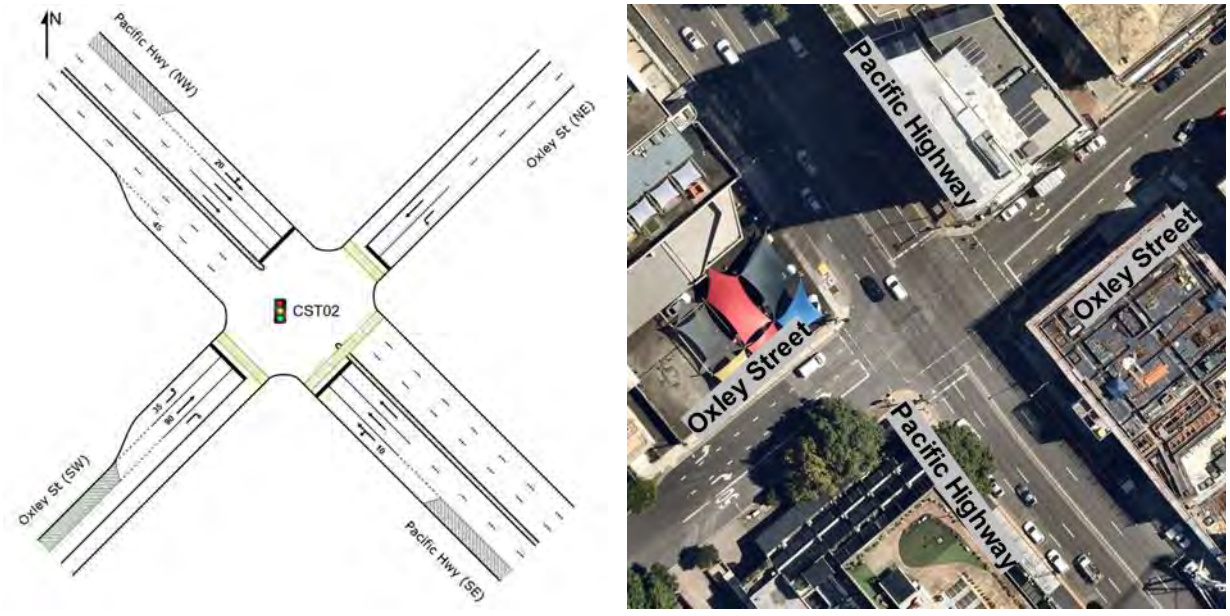
Overall, the intersection of the Pacific Highway (A1) and Albany Street performs satisfactorily at LOS C or better. The 95th percentile queues on the Pacific Highway (A1) (north-west approach) extend back to Christie Street during all peak hours.

5.2.2 CST02 – Pacific Highway / Oxley Street

This signalised intersection, composed of Pacific Highway and Oxley Street, is located directly north-west of Crows Nest Station. It connects the local road of Oxley Street, linking St Leonards and Naremburn through Crows Nest, with the state road of Pacific Highway (A1), linking Wahroonga and North Sydney.

During Block 1, the south-eastern departure kerbside lane of the Pacific Highway (A1) was closed off due to Sydney Metro construction.

Figure 5-5 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-5 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CST02

Table 5-7 presents a performance summary of this intersection.

Table 5-7 Block 1 – Intersection performance summary of CST02

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Pacific Highway / Oxley Street (Signal)	Weekday AM	South-east	0.470	5.5	53.4	LOS A
		North-east	0.490	55.3	49.0	LOS D
		North-west	0.479	1.0	19.5	LOS A
		South-west	0.576	55.8	60.2	LOS D
		Total	**0.576**	**13.3**	**60.2**	**LOS A**
	Weekday PM	South-east	0.345	3.4	41.1	LOS A
		North-east	0.704	59.3	49.0	LOS E
		North-west	0.347	15.4	131.6	LOS B

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
		South-west	0.930	82.2	110.5	LOS F
		Total	**0.930**	**26.6**	**131.6**	**LOS B**
	Weekend	South-east	0.429	4.8	53.6	LOS A
		North-east	0.472	62.5	43.2	LOS E
		North-west	0.242	7.5	63.8	LOS A
		South-west	0.810	74.2	87.1	LOS F
		Total	**0.810**	**20.4**	**87.1**	**LOS B**

Overall, the intersection of the Pacific Highway and Oxley Street performs satisfactorily at LOS B or better. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.2.3 CST03 – Pacific Highway / Hume Street

This signalised intersection, composed of Pacific Highway and Hume Street, is located directly south-west of Crows Nest Station. It connects the state road of Pacific Highway (A1), linking Wahroonga and North Sydney, with the local road of Hume Street, linking Crows Nest and Wollstonecraft.

During Block 1, access to Hume Street (north-eastern approach) was closed due to Sydney Metro construction. A dditionally, kerbside lane closures were observed along the Pacific Highway (A1), adjacent to the construction site, in the south-westbound direction of travel.

Figure 5-6 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.

Source: Nearmap, accessed on 24 March 2023

Figure 5-6 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CST03

Table 5-8 presents a performance summary of this intersection.

Table 5-8 Block 1 – Intersection performance summary of CST03

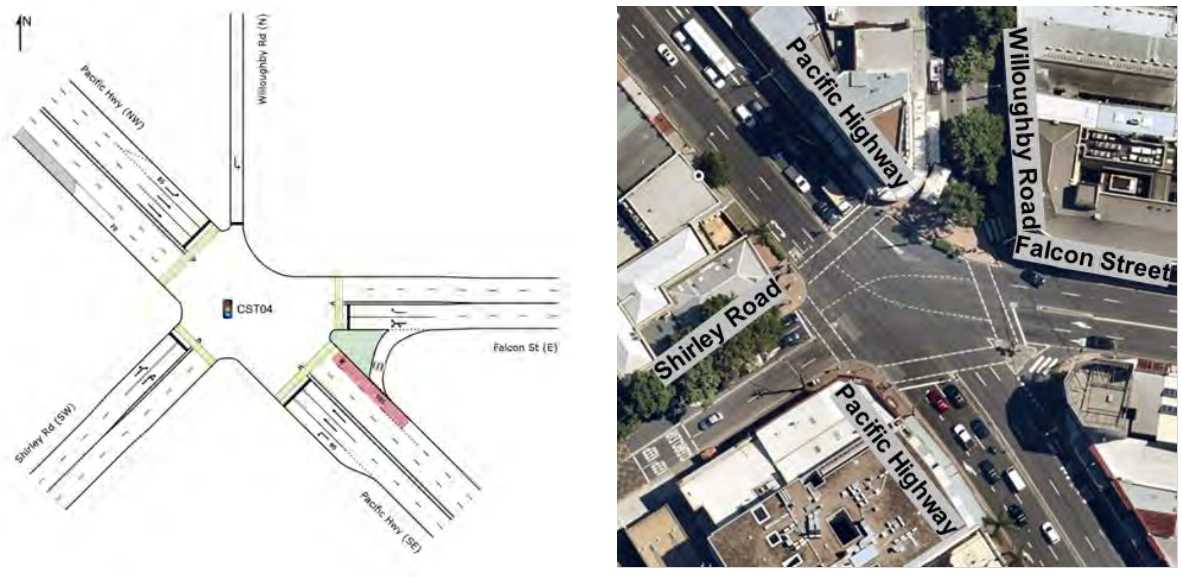
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Pacific Highway / Hume Street (Signal)	Weekday AM	South-east	0.377	0.7	8.4	LOS A
		North-west	0.576	3.1	108.2	LOS A
		South-west	0.396	64.3	40.2	LOS E
		Total	**0.576**	**4.9**	**108.2**	**LOS A**
	Weekday PM	South-east	0.244	3.8	52.6	LOS A
		North-west	0.384	0.8	18.1	LOS A
		South-west	0.283	60.4	23.7	LOS E
		Total	**0.384**	**4.4**	**52.6**	**LOS A**
	Weekend	South-east	0.339	2.5	53.6	LOS A
		North-west	0.294	0.5	8.8	LOS A
		South-west	0.419	65.3	33.6	LOS E
		Total	**0.419**	**4.8**	**53.6**	**LOS A**

Overall, the intersection of the Pacific Highway (A1) and Hume Street performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.2.4 CST04 – Pacific Highway / Falcon Street / Shirley Road

This signalised intersection, composed of Pacific Highway, Falcon Street and Shirley Road, is located south-east of Crows Nest Station. It connects the state road of Pacific Highway (A1), linking Wahroonga to North Sydney, with the state road of Falcon Street, linking Crows Nest and Neutral Bay, and Shirley Road, linking Crows Nest and Wollstonecraft. Willoughby Road is an unsignalised approach, serving as an exit only route onto Falcon Street from the Crows Nest centre.

Figure 5-7 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-7 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CST04

Table 5-9 presents a performance summary of this intersection.

Table 5-9 Block 1 - Intersection performance summary of CST04

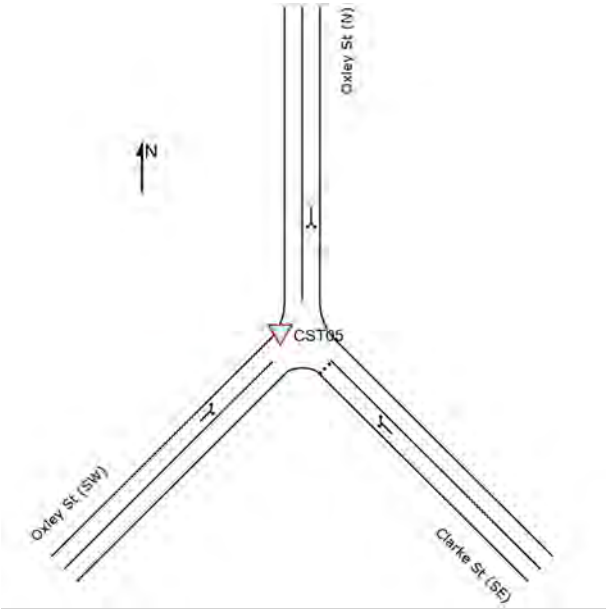
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Pacific Highway / Falcon Street / Shirley Road (Signal)	Weekday AM	South-east	0.537	27.1	138.9	LOS B
		East	0.978	78.4	130.6	LOS F
		North	0.027	3.8	1.1	LOS A
		North-west	0.805	33.5	234.3	LOS C
		South-west	0.862	64.9	182.4	LOS E
		Total	**0.978**	**45.2**	**234.3**	**LOS D**
	Weekday PM	South-east	0.537	30.9	139.3	LOS C
		East	0.944	36.0	130.6	LOS C
		North	0.026	3.8	1.2	LOS A
		North-west	0.556	12.2	61.8	LOS A
		South-west	0.963	84.6	169.3	LOS F
		Total	**0.963**	**35.1**	**169.3**	**LOS C**
	Weekend	South-east	0.605	31.1	124.2	LOS C
		East	0.897	38.7	130.6	LOS C
		North	0.017	3.7	0.7	LOS A
		North-west	0.544	15.7	65.2	LOS B
		South-west	0.966	86.0	248.8	LOS F
		Total	**0.966**	**41.7**	**248.8**	**LOS C**

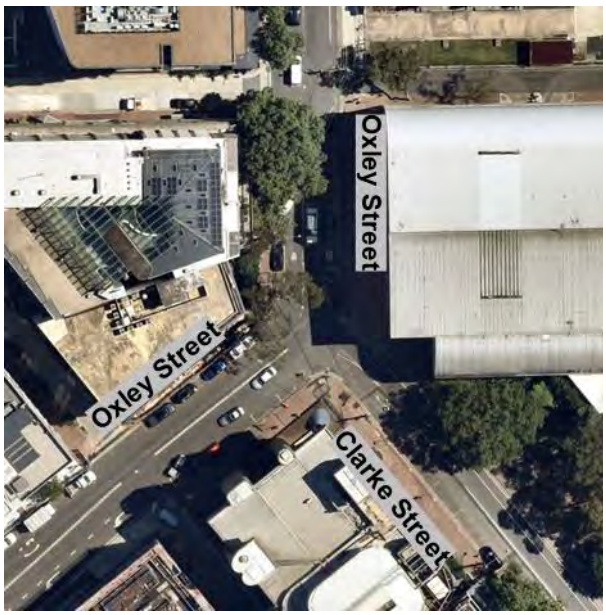
Overall, the intersection of the Pacific Highway (A1), Falcon Street, and Shirley Road performs at near capacity at LOS D or better. The 95th percentile queues on both the Pacific Highway (A1) (south-east approach) and Falcon Street (east approach) extend back to Alexander Street during all peak hours. Similarly, the 95th percentile queue on Shirley Road (south-west approach) extends back to River Road during the weekend peak hour.

5.2.5 CST05 – Clarke Street / Oxley Street

This priority intersection, composed of Oxley Street and Clarke Street, is located directly north of Crows Nest Station. It connects the local roads of Clarke Street in Crows Nest and Oxley Street, linking Wollstonecraft and Naremburn through Crows Nest.

Figure 5-8 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.





Source: Nearmap, accessed on 24 March 2023

Figure 5-8 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CST05

Table 5-10 presents a performance summary of this intersection.

Table 5-10 Block 1 - Intersection performance summary of CST05

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Clarke Street / Oxley Street (Priority – Give Way)	Weekday AM	South-east	0.079	6.3	1.9	LOS A
		North	0.173	4.4	0.0	LOS A
		South-west	0.137	5.3	3.9	LOS A
		Total	**0.079**	**6.3**	**1.9**	**LOS A**
	Weekday PM	South-east	0.109	6.4	2.7	LOS A
		North	0.185	4.4	0.0	LOS A
		South-west	0.149	5.6	4.1	LOS A
		Total	**0.109**	**6.4**	**2.7**	**LOS A**
	Weekend	South-east	0.095	5.7	2.4	LOS A
		North	0.147	4.4	0.0	LOS A
		South-west	0.113	5.0	3.0	LOS A
		Total	**0.095**	**5.7**	**2.4**	**LOS A**

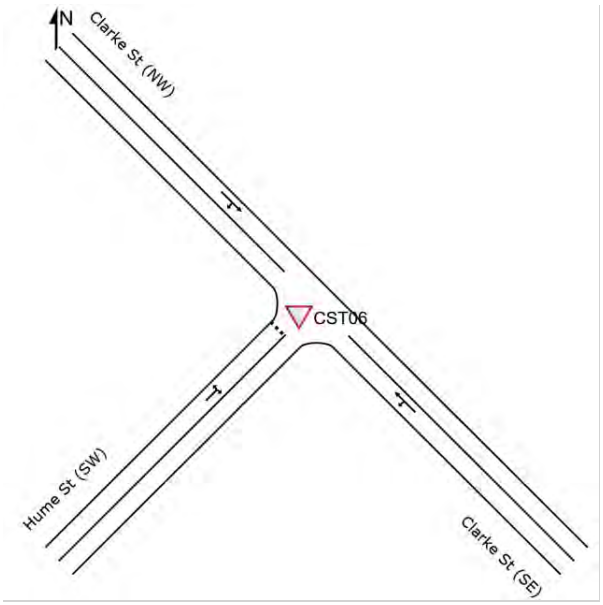
Overall, the intersection of Clarke Street and Oxley Street performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.2.6 CST06 – Clarke Street / Hume Street

This priority intersection, composed of Clarke Street and Hume Street, is located directly north-east of Crows Nest Station. It connects the local roads of Clarke Street in Crows Nest and Hume Street, linking Crows Nest and Wollstonecraft.

During Block 1, access to Hume Street (south-west approach) was limited to residential access and transportation of construction materials only. Additionally, access to the Hume Street (north approach) was prohibited. During the weekday AM peak period, Clarke Street (south-east approach) was observed to operate as a two-way one-lane road under controlled conditions, managed by on-site traffic controllers. Similarly, traffic control was observed at the intersection to facilitate construction vehicle movements.

Figure 5-9 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-9 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CST06

Table 5-11 presents a performance summary of this intersection.

Table 5-11 Block 1 - Intersection performance summary of CST06

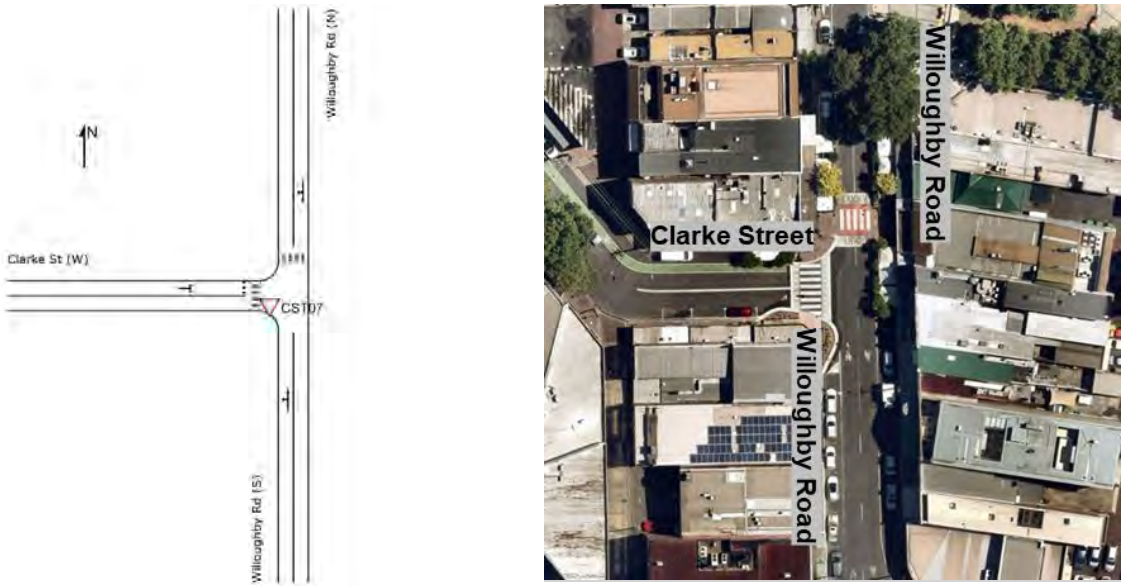
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Clarke Street / Hume Street (Priority – Give Way)	Weekday AM	South-east	0.033	4.6	0.0	LOS A
		North-west	0.052	4.9	0.6	LOS A
		South-west	0.008	3.9	0.1	LOS A
		Total	**0.052**	**4.9**	**0.6**	**LOS A**
	Weekday PM	South-east	0.062	4.6	0.0	LOS A
		North-west	0.124	4.7	0.1	LOS A
		South-west	0.034	4.5	0.4	LOS A
		Total	**0.124**	**4.7**	**0.1**	**LOS A**
	Weekend	South-east	0.068	4.6	0.0	LOS A
		North-west	0.103	4.6	0.1	LOS A
		South-west	0.005	4.3	0.1	LOS A
		Total	**0.068**	**4.6**	**0.0**	**LOS A**

Overall, the intersection of Clarke Street and Hume Street performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.2.7 CST07 – Clarke Street / Willoughby Road

This priority intersection, composed of Clarke Street and Willoughby Road, is located east of Crows Nest Station. It connects the local roads of Clarke Street in Crows Nest and Willoughby Road, linking Crows Nest and Willoughby.

Figure 5-10 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-10 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CST07

Table 5-12 presents a performance summary of this intersection.

Table 5-12 Block 1 - Intersection performance summary of CST07

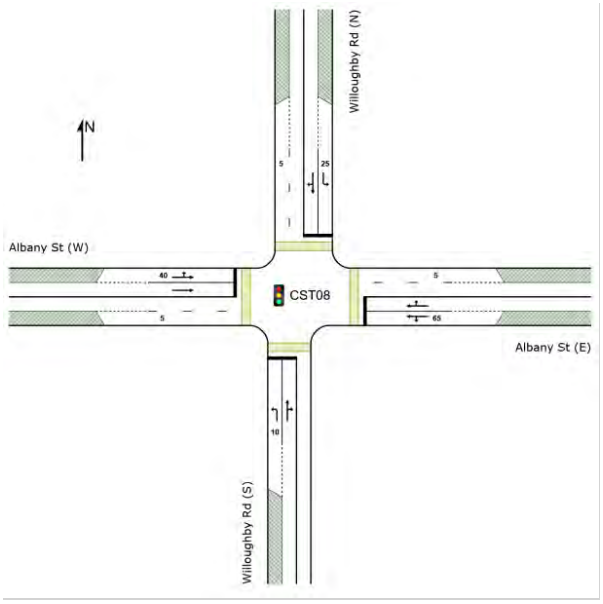
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Clarke Street / Willoughby Road (Priority – Give Way)	Weekday AM	South	0.264	3.8	10.7	LOS A
		North	0.206	6.6	7.0	LOS A
		West	0.134	6.2	3.5	LOS A
		Total	**0.206**	**6.6**	**7.0**	**LOS A**
	Weekday PM	South	0.230	4.1	8.3	LOS A
		North	0.293	7.9	9.2	LOS A
		West	0.198	6.2	5.2	LOS A
		Total	**0.293**	**7.9**	**9.2**	**LOS A**
	Weekend	South	0.222	4.0	7.9	LOS A
		North	0.264	7.4	8.5	LOS A
		West	0.190	6.2	5.0	LOS A
		Total	**0.264**	**7.4**	**8.5**	**LOS A**

Overall, the intersection of Clarke Street and Willoughby Road performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.2.8 CST08 – Albany Street / Willoughby Road

This signalised intersection, composed of Albany Street and Willoughby Road, is located north-east of Crows Nest Station. It connects the local roads of Albany Street, linking Crows Nest and St Leonards, and Willoughby Road, linking Crows Nest and Willoughby.

Figure 5-11 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-11 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CST08

Table 5-13 presents a performance summary of this intersection.

Table 5-13 Block 1 - Intersection performance summary of CST08

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Albany Street / Willoughby Road (Signal)	Weekday AM	South	0.343	31.4	37.1	LOS C
		East	0.481	16.0	51.4	LOS B
		North	0.373	22.3	44.9	LOS B
		West	0.400	18.7	61.9	LOS B
		Total	**0.481**	**20.7**	**61.9**	**LOS B**
	Weekday PM	South	0.323	35.6	31.4	LOS C
		East	0.480	14.7	45.9	LOS B
		North	0.371	24.5	41.7	LOS B
		West	0.391	17.3	62.6	LOS B
		Total	**0.480**	**20.5**	**62.6**	**LOS B**
	Weekend	South	0.315	30.3	32.4	LOS C

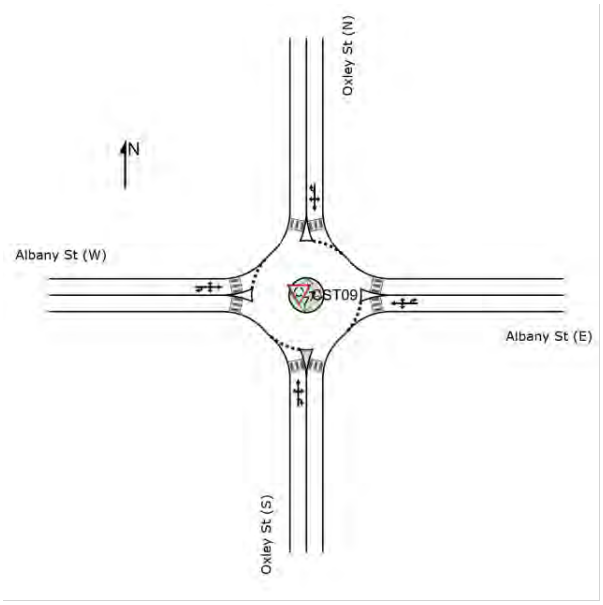
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
		East	0.623	18.3	78.3	LOS B
		North	0.362	21.5	43.7	LOS B
		West	0.371	19.3	55.8	LOS B
		Total	**0.623**	**21.3**	**78.3**	**LOS B**

Overall, the intersection of Albany Street and Willoughby Road performs satisfactorily at LOS B or better. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.2.9 CST09 – Albany Street / Oxley Street

This roundabout composed of Albany Street and Oxley Street, is located north of Crows Nest Station. It connects the local roads of Albany Street, linking Crows Nest and St Leonards, and Oxley Street, linking Wollstonecraft and Naremburn through Crows Nest.

Figure 5-12 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-12 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CST09

Table 5-14 presents a performance summary of this intersection.

Table 5-14 Block 1 - Intersection performance summary of CST09

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Albany Street / Oxley Street (Roundabout)	Weekday AM	South	0.302	12.5	14.1	LOS A
		East	0.677	14.2	41.1	LOS A
		North	0.460	14.2	23.9	LOS A

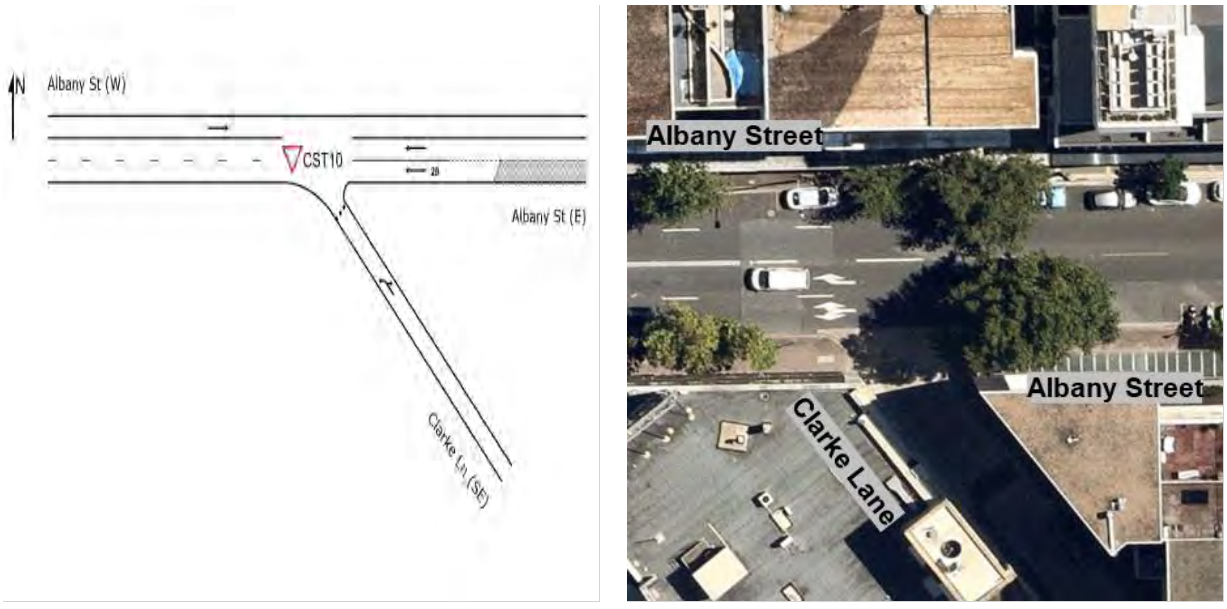
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
		West	0.618	10.7	42.7	LOS A
		Total	**0.677**	**14.2**	**41.1**	**LOS A**
	Weekday PM	South	0.457	13.6	23.2	LOS A
		East	0.882	20.0	63.3	LOS B
		North	0.429	13.8	20.7	LOS A
		West	0.613	11.4	44.0	LOS A
		Total	**0.882**	**20.0**	**63.3**	**LOS B**
	Weekend	South	0.295	12.0	13.8	LOS A
		East	0.547	11.8	26.1	LOS A
		North	0.353	12.3	16.2	LOS A
		West	0.510	9.9	32.5	LOS A
		Total	**0.353**	**12.3**	**16.2**	**LOS A**

Overall, the intersection of Albany Street and Oxley Street performs satisfactorily at LOS B or better. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.2.10 CST10 – Albany Street / Clarke Lane

This priority intersection, composed of Albany Street and Clarke Lane, is located north-west of Crows Nest Station. It connects the local roads of Clarke Lane in Crows Nest with Albany Street, linking Crows Nest and St Leonards.

Figure 5-13 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-13 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CST10

Table 5-15 presents a performance summary of this intersection.

Table 5-15 Block 1 - Intersection performance summary of CST10

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Albany Street / Clarke Lane (Priority – Give Way)	Weekday AM	South-east	0.067	31.9	54.0	LOS C
		East	0.242	0.0	95.9	LOS A
		West	0.297	0.0	0.0	LOS A
		Total	**0.067**	**31.9**	**54.0**	**LOS C**
	Weekday PM	South-east	0.081	15.9	15.8	LOS B
		East	0.143	0.0	99.8	LOS A
		West	0.287	0.0	0.0	LOS A
		Total	**0.081**	**15.9**	**15.8**	**LOS B**
	Weekend	South-east	0.054	14.5	45.4	LOS B
		East	0.236	0.0	91.6	LOS A
		West	0.272	0.0	0.0	LOS A
		Total	**0.054**	**14.5**	**45.4**	**LOS B**

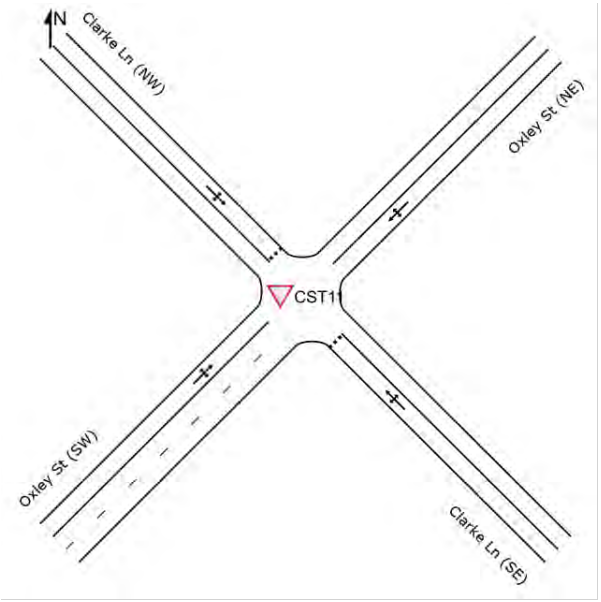
Overall, the intersection of Albany Street and Clarke Lane performs satisfactorily at LOS C or better. The 95th percentile queues on Albany Street (east approach) extends back to Oxley Street during all peak hours.

5.2.11 CST11 – Oxley Street / Clarke Lane

This priority intersection, composed of Oxley Street and Clarke Lane, is located directly north-west of Crows Nest Station. It connects the local roads of Clarke Lane in Crows Nest and Oxley Street, linking Wollstonecraft and Naremburn through Crows Nest.

During Block 1, access to Clarke Lane (south-east approach) was limited to Sydney Metro construction vehicles only.

Figure 5-14 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-14 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CST11

Table 5-16 presents a performance summary of this intersection.

Table 5-16 Block 1 - Intersection performance summary of CST11

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Oxley Street / Clarke Lane (Priority – Give Way)	Weekday AM	South-east	0.008	8.3	0.2	LOS A
		North-east	0.139	3.4	24.7	LOS A
		North-west	0.028	6.9	1.2	LOS A
		South-west	0.115	4.0	0.2	LOS A
		Total	**0.008**	**8.3**	**0.2**	**LOS A**
	Weekday PM	South-east	0.004	6.9	0.1	LOS A
		North-east	0.139	5.1	25.5	LOS A
		North-west	0.028	6.9	0.8	LOS A
		South-west	0.120	3.3	0.1	LOS A
		Total	**0.028**	**6.9**	**0.8**	**LOS A**
	Weekend	South-east	0.008	6.2	0.2	LOS A
		North-east	0.132	3.8	0.4	LOS A
		North-west	0.021	6.2	0.5	LOS A
		South-west	0.091	3.1	0.1	LOS A
		Total	**0.021**	**6.2**	**0.5**	**LOS A**

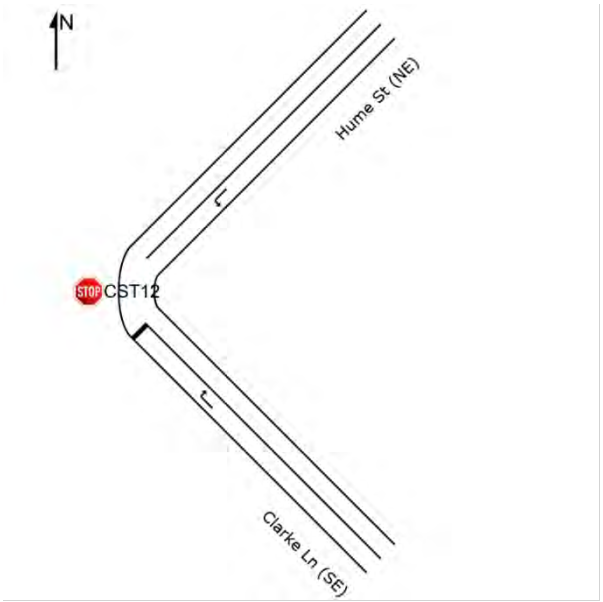
Overall, the intersection of Oxley Street and Clarke Lane performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.2.12 CST12 – Hume Street / Clarke Lane

This priority intersection, composed of Hume Street and Clarke Lane, is located within the Crows Nest Station boundary. It connects the local roads of Clarke Lane in Crows Nest and Hume Street, linking Crows Nest and Wollstonecraft.

During Block 1, access to Hume Street (south-west approach) and Clarke Lane (north-west approach) were closed due to Sydney Metro construction. The usage of this intersection was restricted to residential access and the transportation of construction materials.

Figure 5-15 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-15 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CST12

Table 5-17 presents a performance summary of this intersection.

Table 5-17 Block 1 - Intersection performance summary of CST12

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Hume Street / Clarke Lane (Priority – Stop)	Weekday AM	South-east	0.003	6.9	0.0	LOS A
		North-east	0.011	3.2	0.0	LOS A
		Total	**0.003**	**6.9**	**0.0**	**LOS A**
	Weekday PM	South-east	0.012	6.9	0.0	LOS A
		North-east	0.001	3.2	0.0	LOS A
		Total	**0.012**	**6.9**	**0.0**	**LOS A**
	Weekend	South-east	0.001	6.9	0.0	LOS A
		North-east	0.001	3.2	0.0	LOS A
		Total	**0.001**	**6.9**	**0.0**	**LOS A**

Overall, the intersection of Hume Street and Clarke Lane performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.2.13 CST13 – Pacific Highway / Alexander Street

This signalised intersection, composed of Pacific Highway, Alexander Street and Hayberry Street, is located south-east of Crows Nest Station. It connects the state road of Pacific Highway (A1), linking Wahroonga to North Sydney, with the local roads of Alexander Street and Hayberry Street in Crows Nest. Hayberry Street was not modelled.

Figure 5-16 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.

Source: Nearmap, accessed on 24 March 2023

Figure 5-16 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CST13

Table 5-18 presents a performance summary of this intersection.

Table 5-18 Block 1 - Intersection performance summary of CST13

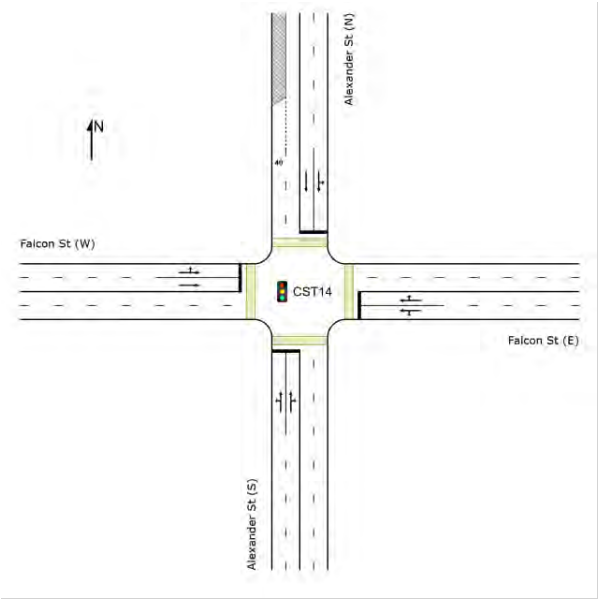
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Pacific Highway / Alexander Street (Signal)	Weekday AM	South-east	0.429	10.2	64.0	LOS A
		North	0.874	41.8	63.7	LOS C
		North-west	0.765	15.7	146.3	LOS B
		Total	**0.874**	**16.9**	**146.3**	**LOS B**
	Weekday PM	South-east	0.539	15.1	85.6	LOS B
		North	0.528	43.8	68.1	LOS D
		North-west	0.514	19.0	79.9	LOS B
		Total	**0.539**	**20.8**	**85.6**	**LOS B**
	Weekend	South-east	0.419	11.2	62.4	LOS A
		North	0.421	43.3	49.5	LOS D
		North-west	0.341	10.8	42.6	LOS A
		Total	**0.421**	**15.9**	**62.4**	**LOS B**

Overall, the intersection of the Pacific Highway (A1) and Alexander Street performs satisfactorily at LOS B. The 95th percentile queue on the Pacific Highway (A1) (north-west approach) extends back to Shirley Road and Falcon Street during the weekday AM peak hour.

5.2.14 CST14 – Falcon Street / Alexander Street

This signalised intersection, comprised of Falcon Street and Alexander Street, is located south-east of Crows Nest Station. It connects the local road of Alexander Street in Crows Nest with the state road of Falcon Street, linking Crows Nest and Neutral Bay.

Figure 5-17 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-17 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CST14

Table 5-19 presents a performance summary of this intersection.

Table 5-19 Block 1 - Intersection performance summary of CST14

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Falcon Street / Alexander Street (Signal)	Weekday AM	South	0.927	72.3	117.8	LOS F
		East	0.283	1.1	99.1	LOS A
		North	0.720	61.3	98.7	LOS E
		West	0.319	1.5	7.6	LOS A
		Total	**0.927**	**21.0**	**117.8**	**LOS B**
	Weekday PM	South	0.525	38.5	57.0	LOS C
		East	0.536	19.0	118.1	LOS B
		North	0.530	48.4	84.9	LOS D
		West	0.273	1.3	5.2	LOS A
		Total	**0.536**	**19.8**	**118.1**	**LOS B**
	Weekend	South	0.825	61.3	76.0	LOS E

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
		East	0.633	1.9	39.6	LOS A
		North	0.914	103.2	143.8	LOS F
		West	0.894	9.8	79.2	LOS A
		Total	**0.914**	**24.6**	**143.8**	**LOS B**

Overall, the intersection of Falcon Street and Alexander Street performs satisfactorily at LOS B. The 95th percentile queues on Alexander Street (north approach) extend back to Burlington Street during the weekday AM peak and weekend peak hours.

5.3 Victoria Cross Station

Victoria Cross Station is a new underground station and the third stop on the City & Southwest Line (towards Sydenham). It is located in the centre of the North Sydney commercial centre and north of the existing North Sydney Station.

Victoria Cross Station will have two station entrances, Victoria Cross North, at the north-east corner of the intersection of Miller Street and McLaren Street, and Victoria Cross South, at the south-east corner of the intersection of Miller Street and Berry Street. Victoria Cross Station was still under construction during Block 1. Construction access to Victoria Cross North was facilitated via McLaren Street, east of Miller Street, whereas access to Victoria Cross South was facilitated via Denison Street.

Bus services are available within approximately 150 metres of Victoria Cross Station, located along Miller Street and Pacific Highway. Pedestrian footpaths are provided on both sides of Miller Street and Pacific Highway in the vicinity of Victoria Cross Station.

The Victoria Cross Station study area consists of four intersections. **Table 5-20** presents the peak hours utilised for modelling the intersections. **Table 5-21** provides a summary of the intersection level of service while

Figure 5-18 visualises a geospatial summary of the intersection level of service within the Victoria Cross Station study area.

Table 5-20 Block 1 - Victoria Cross Station peak hours modelled

Network ID	Intersection ID	Weekday AM peak hour		Weekday PM peak hour		Weekend peak hour	
		Day	Start time	Day	Start time	Day	Start time
VIC-N1	VIC01	Monday	8.45am	Wednesday	3.00pm	Saturday	11.30am
	VIC02						
	VIC03						
	VIC04						

Table 5-21 Block 1 - Victoria Cross Station intersection performance summary

Intersection ID	Intersection	Level of service (LOS)		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
VIC01	Pacific Highway / Berry Street (Signal)	LOS A	LOS A	LOS A
VIC02	Miller Street / Berry Street (Signal)	LOS C	LOS C	LOS B

Intersection ID	Intersection	Level of service (LOS)		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
VIC03	Miller Street / McLaren Street (Signal)	LOS B	LOS B	LOS B
VIC04	Pacific Highway / Miller Street (Signal)	LOS B	LOS B	LOS B

Overall, in the Victoria Cross Station study area, the intersection performance during the peak periods is satisfactory, operating at LOS C or better.

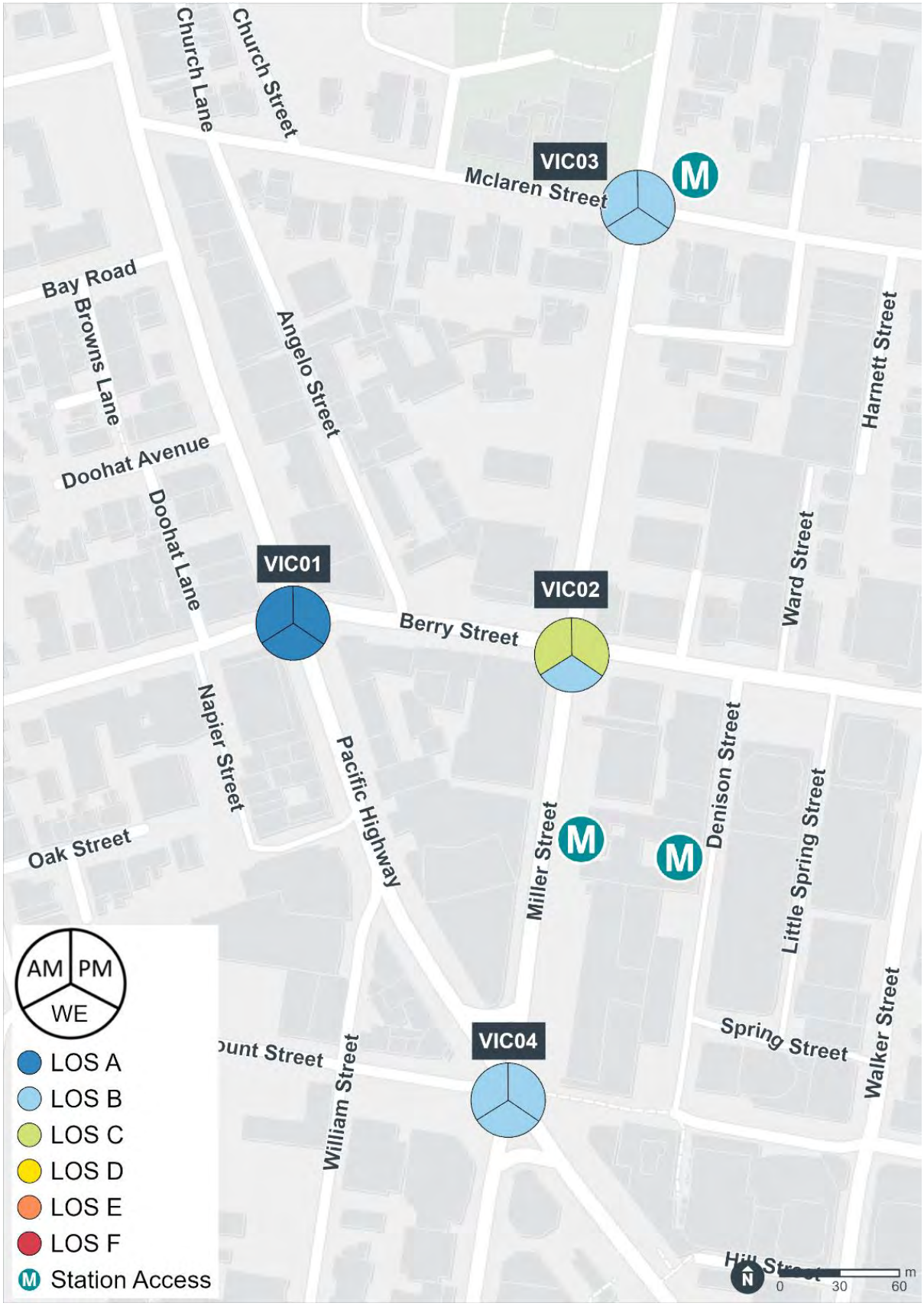
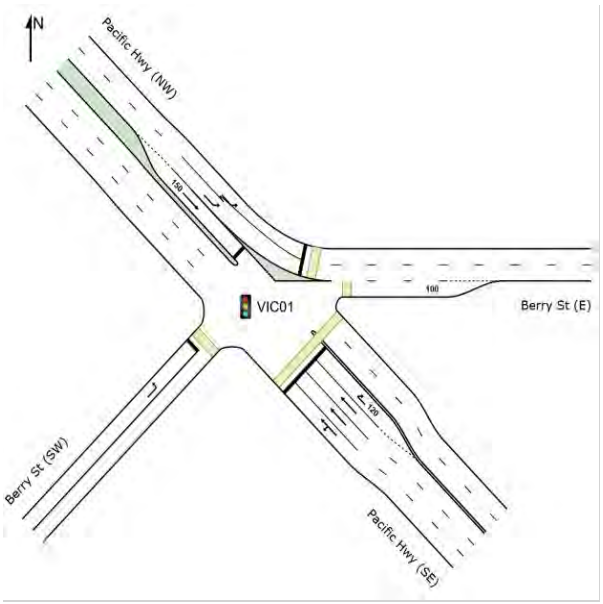


Figure 5-18 Block 1 – Victoria Cross Station geospatial intersection performance summary

5.3.1 VIC01 – Pacific Highway / Berry Street

This signalised intersection, composed of Pacific Highway and Berry Street, is located east of Victoria Cross South. It connects the state road of Pacific Highway (A1), linking Wahroonga and North Sydney, with the local road of Berry Street, linking North Sydney to the Warringah Freeway (M1). Berry Street (south-west approach) is not signalised; however, for modelling purposes, it has been simulated as a signalised approach operating in every phase.

Figure 5-19 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-19 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of VIC01

Table 5-22 presents a performance summary of this intersection.

Table 5-22 Block 1 - Intersection performance summary of VIC01

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Pacific Highway / Berry Street (Signal)	Weekday AM	South-east	0.663	8.1	28.8	LOS A
		North-west	0.519	11.9	86.9	LOS A
		South-west	0.066	4.4	1.9	LOS A
		Total	**0.663**	**9.9**	**86.9**	**LOS A**
	Weekday PM	South-east	0.859	13.6	66.8	LOS A
		North-west	0.414	11.0	63.3	LOS A
		South-west	0.056	4.5	1.6	LOS A
		Total	**0.859**	**12.3**	**66.8**	**LOS A**
	Weekend	South-east	0.491	7.3	33.5	LOS A
		North-west	0.295	7.9	51.5	LOS A
		South-west	0.032	4.9	1.1	LOS A
		Total	**0.491**	**7.6**	**51.5**	**LOS A**

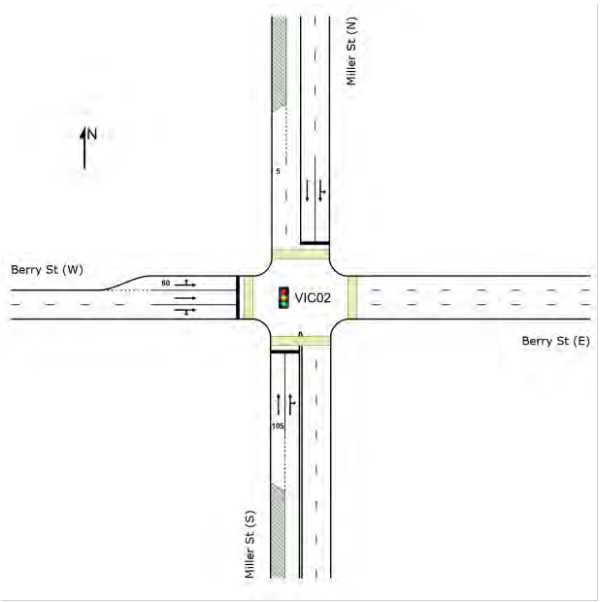
Overall, the intersection of the Pacific Highway (A1) and Berry Street performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.3.2 VIC02 – Miller Street / Berry Street

This signalised intersection, composed of Miller Street and Berry Street, is located directly west of Victoria Cross South. It connects the regional road of Miller Street, linking Cammeray and North Sydney, with the local road of Berry Street, linking North Sydney to the Warringah Freeway (M1).

During Block 1, the southern departure kerbside lane of Miller Street was closed off due to Sydney Metro construction.

Figure 5-20 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-20 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of VIC02

Table 5-23 presents a performance summary of this intersection.

Table 5-23 Block 1 - Intersection performance summary of VIC02

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Miller Street / Berry Street (Signal)	Weekday AM	South	0.851	35.5	81.7	LOS C
		North	0.778	40.6	90.8	LOS C
		West	0.439	24.1	66.2	LOS B
		Total	**0.851**	**32.0**	**90.8**	**LOS C**
	Weekday PM	South	0.701	27.5	74.7	LOS B
		North	0.619	37.8	69.8	LOS C
		West	0.537	31.5	99.5	LOS C
		Total	**0.701**	**31.8**	**99.5**	**LOS C**
	Weekend	South	0.748	23.3	55.0	LOS B
		North	0.720	41.0	50.5	LOS C

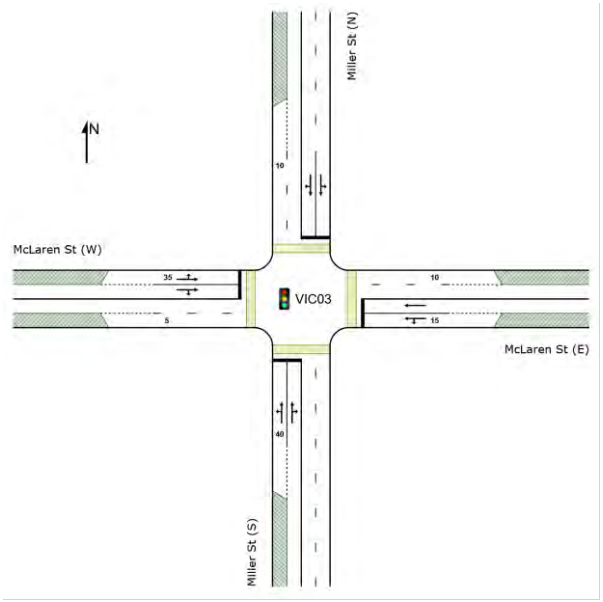
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
		West	0.369	22.7	72.2	LOS B
		Total	**0.748**	**27.1**	**72.2**	**LOS B**

Overall, the intersection of Miller Street and Berry Street performs satisfactorily at LOS C or better. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.3.3 VIC03 – Miller Street / McLaren Street

This signalised intersection, composed of Miller Street and McLaren Street, is located directly south of Victoria Cross North. It connects the regional road of Miller Street, linking North Sydney and Cammeray, with the local road of McLaren Street in North Sydney.

Figure 5-21 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-21 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of VIC03

Table 5-24 presents a performance summary of this intersection.

Table 5-24 Block 1 - Intersection performance summary of VIC03

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Miller Street / McLaren Street (Signal)	Weekday AM	South	0.298	12.1	34.3	LOS A
		East	0.759	31.0	21.7	LOS C
		North	0.333	15.0	41.5	LOS B
		West	0.393	24.5	22.8	LOS B
		Total	**0.759**	**18.2**	**41.5**	**LOS B**
		South	0.205	9.8	27.3	LOS A

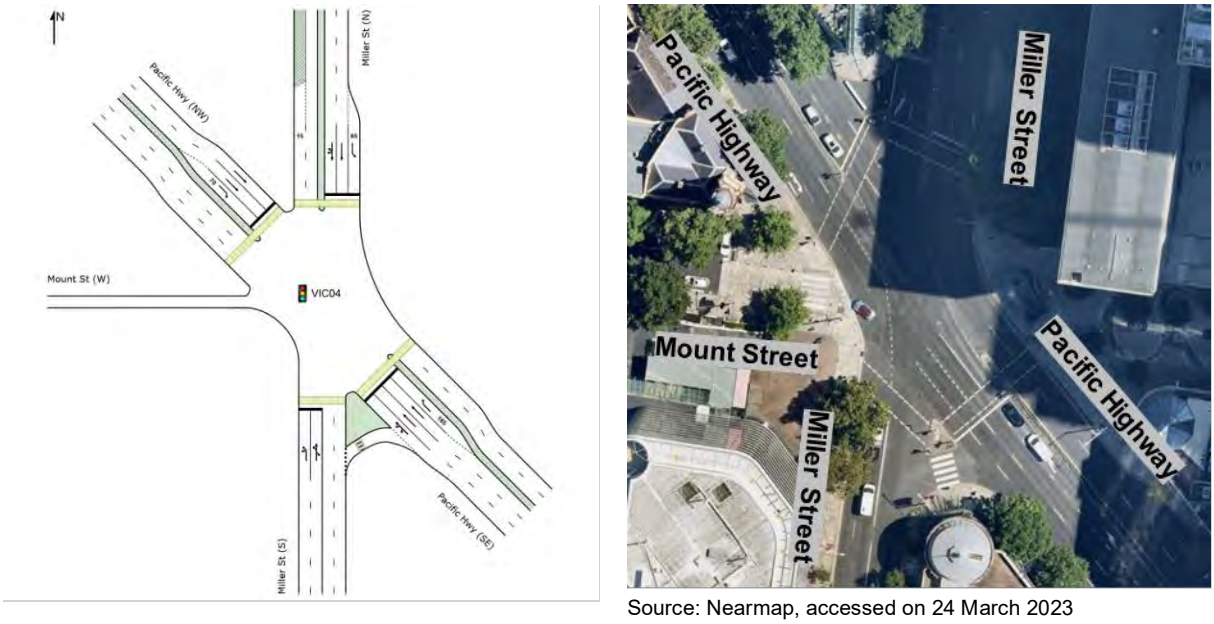
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
	Weekday PM	East	0.747	37.5	20.7	LOS C
		North	0.339	13.3	43.4	LOS A
		West	0.403	31.4	26.0	LOS C
		Total	**0.747**	**18.1**	**43.4**	**LOS B**
	Weekend	South	0.292	8.2	37.3	LOS A
		East	0.262	31.7	17.3	LOS C
		North	0.316	10.9	38.4	LOS A
		West	0.219	27.3	15.2	LOS B
		Total	**0.316**	**14.7**	**38.4**	**LOS B**

Overall, the intersection of Miller Street and McLaren Street performs satisfactorily at LOS B. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.3.4 VIC04 – Pacific Highway / Miller Street

This signalised intersection, composed of the Pacific Highway, Miller Street and Mount Street, is located directly south of Victoria Cross South. It connects the state road of Pacific Highway (A1), linking Wahroonga and North Sydney, with the regional road of Miller Street, linking North Sydney and Cammeray. Additionally, it provides travel to the west of North Sydney via the Mount Street unsignalised egress-only approach.

Figure 5-22 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-22 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of VIC04

Table 5-25 presents a performance summary of this intersection.

Table 5-25 Block 1 - Intersection performance summary of VIC04

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Pacific Highway / Miller Street (Signal)	Weekday AM	South	0.644	33.3	75.6	LOS C
		South-east	0.747	28.6	92.3	LOS C
		North	0.313	11.4	17.5	LOS A
		North-west	0.446	25.7	35.9	LOS B
		Total	**0.747**	**26.5**	**92.3**	**LOS B**
	Weekday PM	South	0.682	35.4	75.8	LOS C
		South-east	0.809	27.2	115.3	LOS B
		North	0.274	12.5	15.3	LOS A
		North-west	0.328	28.3	42.7	LOS B
		Total	**0.809**	**26.8**	**115.3**	**LOS B**
	Weekend	South	0.607	29.8	66.8	LOS C
		South-east	0.554	26.0	76.5	LOS B
		North	0.361	8.8	10.3	LOS A
		North-west	0.455	30.2	50.7	LOS C
		Total	**0.607**	**25.5**	**76.5**	**LOS B**

Overall, the intersection of the Pacific Highway (A1), Miller Street and Mount Street performs satisfactorily at LOS B. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.4 Barangaroo Station

Barangaroo Station is a new underground station and the fourth stop on the City & Southwest Line (towards Sydenham). It is located at the northern area of Barangaroo, south of Munn Street, bounded by Hickson Road.

Barangaroo Station was still under construction during Block 1. Construction access and egress to the station was facilitated through the newly constructed Barangaroo Avenue via Hickson Road.

Bus services are available within approximately 400 metres of Barangaroo Station, located along Hickson Road and Kent Street. Dedicated cycle lanes are provided along the Sydney Harbour Bridge on-ramp and Kent Street, south of the intersection of Kent Street, Clarence Street and the Sydney Harbour Bridge on-ramp. Around the station precinct, there will be two new bus stops on Hickson Road (one northbound travel and one southbound travel). Kiss and ride bays and taxi zones will be provided at the proposed Hickson Road interchange, and coach bays underneath Munn Street bridge.

The Barangaroo Station study area consists of 18 intersections. During Block 1, two intersections were new pedestrian mid-block crossings which have not yet been constructed. **Table 5-26** presents the peak hours utilised for modelling the intersections. **Table 5-27** provides a summary of the intersection level of service while

Figure 5-23 visualises a geospatial summary of the intersection level of service within the Barangaroo Station study area.

Table 5-26 Block 1 - Barangaroo Station peak hours modelled

Network ID	Intersection ID	Weekday AM peak hour		Weekday PM peak hour		Weekend peak hour	
		Day	Start time	Day	Start time	Day	Start time
BGU-N1	BGU01	Tuesday	8.45am	Wednesday	5.15pm	Saturday	1.15pm
	BGU02						
BGU-N2	BGU04	Tuesday	8.30am	Thursday	5.30pm	Saturday	12.15pm
	BGU05						
	BGU07						
	BGU08						
	BGU09						
BGU-N3	BGU06	Tuesday	8.30am	Thursday	5.30pm	Saturday	12.15pm
	BGU10						
	BGU11						
	BGU12						
	BGU13						
	BGU18						
BGU-N4	BGU14	Tuesday	8.30am	Thursday	5.30pm	Saturday	12.15pm
	BGU15						
-	BGU03	Tuesday	8.45am	Thursday	6.00pm	Saturday	12.00pm
-	BGU16	Under construction.					
-	BGU17	Under construction.					

Table 5-27 Block 1 - Barangaroo Station intersection performance summary

Intersection ID	Intersection	Level of service (LOS)		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
BGU01	Hickson Road / Towns Place (Priority – Give Way)	LOS A	LOS A	LOS A
BGU02	Dalgety Road / Towns Place (Roundabout)	LOS A	LOS A	LOS A
BGU03	Kent Street / Argyle Street (Priority – Give Way)	LOS A	LOS A	LOS A
BGU04	Pedestrian Mid-block Crossing at Kent Street near Gas Lane (Pedestrian only - Signal)	LOS B	LOS B	LOS B
BGU05	Kent Street / Sydney Harbour Bridge (SHB) On-ramp (Signal)	LOS B	LOS B	LOS B
BGU06	Hickson Road / Napoleon Street / Sussex Street (Signal)	LOS B	LOS B	LOS B
BGU07	Margaret Street / Kent Street / Napoleon Street (Signal)	LOS B	LOS B	LOS B
BGU08	Margaret Street / Clarence Street (Signal)	LOS B	LOS B	LOS B
BGU09	Margaret Street / York Street (Signal)	LOS B	LOS B	LOS B
BGU10	Pedestrian Mid-block Crossing at Sussex Street under Exchange Place (Pedestrian only - Signal)	LOS A	LOS A	LOS A
BGU11	Pedestrian Mid-block Crossing at Kent Street near Margaret Street (Pedestrian only - Signal)	LOS A	LOS A	LOS A
BGU12	Sussex Street / Erskine Street (Signal)	LOS B	LOS B	LOS B

Intersection ID	Intersection	Level of service (LOS)		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
BGU13	Kent Street / Erskine Street (Signal)	LOS B	LOS B	LOS C
BGU14	Sussex Street / King Street (Signal)	LOS B	LOS B	LOS B
BGU15	Kent Street / King Street (Signal)	LOS B	LOS B	LOS B
BGU16	New Pedestrian Mid-block Crossing at New Hickson Road (north of Metro Station) (Pedestrian only - Signal)	Under construction.		
BGU17	New Pedestrian Mid-block Crossing at New Hickson Road (south of Metro Station) (Pedestrian only - Signal)	Under construction.		
BGU18	Shelley Street / Erskine Street (Signal)	LOS B	LOS B	LOS B

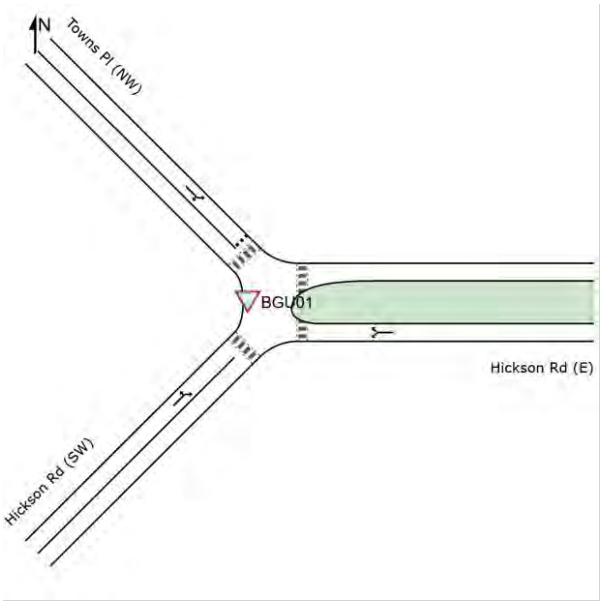
Overall, in the Barangaroo Station study area, the intersection performance during the peak periods is satisfactory, operating at LOS C or better.

Figure 5-23 Block 1 – Barangaroo Station geospatial intersection performance summary

5.4.1 BGU01 – Hickson Road / Towns Place

The priority intersection, composed of Hickson Road and Towns Place, is located north of Barangaroo Station. It connects the local road of Towns Place with the regional road of Hickson Road which runs along the western waterfront of Barangaroo.

Figure 5-24 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-24 Block 1 – SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU01

Table 5-28 presents a performance summary of this intersection.

Table 5-28 Block 1 – Intersection performance summary of BGU01

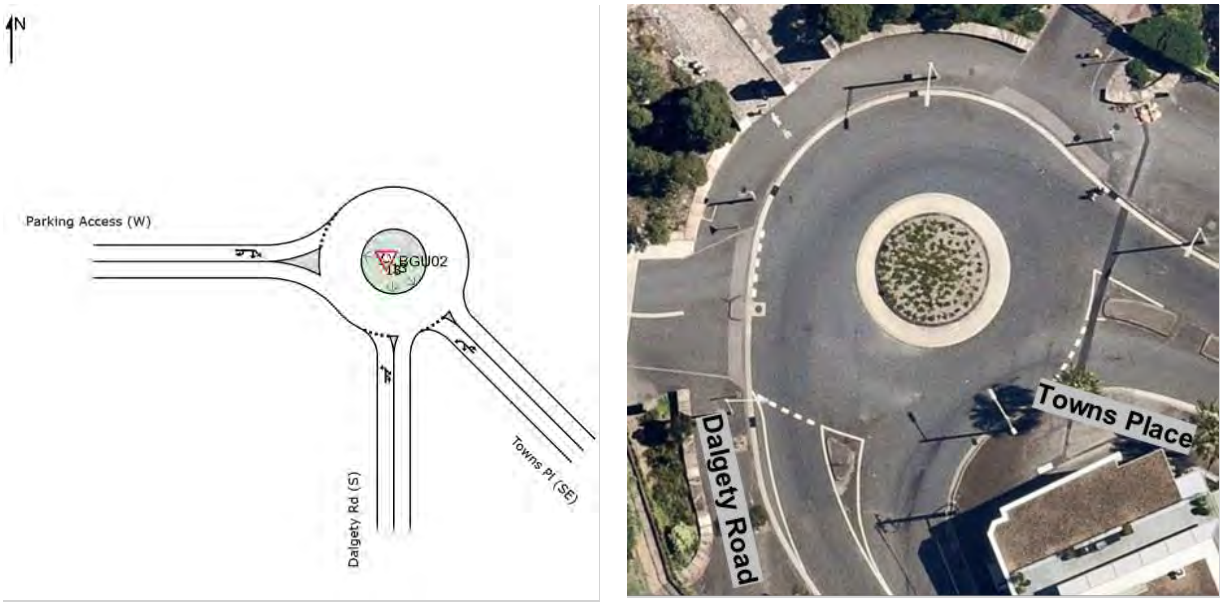
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Hickson Road / Towns Place (Priority – Give Way)	Weekday AM	East	0.148	5.8	5.0	LOS A
		North-west	0.269	9.1	8.3	LOS A
		South-west	0.281	4.5	11.3	LOS A
		Total	**0.269**	**9.1**	**8.3**	**LOS A**
	Weekday PM	East	0.188	6.0	6.1	LOS A
		North-west	0.279	8.2	8.4	LOS A
		South-west	0.278	4.1	10.9	LOS A
		Total	**0.279**	**8.2**	**8.4**	**LOS A**
	Weekend	East	0.153	4.2	5.1	LOS A
		North-west	0.159	6.1	4.6	LOS A
		South-west	0.159	3.8	5.7	LOS A
		Total	**0.159**	**6.1**	**4.6**	**LOS A**

Overall, the intersection of Hickson Road and Towns Place performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.4.2 BGU02 – Dalgety Road / Towns Place

The roundabout intersection, composed of Dalgety Road and Towns Place, is located north of Barangaroo Station. It connects the local roads of Dalgety Road and Towns Place in Barangaroo with the Barangaroo Reserve car park.

Figure 5-25 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-25 Block 1 – SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU02

Table 5-29 presents a performance summary of this intersection.

Table 5-29 Block 1 – Intersection performance summary of BGU02

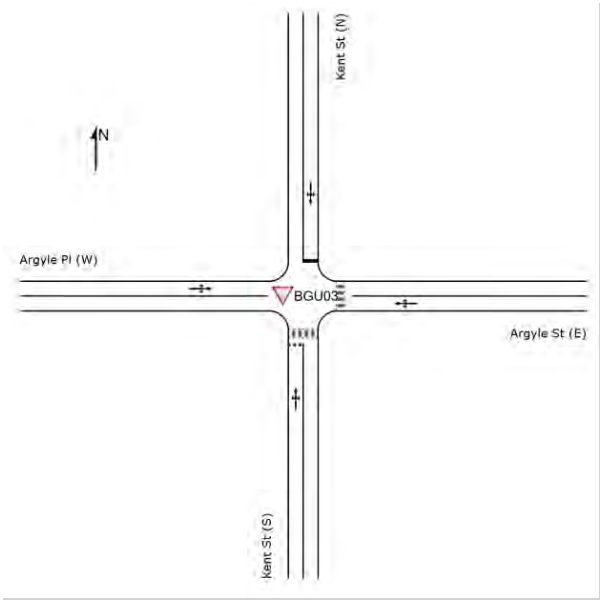
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Dalgety Road / Towns Place (Roundabout)	Weekday AM	South	0.205	8.2	9.3	LOS A
		South-east	0.135	8.3	6.3	LOS A
		West	0.005	1.2	0.2	LOS A
		Total	**0.135**	**8.3**	**6.3**	**LOS A**
	Weekday PM	South	0.176	8.0	7.7	LOS A
		South-east	0.134	8.3	6.2	LOS A
		West	0.064	1.3	2.6	LOS A
		Total	**0.134**	**8.3**	**6.2**	**LOS A**
	Weekend	South	0.105	7.2	4.3	LOS A
		South-east	0.067	8.1	2.9	LOS A
		West	0.007	0.8	0.3	LOS A
		Total	**0.067**	**8.1**	**2.9**	**LOS A**

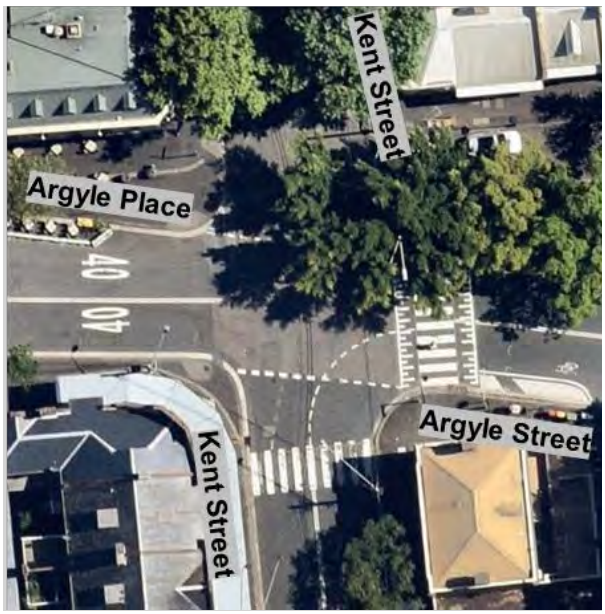
Overall, the intersection of Dalgety Road and Towns Place performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.4.3 BGU03 – Kent Street / Argyle Street

The priority intersection, composed of Kent Street, Argyle Street and Argyle Place, is located north-east of Barangaroo Station. It connects the local roads of Argyle Street and Argyle Place in Barangaroo with Kent Street, a major local road that runs through the Sydney CBD.

Figure 5-26 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.





Source: Nearmap, accessed on 24 March 2023

Figure 5-26 Block 1 – SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU03

Table 5-30 presents a performance summary of this intersection.

Table 5-30 Block 1 – Intersection performance summary of BGU03

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Kent Street / Argyle Street (Priority – Give Way)	Weekday AM	South	0.511	13.1	25.5	LOS A
		East	0.224	5.0	8.2	LOS A
		North	0.028	9.7	0.7	LOS A
		West	0.142	4.1	5.3	LOS A
		Total	**0.511**	**13.1**	**25.5**	**LOS A**
	Weekday PM	South	0.414	7.8	16.9	LOS A
		East	0.193	3.6	7.0	LOS A
		North	0.032	9.2	0.8	LOS A
		West	0.107	3.9	3.6	LOS A
		Total	**0.032**	**9.2**	**0.8**	**LOS A**
	Weekend	South	0.360	6.6	11.7	LOS A

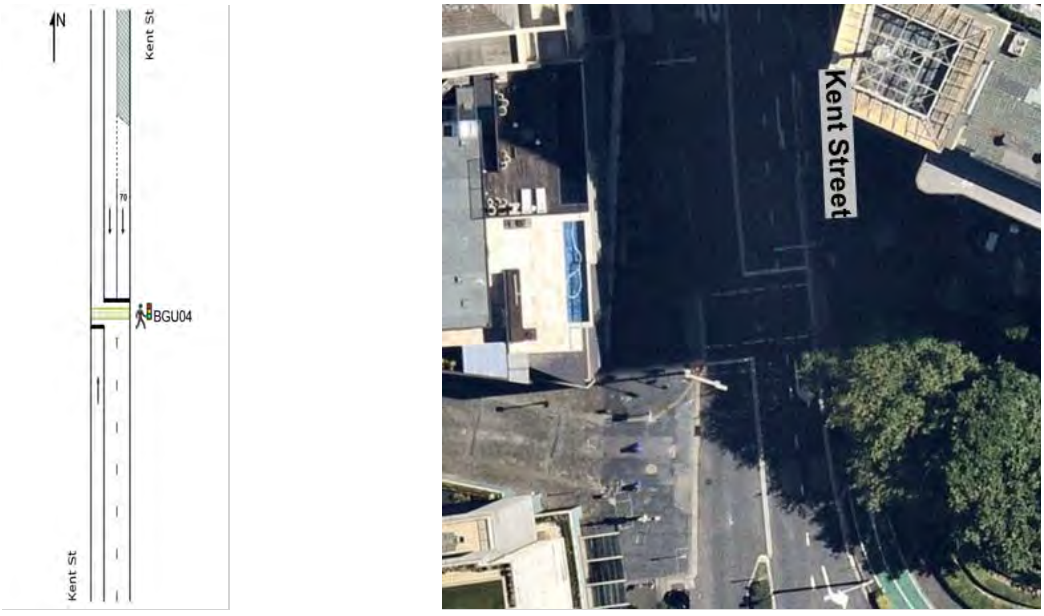
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
		East	0.172	3.9	6.1	LOS A
		North	0.037	8.4	0.9	LOS A
		West	0.101	4.3	3.4	LOS A
		Total	**0.037**	**8.4**	**0.9**	**LOS A**

Overall, the intersection of Kent Street, Argyle Street and Argyle Place performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.4.4 BGU04 – Pedestrian Mid-block Crossing at Kent Street near Gas Lane

The signalised pedestrian mid-block crossing at Kent Street, near Gas Lane, is located south-east of Barangaroo Station. It offers a signalised pedestrian crossing over Kent Street near Gas Lane, a major local road that runs through the Sydney CBD. A dedicated cycleway runs along the east side of Kent Street; however, it was not considered for this assessment. The traffic signals at this intersection are co-ordinated with the intersection of Kent Street, Clarence Street and the Sydney Harbour Bridge on-ramp (BGU05).

Figure 5-27 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-27 Block 1 – SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU04

Table 5-31 presents a performance summary of this intersection.

Table 5-31 Block 1 – Intersection performance summary of BGU04

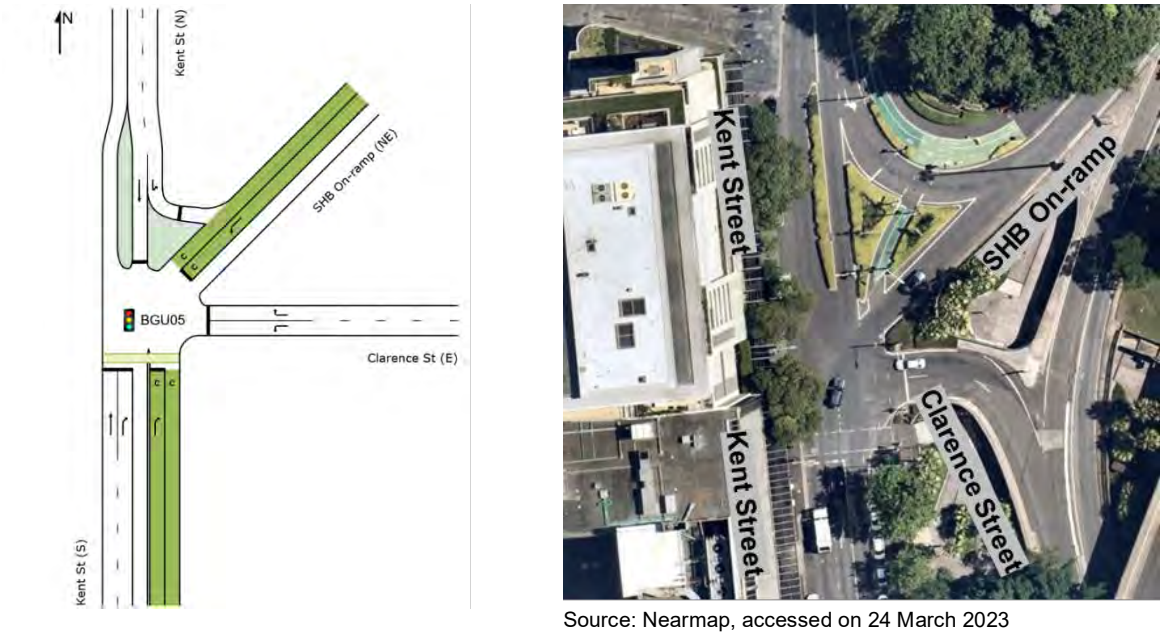
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Pedestrian Mid-block Crossing at Kent Street near Gas Lane (Pedestrian only – Signal)	Weekday AM	South	0.421	10.8	81.6	LOS A
		North	0.430	34.8	39.3	LOS C
		Total	**0.430**	**19.4**	**81.6**	**LOS B**
	Weekday PM	South	0.296	8.5	59.9	LOS A
		North	0.621	41.8	49.2	LOS C
		Total	**0.621**	**23.3**	**59.9**	**LOS B**
	Weekend	South	0.245	10.2	37.0	LOS A
		North	0.356	26.8	24.0	LOS B
		Total	**0.356**	**18.0**	**37.0**	**LOS B**

Overall, the pedestrian mid-block crossing at Kent Street, near Gas Lane, performs satisfactorily at LOS B. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.4.5 BGU05 – Kent Street / Sydney Harbour Bridge (SHB) On-ramp

The signalised intersection, composed of Kent Street, Clarence Street and the Sydney Harbour Bridge (SHB) on-ramp, is located south-east of Barangaroo Station. It connects the major local roads running through the Sydney CBD of Kent Street and Clarence Street with the Sydney Harbour Bridge on-ramp, providing northbound access to the M1 Motorway. A dedicated cycleway runs along the east side of Kent Street and the north side of the SHB on-ramp. Kent St (N) cycleway not assessed. The traffic signals at this intersection are co-ordinated with the pedestrian mid-block crossing at Kent Street, near Gas Lane (BGU04).

Figure 5-28 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-28 Block 1 – SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU05

Table 5-32 presents a performance summary of this intersection.

Table 5-32 Block 1 – Intersection performance summary of BGU05

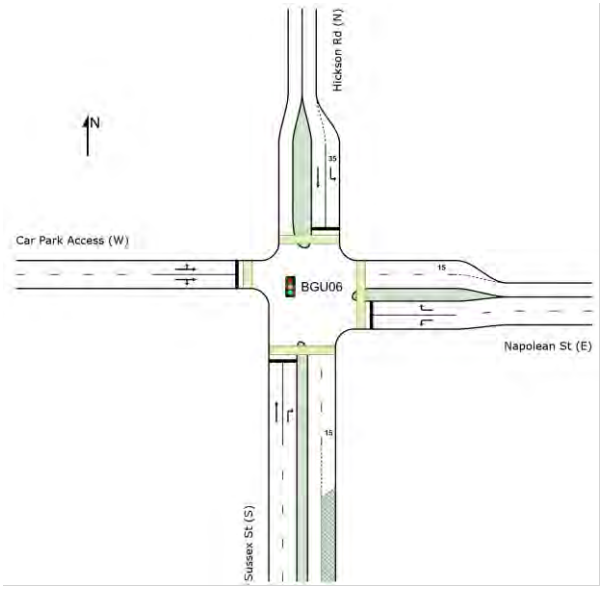
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Kent Street / Sydney Harbour Bridge (SHB) On-ramp (Signal)	Weekday AM	South	0.561	16.3	58.2	LOS B
		East	0.894	49.7	72.7	LOS D
		North	0.507	32.5	56.8	LOS C
		Total	**0.894**	**28.3**	**72.7**	**LOS B**
	Weekday PM	South	0.730	11.4	96.2	LOS A
		East	0.576	42.4	44.0	LOS C
		North	0.747	43.9	52.6	LOS D
		Total	**0.747**	**23.8**	**96.2**	**LOS B**
	Weekend	South	0.434	17.2	43.9	LOS B
		East	0.214	26.2	16.9	LOS B
		North	0.602	30.2	27.1	LOS C
		Total	**0.602**	**22.5**	**43.9**	**LOS B**

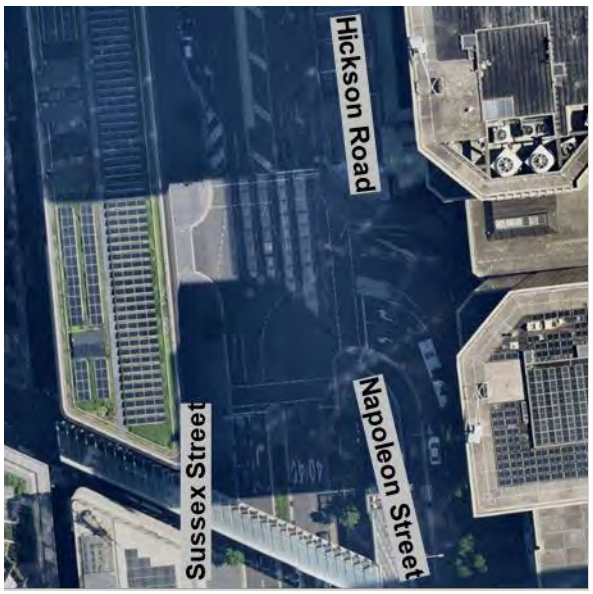
Overall, the intersection of Kent Street, Clarence Street and the SHB on-ramp performs satisfactorily at LOS B. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.4.6 BGU06 – Hickson Road / Napoleon Street / Sussex Street

The signalised intersection, composed of Hickson Road, Napoleon Street, Sussex Street and a private parking facility is located south of Barangaroo Station. It connects the parking facility exit and local road of Napoleon Street with the regional roads of Hickson Road, which runs along the western waterfront of Barangaroo, and Sussex Street running through the Sydney CBD.

Figure 5-29 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.





Source: Nearmap, accessed on 24 March 2023

Figure 5-29 Block 1 – SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU06

Table 5-33 presents a performance summary of this intersection.

Table 5-33 Block 1 – Intersection performance summary of BGU06

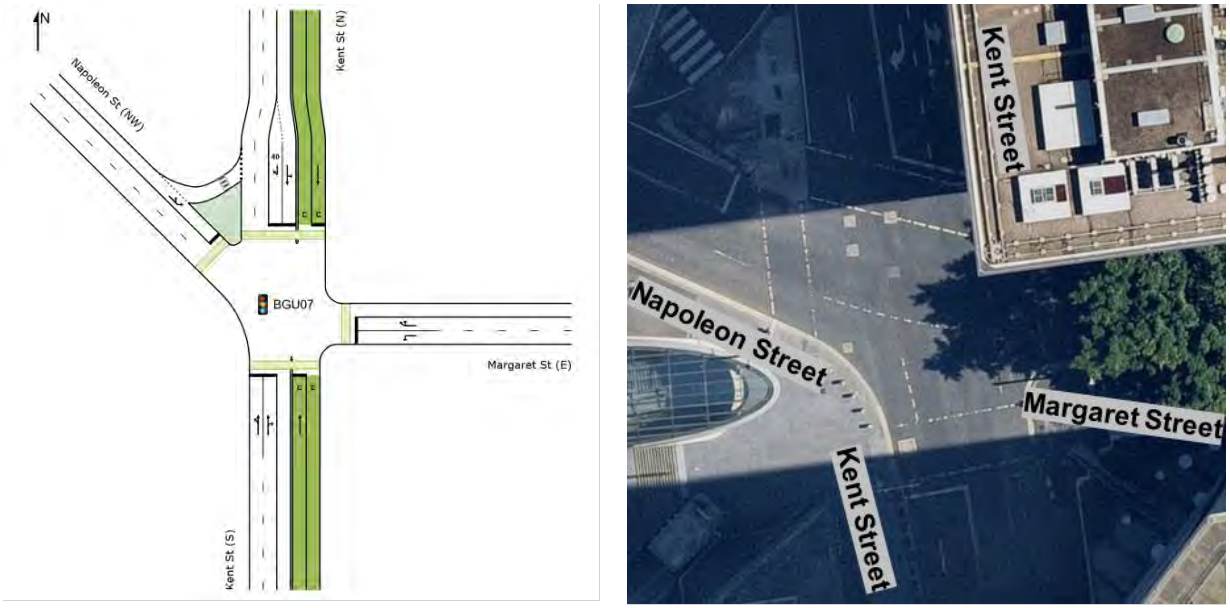
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Hickson Road / Napoleon Street / Sussex Street (Signal)	Weekday AM	South	0.348	12.9	49.7	LOS A
		East	0.511	26.1	45.9	LOS B
		North	0.336	19.6	41.8	LOS B
		West	0.193	44.8	1.5	LOS D
		Total	**0.511**	**18.9**	**49.7**	**LOS B**
	Weekday PM	South	0.438	14.9	69.6	LOS B
		East	0.659	32.2	56.9	LOS C
		North	0.479	22.6	65.5	LOS B
		West	0.358	40.4	9.9	LOS C
		Total	**0.659**	**22.5**	**69.6**	**LOS B**
	Weekend	South	0.322	10.9	43.0	LOS A
		East	0.419	25.7	36.9	LOS B
		North	0.415	18.2	51.7	LOS B
		West	0.074	41.4	0.6	LOS C
		Total	**0.419**	**17.3**	**51.7**	**LOS B**

Overall, the intersection of Hickson Road, Napoleon Street and Sussex Street performs satisfactorily at LOS B. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.4.7 BGU07 – Margaret Street / Kent Street / Napoleon Street

The signalised intersection, composed of Margaret Street, Kent Street and Napoleon Street, is located south-east of Barangaroo Station. It connects the local roads of Napoleon Street and Margaret Street in the Sydney CBD with Kent Street, a major local road that runs through the Sydney CBD. A dedicated cycleway runs along the east side of Kent Street.

Figure 5-30 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-30 Block 1 – SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU07

Table 5-34 presents a performance summary of this intersection.

Table 5-34 Block 1 – Intersection performance summary of BGU07

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Margaret Street / Kent Street / Napoleon Street (Signal)	Weekday AM	South	0.496	24.7	86.3	LOS B
		East	0.778	40.9	65.3	LOS C
		North	0.248	22.5	25.6	LOS B
		North-west	0.314	13.4	22.3	LOS A
		Total	**0.778**	**26.9**	**86.3**	**LOS B**
	Weekday PM	South	0.474	22.0	91.2	LOS B
		East	0.657	35.5	65.3	LOS C
		North	0.278	24.6	19.6	LOS B
		North-west	0.327	11.9	30.6	LOS A
		Total	**0.657**	**23.6**	**91.2**	**LOS B**
	Weekend	South	0.318	15.4	40.0	LOS B
		East	0.349	22.6	34.5	LOS B

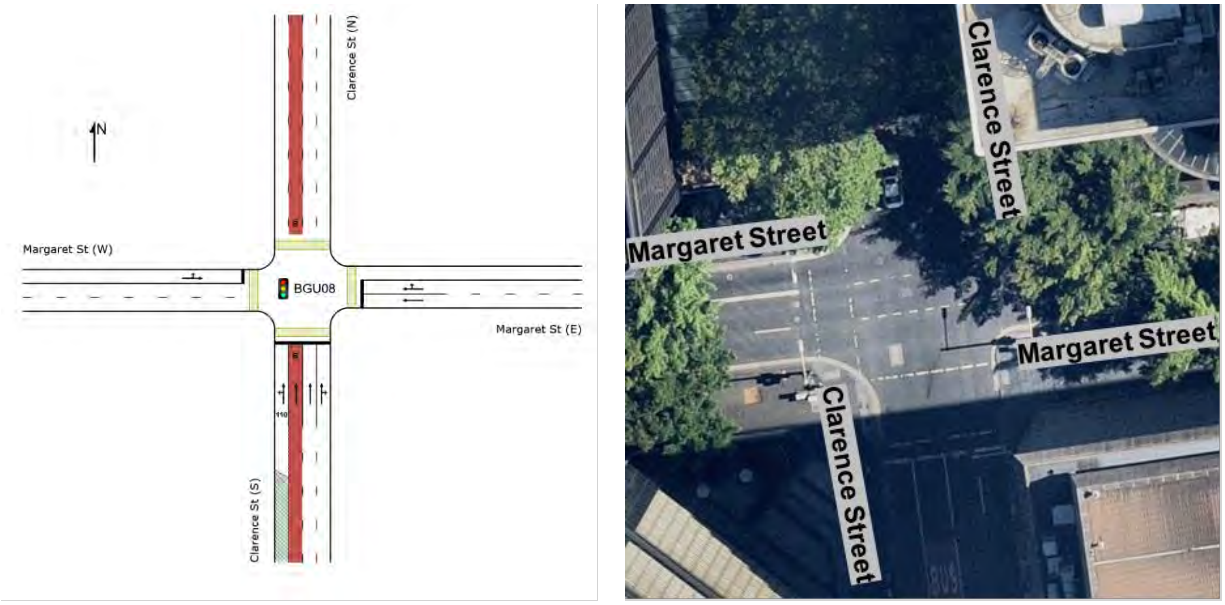
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
		North	0.335	24.5	28.0	LOS B
		North-west	0.261	10.9	20.6	LOS A
		Total	**0.349**	**17.8**	**40.0**	**LOS B**

Overall, the intersection of Margaret Street, Kent Street and Napoleon Street performs satisfactorily at LOS B. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.4.8 BGU08 – Margaret Street / Clarence Street

The signalised intersection, composed of Margaret Street and Clarence Street, is located south-east of Barangaroo Station. It connects the local road of Margaret Street with Clarence Street, a major local road that runs through the Sydney CBD.

Figure 5-31 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-31 Block 1 – SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU08

Table 5-35 presents a performance summary of this intersection.

Table 5-35 Block 1 – Intersection performance summary of BGU08

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Margaret Street / Clarence Street	Weekday AM	South	0.518	26.2	67.7	LOS B
		East	0.481	15.4	53.7	LOS B
		West	0.686	44.7	50.8	LOS D
		Total	**0.686**	**24.8**	**67.7**	**LOS B**

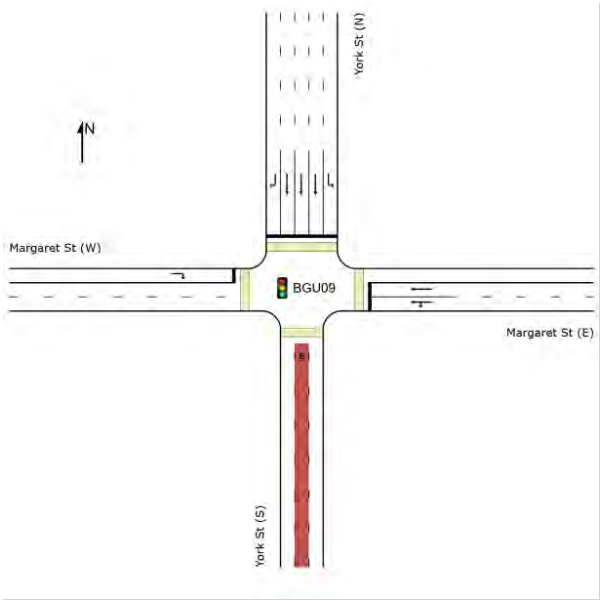
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
(Signal)	Weekday PM	South	0.527	27.0	85.6	LOS B
		East	0.389	15.0	43.2	LOS B
		West	0.516	42.2	46.1	LOS C
		Total	**0.527**	**25.5**	**85.6**	**LOS B**
	Weekend	South	0.334	16.1	33.3	LOS B
		East	0.169	12.7	19.4	LOS A
		West	0.277	25.8	24.8	LOS B
		Total	**0.334**	**16.3**	**33.3**	**LOS B**

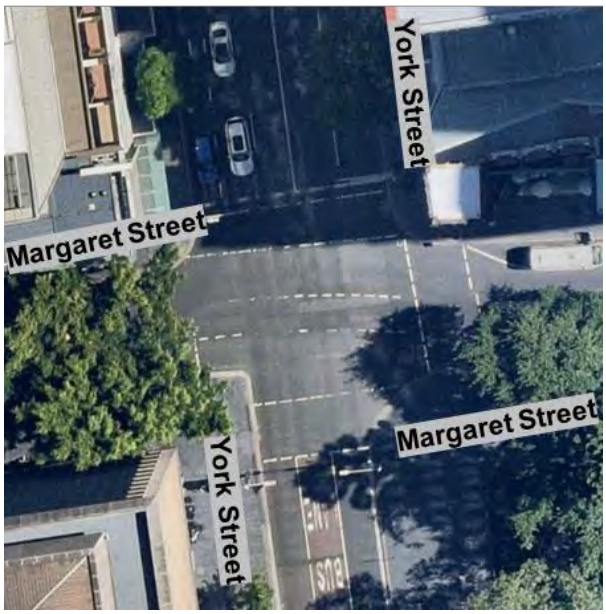
Overall, the intersection of Margaret Street and Clarence Street performs satisfactorily at LOS B. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.4.9 BGU09 – Margaret Street / York Street

The signalised intersection, composed of Margaret Street and York Street, is located south-east of Barangaroo Station. It connects the local road of Margaret Street with York Street, a major local road that runs through the Sydney CBD.

Figure 5-32 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.





Source: Nearmap, accessed on 24 March 2023

Figure 5-32 Block 1 – SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU09

Table 5-36 presents a performance summary of this intersection.

Table 5-36 Block 1 – Intersection performance summary of BGU09

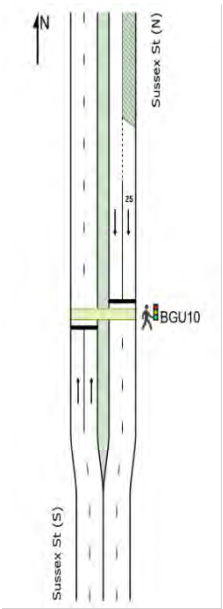
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Margaret Street / York Street (Signal)	Weekday AM	East	0.248	33.1	31.1	LOS C
		North	0.437	12.8	69.2	LOS A
		West	0.455	45.1	27.7	LOS D
		Total	**0.455**	**16.9**	**69.2**	**LOS B**
	Weekday PM	East	0.322	32.3	41.2	LOS C
		North	0.318	13.6	55.4	LOS A
		West	0.420	43.9	24.5	LOS D
		Total	**0.420**	**18.4**	**55.4**	**LOS B**
	Weekend	East	0.091	23.5	9.3	LOS B
		North	0.238	14.0	35.3	LOS A
		West	0.139	28.9	11.2	LOS C
		Total	**0.238**	**15.6**	**35.3**	**LOS B**

Overall, the intersection of Margaret Street and York Street performs satisfactorily at LOS B. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.4.10 BGU10 – Pedestrian Mid-block Crossing at Sussex Street under Exchange Place

The signalised pedestrian mid-block crossing at Sussex Street, under Exchange Place, is located south of Barangaroo Station. It offers a signalised pedestrian crossing over Sussex Street, a regional road that runs through the Sydney CBD.

Figure 5-33 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-33 Block 1 – SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU10

Table 5-37 presents a performance summary of this intersection.

Table 5-37 Block 1 – Intersection performance summary of BGU10

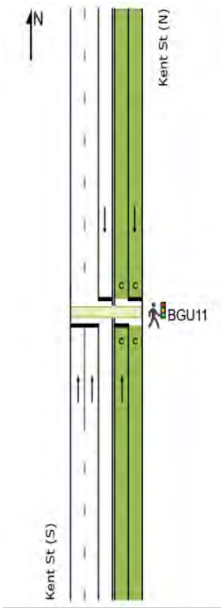
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Pedestrian Mid-block Crossing at Sussex Street under Exchange Place (Pedestrian only – Signal)	Weekday AM	South	0.175	2.8	17.5	LOS A
		North	0.129	2.7	12.3	LOS A
		Total	**0.175**	**2.8**	**17.5**	**LOS A**
	Weekday PM	South	0.196	2.9	20.1	LOS A
		North	0.183	2.8	18.4	LOS A
		Total	**0.196**	**2.9**	**20.1**	**LOS A**
	Weekend	South	0.130	2.7	12.6	LOS A
		North	0.108	2.7	10.2	LOS A
		Total	**0.130**	**2.7**	**12.6**	**LOS A**

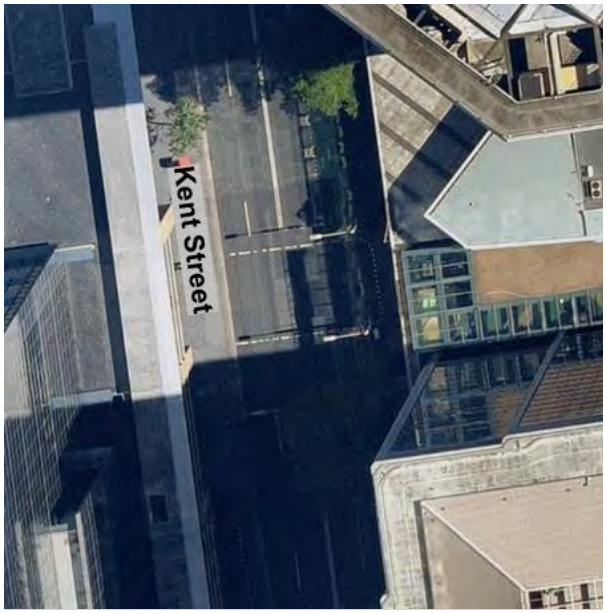
Overall, the pedestrian mid-block crossing at Sussex Street under Exchange Place performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.4.11 BGU11 – Pedestrian Mid-block Crossing at Kent Street near Margaret Street

The signalised pedestrian mid-block crossing at Kent Street, near Margaret Street, is located south of Barangaroo Station. It offers a signalised pedestrian crossing over Kent Street near Margaret Street, a major local road that runs through the Sydney CBD. A dedicated cycleway runs along the east side of Kent Street.

Figure 5-34 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.





Source: Nearmap, accessed on 24 March 2023

Figure 5-34 Block 1 – SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU11

Table 5-38 presents a performance summary of this intersection.

Table 5-38 Block 1 – Intersection performance summary of BGU11

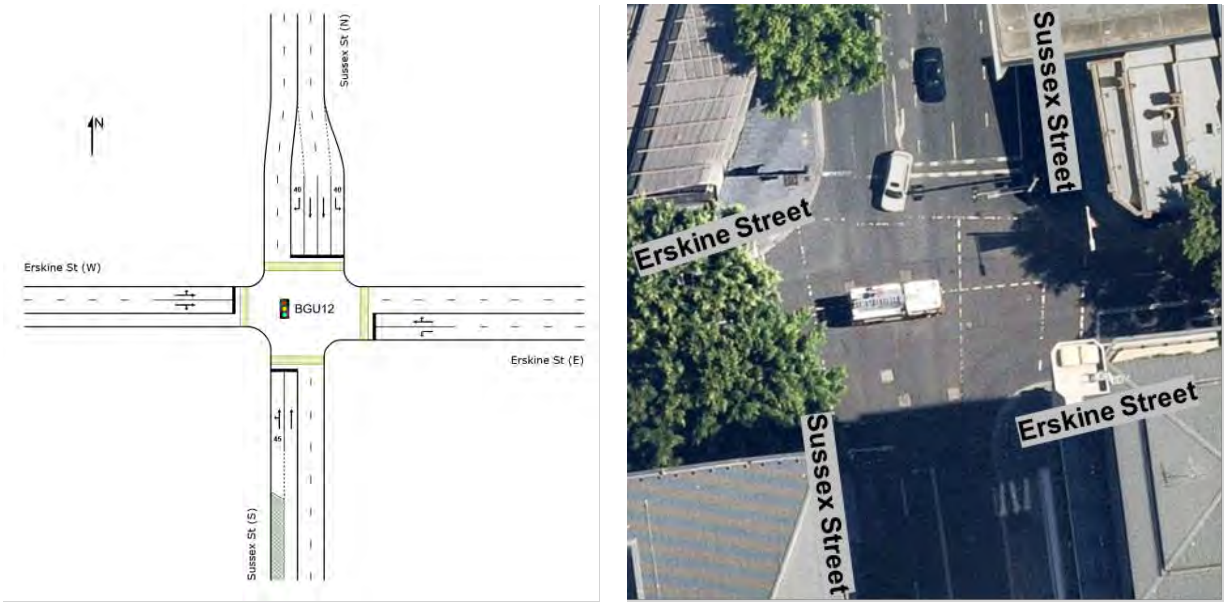
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Pedestrian Mid-block Crossing at Kent Street near Margaret Street (Pedestrian only – Signal)	Weekday AM	South	0.442	9.9	40.4	LOS A
		North	0.137	8.4	10.7	LOS A
		Total	**0.442**	**9.7**	**40.4**	**LOS A**
	Weekday PM	South	0.402	9.7	36.1	LOS A
		North	0.185	8.5	15.0	LOS A
		Total	**0.402**	**9.4**	**36.1**	**LOS A**
	Weekend	South	0.242	9.2	20.0	LOS A
		North	0.207	8.9	16.8	LOS A
		Total	**0.242**	**9.1**	**20.0**	**LOS A**

Overall, the pedestrian mid-block crossing at Kent Street, near Margaret Street, performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.4.12 BGU12 – Sussex Street / Erskine Street

The signalised intersection, composed of Sussex Street and Erskine Street, is located south of Barangaroo Station. It connects the regional road of Sussex Street running through the Sydney CBD with the local road of Erskine Street.

Figure 5-35 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-35 Block 1 – SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU12

Table 5-39 presents a performance summary of this intersection.

Table 5-39 Block 1 – Intersection performance summary of BGU12

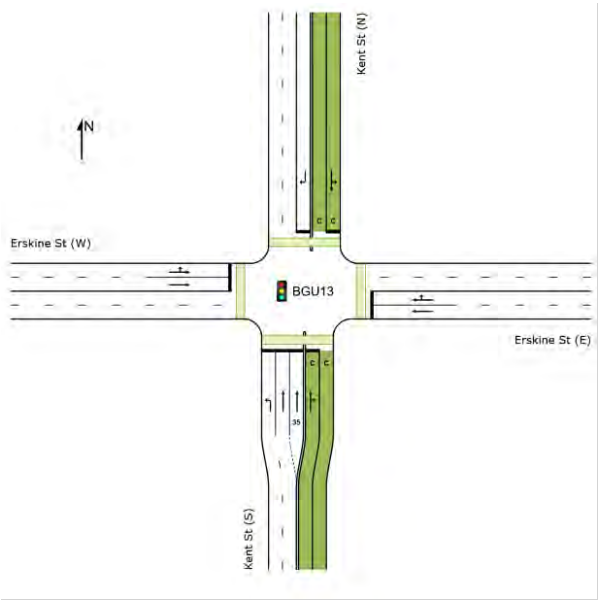
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Sussex Street / Erskine Street (Signal)	Weekday AM	South	0.464	32.5	62.5	LOS C
		East	0.365	9.3	42.3	LOS A
		North	0.186	23.1	27.0	LOS B
		West	0.333	14.2	58.0	LOS A
		Total	**0.464**	**18.8**	**62.5**	**LOS B**
	Weekday PM	South	0.466	30.9	65.1	LOS C
		East	0.449	10.0	54.8	LOS A
		North	0.302	22.5	47.0	LOS B
		West	0.533	17.6	63.4	LOS B
		Total	**0.533**	**19.6**	**65.1**	**LOS B**
	Weekend	South	0.278	26.8	38.3	LOS B
		East	0.401	8.5	42.3	LOS A
		North	0.201	20.8	30.3	LOS B
		West	0.748	21.6	73.4	LOS B
		Total	**0.748**	**18.3**	**73.4**	**LOS B**

Overall, the intersection of Sussex Street and Erskine Street performs satisfactorily at LOS B. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.4.13 BGU13 – Kent Street / Erskine Street

The signalised intersection, composed of Kent Street and Erskine Street, is located south of Barangaroo Station. It connects the local road of Erskine Street with Kent Street, a major local road that runs through the Sydney CBD. A dedicated cycleway runs along the east side of Kent Street.

Figure 5-36 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-36 Block 1 – SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU13

Table 5-40 presents a performance summary of this intersection.

Table 5-40 Block 1 – Intersection performance summary of BGU13

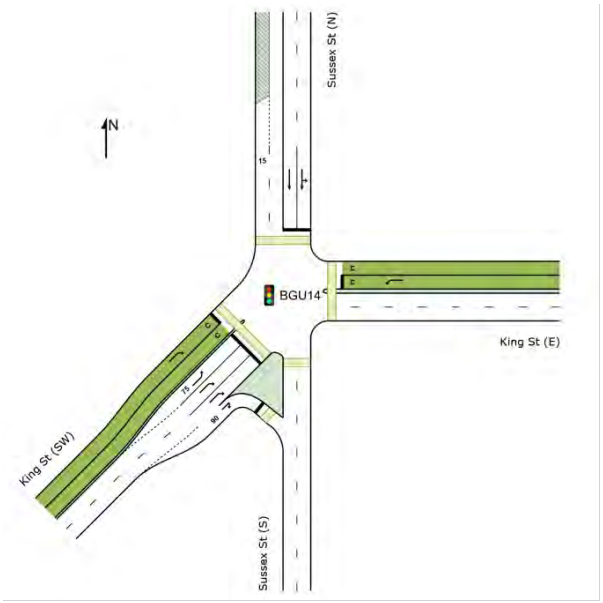
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Kent Street / Erskine Street (Signal)	Weekday AM	South	0.348	18.8	57.4	LOS B
		East	0.255	25.0	36.2	LOS B
		North	0.688	34.4	33.9	LOS C
		West	0.297	17.1	30.6	LOS B
		Total	**0.688**	**21.3**	**57.4**	**LOS B**
	Weekday PM	South	0.339	15.4	59.3	LOS B
		East	0.349	32.5	39.6	LOS C
		North	0.801	28.2	51.7	LOS B
		West	0.364	26.9	36.5	LOS B
		Total	**0.801**	**22.6**	**59.3**	**LOS B**
	Weekend	South	0.192	18.5	29.9	LOS B
		East	0.489	44.8	42.7	LOS D
		North	0.715	43.3	45.5	LOS D
		West	0.367	27.1	35.9	LOS B
		Total	**0.715**	**31.4**	**45.5**	**LOS C**

Overall, the intersection of Kent Street and Erskine Street performs satisfactorily at LOS C or better. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.4.14 BGU14 – Sussex Street / King Street

The signalised intersection, composed of Sussex Street and King Street, is located south of Barangaroo Station. It connects the King Street Western Distributor (A1) off-ramp with the regional road of Sussex Street, running through the Sydney CBD. A dedicated cycleway runs along the north side of King Street.

Figure 5-37 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-37 Block 1 – SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU14

Table 5-41 presents a performance summary of this intersection.

Table 5-41 Block 1 – Intersection performance summary of BGU14

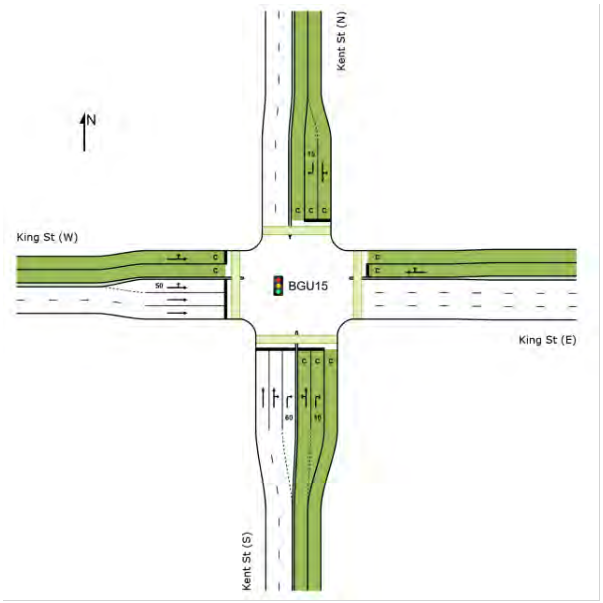
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Sussex Street / King Street (Signal)	Weekday AM	North	0.905	52.3	129.0	LOS D
		South-west	0.527	15.5	97.3	LOS B
		Total	**0.905**	**24.1**	**129.0**	**LOS B**
	Weekday PM	North	0.665	21.4	141.6	LOS B
		South-west	0.575	22.8	106.7	LOS B
		Total	**0.665**	**23.4**	**141.6**	**LOS B**
	Weekend	North	0.492	17.6	95.6	LOS B
		South-west	0.568	23.7	102.0	LOS B
		Total	**0.568**	**21.5**	**102.0**	**LOS B**

Overall, the intersection of Sussex Street and King Street performs satisfactorily at LOS B. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.4.15 BGU15 – Kent Street / King Street

The signalised intersection, composed of Kent Street and King Street, is located south of Barangaroo Station. It connects the local road of King Street with Kent Street, a major local road that runs through the Sydney CBD. A dedicated cycleway runs along the east side of Kent Street and north side of King Street.

Figure 5-38 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-38 Block 1 – SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU15

Table 5-42 presents a performance summary of this intersection.

Table 5-42 Block 1 – Intersection performance summary of BGU15

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Kent Street / King Street (Signal)	Weekday AM	South	0.515	36.1	60.8	LOS C
		West	0.549	12.2	71.6	LOS A
		Total	**0.549**	**20.6**	**71.6**	**LOS B**
	Weekday PM	South	0.520	32.9	71.3	LOS C
		West	0.502	12.6	53.1	LOS A
		Total	**0.520**	**23.3**	**71.3**	**LOS B**
	Weekend	South	0.376	28.8	53.7	LOS C
		West	0.497	14.9	55.4	LOS B
		Total	**0.497**	**19.5**	**55.4**	**LOS B**

Overall, the intersection of Kent Street and King Street performs satisfactorily at LOS B. The 95th percentile queue on King Street (west approach) extends back to Sussex Street during the weekday AM peak hour.

5.4.16 BGU16 – New Pedestrian Mid-block Crossing at New Hickson Road (north of Metro Station)

The signalised pedestrian mid-block crossing at New Hickson Road (north of the metro station) is located directly east of Barangaroo Station. During Block 1, the mid-block crossing was under construction and non-operational. It was not assessed as part of the Block 1 study.

5.4.17 BGU17 – New Pedestrian Mid-block Crossing at New Hickson Road (south of Metro Station)

The signalised pedestrian mid-block crossing at New Hickson Road (south of the metro station) is located directly east of Barangaroo Station. During Block 1, the mid-block crossing was under construction and non-operational. It was not assessed as part of the Block 1 study.

5.4.18 BGU18 – Shelley Street / Erskine Street

The signalised intersection, composed of Shelley Street and Erskine Street, is located south of Barangaroo Station. It connects the local roads of Erskine Street and Shelley Street in the Sydney CBD near the King Street Wharf.

Figure 5-39 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.

Source: Nearmap, accessed on 24 March 2023

Figure 5-39 Block 1 – SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU18

Table 5-43 presents a performance summary of this intersection.

Table 5-43 Block 1 – Intersection performance summary of BGU18

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Shelley Street / Erskine Street (Signal)	Weekday AM	South	0.568	15.8	39.9	LOS B
		East	0.291	14.9	17.7	LOS B
		North	0.235	15.5	12.1	LOS B
		West	0.134	11.1	9.5	LOS A
		Total	**0.568**	**14.8**	**39.9**	**LOS B**

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
	Weekday PM	South	0.687	18.9	33.3	LOS B
		East	0.285	15.5	18.0	LOS B
		North	0.470	16.1	24.8	LOS B
		West	0.240	12.2	13.8	LOS A
		Total	**0.687**	**16.0**	**33.3**	**LOS B**
	Weekend	South	0.975	45.7	73.6	LOS D
		East	0.228	13.9	15.5	LOS A
		North	0.204	13.3	15.2	LOS A
		West	0.251	12.6	18.8	LOS A
		Total	**0.975**	**24.5**	**73.6**	**LOS B**

Overall, the intersection of Shelley Street and Erskine Street performs satisfactorily at LOS B. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.5 Martin Place Station

Martin Place Station is a new underground station and the fifth stop on the City & Southwest Line (towards Sydenham). It is located to west of the existing Martin Place Station (Sydney Trains) in Martin Place. Martin Place Station will have two station entrances, Martin Place North, bounded by Hunter Street, Castlereagh Street and Elizabeth Street, and Martin Place South, at Martin Place. New underground pedestrian connections will link the existing Martin Place Station platforms and the metro station platforms.

Martin Place Station was still under construction during Block 1. Construction access and egress to the station was facilitated via Elizabeth Street and Castlereagh Street.

Bus services are available within approximately 150 metres of Martin Place Station, located at Elizabeth Street and Castlereagh Street. New bicycle parking racks will be provided on Castlereagh Street at both station entries, and the existing taxi ranks close to the station will be retained.

The Martin Place Station study area consists of six intersections. **Table 5-44** presents the peak hours utilised for modelling the intersections. **Table 5-45** provides a summary of the intersection level of service while

Figure 5-40 visualises a geospatial summary of the intersection level of service within the Martin Place Station study area.

Table 5-44 Block 1 – Martin Place Station peak hours modelled

Network ID	Intersection ID	Weekday AM peak hour		Weekday PM peak hour		Weekend peak hour	
		Day	Start time	Day	Start time	Day	Start time
MPL-N1	MPL01	Wednesday	9.00am	Wednesday	5.30pm	Saturday	12.15pm
	MPL02						
	MPL03						
	MPL04						
-	MPL05	Tuesday	9.00am	Friday	6.00pm	Saturday	1.30pm
-	MPL06	Wednesday	8.45am	Wednesday	5.15pm	Saturday	12.15pm

Table 5-45 Block 1 – Martin Place Station intersection performance summary

Intersection ID	Intersection	Level of service (LOS)		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
MPL01	Hunter Street / Castlereagh Street / Bligh Street (Signal)	LOS B	LOS B	LOS B
MPL02	Hunter Street / Elizabeth Street / Chifley Square (Signal)	LOS C	LOS C	LOS B
MPL03	Bent Street / Bligh Street (Signal)	LOS A	LOS A	LOS A
MPL04	Bent Street / Phillip Street (Signal)	LOS C	LOS B	LOS B
MPL05	Pedestrian Mid-block Crossing at Castlereagh Street (Pedestrian only – Signal)	LOS B	LOS A	LOS A

Intersection ID	Intersection	Level of service (LOS)		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
MPL06	Pedestrian Mid-block Crossing at Elizabeth Street (Pedestrian only – Signal)	LOS A	LOS A	LOS B

Overall, in the Martin Place Station study area, the intersection performance during the peak periods is satisfactory, operating at LOS C or better.

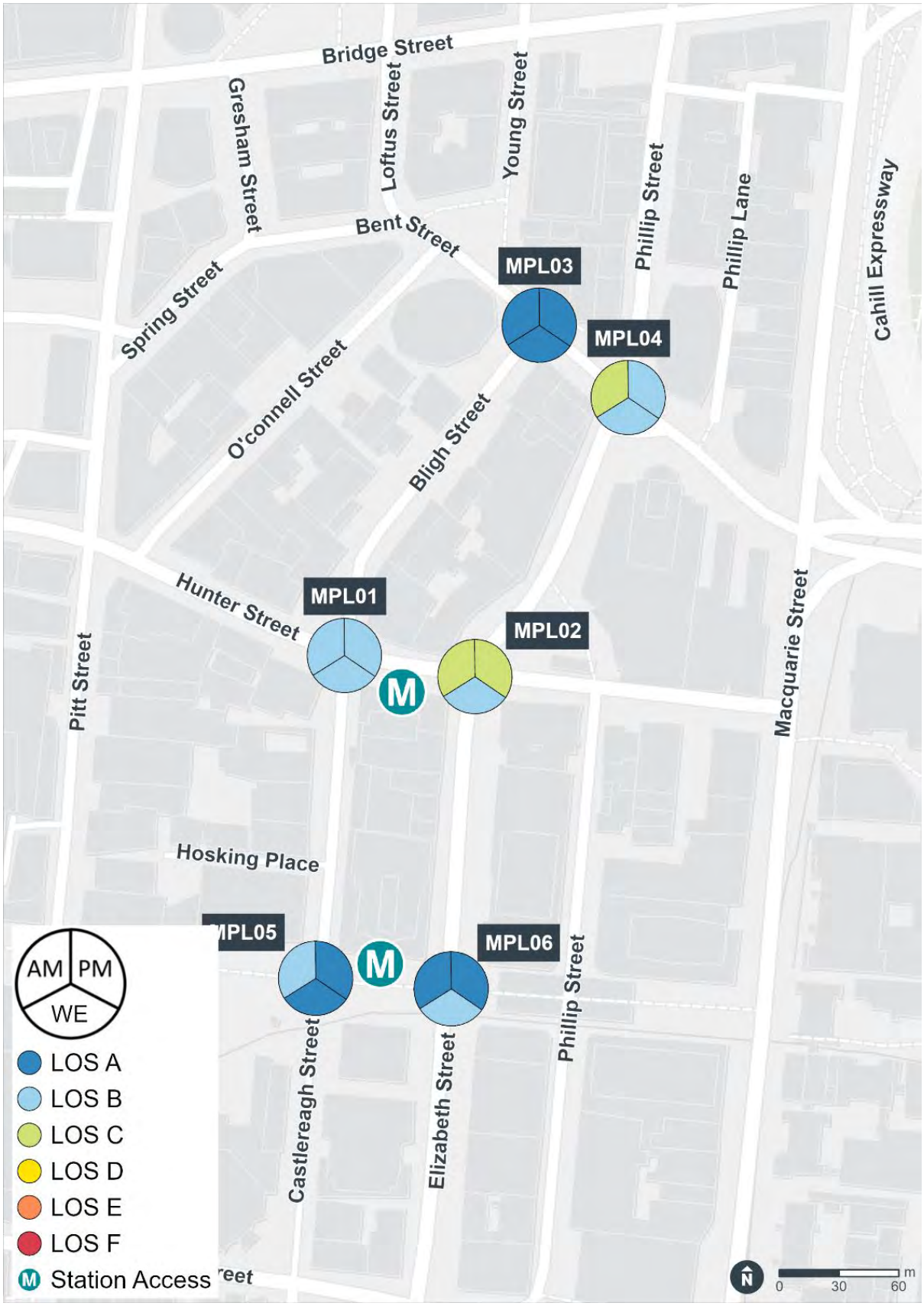
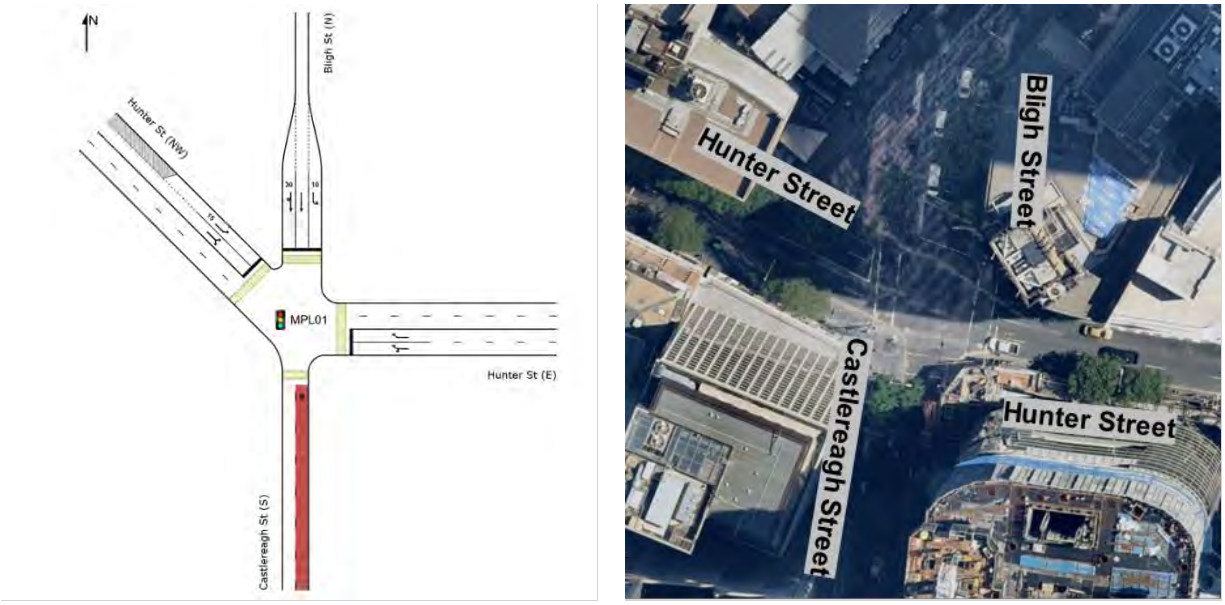


Figure 5-40 Block 1 – Martin Place Station geospatial intersection performance summary

5.5.1 MPL01 – Hunter Street / Castlereagh Street / Bligh Street

The signalised intersection, composed of Hunter Street, Castlereagh Street and Bligh Street, is located directly north-west of Martin Place North. It connects the local roads of Bligh Street and Hunter Street in the Sydney CBD with Castlereagh Street, a major local road running through the Sydney CBD.

Figure 5-41 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-41 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of MPL01

Table 5-46 presents a performance summary of this intersection.

Table 5-46 Block 1 - Intersection performance summary of MPL01

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Hunter Street / Castlereagh Street / Bligh Street (Signal)	Weekday AM	East	0.421	20.2	65.3	LOS B
		North	0.421	38.6	26.9	LOS C
		North-west	0.288	14.1	31.2	LOS A
		Total	**0.421**	**21.4**	**65.3**	**LOS B**
	Weekday PM	East	0.319	16.2	46.3	LOS B
		North	0.665	49.4	33.3	LOS D
		North-west	0.396	11.6	43.3	LOS A
		Total	**0.665**	**21.3**	**46.3**	**LOS B**
	Weekend	East	0.258	13.9	24.3	LOS A
		North	0.263	26.6	14.5	LOS B
		North-west	0.127	9.8	14.0	LOS A
		Total	**0.263**	**14.6**	**24.3**	**LOS B**

Overall, the intersection of Hunter Street, Castlereagh Street and Bligh Street performs satisfactorily at LOS B. The 95th percentile queue on Hunter Street (east approach) extends back to Elizabeth Street during the weekday AM and PM peak hours.

5.5.2 MPL02 – Hunter Street / Elizabeth Street / Chifley Square

The signalised intersection, composed of Hunter Street, Elizabeth Street and Chifley Square, is located directly north-east of Martin Place North. It connects the local roads of Chifley Square and Hunter Street in the Sydney CBD with Elizabeth Street, a major local road linking the Sydney CBD and Waterloo.

Figure 5-42 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.

Source: Nearmap, accessed on 24 March 2023

Figure 5-42 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of MPL02

Table 5-47 presents a performance summary of this intersection.

Table 5-47 Block 1 - Intersection performance summary of MPL02

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Hunter Street / Elizabeth Street / Chifley Square (Signal)	Weekday AM	South	0.935	45.6	271.0	LOS D
		East	0.533	29.8	41.6	LOS C
		North-east	0.443	31.4	61.9	LOS C
		West	0.430	33.0	62.6	LOS C
		Total	**0.935**	**38.7**	**271.0**	**LOS C**
	Weekday PM	South	0.909	43.2	259.0	LOS D
		East	0.391	28.7	38.3	LOS C
		North-east	0.481	33.9	65.3	LOS C
		West	0.504	31.9	65.3	LOS C
		Total	**0.909**	**37.0**	**259.0**	**LOS C**
	Weekend	South	0.679	18.9	95.8	LOS B

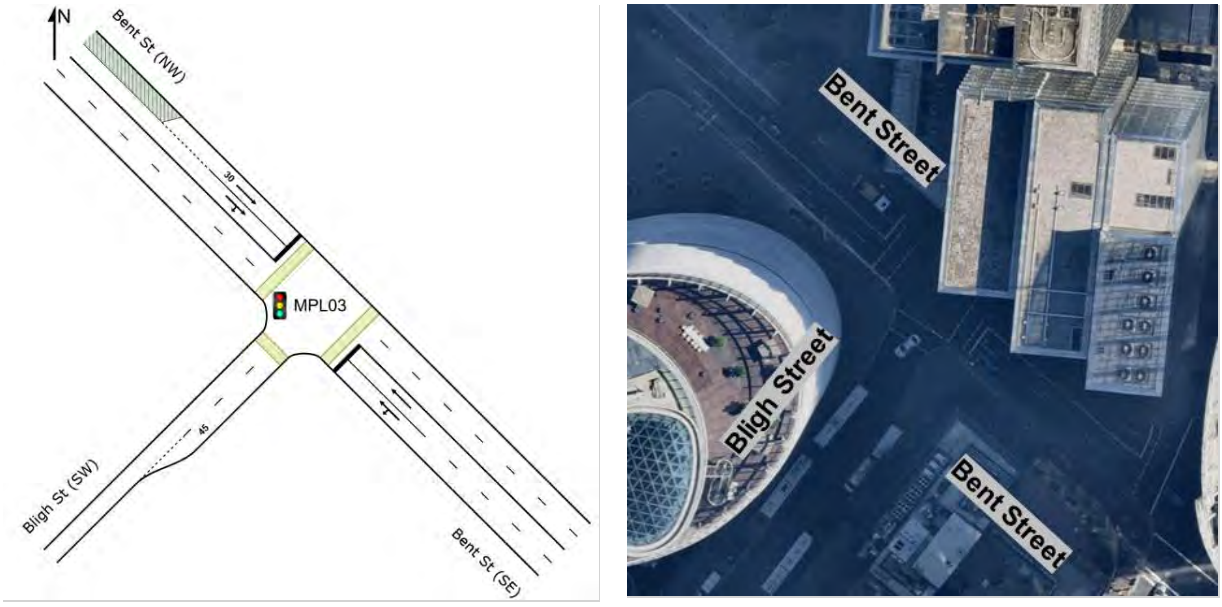
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
		East	0.247	16.9	18.3	LOS B
		North-east	0.293	26.4	24.5	LOS B
		West	0.212	17.5	26.0	LOS B
		Total	**0.679**	**19.1**	**95.8**	**LOS B**

Overall, the intersection of Hunter Street, Elizabeth Street and Chifley Square performs satisfactorily at LOS C or better. The 95th percentile queues on Elizabeth Street (south approach) extend back to the mid-block crossing on Elizabeth Street (MPL06) during the weekday AM and PM peak hours. Similarly, the 95th percentile queues on Hunter Street (west approach) extend back to Castlereagh Street during the weekday AM and PM peak hours.

5.5.3 MPL03 – Bent Street / Bligh Street

The signalised intersection, composed of Bent Street and Bligh Street, is located north of Martin Place North. It connects the local roads of Bent Street and Bligh Street in the Sydney CBD, providing access to the major local road of Castlereagh Street further south.

Figure 5-43 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-43 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of MPL03

Table 5-48 presents a performance summary of this intersection.

Table 5-48 Block 1 - Intersection performance summary of MPL03

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
	Weekday AM	South-east	0.273	3.8	33.9	LOS A
		North-west	0.175	4.7	9.2	LOS A

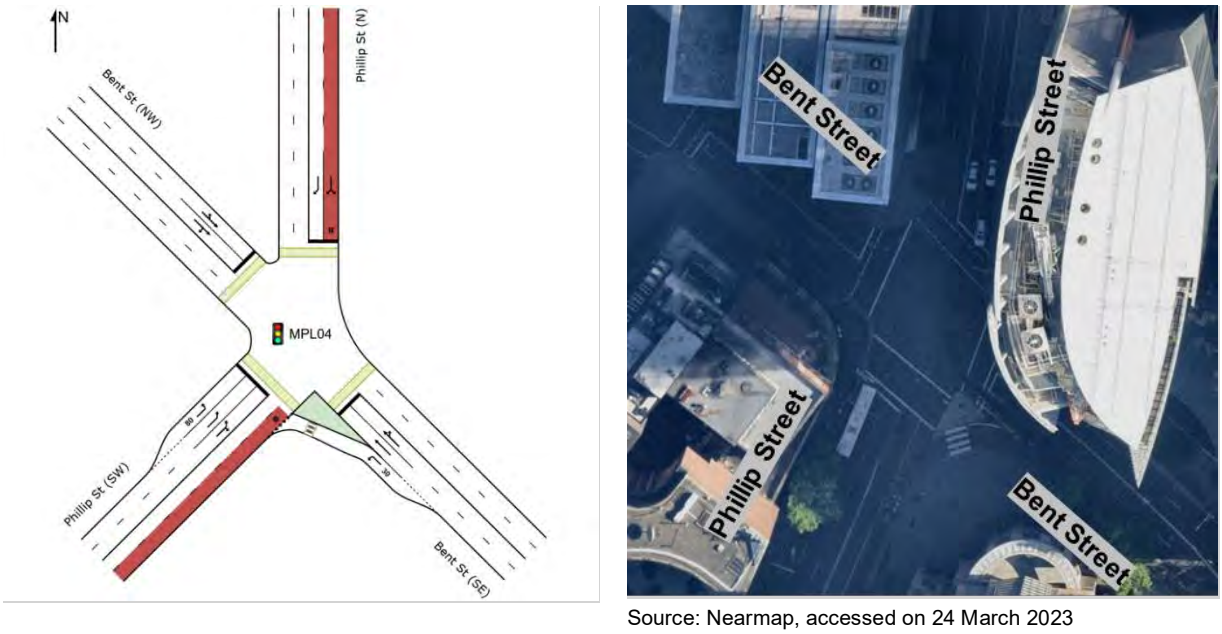
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Bent Street / Bligh Street (Signal)		**Total**	**0.273**	**4.0**	**33.9**	**LOS A**
	Weekday PM	South-east	0.239	4.1	23.3	LOS A
		North-west	0.152	4.3	15.5	LOS A
		Total	**0.239**	**4.2**	**23.3**	**LOS A**
	Weekend	South-east	0.390	3.8	22.6	LOS A
		North-west	0.098	4.4	9.5	LOS A
		Total	**0.390**	**4.0**	**22.6**	**LOS A**

Overall, the intersection of Bent Street and Bligh Street performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.5.4 MPL04 – Bent Street / Phillip Street

The signalised intersection, composed of Bent Street and Phillip Street, is located north of Martin Place North. It connects the local roads of Bent Street and Phillip Street in the Sydney CBD, providing access to the major local road of Elizabeth Street further south.

Figure 5-44 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-44 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of MPL04

Table 5-49 presents a performance summary of this intersection.

Table 5-49 Block 1 - Intersection performance summary of MPL04

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Bent Street / Phillip Street (Signal)	Weekday AM	South-east	0.984	75.9	149.1	LOS F
		North	0.167	11.2	25.5	LOS A
		North-west	0.240	33.0	15.6	LOS C
		South-west	0.277	10.7	45.9	LOS A
		Total	**0.984**	**34.0**	**149.1**	**LOS C**
	Weekday PM	South-east	0.747	41.8	67.5	LOS C
		North	0.196	12.3	30.6	LOS A
		North-west	0.489	35.6	29.7	LOS C
		South-west	0.438	11.7	52.2	LOS A
		Total	**0.747**	**21.4**	**67.5**	**LOS B**
	Weekend	South-east	0.790	27.8	71.7	LOS B
		North	0.104	11.7	11.2	LOS A
		North-west	0.229	21.4	15.6	LOS B
		South-west	0.238	12.8	37.4	LOS A
		Total	**0.790**	**18.4**	**71.7**	**LOS B**

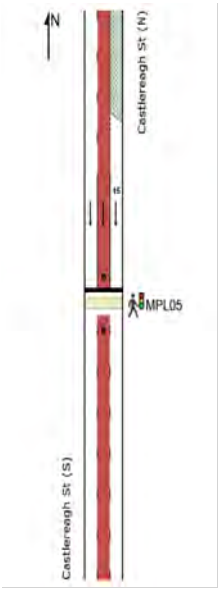
Overall, the intersection of Bent Street and Phillip Street performs satisfactorily at LOS C or better. The 95th percentile queue on Bent Street (south-east approach) extends back to Macquarie Street during the weekday AM peak hour.

5.5.5 MPL05 – Pedestrian Mid-block Crossing at Castlereagh Street

The signalised pedestrian mid-block crossing at Castlereagh Street is located directly north-west of Martin Place South. It offers a signalised pedestrian crossing over Castlereagh Street, a major local road that runs through the Sydney CBD.

During Block 1, the east kerbside lane was closed during all during all peak periods due to Sydney Metro construction. This closure extended to the middle departure lane during the weekend peak period.

Figure 5-45 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-45 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of MPL05

Table 5-50 presents a performance summary of this intersection.

Table 5-50 Block 1 - Intersection performance summary of MPL05

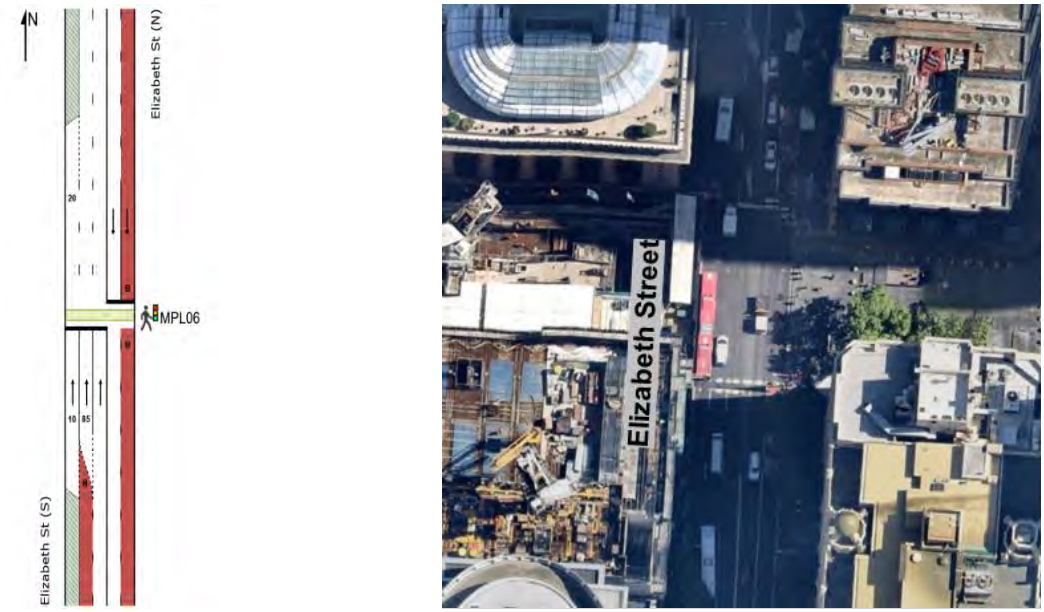
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Pedestrian Mid-block Crossing at Castlereagh Street (Pedestrian only – Signal)	Weekday AM	North	0.699	14.6	75.8	LOS B
		Total	**0.699**	**14.6**	**75.8**	**LOS B**
	Weekday PM	North	0.557	12.3	49.0	LOS A
		Total	**0.557**	**12.3**	**49.0**	**LOS A**
	Weekend	North	0.211	6.4	20.1	LOS A
		Total	**0.211**	**6.4**	**20.1**	**LOS A**

Overall, the pedestrian mid-block crossing at Castlereagh Street performs satisfactorily at LOS B or better. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.5.6 MPL06 – Pedestrian Mid-block Crossing at Elizabeth Street

The signalised pedestrian mid-block crossing at Elizabeth Street is located directly north-east of Martin Place South. It offers a signalised pedestrian crossing over Elizabeth Street, a major local road linking the Sydney CBD and Waterloo.

Figure 5-46 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-46 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of MPL06

Table 5-51 presents a performance summary of this intersection.

Table 5-51 Block 1 - Intersection performance summary of MPL06

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Pedestrian Mid-block Crossing at Elizabeth Street (Pedestrian only – Signal)	Weekday AM	South	0.542	11.6	90.6	LOS A
		North	0.340	9.3	49.2	LOS A
		Total	**0.542**	**12.9**	**90.6**	**LOS A**
	Weekday PM	South	0.434	8.8	81.6	LOS A
		North	0.310	7.3	52.7	LOS A
		Total	**0.434**	**9.8**	**81.6**	**LOS A**
	Weekend	South	0.672	17.5	55.4	LOS B
		North	0.389	14.3	28.0	LOS A
		Total	**0.672**	**18.9**	**55.4**	**LOS B**

Overall, the pedestrian mid-block crossing at Elizabeth Street performs satisfactorily at LOS B or better. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.6 Pitt Street Station

Pitt Street Station is a new underground station and the sixth stop on the City & Southwest Line (towards Sydenham). It is located at the junction of Sydney's southern CBD and the midtown retail precinct. Pitt Street Station will have station entrances within two new pedestrian plazas, Pitt Street North, bounded by Pitt Street, Park Street and Castlereagh Street, and Pitt Street South, at the corner of Pitt Street and Bathurst Street.

Pitt Street Station was still under construction during Block 1. Construction access to Pitt Street North was facilitated via Park Street whereas access to Pitt Street South was facilitated via Bathurst Street.

Several bus routes operate within the vicinity of the new Pitt Street Station. Bus services are available within approximately 100 metres of Pitt Street Station, located at Elizabeth Street and Park Street. The CBD and South-East Light Rail (CSELR) project which is currently operational along George Street.

To accommodate future pedestrian demand, footpath widening is planned for Bathurst Street, immediately outside the future Pitt Street South. New bicycle parking racks will be provided on Park Street and Bathurst Street.

The Pitt Street Station study area consists of four intersections. **Table 5-52** presents the peak hours utilised for modelling the intersections. **Table 5-53** provides a summary of the intersection level of service while

Figure 5-47 visualises a geospatial summary of the intersection level of service within the Pitt Street Station study area.

Table 5-52 Block 1 - Pitt Street Station peak hours modelled

Network ID	Intersection ID	Weekday AM peak hour		Weekday PM peak hour		Weekend peak hour	
		Day	Start time	Day	Start time	Day	Start time
PIT-N1	PIT01	Tuesday	9.15am	Thursday	4.45pm	Saturday	12.15pm
	PIT02						
	PIT03						
	PIT04						

Table 5-53 Block 1 - Pitt Street Station intersection performance summary

Intersection ID	Intersection	Level of service (LOS)		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
PIT01	Pitt Street / Bathurst Street (Signal)	LOS A	LOS B	LOS A
PIT02	Castlereagh Street / Bathurst Street (Signal)	LOS A	LOS A	LOS A
PIT03	Park Street / Castlereagh Street (Signal)	LOS B	LOS B	LOS B
PIT04	Park Street / Pitt Street (Signal)	LOS B	LOS B	LOS B

Overall, in the Pitt Street Station study area, the intersection performance during the peak periods is satisfactory, operating at LOS B or better.

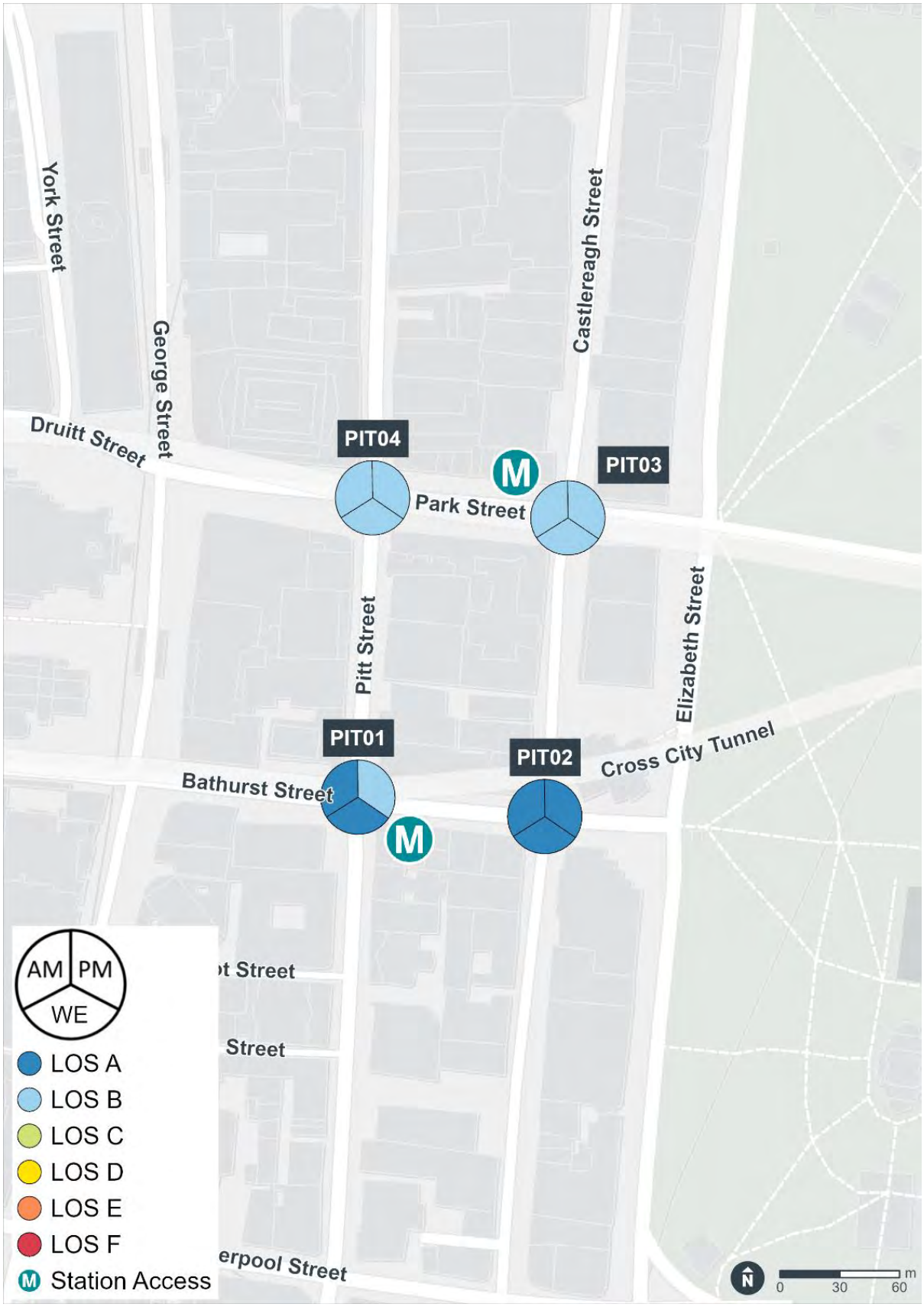


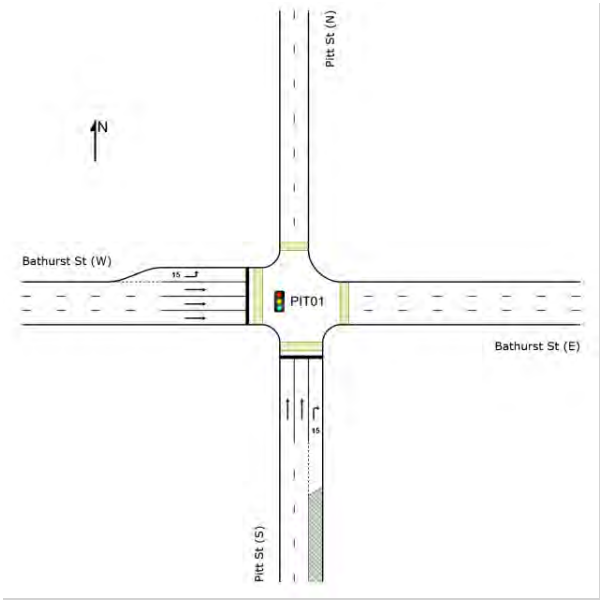
Figure 5-47 Block 1 – Pitt Street Station geospatial intersection performance summary

5.6.1 PIT01 – Pitt Street / Bathurst Street

The signalised intersection, composed of Pitt Street and Bathurst Street, is located directly north-west of Pitt Street South. It connects the major local road of Pitt Street and major regional road of Bathurst Street running through the inner Sydney CBD.

During Block 1, the available storage on the right turn kerbside lane on Pitt Street (south approach) was reduced due to the presence of a Sydney Metro construction work zone.

Figure 5-48 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-48 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of PIT01

Table 5-54 presents a performance summary of this intersection.

Table 5-54 Block 1 - Intersection performance summary of PIT01

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Pitt Street / Bathurst Street (Signal)	Weekday AM	South	0.369	20.0	21.5	LOS B
		West	0.374	9.9	35.7	LOS A
		Total	**0.374**	**12.4**	**35.7**	**LOS A**
	Weekday PM	South	0.690	50.9	54.3	LOS D
		West	0.347	10.7	61.4	LOS A
		Total	**0.690**	**21.0**	**61.4**	**LOS B**
	Weekend	South	0.391	18.1	16.7	LOS B
		West	0.381	9.2	35.8	LOS A
		Total	**0.391**	**11.1**	**35.8**	**LOS A**

Overall, the intersection of Pitt Street and Bathurst Street performs satisfactorily at LOS B or better. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.6.2 PIT02 – Castlereagh Street / Bathurst Street

The signalised intersection, composed of Castlereagh Street and Bathurst Street, is located north-east of Pitt Street South. It connects the major local road of Castlereagh Street and major regional road of Bathurst Street running through the inner Sydney CBD.

Figure 5-49 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.

Source: Nearmap, accessed on 24 March 2023

Figure 5-49 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of PIT02

Table 5-55 presents a performance summary of this intersection.

Table 5-55 Block 1 - Intersection performance summary of PIT02

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Castlereagh Street / Bathurst Street (Signal)	Weekday AM	North	0.326	18.3	20.1	LOS B
		West	0.319	4.9	23.1	LOS A
		Total	**0.326**	**8.2**	**23.1**	**LOS A**
	Weekday PM	North	0.441	32.8	59.0	LOS C
		West	0.292	5.0	41.8	LOS A
		Total	**0.441**	**11.9**	**59.0**	**LOS A**
	Weekend	North	0.162	14.2	10.3	LOS A
		West	0.382	4.5	22.5	LOS A
		Total	**0.382**	**6.1**	**22.5**	**LOS A**

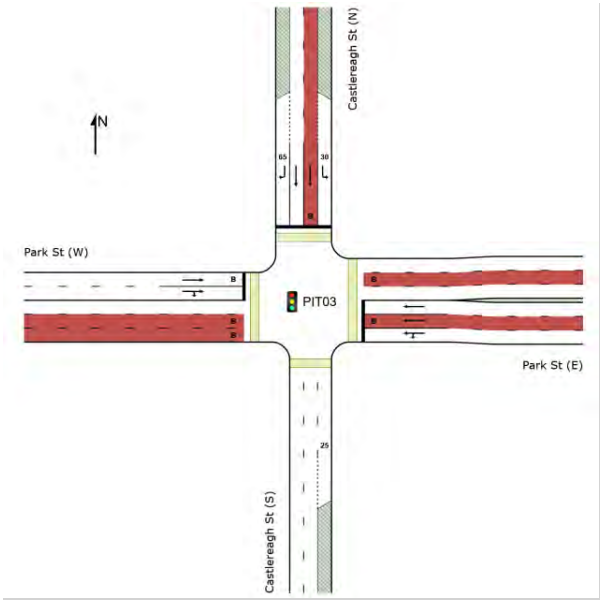
Overall, the intersection of Castlereagh Street and Bathurst Street performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.6.3 PIT03 – Park Street / Castlereagh Street

The signalised intersection, composed of Park Street and Castlereagh Street, is located directly south-east of Pitt Street North. It connects the major regional road of Park Street and major local road of Castlereagh Street running through the inner Sydney CBD.

During Block 1, the kerbside lane of Park Street (west approach) was blocked upstream at the intersection of Park Street and Pitt Street (PIT04) during the weekend peak.

Figure 5-50 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-50 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of PIT03

Table 5-56 presents a performance summary of this intersection.

Table 5-56 Block 1 - Intersection performance summary of PIT03

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Park Street / Castlereagh Street (Signal)	Weekday AM	East	0.349	11.8	60.7	LOS A
		North	0.567	36.2	68.3	LOS C
		West	0.214	12.1	25.2	LOS A
		Total	**0.567**	**21.7**	**68.3**	**LOS B**
	Weekday PM	East	0.349	12.5	63.9	LOS A
		North	0.772	50.7	67.8	LOS D
		West	0.298	13.8	37.8	LOS A
		Total	**0.772**	**28.4**	**67.8**	**LOS B**
	Weekend	East	0.481	10.4	74.9	LOS A
		North	0.507	35.9	42.0	LOS C
		West	0.151	10.2	16.9	LOS A
		Total	**0.507**	**18.9**	**74.9**	**LOS B**

Overall, the intersection of Park Street and Castlereagh Street performs satisfactorily at LOS B. The 95th percentile queues on Park Street (east approach) extend back to Elizabeth Street during all peak hours.

5.6.4 PIT04 – Park Street / Pitt Street

The signalised intersection, composed of Park Street and Pitt Street, is located directly south-west of Pitt Street North. It connects the major regional road of Park Street and major local road of Pitt Street running through the inner Sydney CBD.

During Block 1, the kerbside departure lane of Park Street (east approach) was blocked towards Castlereagh Street during the weekend peak.

Figure 5-51 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.

Source: Nearmap, accessed on 24 March 2023

Figure 5-51 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of PIT04

Table 5-57 presents a performance summary of this intersection.

Table 5-57 Block 1 - Intersection performance summary of PIT04

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Park Street / Pitt Street (Signal)	Weekday AM	South	0.887	31.2	42.6	LOS C
		East	0.738	15.7	69.9	LOS B
		West	0.136	10.4	10.2	LOS A
		Total	**0.887**	**23.0**	**69.9**	**LOS B**
	Weekday PM	South	0.967	33.2	42.4	LOS C
		East	0.697	13.9	63.4	LOS A
		West	0.178	10.8	13.4	LOS A
		Total	**0.967**	**22.5**	**63.4**	**LOS B**
	Weekend	South	0.970	33.3	38.2	LOS C

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
		East	0.788	17.4	84.9	LOS B
		West	0.079	10.0	5.8	LOS A
		Total	**0.970**	**24.0**	**84.9**	**LOS B**

Overall, the intersection of Park Street and Pitt Street performs satisfactorily at LOS B. The 95th percentile queues on Park Street (east approach) extend back to Castlereagh Street during the weekday AM peak and weekend peak hours.

5.7 Central Station

Central Station is an existing station and the seventh stop on the City & Southwest Line (towards Sydenham). It is located at the southern end of the Sydney CBD, directly south of Belmore Park between Pitt Street and Elizabeth Street.

Central Station (metro) was still under construction during Block 1. The metro lines are being built under the existing platforms 13, 14 and 15 in Central Station. In addition to the existing seven entrances, a new eastern entrance is being constructed at Chalmers Street. Construction access and egress to the station was facilitated via Randle Lane.

Bus services are available within approximately 100 metres of Central Station, located at Eddy Avenue, Pitt Street, Lee Street and Elizabeth Street. Dedicated cycle lanes are currently provided along Elizabeth Street and Eddy Avenue near Central Station. Enhancement of pedestrian and cycling infrastructure around the station will be enabled by the Sydney Metro City & Southwest project and further investigated by TfNSW.

The Central Station study area consists of five intersections. During Block 1, one intersection was a new pedestrian mid-block crossing which had not yet been constructed. **Table 5-58** presents the peak hours utilised for modelling the intersections. **Table 5-59** provides a summary of the intersection level of service while

Figure 5-52 visualises a geospatial summary of the intersection level of service within the Central Station study area.

Table 5-58 Block 1 - Central Station peak hours modelled

Network ID	Intersection ID	Weekday AM peak hour		Weekday PM peak hour		Weekend peak hour	
		Day	Start time	Day	Start time	Day	Start time
CEN-N1	CEN01	Wednesday	8.15am	Wednesday	5.15pm	Saturday	1.45pm
	CEN02						
CEN-N2	CEN03	Thursday	8.15am	Thursday	5.30pm	Saturday	12.00pm
	CEN05						
-	CEN04	Under construction.					

Table 5-59 Block 1 - Central Station intersection performance summary

Intersection ID	Intersection	Level of service (LOS)		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
CEN01	Elizabeth Street / Eddy Avenue (Signal)	LOS C	LOS B	LOS B
CEN02	Elizabeth Street / Foveaux Street (Signal)	LOS B	LOS C	LOS B
CEN03	Elizabeth Street / Cooper Street (Priority – Give Way)	LOS A	LOS A	LOS A
CEN04	New Pedestrian Mid-block Crossing at Randle Lane (Pedestrian only – Signal)	Under construction		
CEN05	Elizabeth Street / Randle Street (Signal)	LOS B	LOS A	LOS B

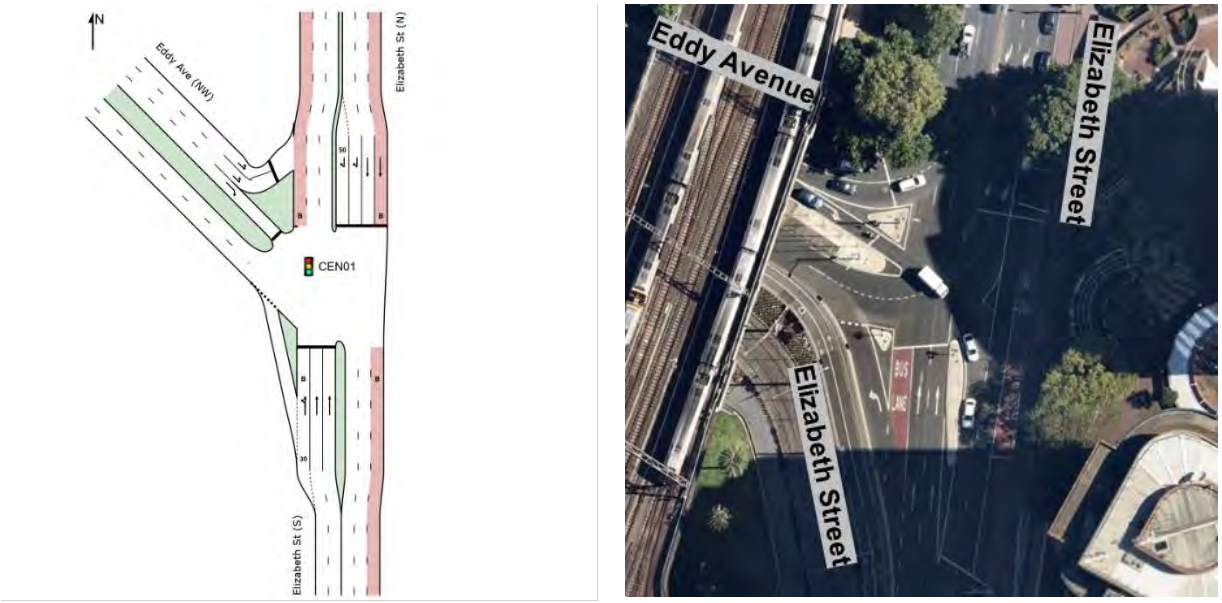
Overall, in the Central Station study area, the intersection performance during the peak periods is satisfactory, operating at LOS C or better.

Figure 5-52 Block 1 – Central Station geospatial intersection performance summary

5.7.1 CEN01 – Elizabeth Street / Eddy Avenue

The signalised intersection, composed of Elizabeth Street and Eddy Avenue, is located north of Central Station. It connects the regional roads of Eddy Avenue, running through the Sydney CBD, and Elizabeth Street, linking the Sydney CBD and Waterloo. The traffic signals at this intersection are co-ordinated with the intersection of Elizabeth Street and Foveaux Street (CEN02).

Figure 5-53 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-53 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CEN01

Table 5-60 presents a performance summary of this intersection.

Table 5-60 Block 1 - Intersection performance summary of CEN01

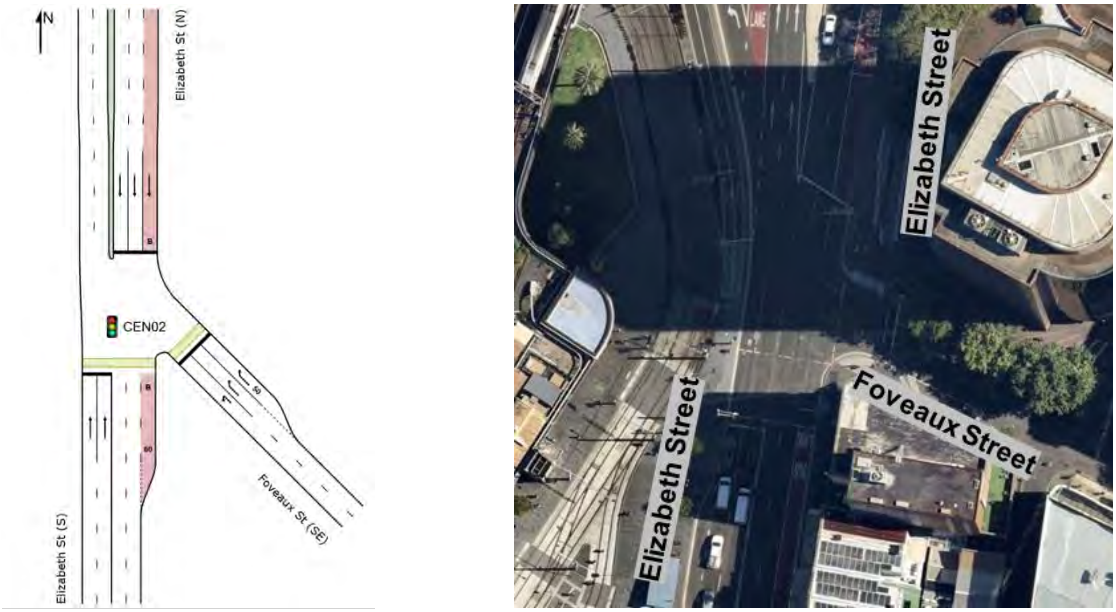
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Elizabeth Street / Eddy Avenue (Signal)	Weekday AM	South	0.649	7.0	57.1	LOS A
		North	0.833	43.3	185.7	LOS D
		North-west	0.981	71.5	157.2	LOS F
		Total	**0.981**	**33.8**	**185.7**	**LOS C**
	Weekday PM	South	0.548	8.4	57.1	LOS A
		North	0.779	41.6	207.7	LOS C
		North-west	0.936	38.8	100.4	LOS C
		Total	**0.936**	**26.7**	**207.7**	**LOS B**
	Weekend	South	0.454	5.6	45.2	LOS A
		North	0.664	38.1	72.3	LOS C
		North-west	0.723	35.0	80.8	LOS C
		Total	**0.723**	**22.0**	**80.8**	**LOS B**

Overall, the intersection of Elizabeth Street and Eddy Avenue performs satisfactorily at LOS C or better. The 95th percentile queues on Elizabeth Street (north approach) extend back to Albion Street during the weekday AM and PM peak hours. Similarly, the 95th percentile queues on Eddy Avenue (north-west approach) extend back to the pedestrian mid-block crossing on Eddy Avenue during all peak hours.

5.7.2 CEN02 – Elizabeth Street / Foveaux Street

The signalised intersection, composed of Elizabeth Street and Foveaux Street, is located north of Central Station. It connects the regional roads of Foveaux Street, running through Surry Hills, and Elizabeth Street, linking the Sydney CBD and Waterloo. The traffic signals at this intersection are co-ordinated with the intersection of Elizabeth Street and Eddy Avenue (CEN01).

Figure 5-54 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-54 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CEN02

Table 5-61 presents a performance summary of this intersection.

Table 5-61 Block 1 - Intersection performance summary of CEN02

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Elizabeth Street / Foveaux Street (Signal)	Weekday AM	South	0.716	31.5	162.8	LOS C
		South-east	0.608	28.2	74.4	LOS B
		North	0.403	10.0	57.1	LOS A
		Total	**0.719**	**24.4**	**162.8**	**LOS B**
	Weekday PM	South	0.582	33.9	113.1	LOS C
		South-east	0.890	46.6	161.1	LOS D
		North	0.529	9.6	57.1	LOS A
		Total	**0.890**	**30.7**	**161.1**	**LOS C**
	Weekend	South	0.647	31.8	145.2	LOS C

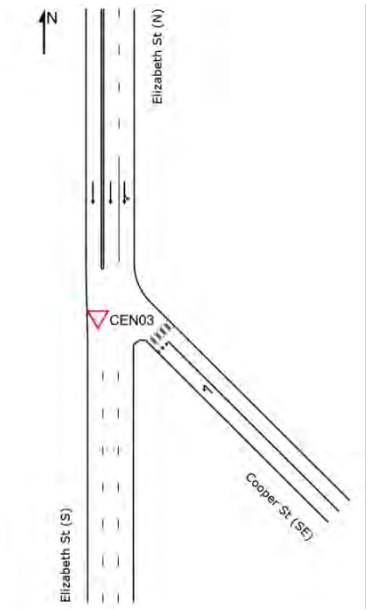
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
		South-east	0.408	26.3	68.2	LOS B
		North	0.351	8.5	57.1	LOS A
		Total	**0.647**	**23.4**	**145.2**	**LOS B**

Overall, the intersection of Elizabeth Street and Foveaux Street performs satisfactorily at LOS C or better. The 95th percentile queues on Elizabeth Street (south approach) extend back to Randle Street during the weekday AM peak and weekend peak hours. Similarly, the 95th percentile queue on Foveaux Street (south-east approach) extends back to Commonwealth Street during the weekday PM peak hour.

5.7.3 CEN03 – Elizabeth Street / Cooper Street

The priority intersection, composed of Elizabeth Street and Cooper Street, is located south of Central Station. It connects the local road of Cooper Street with the regional road of Elizabeth Street, linking the Sydney CBD to Waterloo.

Figure 5-55 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-55 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CEN03

Table 5-62 presents a performance summary of this intersection.

Table 5-62 Block 1 - Intersection performance summary of CEN03

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Elizabeth Street / Cooper Street	Weekday AM	South-east	0.090	6.2	2.7	LOS A
		North	0.156	5.0	4.0	LOS A
		Total	**0.090**	**6.2**	**2.7**	**LOS A**

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
(Priority – Give Way)	Weekday PM	South-east	0.101	6.6	2.9	LOS A
		North	0.199	5.4	4.5	LOS A
		Total	**0.101**	**6.6**	**2.9**	**LOS A**
	Weekend	South-east	0.062	5.7	1.8	LOS A
		North	0.186	3.2	2.5	LOS A
		Total	**0.062**	**5.7**	**1.8**	**LOS A**

Overall, the intersection of Elizabeth Street and Cooper Street performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

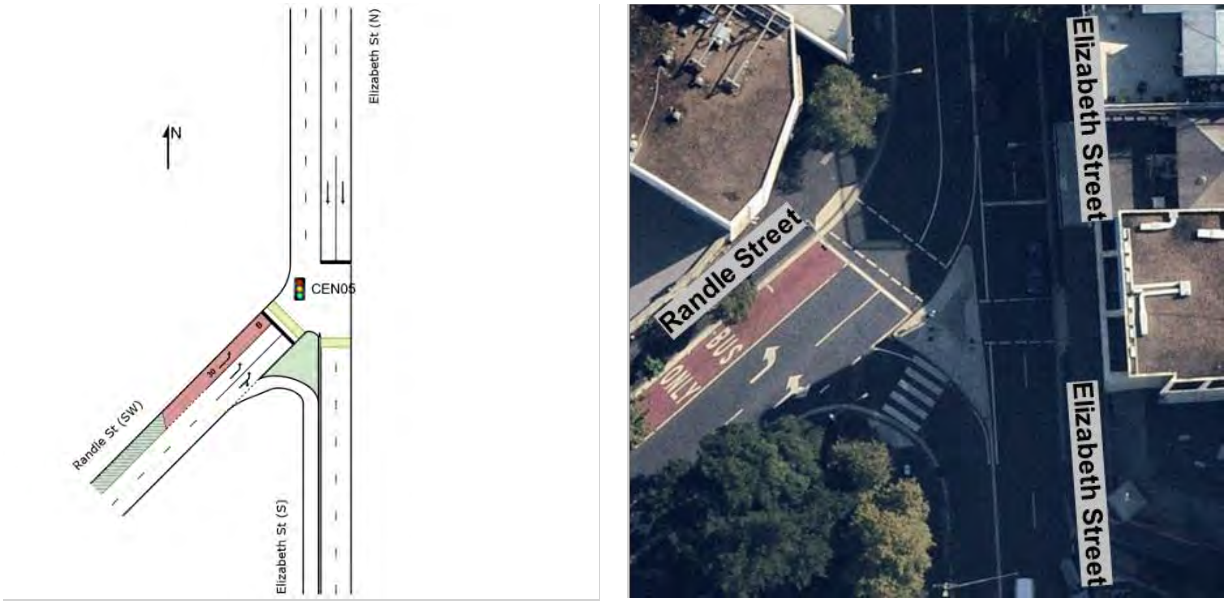
5.7.4 CEN04 – New Pedestrian Mid-block Crossing at Randle Lane

The signalised pedestrian mid-block crossing at Randle Lane is located directly south of Central Station. During Block 1, the mid-block crossing was under construction and non-operational. As such, it was not assessed as part of the Block 1 study.

5.7.5 CEN05 – Elizabeth Street / Randle Street

The signalised intersection, composed of Elizabeth Street and Randle Street, is located south of Central Station. It connects the local road of Randle Street with the regional road of Elizabeth Street, linking the Sydney CBD to Waterloo.

Figure 5-56 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-56 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CEN05

Table 5-63 presents a performance summary of this intersection.

Table 5-63 Block 1 - Intersection performance summary of CEN05

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Elizabeth Street / Randle Street (Signal)	Weekday AM	North	0.247	2.6	33.7	LOS A
		South-west	0.705	29.1	169.0	LOS C
		Total	**0.705**	**19.0**	**169.0**	**LOS B**
	Weekday PM	North	0.329	2.9	49.2	LOS A
		South-west	0.502	23.3	106.6	LOS B
		Total	**0.502**	**12.4**	**106.6**	**LOS A**
	Weekend	North	0.306	2.8	44.6	LOS A
		South-west	0.604	25.5	135.1	LOS B
		Total	**0.604**	**14.8**	**135.1**	**LOS B**

Overall, the intersection of Elizabeth Street and Randle Street performs satisfactorily at LOS B or better. The 95th percentile queues on Randle Street (south-west approach) extends back to Devonshire Street during the weekday AM peak and weekend peak hours.

5.8 Waterloo Station

Waterloo Station is a new underground station and the eighth stop on the City & Southwest Line (towards Sydenham). It is located in the north-western quadrant of Waterloo, bounded by Botany Road, Cope Street, Raglan Street and Wellington Street.

Waterloo Station was still under construction during Block 1. Construction access and egress to the station was facilitated via Cope Street, which was closed off to general traffic between Raglan Street and Wellington Street.

Bus services are available within approximately 150 metres of Waterloo Station, located along Botany Road. The existing bus stops will be retained for northbound routes, and the existing bus stops for southbound routes will be relocated to the mid-block on Botany Road, between Raglan Street and Wellington Street. A new on-road marked cycle link will be provided along Wellington Street.

The Waterloo Station study area consists of six intersections. During Block 1, WLO06 is a new unsignalised pedestrian mid-block crossing which had not yet been constructed. **Table 5-64** presents the peak hours utilised for modelling the intersections. **Table 5-65** provides a summary of the intersection level of service while

Figure 5-57 visualises a geospatial summary of the intersection level of service within the Waterloo Station study area.

Table 5-64 Block 1 - Waterloo Station peak hours modelled

Network ID	Intersection ID	Weekday AM peak hour		Weekday PM peak hour		Weekend peak hour	
		Day	Start time	Day	Start time	Day	Start time
WLO-N1	WLO01	Wednesday	8.15am	Wednesday	5.00pm	Saturday	12.15pm
	WLO02						
	WLO03						
	WLO04						
	WLO05						
-	WLO06	Under construction.					

Table 5-65 Block 1 - Waterloo Station intersection performance summary

Intersection ID	Intersection	Level of service (LOS)		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
WLO01	Botany Road / Raglan Street / Henderson Road (Signal)	LOS C	LOS C	LOS C
WLO02	Raglan Street / Cope Street (Roundabout)	LOS A	LOS A	LOS A
WLO03	Botany Road / Wellington Street / Buckland Street (Signal)	LOS A	LOS A	LOS A
WLO04	Cope Street / Wellington Street (Roundabout)	LOS A	LOS A	LOS A
WLO05	Wyndham Street / Henderson Road (Signal)	LOS C	LOS C	LOS C

Intersection ID	Intersection	Level of service (LOS)		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
WLO06	New Pedestrian Mid-block Crossing at Cope Street (Pedestrian only – Signal)	Under construction.		

Overall, in the Waterloo Station study area, the intersection performance during the peak periods is satisfactory, operating at LOS C or better.

Figure 5-57 Block 1 – Waterloo Station geospatial intersection performance summary

5.8.1 WLO01 – Botany Road / Raglan Street / Henderson Road

The signalised intersection, composed of Botany Road, Raglan Street and Henderson Road, is located directly north-west of Waterloo Station. It connects the local road of Raglan Street in Waterloo with the state roads of Botany Road, linking Waterloo and Matraville, and Henderson Road, linking Waterloo and Eveleigh.

Figure 5-58 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.

Source: Nearmap, accessed on 24 March 2023

Figure 5-58 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of WLO01

Table 5-66 presents a performance summary of this intersection.

Table 5-66 Block 1 - Intersection performance summary of WLO01

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Botany Road / Raglan Street / Henderson Road (Signal)	Weekday AM	South	0.775	33.0	145.7	LOS C
		East	0.776	83.8	60.1	LOS F
		North	0.789	25.0	134.1	LOS B
		West	0.702	24.5	41.7	LOS B
		Total	**0.789**	**32.5**	**145.7**	**LOS C**
	Weekday PM	South	0.702	49.7	132.2	LOS D
		East	0.785	85.0	57.8	LOS F
		North	0.747	22.9	142.2	LOS B
		West	0.742	25.3	43.5	LOS B
		Total	**0.785**	**34.4**	**142.2**	**LOS C**
	Weekend	South	0.761	60.4	109.5	LOS E
		East	0.733	78.1	58.9	LOS F
		North	0.822	29.5	155.8	LOS C

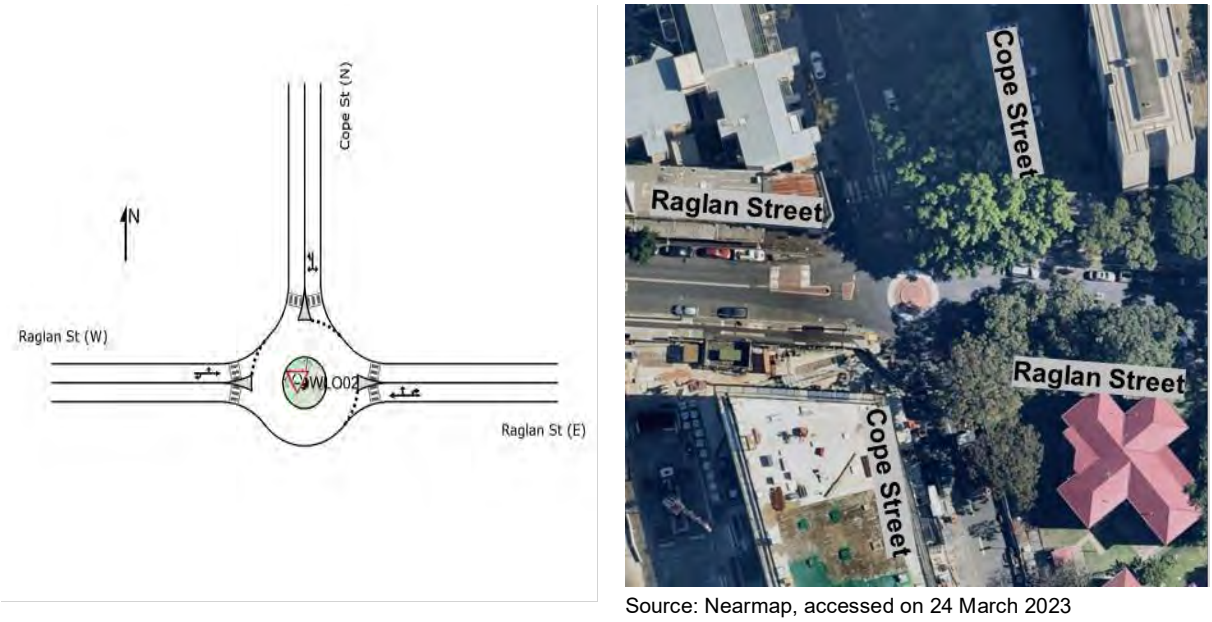
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
		West	0.619	17.2	27.7	LOS B
		Total	**0.822**	**39.2**	**155.8**	**LOS C**

Overall, the intersection of Botany Road, Raglan Street and Henderson Road performs satisfactorily at LOS C. The 95th percentile queue lengths on Raglan Street (east approach) extend back to Cope Street during all peak hours.

5.8.2 WLO02 – Raglan Street / Cope Street

The roundabout, composed of Raglan Street and Cope Street, is located directly north-east of Waterloo Station. It connects the local roads of Raglan Street and Cope Street in Waterloo. During Block 1, Cope Street (south approach) was closed off due to Sydney Metro construction works.

Figure 5-59 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-59 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of WLO02

Table 5-67 presents a performance summary of this intersection.

Table 5-67 Block 1 - Intersection performance summary of WLO02

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Raglan Street / Cope Street (Roundabout)	Weekday AM	East	0.198	8.7	9.7	LOS A
		North	0.082	9.6	3.6	LOS A
		West	0.219	8.4	9.1	LOS A
		Total	**0.082**	**9.6**	**3.6**	**LOS A**
		East	0.186	8.8	8.8	LOS A

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
	Weekday PM	North	0.099	9.7	4.2	LOS A
		West	0.202	8.4	8.4	LOS A
		Total	**0.099**	**9.7**	**4.2**	**LOS A**
	Weekend	East	0.171	8.8	8.1	LOS A
		North	0.097	10.1	4.1	LOS A
		West	0.231	8.4	10.2	LOS A
		Total	**0.097**	**10.1**	**4.1**	**LOS A**

Overall, the intersection of Raglan Street and Cope Street performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.8.3 WLO03 – Botany Road / Wellington Street / Buckland Street

The signalised intersection, composed of Botany Road, Wellington Street and Buckland Street, is located directly south-west of Waterloo Station. It connects the local roads of Wellington Street in Waterloo and Buckland Street, linking Waterloo and Alexandria, with the state road of Botany Road, linking Waterloo and Matraville.

Figure 5-60 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.

Source: Nearmap, accessed on 24 March 2023

Figure 5-60 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of WLO03

Table 5-68 presents a performance summary of this intersection.

Table 5-68 Block 1 - Intersection performance summary of WLO03

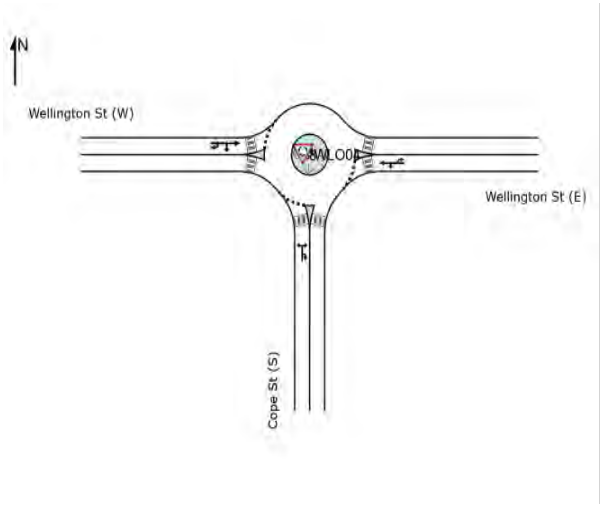
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Botany Road / Wellington Street / Buckland Street (Signal)	Weekday AM	South	0.484	10.5	119.6	LOS A
		East	0.168	51.6	18.1	LOS D
		North	0.390	6.8	78.6	LOS A
		West	0.332	46.3	45.3	LOS D
		Total	**0.484**	**12.5**	**119.6**	**LOS A**
	Weekday PM	South	0.332	6.1	64.1	LOS A
		East	0.317	57.7	26.4	LOS E
		North	0.399	2.5	44.8	LOS A
		West	0.246	50.9	25.9	LOS D
		Total	**0.399**	**8.8**	**64.1**	**LOS A**
	Weekend	South	0.402	7.6	64.5	LOS A
		East	0.276	58.0	25.8	LOS E
		North	0.563	6.7	63.7	LOS A
		West	0.313	51.7	33.2	LOS D
		Total	**0.563**	**13.9**	**64.5**	**LOS A**

Overall, the intersection of Botany Road, Wellington Street and Buckland Street performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.8.4 WLO04 – Cope Street / Wellington Street

The roundabout, composed of Cope Street and Wellington Street, is located directly south-east of Waterloo Station. It connects the local roads of Cope Street, linking Waterloo and Redfern, and Wellington Street in Waterloo. During Block 1, the Cope Street northern approach was closed off due to Sydney Metro construction works.

Figure 5-61 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-61 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of WLO04

Table 5-69 presents a performance summary of this intersection.

Table 5-69 Block 1 - Intersection performance summary of WLO04

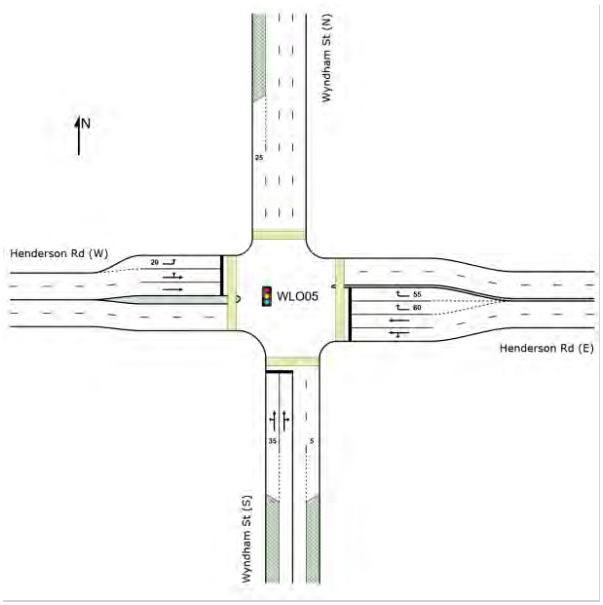
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Cope Street / Wellington Street (Roundabout)	Weekday AM	South	0.026	8.4	1.0	LOS A
		East	0.053	8.2	2.4	LOS A
		West	0.166	7.9	6.5	LOS A
		Total	**0.026**	**8.4**	**1.0**	**LOS A**
	Weekday PM	South	0.036	9.2	1.4	LOS A
		East	0.076	9.4	3.3	LOS A
		West	0.111	7.9	4.1	LOS A
		Total	**0.076**	**9.4**	**3.3**	**LOS A**
	Weekend	South	0.026	8.6	1.0	LOS A
		East	0.069	8.1	2.9	LOS A
		West	0.113	7.8	4.0	LOS A
		Total	**0.026**	**8.6**	**1.0**	**LOS A**

Overall, the intersection of Cope Street and Wellington Street performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.8.5 WLO05 – Wyndham Street / Henderson Road

The signalised intersection, composed of Wyndham Street and Henderson Road, is located west of Waterloo Station. It connects Henderson Road, linking Waterloo and Eveleigh, and Wyndham Street in Alexandria.

Figure 5-62 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-62 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of WLO05

Table 5-70 presents a performance summary of this intersection.

Table 5-70 Block 1 - Intersection performance summary of WLO05

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Wyndham Street / Henderson Road (Signal)	Weekday AM	South	0.793	68.2	103.0	LOS E
		East	0.675	9.8	67.7	LOS A
		West	0.851	68.5	126.3	LOS E
		Total	**0.851**	**33.2**	**126.3**	**LOS C**
	Weekday PM	South	0.848	73.8	123.3	LOS F
		East	0.568	9.6	49.2	LOS A
		West	0.776	65.4	98.1	LOS E
		Total	**0.848**	**34.2**	**123.3**	**LOS C**
	Weekend	South	0.726	61.6	92.2	LOS E
		East	0.412	12.5	71.7	LOS A
		West	0.885	71.7	147.0	LOS F
		Total	**0.885**	**37.1**	**147.0**	**LOS C**

Overall, the intersection of Wyndham Street and Henderson Road performs satisfactorily at LOS C. The 95th percentile queues on Henderson Street (east approach) extend back to Botany Road during the weekday AM peak and weekend peak hours. Similarly, the 95th percentile queues on Henderson Street (west approach) extend back to Garden Street during all peak hours.

5.8.6 WLO06 – New Pedestrian Mid-block Crossing at Cope Street

The new unsignalised pedestrian mid-block crossing at Cope Street is located directly east of Waterloo Station. During Block 1, the mid-block crossing was under construction and non-operational. As such, it was not assessed as part of the Block 1 study.

5.9 Sydenham Station

Sydenham Station is an existing station and the ninth stop on the City & Southwest Line (towards Sydenham). It is located in the north-western area of Sydenham, bounded by Railway Parade, Gleeson Avenue, and Burrows Avenue in Sydenham.

Platforms 1 and 2 of the existing Sydenham Station are currently being upgraded and extended to facilitate metro functionality. In addition to the existing entrance at Gleeson Avenue, two new entrances will be constructed – one in the north and the other in the south. The northern entry will open onto a plaza near the corner of Railway Parade and the southern entry, which was operable during Block 1, provides access onto a plaza on Burrows Avenue near Hogan Avenue.

Bus services are provided within approximately 100 metres of Sydenham Station, locating along Burrows Avenue and Railway Parade.

The Sydenham Station study area consists of six intersections. **Table 5-71** presents the peak hours utilised for modelling the intersections. **Table 5-72** provides a summary of the intersection level of service while

Figure 5-63 visualises a geospatial summary of the intersection level of service within the Sydenham Station study area.

Table 5-71 Block 1 - Sydenham Station peak hours modelled

Network ID	Intersection ID	Weekday AM peak hour		Weekday PM peak hour		Weekend peak hour	
		Day	Start time	Day	Start time	Day	Start time
SYD-N1	SYD01	Wednesday	7.45am	Wednesday	3.30pm	Saturday	1.00pm
	SYD02						
-	SYD03	Tuesday	7.30am	Tuesday	3.45pm	Saturday	1.00pm
-	SYD04	Tuesday	8.15am	Tuesday	4.15pm	Saturday	1.45pm
-	SYD05	Tuesday	8.15am	Tuesday	4.45pm	Saturday	1.45pm
-	SYD06	Tuesday	8.15am	Friday	3.15pm	Saturday	10.30am

Table 5-72 Block 1 - Sydenham Station intersection performance summary

Intersection ID	Intersection	Level of service (LOS)		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
SYD01	Railway Parade / Gleeson Avenue (Signal)	LOS A	LOS A	LOS A
SYD02	Burrows Avenue / Gleeson Avenue (Signal)	LOS B	LOS B	LOS B
SYD03	Burrows Avenue / George Street (Priority – Give Way)	LOS A	LOS A	LOS A
SYD04	Pedestrian Mid-block Crossing at Sydenham Road (Pedestrian only - Signal)	LOS A	LOS A	LOS A
SYD05	Marrickville Road / Buckley Street (Priority – Give Way)	LOS A	LOS A	LOS A
SYD06	Sydenham Road / Buckley Street (Priority – Give Way)	LOS A	LOS A	LOS A

Overall, in the Sydenham Station study area, the intersection performance during the peak periods is satisfactory, operating at LOS B or better.

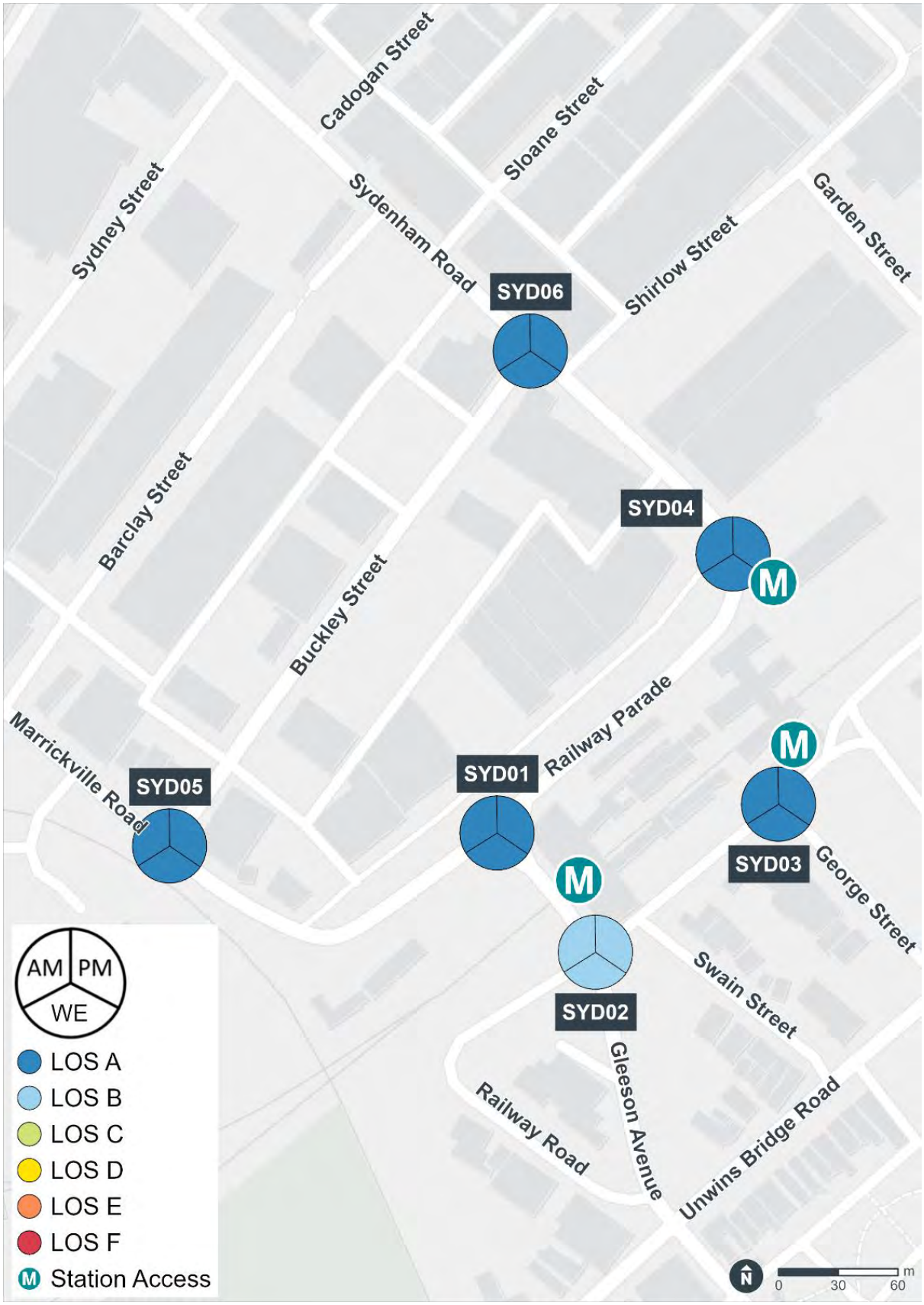
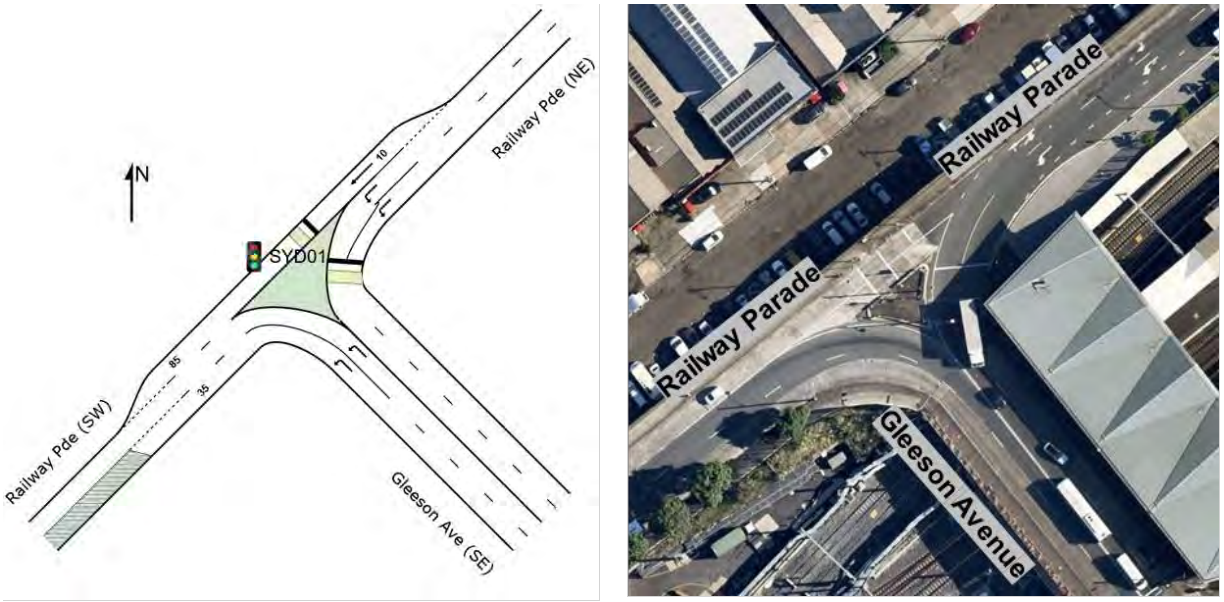


Figure 5-63 Block 1 – Sydenham Station geospatial intersection performance summary

5.9.1 SYD01 – Railway Parade / Gleeson Avenue

The signalised intersection, composed of Railway Parade and Gleeson Avenue, is located directly west of Sydenham Station. It connects the state roads of Railway Parade and Gleeson Avenue in Sydenham.

Figure 5-64 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-64 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of SYD01

Table 5-73 presents a performance summary of this intersection.

Table 5-73 Block 1 - Intersection performance summary of SYD01

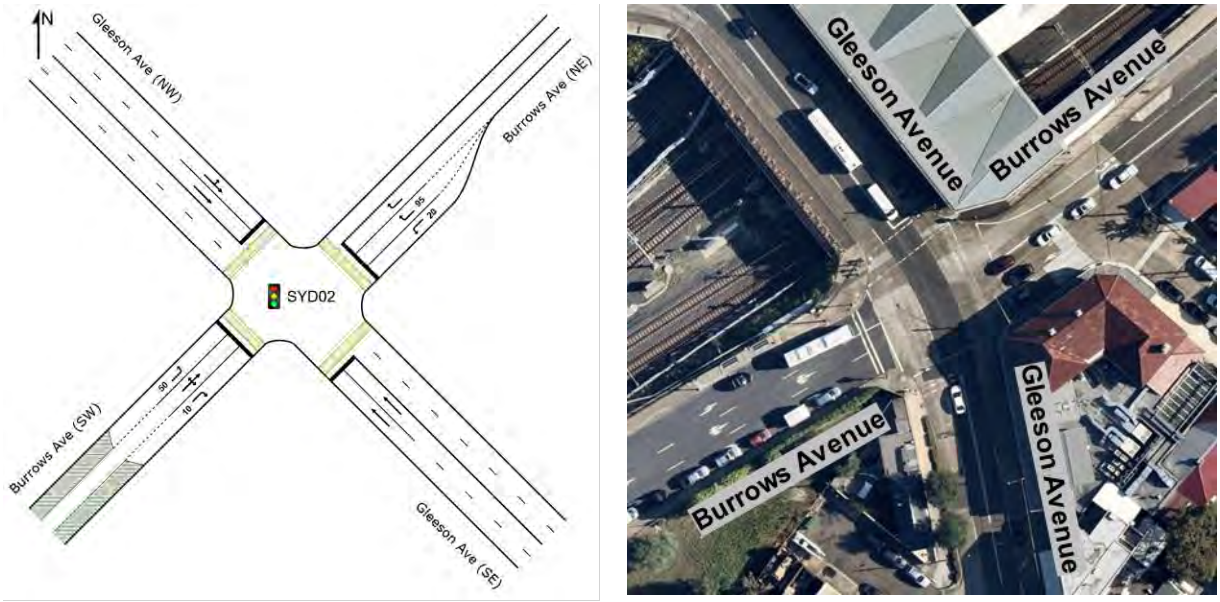
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Railway Parade / Gleeson Avenue (Signal)	Weekday AM	South-east	0.381	4.8	0.0	LOS A
		North-east	0.529	11.7	78.2	LOS A
		Total	**0.529**	**8.8**	**78.2**	**LOS A**
	Weekday PM	South-east	0.418	4.9	0.0	LOS A
		North-east	0.355	9.2	45.7	LOS A
		Total	**0.418**	**7.1**	**45.7**	**LOS A**
	Weekend	South-east	0.375	4.8	0.0	LOS A
		North-east	0.331	7.1	35.0	LOS A
		Total	**0.375**	**6.0**	**35.0**	**LOS A**

Overall, the intersection of Railway Parade and Gleeson Avenue performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.9.2 SYD02 – Burrows Avenue / Gleeson Avenue

The signalised intersection, composed of Burrows Avenue and Gleeson Avenue, is located directly south of Sydenham Station. It connects the local road of Burrows Avenue with the state road of Gleeson Avenue in Sydenham.

Figure 5-65 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-65 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of SYD02

Table 5-74 presents a performance summary of this intersection.

Table 5-74 Block 1 - Intersection performance summary of SYD02

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Burrows Avenue / Gleeson Avenue (Signal)	Weekday AM	South-east	0.311	14.0	66.4	LOS A
		North-east	0.514	57.5	44.0	LOS E
		North-west	0.564	5.8	65.9	LOS A
		South-west	0.091	54.4	5.0	LOS D
		Total	**0.564**	**15.8**	**66.4**	**LOS B**
	Weekday PM	South-east	0.336	13.8	66.8	LOS A
		North-east	0.554	53.3	47.5	LOS D
		North-west	0.494	5.1	46.0	LOS A
		South-west	0.131	49.5	7.1	LOS D
		Total	**0.554**	**16.5**	**66.8**	**LOS B**
	Weekend	South-east	0.289	12.2	60.8	LOS A
		North-east	0.481	51.0	48.6	LOS D
		North-west	0.509	5.7	57.2	LOS A

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
		South-west	0.216	57.8	9.2	LOS E
		Total	**0.509**	**15.1**	**60.8**	**LOS B**

Overall, the intersection of Burrows Avenue and Gleeson Avenue performs satisfactorily at LOS B. The 95th percentile queues on Gleeson Avenue (north-west approach) extend back to Railway Parade during the weekday AM peak and weekend peak hours.

5.9.3 SYD03 – Burrows Avenue / George Street

The priority intersection, composed of Burrows Avenue and George Street, is located directly east of Sydenham Station. It connects the local roads of Burrows Avenue and George Street in Sydenham.

Figure 5-66 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.

Source: Nearmap, accessed on 24 March 2023

Figure 5-66 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of SYD03

Table 5-75 presents a performance summary of this intersection.

Table 5-75 Block 1 - Intersection performance summary of SYD03

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Burrows Avenue / George Street (Priority – Give Way)	Weekday AM	South-east	0.022	9.8	0.5	LOS A
		North-east	0.206	4.2	8.1	LOS A
		South-west	0.225	6.4	7.7	LOS A
		Total	**0.022**	**9.8**	**0.5**	**LOS A**
	Weekday PM	South-east	0.007	9.7	0.1	LOS A
		North-east	0.271	3.9	11.1	LOS A

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
		South-west	0.169	7.1	5.4	LOS A
		Total	**0.007**	**9.7**	**0.1**	**LOS A**
	Weekend	South-east	0.020	9.1	0.4	LOS A
		North-east	0.171	3.7	6.4	LOS A
		South-west	0.204	5.3	6.7	LOS A
		Total	**0.020**	**9.1**	**0.4**	**LOS A**

Overall, the intersection of Burrows Avenue and George Street performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.9.4 SYD04 – Pedestrian Mid-block Crossing at Sydenham Road

The signalised pedestrian mid-block crossing at Sydenham Road is located north of Sydenham Station. It offers a signalised pedestrian crossing over Sydenham Road, a state road linking Sydenham and Marrickville.

Figure 5-67 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.

Source: Nearmap, accessed on 24 March 2023

Figure 5-67 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of SYD04

Table 5-76 presents a performance summary of this intersection.

Table 5-76 Block 1 - Intersection performance summary of SYD04

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Pedestrian Mid-block	Weekday AM	North-west	0.445	5.9	60.7	LOS A
		Total	**0.445**	**5.9**	**60.7**	**LOS A**

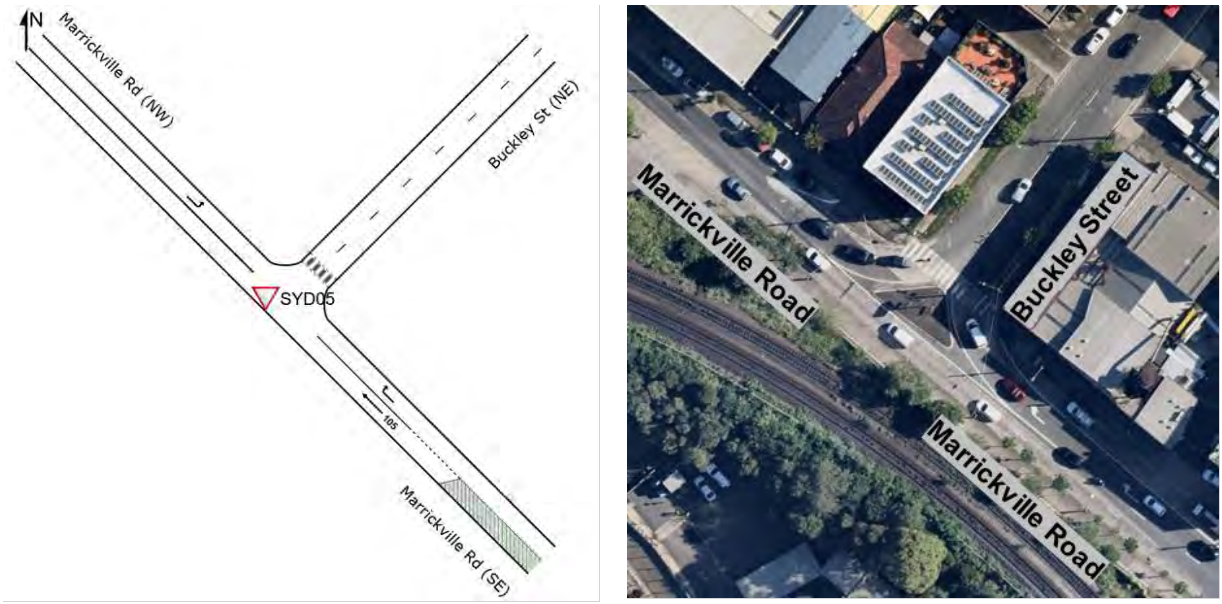
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Crossing at Sydenham Road (Pedestrian only - Signal)	Weekday PM	North-west	0.393	5.3	54.5	LOS A
		Total	**0.393**	**5.3**	**54.5**	**LOS A**
	Weekend	North-west	0.394	5.4	54.5	LOS A
		Total	**0.394**	**5.4**	**54.5**	**LOS A**

Overall, the pedestrian mid-block crossing at Sydenham Road performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.9.5 SYD05 – Marrickville Road / Buckley Street

The priority intersection, composed of Marrickville Road and Buckley Street, is located west of Sydenham Station. It connects the state roads of Buckley Street in Sydenham and Marrickville Road, linking Sydenham and Dulwich Hill.

Figure 5-68 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-68 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of SYD05

Table 5-77 presents a performance summary of this intersection.

Table 5-77 Block 1 - Intersection performance summary of SYD05

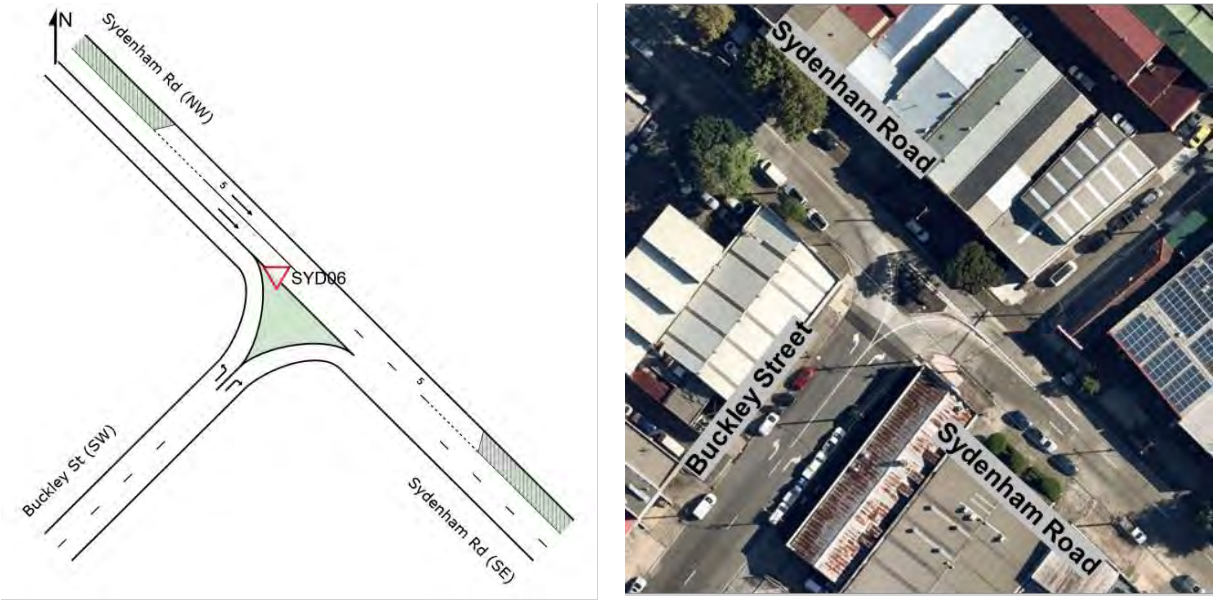
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Marrickville Road / Buckley Street (Priority – Give Way)	Weekday AM	South-east	0.747	8.1	44.1	LOS A
		North-west	0.727	8.2	36.0	LOS A
		Total	**0.727**	**8.2**	**36.0**	**LOS A**
	Weekday PM	South-east	0.607	6.4	20.8	LOS A
		North-west	0.586	6.5	15.2	LOS A
		Total	**0.586**	**6.5**	**15.2**	**LOS A**
	Weekend	South-east	0.306	5.9	11.4	LOS A
		North-west	0.301	5.8	10.3	LOS A
		Total	**0.306**	**5.9**	**11.4**	**LOS A**

Overall, the intersection of Marrickville Road and Buckley Street performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.9.6 SYD06 – Sydenham Road / Buckley Street

The priority intersection, composed of Sydenham Road and Buckley Street, is located north of Sydenham Station. It connects the state roads of Buckley Street in Sydenham and Sydenham Road, linking Sydenham and Marrickville.

Figure 5-69 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap, accessed on 24 March 2023

Figure 5-69 Block 1 - SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of SYD06

Table 5-78 presents a performance summary of this intersection.

Table 5-78 Block 1 - Intersection performance summary of SYD06

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	Level of service (LOS)
Sydenham Road / Buckley Street (Priority – Give Way)	Weekday AM	North-west	0.404	0.1	0.0	LOS A
		South-west	0.234	5.9	0.0	LOS A
		Total	**0.234**	**5.9**	**0.0**	**LOS A**
	Weekday PM	North-west	0.412	0.1	0.0	LOS A
		South-west	0.212	5.8	0.0	LOS A
		Total	**0.212**	**5.8**	**0.0**	**LOS A**
	Weekend	North-west	0.315	0.1	0.0	LOS A
		South-west	0.216	5.8	0.0	LOS A
		Total	**0.216**	**5.8**	**0.0**	**LOS A**

Overall, the intersection of Sydenham Road and Buckley Street performs satisfactorily at LOS A. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

6.0 Transport interchange monitoring

This section details analysis of the interchange traffic survey data at kerb side facilities nearby station interchanges.

6.1 Chatswood Station

In the Chatswood Station study area, a total of five taxi, bus stop and kiss and ride facilities were assessed during Block 1. These included three kiss and ride facilities and two taxi facilities. Refer to **Section 3.3** for detailed information about their locations and the number of bays.

Kiss and ride

Table 6-1 presents a summary of the kiss and ride facilities' peak hour vehicle arrivals and average dwell time. **Figure 6-1** to **Figure 6-3** provide the average dwell time and daily vehicle profile for each of the three kiss and ride facilities. At the CWDK2, it was noted that taxis were waiting at the bay for longer durations to collect passengers for their subsequent trips.

Overall, the kiss and ride bays appear sufficient for the existing demand and no queues form outside the bay.

Table 6-1 Block 1 – Chatswood Station interchange assessment peak hour summary (kiss and ride)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
CWDK1 (Railway Street)	Peak period	7am-8am	7pm-8pm	1pm-2pm
	Vehicles (vehicle per hour)	17	17	19
	Average dwell time (minutes)	1	2	2
CWDK2 (Albert Avenue)	Peak period	7am-8am	5pm-6pm	11am-12pm
	Vehicles (vehicle per hour)	62	26	24
	Average dwell time (minutes)	1	3	16
CWDK3 (Endeavour Street)	Peak period	8am-9am	6pm-7pm	12pm-1pm
	Vehicles (vehicle per hour)	36	36	23
	Average dwell time (minutes)	2	3	4

Note: Average dwell times were rounded to the nearest minute.

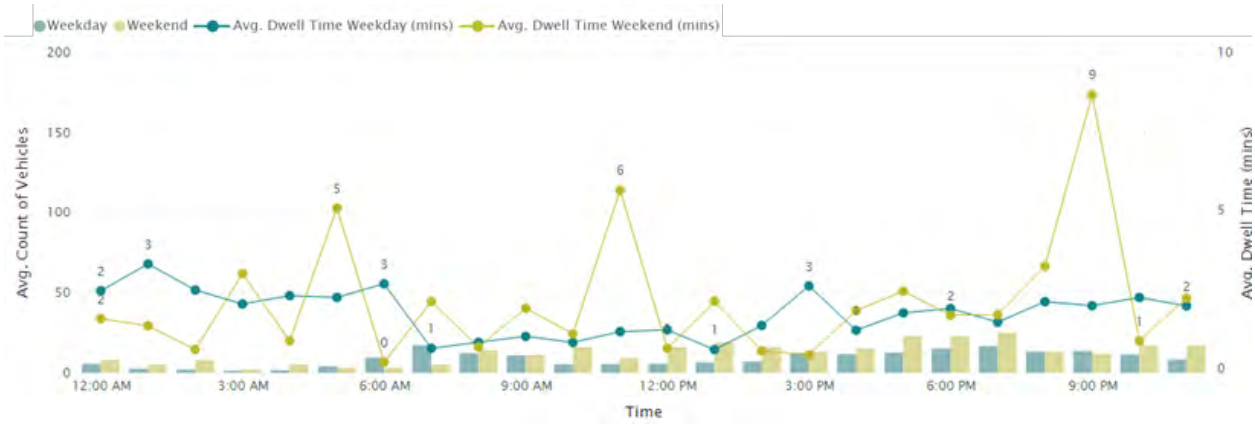


Figure 6-1 Block 1 - average dwell time and daily vehicle profile of CWDK1

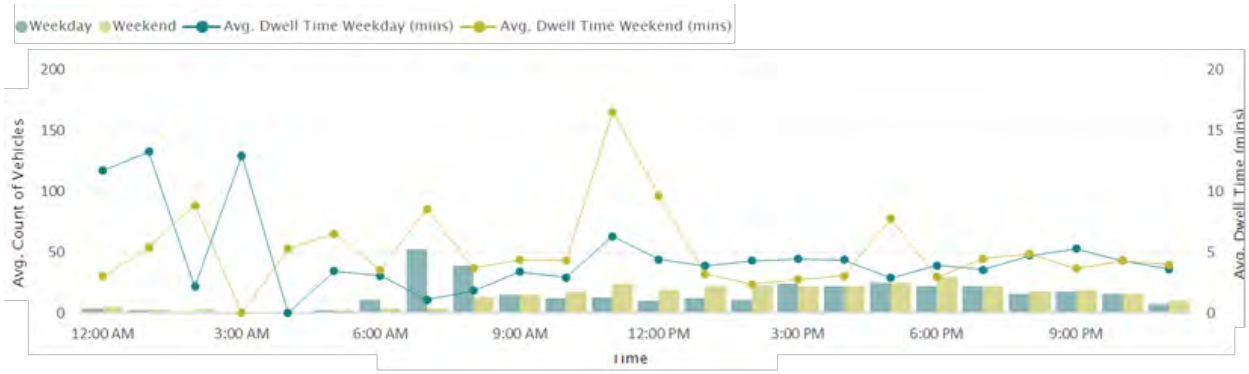


Figure 6-2 Block 1 - average dwell time and daily vehicle profile of CWDK2

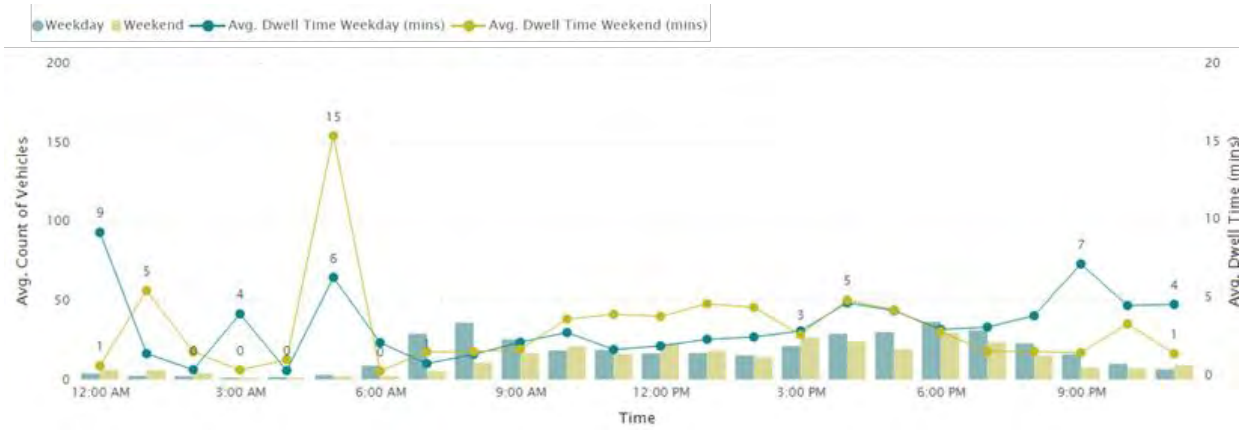


Figure 6-3 Block 1 - average dwell time and daily vehicle profile of CWDK3

Figure 6-4 to **Figure 6-9** provide the average daily weekday and weekend boarding and alighting profile for each of the three kiss and ride facilities. Based on the interchange survey data, the following was observed:

- During the weekday:
  - CWDK2 had the highest average daily number of boarding passengers of approximately 20 passengers during the 6pm-7pm peak hour

  - CWDK2 had the highest average daily number of alighting passengers of approximately 65 passengers during the 7am-8am peak hour

- During the weekend:
  - CWDK2 had the highest average daily number of boarding passengers of approximately 20 passengers during the 6pm-7pm peak hour
  - CWDK2 had the highest average daily number of alighting passengers of approximately 25 passengers during the 6pm-7pm peak hour

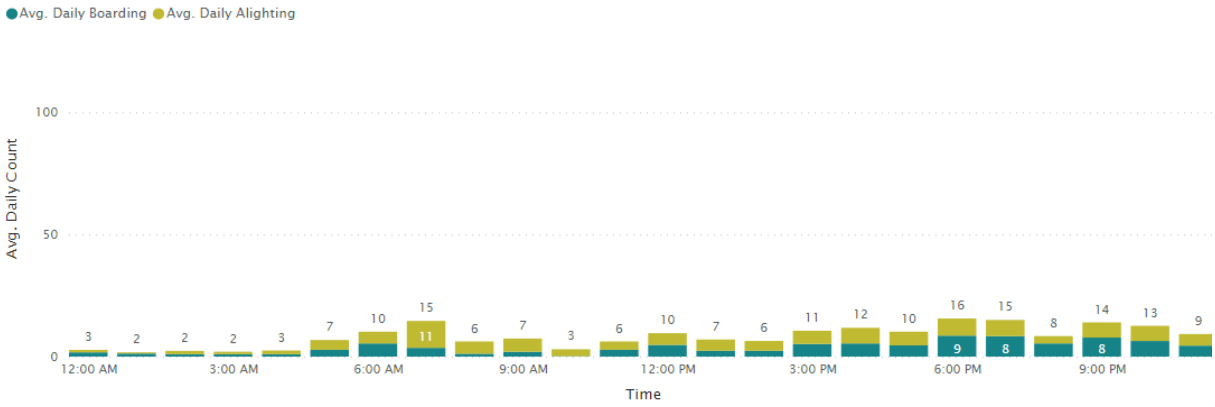


Figure 6-4 Block 1 - average daily boarding and alighting profile for CWDK1 (weekday)

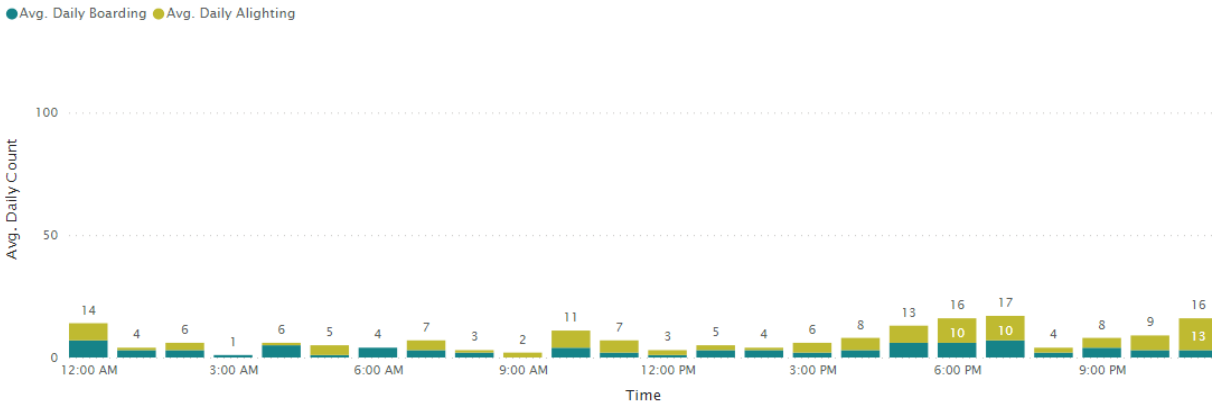


Figure 6-5 Block 1 - average daily boarding and alighting profile for CWDK1 (weekend)

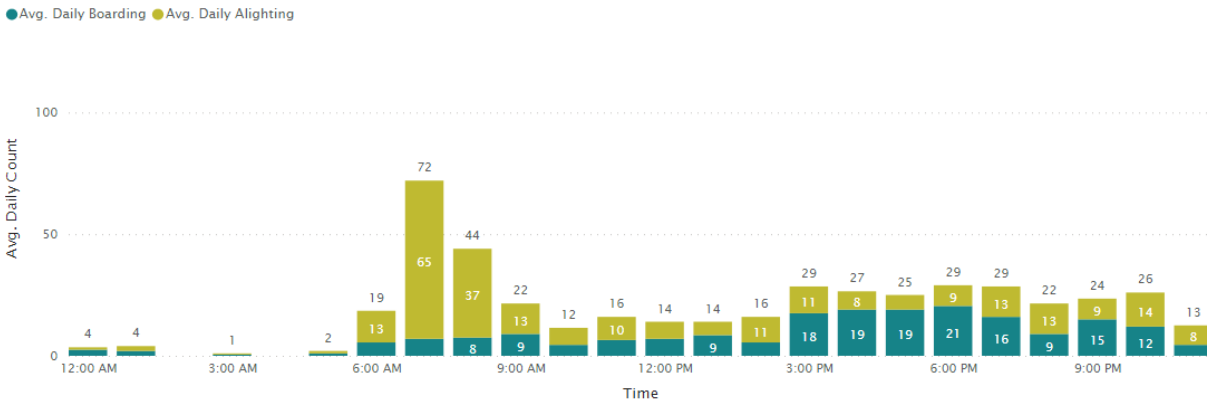


Figure 6-6 Block 1 - average daily boarding and alighting profile for CWDK2 (weekday)

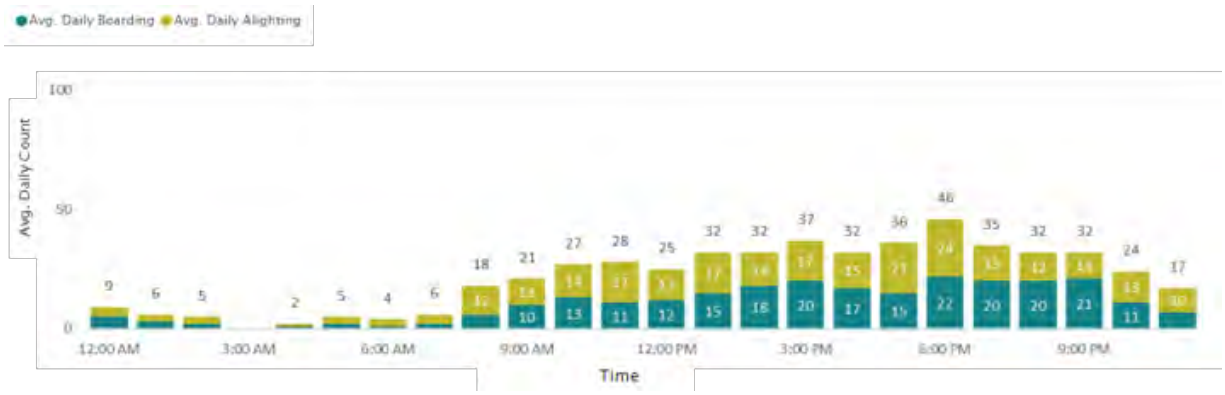


Figure 6-7 Block 1 - average daily boarding and alighting profile for CWDK2 (weekend)

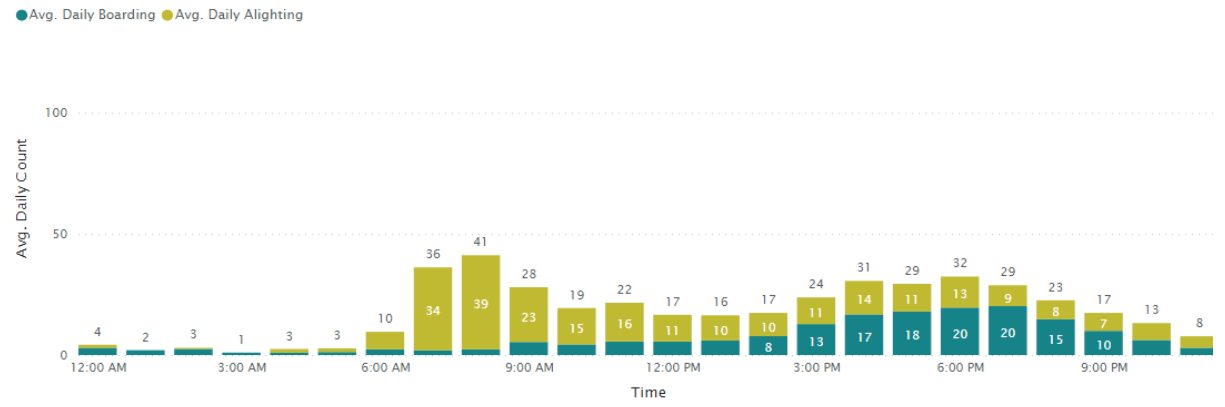


Figure 6-8 Block 1 - average daily boarding and alighting profile for CWDK3 (weekday)

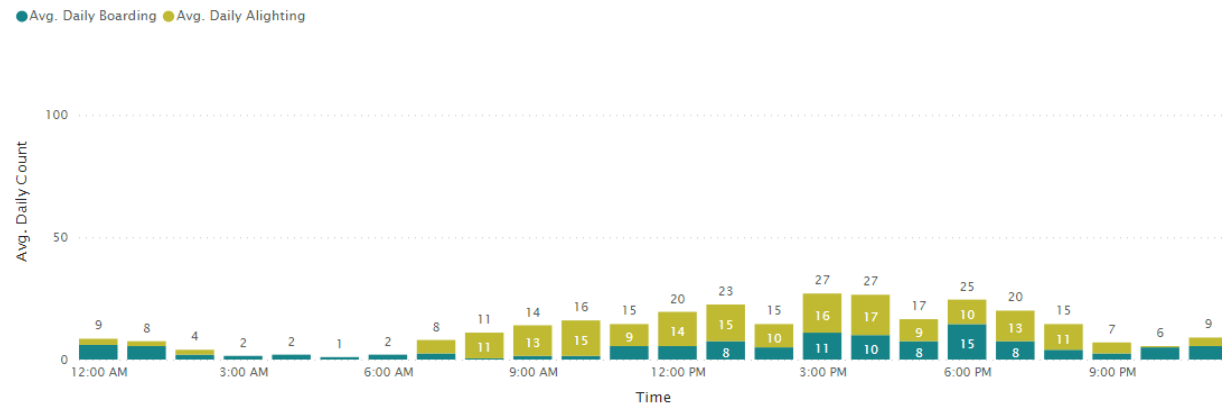


Figure 6-9 Block 1 - average daily boarding and alighting profile for CWDK3 (weekend)

Taxi

Table 6-2 presents a summary of the taxi facilities' peak hour vehicle arrivals and average dwell time. **Figure 6-10** and **Figure 6-11** and provide the average dwell time and daily vehicle profile for each of the two taxi facilities.

Overall, the taxi bays appear sufficient for the existing demand and no queues form outside the bay. Average dwell times are high due to taxis waiting for passengers.

Table 6-2 Block 1 - Chatswood Station interchange assessment peak hour summary (taxi)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
CWDT1 (Victoria Avenue)	Peak period	9am-10am	3pm-4pm	1pm-2pm
	Vehicles (vehicle per hour)	11	18	13
	Average dwell time (minutes)	14	11	19
CWDT2 (Endeavour Street)	Peak period	9am-10am	5pm-6pm	12pm-1pm
	Vehicles (vehicle per hour)	4	2	2
	Average dwell time (minutes)	5	56	18

Note: Average dwell times were rounded to the nearest minute.

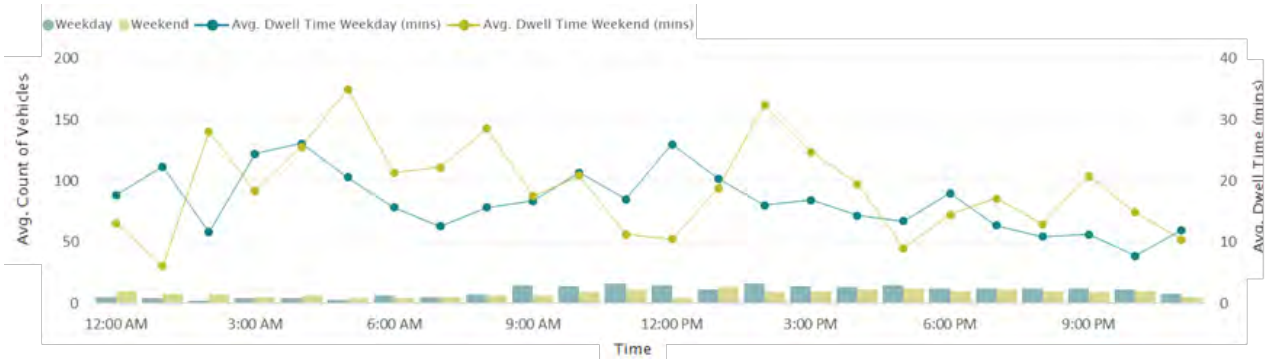


Figure 6-10 Block 1 - average dwell time and daily vehicle profile of CWDT1

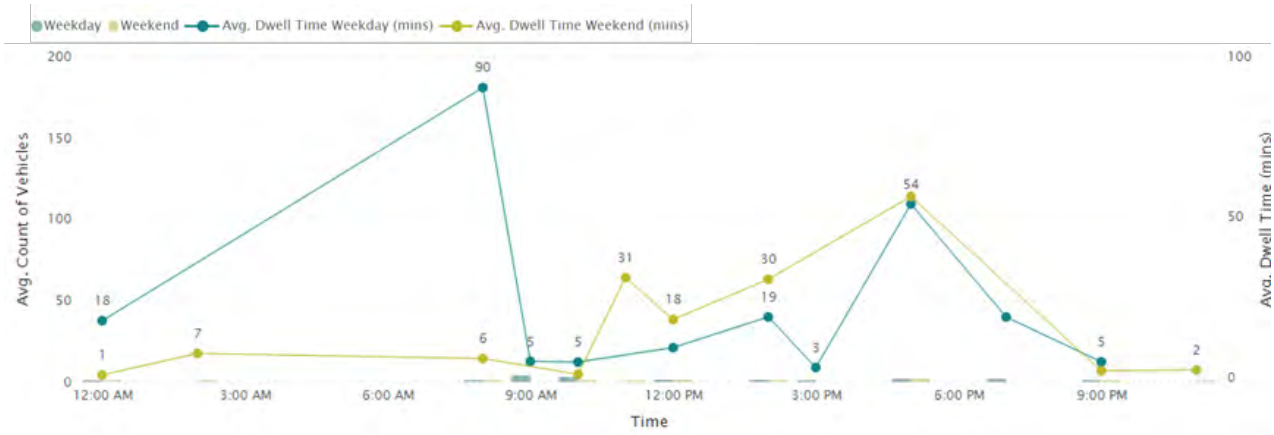


Figure 6-11 Block 1 - average dwell time and daily vehicle profile of CWDT2

Figure 6-12 and **Figure 6-15** provide the average daily weekday and weekend boarding and alighting profile for each of the two taxi facilities. Based on the interchange survey data, the following was observed:

- During the weekday:
  - CWDT1 had the highest average daily number of boarding passengers of approximately 20 passengers during the 11am-12pm peak hour

  - CWDT1 had the highest average daily number of alighting passengers of approximately 5 passengers during the 8am-9am peak hour

- During the weekend:
  - CWDT1 had the highest average daily number of boarding passengers of approximately 10 passengers during the 10pm-11pm peak hour
  - CWDT1 had the highest average daily number of alighting passengers of approximately 5 passengers during the 1am-2am peak hour

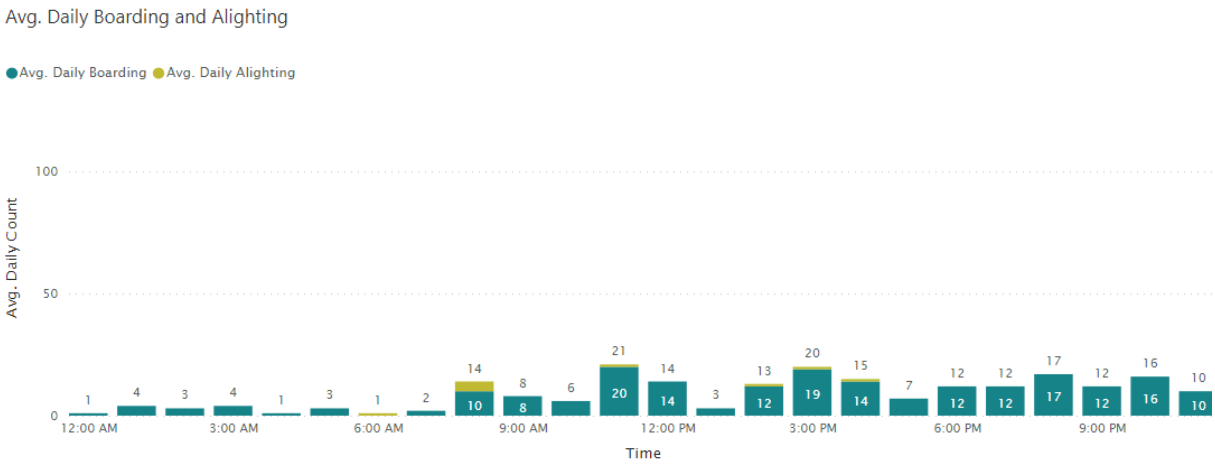


Figure 6-12 Block 1 - average daily boarding and alighting profile for CWDT1 (weekday)

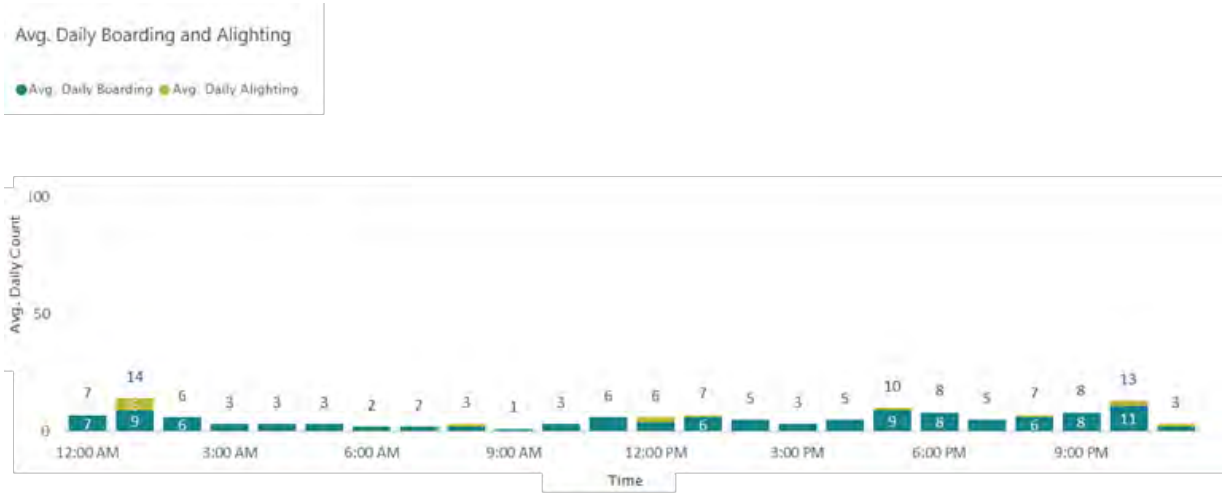


Figure 6-13 Block 1 - average daily boarding and alighting profile for CWDT1 (weekend)

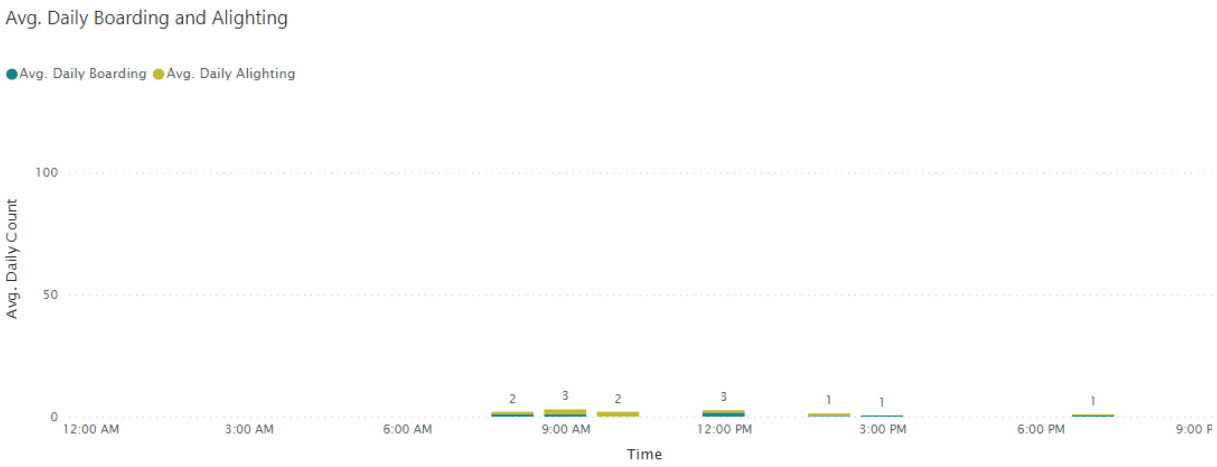


Figure 6-14 Block 1 - average daily boarding and alighting profile for CWDT2 (weekday)

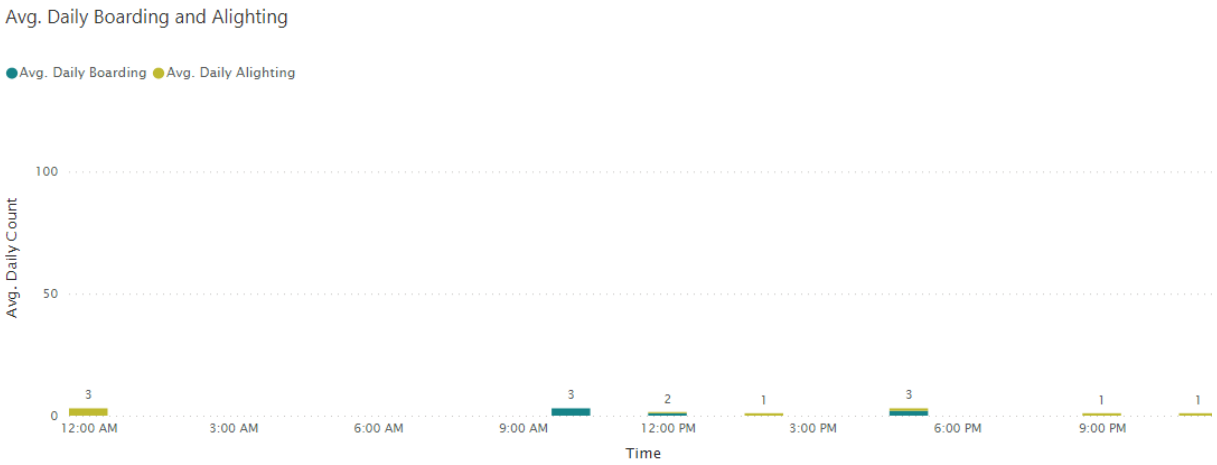


Figure 6-15 Block 1 - average daily boarding and alighting profile for CWDT2 (weekend)

6.2 Sydenham Station

In the Sydenham Station study area, a total of five taxi, bus stop and kiss and ride facilities were assessed during Block 1. These included one bus facility, two kiss and ride facilities, one taxi facility and one proposed accessible kiss and ride facility, which operated as an accessible parking space during Block 1. Refer to **Section 3.3** for detailed information about their locations and the number of bays.

Bus

Table 6-3 presents a summary of the bus facility peak period vehicle arrival rate and average dwell time. **Figure 6-16** provides the average dwell time and daily vehicle profile for the bus facility.

Overall, no queues were observed outside the bus bays.

Table 6-3 Block 1 - Sydenham Station interchange assessment peak hour summary (bus)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
SYDB1 (Railway Parade)	Peak period	7am-8am	5pm-6pm	12pm-1pm
	Vehicles (vehicle per hour)	16	17	15

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
	Average dwell time (minutes)	5	3	4

Note: Average dwell times were rounded to the nearest minute.

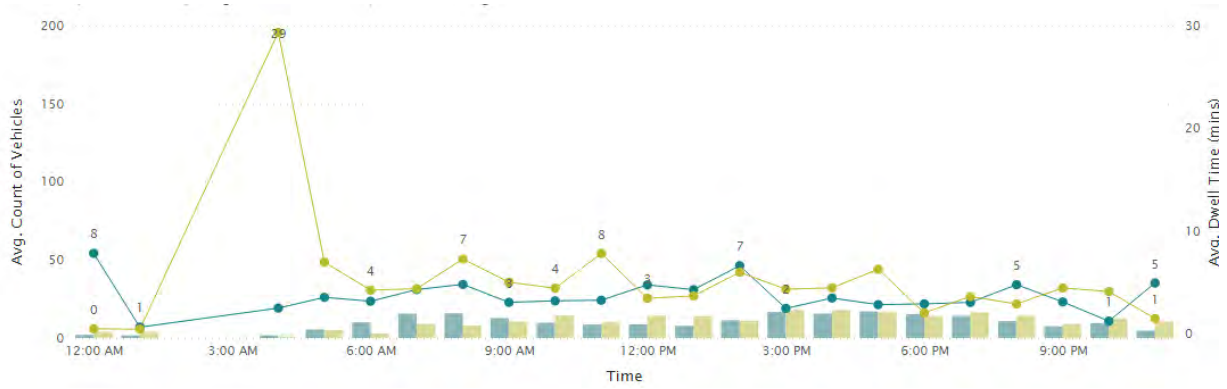


Figure 6-16 Block 1 - average dwell time and daily vehicle profile of SYDB1

Figure 6-17 and **Figure 6-18** provide the average daily weekday and weekend boarding and alighting profile for the bus facility. Based on the interchange survey data, the following was observed:

- During the weekday:
  - SYDB1 had the highest average daily number of boarding passengers of approximately 30 passengers during the 7am-8am peak hour
  - SYDB1 had the highest average daily number of alighting passengers of approximately 65 passengers during the 3pm-4pm peak hour.
- During the weekend:
  - SYDB1 had the highest average daily number of boarding passengers of approximately 20 passengers during the 4pm-5pm peak hour
  - SYDB1 had the highest average daily number of alighting passengers of approximately 35 passengers during the 12pm-1pm and 3pm-4pm peak hours.

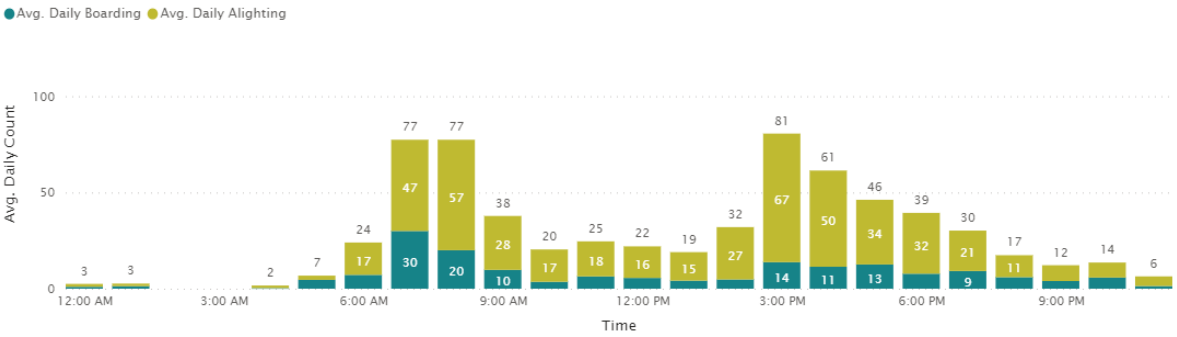


Figure 6-17 Block 1 - average daily boarding and alighting profile for SYDB1 (weekday)

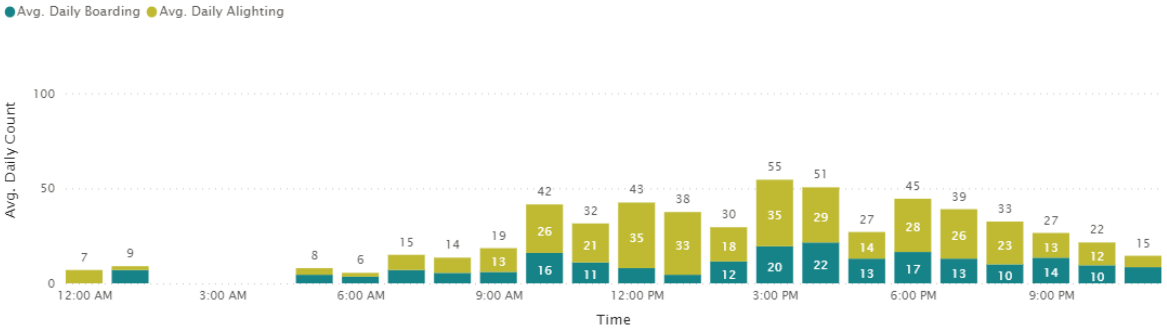


Figure 6-18 Block 1 - average daily boarding and alighting profile for SYDB1 (weekend)

Kiss and ride

Table 6-4 presents a summary of the kiss and ride facilities' peak period vehicle arrival rate and average dwell time. **Figure 6-19** and **Figure 6-20** provide the average dwell time and daily vehicle profile for the kiss and ride facilities.

Overall, the kiss and ride bays appear sufficient for the existing demand and no queues form outside the bays.

Table 6-4 Block 1 - Sydenham Station interchange assessment peak hour summary (kiss and ride)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
SYDK1 (Burrows Avenue)	Peak period	8am-9am	5pm-6pm	10am-11am
	Vehicles (vehicle per hour)	12	17	15
	Average dwell time (minutes)	1	5	5
SYDK2 (Sydenham Road)	Peak period	7am-8am	5pm-6pm	11am-12pm
	Vehicles (vehicle per hour)	3	2	1
	Average dwell time (minutes)	3	2	1

Note: Average dwell times were rounded to the nearest minute.

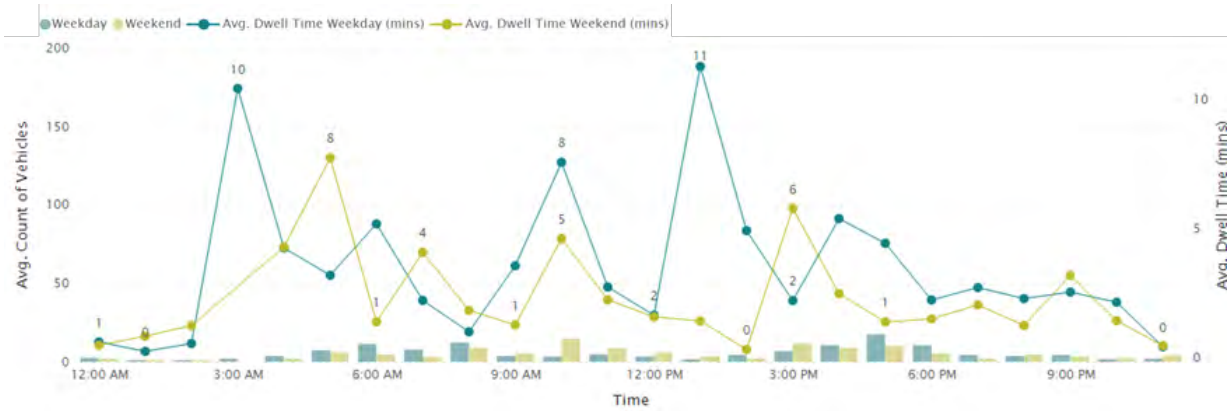


Figure 6-19 Block 1 - average dwell time and daily vehicle profile of SYDK1

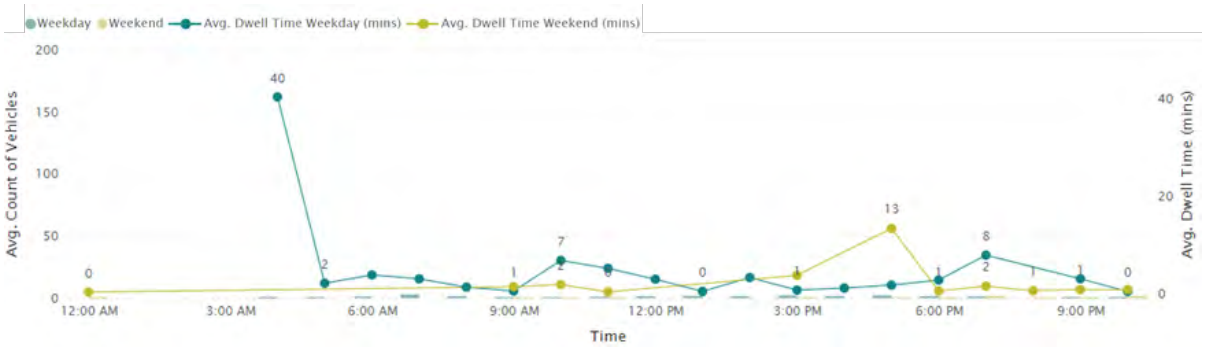


Figure 6-20 Block 1 - average dwell time and daily vehicle profile of SYDK2

Figure 6-21 to **Figure 6-24** provide the average daily weekday and weekend boarding and alighting profile for each of the two kiss and ride facilities. Based on the interchange survey data, the following was observed:

- During the weekday:
  - SYDK1 had the highest average daily number of boarding passengers of approximately 15 passengers during the 5pm-6pm peak hour
  - SYDK1 had the highest average daily number of alighting passengers of approximately 10 passengers during the 6am-7am peak hour
- During the weekend:
  - SYDK1 had the highest average daily number of boarding passengers of approximately 10 passengers during the 3pm-4pm and 5pm-6pm peak hours
  - SYDK1 had the highest average daily number of alighting passengers of approximately 10 passengers during the 10am-11am peak hour

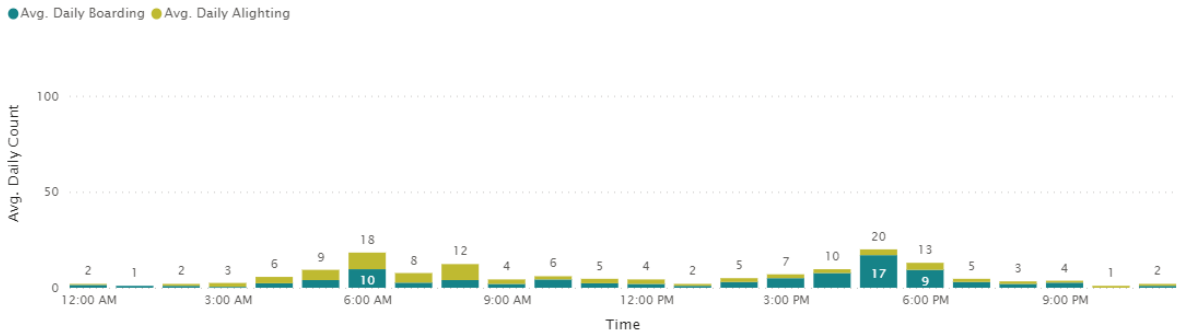


Figure 6-21 Block 1 - average daily boarding and alighting profile for SYDK1 (weekday)

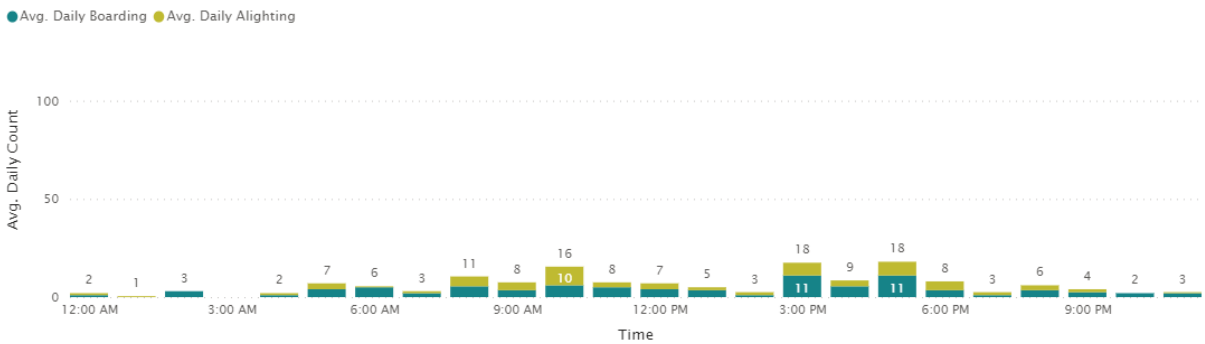


Figure 6-22 Block 1 - average daily boarding and alighting profile for SYDK1 (weekend)

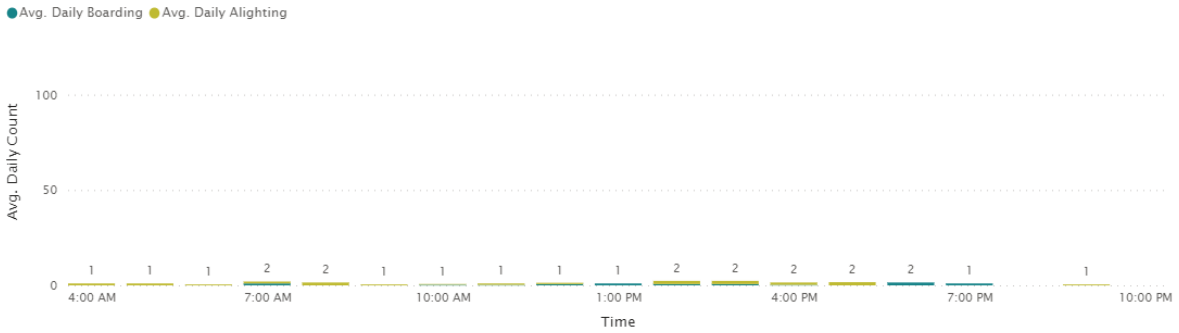


Figure 6-23 Block 1 - average daily boarding and alighting profile for SYDK2 (weekday)

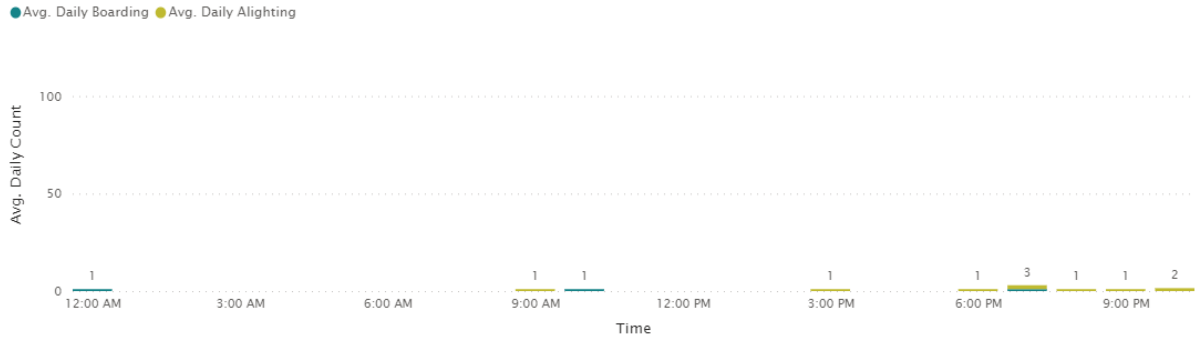


Figure 6-24 Block 1 - average daily boarding and alighting profile for SYDK2 (weekend)

Taxi

Table 6-5 presents a summary of the taxi facility peak period vehicle arrival rate and average dwell time. **Figure 6-25** provides the average dwell time and daily vehicle profile for the taxi facility.

During the site visits, a lower number of taxis were observed using the designated taxi rank, while the majority of taxis were seen utilising the existing kiss and ride bays.

Table 6-5 Block 1 - Sydenham Station interchange assessment peak hour summary (taxi)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
SYDT1 (Burrows Avenue)	Peak period	9am-10am	5pm-6pm	1pm-2pm
	Vehicles (vehicle per hour)	1	2	1
	Average dwell time (minutes)	2	9	11

Note: Average dwell times were rounded to the nearest minute.

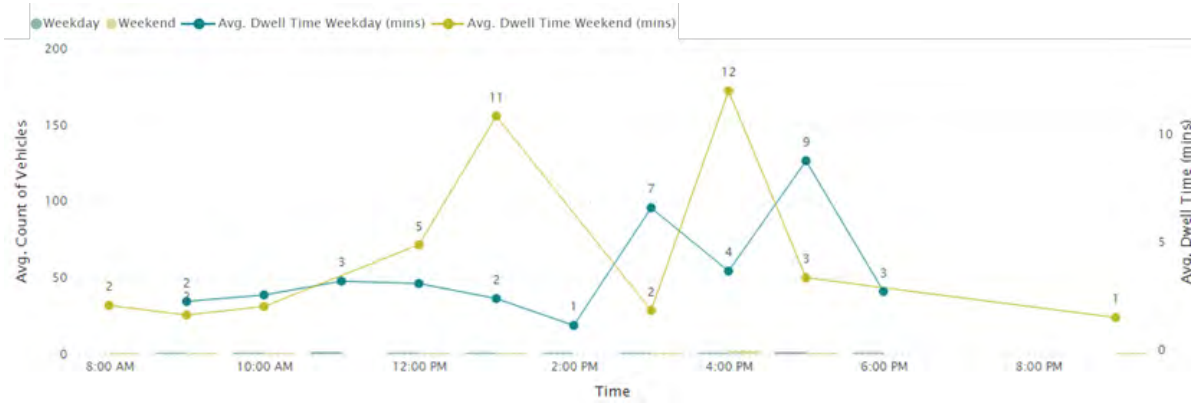


Figure 6-25 Block 1 - average dwell time and daily vehicle profile of SYDT1

Figure 6-26 and **Figure 6-27** provide the average daily weekday and weekend boarding and alighting profile for the taxi facility. Based on the interchange survey data, the average daily passenger boarding and alighting numbers were found to be relatively low. Throughout both weekdays and weekends, there were on average up to two passenger boardings, and up to three passenger alightings recorded during the survey period.

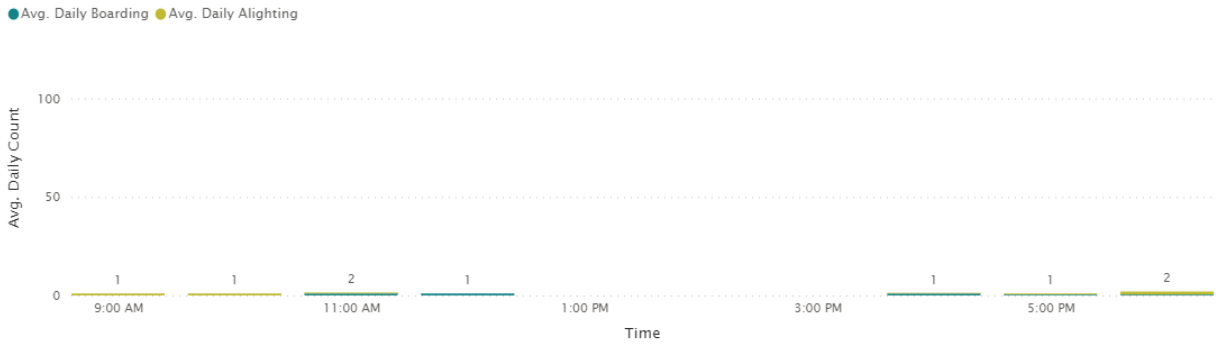


Figure 6-26 Block 1 - average daily boarding and alighting profile for SYDT1 (weekday)

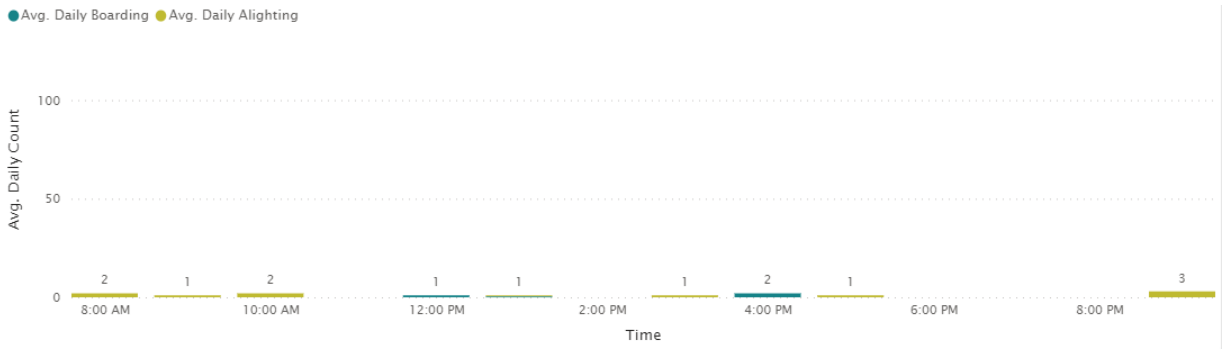


Figure 6-27 Block 1 - average daily boarding and alighting profile for SYDT1 (weekend)

Accessible kiss and ride

Table 6-6 presents a summary of the accessible kiss and ride facility peak period vehicle arrival rate and average dwell time. **Figure 6-28** provides the average dwell time and daily vehicle profile for the access kiss and ride facility.

High dwell times were observed in the weekday AM peak due to a parked vehicle in the kiss and ride bay.

Table 6-6 Block 1 - Sydenham Station interchange assessment peak hour summary

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
SYDA1 (Bolton Street)	Peak period	10am-11am	5pm-6pm	12pm-1pm
	Vehicles (vehicle per hour)	1	2	1
	Average dwell time (minutes)	111	5	2

Note: Average dwell times were rounded to the nearest minute.

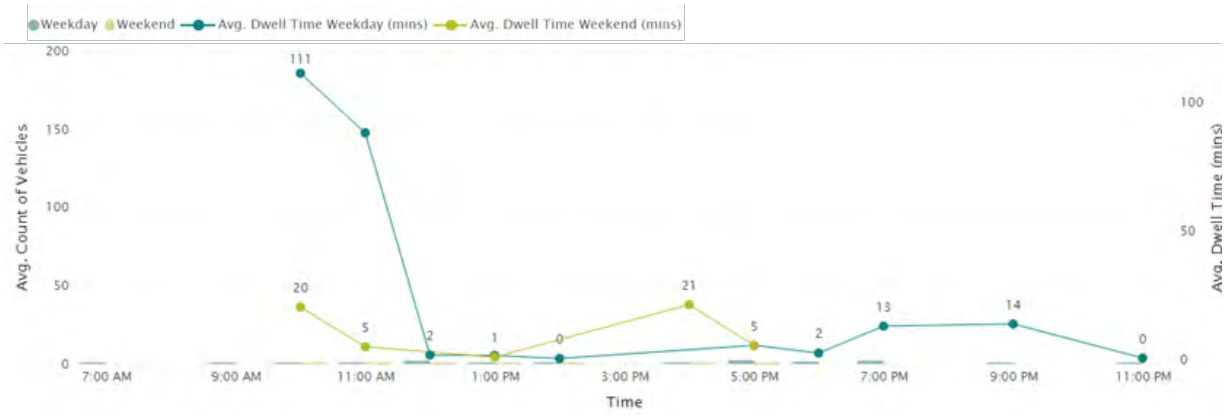


Figure 6-28 Block 1 - average dwell time and daily vehicle profile of SYDA1

Figure 6-29 and **Figure 6-30** provide the average daily weekday and weekend boarding and alighting profile for the accessible kiss and ride facility. Based on the interchange survey data, the average daily passenger boarding and alighting numbers were found to be relatively low. Throughout both weekdays and weekends, there were on average up to two passenger boardings, and up to two passenger alighting recorded during the survey period. However, an exception was seen during the weekend peak hour of 12pm-1am, which had on average five boarding and five alighting passenger numbers.

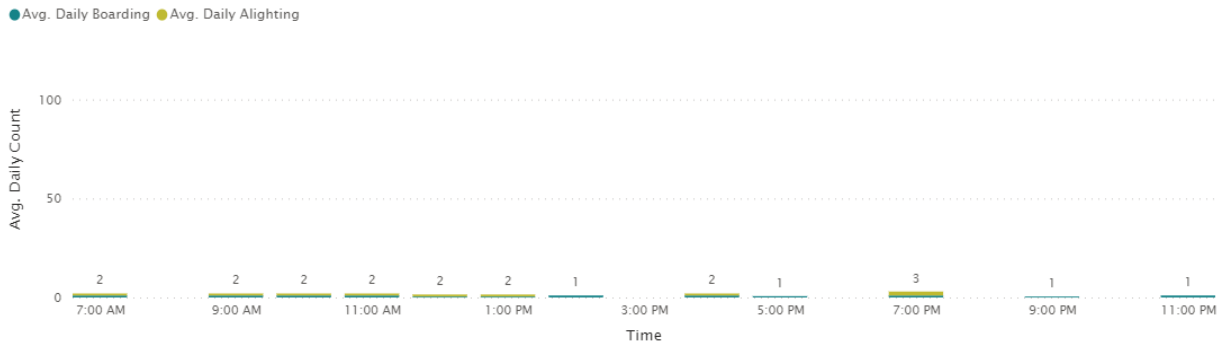


Figure 6-29 Block 1 - average daily boarding and alighting profile for SYDA1 (weekday)

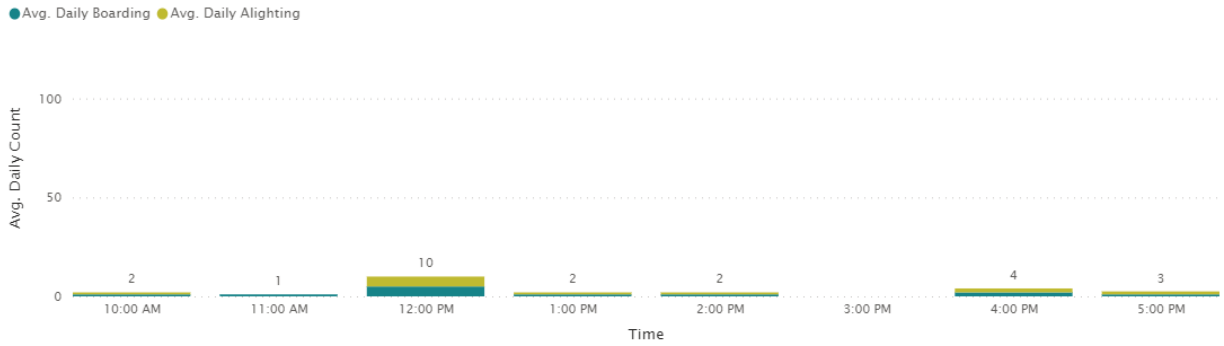


Figure 6-30 Block 1 - average daily boarding and alighting profile for SYDA1 (weekend)

7.0 Summary

AECOM Australia Pty Ltd (AECOM) has been commissioned by Sydney Metro to perform traffic and interchange monitoring assessments for the Sydney Metro City & Southwest, covering the stretch between Chatswood Station and Sydenham Station (the Project).

The primary objective of the traffic and interchange monitoring assessment is to evaluate the potential impacts of metro operations at the nine stations along the Sydney Metro City & Southwest (Chatswood to Sydenham) on the surrounding intersections and interchange facilities.

To meet the CoA requirements and align with the project program for Sydney Metro City & Southwest (Chatswood to Sydenham), the traffic and interchange monitoring program will be conducted in six study blocks. The monitoring period will span 12 months before the commencement of CSSI operations (pre-opening) and another 12 months after the commencement (post-opening).

The overall scope of works for the Block 1 study covers the following:

- **Traffic monitoring:** Intersection surveys were conducted during three periods - late-March 2023, early-April 2023, and early-May 2023 (re-surveys). The surveys included classified intersection count survey and vehicular queue length survey.
- **Transport interchange monitoring:** Only Chatswood Station and Sydenham Station were considered for the interchange monitoring for the Block 1 study due to the existing operational train/metro stations. Interchange operation surveys were conducted at these two stations continuously for a one-week period in March 2023.
- **Site visit and observations:** Site visits were undertaken in conjunction with the traffic and interchange operation monitoring for at least one weekday AM peak, one weekday PM peak, and one weekday peak period at each station.
- **Intersection assessment:** To evaluate the intersection operation during Block 1, isolated and network traffic modelling assessments were performed using SIDRA Intersection modelling software (SIDRA Intersection).
- **Traffic and interchange monitoring report:** The key findings of the Block 1 study were presented to Sydney Metro and key stakeholders in July 2023. This report provides a summary of the details regarding the Block 1 traffic and interchange operation assessment.

Key findings of the Block 1 study are:

- **Intersection monitoring:** Based on site observation and SIDRA Intersection modelling results, intersection operation and performance of key intersections at each station are summarised as follows.
  - Chatswood Dive Site:
    - The intersection of Mowbray Road and Hampden Road (CWD01) performs at LOS B or better during all peak hours.
    - At the intersection of Mowbray Road and Hampden Rodd (CWD01), Mowbray Road (east approach) experiences consistent congestion and the queue extends close to the intersection with Elizabeth Street during all peak hours.
  - Crows Nest Station:
    - All intersections within the Crows Nest Station study area perform at LOS C or better during all peak hours, except the Pacific Highway, Falcon Street and Shirley Road intersection (CST04) performs at LOS D during the AM peak hour.
    - The intersections at Pacific Highway and Albany Street intersection (CST01) and Pacific Highway, Falcon Street and Shirley Road (CST04) experiences queues which extend to one or more approaches of the adjacent intersection at peak hours.
  - Victoria Cross Station:

        - All intersections within the Victoria Cross Station study area operate at LOS C or better during all peak hours.
    - Barangaroo Station:
        - All intersections within the Barangaroo Station study area operate at LOS C or better during all peak hours.
        - Queuing at the western approach of the Kent Street and King Street intersection (BGU15) extends back to Sussex Street during the weekday AM peak hour.
    - Martin Place Station:
        - All intersections within the Martin Place Station study area operate at LOS C or better during all peak hours.
    - Pitt Street Station:
        - All intersections within the Pitt Street Station study area operate at LOS B or better during all peak hours.
        - At the intersection of Park Street and Castlereagh Street (PIT03), queuing on Park Street (east approach) extend back to Elizabeth Street during all peak hours.
    - Central Station:
        - All intersections within the Central Station study area operate at LOS C or better during all peak hours.
    - Waterloo Station:
        - All intersections within the Waterloo Station study area operate at LOS C or better during all peak hours.
        - Queuing at the eastern approach of the Botany Road, Raglan Street and Henderson Road intersection (WLO01) extends back to the intersection of Raglan Street and Cope Street during all peak hours.
    - Sydenham Station:
        - All intersections within the Sydenham Station study area operate at LOS B or better during all peak hours.
        - Queuing along Gleeson Avenue at the intersection of Burrows Avenue and Gleeson Avenue (SYD02) extends back closer to the slip lane of the Railway Parade and Gleeson Avenue intersection during all peak hours.
- **Transport interchange monitoring:** The interchange operation surveys focused on analysing taxi, bus stop and kiss and ride facilities at Chatswood Station and Sydenham station. The Key findings are summarised as follows.
    - Chatswood Station:
        - The provision of kiss and ride bays and taxi bays were sufficient and cater for the existing demand, with no queues forming outside the bays
    - Sydenham Station:
        - The provision of kiss and ride bays appears sufficient for the existing demand, no queues form outside the bay

In summary, the results from Block 1 traffic and interchange monitoring demonstrate generally satisfactory intersection performance, consistently achieving LOS C or better across all stations, except for CST04. Furthermore, the assessment of kiss and ride and taxi facilities at Chatswood and Sydenham stations indicates their sufficient provision.

To ensure a comprehensive and reliable monitoring assessment across all six blocks, the findings from the Block 1 study will serve as a baseline for comparative analysis in the subsequent blocks.

Appendix A

Stakeholder Meeting Minutes

Appendix A Stakeholder Meeting Minutes

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Minutes of Meeting

Sydney Metro City & Southwest - Traffic and Interchange Operation Monitoring

Subject	Block 1 Presentation - TfNSW	Page	1
Venue	MS-Teams	Time	10:00am - 11:00am
Participants	Garry Hitchcox (GH), Sydney Metro Nita Hutapea (NH), Sydney Metro Kedar Ballurkar (KB), Sydney Metro Carl Mella (CM), TfNSW Chris Slenders (CS), TfNSW Anoop Sridhar (AS), AECOM Padmanaban Subramanian (PS), AECOM		
Apologies	Maryam Yadak (MY), TfNSW		
File/Ref No.	SM-C&SW-MM-003	Date	28-Jul-2023
Distribution	As above		

No	Item	Action	Date
1.	**Introduction** • NH commenced the meeting providing a brief overview of the project including the stakeholder consultations conducted on late 2022. • Attendees introduced themselves, highlighting their roles and organisations. • Meeting commenced with an Acknowledgement of Country.		
2.	**Project Overview and Results** • AS presented the outcomes of Block 1 monitoring for the intersections and interchanges located within the Block 1 study area for the traffic monitoring study of the proposed Sydney Metro City & Southwest (C&SW) line. • CM enquired on the high dwell time observed on the SYHA1. AS explained that the extended dwell time resulted from cars parked for longer periods at this location. It was clarified that this site is designated as a proposed Kiss and Ride area but is currently being used as accessible parking. • GH enquired whether there are parking restrictions at this location. *Post Meeting Note: Survey footage and site visit photos have been reviewed and it is observed that accessible parking is permitted at this location with some parking restrictions at selected time periods.*		

No	Item	Action	Date
	• CM commented that the Block 1 monitoring results look good for most intersections. • CM enquired about the reasoning behind proposing more intersections for Barangaroo Station compared to Pitt Street and Martin Place. NH explained that during stakeholder discussions, it was discussed that Barangaroo Station has a greater number of construction sites, particularly along Hickson Road, and there might be revised traffic patterns in both pre-opening and post-opening scenarios. On the other hand, Pitt Street and Martin Place would have only minimal changes to the existing road network. • CS highlighted that intersections within the CBD experience significant pedestrian activities. If future assessments show a decline in the pedestrian Level of Service (LoS), appropriate mitigations must be taken into account for future planning. • CM enquired whether the raw survey data is available for individual intersections. AS responded that the survey data is available broken down into individual turning movements for each study intersections. • NH presented an outline of the suggested alternative program for the upcoming blocks and sought feedback and concerns from TfNSW regarding the timeframes and sequencing of the proposed changes. CS and CM acknowledged that the revised proposal seems acceptable and advised that this needs to be checked internally to gather feedback before confirming.	CS and CM to check and confirm acceptance of the proposed program	

Enclosures:

- Block 1 Presentation

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Minutes of Meeting

Sydney Metro City & Southwest - Traffic and Interchange Operation Monitoring

Subject	Block 1 Presentation	Page	1
Venue	MS-Teams	Time	02:30pm - 03:30pm
Participants	Garry Hitchcox (GH), Sydney Metro Nita Hutapea (NH), Sydney Metro Kedar Ballurkar (KB), Sydney Metro Michael Huy (MH), Inner West Council George Tsaprounis (GT), Inner West Council Allan Borg (AB), Inner West Council Kendall Banfield (KBN), Inner West Council Minas Kassiou (MK), Inner West Council Anoop Sridhar (AS), AECOM Padmanaban Subramanian (PS), AECOM		
Apologies			
File/Ref No.	SM-C&SW-MM-002	Date	27-Jul-2023
Distribution	As above		

No	Item	Action	Date
1.	**Introduction** • NH commenced the meeting providing a brief overview of the project including the stakeholder consultations conducted on late 2022. • Attendees introduced themselves, highlighting their roles and organisations. • Meeting commenced with an Acknowledgement of Country.		
2.	**Project Overview and Results** • AS presented the outcomes of Block 1 monitoring for the intersections and interchanges located within the Inner West Council area for the traffic monitoring study of the proposed Sydney Metro City & Southwest (C&SW) line. • MK inquired whether the surveys were conducted outside the school holidays. AS responded that all the surveys were conducted outside the school/public holidays. • MH asked whether the information presented for the total pedestrians crossing is for a single intersection or all intersections. AS clarified that the information is for all the intersections within the Sydenham station study area.	Sydney Metro to provide a	

No	Item	Action	Date
	• GT inquired whether the survey raw data and a copy of the presentation will be provided to the council. NH confirmed that Sydney Metro will be providing them. • AB inquired whether this study considers the bus replacement services when the metro line opens. NH responded that the Rail Replacement Services are not considered as part of this study and are being addressed in a separate study. • KBN inquired whether pedestrian safety is part of the EIS Conditions of Approval (D12). NH responded that the Conditions of Approval for this study only discuss the traffic monitoring, and the inclusion of pedestrian safety is not explicitly specified. This study follows a similar approach to the traffic monitoring conducted for the existing Northwest metro line (Chatswood to Tallawong). • KBN and GT also added that the pedestrian zebra crossings at Buckley St (SYD05 & SYD06) have ongoing safety issues due to a high number of pedestrians, despite implementing some safety measures at these sites based on discussions with TfNSW. KBN highlighted that pedestrian flows may increase in the future due to new developments and the opening of Sydney Metro C&SW line, which might worsen the situation further. NH replied that the SIDRA analysis currently includes the surveyed pedestrian flows, and the Sydney Metro C&SW post-opening scenarios may be able to capture the impacts of increased pedestrian volumes. If the analysis indicates a worse level of performance, suitable mitigation measures will be identified in future blocks. • NH provided an overview of the proposed alternative program for the upcoming blocks and inquired whether the Inner West Council has any feedback and concerns on the timeframes and sequencing of the proposed changes. GT responded that the Inner West Council agrees with the proposed changes to the future monitoring blocks.	copy of the presentation and the raw data	

Enclosures:

- Block 1 Presentation

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Minutes of Meeting

Sydney Metro City & Southwest - Traffic and Interchange Operation Monitoring

Subject	Block 1 Presentation for Willoughby City Council	Page	1
Venue	MS-Teams	Time	02:00pm - 03:00pm
Participants	Garry Hitchcox (GH), Sydney Metro Nita Hutapea (NH), Sydney Metro Kedar Ballurkar (KB), Sydney Metro Daniel Sui (DS), Willoughby City Council John Gill (JG), Willoughby City Council Dennis Nguyen (DN), Willoughby City Council Ian Shillington (IS), Willoughby City Council Aston Pei (AP), Willoughby City Council Adeline Sim (ASi), Willoughby City Council Anoop Sridhar (AS), AECOM Padmanaban Subramanian (PS), AECOM		
Apologies			
File/Ref No.	SM-C&SW-MM-001	Date	26-Jul-2023
Distribution	As above		

No	Item	Action	Date
1.	**Introduction** • Attendees introduced themselves, highlighting their roles and organisations. • Meeting commenced with an Acknowledgement of Country.		
2.	**Project Overview and Results** • DS enquired about the rationale behind the selection of intersection and interchanges for the station assessment methodology. NH explained that the intersections and interchanges were selected based on stakeholder discussions conducted prior to the traffic monitoring and with consideration for potential project impacts (i.e. intersections were considered for monitoring if any changes were proposed as part of this project). • DS asked why Traffic Monitoring of intersections is not required for Chatswood Station. AS explained this is because there are no changes to the road network arising from the City & Southwest (C&SW) project,		

No	Item	Action	Date
	however the D12 study have included Interchange Monitoring for Chatswood Station. • DS asked whether there is additional information available related to the origin and destination of pedestrian and cyclists movements. AS replied that this project scope only covers the pedestrian and cyclists crossing the intersections. • DS enquired whether any future forecasts related to pedestrian and cyclists patronage and traffic modes accessing the metro stations are available and requested if it can be shared. NH responded that that the forecasts are available in the Interchange Access Plans (IAPs) and the associated forecasts can be shared with Willoughby City Council (WCC). DS asked if there any plans to upgrade the amenities (parking bays, cycle racks) at the Chatswood station due to the increased patronage resulting from the City & Southwest (C&SW) metro line. NS and GH explained that there are not much changes in patronage are expected in the Chatswood Metro Station post opening of C&SW metro line, since this is currently serves as transfer terminal between the existing Northwest metro line and the T1 Sydney Trains line. In future, once the C&SW metro line opens, customers on the NW line can effectively stay on the Metro train to city stations. GH also highlighted the changes to travel patterns for public transport post-covid which might have an impact and highlighted that if potential changes are observed, then Sydney Metro could liaise with WCC for further discussions. • DS enquired whether the presentation can be shared with the WCC councillors and whether the project team is willing to accommodate any potential follow up presentations with the councillors. GH responded that Sydney Metro has no concerns in sharing this presentation with WCC councillors. • NH provided the closing comments that Block 1 would serve as a base case and there could be potential increase in vehicles, pedestrians and cyclists in future blocks. • NH also provided an overview of the proposed alternative program for the upcoming blocks and enquired whether WCC has any feedback and concerns on the timeframes and sequencing of the proposed changes to shift Block 2 to Oct/Nov and Block 3 to when C&SW commences next year. DS responded	Sydney Metro to share IAP and available pedestrian and cyclists forecast data	

No	Item	Action	Date
	that there are no concerns for the proposed changes to the monitoring blocks. • DS asked whether the Chatswood Dive Site operations at Mowbray Road are being completed and the construction traffic will be reduced in the coming months. GH advised that construction activities are wrapping up at this site and Department of Education will take possession to develop an adjacent site. • DS enquired whether the proposed C&SW metro opening date is confirmed. GH responded the proposed date around April 2024 is based on current assumptions and subject to change, however the actual date will be communicated to major stakeholders.	Sydney Metro to provide the updated slide deck to WCC	

Enclosures:

- Block 1 Presentation

Appendix B

SIDRA Intersection Modelling Assumptions

Appendix B SIDRA Intersection Modelling Assumptions

Technical Assumptions and Outputs Memo

1.0 Traffic and Interchange monitoring data outputs

The following outputs are proposed to be provided for the traffic and interchange monitoring:

- Weekly profile graph for individual intersections for 24hr period.
- Summary of daily total traffic volumes per intersection/interchange in a tabular format.
- Weekly profile graph for each station (total of all intersections) for 24hr period.
- Summary of daily total traffic volumes for each station (total of all intersections) in a tabular format.
- Graph of total traffic flows of intersection for typical peak periods during weekdays (06:00-10:00 am and 03:00-07:00 pm) and weekends (10:00am - 02:00pm).
- Turning movements for identified peak hours during weekdays AM and PM peaks and weekend peaks in a network flow diagram in excel spreadsheets.
- Pedestrian volumes for identified peak hours during weekdays AM and PM peaks and weekend peaks in a network diagram in excel spreadsheets.
- Vehicle counts for 7-day weekly profile, typical peak periods, identified peaks for interchanges to include:
    - Vehicle counts for each bay
    - Vehicle occupancy (passenger only, driver excluded)
    - Vehicle dwell time for each bay
    - Vehicle queue length (outside the bay)

2.0 SIDRA modelling related assumptions

Table 1 outlines technical assumptions that will be applied for SIDRA modelling analysis.

Table 1 SIDRA Modelling Assumptions

Sl No.	Parameter	Assumption
1.	SIDRA Software Version	SIDRA 9.1
2.	Lane Configuration - Grade	A default 0% grade will be applied to all lanes / TCS plans where applicable.
3.	Lane Width	A default 3.3m lane width will be applied to all lanes.
4.	Approach / Exit Cruise Speed	Based on posted speed limit. A default speed of 50km/h will be adopted where posted speed limit is not enforced.
5.	Roundabout Entry Radius & Entry Angle	A default entry radius of 20m and a default entry angle of 30 degrees will be adopted for all roundabouts.
6.	Critical Gap & Follow-up Headway	The default ‘Program’ input will be adopted for all movements.
7.	Gap Acceptance	The default ‘SIDRA Standard’ gap acceptance capacity model will be adopted for all vehicle types.

Sl No.	Parameter	Assumption
		Reference will also be made to relevant standards/requirements in Austroads (RMS Modelling Guidelines), where applicable.
8.	Vehicle Movement Start Loss & End Gain	Based on SCATS data provided and survey footages / site observations
9.	Pedestrian Walking Speed (Average)	1.2 m/s
10.	Pedestrian Crossing Distance	Based on intersection geometry/Program (TCS plan where available / Nearmap aerial imageries)
11.	Peak Flow Period	30 minutes
12.	Peak Flow Factor	95%
13.	Phasing Arrangements	Based on SCATS data provided
14.	Phase Time and Frequency	Based on SCATS data provided
15.	Yellow Time & All-Red Time	Based on SCATS data provided
16.	Site Cycle/phase Time	User-Given Phase Time (Based on Phase time & frequency)
17.	Maximum Number of Iterations for Network Analysis	A default 30 iterations will be adopted. Increases of the maximum number of iterations may be applied depending on the Diagnostics Status.
18.	Network Cycle Time	User-Given Cycle Time (Based on User-Given Phase Time for all signals within the network)
19.	Network Signal Coordination	Coordinated Sites / User offsets / CCGs will be defined based on SCATS data provided. Signal offsets included in the SIDRA models provided by Sydney Metro will be adopted where relevant SCATS data are not available.
20.	Queue in Outputs (Site & Network)	95th Percentile
21.	PCU factor	LV: 1.0, HV & Bus: 2.0, Bicycles: 0.3
22.	Site level of service method	Delay (RTA NSW)
23.	Extra Bunching (Site Analysis)	Based on RMS Traffic Modelling Guidelines
24.	Movement Classes	Based on each intersection geometry (LV, HV, Buses, Bicycles)
25.	All other parameters	Default SIDRA settings

The following additional assumptions will be adopted for SIDRA modelling based on the discussion with Sydney Metro on 04 Apr 2023.

Table 2 Additional SIDRA Modelling Assumptions

Sl No.	Items	Assumption
1.	Network peak hours	For each station, peak hours will be identified for individual intersections and proposed networks (highlighted in green cells in Figure 1). By reviewing these individual and network peak hours, a station-wide peak hour will be nominated/adopted for each peak period. Peak period dates will be identified for each station

Sl No.	Items	Assumption
		for AM, PM and weekend. For eg.SYD AM Peak - Tuesday; SYD PM Peak - Thursday; WLO AM Peak - Wednesday
2.	Cyclist movements	For SIDRA modelling, cyclist movements will only be included if there is a dedicated cycling phase.
3.	Intersection approach/lane closure	Due to construction activities, some approaches/lanes were observed temporarily (partially) closed on site. These temporary closures will be reflected in the models unless it only occurs for a short period of time (for e.g. 10 to 15mins). Notes will be made to approach/lane closure observed on-site, and approach/lane excluded in SIDRA modelling.
4.	CST06 intersection geometry	Hume St North (one-way exit) will not be included in Block 1 modelling. Notes will be made to the left turn movements observed from Clarke St northwest to Hume St north.
5.	BGU05 intersection geometry	Clarence St northbound on-ramp lane to SHB will not be included in the modelling.
6.	CEN03/CEN05 intersection geometry	Elizabeth St/Randle St intersection has been included as CEN05, and will be modelled as network model with CEN03.

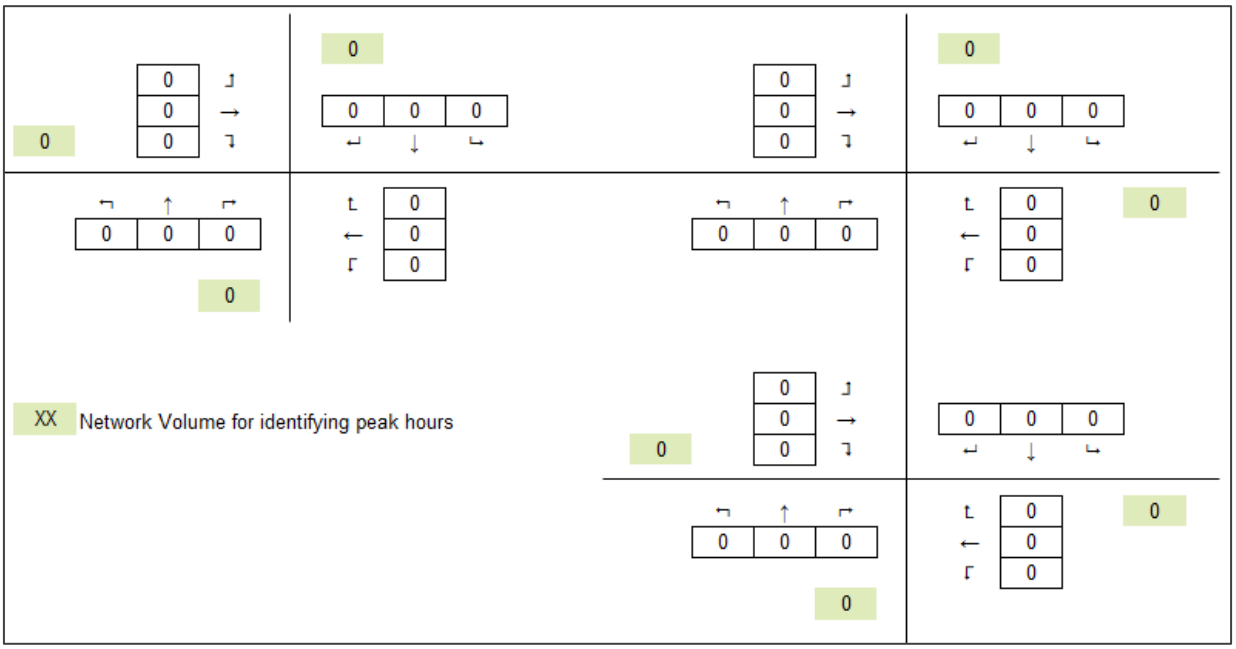


Figure 1 Adopted Network Volume for Network Peak Hour Identification

The following SIDRA outputs would be provided for each intersection.

- Degree of saturation (DoS)
- Average delay (sec)
- 95th percentile queue (m)
- Level of service (LoS)

A sample format of the output table is shown in Table 3.

Table 3 Example SIDRA output format

Intersection	Peak	Leg	Degree of saturation (DoS)	Average delay (sec)	95th percentile queue (m)	Level of service (LoS)
Road1 / Road2 (Signal / Roundabout / Priority)	AM	South				
		East				
		North				
		West				
		Total				
	PM	South				
		East				
		North				
		West				
		Total				
	Weekend	South				
		East				
		North				
		West				
		Total				

Sydney Metro City & Southwest - Traffic and Interchange Operation Monitoring

SIDRA Network Model Coverage

S.ID	Intersection ID	Station Name	Intersection Name	Intersection Control	Intersection Geometry Layout	Intersection Geometry Code	SIDRA Network Model (AECOM Revised) Pre-opening	Coordination
01	CWD01	Chatswood Station	Mowbray Rd / Hampden Rd	Signal	3-leg Intersection	2_4_6	-	-
02	CWD02	Chatswood Station	Pedestrian Bridge Crossing along Mowbray	Pedestrian only - Bridge Crossing	Bridge Crossing	2_6	-	-
03	CST01	Crows Nest Station	Pacific Hwy / Albany St	Signal	3-leg Intersection	3_4_8	CST-N1	Offset_CST-N1
04	CST02	Crows Nest Station	Pacific Hwy / Oxley St	Signal	4-leg Intersection	2_4_6_8	CST-N1	Offset_CST-N1
05	CST03	Crows Nest Station	Pacific Hwy / Hume St	Signal	4-leg Intersection	2_4_6_8	CST-N1	Offset_CST-N1
06	CST04	Crows Nest Station	Pacific Hwy / Falcon St / Shirley Rd	Signal	5-leg Intersection	1_3_4_6_8	CST-N1	Offset_CST-N1
07	CST05	Crows Nest Station	Clarke St / Oxley St	Priority - Give Way	3-leg Intersection	1_4_6	CST-N1	-
08	CST06	Crows Nest Station	Clarke St / Hume St	Priority - Give Way	3-leg Intersection	4_6_8	CST-N1	-
09	CST07	Crows Nest Station	Clarke St / Willoughby Rd	Priority - Give Way	3-leg Intersection	1_5_7	-	-
10	CST08	Crows Nest Station	Albany St / Willoughby Rd	Signal	4-leg Intersection	1_3_5_7	-	-
11	CST09	Crows Nest Station	Albany St / Oxley St	Roundabout	4-leg Intersection	1_3_5_7	CST-N1	-
12	CST10	Crows Nest Station	Albany St / Clarke Ln	Priority - Give Way	3-leg Intersection	3_4_7	CST-N1	-
13	CST11	Crows Nest Station	Oxley St / Clarke Ln	Priority - Give Way	4-leg Intersection	2_4_6_8	CST-N1	-
14	CST12	Crows Nest Station	Hume St / Clarke Ln	Priority - Stop	3-leg Intersection	2_4_6	CST-N1	-
15	CST13	Crows Nest Station	Pacific Hwy / Alexander St	Signal	4-leg Intersection	1_3_4_8	CST-N1	Offset_CST-N1
16	CST14	Crows Nest Station	Falcon St / Alexander St	Signal	4-leg Intersection	1_3_5_7	CST-N1	Offset_CST-N1
17	VIC01	Victoria Cross Station	Pacific Hwy / Berry St	Signal	4-leg Intersection	3_4_6_8	VIC-N1	Offset_VIC-N1
18	VIC02	Victoria Cross Station	Miller St / Berry St	Signal	4-leg Intersection	1_3_5_7	VIC-N1	Offset_VIC-N1
19	VIC03	Victoria Cross Station	Miller St / McLaren St	Signal	4-leg Intersection	1_3_5_7	VIC-N1	-
20	VIC04	Victoria Cross Station	Pacific Hwy / Miller St	Signal	5-leg Intersection	1_4_5_7_8	VIC-N1	Offset_VIC-N1
21	BGU01	Barangaroo Station	Hickson Rd / Towns Pl	Priority - Give Way	3-leg Intersection	3_6_8	BGU-N1	-
22	BGU02	Barangaroo Station	Dalgety Rd / Towns Pl	Roundabout	3-leg Intersection	4_5_7	BGU-N1	-
23	BGU03	Barangaroo Station	Kent St / Argyle St	Priority - Give Way	4-leg Intersection	1_3_5_7	-	-
24	BGU04	Barangaroo Station	Pedestrian Mid-block Crossing at Kent St near Gas Ln	Pedestrian only - Signal	Pedestrian Mid-block Crossing	1_5	BGU-N2	Offset_BGU-N2
25	BGU05	Barangaroo Station	Kent St / Sydney Harbour Bridge (SHB) On-ramp	Signal	4-leg Intersection	1_2_3_5	BGU-N2	Offset_BGU-N2
26	BGU06	Barangaroo Station	Hickson Rd / Napoleon St / Sussex St	Signal	4-leg Intersection	1_3_5_7	BGU-N3	-
27	BGU07	Barangaroo Station	Margaret St / Kent St / Napoleon St	Signal	4-leg Intersection	1_3_5_8	BGU-N2	Offset_BGU-N2
28	BGU08	Barangaroo Station	Margaret St / Clarence St	Signal	4-leg Intersection	1_3_5_7	BGU-N2	Offset_BGU-N2
29	BGU09	Barangaroo Station	Margaret St / York St	Signal	4-leg Intersection	1_3_5_7	BGU-N2	-
30	BGU10	Barangaroo Station	Pedestrian Mid-block Crossing at Sussex St under Exchange Pl	Pedestrian only - Signal	Pedestrian Mid-block Crossing	1_5	BGU-N3	-
31	BGU11	Barangaroo Station	Pedestrian Mid-block Crossing at Kent St near Margaret St	Pedestrian only - Signal	Pedestrian Mid-block Crossing	1_5	BGU-N3	-
32	BGU12	Barangaroo Station	Sussex St / Erskine St	Signal	4-leg Intersection	1_3_5_7	BGU-N3	Offset_BGU-N3
33	BGU13	Barangaroo Station	Kent St / Erskine St	Signal	4-leg Intersection	1_3_5_7	BGU-N3	Offset_BGU-N3
34	BGU14	Barangaroo Station	Sussex St / King St	Signal	4-leg Intersection	1_3_5_6	BGU-N4	Offset_BGU-N4
35	BGU15	Barangaroo Station	Kent St / King St	Signal	4-leg Intersection	1_3_5_7	BGU-N4	Offset_BGU-N4
36	BGU16	Barangaroo Station	New Pedestrian Mid-block Crossing at New Hickson Rd (north of Metro Station)	Pedestrian only - Signal	Pedestrian Mid-block Crossing	1_5	-	-
37	BGU17	Barangaroo Station	New Pedestrian Mid-block Crossing at New Hickson Rd (south of Metro Station)	Pedestrian only - Signal	Pedestrian Mid-block Crossing	1_5	-	-
38	BGU18	Barangaroo Station	Shelley St / Erskine St	Signal	4-leg Intersection	1_3_5_7	BGU-N3	-
39	MPL01	Martin Place Station	Hunter St / Castlereagh St / Bligh St	Signal	4-leg Intersection	1_3_5_8	MPL-N1	Offset_MPL-N1
40	MPL02	Martin Place Station	Hunter St / Elizabeth St / Chifley Square	Signal	4-leg Intersection	2_3_5_7	MPL-N1	Offset_MPL-N1
41	MPL03	Martin Place Station	Bent St / Bligh St	Signal	3-leg Intersection	4_6_8	MPL-N1	Offset_MPL-N1
42	MPL04	Martin Place Station	Bent St / Phillip St	Signal	4-leg Intersection	1_4_6_8	MPL-N1	Offset_MPL-N1
43	MPL05	Martin Place Station	Pedestrian Mid-block Crossing at Castlereagh St	Pedestrian only - Signal	Pedestrian Mid-block Crossing	1_5	-	-
44	MPL06	Martin Place Station	Pedestrian Mid-block Crossing at Elizabeth St	Pedestrian only - Signal	Pedestrian Mid-block Crossing	1_5	-	-
45	PIT01	Pitt Street Station	Pitt St / Bathurst St	Signal	4-leg Intersection	1_3_5_7	PIT-N1	-
46	PIT02	Pitt Street Station	Castlereagh St / Bathurst St	Signal	4-leg Intersection	1_3_5_7	PIT-N1	-
47	PIT03	Pitt Street Station	Park St / Castlereagh St	Signal	4-leg Intersection	1_3_5_7	PIT-N1	-
48	PIT04	Pitt Street Station	Park St / Pitt St	Signal	4-leg Intersection	1_3_5_7	PIT-N1	-
49	CEN01	Central Station	Elizabeth St / Eddy Ave	Signal	3-leg Intersection	1_5_8	CEN-N1	Offset_CEN-N1
50	CEN02	Central Station	Elizabeth St / Foveaux St	Signal	3-leg Intersection	1_4_5	CEN-N1	Offset_CEN-N1
51	CEN03	Central Station	Elizabeth St / Cooper St	Priority - Give Way	3-leg Intersection	1_4_5	CEN-N2	-
52	CEN04	Central Station	New Pedestrian Mid-block Crossing at Randle Ln	Pedestrian only - Signal	Pedestrian Mid-block Crossing	2_6	-	-
53	CEN05	Central Station	Elizabeth St / Randle St	Signal	3-leg Intersection	1_5_6	CEN-N2	-
54	WLO01	Waterloo Station	Botany Rd / Raglan St / Henderson Rd	Signal	4-leg Intersection	1_3_5_7	WLO-N1	Offset_WLO-N1
55	WLO02	Waterloo Station	Raglan St / Cope St	Roundabout	4-leg Intersection	1_3_5_7	WLO-N1	-
56	WLO03	Waterloo Station	Botany Rd / Wellington St / Buckland St	Signal	4-leg Intersection	1_3_5_7	WLO-N1	Offset_WLO-N1
57	WLO04	Waterloo Station	Cope St / Wellington St	Roundabout	4-leg Intersection	1_3_5_7	WLO-N1	-
58	WLO05	Waterloo Station	Wyndham St / Henderson Rd	Signal	4-leg Intersection	1_3_5_7	WLO-N1	Offset_WLO-N1
59	WLO06	Waterloo Station	New Pedestrian Mid-block Crossing at Cope St	Pedestrian only - Signal	Pedestrian Mid-block Crossing	1_5	-	-
60	SYD01	Sydenham Station	Railway Pde / Gleeson Ave	Signal	3-leg Intersection	2_4_6	SYD-N1	-
61	SYD02	Sydenham Station	Burrows Ave / Gleeson Ave	Signal	4-leg Intersection	2_4_6_8	SYD-N1	-
62	SYD03	Sydenham Station	Burrows Ave / George St	Priority - Give Way	3-leg Intersection	2_4_6	-	-
63	SYD04	Sydenham Station	Pedestrian Mid-block Crossing at Sydenham Rd	Pedestrian only - Signal	Pedestrian Mid-block Crossing	5_8	-	-
64	SYD05	Sydenham Station	Marrickville Rd / Buckley St	Priority - Give Way	3-leg Intersection	2_4_8	-	-
65	SYD06	Sydenham Station	Sydenham Rd / Buckley St	Priority - Give Way	3-leg Intersection	4_6_8	-	-

Sydney Metro City & Southwest - Traffic and Interchange Operation Monitoring

Intersection Geometry

Source: Nearmap accessed XX XX XXXX

Include NearMaps layout (already prepared for each site) and include a markup showing the approach distances, short lane lengths, parking zone, no stopping zone etc.

Include SIDRA model layout

AECOM

Sydney Metro City & Southwest - Traffic and Interchange Operation Monitoring

SIDRA Model Review Checklist

Site Name:	
Site ID:	
Type:	
Scenario:	

Links to:	
SIDRA File	
Traffic Volume Input	
SCATS Data	TCS Plan

Status	
Open	Attention Required for modeller / reviewer
In Progress	Working in progress
Closed	Closed
N/A	Not Applicable/Not Required

Modeller:	
Reviewer:	
Verifier:	

Item	Model Element	Notes (For modeller)	AM Peak						PM Peak						Weekend Peak			
			Modeller		Reviewer		Verifier		Modeller		Reviewer		Verifier		Modeller		Reviewer	
1	General		Status	Notes	Status	Notes	Status	Notes	Status	Notes	Status	Notes	Status	Notes	Status	Notes	Status	Notes
1.1	SIDRA Setup	New South Wales	Open		Open		Open		Open		Open		Open		Open		Open	
1.2	Intersection Type	For priority intersections, check for 'give way' or 'stop'	Open		Open		Open		Open		Open		Open		Open		Open	
2	Intersection																	
2.1	Site Name	To be consistent with the Intersection Master List	Open		Open		Open		Open		Open		Open		Open		Open	
2.2	Site Title	Include TCS numbers in the model. if applicable	Open		Open		Open		Open		Open		Open		Open		Open	
2.3	Approach Names	Include as per Nearmap, compare with Intersection Master List	Open		Open		Open		Open		Open		Open		Open		Open	
2.4	Leg Geometry	Two-way, one-way etc.	Open		Open		Open		Open		Open		Open		Open		Open	
2.5	Approach/Exit Distance	Check and update as per NearMaps (distance till the next intersection if more than 500m)	Open		Open		Open		Open		Open		Open		Open		Open	
2.6	Extra Bunching	For isolated intersections, include as per Traffic modelling guidelines. For sites in the network, ensure Program option is selected for 'network internal' approaches (user input should still be included for 'network external' approaches, where applicable).	Open		Open		Open		Open		Open		Open		Open		Open	
3	Movement Definitions																	
3.1	Vehicle Types	Confirm inclusion of Buses, Bicycles, if relevant (for easier volume input, select Bus and bicycles for all intersections)	Open		Open		Open		Open		Open		Open		Open		Open	
3.2	OD Movements	Switch off banned movements as per site observations, compare with Intersection Master list for banned movements.	Open		Open		Open		Open		Open		Open		Open		Open	
4	Lane Geometry																	
4.1	Lane Configuration / Length	Check the full length of lane and 'short lane' based on Nearmap - refer Intersection Geometry tab (round to 5m)	Open		Open		Open		Open		Open		Open		Open		Open	
4.2	Lane Type	High angle or Low angle for slip lanes	Open		Open		Open		Open		Open		Open		Open		Open	
4.3	Lane Control		Open		Open		Open		Open		Open		Open		Open		Open	
4.4	Overflow Lane Number		Open		Open		Open		Open		Open		Open		Open		Open	
4.5	Grade	A default 0% grade will be applied to all lanes. / TCS plans where applicable.	Open		Open		Open		Open		Open		Open		Open		Open	
4.6	Lane Disciplines	Update if specific movement classes have banned movements (for eg. Right turn only for buses)	Open		Open		Open		Open		Open		Open		Open		Open	
4.7	Lane Capacity Adjustment	Justifications based on site observations required if these factors are adjusted	Open		Open		Open		Open		Open		Open		Open		Open	
5	Lane Movements																	
5.1	Lane Movement Proportion	As per site observations or survey videos. From approach lane to exit lane (e.g. bus lane on approach side should direct to bus lane on exit side)	Open		Open		Open		Open		Open		Open		Open		Open	
6	Roundabout (if applicable)																	
6.1	Number of Lanes		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
6.2	Circulating Width		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
6.3	Island Diameter		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
6.4	Ped Crossing at Roundabout	Include ped crossing for all roundabouts (with / without zebra crossing); if there's no zebra crossing, make a note in the checklist - 'No zebra crossing, priority settings (ped or veh) to be further revied with survey footages to calibrate the model.'	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
7	Pedestrians																	
7.1	Crossing Location / Type	Full crossing / staged crossing / slip lane crossing (signalised or zebra)	Open		Open		Open		Open		Open		Open		Open		Open	
7.2	Pedestrian Volume	Update as per surveys	Open		Open		Open		Open		Open		Open		Open		Open	
7.3	Peak Flow Factor	95%	Open		Open		Open		Open		Open		Open		Open		Open	
7.4	Crossing Distance	Based on intersection geometry (round to 0.5m)	Open		Open		Open		Open		Open		Open		Open		Open	
7.5	Walking Speed (Average)	1.2 m/s (as recommended in RMS Modelling Guide)	Open		Open		Open		Open		Open		Open		Open		Open	
7.6	Pedestrian Timing Data	Adopt the SCATS walk time as minimum walk time, minimum clearance as default 5 sec, Clearance 1 & 2 as per SCATS data	Open		Open		Open		Open		Open		Open		Open		Open	
7.7	Walk Time Extension	Remain as 'unticked' (can adjust based on survey videos, where applicable)	Open		Open		Open		Open		Open		Open		Open		Open	
8	Volumes																	
8.1	Vehicle Volumes	Check individual intersections; For network model, check midblock flows (ensure inpit volumes are set to 'Separate')	Open		Open		Open		Open		Open		Open		Open		Open	
8.2	Peak Flow Period	30 minutes	Open		Open		Open		Open		Open		Open		Open		Open	
8.3	Peak Flow Factor	95%	Open		Open		Open		Open		Open		Open		Open		Open	
9	Priorities																	
9.1	Priorities	Ensure priority settings updated for turn movements at signals with opposed ped movements	Open		Open		Open		Open		Open		Open		Open		Open	
10	Gap Acceptance																	
10.1	Opposing Peds (Extra Loss)	Justifications required if these factors are adjusted	Open		Open		Open		Open		Open		Open		Open		Open	
11	Vehicle Movement Data																	
11.1	Approach / Exit Cruise Speed	Based on posted speed limits or agreed assumptions (if no posted speed limits)	Open		Open		Open		Open		Open		Open		Open		Open	
11.2	Start Loss / End Gain	Justifications required if these factors are adjusted	Open		Open		Open		Open		Open		Open		Open		Open	
11.3	Early Cut-Off / Late Start	Justifications required if these factors are adjusted	Open		Open		Open		Open		Open		Open		Open		Open	
12	Phasing & Timing (if applicable)																	
12.1	Phasing Arrangements	As per SCATS. TCS Plan	Open		Open		Open		Open		Open		Open		Open		Open	
12.2	Red Arrow Drop Off		Open		Open		Open		Open		Open		Open		Open		Open	
12.3	Phase Time / Frequency	User-give phase times. Frequency as per SCATS/Site observations	Open		Open		Open		Open		Open		Open		Open		Open	
12.4	Yellow Time	As per SCATS (if SCATS data indicates .5, round up and leave a note in the checklist)	Open		Open		Open		Open		Open		Open		Open		Open	
12.5	All-Red Time	As per SCATS (if SCATS data indicates .5, round up and leave a note in the checklist)	Open		Open		Open		Open		Open		Open		Open		Open	
13	Parameter Settings																	
13.1	Site LoS Method	Delay (RTA NSW); Site Level of Service Target LoS C	Open		Open		Open		Open		Open		Open		Open		Open	
13.2	Queue in Output	95th Percentile	Open		Open		Open		Open		Open		Open		Open		Open	
13.3	PCU factor	LV: 1.0, HV & Bus: 2.0, Bicycles: 0.3	Open		Open		Open		Open		Open		Open		Open		Open	

AECOM

Sydney Metro City & Southwest - Traffic and Interchange Operation Monitoring

SIDRA Network Model Coverage

Site Name:	CHW Network 1
Site ID:	Network
Type:	N/A
Scenario:	TBC

Links to:
SIDRA File
Traffic Volume Input
SCATS Data

Status	
Open	Attention Required for modeller / reviewer
In Progress	Working in progress
Closed	Closed
N/A	Not Applicable/Not Required

Modeller:	
Reviewer:	
Verifier:	

Item	Model Element	Notes	AM Peak						PM Peak						Sat Peak					
			Modeller		Reviewer		Verifier		Modeller		Reviewer		Verifier		Modeller		Reviewer		Verifier	
1	Network Data		Status	Notes	Status	Notes	Status	Notes	Status	Notes	Status	Notes	Status	Notes	Status	Notes	Status	Notes	Status	Notes
1.1	Queue in Output	95th Percentile	Open		Open		Open		Open		Open		Open		Open		Open		Open	
1.2	Maximum Number of Iterations	30; unless notes are given in Diagnostics	Open		Open		Open		Open		Open		Open		Open		Open		Open	
2	CCGs																			
2.1	CCG Set Up	If applicable	Open		Open		Open		Open		Open		Open		Open		Open		Open	
3	Network Timing																			
3.1	Coordinated Site Selection	If applicable	Open		Open		Open		Open		Open		Open		Open		Open		Open	
3.2	User Offset	If applicable	Open		Open		Open		Open		Open		Open		Open		Open		Open	
3.3	Route Defination	If applicable	Open		Open		Open		Open		Open		Open		Open		Open		Open	
3.4	Network Cycle Time	If applicable	Open		Open		Open		Open		Open		Open		Open		Open		Open	

Appendix C

Network Flow Diagrams

Appendix C Network Flow Diagrams

Block 1

Dropdowns:

Vehicle Type:

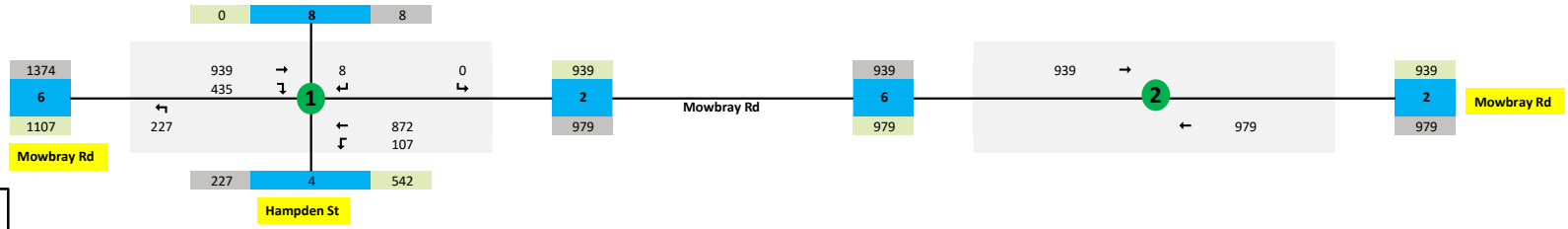
ALL VEHICLES

Time Period:

AM

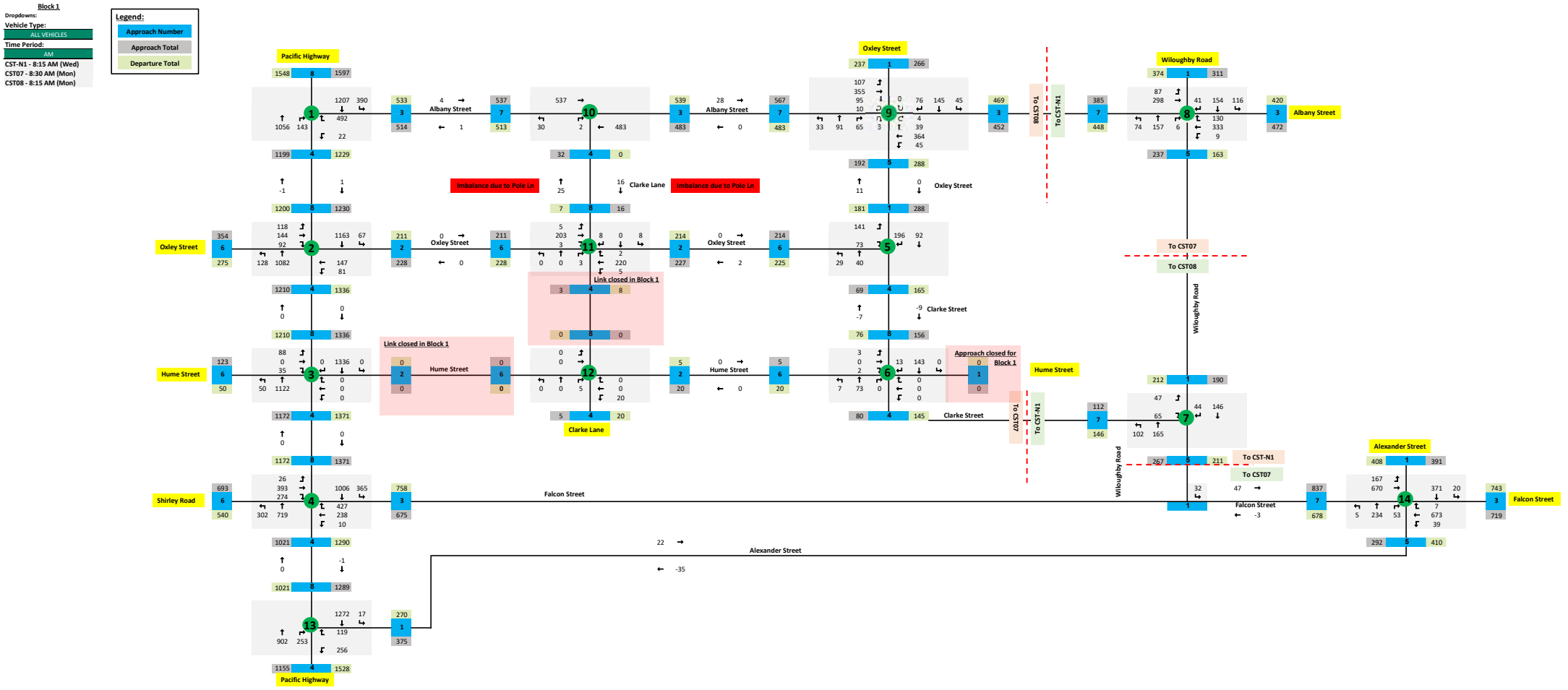
CWD01 - 8:15 AM (Wed)

CWD02 - 8:15 AM (Wed)



Legend:

- Approach Number
- Approach Total
- Departure Total


Block 1
Dropdowns:
Vehicle Type:
ALL VEHICLES
Time Period:
AM
CST-N1 - 8:15 AM (Wed)
CST07 - 8:30 AM (Mon)
CST08 - 8:15 AM (Mon)
Legend:
Approach Number
Approach Total
Departure Total
Pacific Highway
Oxley Street
Wiloughby Road
Albany Street
Hume Street
Clarke Lane
Clarke Street
Shirley Road
Falcon Street
Alexander Street
Imbalance due to Pole Ln
Link closed in Block 1
Approach closed for Block 1
To CST-N1
To CST07
To CST08

Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

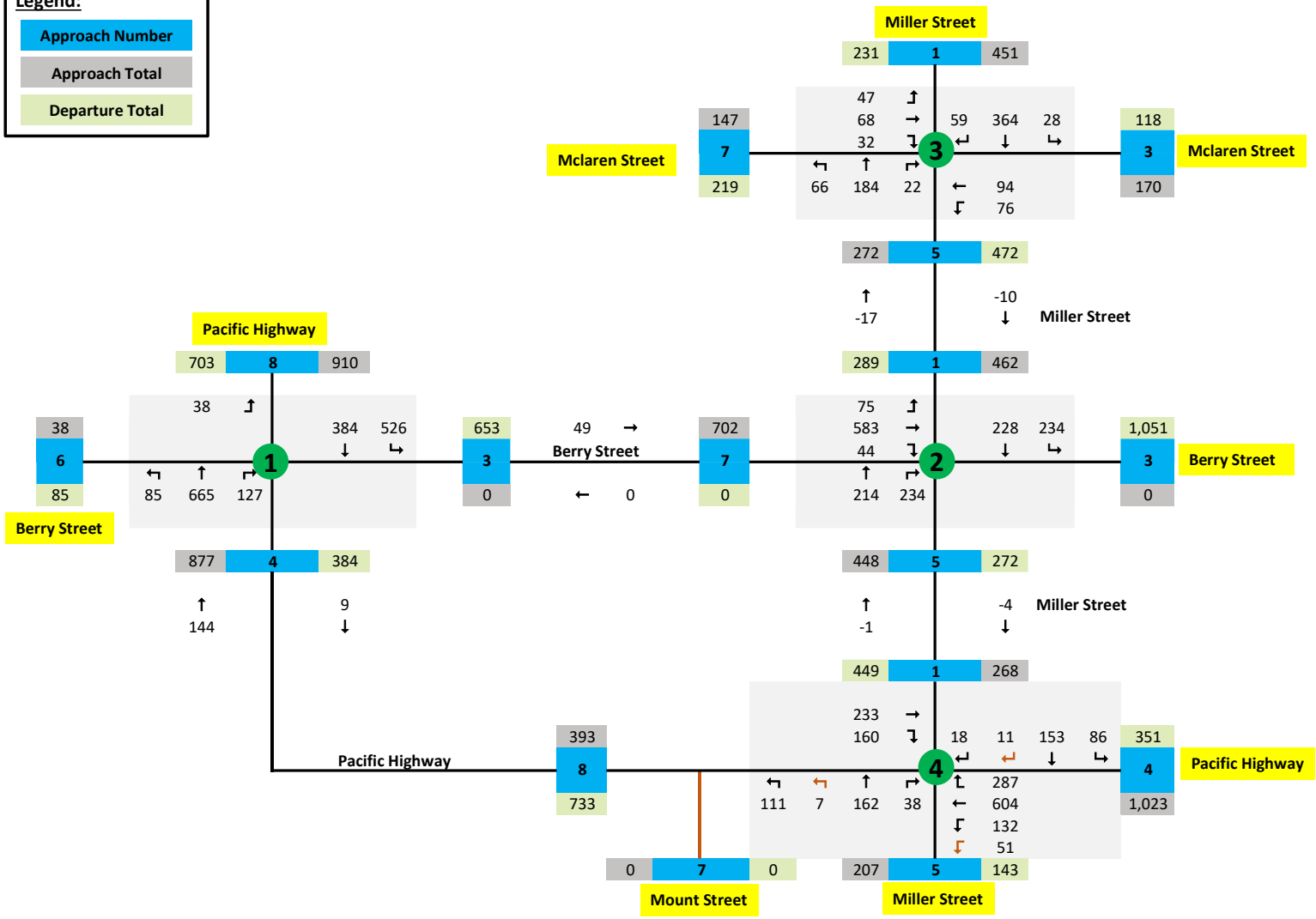
Time Period:

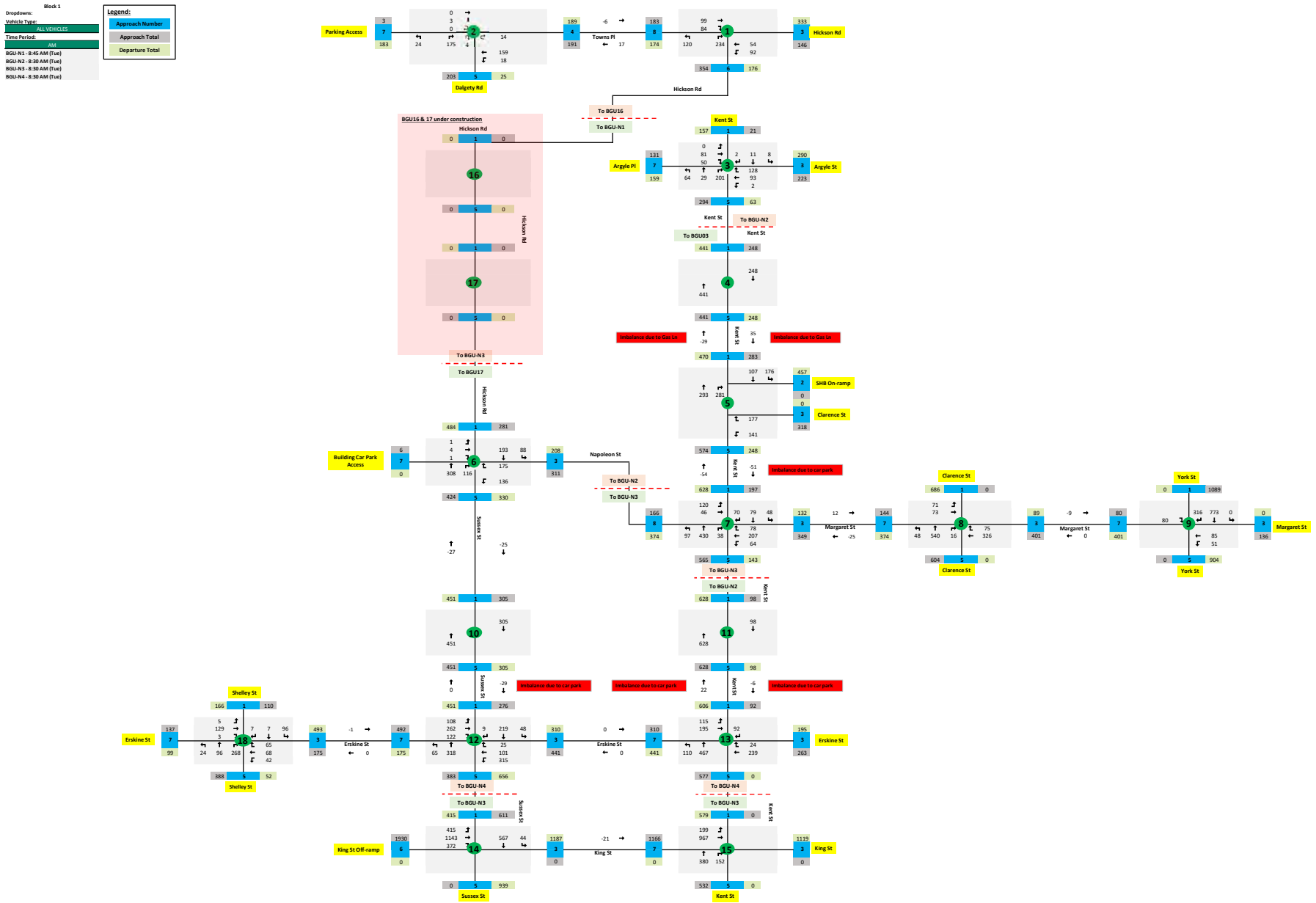
AM

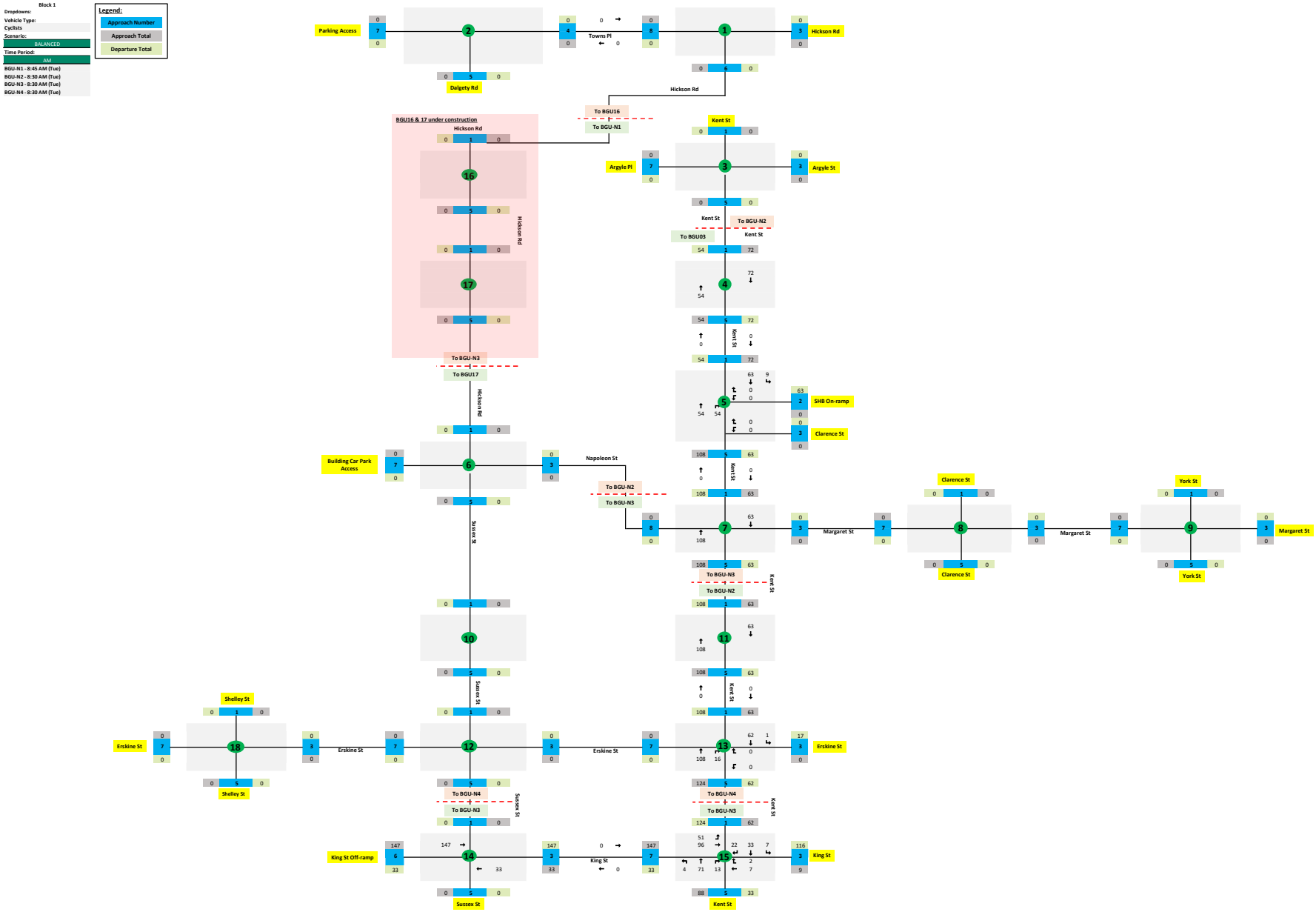
VIC-N1 - 8:45 AM (Mon)

Legend:

- Approach Number
- Approach Total
- Departure Total




Block 1
Dropdowns:
Vehicle Type:
ALL VEHICLES
Time Period:
AM
BGU-N1 - 8:45 AM (Tue)
BGU-N2 - 8:30 AM (Tue)
BGU-N3 - 8:30 AM (Tue)
BGU-N4 - 8:30 AM (Tue)
Legend:
Approach Number
Approach Total
Departure Total
Parking Access
Dalgety Rd
Towns Pl
Hickson Rd
To BGU16
To BGU-N1
BGU16 & 17 under construction
Hickson Rd
To BGU-N3
To BGU17
Argyle Pl
Argyle St
Kent St
To BGU-N2
To BGU03
Imbalance due to Gas Ln
SHB On-ramp
Clarence St
Building Car Park Access
Napoleon St
Imbalance due to car park
Margaret St
York St
Sussex St
Shelley St
Erskine St
King St Off-ramp
King St


Block 1
Dropdowns:
Vehicle Type:
Cyclists
Scenario:
BALANCED
Time Period:
AM
BGU-N1 - 8:45 AM (Tue)
BGU-N2 - 8:30 AM (Tue)
BGU-N3 - 8:30 AM (Tue)
BGU-N4 - 8:30 AM (Tue)
Legend:
Approach Number
Approach Total
Departure Total
Parking Access
Dalgety Rd
Towns Pl
Hickson Rd
To BGU16
To BGU-N1
BGU16 & 17 under construction
To BGU-N3
To BGU17
Argyle Pl
Argyle St
Kent St
To BGU-N2
To BGU03
SHB On-ramp
Clarence St
Building Car Park Access
Napoleon St
To BGU-N2
To BGU-N3
Margaret St
York St
Sussex St
Shelley St
Erskine St
To BGU-N4
To BGU-N3
King St Off-ramp
King St

Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

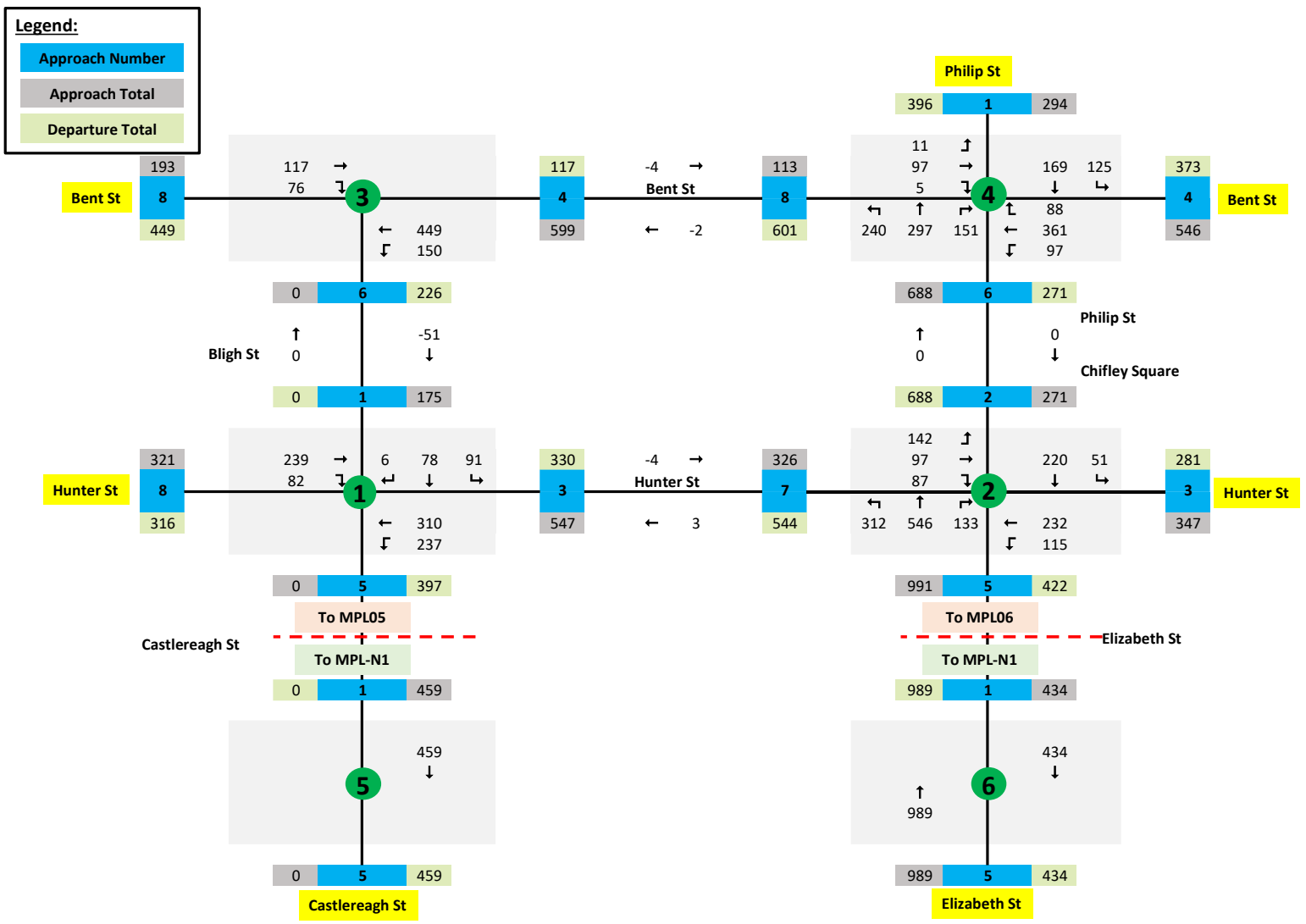
Time Period:

AM

MPL-N1 - 9:00 AM (Wed)

MPL05 - 9:00 AM (Tue)

MPL06 - 8:45 AM (Wed)



Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

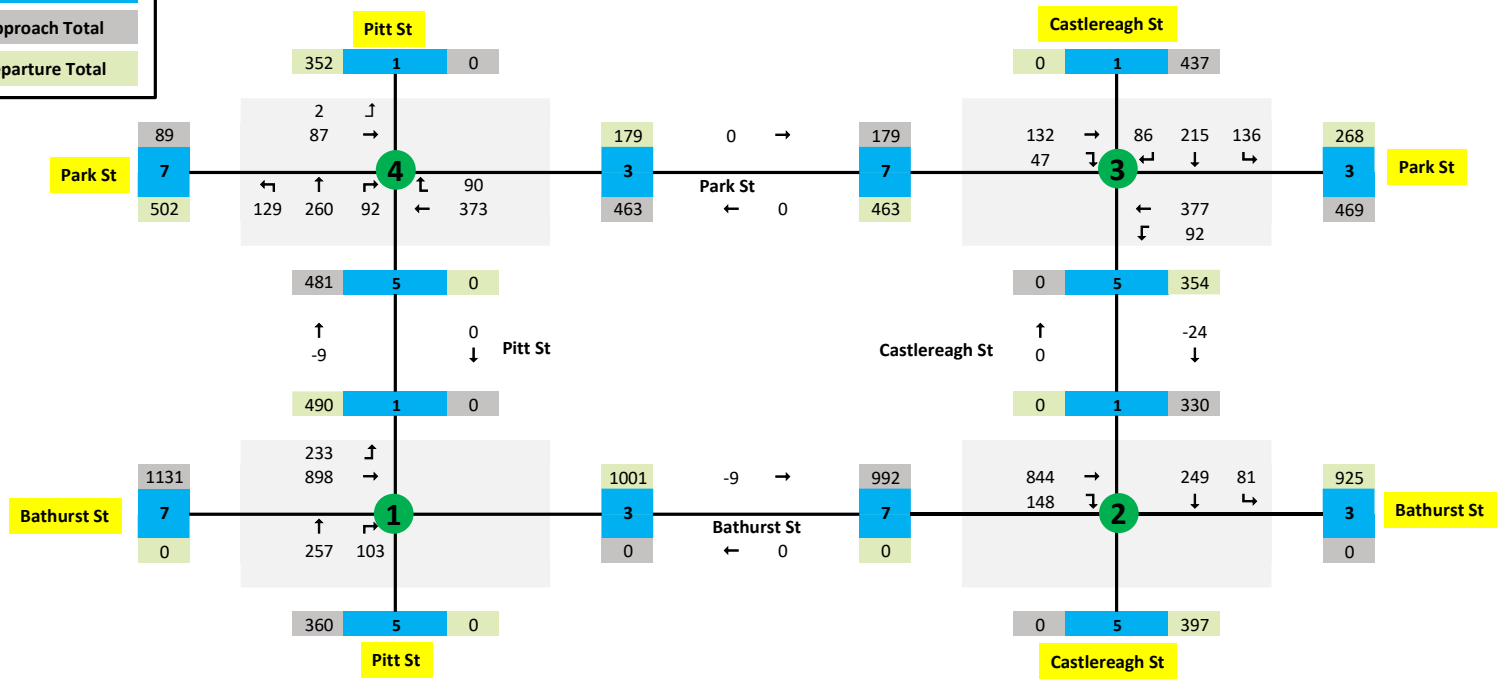
Time Period:

AM

PIT-N1 - 9:15 AM (Tue)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

Time Period:

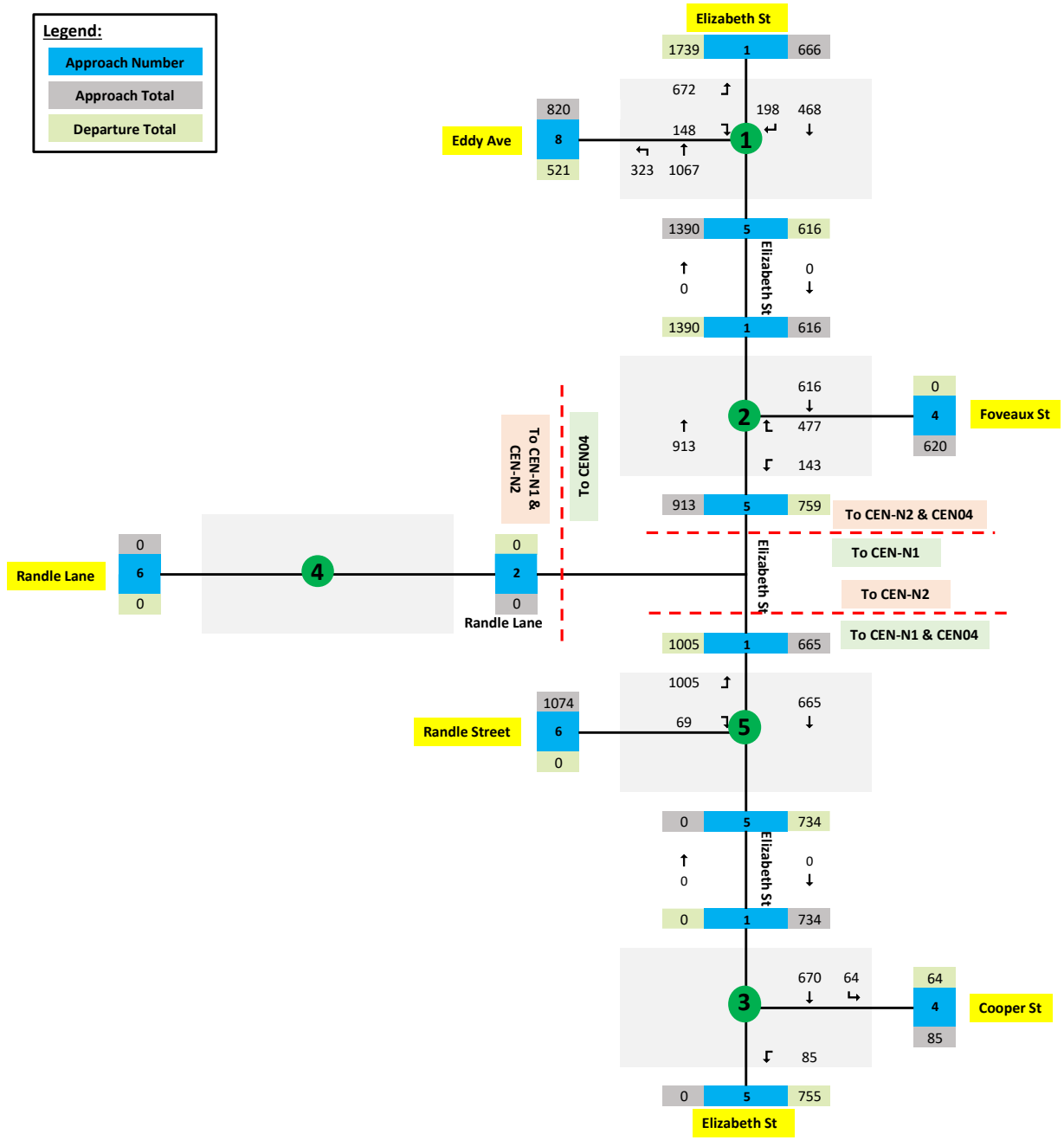
AM

CEN-N1 - 8:15 AM (Wed)

CEN-N2 - 8:15 AM (Thu)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

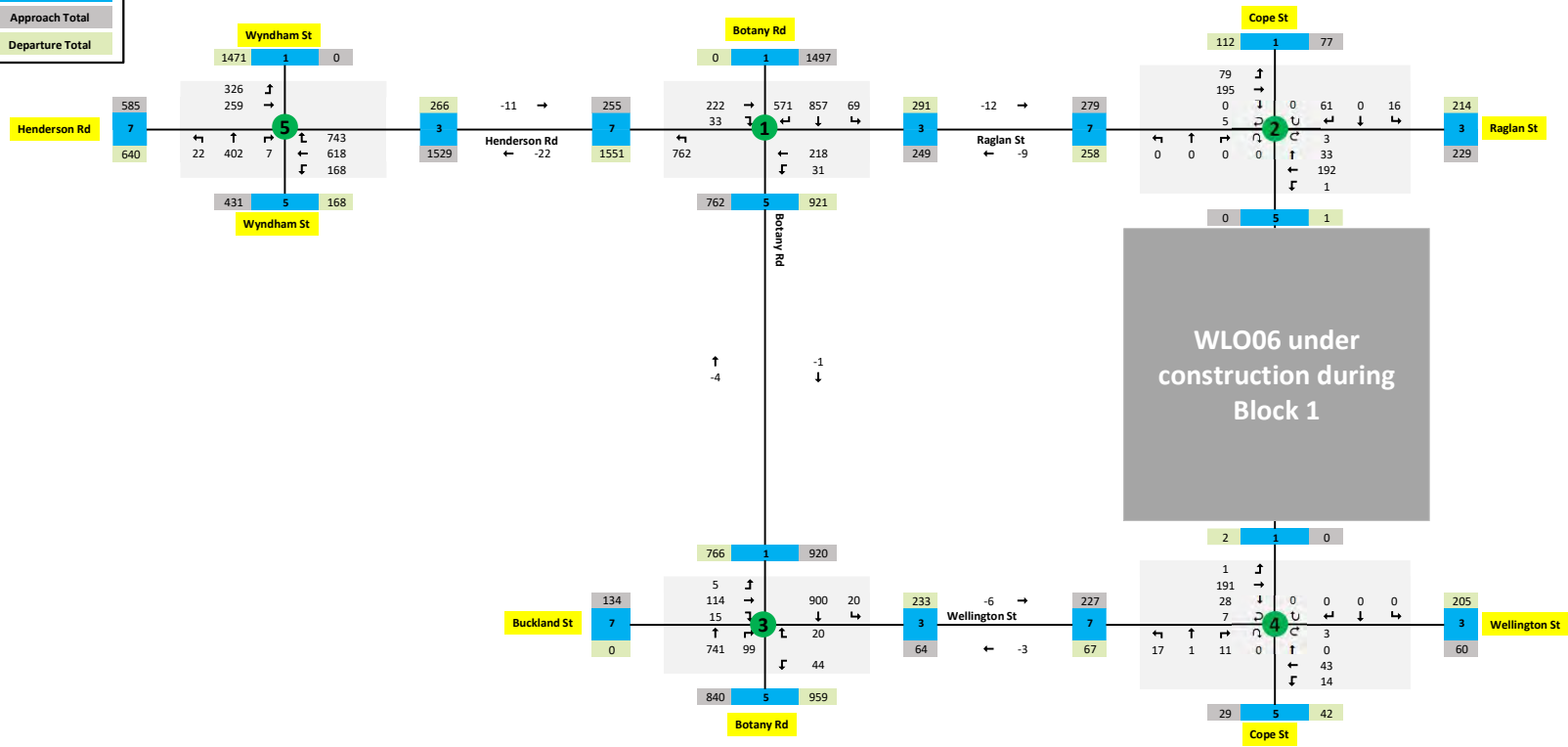
Time Period:

AM

WLO-N1 - 8:15 AM (Wed)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

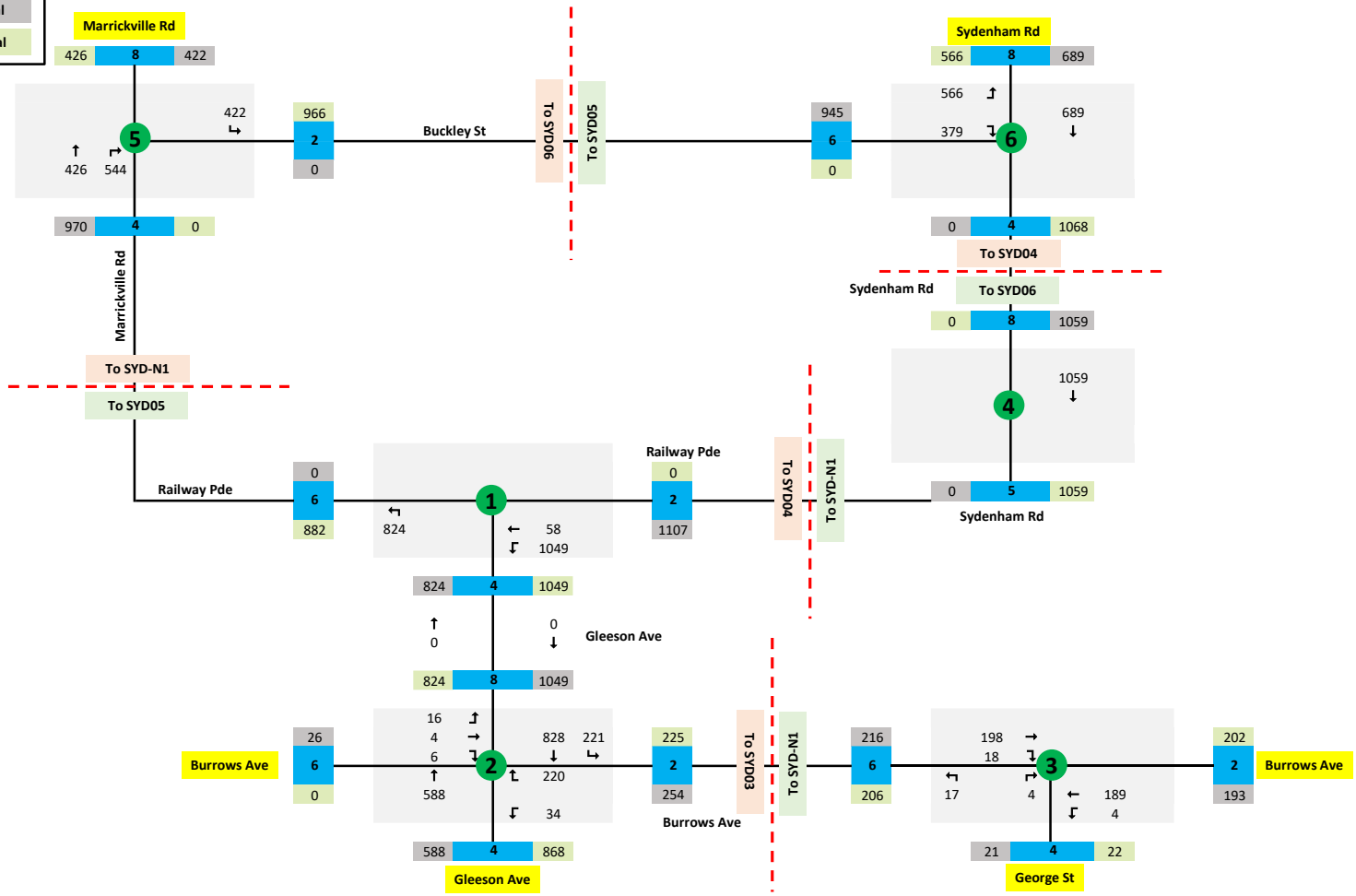
Time Period:

AM

SYD-N1 - 7:45 AM (Wed)
SYD03 - 7:30 AM (Tue)
SYD04 - 8:15 AM (Tue)
SYD05 - 8:15 AM (Tue)
SYD06 - 8:15 AM (Tue)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 1

Dropdowns:

Vehicle Type:

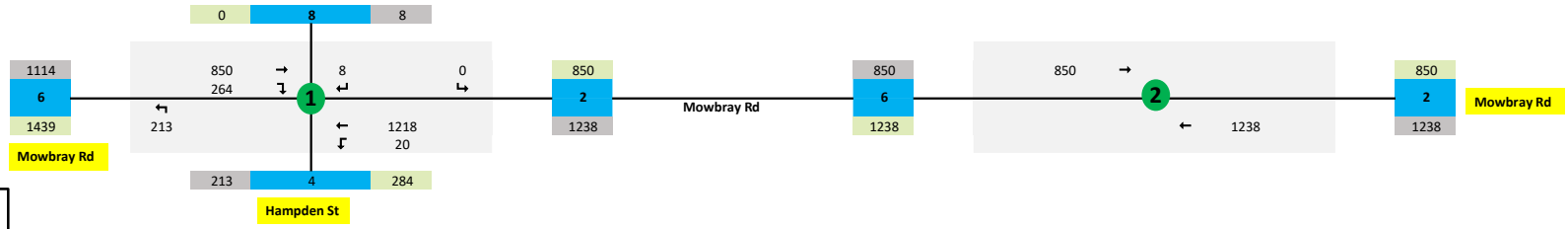
ALL VEHICLES

Time Period:

PM

CWD01 - 3:15 PM (Fri)

CWD02 - 3:15 PM (Fri)



Legend:

- Approach Number
- Approach Total
- Departure Total

Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

Time Period:

PM

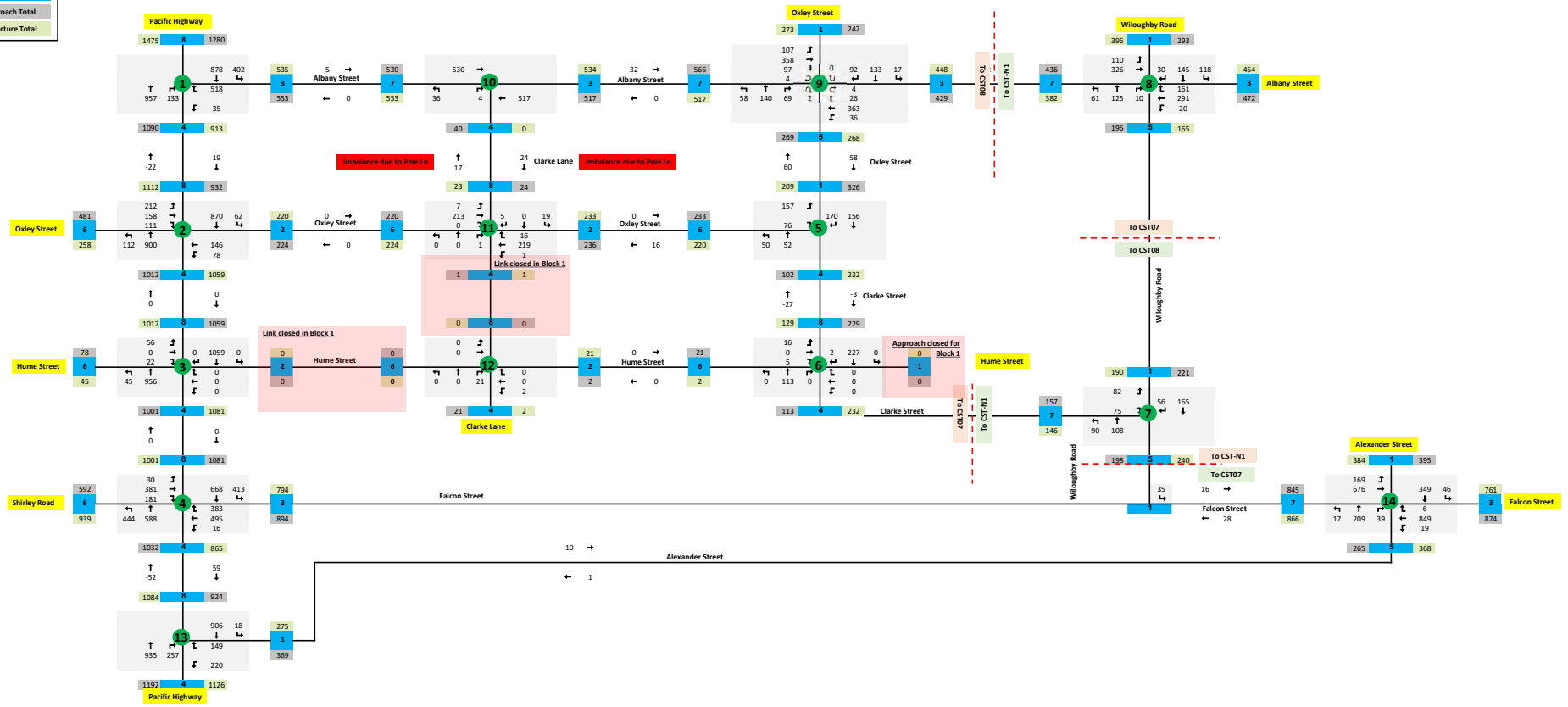
CST-N1 - 4:45 PM (Tue)

CST07 - 5:45 PM (Fri)

CST08 - 5:00 PM (Thu)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

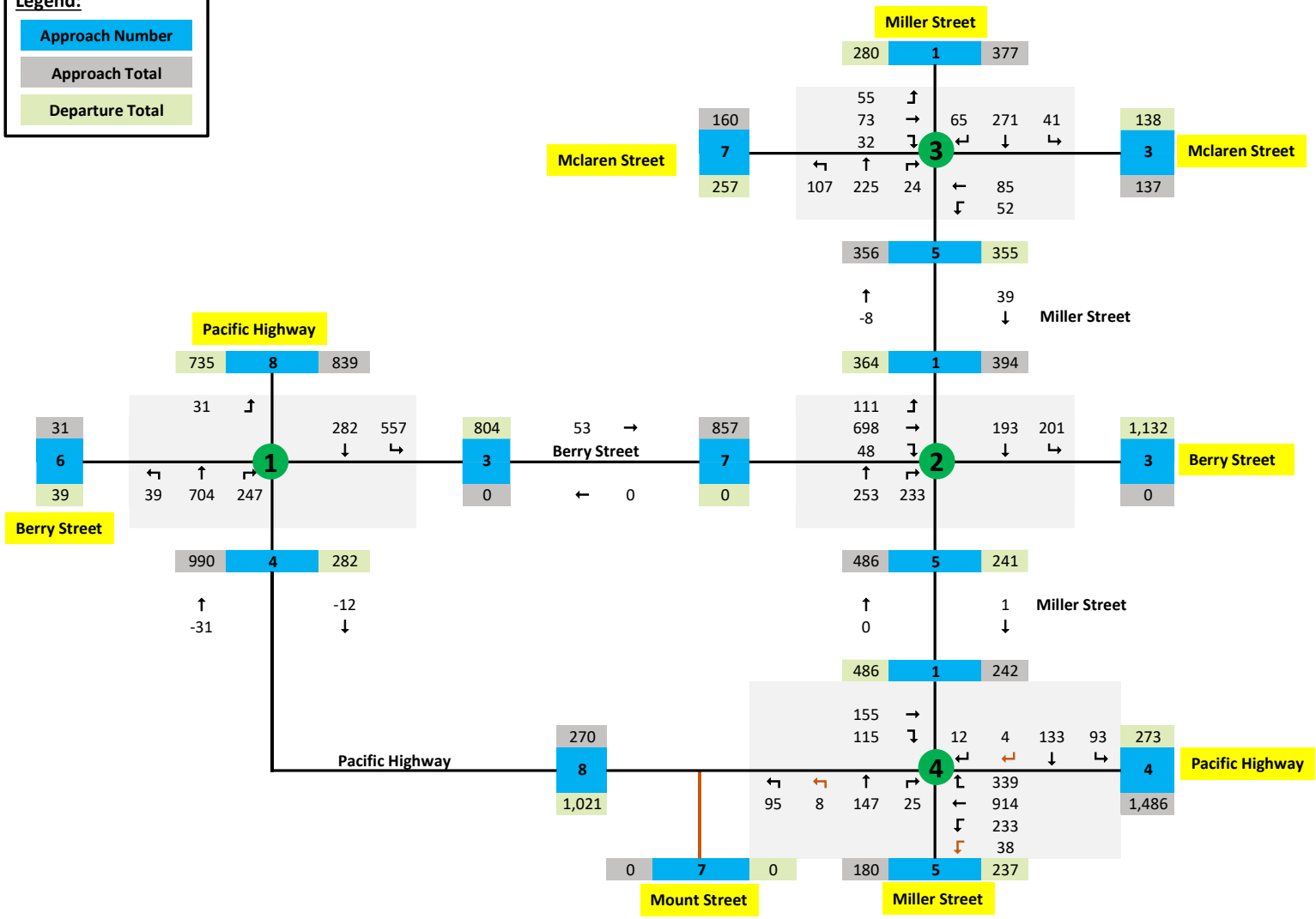
Time Period:

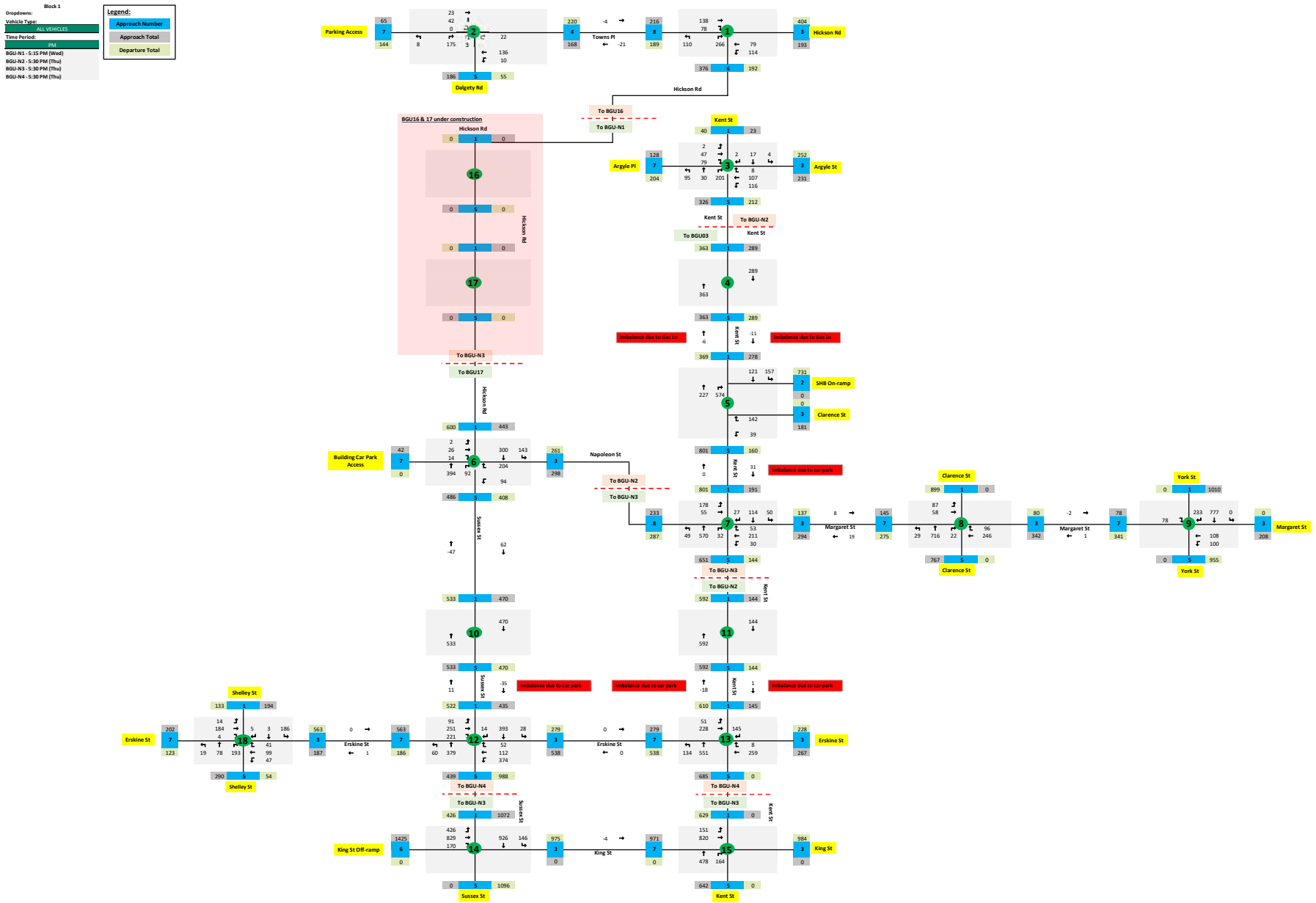
PM

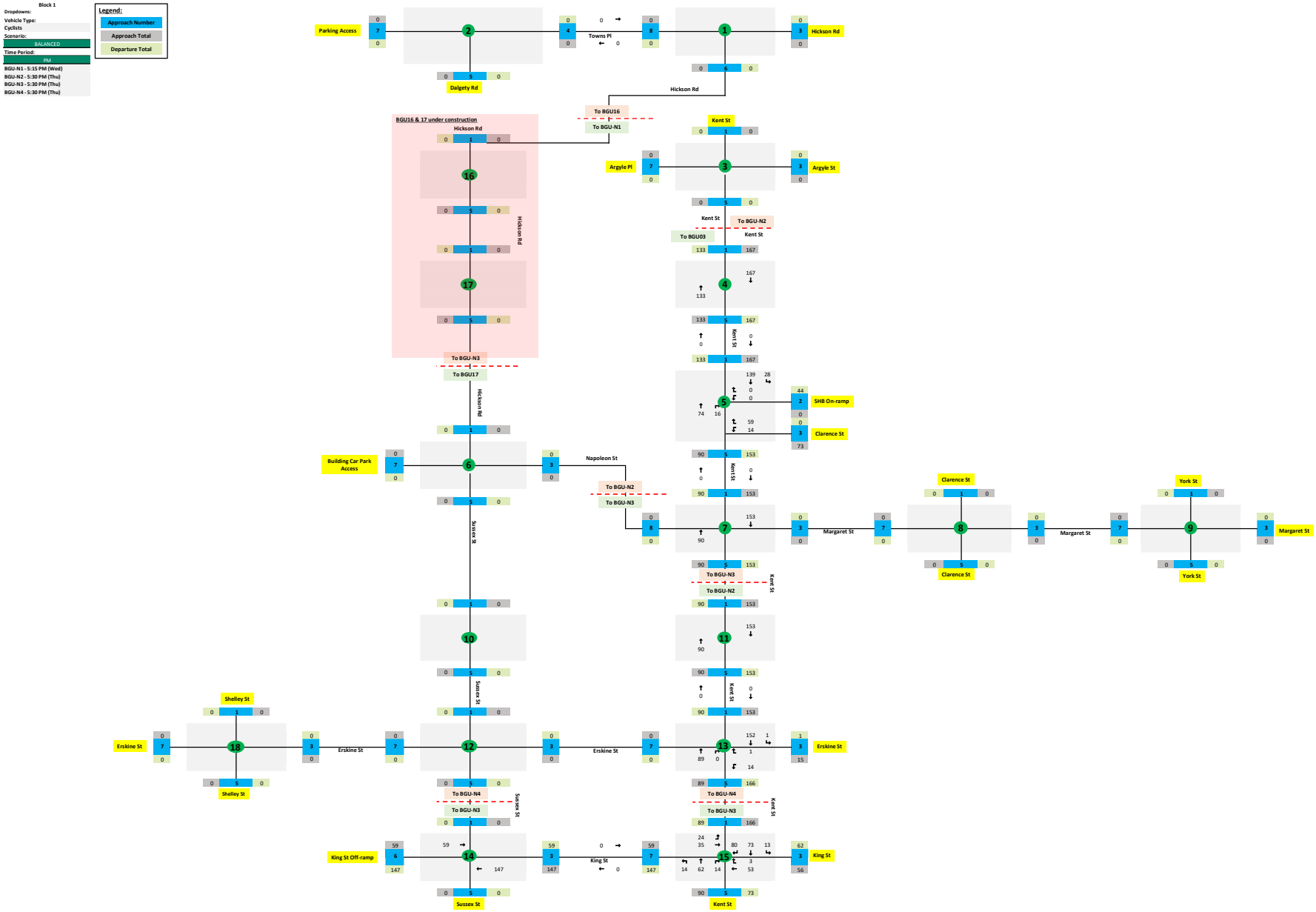
VIC-N1 - 3:00 PM (Wed)

Legend:

- Approach Number
- Approach Total
- Departure Total




Block 1
Dropdowns:
Vehicle Type:
ALL VEHICLES
Time Period:
PM
BGU-N1 - 5:15 PM (Wed)
BGU-N2 - 5:30 PM (Thu)
BGU-N3 - 5:30 PM (Thu)
BGU-N4 - 5:30 PM (Thu)
Legend:
Approach Number
Approach Total
Departure Total
Parking Access
Dalgety Rd
Towns Pl
Hickson Rd
To BGU16
To BGU-N1
BGU16 & 17 under construction
To BGU-N3
To BGU17
Argyle Pl
Argyle St
Kent St
To BGU-N2
To BGU03
Imbalance due to Gas Ln
SHB On-ramp
Clarence St
Building Car Park Access
Napoleon St
Imbalance due to car park
Margaret St
York St
Sussex St
Shelley St
Erskine St
To BGU-N4
King St Off-ramp
King St


Block 1
Dropdowns:
Vehicle Type:
Cyclists
Scenario:
BALANCED
Time Period:
PM
BGU-N1 - 5:15 PM (Wed)
BGU-N2 - 5:30 PM (Thu)
BGU-N3 - 5:30 PM (Thu)
BGU-N4 - 5:30 PM (Thu)
Legend:
Approach Number
Approach Total
Departure Total
Parking Access
Dalgety Rd
Towns Pl
Hickson Rd
To BGU16
To BGU-N1
BGU16 & 17 under construction
To BGU-N3
To BGU17
Argyle Pl
Argyle St
Kent St
To BGU-N2
To BGU03
SHB On-ramp
Clarence St
Building Car Park Access
Napoleon St
To BGU-N2
To BGU-N3
Margaret St
York St
Sussex St
Shelley St
Erskine St
To BGU-N4
To BGU-N3
King St Off-ramp
King St

Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

Time Period:

PM

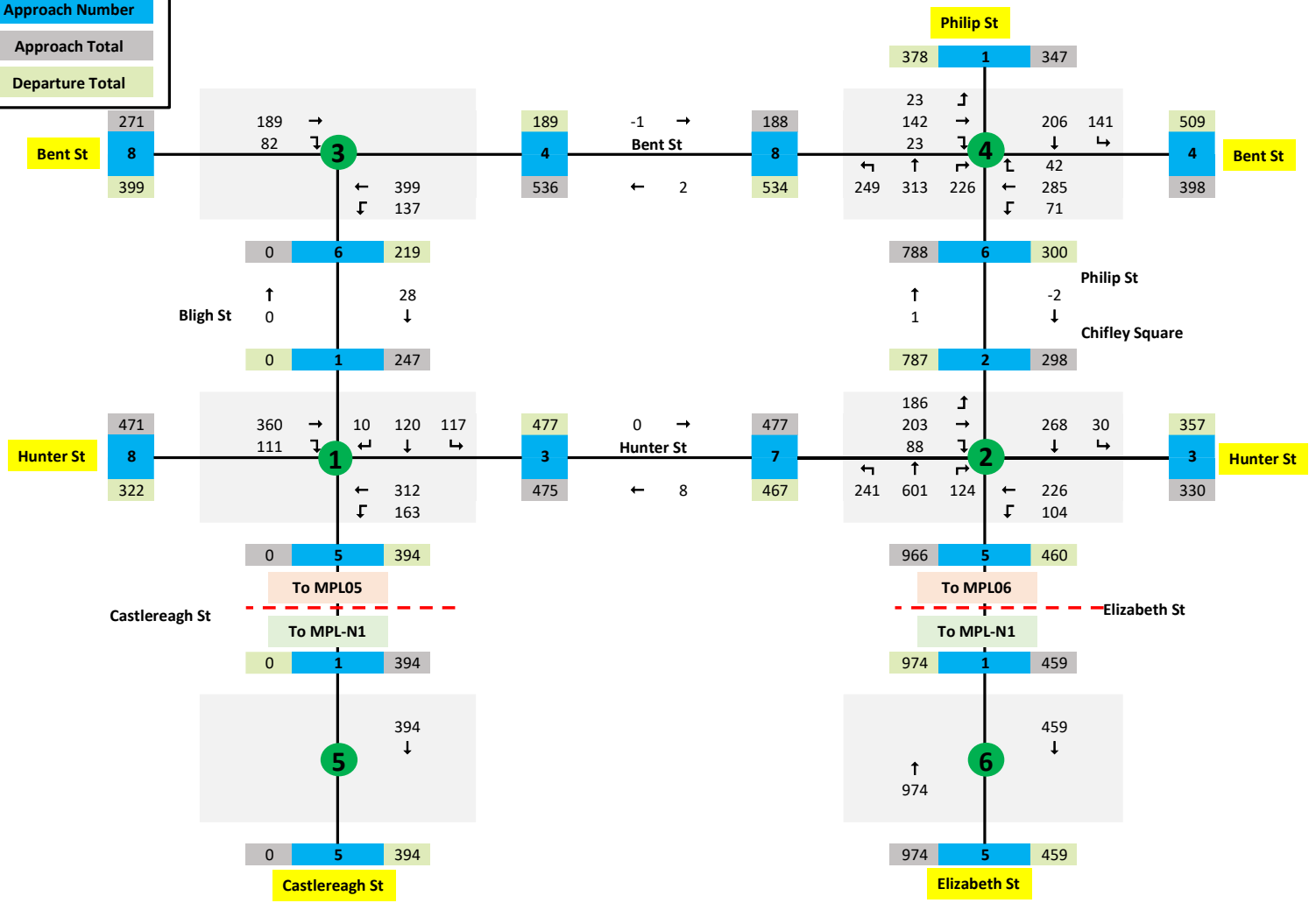
MPL-N1 - 5:30 PM (Wed)

MPL05 - 6:00 PM (Fri)

MPL06 - 5:15 PM (Wed)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

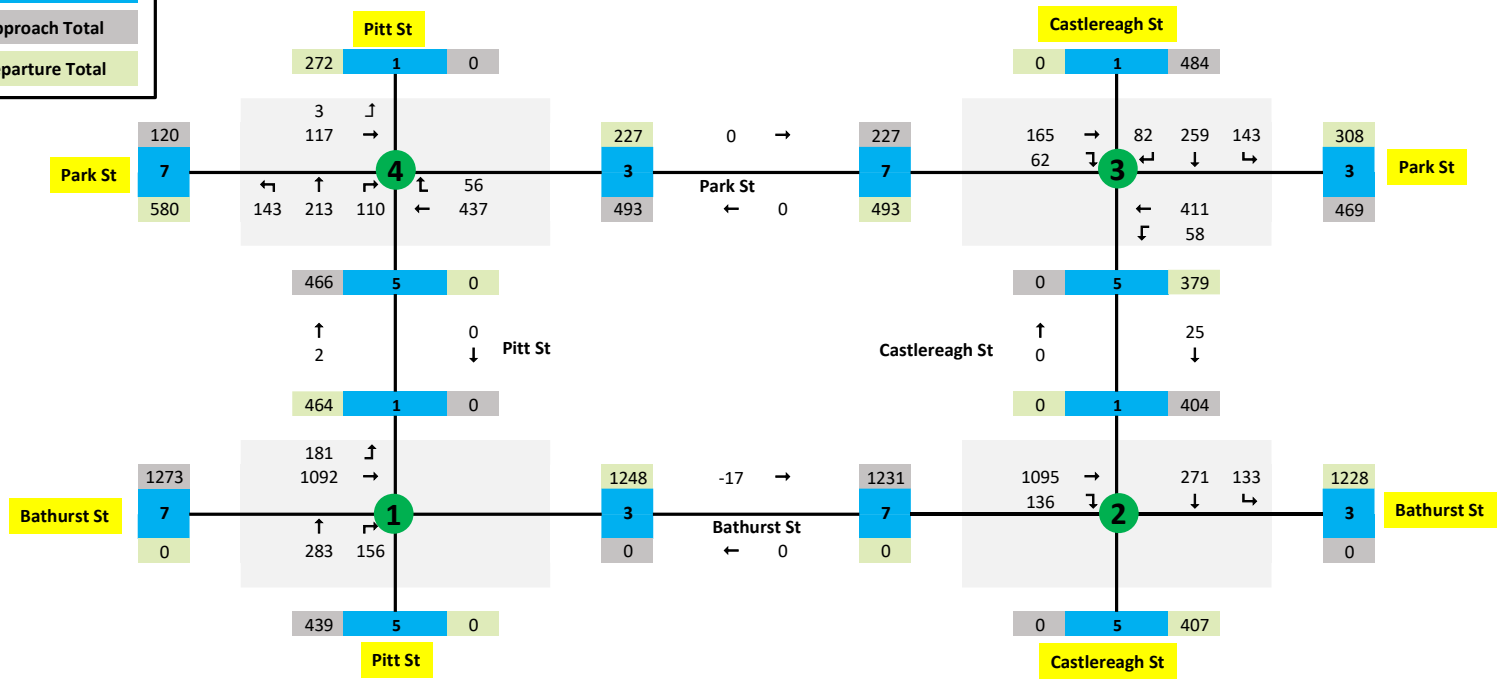
Time Period:

PM

PIT-N1 - 4:45 PM (Thu)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

Time Period:

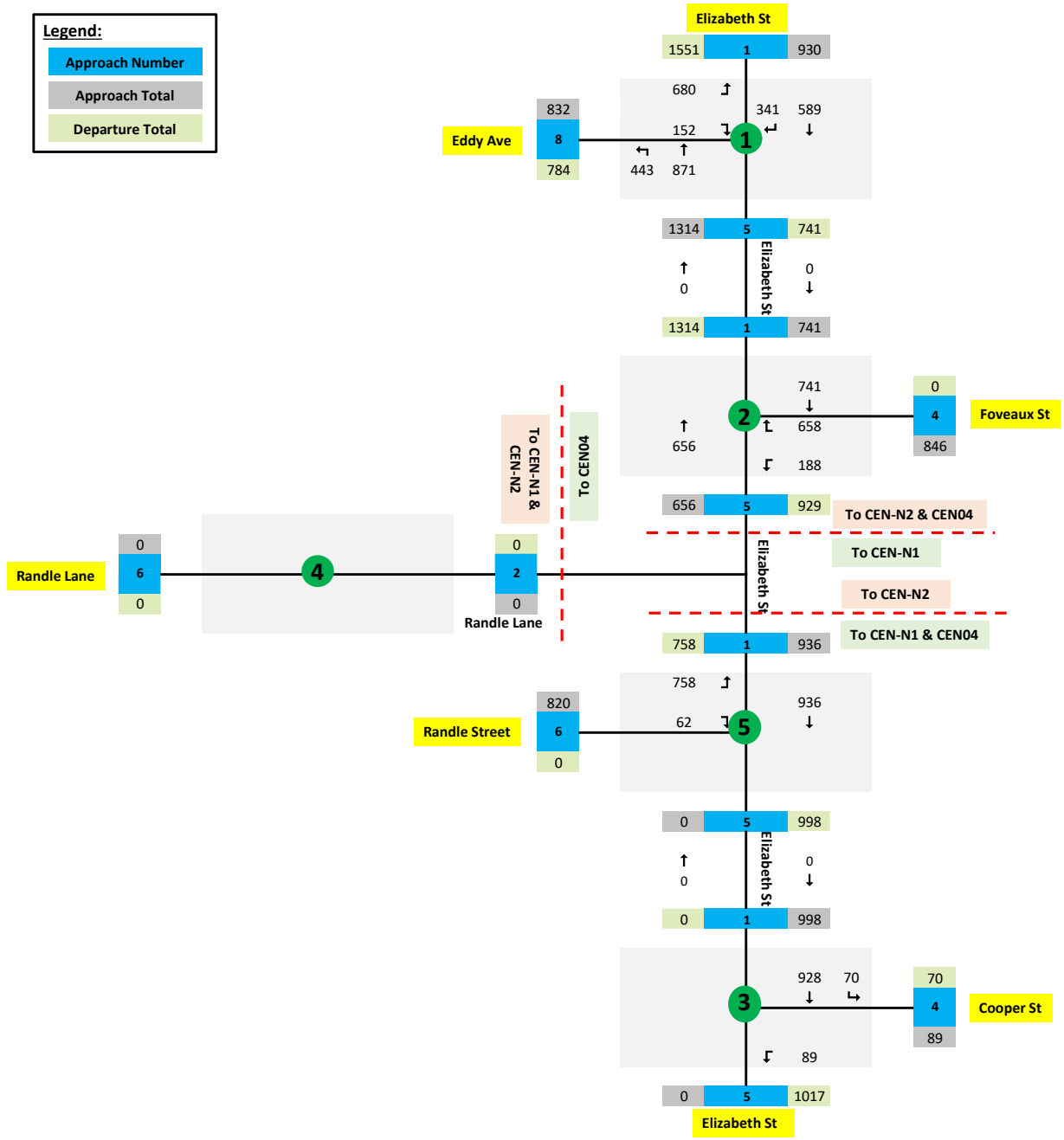
PM

CEN-N1 - 5:15 PM (Wed)

CEN-N2 - 5:30 PM (Thu)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

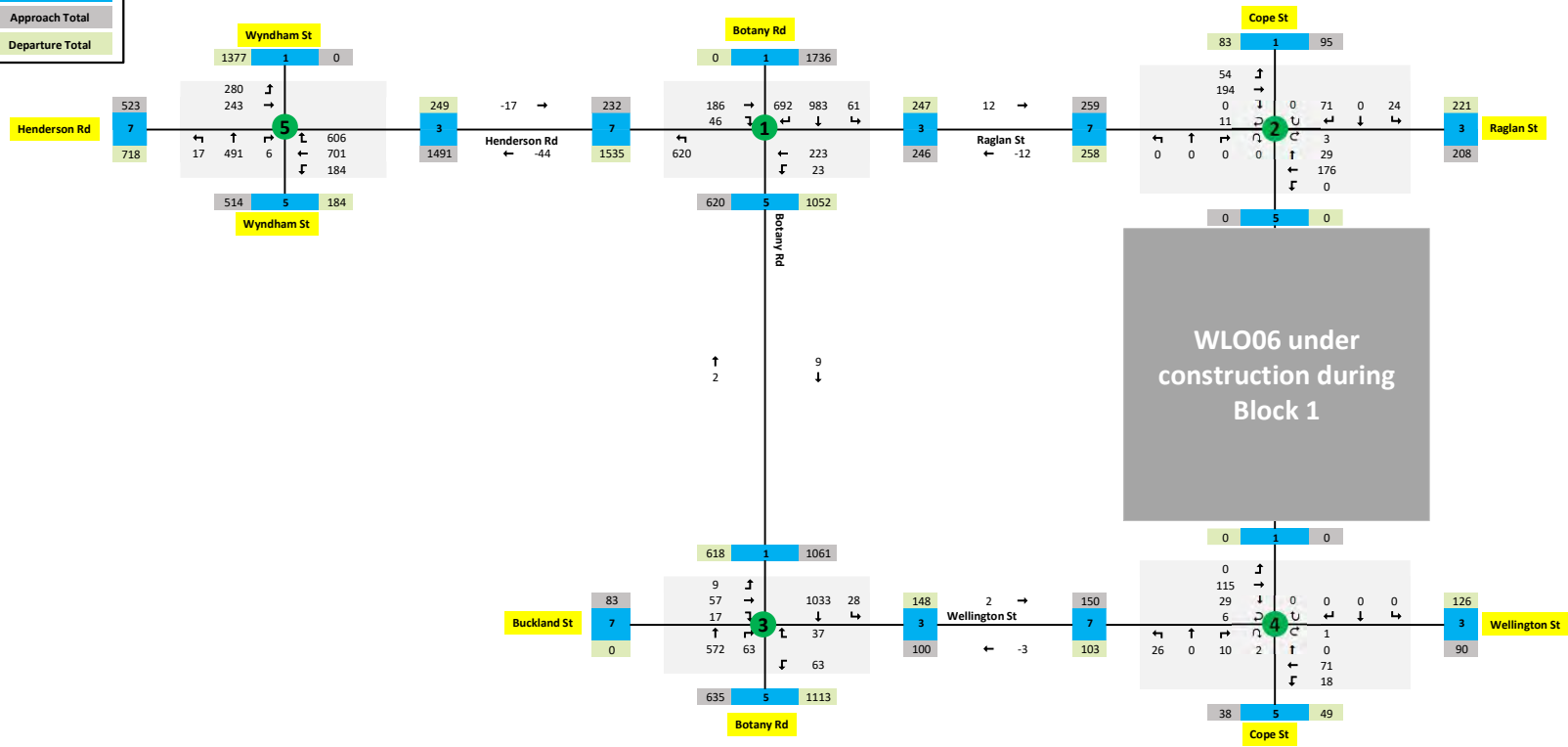
Time Period:

PM

WLO-N1 - 5:00 PM (Wed)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

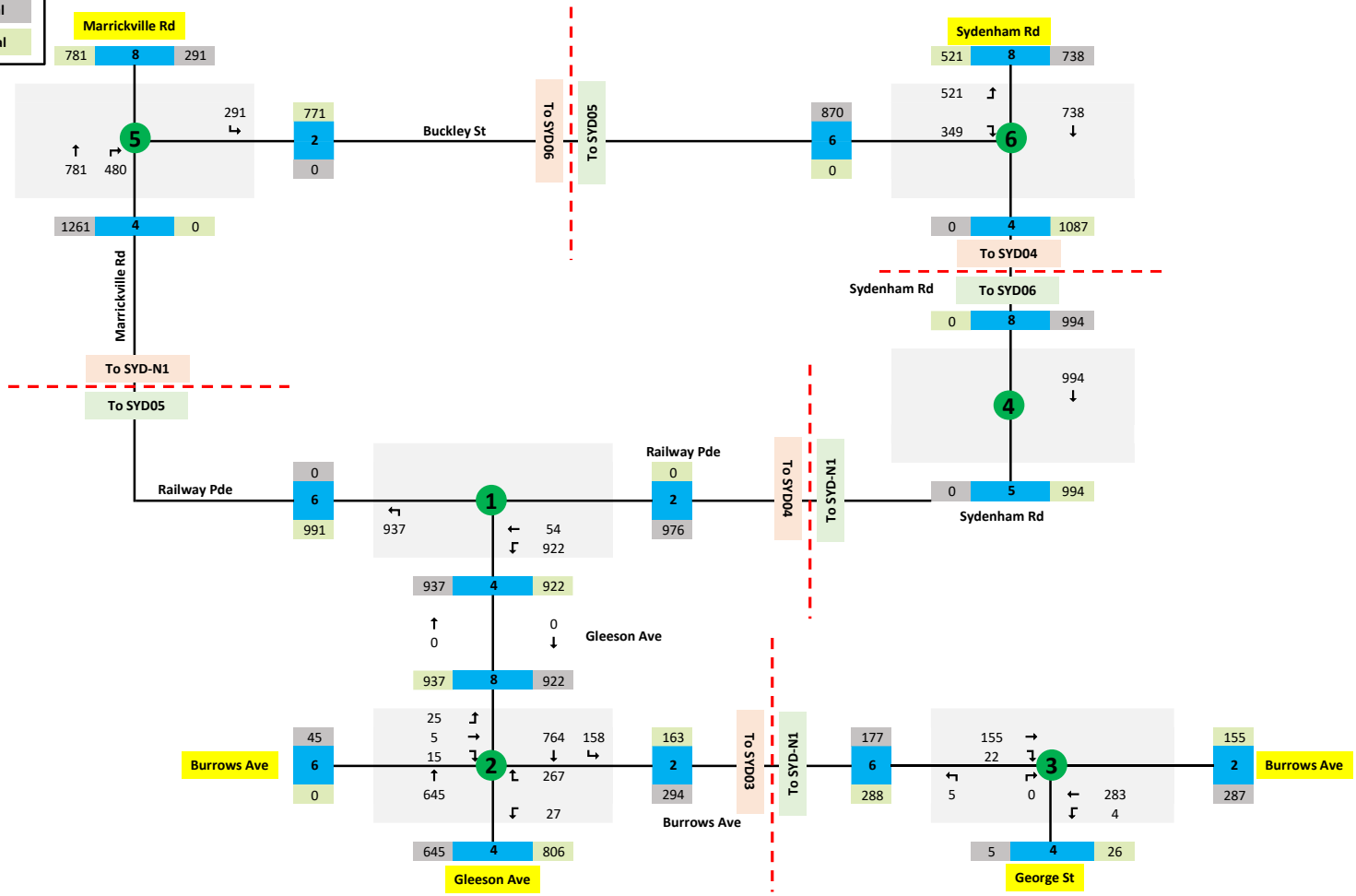
Time Period:

PM

SYD-N1 - 3:30 PM (Wed)
SYD03 - 3:45 PM (Tue)
SYD04 - 4:15 PM (Tue)
SYD05 - 4:45 PM (Tue)
SYD06 - 3:15 PM (Fri)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 1

Dropdowns:

Vehicle Type:

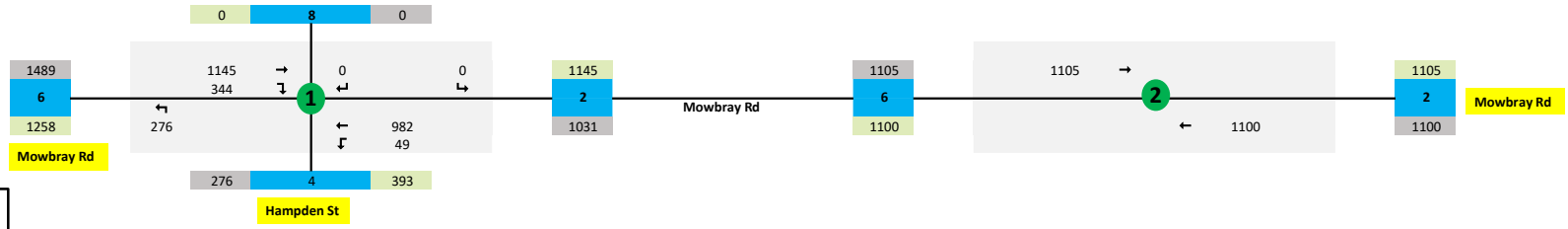
ALL VEHICLES

Time Period:

WEEKEND

CWD01 - 11:15 AM (Sat)

CWD02 - 12:30 PM (Sat)



Legend:

- Approach Number
- Approach Total
- Departure Total

Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

Time Period:

WEEKEND

CST-N1 - 11:30 AM (Sat)

CST07 - 11:45 AM (Sat)

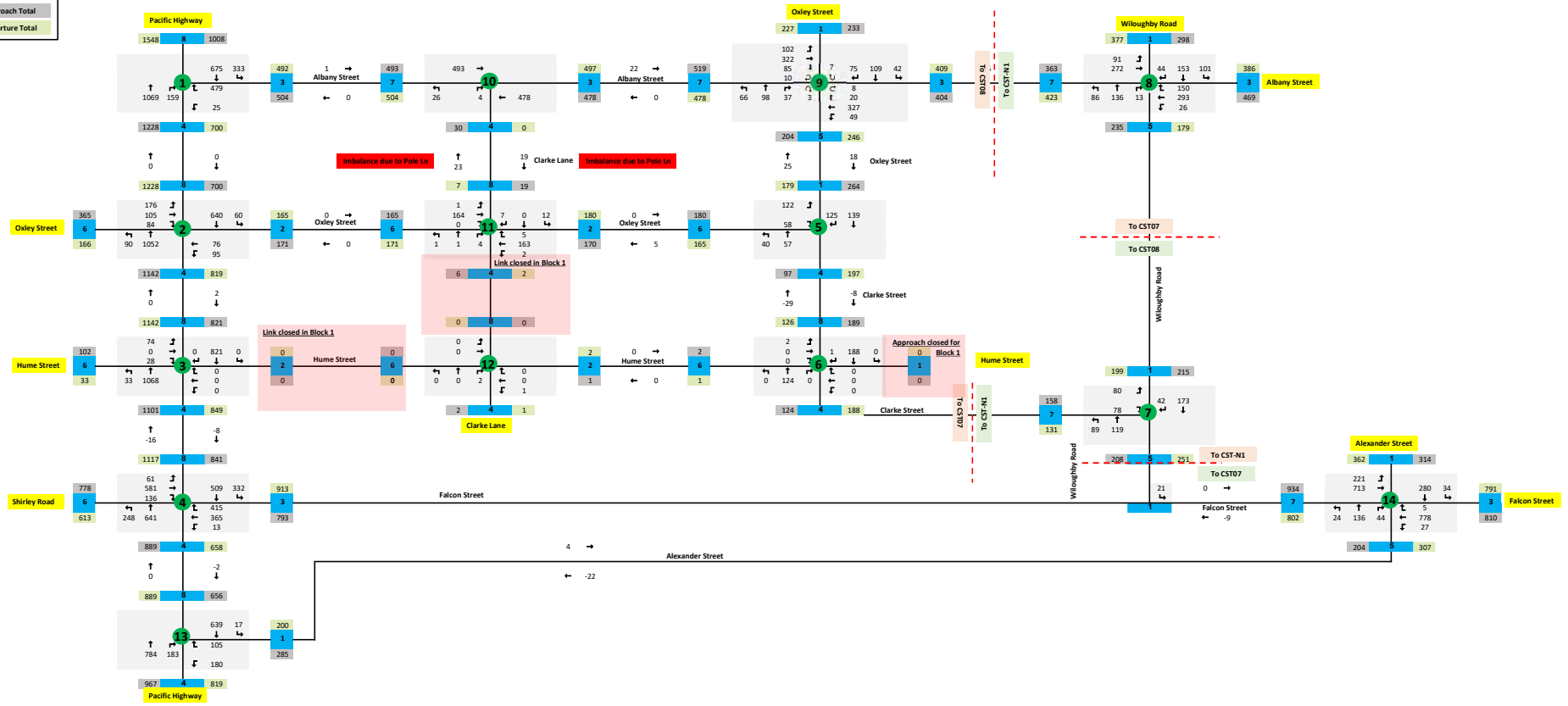
CST08 - 11:30 AM (Sat)

Legend:

Approach Number

Approach Total

Departure Total



Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

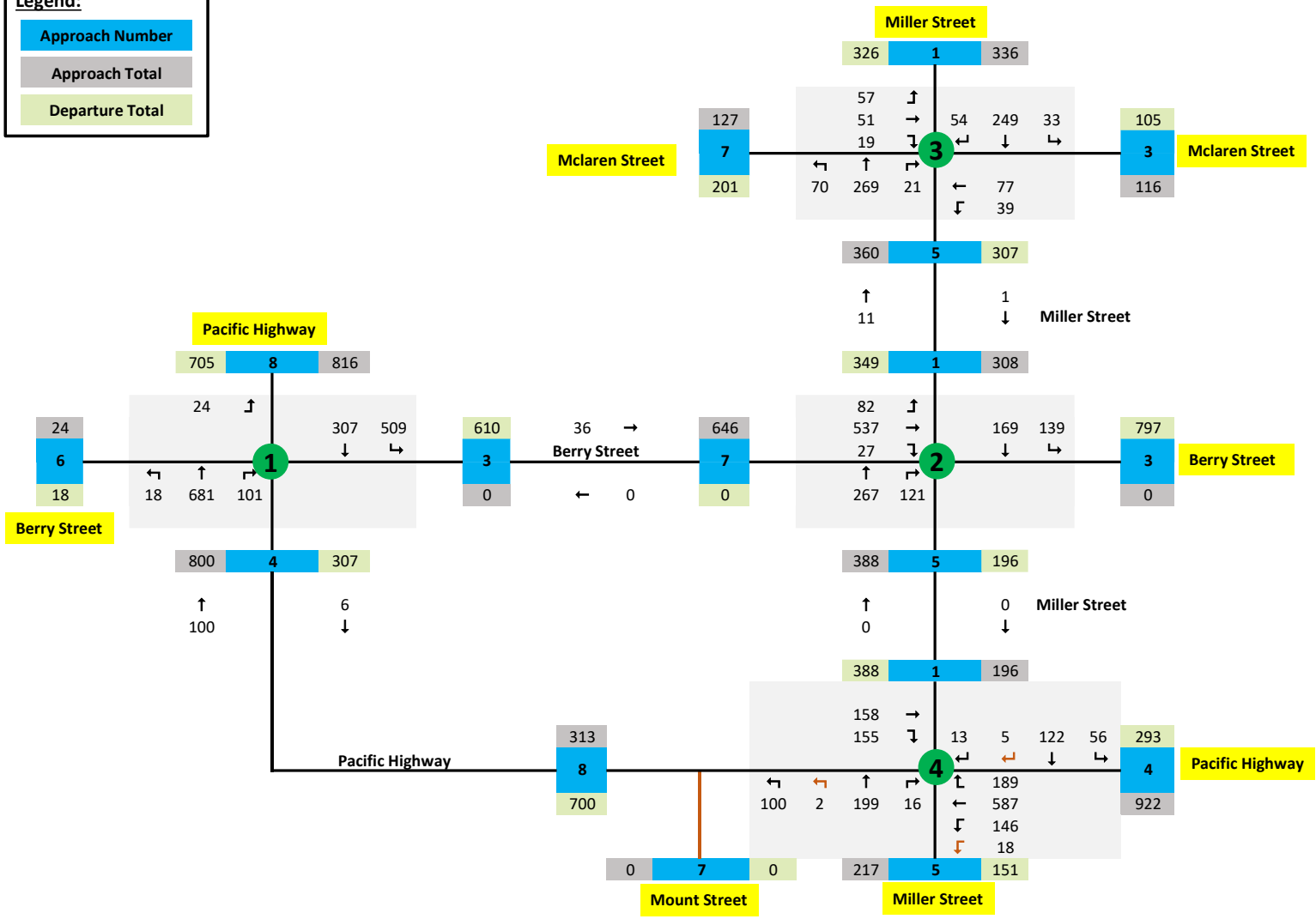
Time Period:

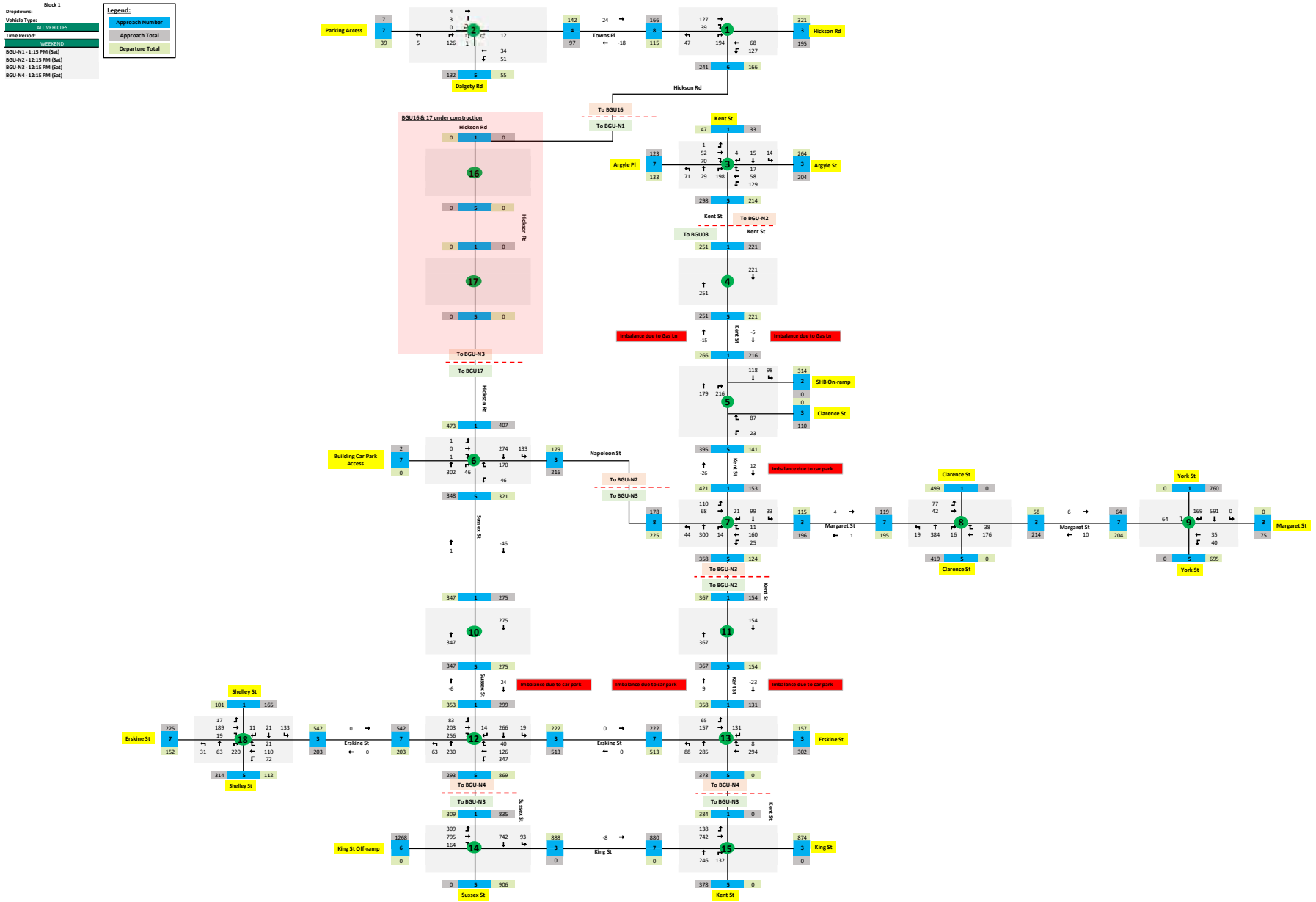
WEEKEND

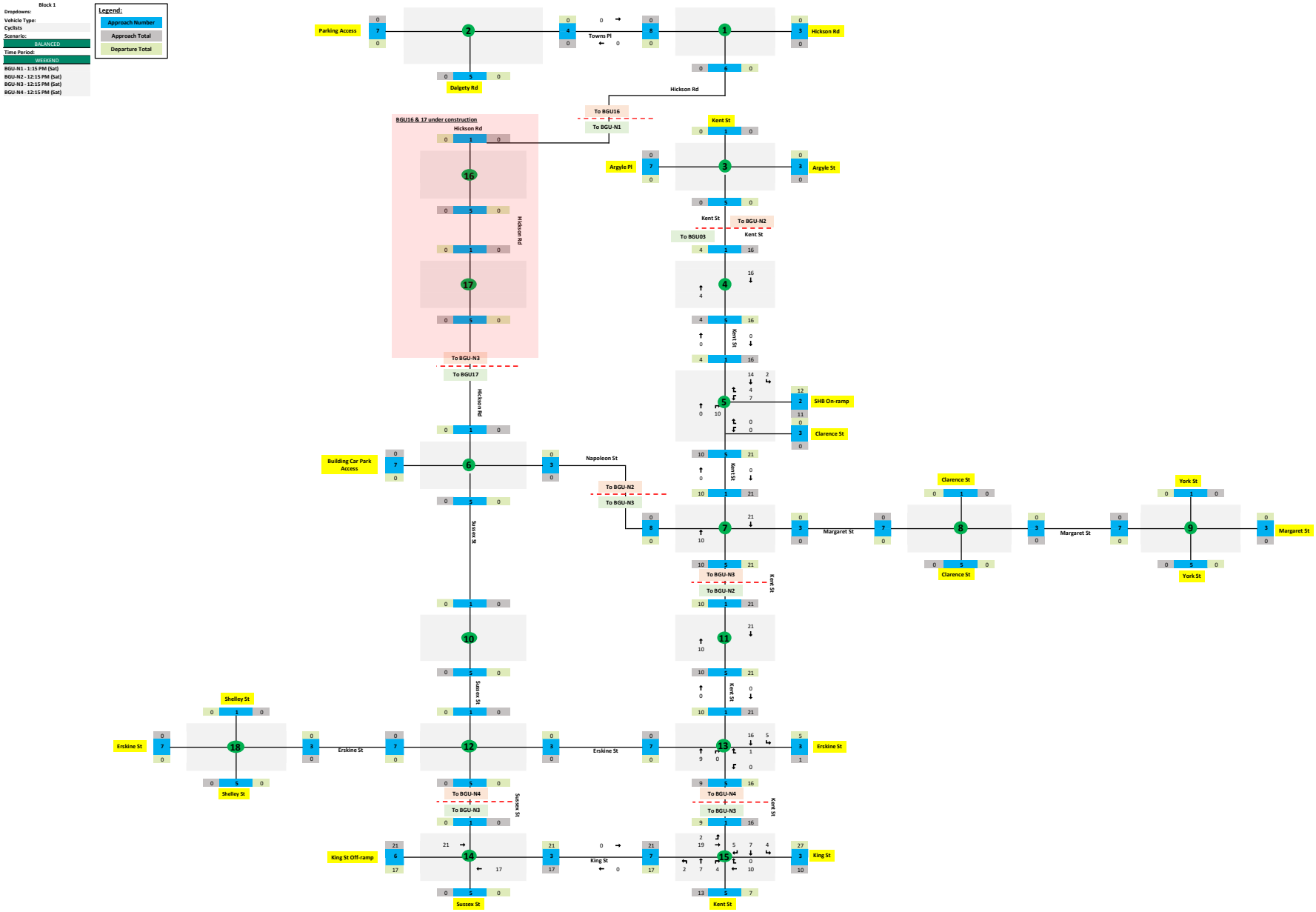
VIC-N1 - 11:30 AM (Sat)

Legend:

- Approach Number
- Approach Total
- Departure Total




Block 1
Dropdowns:
Vehicle Type:
ALL VEHICLES
Time Period:
WEEKEND
BGU-N1 - 1:15 PM (Sat)
BGU-N2 - 12:15 PM (Sat)
BGU-N3 - 12:15 PM (Sat)
BGU-N4 - 12:15 PM (Sat)
Legend:
Approach Number
Approach Total
Departure Total
Parking Access
Dalgety Rd
Towns Pl
Hickson Rd
Argyle Pl
Argyle St
Kent St
To BGU16
To BGU-N1
BGU16 & 17 under construction
To BGU-N3
To BGU17
To BGU03
To BGU-N2
SHB On-ramp
Clarence St
Building Car Park Access
Napoleon St
Margaret St
York St
Sussex St
Shelley St
Erskine St
King St Off-ramp
King St
To BGU-N4
Imbalance due to Gas Ln
Imbalance due to car park


Block 1
Dropdowns:
Vehicle Type:
Cyclists
Scenario:
BALANCED
Time Period:
WEEKEND
BGU-N1 - 1:15 PM (Sat)
BGU-N2 - 12:15 PM (Sat)
BGU-N3 - 12:15 PM (Sat)
BGU-N4 - 12:15 PM (Sat)
Legend:
Approach Number
Approach Total
Departure Total
Parking Access
Dalgety Rd
Towns Pl
Hickson Rd
To BGU16
To BGU-N1
BGU16 & 17 under construction
To BGU-N3
To BGU17
Argyle Pl
Argyle St
Kent St
To BGU-N2
To BGU03
SHB On-ramp
Clarence St
Building Car Park Access
Napoleon St
To BGU-N2
To BGU-N3
Margaret St
Clarence St
York St
Sussex St
Shelley St
Erskine St
To BGU-N4
To BGU-N3
King St Off-ramp
King St

Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

Time Period:

WEEKEND

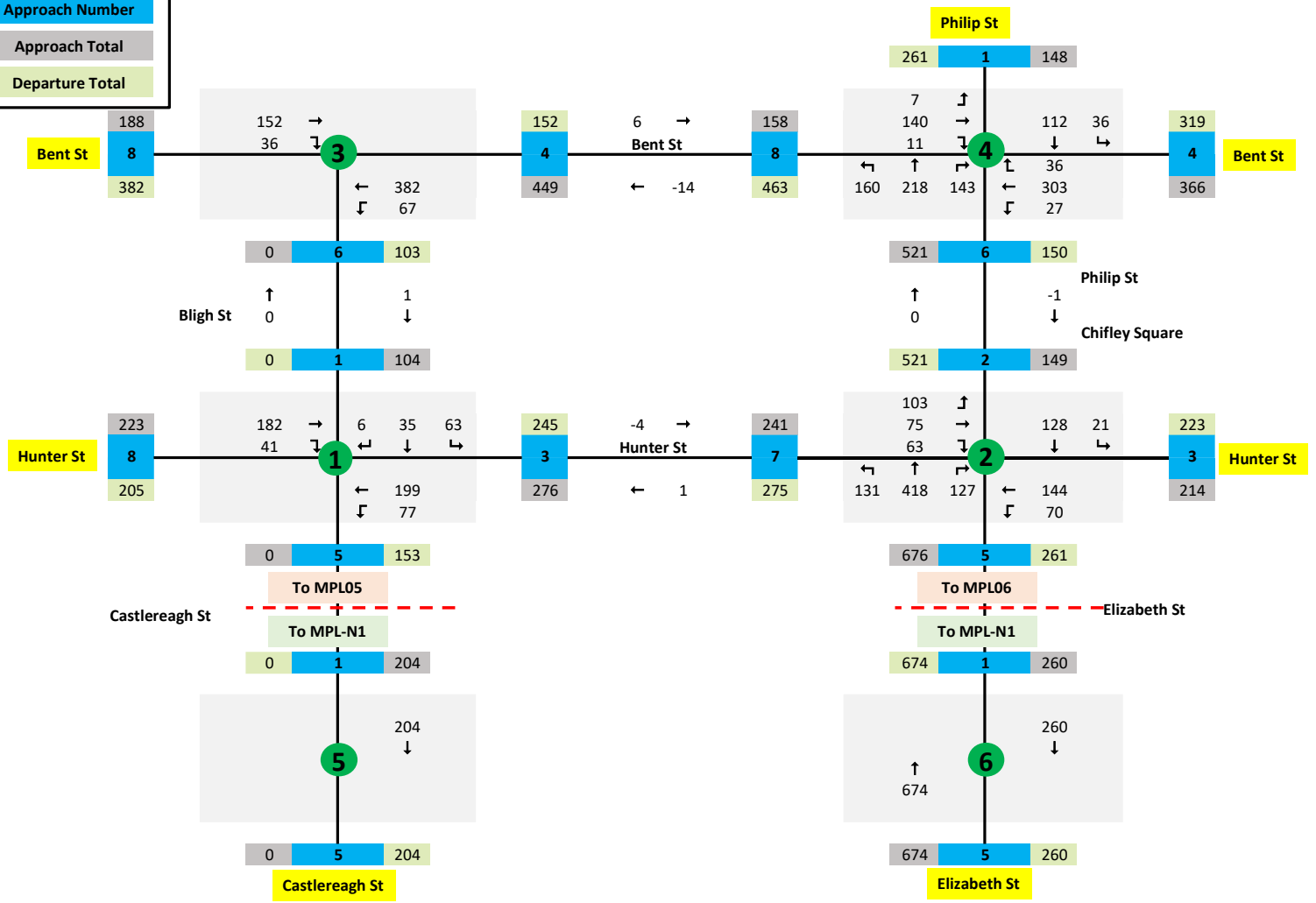
MPL-N1 - 12:15 PM (Sat)

MPL05 - 1:30 PM (Sat)

MPL06 - 12:15 PM (Sat)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

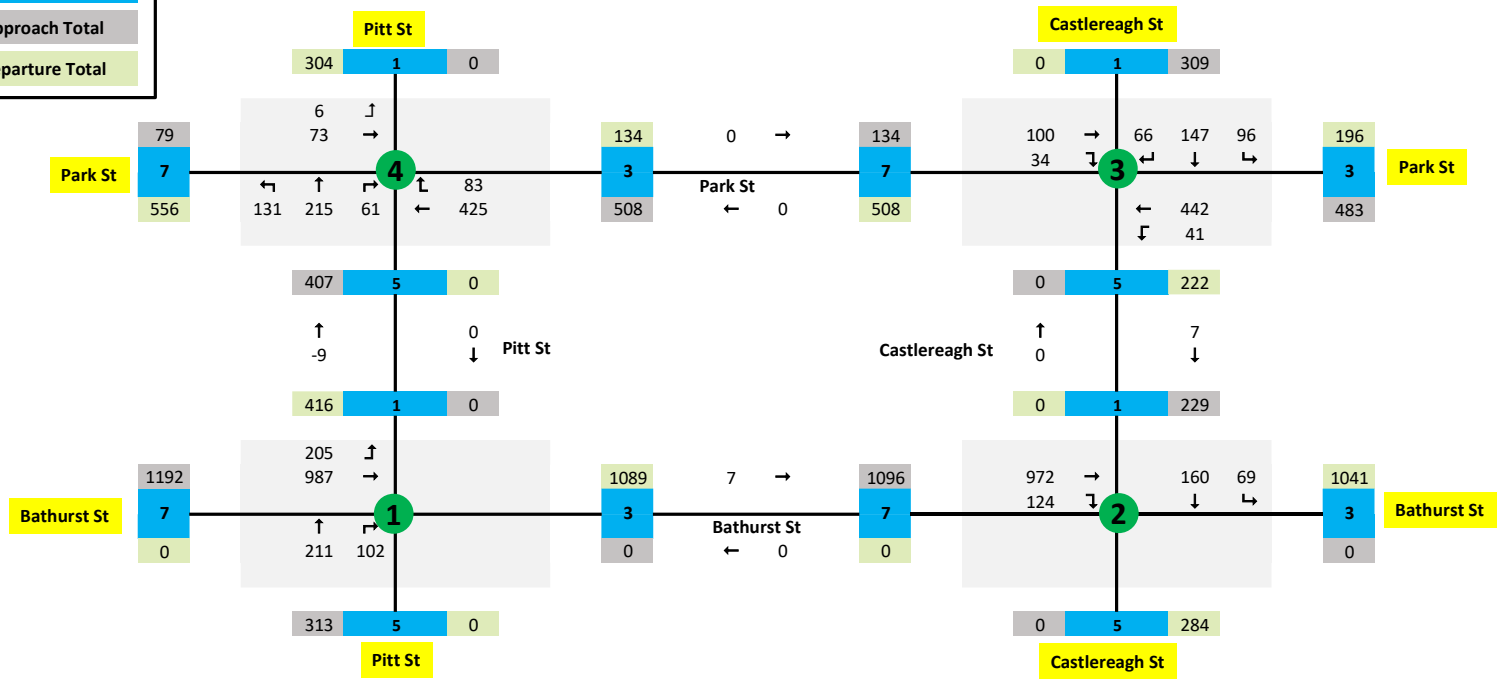
Time Period:

WEEKEND

PIT-N1 - 12:15 PM (Sat)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

Time Period:

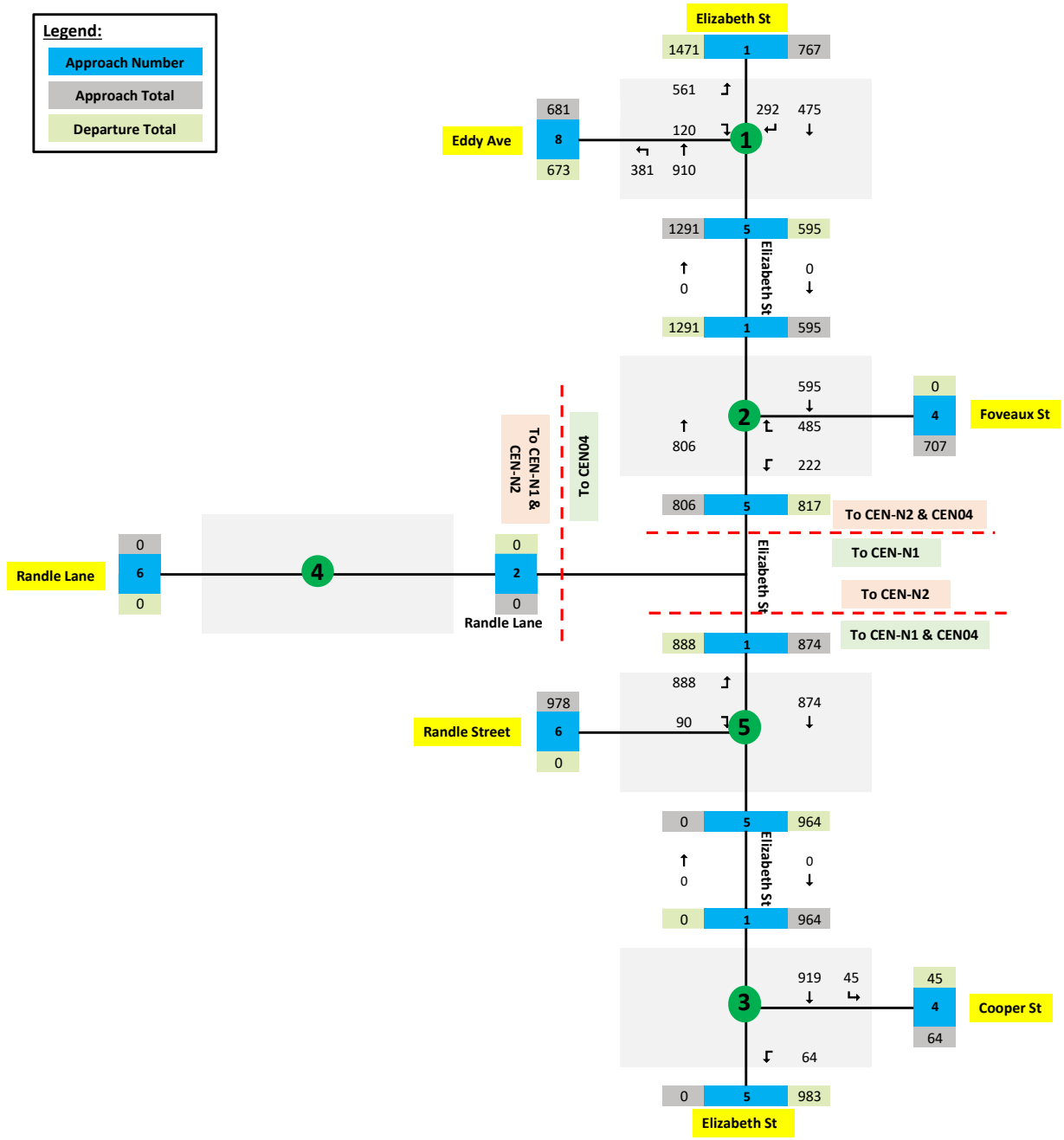
WEEKEND

CEN-N1 - 1:45 PM (Sat)

CEN-N2 - 12:00 PM (Sat)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

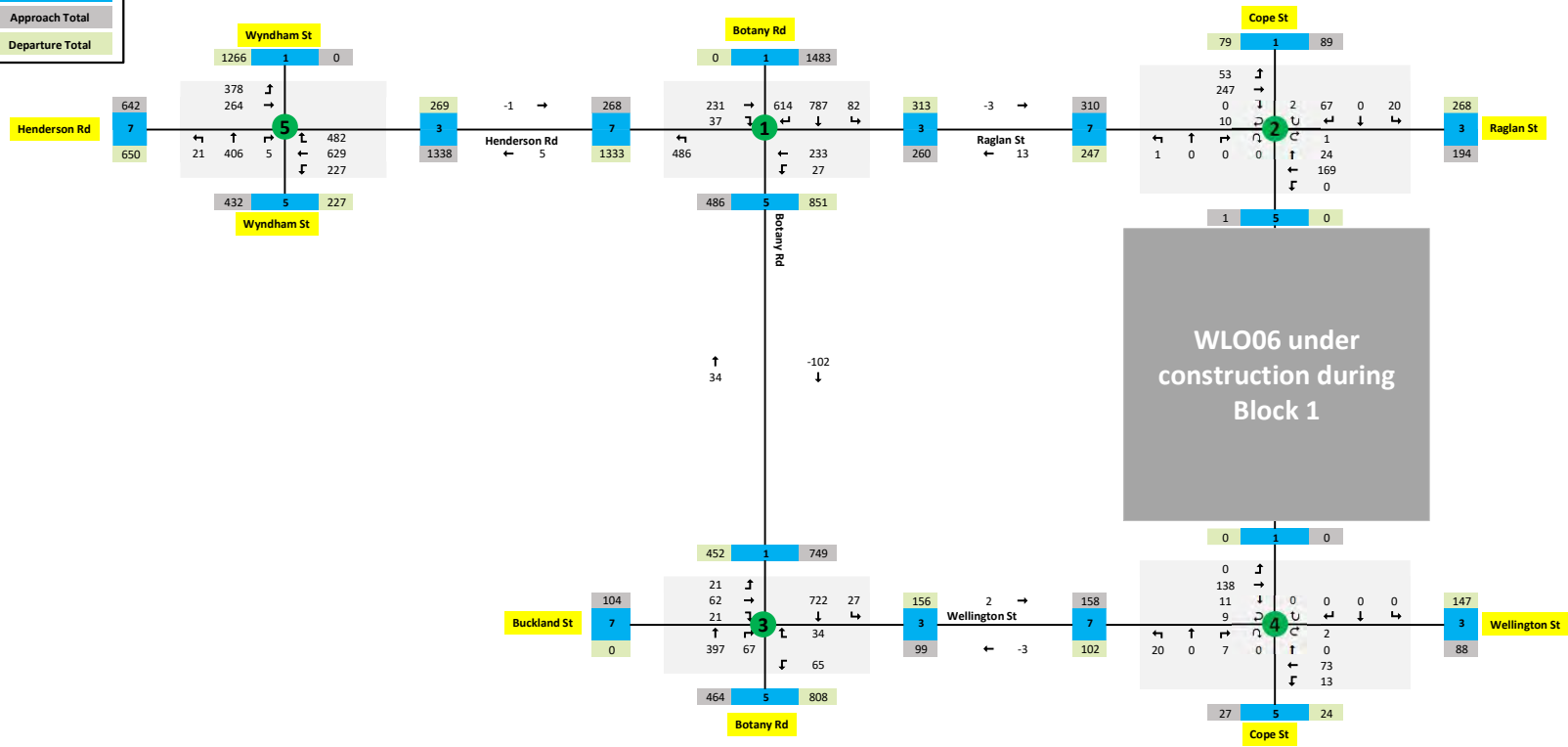
Time Period:

WEEKEND

WLO-N1 - 12:15 PM (Sat)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 1

Dropdowns:

Vehicle Type:

ALL VEHICLES

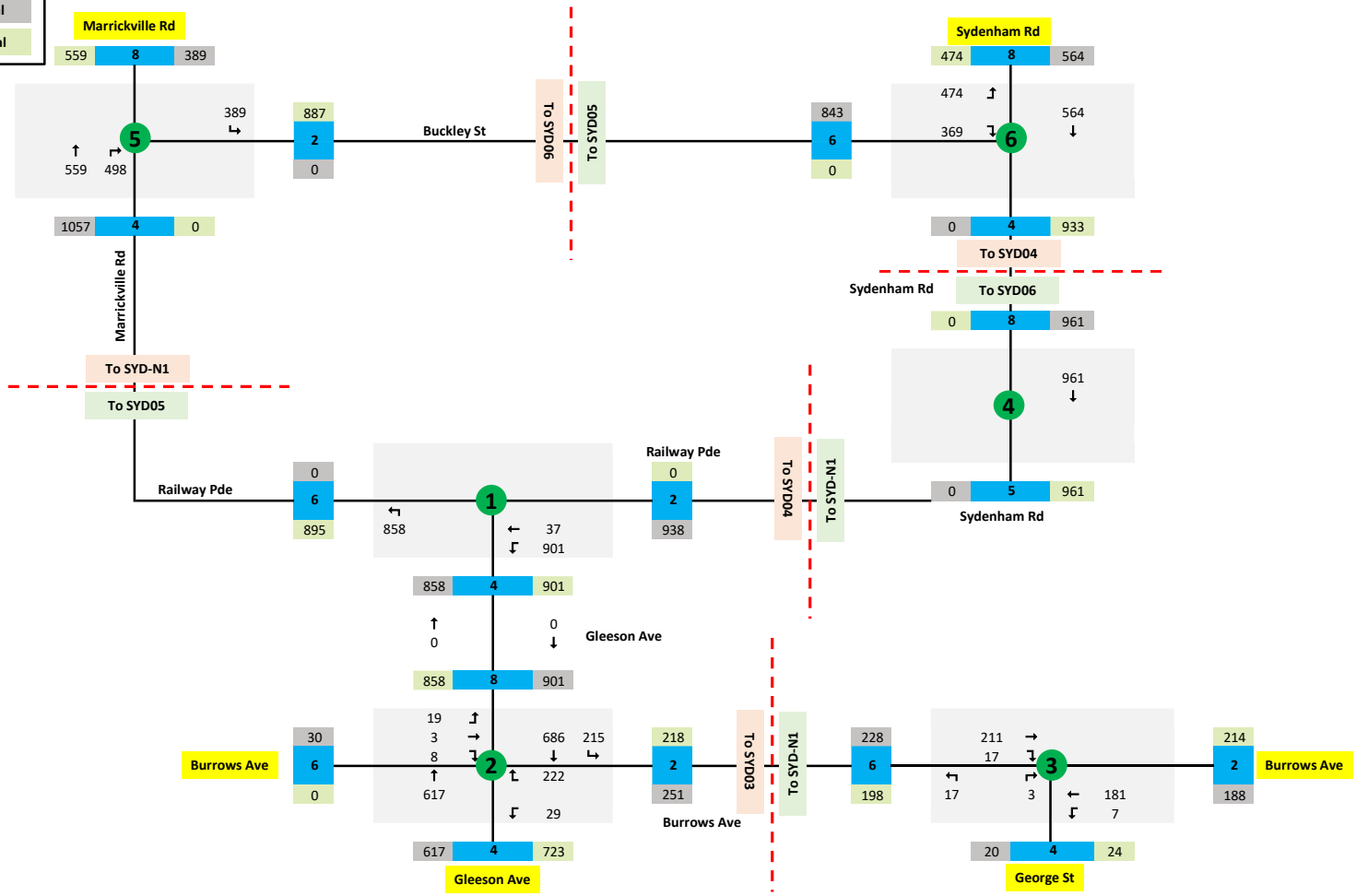
Time Period:

WEEKEND

SYD-N1 - 1:00 PM (Sun)
SYD03 - 1:00 PM (Sat)
SYD04 - 1:45 PM (Sat)
SYD05 - 1:45 PM (Sat)
SYD06 - 10:30 AM (Sat)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

AM

CWD01 - 8:15 AM (Wed)

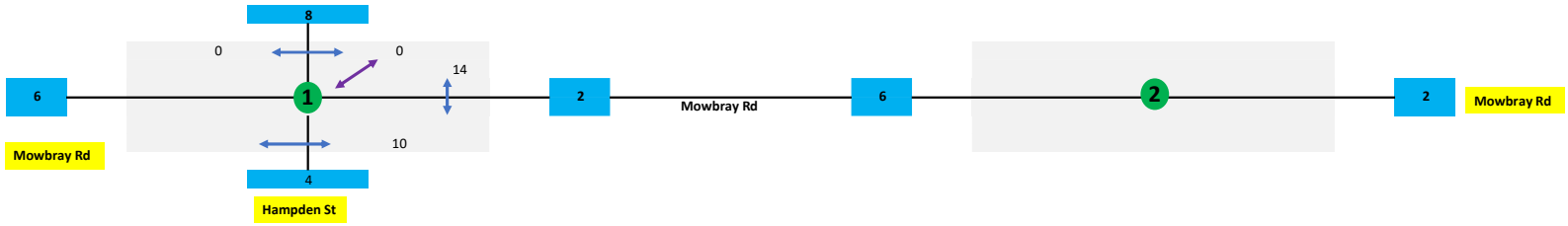
CWD02 - 8:15 AM (Wed)

Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only



Block 1

Dropdowns:

Vehicle Type:

Pedestrians

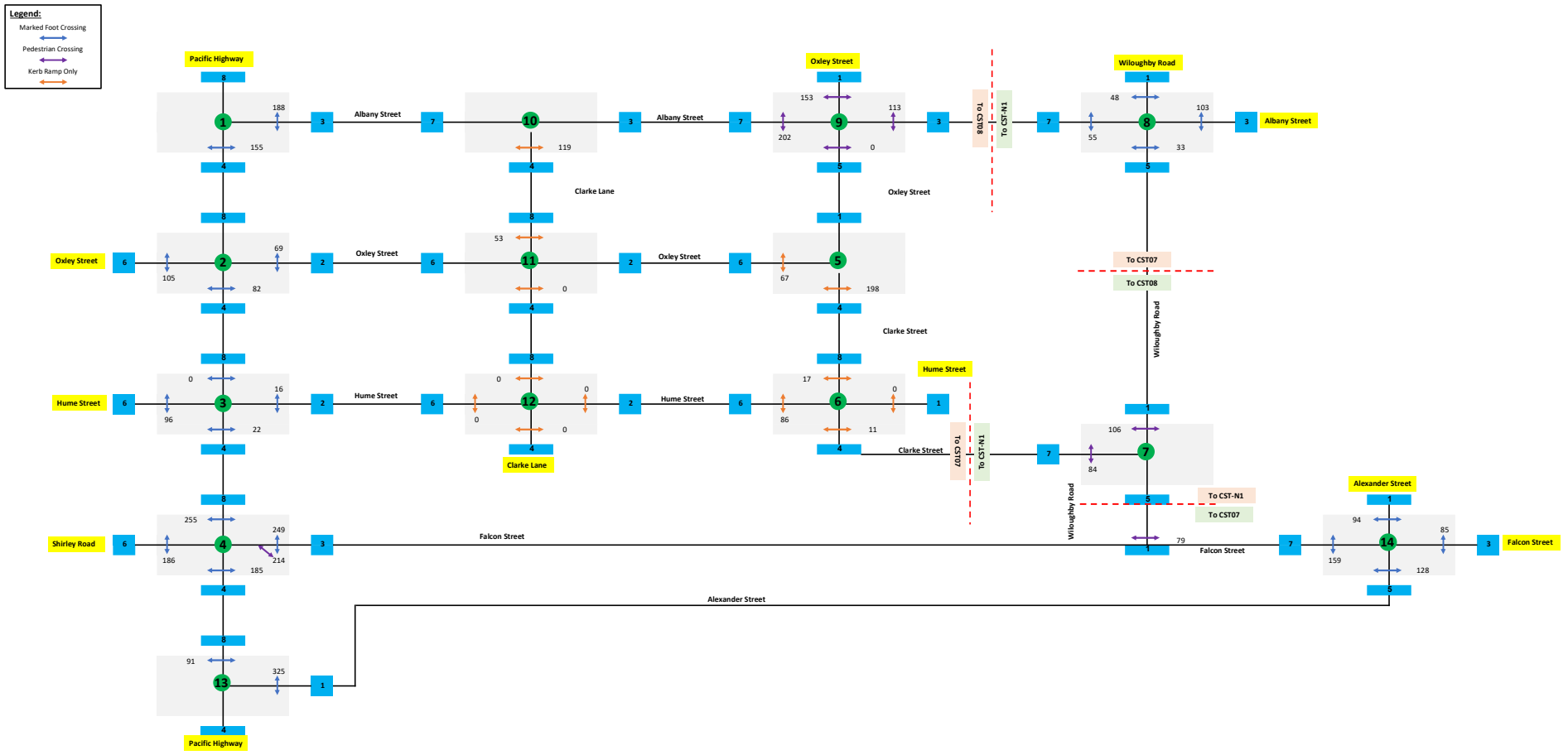
Time Period:

AM

CST-N1 - 8:15 AM (Wed)

CST07 - 8:30 AM (Mon)

CST08 - 8:15 AM (Mon)



Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

AM

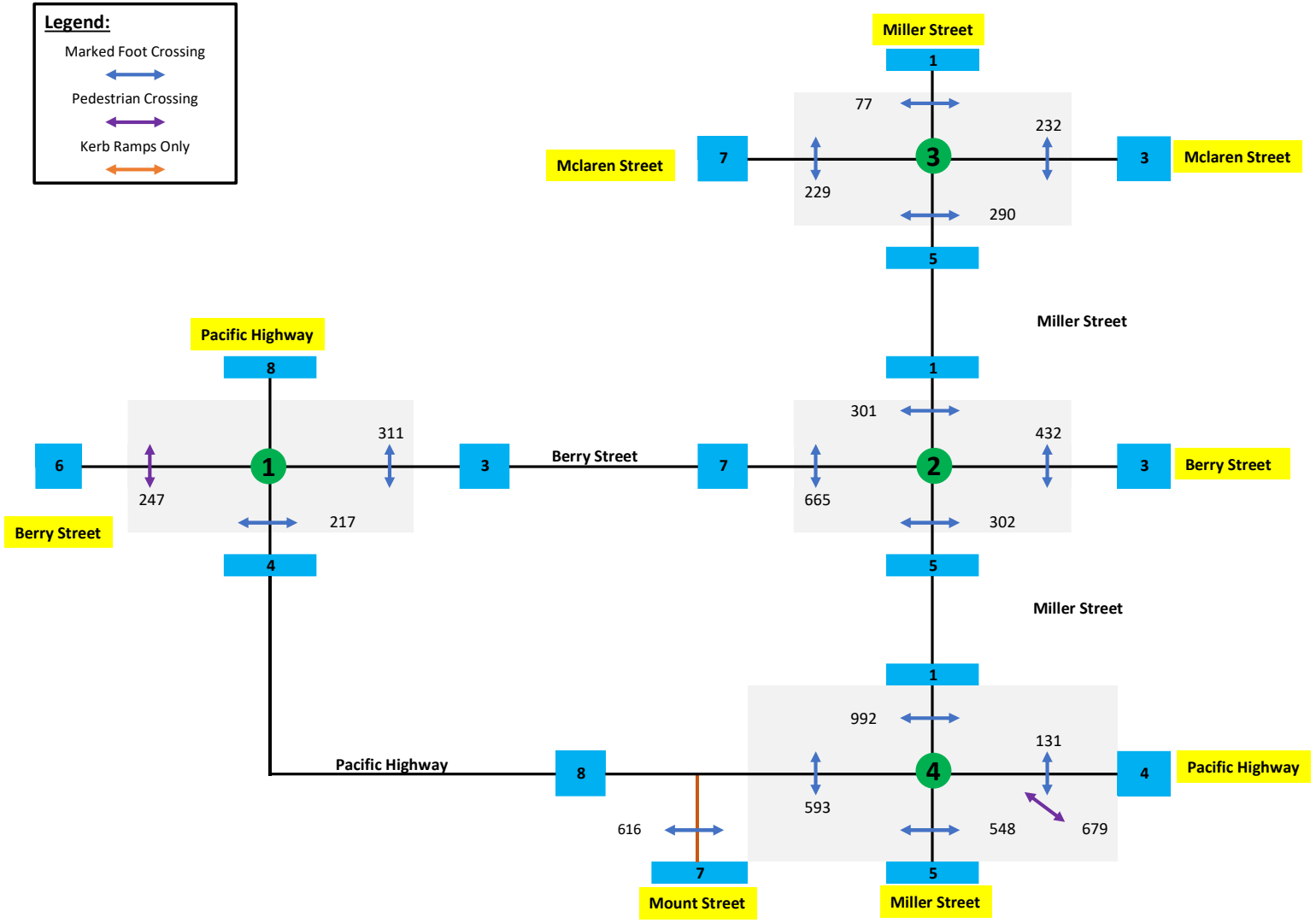
VIC-N1 - 8:45 AM (Mon)

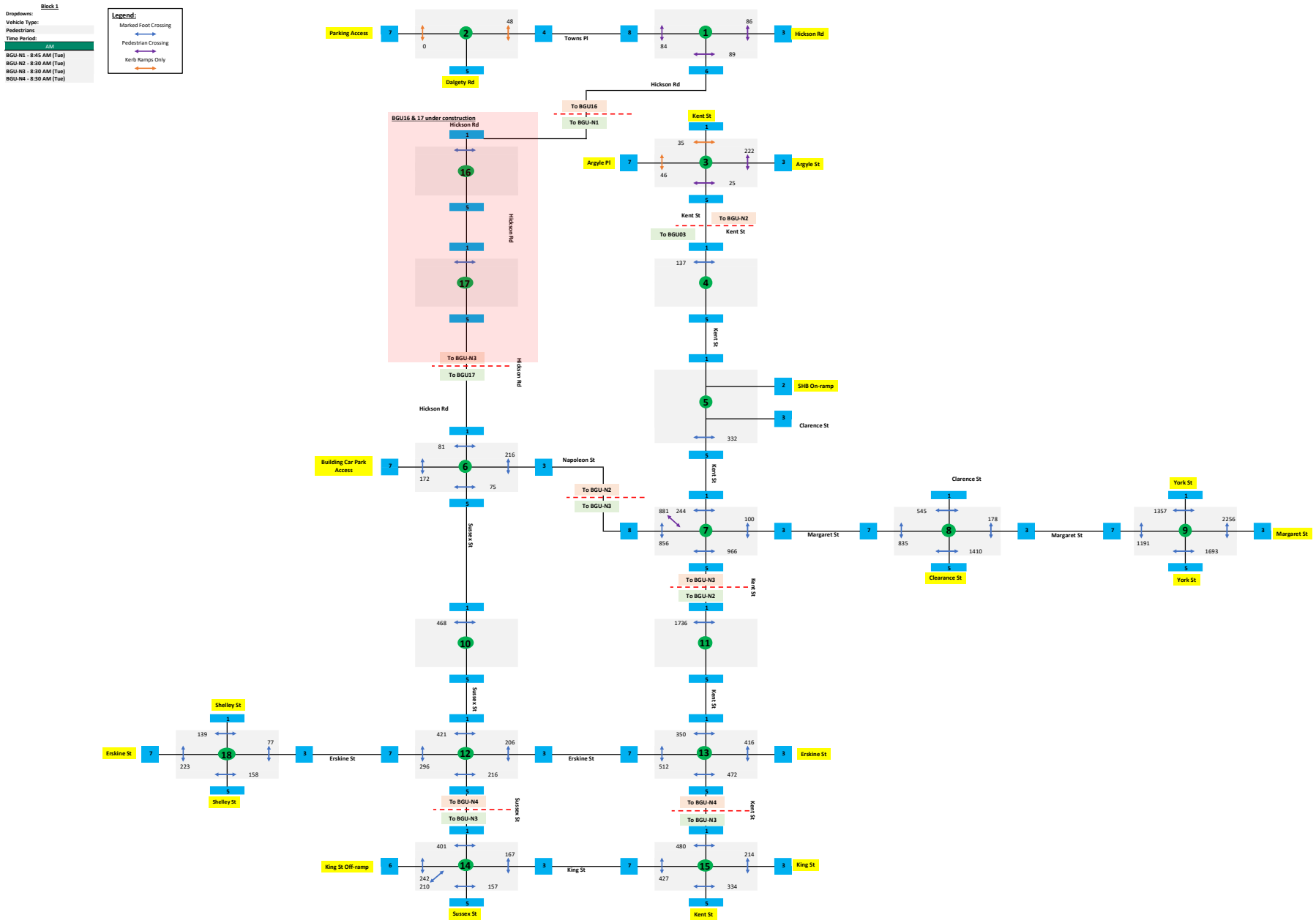
Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only




Block 1
Dropdowns:
Vehicle Type:
Pedestrians
Time Period:
AM
BGU-N1 - 8:45 AM (Tue)
BGU-N2 - 8:30 AM (Tue)
BGU-N3 - 8:30 AM (Tue)
BGU-N4 - 8:30 AM (Tue)
Legend:
Marked Foot Crossing
Pedestrian Crossing
Kerb Ramps Only
Parking Access
Towns Pl
Hickson Rd
Dalgety Rd
To BGU16
To BGU-N1
BGU16 & 17 under construction
Argyle Pl
Argyle St
Kent St
To BGU-N2
To BGU03
SHB On-ramp
Clarence St
Building Car Park Access
Napoleon St
To BGU-N3
To BGU17
Sussex St
Margaret St
York St
Clearance St
To BGU-N4
Shelley St
Erskine St
King St Off-ramp
King St

Block 1

Dropdowns:

Vehicle Type:

Pedestrians

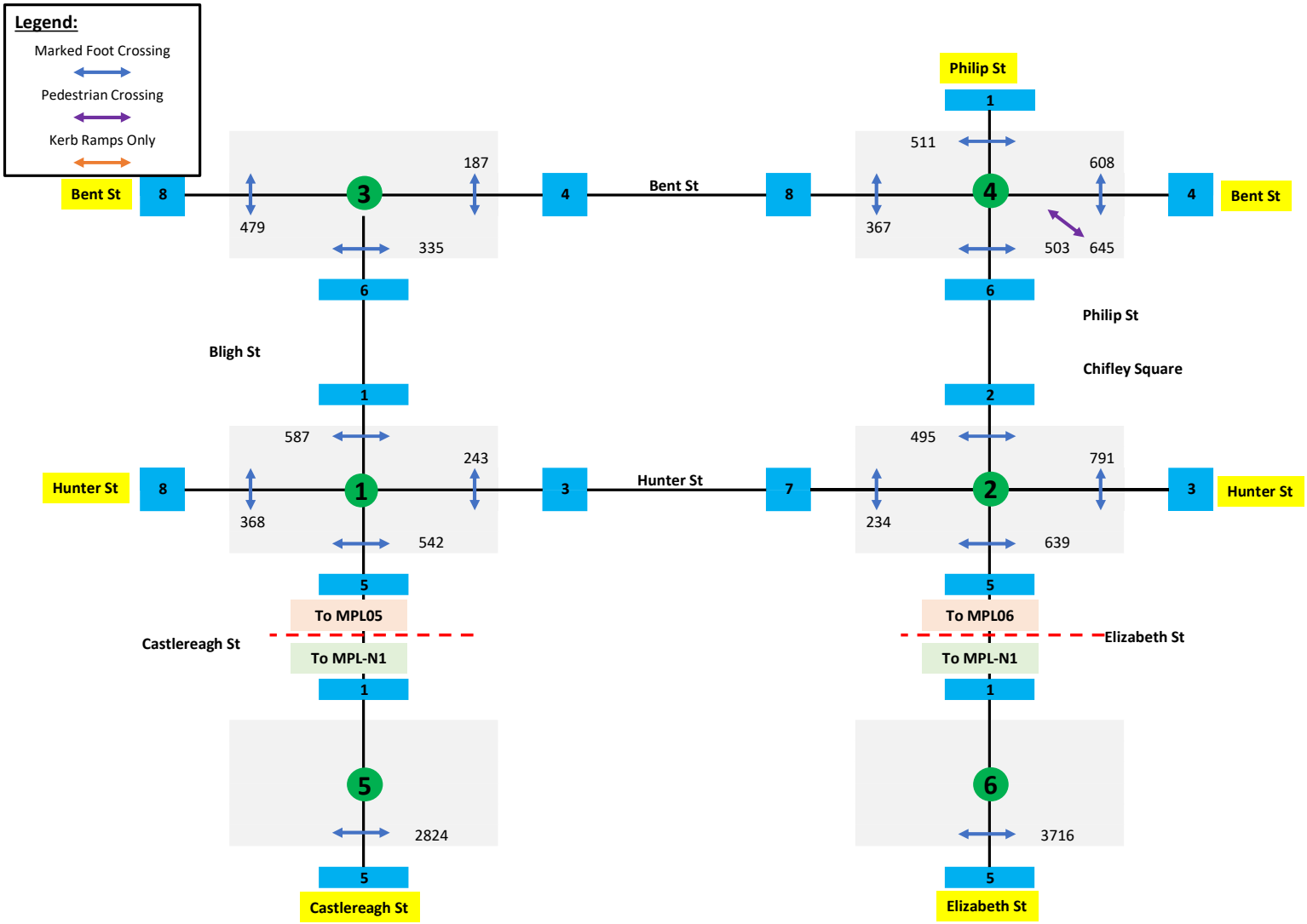
Time Period:

AM

MPL-N1 - 9:00 AM (Wed)

MPL05 - 9:00 AM (Tue)

MPL06 - 8:45 AM (Wed)



Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

AM

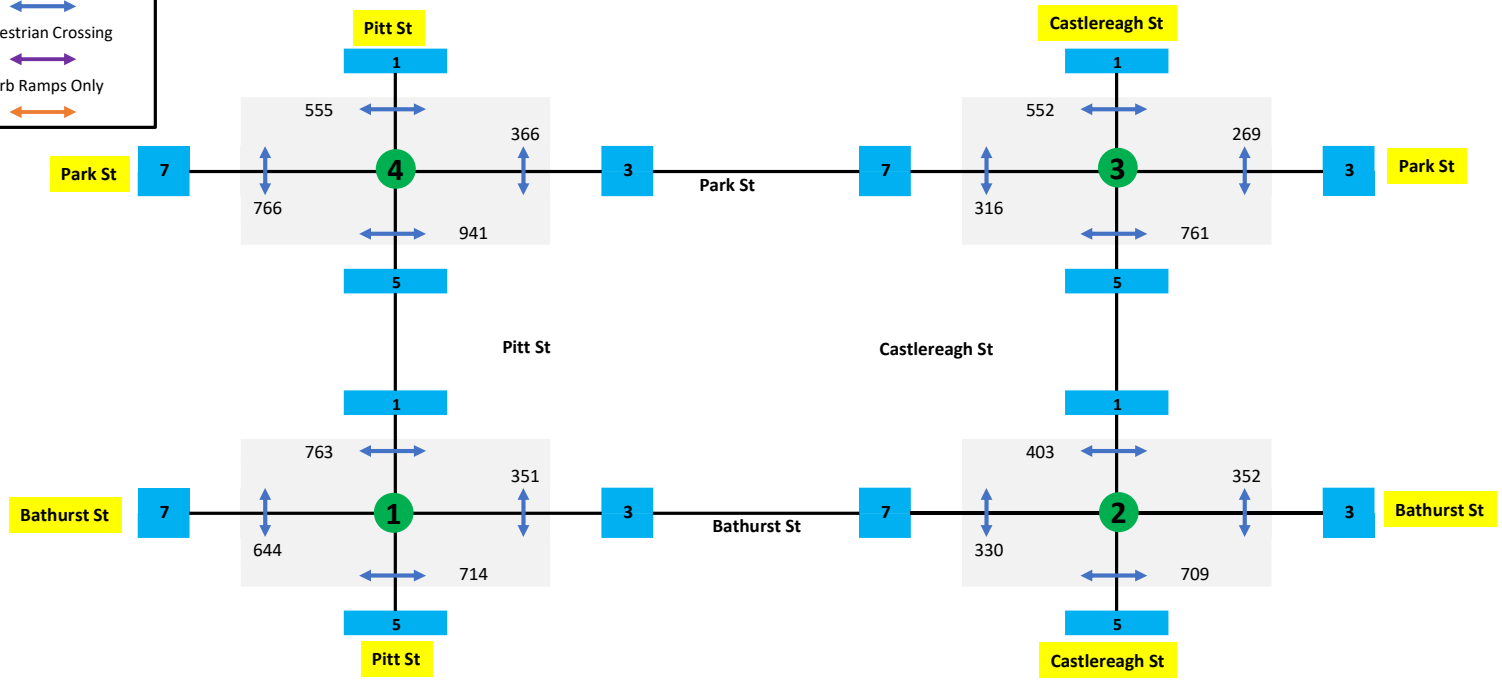
PIT-N1 - 9:15 AM (Tue)

Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only



Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

AM

CEN-N1 - 8:15 AM (Wed)

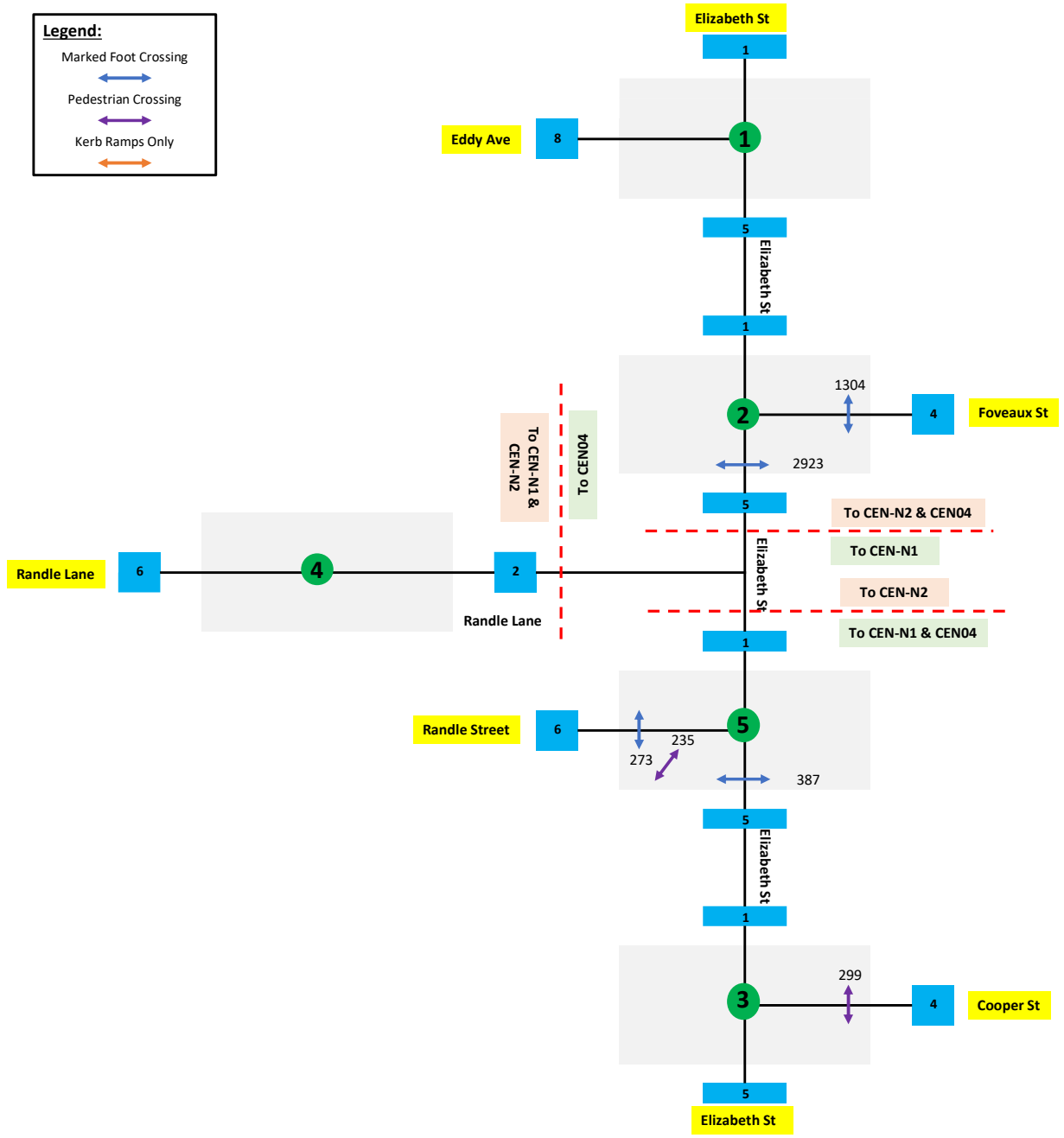
CEN-N2 - 8:15 AM (Thu)

Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only



Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

AM

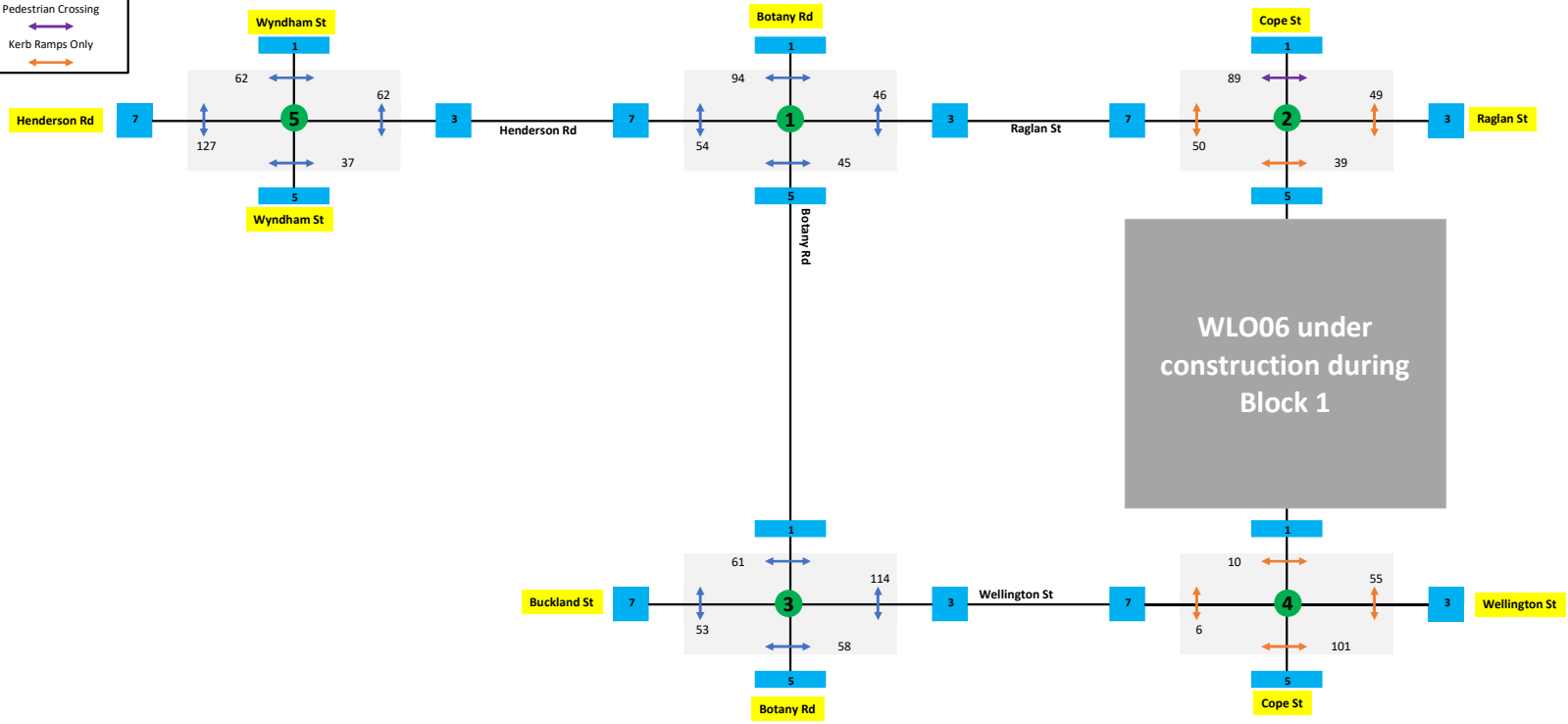
WLO-N1 - 8:15 AM (Wed)

Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only



Block 1

Dropdowns:

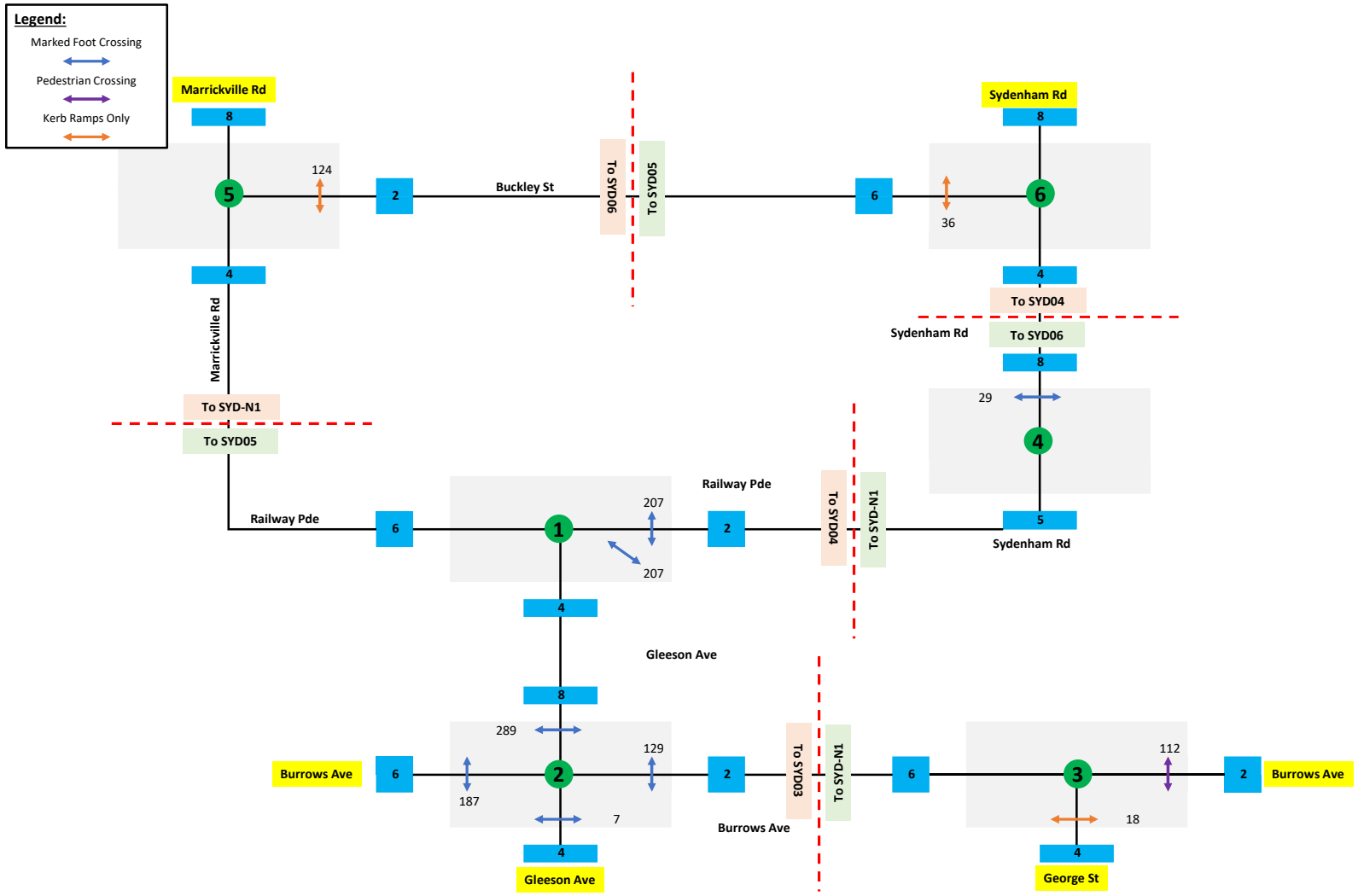
Vehicle Type:

Pedestrians

Time Period:

AM

SYD-N1 - 7:45 AM (Wed)
SYD03 - 7:30 AM (Tue)
SYD04 - 8:15 AM (Tue)
SYD05 - 8:15 AM (Tue)
SYD06 - 8:15 AM (Tue)



Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

PM

CWD01 - 3:15 PM (Fri)

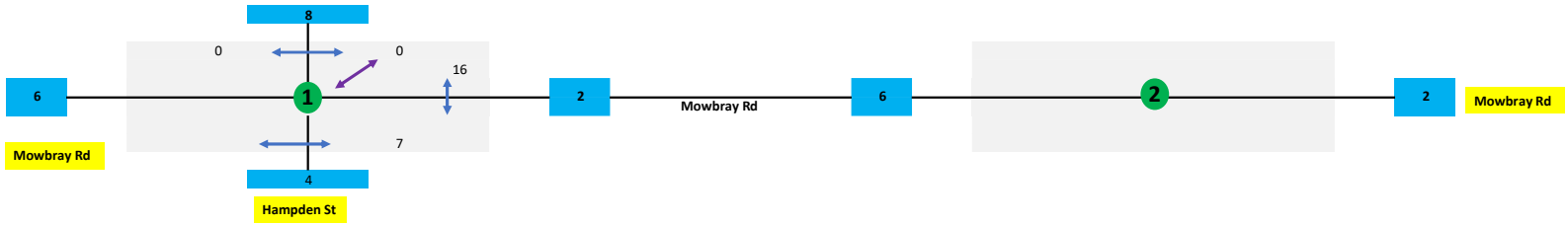
CWD02 - 3:15 PM (Fri)

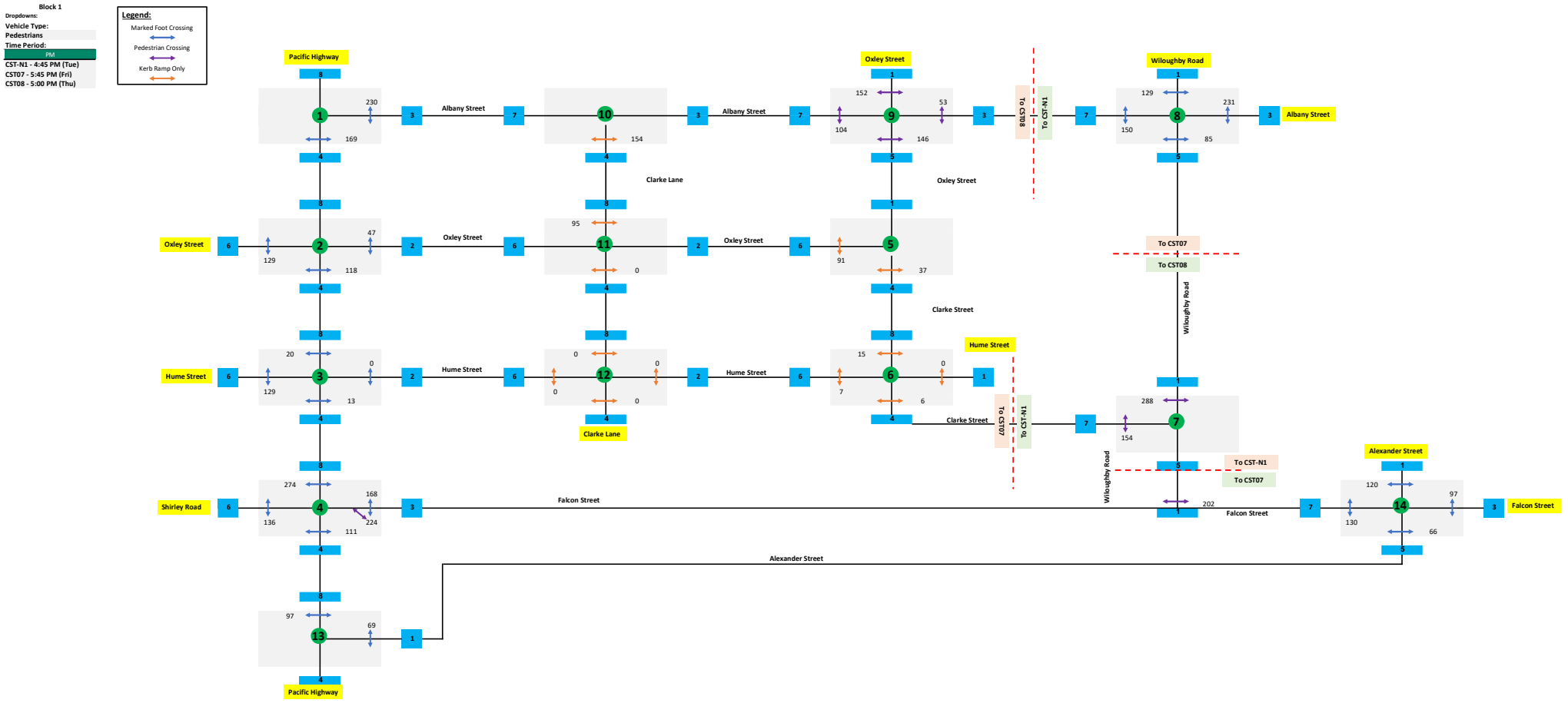
Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only




Block 1
Dropdowns:
Vehicle Type:
Pedestrians
Time Period:
PM
CST-N1 - 4:45 PM (Tue)
CST07 - 5:45 PM (Fri)
CST08 - 5:00 PM (Thu)
Legend:
Marked Foot Crossing
Pedestrian Crossing
Kerb Ramp Only
Pacific Highway
Albany Street
Oxley Street
Wiloughby Road
Hume Street
Clarke Lane
Clarke Street
Shirley Road
Falcon Street
Alexander Street
To CST08
To CST-N1
To CST07
To CST-N1
To CST07
To CST08
1
2
3
4
5
6
7
8
9
10
11
12
13
14
230
169
154
152
53
104
146
129
231
150
85
47
129
118
95
0
91
37
20
0
129
13
0
0
0
0
15
0
7
6
288
154
274
168
136
111
224
97
69
120
97
130
66
202

Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

PM

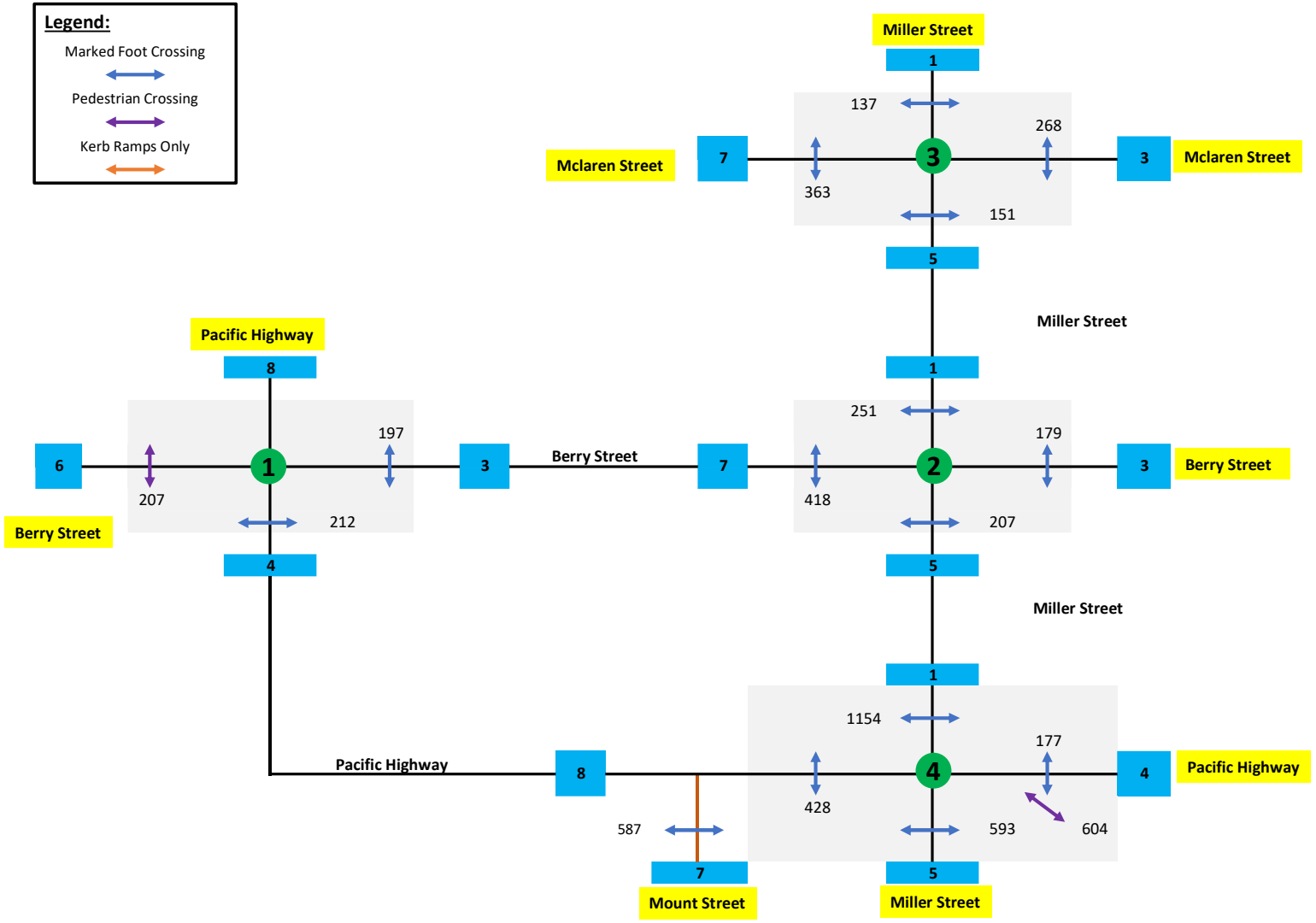
VIC-N1 - 3:00 PM (Wed)

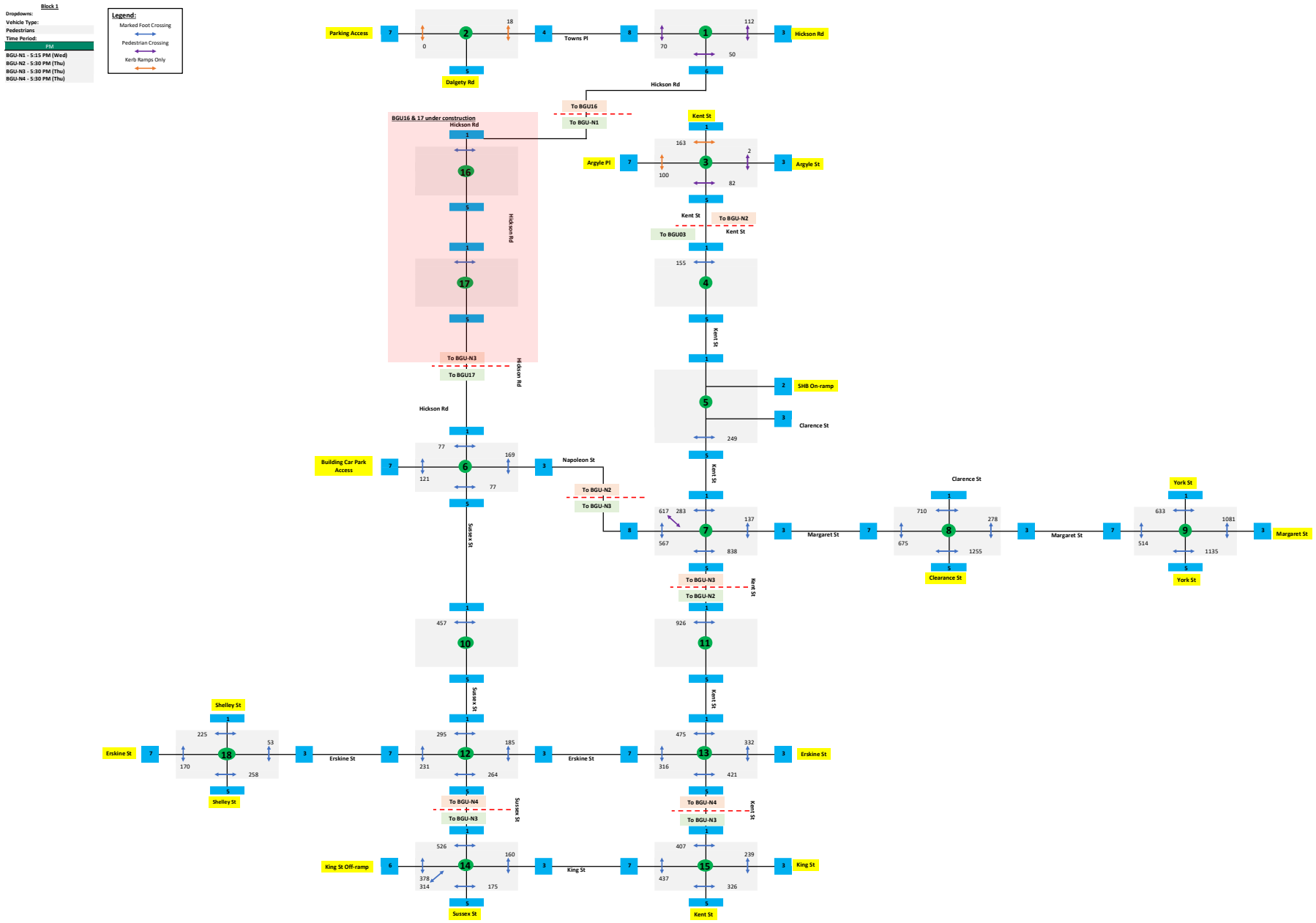
Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only




Block 1
Dropdowns:
Vehicle Type:
Pedestrians
Time Period:
PM
BGU-N1 - 5:15 PM (Wed)
BGU-N2 - 5:30 PM (Thu)
BGU-N3 - 5:30 PM (Thu)
BGU-N4 - 5:30 PM (Thu)
Legend:
Marked Foot Crossing
Pedestrian Crossing
Kerb Ramps Only
Parking Access
Towns Pl
Hickson Rd
Dalgety Rd
To BGU16
To BGU-N1
BGU16 & 17 under construction
Argyle Pl
Argyle St
Kent St
To BGU-N2
To BGU03
SHB On-ramp
Clarence St
Building Car Park Access
Napoleon St
To BGU-N3
To BGU17
Sussex St
Margaret St
York St
Clearance St
Shelley St
Erskine St
To BGU-N4
King St Off-ramp
King St

Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

PM

MPL-N1 - 5:30 PM (Wed)

MPL05 - 6:00 PM (Fri)

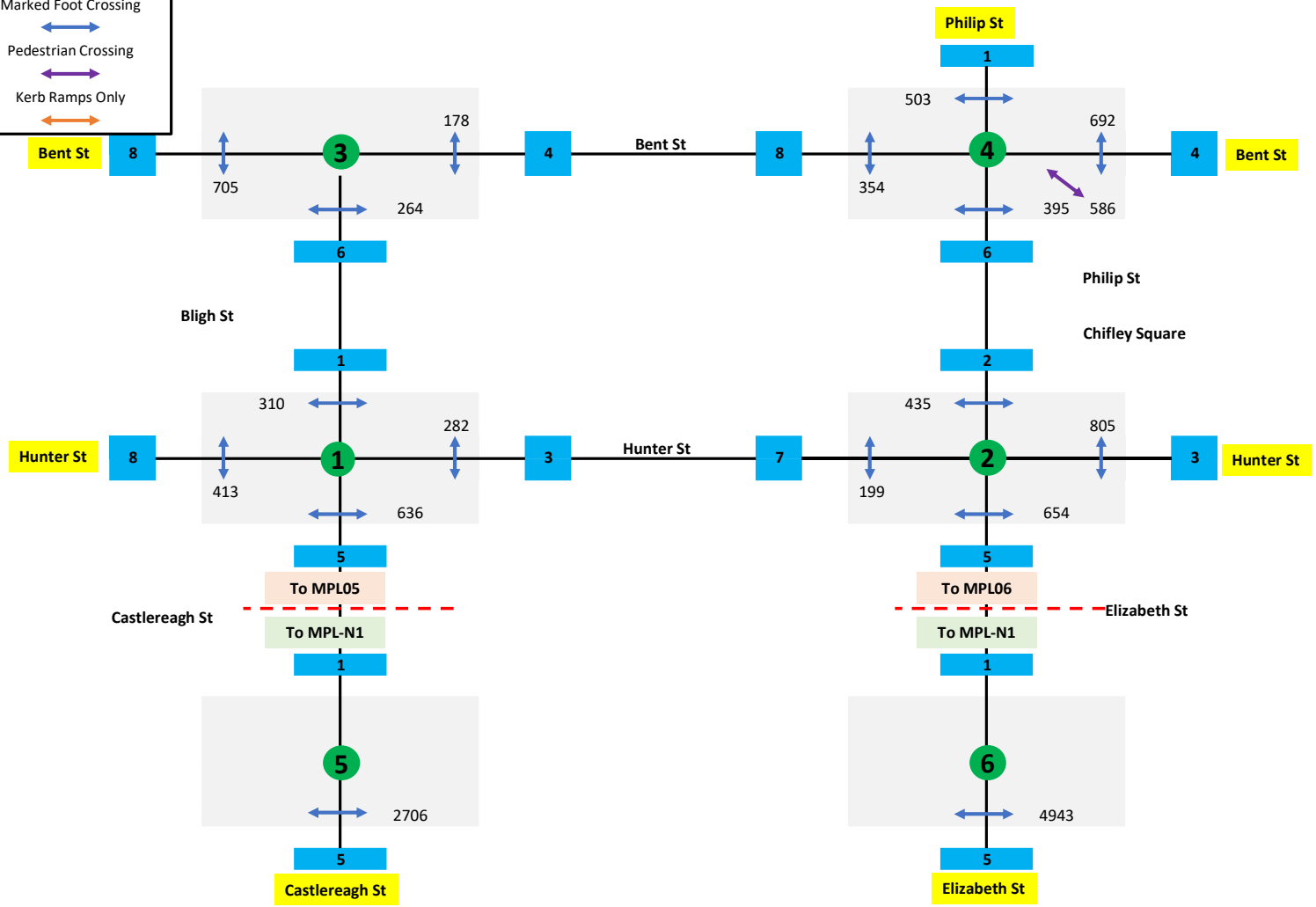
MPL06 - 5:15 PM (Wed)

Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only



Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

PM

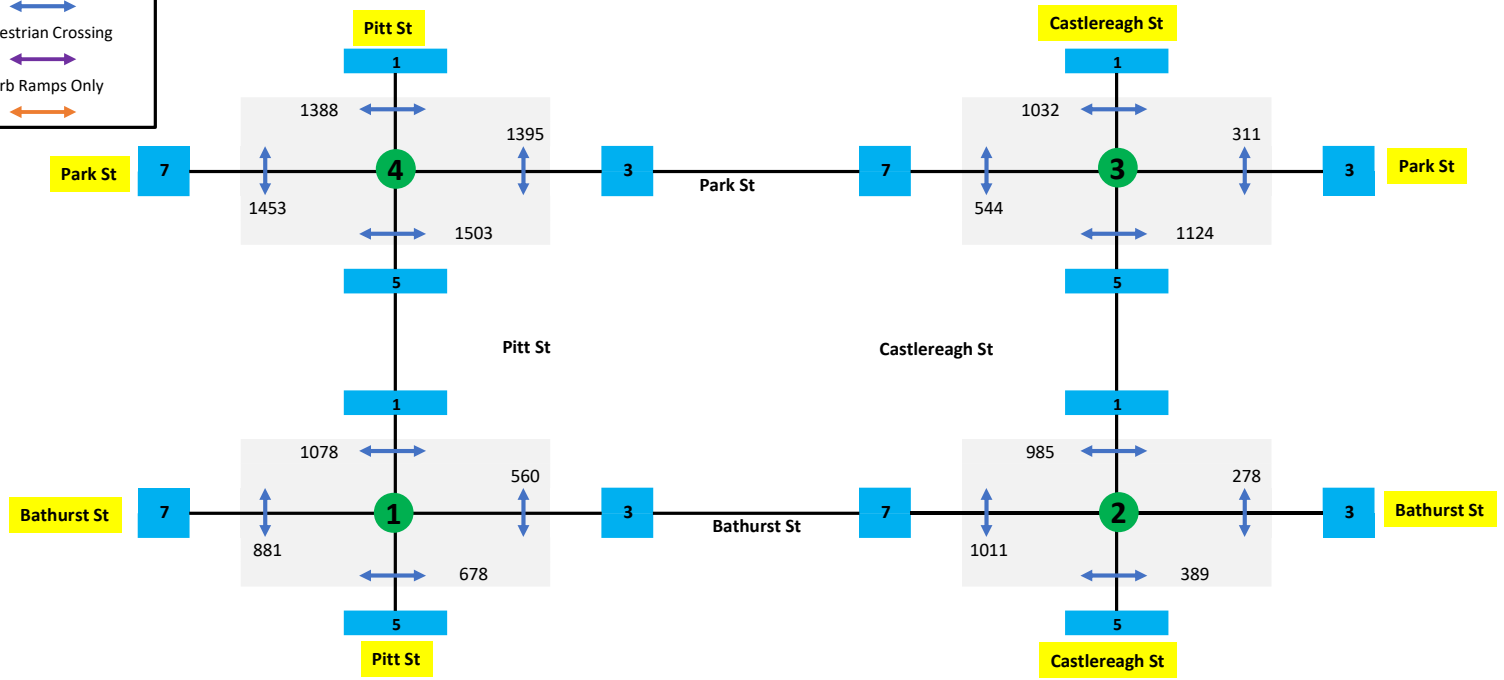
PIT-N1 - 4:45 PM (Thu)

Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only



Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

PM

CEN-N1 - 5:15 PM (Wed)

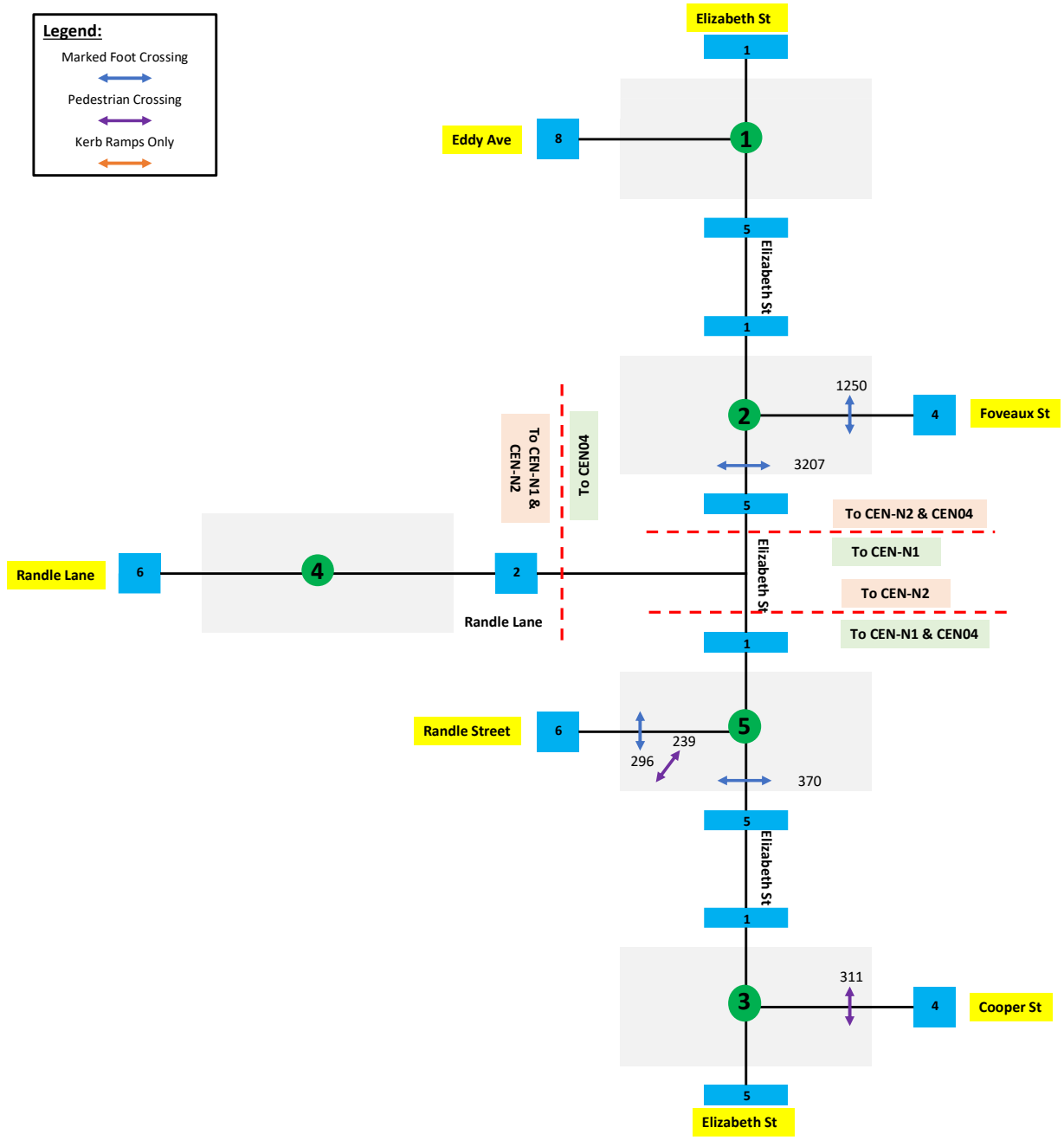
CEN-N2 - 5:30 PM (Thu)

Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only



Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

PM

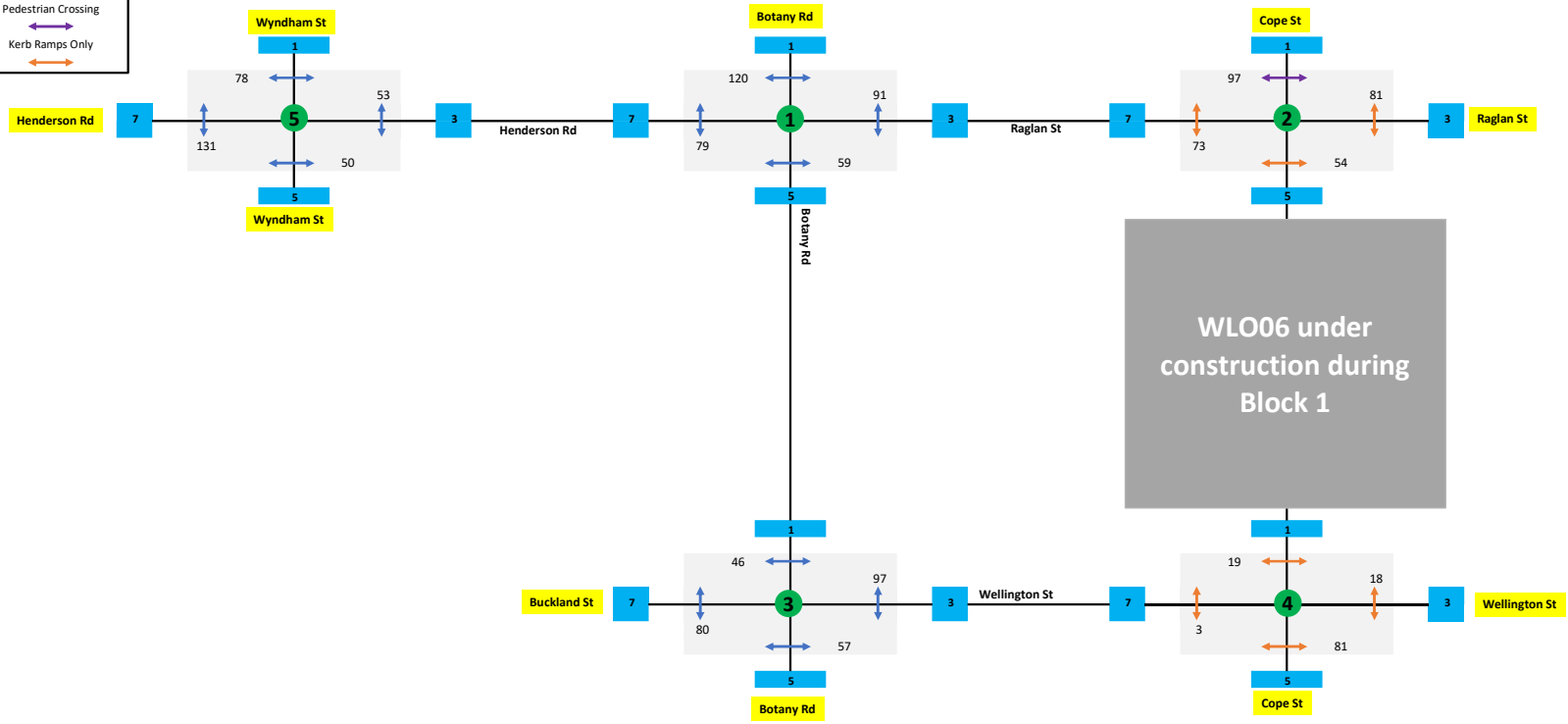
WLO-N1 - 5:00 PM (Wed)

Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only



Block 1

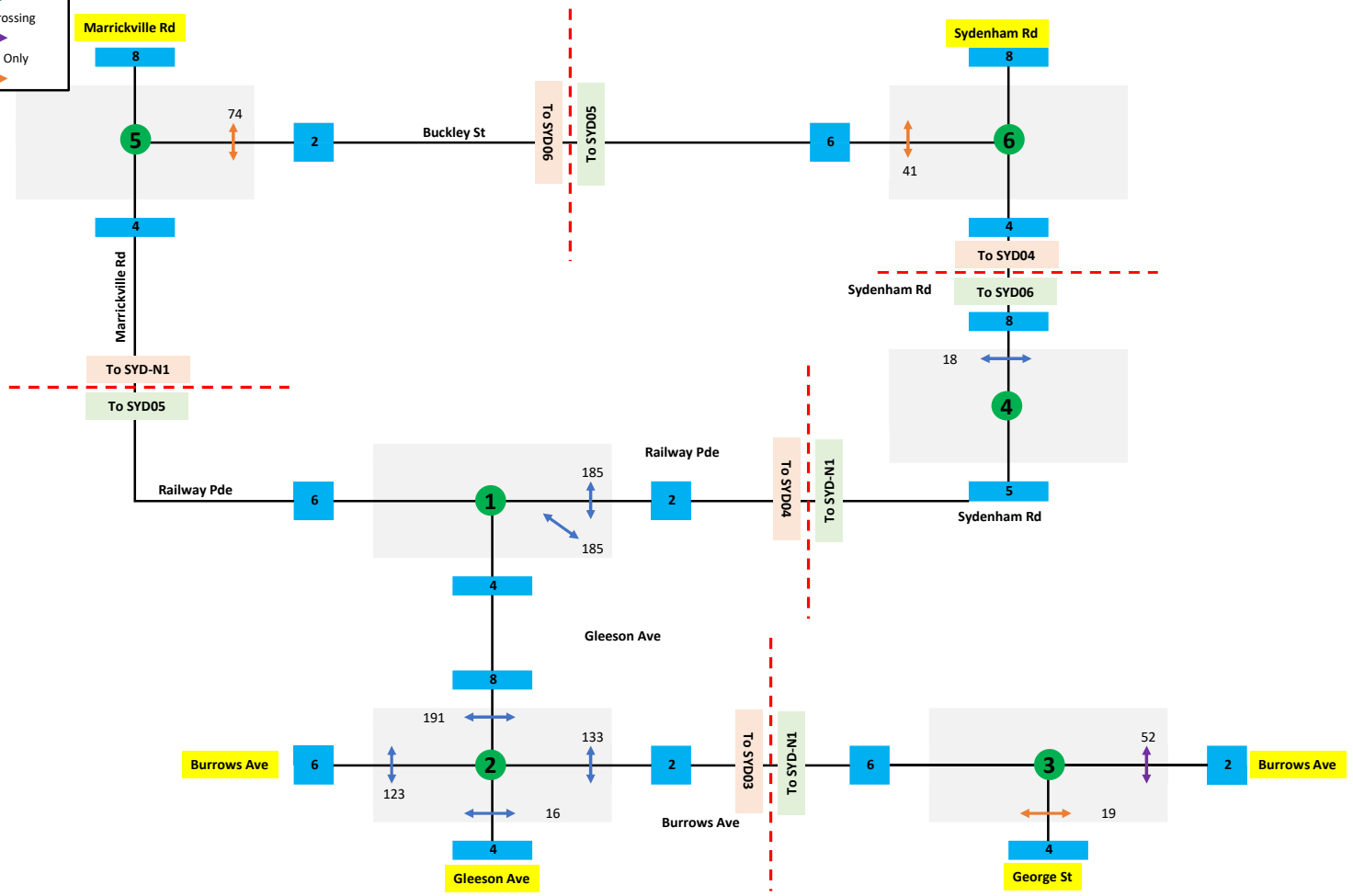
Dropdowns:
Vehicle Type:
Pedestrians
Time Period:
PM
SYD-N1 - 3:30 PM (Wed)
SYD03 - 3:45 PM (Tue)
SYD04 - 4:15 PM (Tue)
SYD05 - 4:45 PM (Tue)
SYD06 - 3:15 PM (Fri)

Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only



Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

WEEKEND

CWD01 - 11:15 AM (Sat)

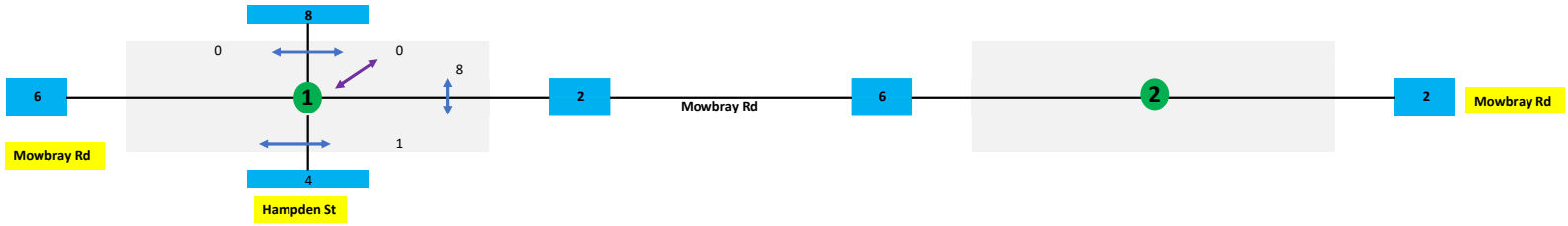
CWD02 - 12:30 PM (Sat)

Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only



Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

WEEKEND

CST-N1 - 11:30 AM (Sat)

CST07 - 11:45 AM (Sat)

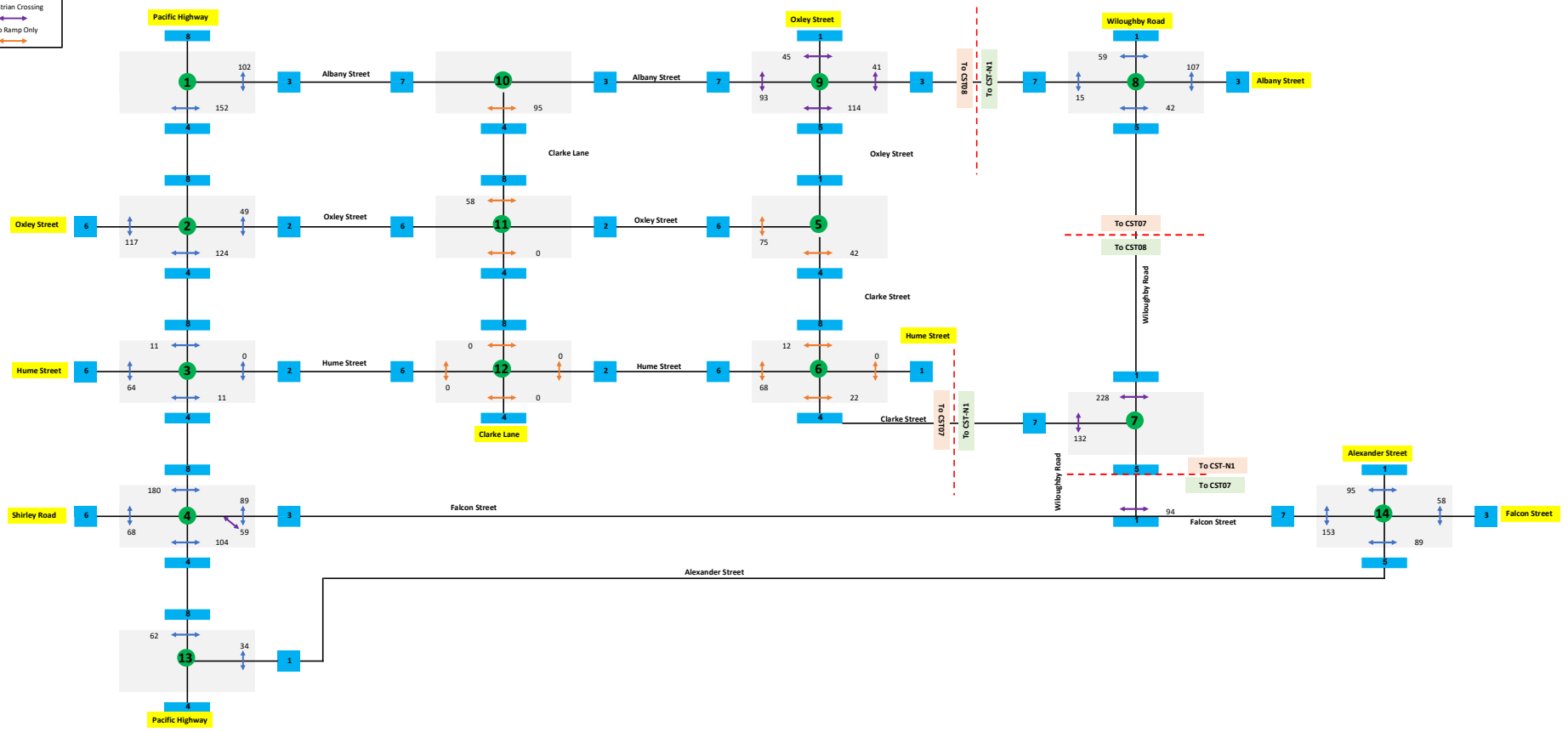
CST08 - 11:30 AM (Sat)

Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramp Only



Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

WEEKEND

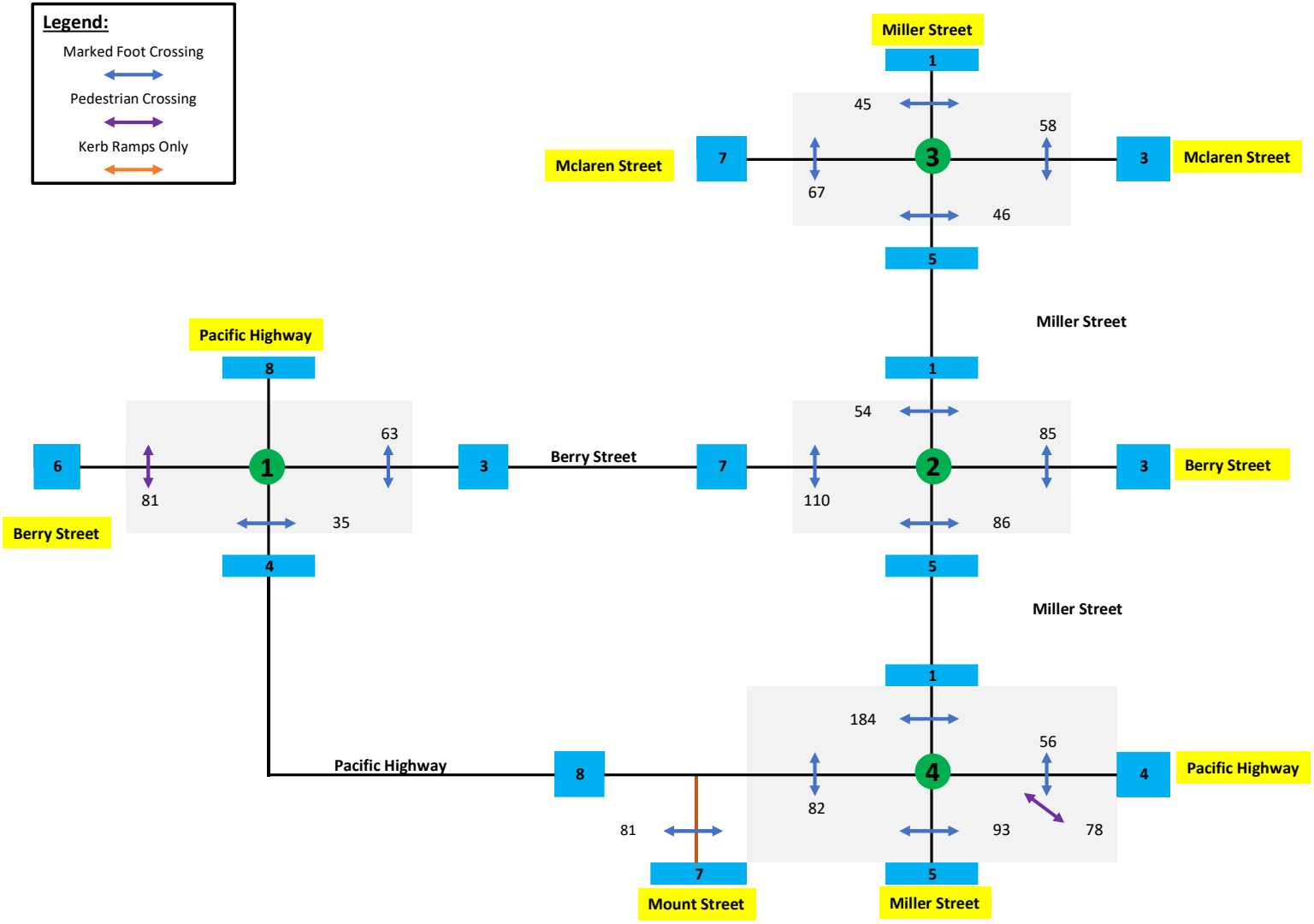
VIC-N1 - 11:30 AM (Sat)

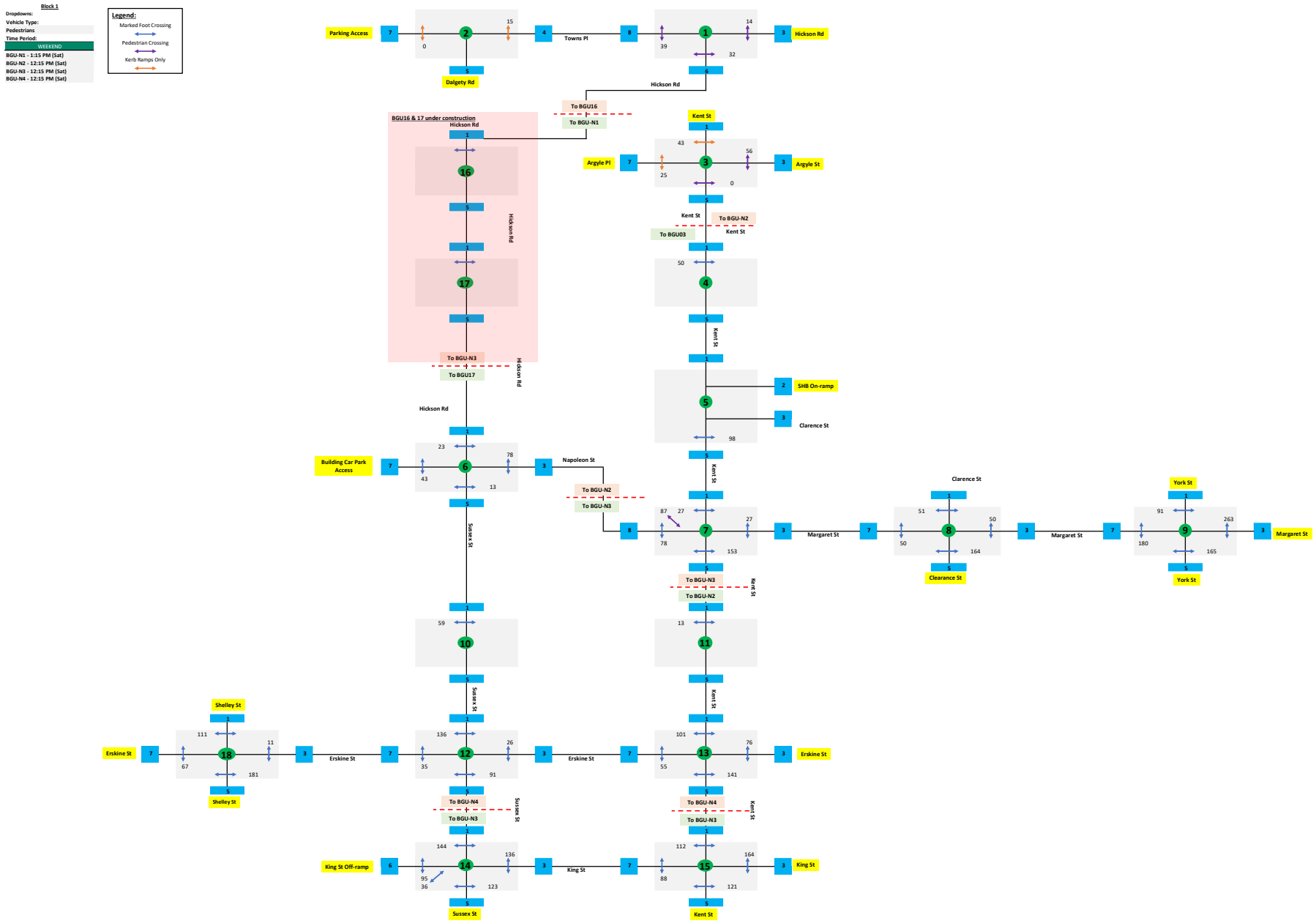
Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only




Block 1
Dropdowns:
Vehicle Type:
Pedestrians
Time Period:
WEEKEND
BGU-N1 - 1:15 PM (Sat)
BGU-N2 - 12:15 PM (Sat)
BGU-N3 - 12:15 PM (Sat)
BGU-N4 - 12:15 PM (Sat)
Legend:
Marked Foot Crossing
Pedestrian Crossing
Kerb Ramps Only
Parking Access
Towns Pl
Hickson Rd
Dalgety Rd
To BGU16
To BGU-N1
BGU16 & 17 under construction
Hickson Rd
Argyle Pl
Argyle St
Kent St
To BGU-N2
To BGU03
To BGU-N3
To BGU17
SHB On-ramp
Clarence St
Building Car Park Access
Napoleon St
To BGU-N2
To BGU-N3
Margaret St
Clearance St
York St
Sussex St
Shelley St
Erskine St
To BGU-N4
To BGU-N3
King St Off-ramp
King St

Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

WEEKEND

MPL-N1 - 12:15 PM (Sat)

MPL05 - 1:30 PM (Sat)

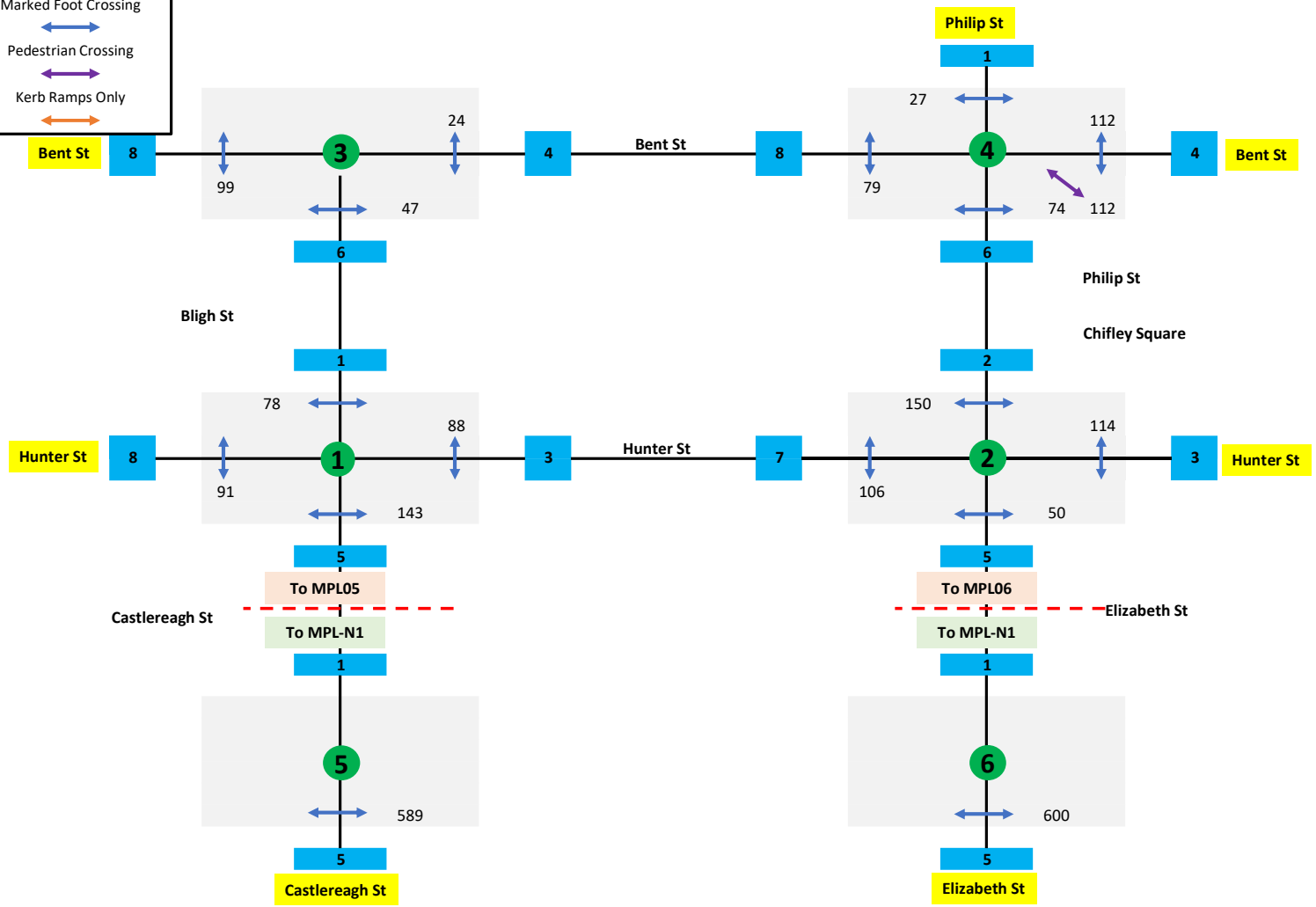
MPL06 - 12:15 PM (Sat)

Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only



Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

WEEKEND

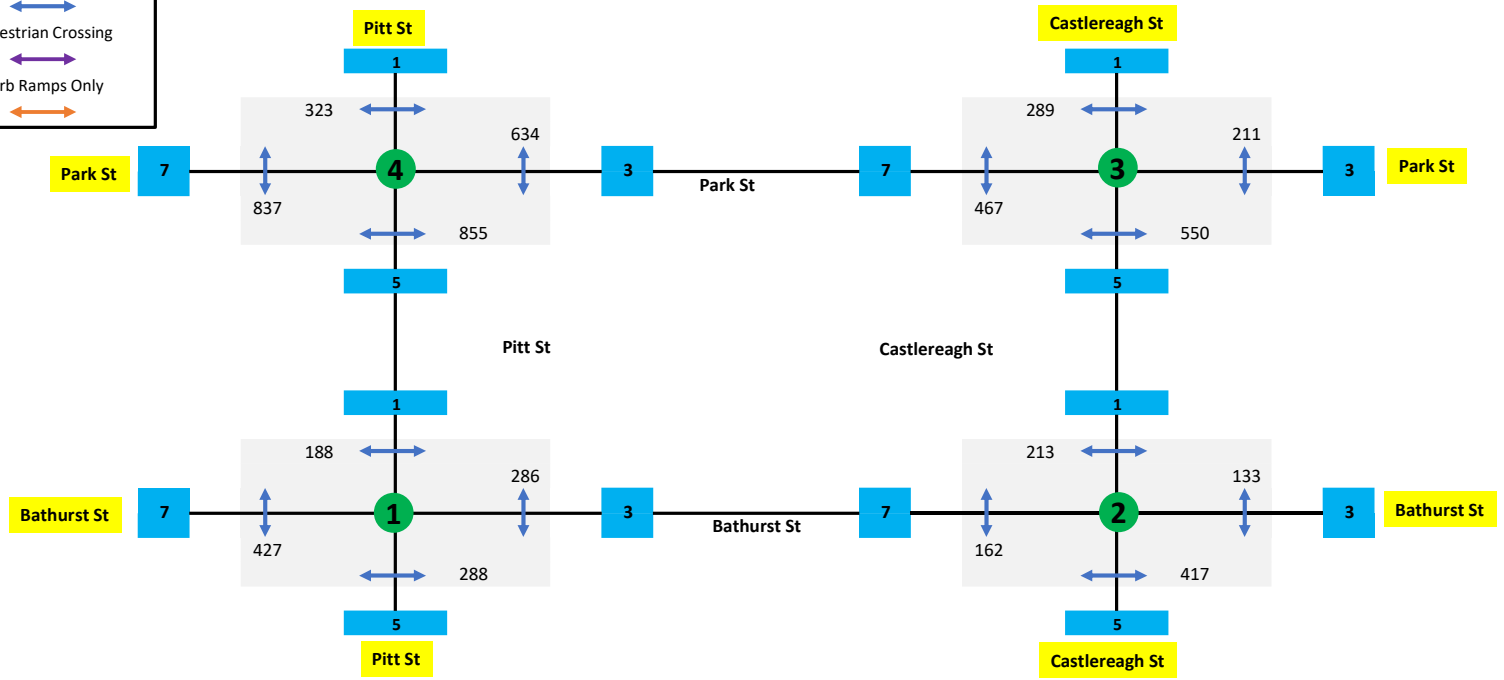
PIT-N1 - 12:15 PM (Sat)

Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only



Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

WEEKEND

CEN-N1 - 1:45 PM (Sat)

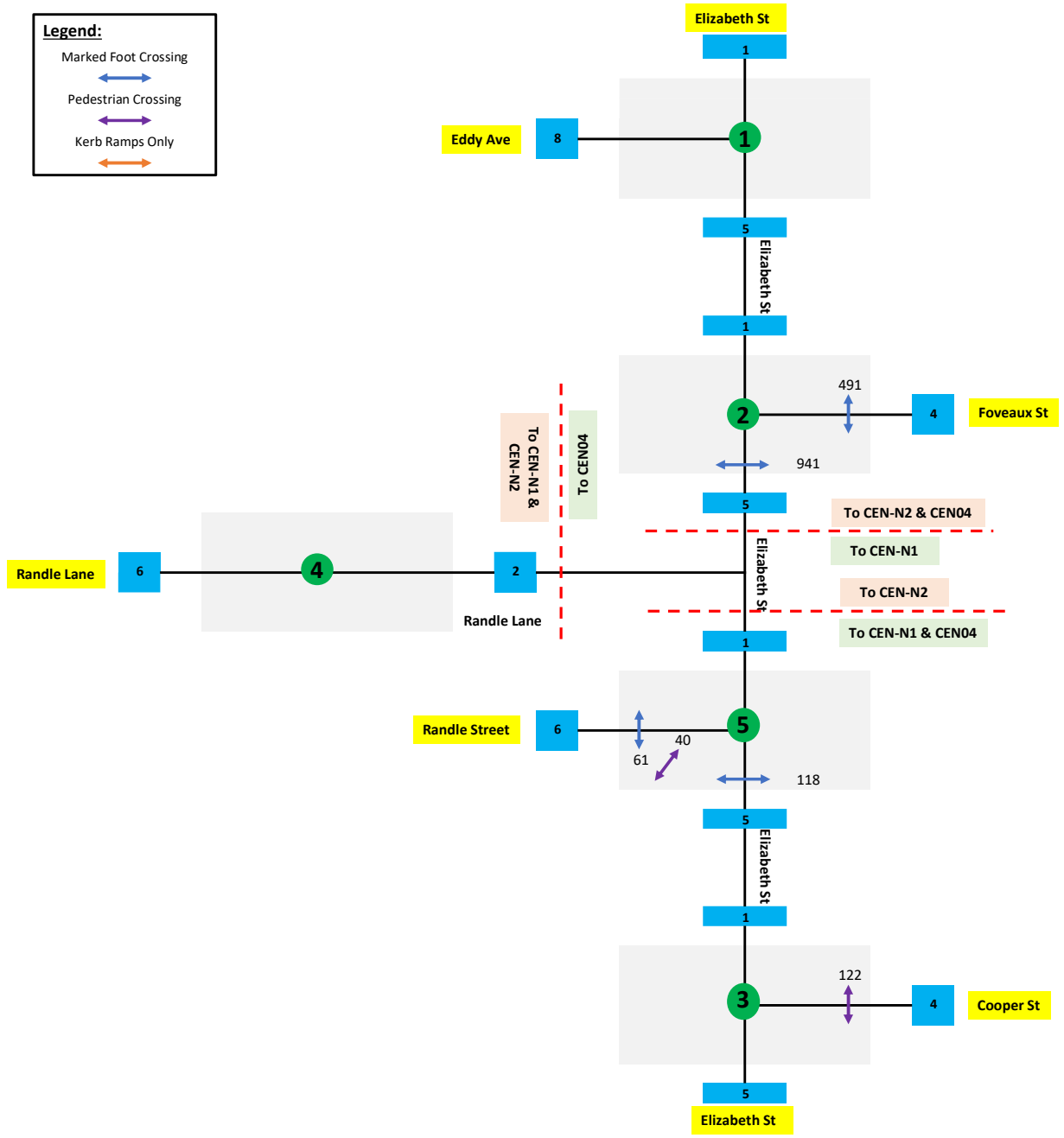
CEN-N2 - 12:00 PM (Sat)

Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only



Block 1

Dropdowns:

Vehicle Type:

Pedestrians

Time Period:

WEEKEND

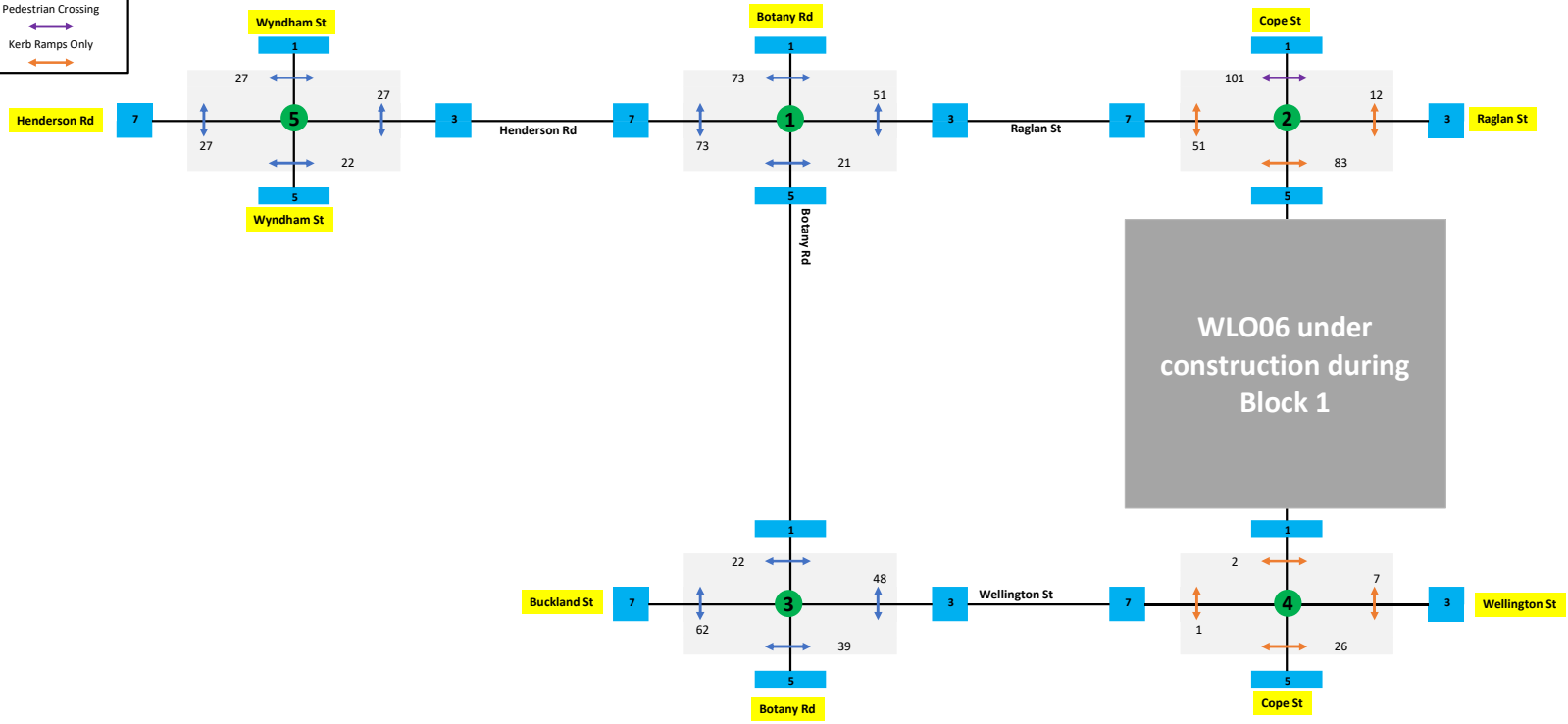
WLO-N1 - 12:15 PM (Sat)

Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only



Block 1

Dropdowns:

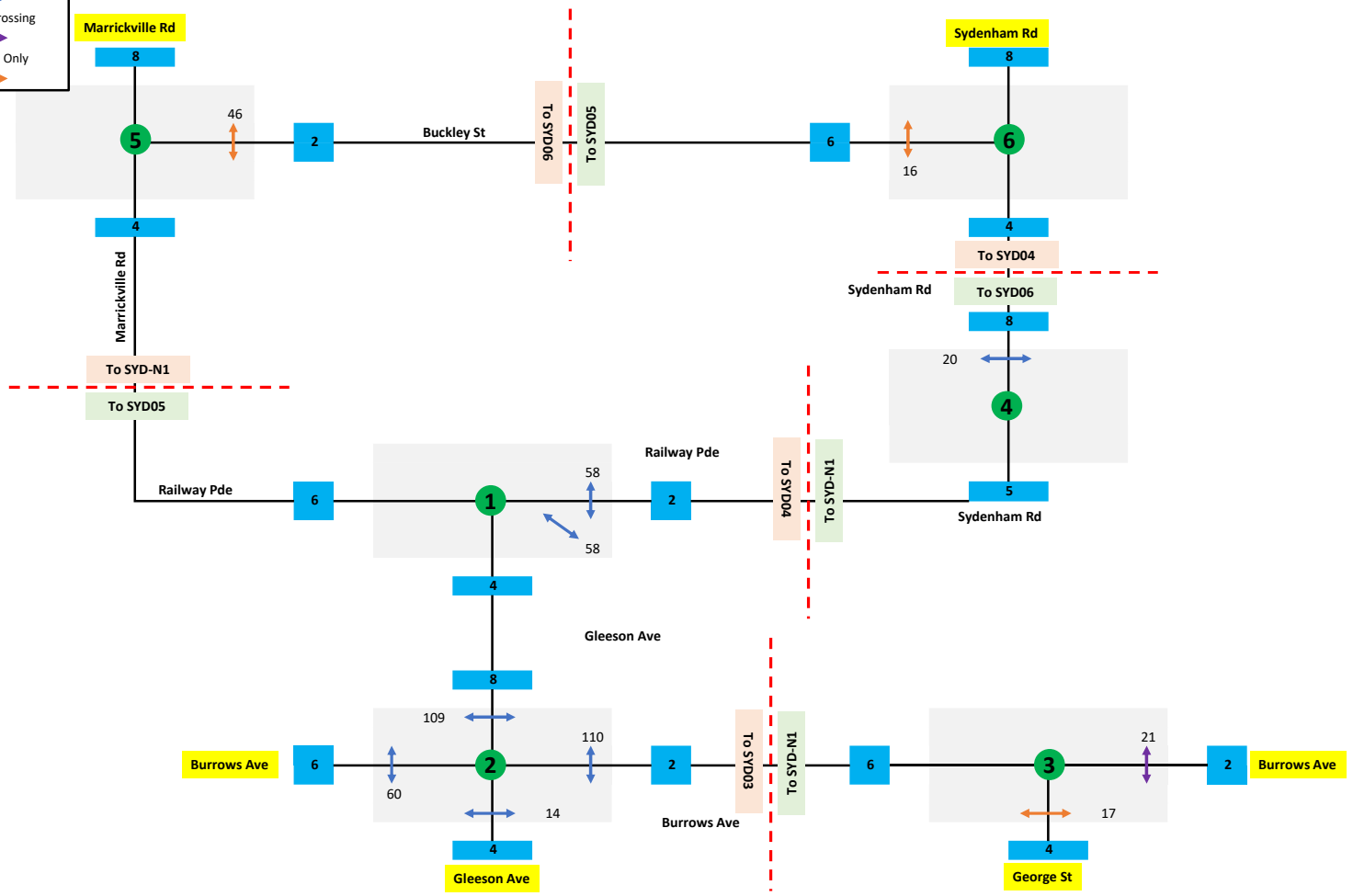
Vehicle Type:	
Pedestrians	
Time Period:	
WEEKEND	
SYD-N1 - 1:00 PM (Sun)	
SYD03 - 1:00 PM (Sat)	
SYD04 - 1:45 PM (Sat)	
SYD05 - 1:45 PM (Sat)	
SYD06 - 10:30 AM (Sat)	

Legend:

Marked Foot Crossing

Pedestrian Crossing

Kerb Ramps Only



Appendix D

Traffic Monitoring – Station Overview

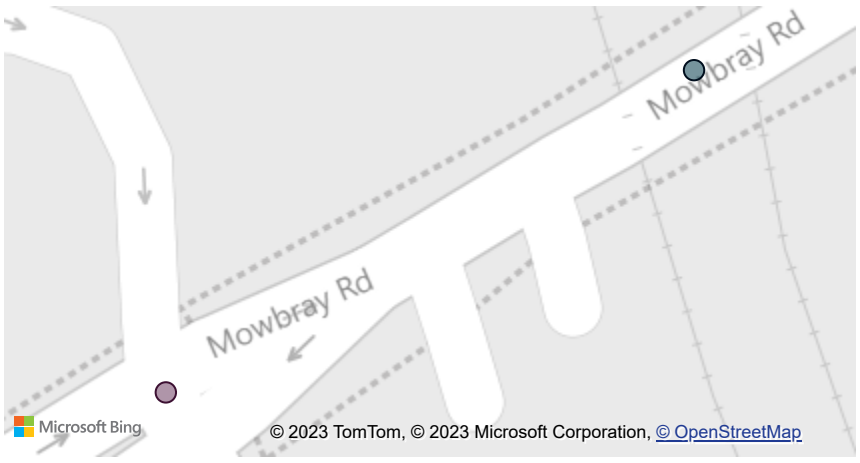
Appendix D Traffic Monitoring – Station Overview

Station Report

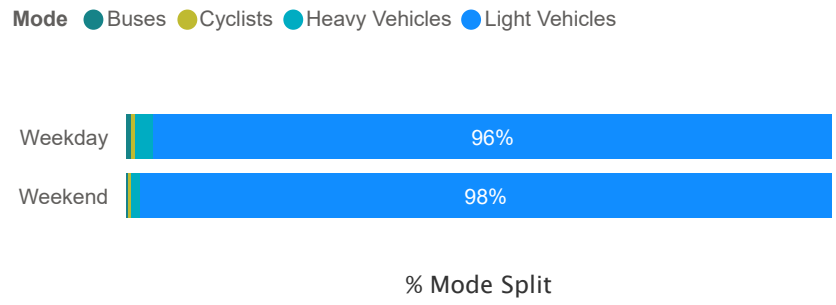
> **Chatswood Station** **2** **Intersections**

Map

ID CWD01 CWD02

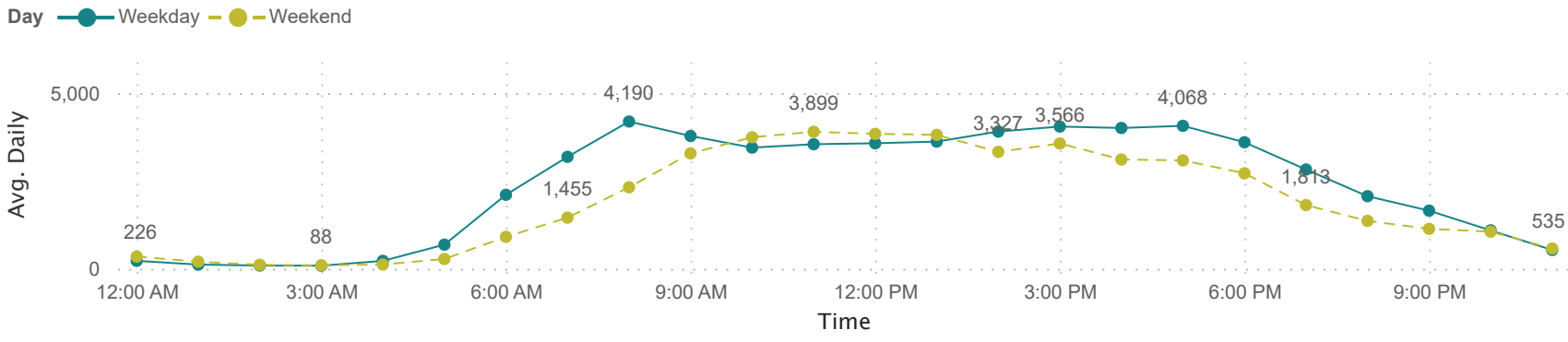


Total Mode Split

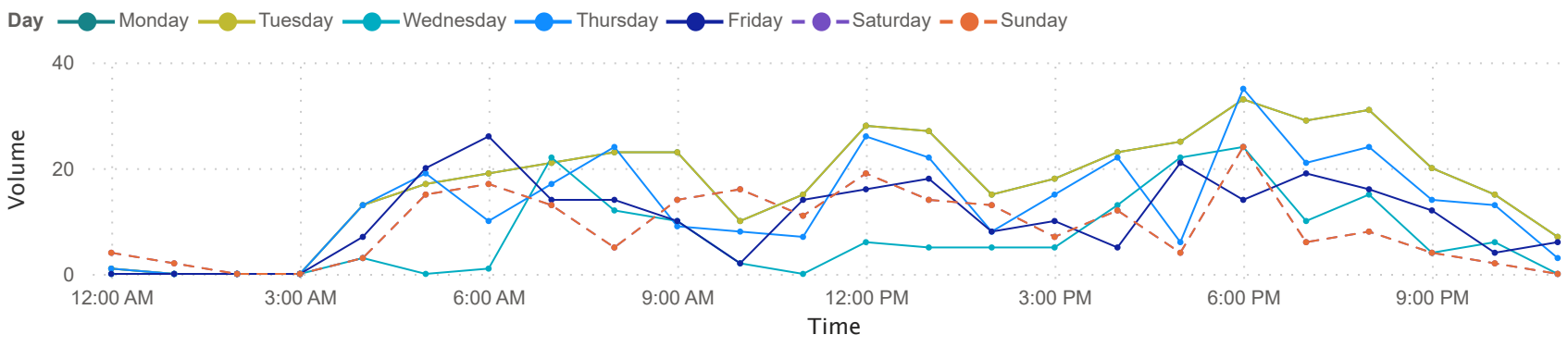


Day	Buses	Cyclists	Heavy Vehicles	Light Vehicles
Weekday	0.7%	0.6%	2.6%	96.1%
Weekend	0.2%	0.5%	1.2%	98.1%

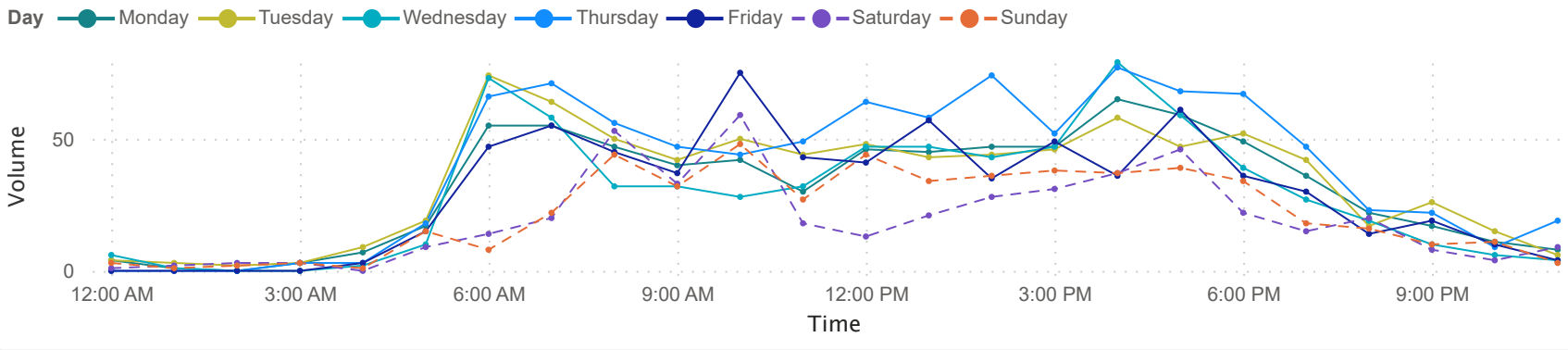
Average daily vehicles and cyclists profile for a weekday and weekend



Cyclists volumes



Pedestrian volumes



Vehicle volumes

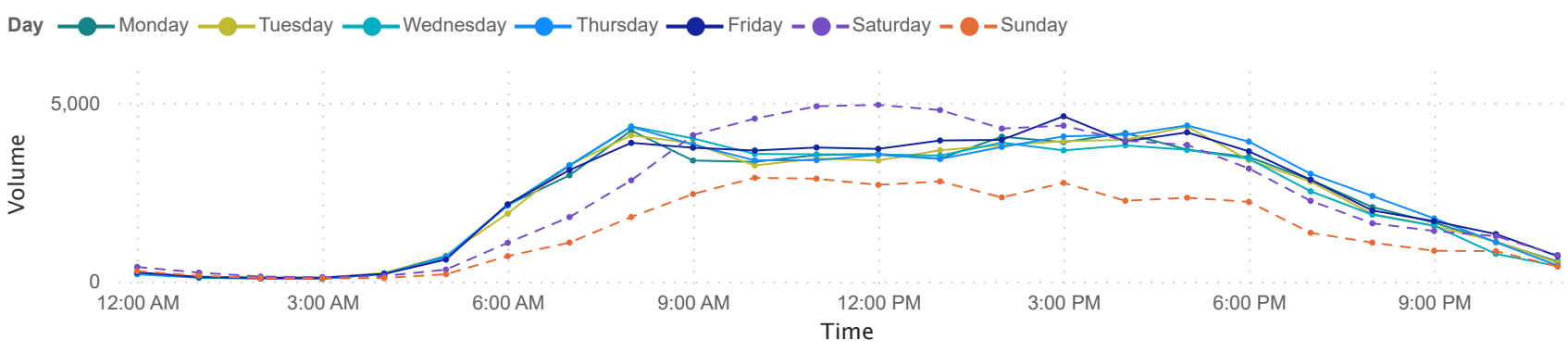
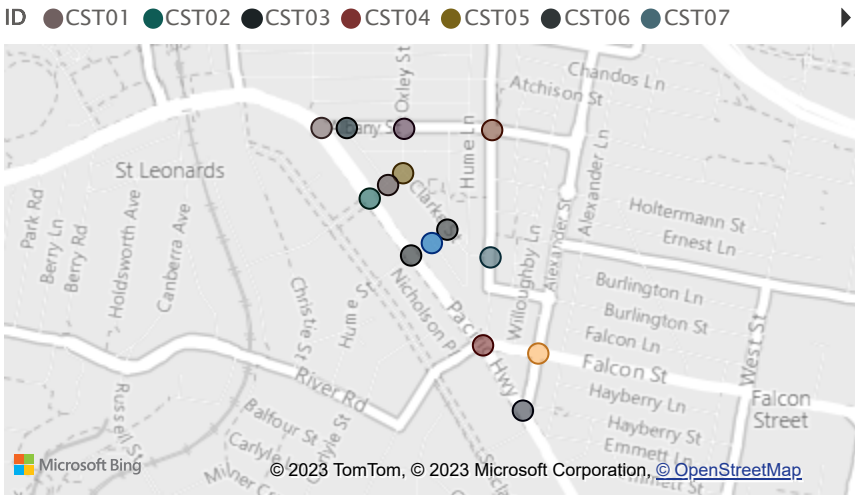


FIGURE 5-XX

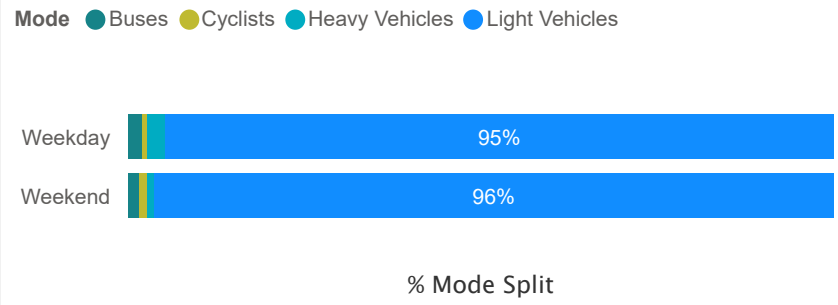
Station Report

> **Crows Nest Station** | **14** | **Intersections**

Map

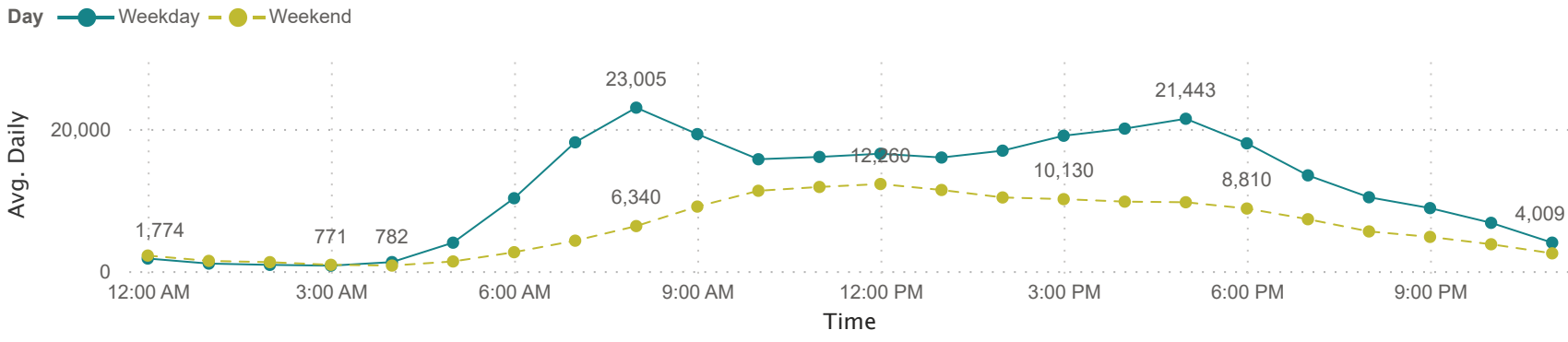


Total Mode Split

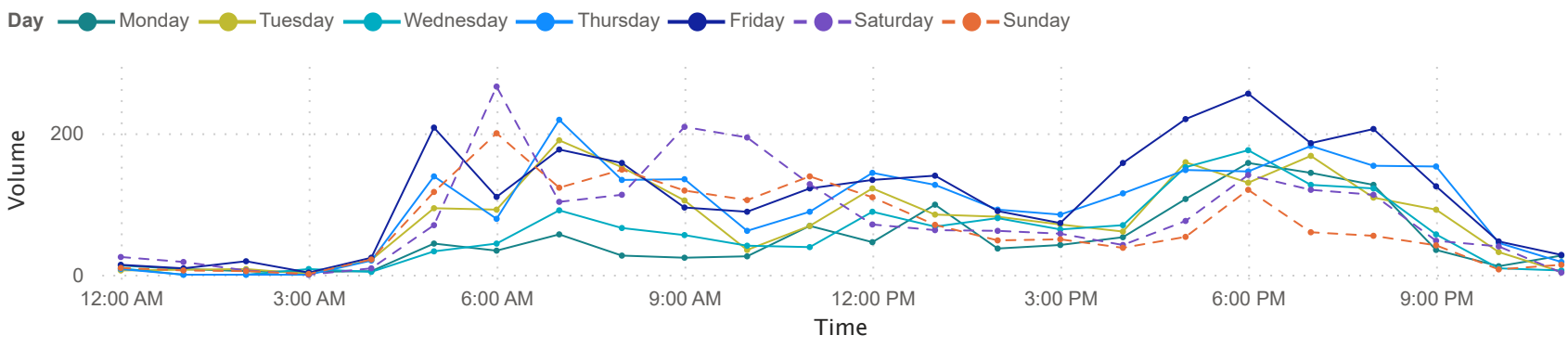


Day	Buses	Cyclists	Heavy Vehicles	Light Vehicles
Weekday	2.0%	0.7%	2.5%	94.8%
Weekend	1.5%	1.2%	1.0%	96.4%

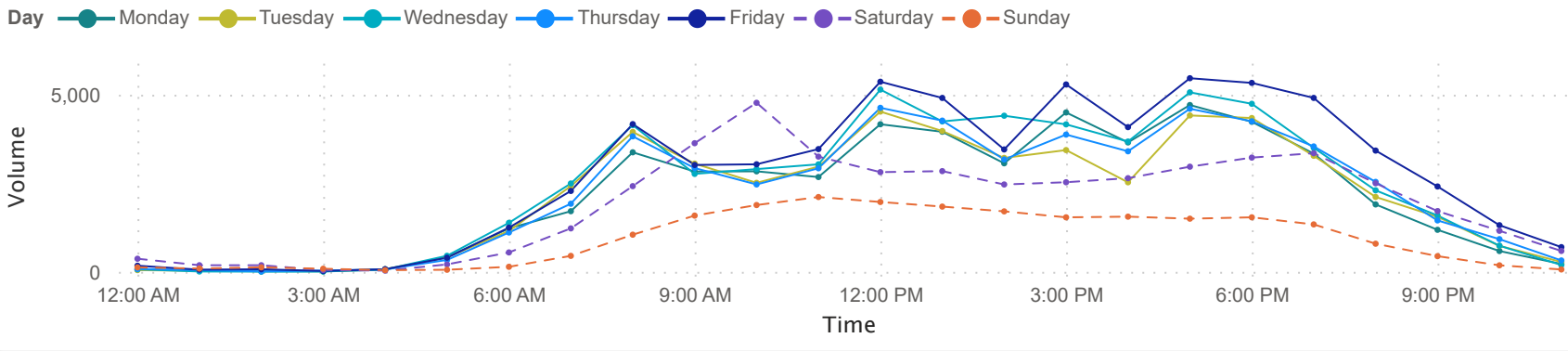
Average daily vehicles and cyclists profile for a weekday and weekend



Cyclists volumes



Pedestrian volumes



Vehicle volumes

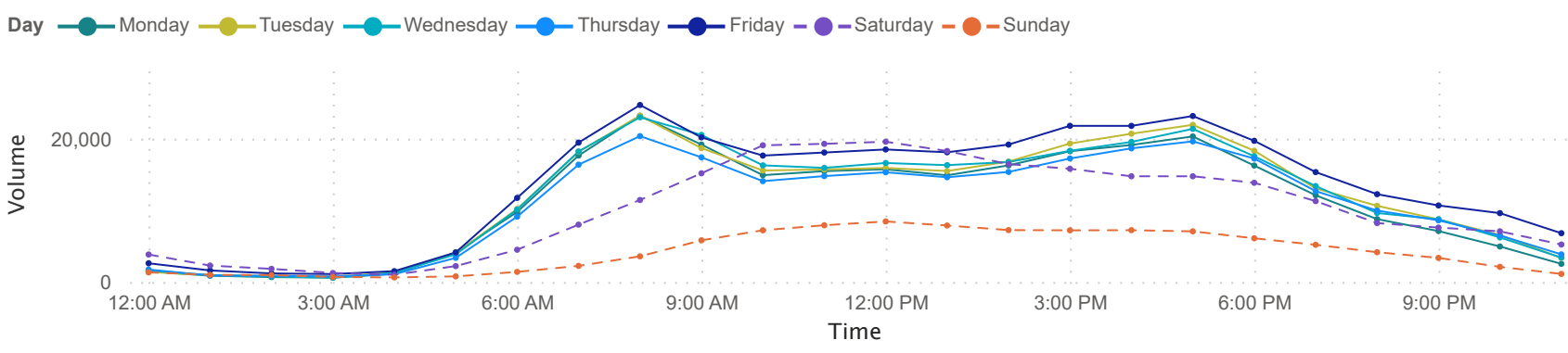
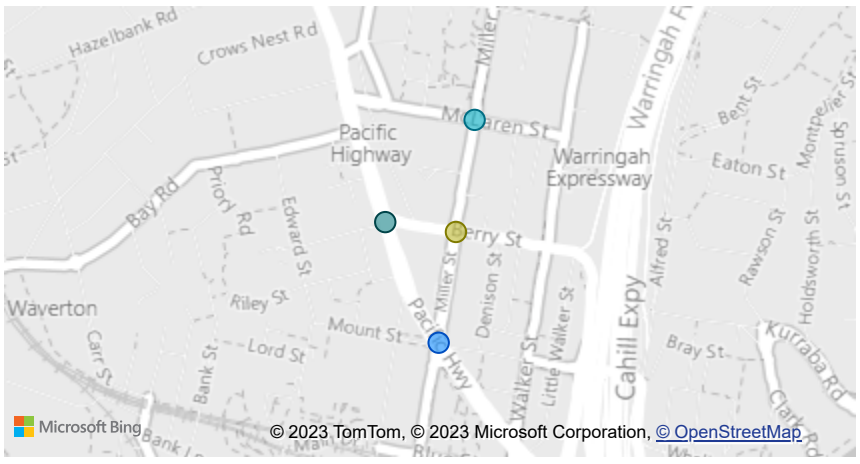


FIGURE 5-XX

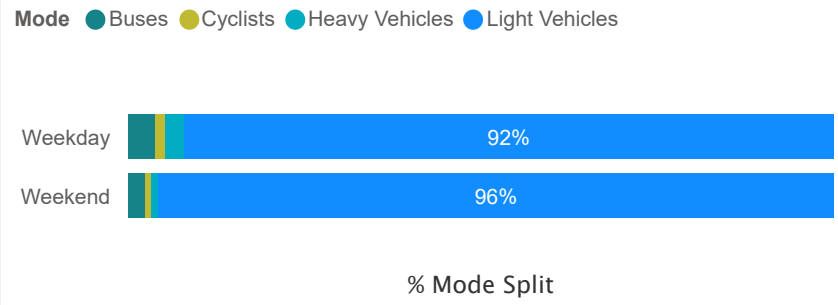
Station Report

> **Victoria Cross Station** **4** **Intersections**

Map

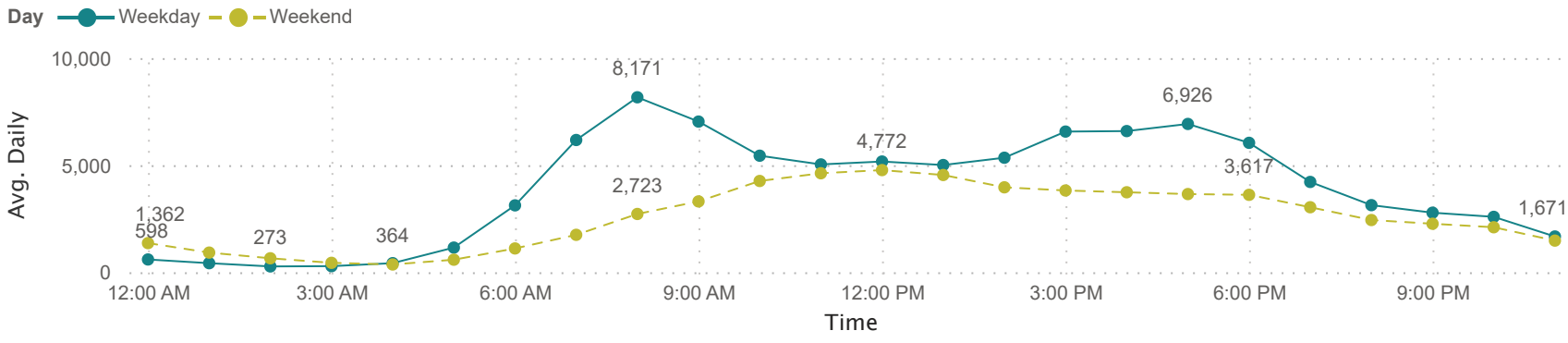


Total Mode Split

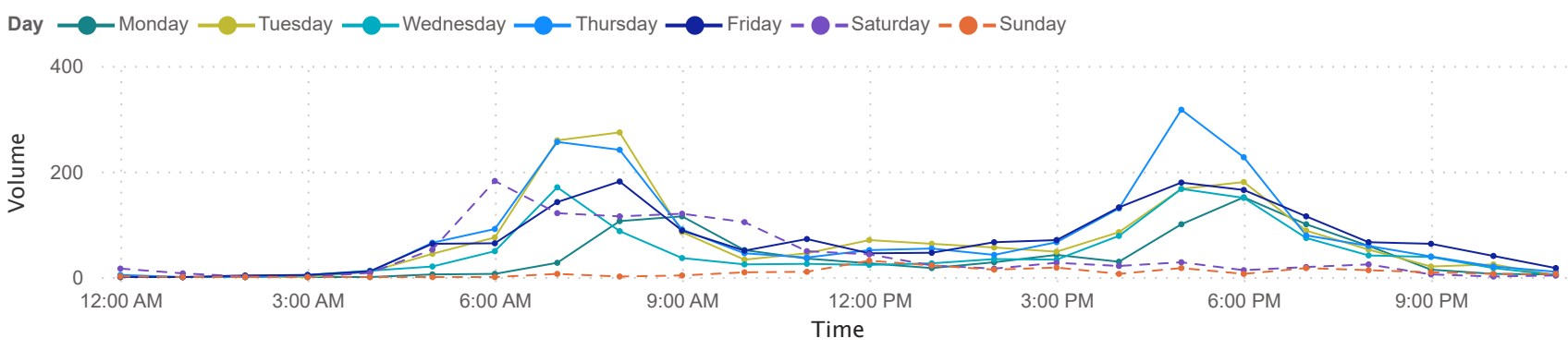


Day	Buses	Cyclists	Heavy Vehicles	Light Vehicles
Weekday	3.7%	1.6%	2.6%	92.1%
Weekend	2.3%	1.0%	1.0%	95.7%

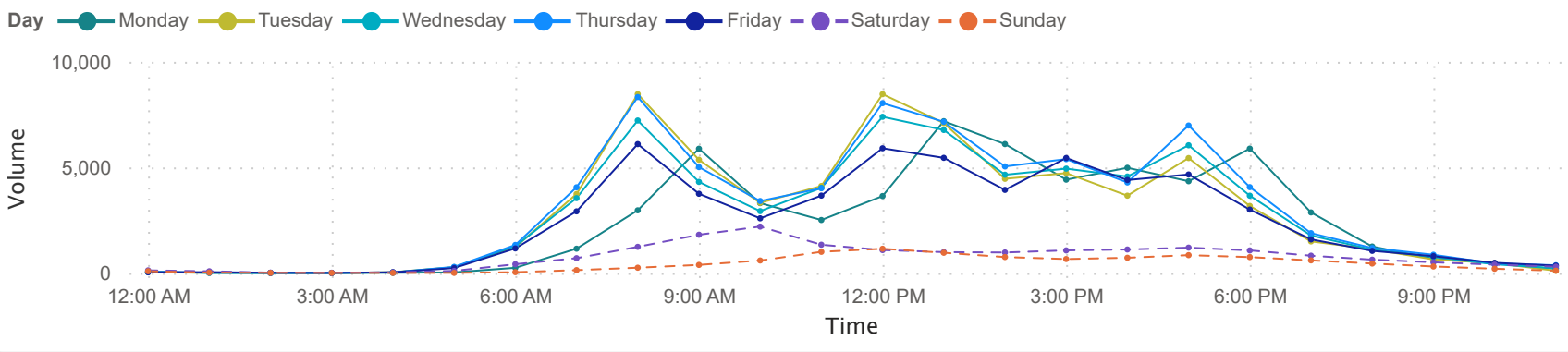
Average daily vehicles and cyclists profile for a weekday and weekend



Cyclists volumes



Pedestrian volumes



Vehicle volumes

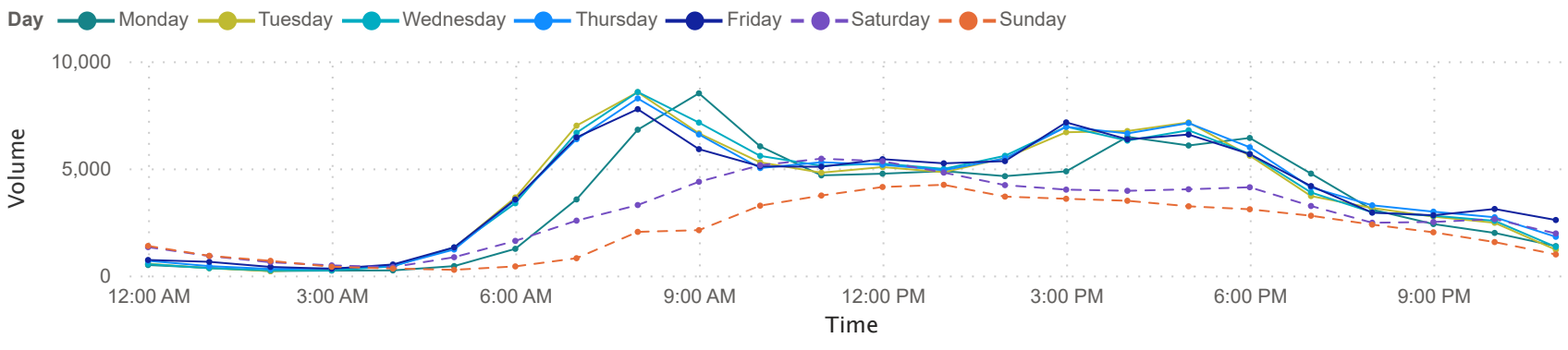
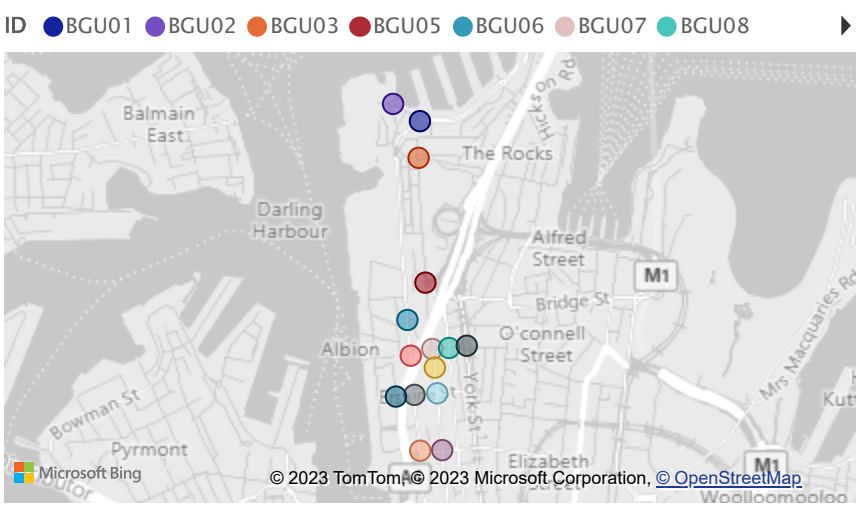


FIGURE 5-XX

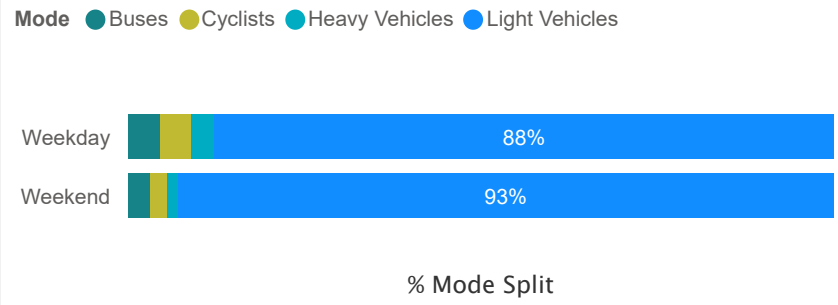
Station Report

> **Barangaroo Station** | **15** | **Intersections**

Map

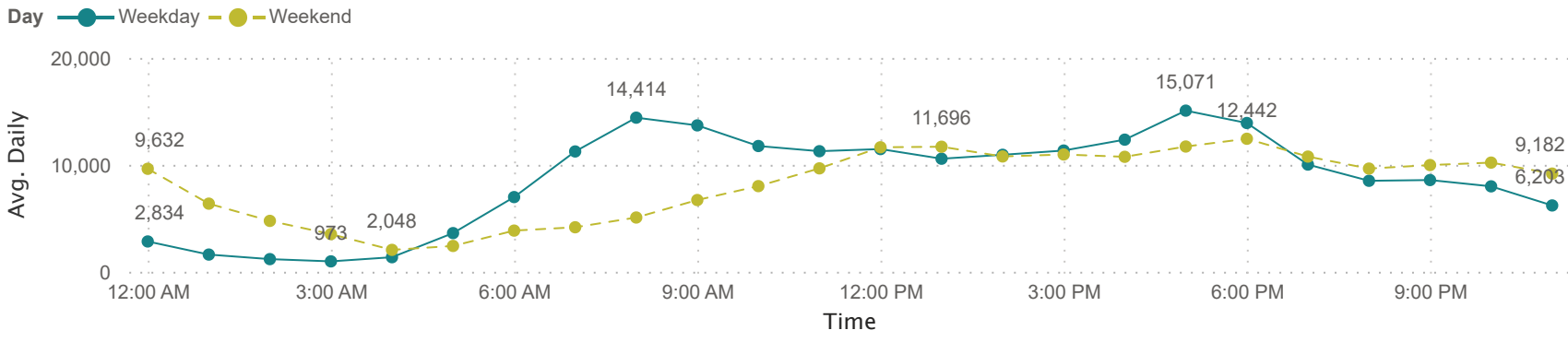


Total Mode Split

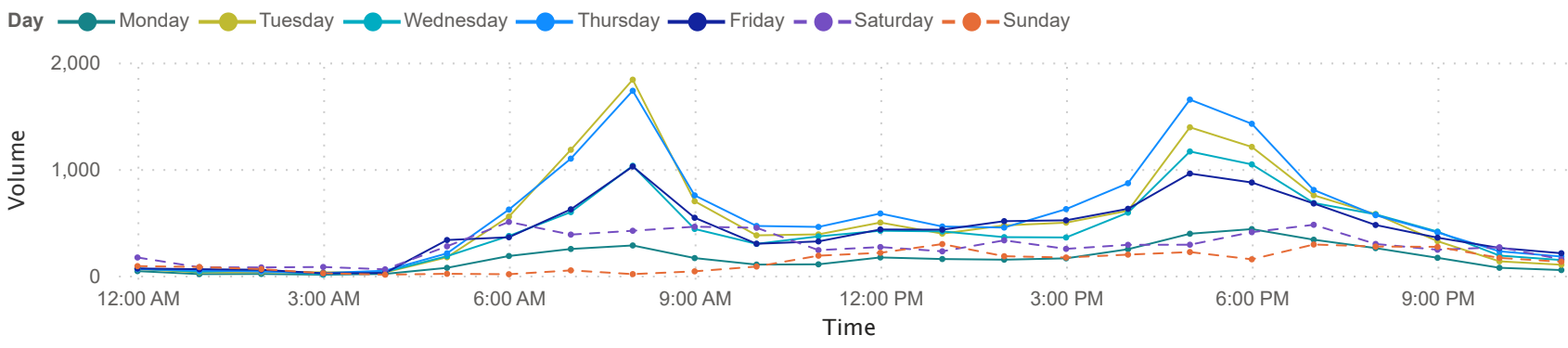


Day	Buses	Cyclists	Heavy Vehicles	Light Vehicles
Weekday	4.5%	4.3%	3.4%	87.8%
Weekend	3.0%	2.5%	1.5%	93.0%

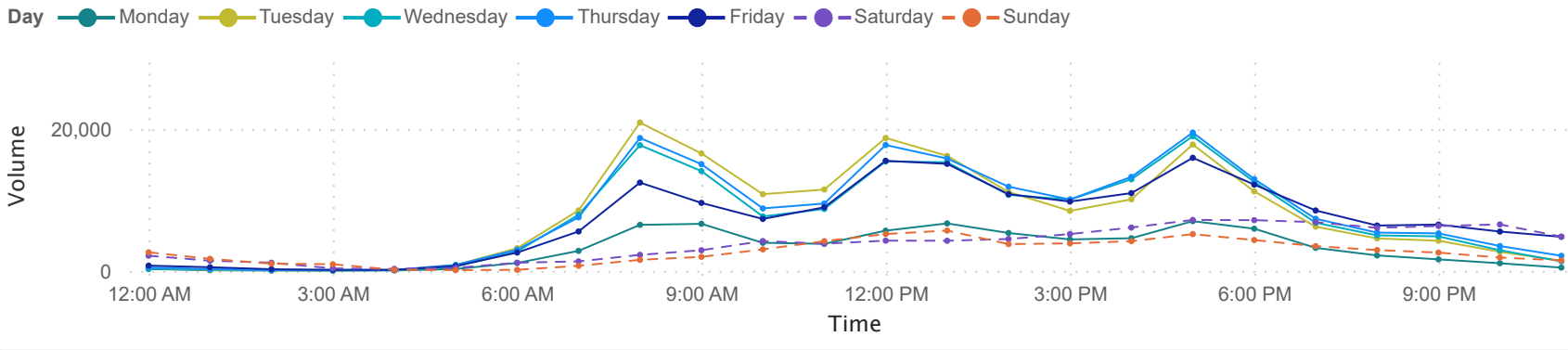
Average daily vehicles and cyclists profile for a weekday and weekend



Cyclists volumes



Pedestrian volumes



Vehicle volumes

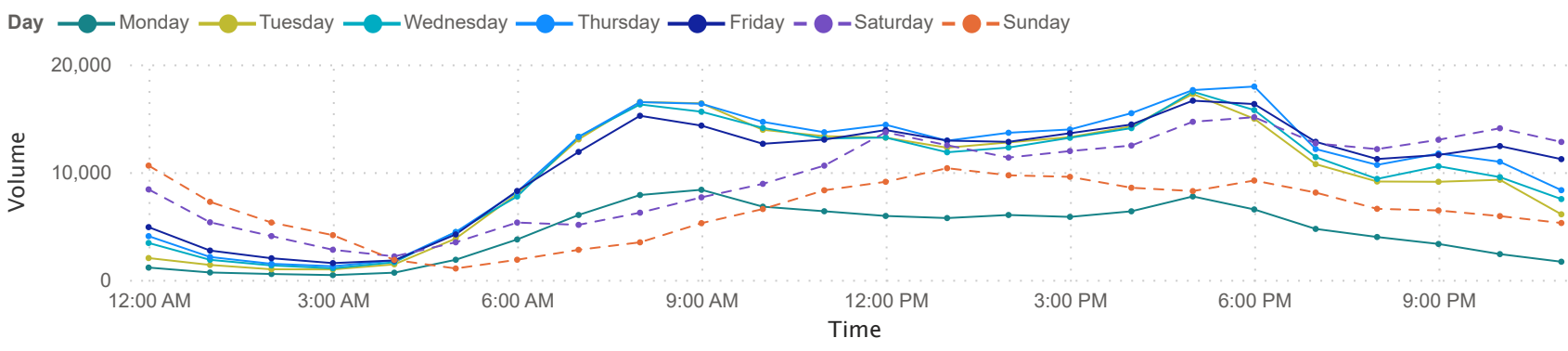


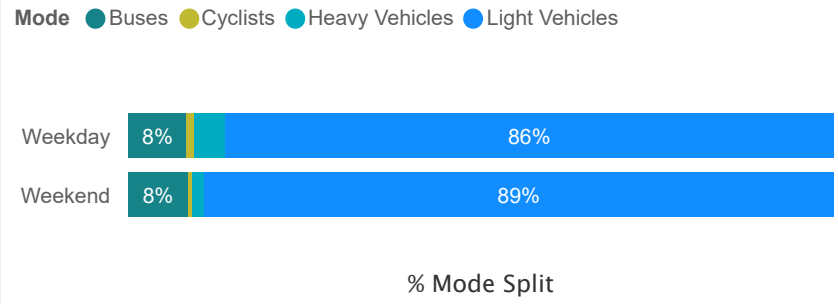
FIGURE 5-XX

Station Report

> **Martin Place Station** | **6** | **Intersections**

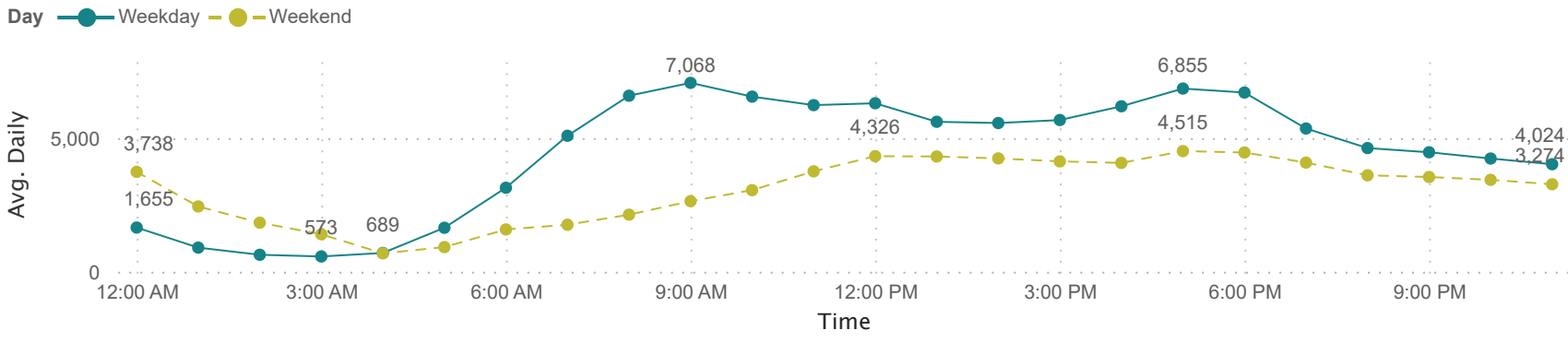
Map

Total Mode Split

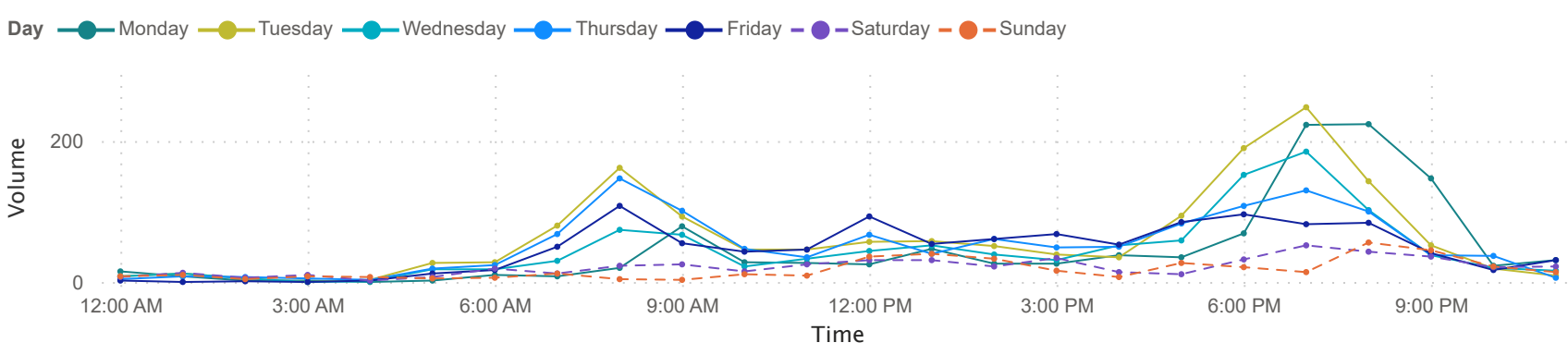


Day	Buses	Cyclists	Heavy Vehicles	Light Vehicles
Weekday	8.3%	1.1%	4.3%	86.3%
Weekend	8.4%	0.6%	1.6%	89.3%

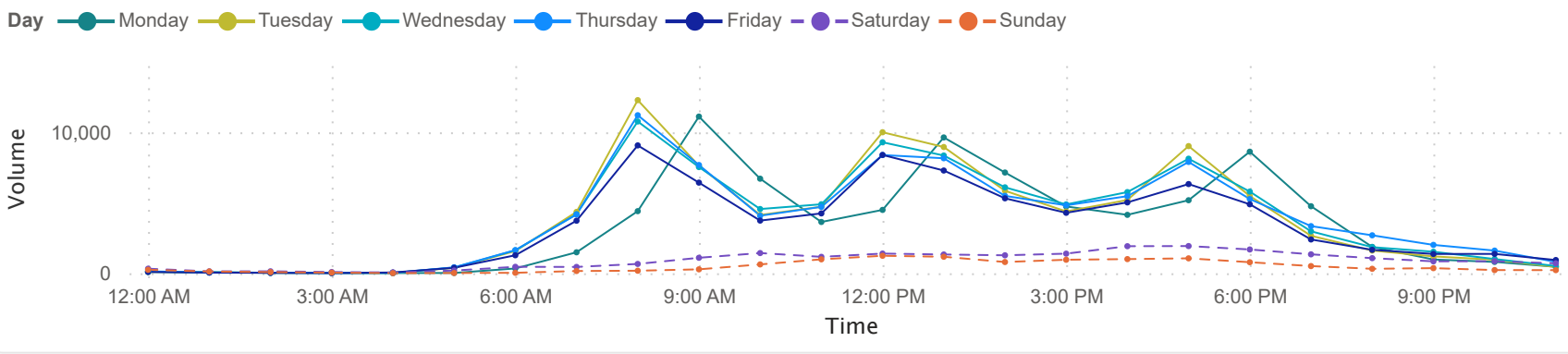
Average daily vehicles and cyclists profile for a weekday and weekend



Cyclists volumes



Pedestrian volumes



Vehicle volumes

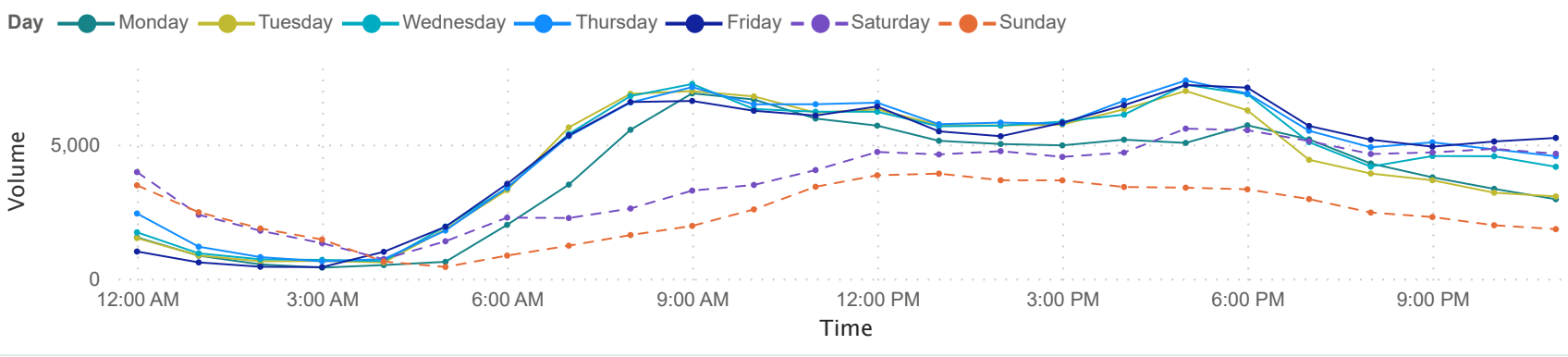


FIGURE 5-XX

AECOM

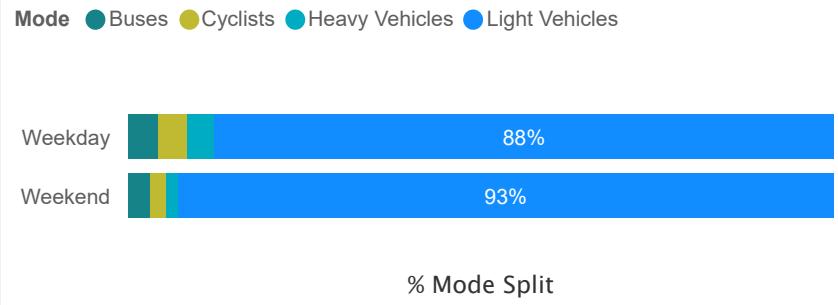
Station Report

NSW GOVERNMENT | sydney METRO

> **Pitt Street Station** **4** **Intersections**

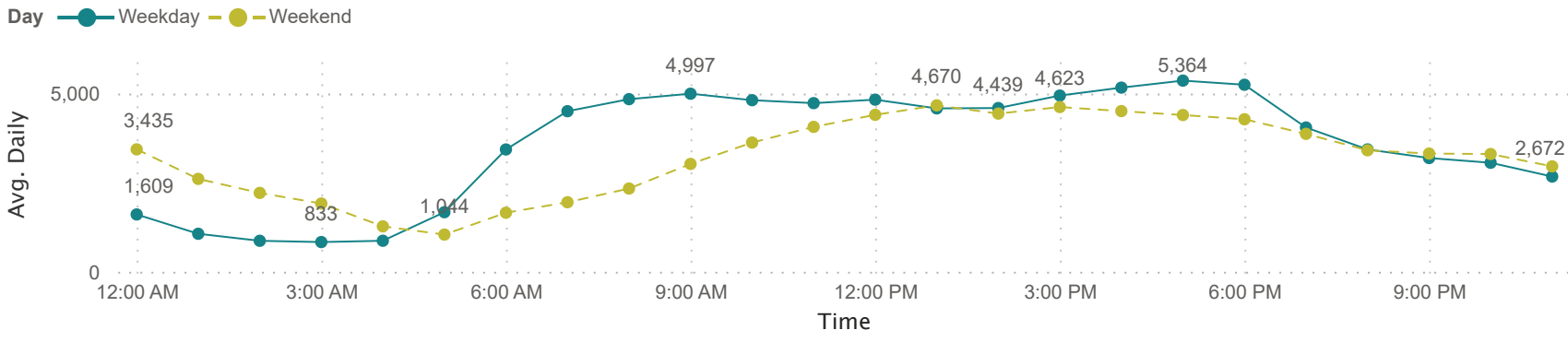
Map

Total Mode Split

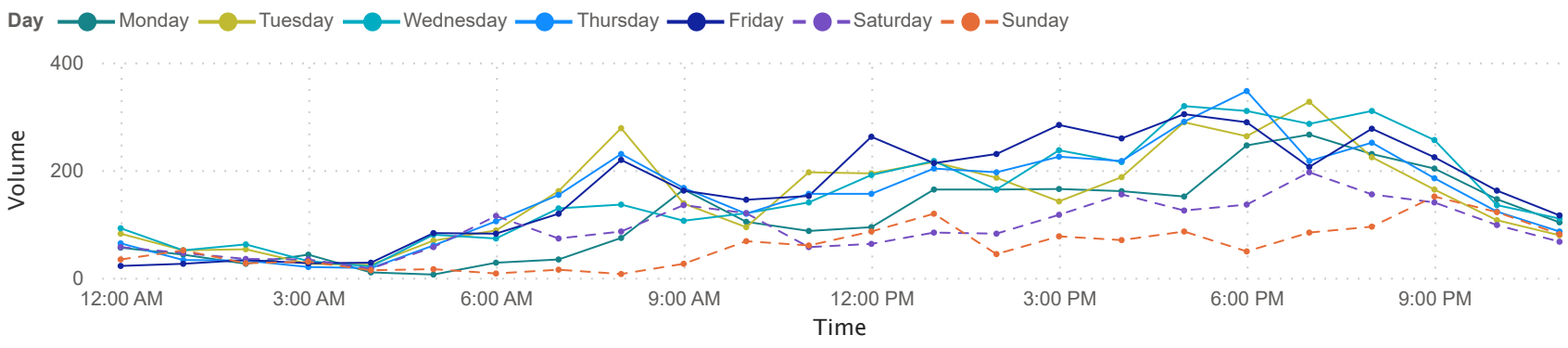


Day	Buses	Cyclists	Heavy Vehicles	Light Vehicles
Weekday	4.2%	4.2%	3.8%	87.8%
Weekend	3.1%	2.4%	1.6%	93.0%

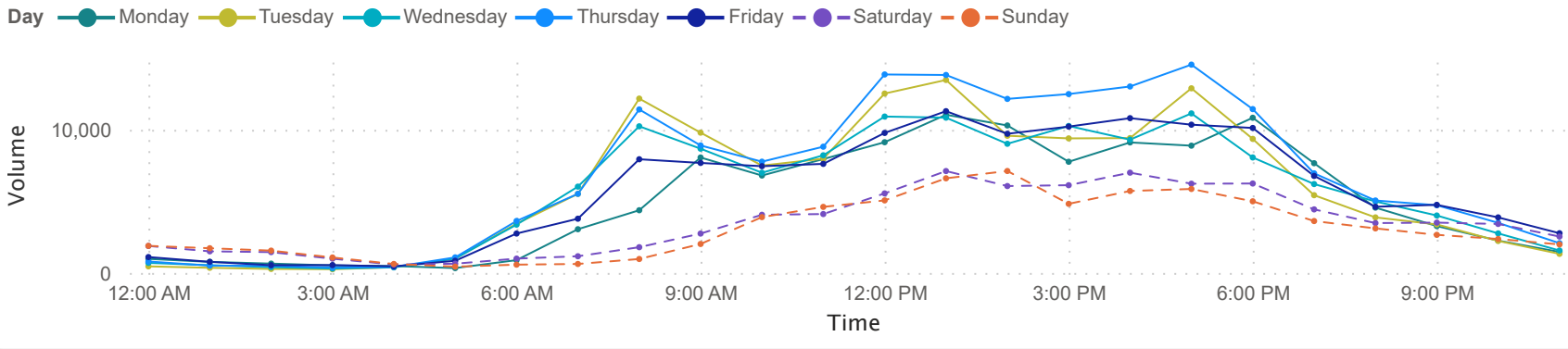
Average daily vehicles and cyclists profile for a weekday and weekend



Cyclists volumes



Pedestrian volumes



Vehicle volumes

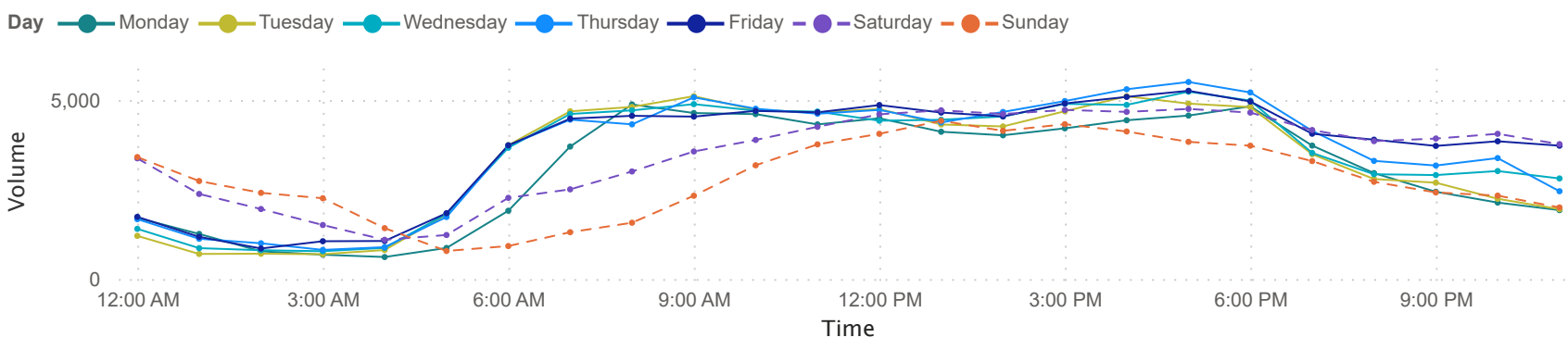
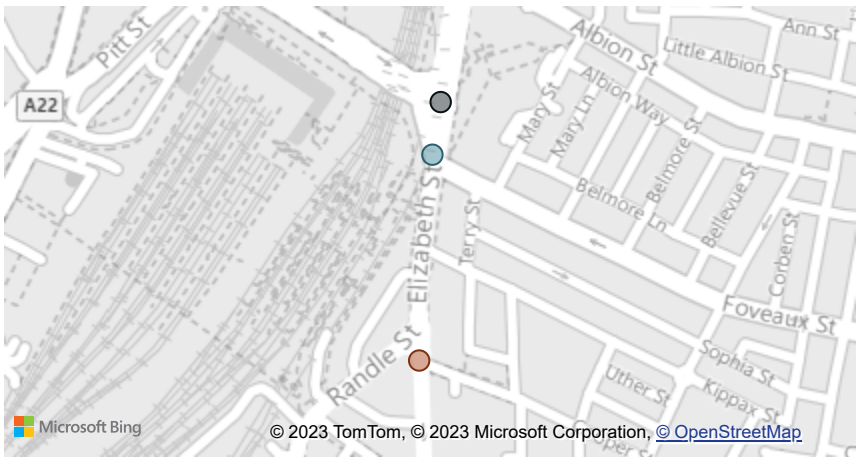


FIGURE 5-XX

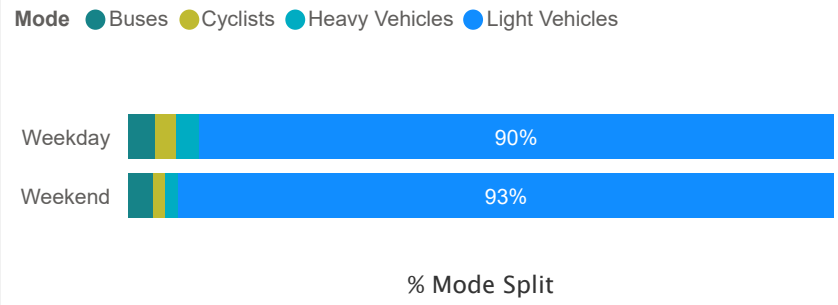
Station Report

> **Central Station** | **3** | **Intersections**

Map

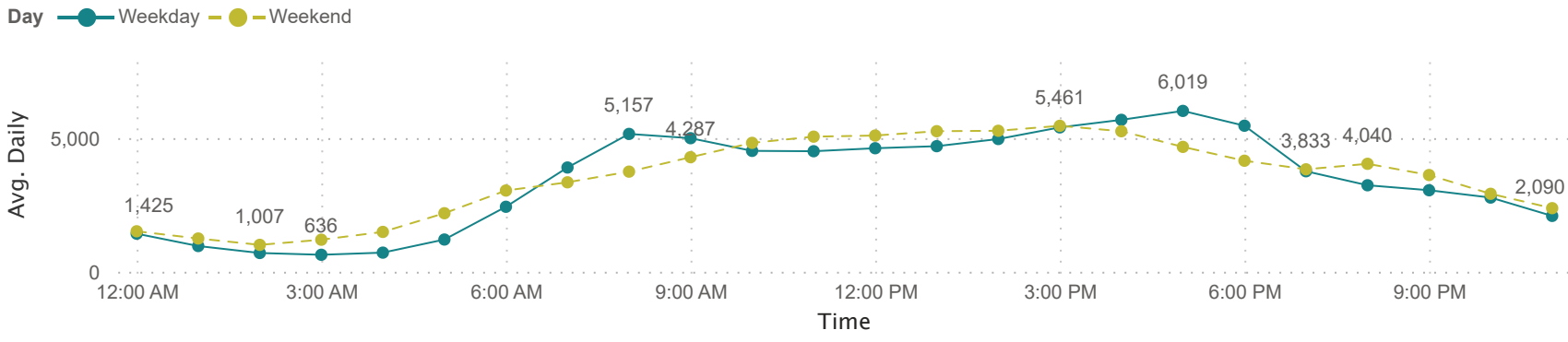


Total Mode Split

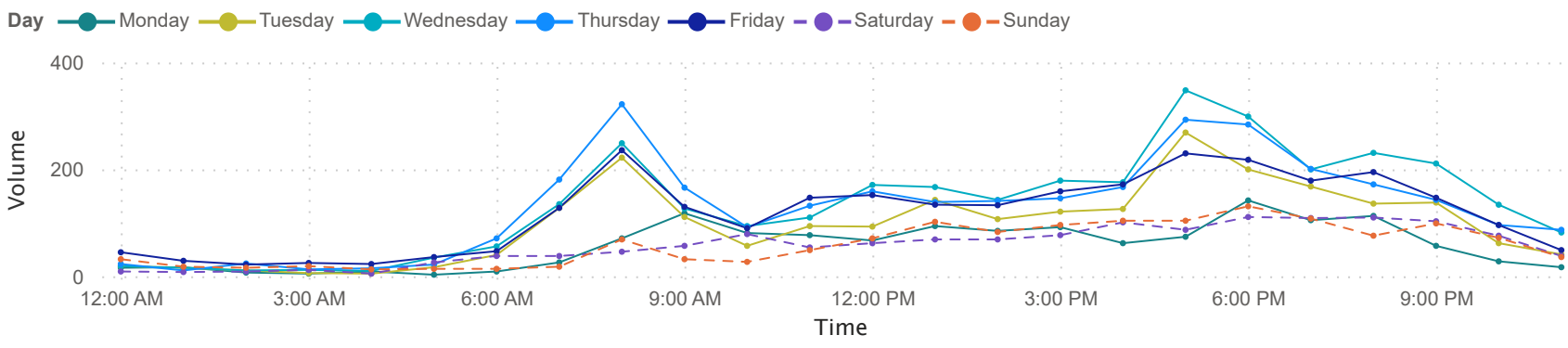


Day	Buses	Cyclists	Heavy Vehicles	Light Vehicles
Weekday	3.7%	3.1%	3.1%	90.0%
Weekend	3.6%	1.6%	1.9%	92.9%

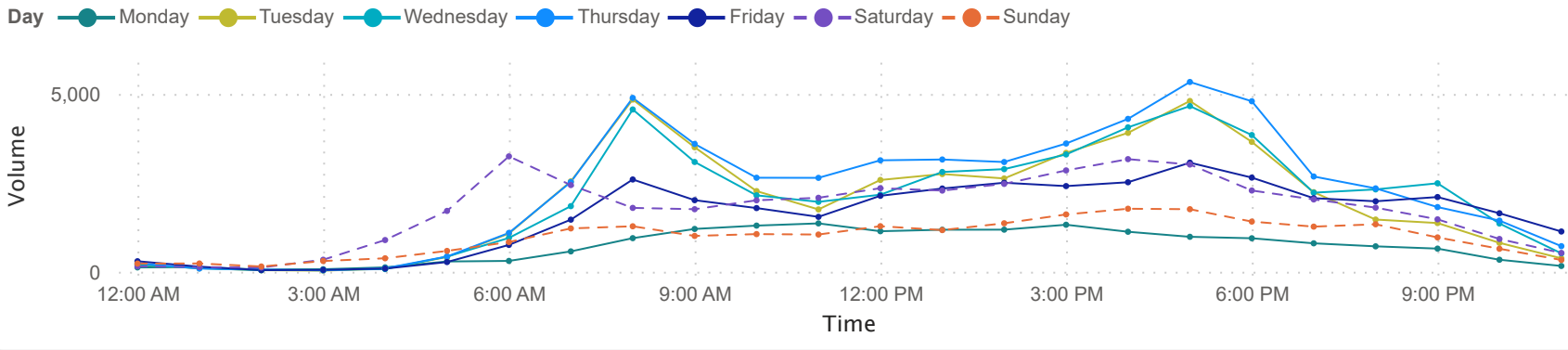
Average daily vehicles and cyclists profile for a weekday and weekend



Cyclists volumes



Pedestrian volumes



Vehicle volumes

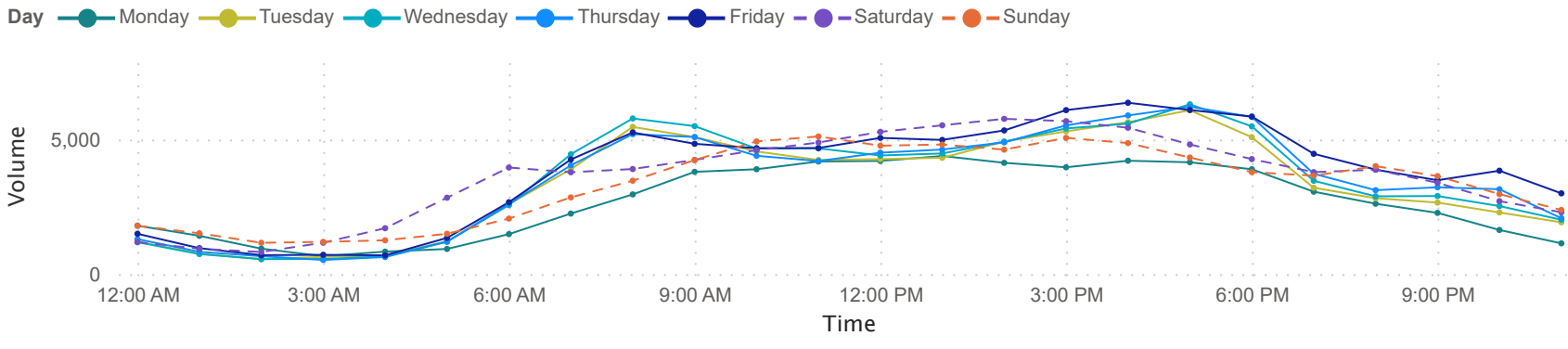


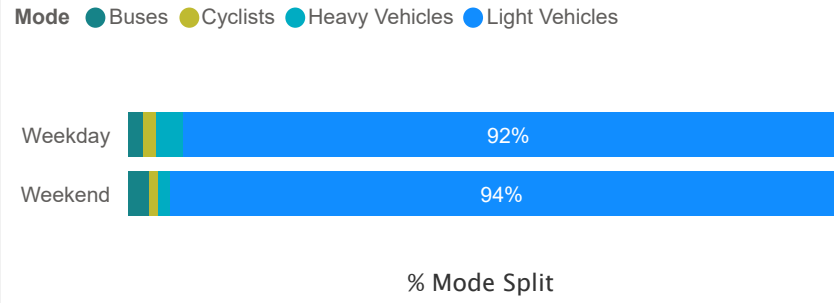
FIGURE 5-XX

Station Report

> **Waterloo Station** **5** **Intersections**

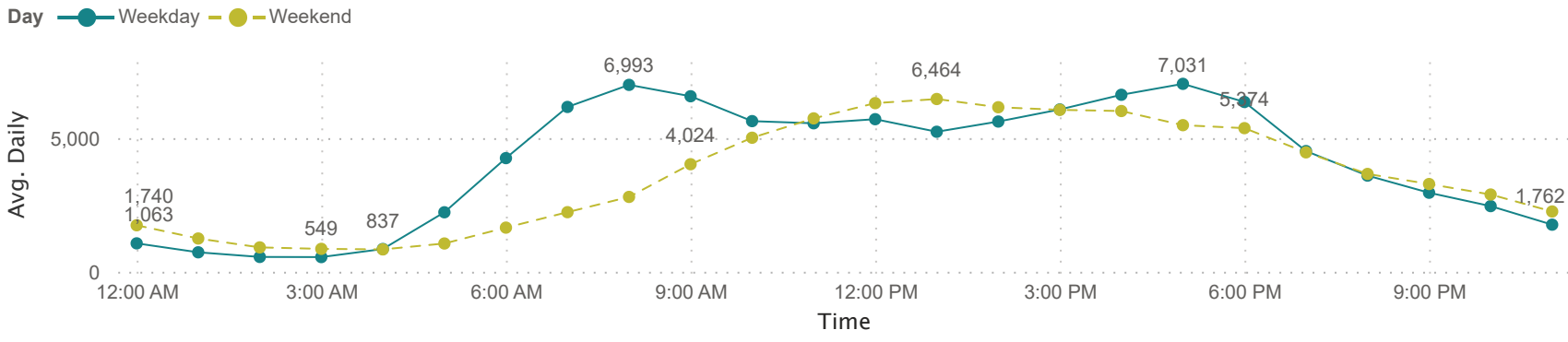
Map

Total Mode Split

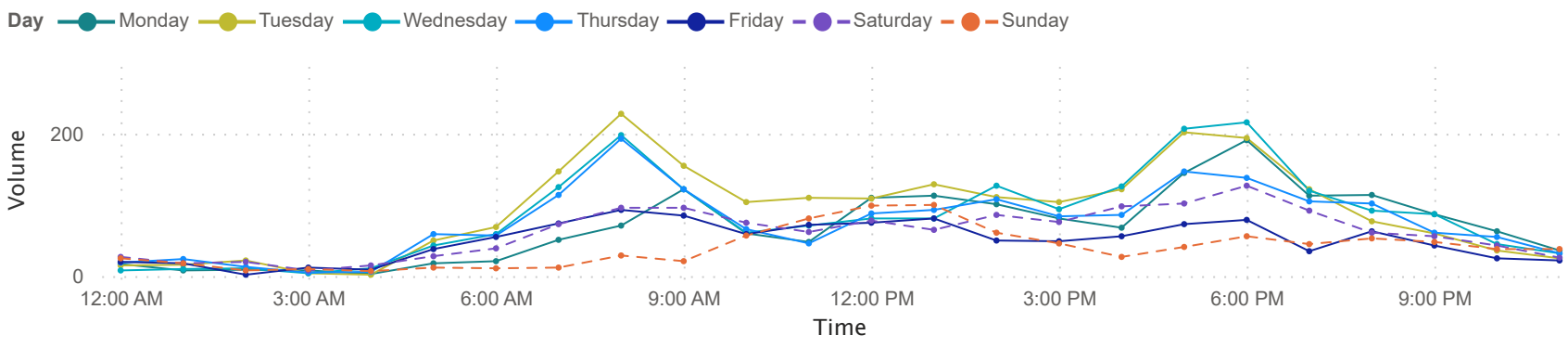


Day	Buses	Cyclists	Heavy Vehicles	Light Vehicles
Weekday	2.1%	1.8%	3.9%	92.2%
Weekend	2.9%	1.4%	1.6%	94.1%

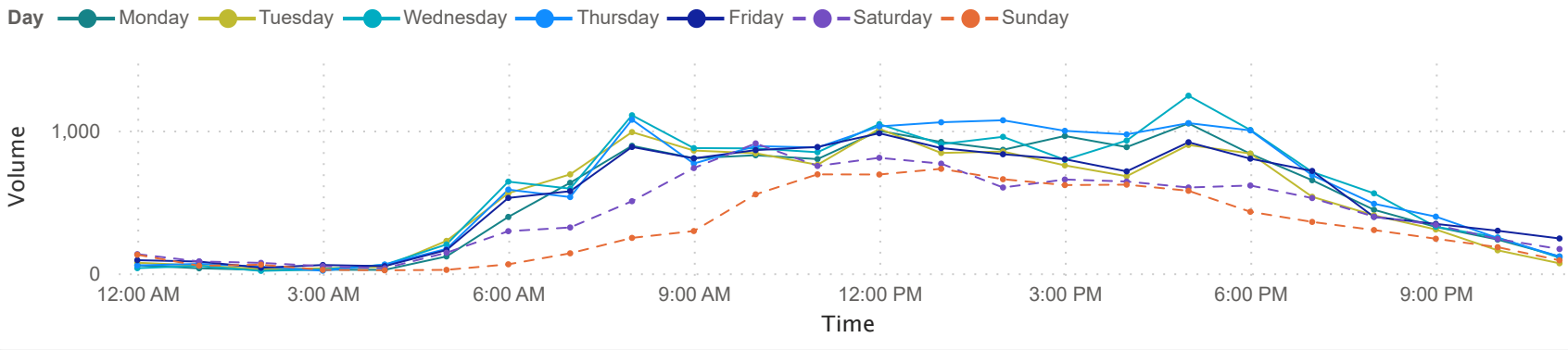
Average daily vehicles and cyclists profile for a weekday and weekend



Cyclists volumes



Pedestrian volumes



Vehicle volumes

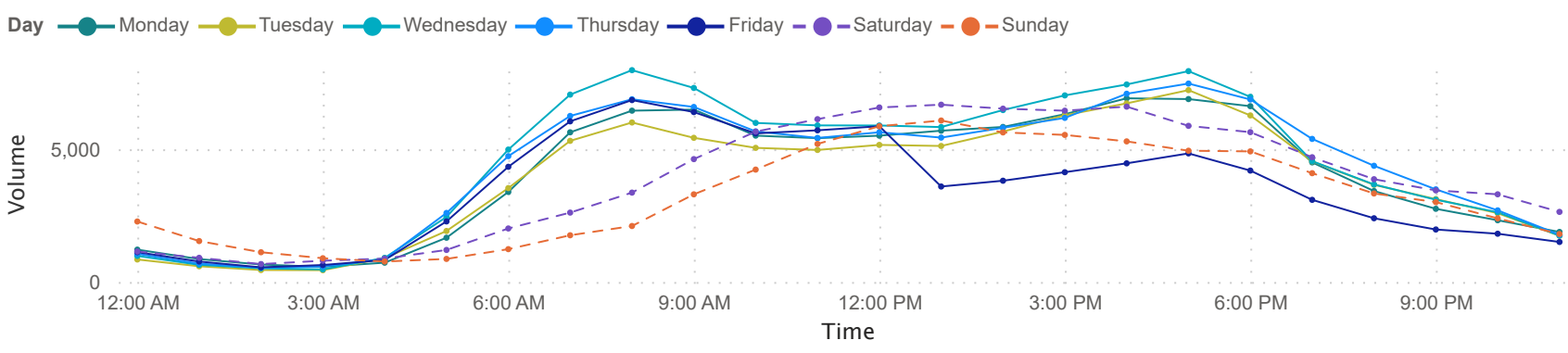
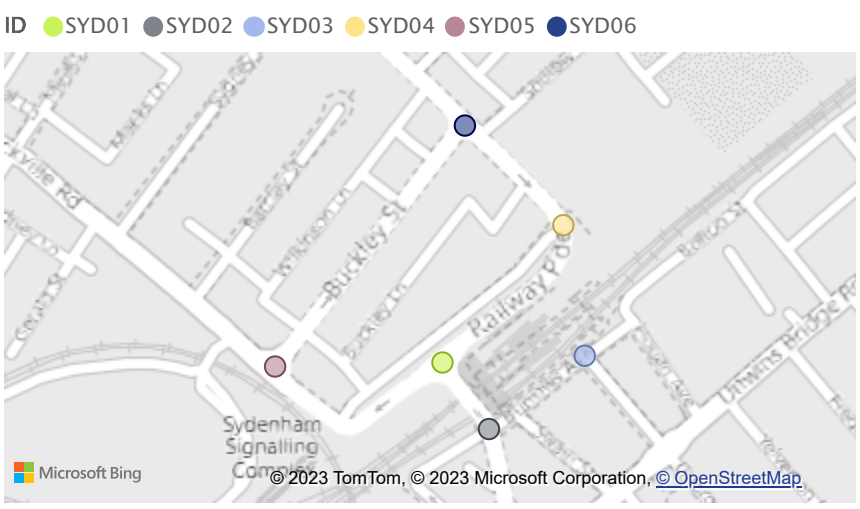


FIGURE 5-XX

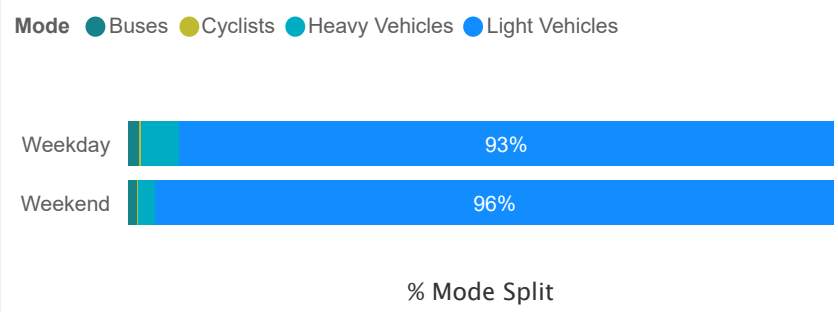
Station Report

> **Sydenham Station** | **6** | **Intersections**

Map

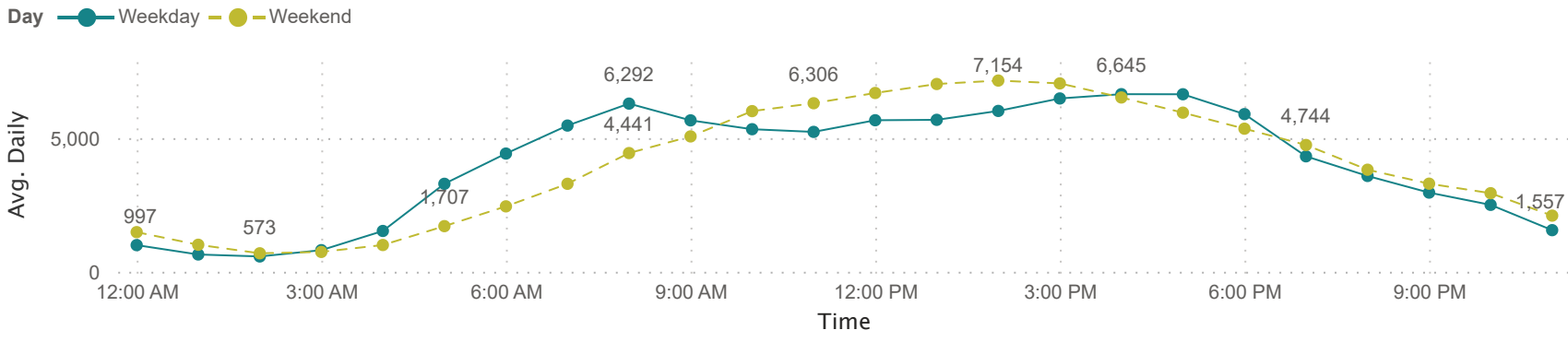


Total Mode Split

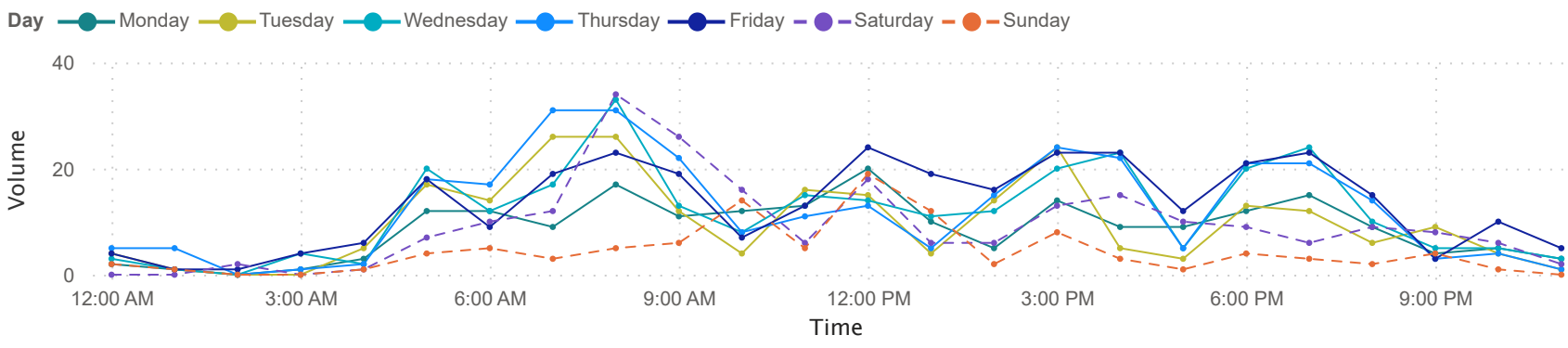


Day	Buses	Cyclists	Heavy Vehicles	Light Vehicles
Weekday	1.6%	0.3%	5.3%	92.8%
Weekend	1.2%	0.2%	2.4%	96.1%

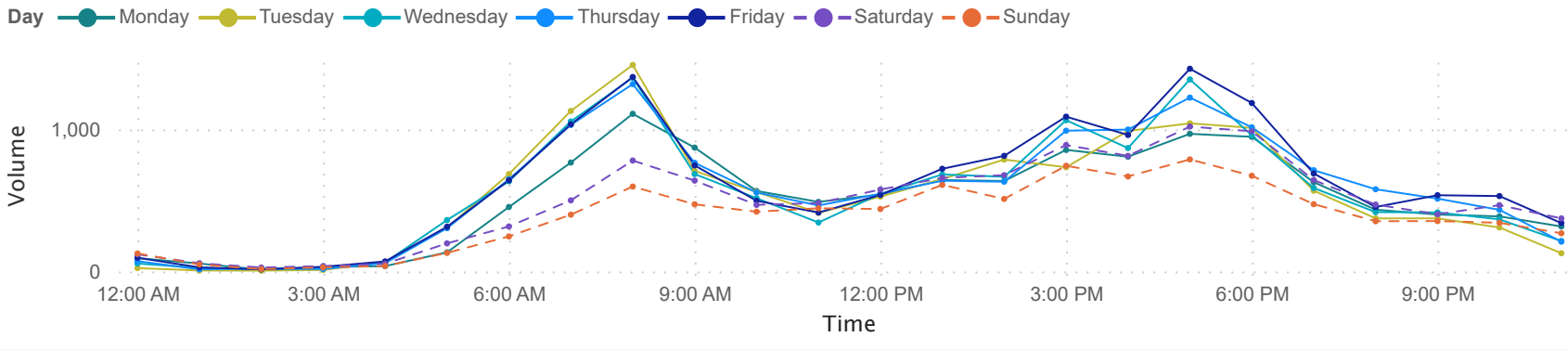
Average daily vehicles and cyclists profile for a weekday and weekend



Cyclists volumes



Pedestrian volumes



Vehicle volumes

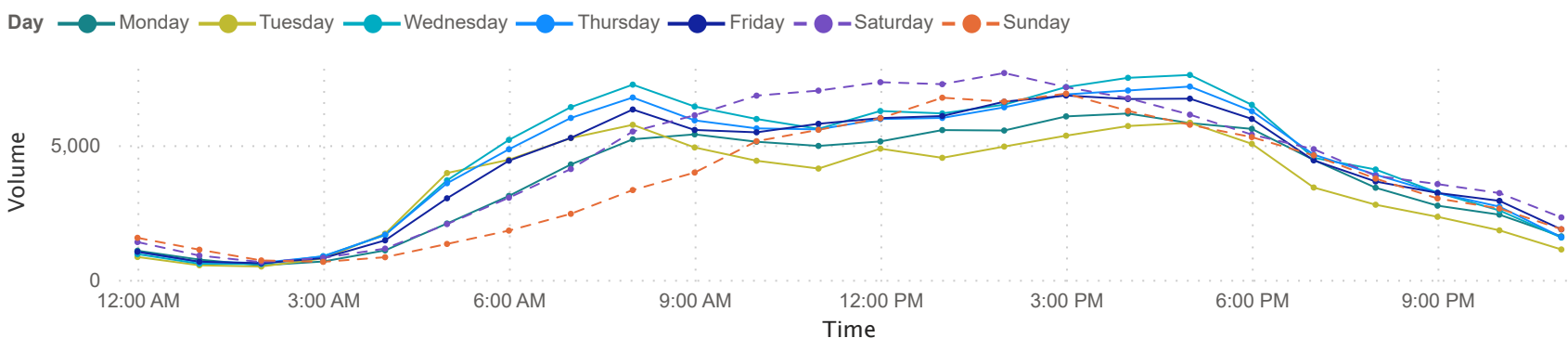


FIGURE 5-XX

Appendix E

Movement Summary Outputs

Appendix E Movement Summary Outputs

MOVEMENT SUMMARY

Site: CWD01 [CWD01 Mowbray Rd / Hampden Rd (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TCS 3037
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 148 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Hampden Rd (S)															
21	L2	All MCs	239	0.9	239	0.9	* 0.641	64.5	LOS E	15.0	105.7	0.97	1.02	0.97	17.1
Approach			239	0.9	239	0.9	0.641	64.5	LOS E	15.0	105.7	0.97	1.02	0.97	17.1
East: Mowbray Rd (E)															
24	L2	All MCs	113	0.9	113	0.9	* 0.409	16.7	LOS B	16.5	118.0	0.49	0.50	0.49	35.6
25	T1	All MCs	918	3.2	918	3.2	0.409	11.7	LOS A	16.6	119.3	0.49	0.47	0.49	30.6
Approach			1031	3.0	1031	3.0	0.409	12.2	LOS A	16.6	119.3	0.49	0.47	0.49	31.4
North: Dive Site Access (N)															
27	L2	All MCs	1	0.0	1	0.0	0.001	2.7	LOS A	0.0	0.0	0.08	0.42	0.08	36.3
29	R2	All MCs	8	25.0	8	25.0	* 0.426	94.2	LOS F	0.7	6.0	1.00	0.68	1.04	5.1
Approach			9	22.2	9	22.2	0.426	84.0	LOS F	0.7	6.0	0.90	0.65	0.93	5.7
West: Mowbray Rd (W)															
31	T1	All MCs	988	2.8	988	2.8	0.301	1.9	LOS A	6.3	45.3	0.20	0.18	0.20	45.5
32	R2	All MCs	458	0.5	458	0.5	* 0.531	9.6	LOS A	12.3	86.5	0.47	0.71	0.47	37.4
Approach			1446	2.0	1446	2.0	0.531	4.3	LOS A	12.3	86.5	0.28	0.35	0.28	41.4
All Vehicles			2725	2.4	2725	2.4	0.641	12.9	LOS A	16.6	119.3	0.42	0.46	0.42	31.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Hampden Rd (S)												
P5	Full	10	11	50.6	LOS E	0.0	0.0	0.89	0.89	217.3	200.0	0.92
East: Mowbray Rd (E)												
P6	Full	14	15	62.5	LOS F	0.1	0.1	0.92	0.92	229.2	200.0	0.87
North: Dive Site Access (N)												
P7	Full	1	1	69.1	LOS F	0.0	0.0	0.97	0.97	235.8	200.0	0.85
All Pedestrians		25	26	58.0	LOS E	0.1	0.1	0.91	0.91	224.7	200.0	0.89

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.

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MOVEMENT SUMMARY

Site: CWD01 [CWD01 Mowbray Rd / Hampden Rd (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TCS 3037
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 139 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Hampden Rd (S)															
21	L2	All MCs	224	2.3	224	2.3	* 0.574	56.1	LOS D	12.5	89.4	0.94	0.97	0.94	18.7
Approach			224	2.3	224	2.3	0.574	56.1	LOS D	12.5	89.4	0.94	0.97	0.94	18.7
East: Mowbray Rd (E)															
24	L2	All MCs	21	10.0	21	10.0	* 0.555	21.5	LOS B	25.0	179.4	0.63	0.58	0.63	33.1
25	T1	All MCs	1282	2.5	1282	2.5	0.555	16.2	LOS B	25.2	179.9	0.63	0.58	0.63	27.0
Approach			1303	2.6	1303	2.6	0.555	16.3	LOS B	25.2	179.9	0.63	0.58	0.63	27.1
North: Dive Site Access (N)															
27	L2	All MCs	1	0.0	1	0.0	0.001	2.9	LOS A	0.0	0.0	0.10	0.43	0.10	36.0
29	R2	All MCs	8	50.0	8	50.0	* 0.242	82.4	LOS F	0.6	6.3	1.00	0.67	1.00	5.6
Approach			9	44.4	9	44.4	0.242	73.6	LOS F	0.6	6.3	0.90	0.65	0.90	6.3
West: Mowbray Rd (W)															
31	T1	All MCs	895	1.3	895	1.3	0.281	2.8	LOS A	6.6	46.9	0.24	0.22	0.24	43.6
32	R2	All MCs	278	0.4	278	0.4	* 0.445	13.0	LOS A	8.4	58.9	0.57	0.74	0.57	34.8
Approach			1173	1.1	1173	1.1	0.445	5.2	LOS A	8.4	58.9	0.32	0.34	0.32	40.0
All Vehicles			2709	2.1	2709	2.1	0.574	15.0	LOS B	25.2	179.9	0.52	0.51	0.52	29.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Hampden Rd (S)												
P5	Full	7	7	44.9	LOS E	0.0	0.0	0.89	0.89	211.5	200.0	0.95
East: Mowbray Rd (E)												
P6	Full	16	17	58.1	LOS E	0.1	0.1	0.91	0.91	224.7	200.0	0.89
North: Dive Site Access (N)												
P7	Full	1	1	64.6	LOS F	0.0	0.0	0.96	0.96	231.3	200.0	0.86
All Pedestrians		24	25	54.5	LOS E	0.1	0.1	0.91	0.91	221.1	200.0	0.90

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.

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MOVEMENT SUMMARY

Site: CWD01 [CWD01 Mowbray Rd / Hampden Rd (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TCS 3037
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 115 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Hampden Rd (S)															
21	L2	All MCs	291	0.7	291	0.7	* 0.585	44.0	LOS D	14.2	100.2	0.92	0.83	0.92	21.5
Approach			291	0.7	291	0.7	0.585	44.0	LOS D	14.2	100.2	0.92	0.83	0.92	21.5
East: Mowbray Rd (E)															
24	L2	All MCs	52	0.0	52	0.0	0.441	15.3	LOS B	14.9	105.6	0.54	0.51	0.54	36.7
25	T1	All MCs	1034	1.9	1034	1.9	* 0.441	10.8	LOS A	14.9	106.0	0.54	0.49	0.54	31.7
Approach			1085	1.8	1085	1.8	0.441	11.0	LOS A	14.9	106.0	0.54	0.49	0.54	32.1
North: Dive Site Access (N)															
27	L2	All MCs	1	0.0	1	0.0	0.002	2.6	LOS A	0.0	0.0	0.06	0.42	0.06	36.6
29	R2	All MCs	1	0.0	1	0.0	0.001	2.5	LOS A	0.0	0.0	0.00	0.44	0.00	31.8
Approach			2	0.0	2	0.0	0.002	2.6	LOS A	0.0	0.0	0.03	0.43	0.03	34.2
West: Mowbray Rd (W)															
31	T1	All MCs	1205	0.5	1205	0.5	0.337	0.5	LOS A	3.7	26.3	0.12	0.11	0.12	48.6
32	R2	All MCs	362	1.2	362	1.2	0.455	8.5	LOS A	6.4	45.0	0.34	0.66	0.34	38.3
Approach			1567	0.7	1567	0.7	0.455	2.4	LOS A	6.4	45.0	0.17	0.24	0.17	44.4
All Vehicles			2945	1.1	2945	1.1	0.585	9.7	LOS A	14.9	106.0	0.38	0.39	0.38	34.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Hampden Rd (S)												
P5	Full	1	1	49.8	LOS E	0.0	0.0	0.93	0.93	216.4	200.0	0.92
East: Mowbray Rd (E)												
P6	Full	8	8	46.1	LOS E	0.0	0.0	0.90	0.90	212.8	200.0	0.94
North: Dive Site Access (N)												
P7	Full	1	1	28.4	LOS C	0.0	0.0	0.91	0.91	195.0	200.0	1.03
All Pedestrians		10	11	44.7	LOS E	0.0	0.0	0.90	0.90	211.4	200.0	0.95

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.

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MOVEMENT SUMMARY

Site: CST01 [CST01 Pacific Hwy / Albany St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 768
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 135 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
22	T1	All MCs	1112	4.7	1112	4.7	0.407	6.0	LOS A	12.8	93.4	0.36	0.33	0.36	45.4
23b	R3	All MCs	151	2.1	151	2.1	* 0.851	83.1	LOS F	10.7	76.3	1.00	0.91	1.15	6.5
Approach			1262	4.4	1262	4.4	0.851	15.2	LOS B	12.8	93.4	0.44	0.40	0.46	32.2
East: Albany St (E)															
4b	L3	All MCs	23	0.0	23	0.0	* 0.881	83.0	LOS F	6.9	49.0	1.00	1.00	1.24	2.1
6a	R1	All MCs	518	2.4	518	2.4	0.881	72.0	LOS F	6.9	49.0	1.00	1.00	1.23	8.2
Approach			541	2.3	541	2.3	0.881	72.5	LOS F	6.9	49.0	1.00	1.00	1.23	8.0
NorthWest: Pacific Hwy (NW)															
27a	L1	All MCs	411	1.5	411	1.5	0.362	9.9	LOS A	6.6	47.0	0.27	0.64	0.27	30.0
28	T1	All MCs	1271	6.1	1271	6.1	* 0.596	19.3	LOS B	26.3	194.1	0.69	0.63	0.69	20.4
Approach			1681	5.0	1681	5.0	0.596	17.1	LOS B	26.3	194.1	0.59	0.63	0.59	22.2
All Vehicles			3484	4.4	3484	4.4	0.881	25.0	LOS B	26.3	194.1	0.60	0.61	0.64	20.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Pacific Hwy (SE)											
P5	Full	163	55.5	LOS E	0.6	0.6	0.91	0.91	222.2	200.0	0.90
East: Albany St (E)											
P2	Full	198	55.6	LOS E	0.7	0.7	0.91	0.91	72.3	20.0	0.28
All Pedestrians		361	55.5	LOS E	0.7	0.7	0.91	0.91	140.0	101.3	0.72

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.

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MOVEMENT SUMMARY

Site: CST02 [CST02 Pacific Hwy / Oxley St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 767
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 135 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
1	L2	All MCs	135	2.3	135	2.3	0.144	12.4	LOS A	1.7	12.3	0.17	0.52	0.17	38.7
2	T1	All MCs	1139	4.5	1139	4.5	0.470	4.7	LOS A	7.3	53.4	0.21	0.21	0.21	42.1
Approach			1274	4.3	1274	4.3	0.470	5.5	LOS A	7.3	53.4	0.21	0.24	0.21	41.2
NorthEast: Oxley St (NE)															
4	L2	All MCs	85	2.5	85	2.5	0.255	53.9	LOS D	4.8	34.5	0.90	0.76	0.90	2.9
5	T1	All MCs	155	0.7	155	0.7	* 0.490	56.0	LOS D	7.0	49.0	0.96	0.78	0.96	14.2
Approach			240	1.3	240	1.3	0.490	55.3	LOS D	7.0	49.0	0.94	0.77	0.94	11.0
NorthWest: Pacific Hwy (NW)															
7	L2	All MCs	71	1.5	71	1.5	0.059	6.5	LOS A	0.2	1.3	0.04	0.59	0.04	35.9
8	T1	All MCs	1224	6.3	1224	6.3	* 0.479	0.6	LOS A	2.6	19.5	0.06	0.05	0.06	56.3
Approach			1295	6.0	1295	6.0	0.479	1.0	LOS A	2.6	19.5	0.06	0.08	0.06	54.6
SouthWest: Oxley St (SW)															
10	L2	All MCs	124	3.4	124	3.4	0.334	53.9	LOS D	7.0	50.5	0.90	0.78	0.90	13.3
11	T1	All MCs	152	0.0	152	0.0	0.375	49.6	LOS D	8.6	60.2	0.91	0.74	0.91	14.4
12	R2	All MCs	97	3.3	97	3.3	0.576	67.7	LOS E	6.3	45.3	0.99	0.79	0.99	11.2
Approach			373	2.0	373	2.0	0.576	55.8	LOS D	8.6	60.2	0.93	0.77	0.93	13.1
All Vehicles			3181	4.5	3181	4.5	0.576	13.3	LOS A	8.6	60.2	0.29	0.28	0.29	26.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Pacific Hwy (SE)											
P1	Full	86	55.3	LOS E	0.3	0.3	0.91	0.91	72.0	20.0	0.28
NorthEast: Oxley St (NE)											
P2	Full	73	56.2	LOS E	0.3	0.3	0.91	0.91	72.9	20.0	0.27
SouthWest: Oxley St (SW)											
P4	Full	111	56.3	LOS E	0.4	0.4	0.92	0.92	73.0	20.0	0.27
All Pedestrians		269	56.0	LOS E	0.4	0.4	0.91	0.91	72.6	20.0	0.28

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.

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MOVEMENT SUMMARY

Site: CST03 [CST03 Pacific Hwy / Hume St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 766
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 135 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
1	L2	All MCs	53	2.0	53	2.0	0.101	6.0	LOS A	0.2	1.5	0.02	0.24	0.02	35.0
2	T1	All MCs	1181	4.6	1181	4.6	0.377	0.4	LOS A	1.2	8.4	0.03	0.05	0.03	57.8
Approach			1234	4.5	1234	4.5	0.377	0.7	LOS A	1.2	8.4	0.03	0.06	0.03	55.7
NorthWest: Pacific Hwy (NW)															
8	T1	All MCs	1407	5.8	1407	5.8	0.576	3.1	LOS A	14.7	108.2	0.28	0.26	0.28	42.9
9	R2	All MCs	1	100.0	1	100.0	* 0.576	9.2	LOS A	8.8	64.8	0.24	0.22	0.24	24.5
Approach			1408	5.9	1408	5.9	0.576	3.1	LOS A	14.7	108.2	0.28	0.26	0.28	42.8
SouthWest: Hume St (SW)															
10	L2	All MCs	93	0.0	93	0.0	* 0.396	64.6	LOS E	5.7	40.2	0.96	0.78	0.96	4.4
12	R2	All MCs	37	0.0	37	0.0	0.197	63.8	LOS E	2.2	15.7	0.94	0.73	0.94	4.6
Approach			129	0.0	129	0.0	0.396	64.3	LOS E	5.7	40.2	0.96	0.76	0.96	4.4
All Vehicles			2772	5.0	2772	5.0	0.576	4.9	LOS A	14.7	108.2	0.20	0.19	0.20	39.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Pacific Hwy (SE)											
P1	Full	23	55.2	LOS E	0.1	0.1	0.90	0.90	71.8	20.0	0.28
NorthWest: Pacific Hwy (NW)											
P3	Full	1	55.1	LOS E	0.0	0.0	0.90	0.90	71.8	20.0	0.28
SouthWest: Hume St (SW)											
P4	Full	101	58.1	LOS E	0.4	0.4	0.93	0.93	74.8	20.0	0.27
All Pedestrians		125	57.5	LOS E	0.4	0.4	0.92	0.92	74.2	20.0	0.27

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.

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MOVEMENT SUMMARY

Site: CST04 [CST04 Pacific Hwy / Falcon St / Shirley Rd (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 765
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 135 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
1	L2	All MCs	318	1.0	318	1.0	0.278	15.4	LOS B	7.9	55.9	0.42	0.70	0.42	30.5
2	T1	All MCs	757	4.6	757	4.6	0.537	32.1	LOS C	19.1	138.9	0.80	0.70	0.80	12.3
Approach			1075	3.5	1075	3.5	0.537	27.1	LOS B	19.1	138.9	0.68	0.70	0.68	17.7
East: Falcon St (E)															
21b	L3	All MCs	11	20.0	11	20.0	0.978	53.4	LOS D	18.1	130.6	1.00	1.10	1.33	3.9
21a	L1	All MCs	251	2.5	251	2.5	* 0.978	86.8	LOS F	18.1	130.6	1.00	1.10	1.33	10.3
23a	R1	All MCs	449	4.0	449	4.0	0.978	74.3	LOS F	18.1	130.6	1.00	1.07	1.29	4.4
Approach			711	3.7	711	3.7	0.978	78.4	LOS F	18.1	130.6	1.00	1.08	1.31	6.8
North: Willoughby Rd (N)															
7	L2	All MCs	34	12.5	34	12.5	0.027	3.8	LOS A	0.1	1.1	0.07	0.48	0.07	37.0
Approach			34	12.5	34	12.5	0.027	3.8	LOS A	0.1	1.1	0.07	0.48	0.07	37.0
NorthWest: Pacific Hwy (NW)															
7a	L1	All MCs	384	5.2	384	5.2	0.485	29.7	LOS C	11.0	80.4	0.76	0.79	0.76	22.8
8	T1	All MCs	1059	5.9	1059	5.9	* 0.805	34.8	LOS C	31.9	234.3	0.88	0.80	0.90	16.9
Approach			1443	5.7	1443	5.7	0.805	33.5	LOS C	31.9	234.3	0.85	0.80	0.87	18.1
SouthWest: Shirley Rd (SW)															
10	L2	All MCs	27	11.5	27	11.5	* 0.862	72.4	LOS F	25.3	181.4	1.00	1.00	1.16	10.4
12a	R1	All MCs	414	2.0	414	2.0	0.862	63.7	LOS E	25.7	182.4	1.00	0.99	1.16	10.3
12	R2	All MCs	288	1.5	288	1.5	0.862	65.9	LOS E	25.7	182.4	1.00	0.97	1.16	10.0
Approach			729	2.2	729	2.2	0.862	64.9	LOS E	25.7	182.4	1.00	0.98	1.16	10.2
All Vehicles			3992	4.2	3992	4.2	0.978	45.2	LOS D	31.9	234.3	0.85	0.85	0.94	13.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Pacific Hwy (SE)											
P1	Full	195	54.7	LOS E	0.7	0.7	0.90	0.90	71.3	20.0	0.28
East: Falcon St (E)											
P5	Full	262	58.5	LOS E	0.9	0.9	0.94	0.94	75.2	20.0	0.27
NorthWest: Pacific Hwy (NW)											
P3	Full	268	54.8	LOS E	0.9	0.9	0.91	0.91	71.5	20.0	0.28
SouthWest: Shirley Rd (SW)											
P4	Full	196	58.3	LOS E	0.7	0.7	0.93	0.93	75.0	20.0	0.27
All Pedestrians		921	56.6	LOS E	0.9	0.9	0.92	0.92	73.3	20.0	0.27

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.

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MOVEMENT SUMMARY

Site: CST05 [CST05 Clarke St / Oxley St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Clarke St (SE)															
1	L2	All MCs	31	3.4	31	3.4	0.079	5.3	LOS A	0.3	1.9	0.38	0.59	0.38	31.9
3a	R1	All MCs	42	2.5	42	2.5	0.079	6.3	LOS A	0.3	1.9	0.38	0.59	0.38	31.9
Approach			73	2.9	73	2.9	0.079	5.9	LOS A	0.3	1.9	0.38	0.59	0.38	31.9
North: Oxley St (N)															
24a	L1	All MCs	97	1.1	97	1.1	0.173	4.4	LOS A	0.0	0.0	0.00	0.53	0.00	29.7
26a	R1	All MCs	206	2.0	206	2.0	0.173	4.1	LOS A	0.0	0.0	0.00	0.53	0.00	29.7
Approach			303	1.7	303	1.7	0.173	4.2	NA	0.0	0.0	0.00	0.53	0.00	29.7
SouthWest: Oxley St (SW)															
10a	L1	All MCs	148	0.0	148	0.0	0.137	2.8	LOS A	0.5	3.9	0.29	0.56	0.29	22.2
12	R2	All MCs	77	2.7	77	2.7	0.137	5.3	LOS A	0.5	3.9	0.29	0.56	0.29	22.2
Approach			225	0.9	225	0.9	0.137	3.6	NA	0.5	3.9	0.29	0.56	0.29	22.2
All Vehicles			601	1.6	601	1.6	0.173	4.2	NA	0.5	3.9	0.15	0.55	0.15	28.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CST06 [CST06 Clarke St / Hume St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Clarke St (SE)															
1	L2	All MCs	7	0.0	7	0.0	0.033	4.6	LOS A	0.0	0.0	0.00	0.05	0.00	47.5
2	T1	All MCs	77	2.7	77	2.7	0.033	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	47.5
Approach			84	2.5	84	2.5	0.033	0.4	NA	0.0	0.0	0.00	0.05	0.00	47.5
NorthWest: Clarke St (NW)															
8	T1	All MCs	151	2.1	151	2.1	0.052	0.0	LOS A	0.1	0.6	0.04	0.05	0.04	48.5
9	R2	All MCs	14	0.0	14	0.0	0.052	4.9	LOS A	0.1	0.6	0.04	0.05	0.04	47.5
Approach			164	1.9	164	1.9	0.052	0.4	NA	0.1	0.6	0.04	0.05	0.04	48.4
SouthWest: Hume St (SW)															
10	L2	All MCs	3	0.0	3	0.0	0.008	3.4	LOS A	0.0	0.1	0.19	0.48	0.19	24.1
12	R2	All MCs	2	0.0	2	0.0	0.008	3.9	LOS A	0.0	0.1	0.19	0.48	0.19	32.1
Approach			5	0.0	5	0.0	0.008	3.6	LOS A	0.0	0.1	0.19	0.48	0.19	29.0
All Vehicles			254	2.1	254	2.1	0.052	0.5	NA	0.1	0.6	0.03	0.06	0.03	48.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CST07 [CST07 Clarke St / Willoughby Rd (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Willoughby Rd (S)															
1	L2	All MCs	107	2.0	107	2.0	0.264	3.8	LOS A	1.4	10.7	0.30	0.27	0.30	32.0
2	T1	All MCs	174	15.2	174	15.2	0.264	1.1	LOS A	1.4	10.7	0.30	0.27	0.30	36.5
Approach			281	10.1	281	10.1	0.264	2.2	NA	1.4	10.7	0.30	0.27	0.30	35.2
North: Willoughby Rd (N)															
8	T1	All MCs	154	11.6	154	11.6	0.206	1.0	LOS A	0.9	7.0	0.30	0.25	0.30	36.8
9	R2	All MCs	46	6.8	46	6.8	0.206	6.6	LOS A	0.9	7.0	0.30	0.25	0.30	35.7
Approach			200	10.5	200	10.5	0.206	2.3	NA	0.9	7.0	0.30	0.25	0.30	36.5
West: Clarke St (W)															
10	L2	All MCs	49	2.1	49	2.1	0.134	4.9	LOS A	0.5	3.5	0.46	0.65	0.46	32.9
12	R2	All MCs	68	4.6	68	4.6	0.134	6.2	LOS A	0.5	3.5	0.46	0.65	0.46	26.9
Approach			118	3.6	118	3.6	0.134	5.7	LOS A	0.5	3.5	0.46	0.65	0.46	30.3
All Vehicles			599	9.0	599	9.0	0.264	2.9	NA	1.4	10.7	0.33	0.34	0.33	34.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CST08 [CST08 Albany St / Willoughby Rd (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TCS 516
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Willoughby Rd (S)															
1	L2	All MCs	78	10.8	78	10.8	0.139	32.9	LOS C	2.1	16.3	0.73	0.70	0.73	24.4
2	T1	All MCs	165	8.3	165	8.3	0.343	30.3	LOS C	4.9	37.1	0.77	0.66	0.77	27.5
3	R2	All MCs	6	33.3	6	33.3	0.343	38.9	LOS C	4.9	37.1	0.77	0.66	0.77	25.8
Approach			249	9.7	249	9.7	0.343	31.4	LOS C	4.9	37.1	0.76	0.67	0.76	26.4
East: Albany St (E)															
4	L2	All MCs	9	11.1	9	11.1	0.240	16.3	LOS B	5.0	36.1	0.58	0.50	0.58	31.6
5	T1	All MCs	351	2.4	351	2.4	0.481	12.2	LOS A	7.2	51.4	0.66	0.58	0.66	30.7
6	R2	All MCs	137	0.8	137	0.8	* 0.481	25.7	LOS B	7.2	51.4	0.80	0.73	0.80	26.2
Approach			497	2.1	497	2.1	0.481	16.0	LOS B	7.2	51.4	0.70	0.62	0.70	29.3
North: Willoughby Rd (N)															
7	L2	All MCs	122	1.7	122	1.7	0.153	19.2	LOS B	2.9	20.3	0.64	0.71	0.64	26.7
8	T1	All MCs	162	5.2	162	5.2	* 0.373	22.3	LOS B	6.2	44.9	0.80	0.73	0.80	25.7
9	R2	All MCs	43	2.4	43	2.4	0.373	30.8	LOS C	6.2	44.9	0.80	0.73	0.80	24.2
Approach			327	3.5	327	3.5	0.373	22.3	LOS B	6.2	44.9	0.74	0.72	0.74	25.8
West: Albany St (W)															
10	L2	All MCs	92	2.3	92	2.3	0.130	21.6	LOS B	2.3	16.4	0.68	0.71	0.68	25.4
11	T1	All MCs	314	2.7	314	2.7	* 0.400	17.9	LOS B	8.6	61.9	0.75	0.64	0.75	28.0
Approach			405	2.6	405	2.6	0.400	18.7	LOS B	8.6	61.9	0.73	0.66	0.73	27.4
All Vehicles			1479	3.8	1479	3.8	0.481	20.7	LOS B	8.6	61.9	0.73	0.66	0.73	27.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Willoughby Rd (S)												
P1	Full	33	35	29.8	LOS C	0.1	0.1	0.86	0.86	46.5	20.0	0.43
East: Albany St (E)												
P2	Full	103	108	29.9	LOS C	0.2	0.2	0.87	0.87	46.6	20.0	0.43
North: Willoughby Rd (N)												
P3	Full	48	51	29.8	LOS C	0.1	0.1	0.86	0.86	46.5	20.0	0.43
West: Albany St (W)												
P4	Full	55	58	29.8	LOS C	0.1	0.1	0.86	0.86	46.5	20.0	0.43
All Pedestrians		239	252	29.8	LOS C	0.2	0.2	0.87	0.87	46.5	20.0	0.43

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.

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MOVEMENT SUMMARY

Site: CST09 [CST09 Albany St / Oxley St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

NA
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Oxley St (S)															
1	L2	All MCs	35	0.0	35	0.0	0.302	8.4	LOS A	2.0	14.1	0.77	0.68	0.77	21.0
2	T1	All MCs	96	1.1	96	1.1	0.302	8.3	LOS A	2.0	14.1	0.77	0.68	0.77	32.2
3	R2	All MCs	68	0.0	68	0.0	0.302	11.1	LOS A	2.0	14.1	0.77	0.68	0.77	30.4
3u	U	All MCs	3	0.0	3	0.0	0.302	12.5	LOS A	2.0	14.1	0.77	0.68	0.77	21.0
Approach			202	0.5	202	0.5	0.302	9.3	LOS A	2.0	14.1	0.77	0.68	0.77	30.3
East: Albany St (E)															
4	L2	All MCs	47	2.2	47	2.2	0.677	10.3	LOS A	5.7	41.1	0.71	0.83	0.87	27.3
5	T1	All MCs	383	2.7	383	2.7	0.677	10.1	LOS A	5.7	41.1	0.71	0.83	0.87	27.3
6	R2	All MCs	41	0.0	41	0.0	0.677	12.8	LOS A	5.7	41.1	0.71	0.83	0.87	33.3
6u	U	All MCs	4	0.0	4	0.0	0.677	14.2	LOS A	5.7	41.1	0.71	0.83	0.87	32.6
Approach			476	2.4	476	2.4	0.677	10.4	LOS A	5.7	41.1	0.71	0.83	0.87	28.2
North: Oxley St (N)															
7	L2	All MCs	47	0.0	47	0.0	0.460	10.2	LOS A	3.4	23.9	0.86	0.78	0.94	33.1
8	T1	All MCs	153	2.1	153	2.1	0.460	10.1	LOS A	3.4	23.9	0.86	0.78	0.94	28.0
9	R2	All MCs	80	1.3	80	1.3	0.460	12.9	LOS A	3.4	23.9	0.86	0.78	0.94	28.0
9u	U	All MCs	1	0.0	1	0.0	0.460	14.2	LOS A	3.4	23.9	0.86	0.78	0.94	33.4
Approach			281	1.5	281	1.5	0.460	10.9	LOS A	3.4	23.9	0.86	0.78	0.94	29.3
West: Albany St (W)															
10	L2	All MCs	113	1.9	113	1.9	0.618	6.7	LOS A	6.0	42.7	0.75	0.59	0.77	34.3
11	T1	All MCs	374	2.5	374	2.5	0.618	6.5	LOS A	6.0	42.7	0.75	0.59	0.77	34.1
12	R2	All MCs	100	2.1	100	2.1	0.618	9.4	LOS A	6.0	42.7	0.75	0.59	0.77	25.8
12u	U	All MCs	11	0.0	11	0.0	0.618	10.7	LOS A	6.0	42.7	0.75	0.59	0.77	25.8
Approach			597	2.3	597	2.3	0.618	7.1	LOS A	6.0	42.7	0.75	0.59	0.77	33.2
All Vehicles			1556	2.0	1556	2.0	0.677	9.1	LOS A	6.0	42.7	0.76	0.71	0.83	30.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CST10 [CST10 Albany St / Clarke Ln (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Clarke Ln (SE)															
21a	L1	All MCs	32	0.0	32	0.0	0.067	4.2	LOS A	7.5	54.0	0.18	0.49	0.18	31.2
23b	R3	All MCs	2	50.0	2	50.0	0.067	31.9	LOS C	7.5	54.0	0.18	0.49	0.18	31.2
Approach			34	3.1	34	3.1	0.067	5.9	LOS A	7.5	54.0	0.18	0.49	0.18	31.2
East: Albany St (E)															
5	T1	All MCs	508	2.3	508	2.3	0.242	0.0	LOS A	13.4	95.9	0.00	0.00	0.00	49.9
Approach			508	2.3	508	2.3	0.242	0.0	NA	13.4	95.9	0.00	0.00	0.00	49.9
West: Albany St (W)															
11	T1	All MCs	565	2.4	565	2.4	0.297	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			565	2.4	565	2.4	0.297	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
All Vehicles			1107	2.4	1107	2.4	0.297	0.2	NA	13.4	95.9	0.01	0.01	0.01	48.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CST11 [CST11 Oxley St / Clarke Ln (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Clarke Ln (SE)															
1	L2	All MCs	1	0.0	1	0.0	0.008	4.9	LOS A	0.0	0.2	0.40	0.55	0.40	30.2
2	T1	All MCs	1	0.0	1	0.0	0.008	5.2	LOS A	0.0	0.2	0.40	0.55	0.40	30.2
3	R2	All MCs	3	33.3	3	33.3	0.008	8.3	LOS A	0.0	0.2	0.40	0.55	0.40	30.2
Approach			5	20.0	5	20.0	0.008	7.0	LOS A	0.0	0.2	0.40	0.55	0.40	30.2
NorthEast: Oxley St (NE)															
4	L2	All MCs	5	40.0	5	40.0	0.139	3.0	LOS A	3.5	24.7	0.01	0.02	0.01	35.7
5	T1	All MCs	232	1.4	232	1.4	0.139	0.0	LOS A	3.5	24.7	0.01	0.02	0.01	48.5
6	R2	All MCs	2	0.0	2	0.0	0.139	3.4	LOS A	3.5	24.7	0.01	0.02	0.01	48.5
Approach			239	2.2	239	2.2	0.139	0.1	NA	3.5	24.7	0.01	0.02	0.01	47.0
NorthWest: Clarke Ln (NW)															
7	L2	All MCs	8	0.0	8	0.0	0.028	5.2	LOS A	0.2	1.2	0.36	0.55	0.36	24.3
8	T1	All MCs	1	0.0	1	0.0	0.028	5.2	LOS A	0.2	1.2	0.36	0.55	0.36	33.6
9	R2	All MCs	8	0.0	8	0.0	0.028	6.9	LOS A	0.2	1.2	0.36	0.55	0.36	24.3
Approach			18	0.0	18	0.0	0.028	6.0	LOS A	0.2	1.2	0.36	0.55	0.36	25.3
SouthWest: Oxley St (SW)															
10	L2	All MCs	5	0.0	5	0.0	0.115	3.0	LOS A	0.0	0.2	0.01	0.03	0.01	47.7
11	T1	All MCs	214	0.5	214	0.5	0.115	0.0	LOS A	0.0	0.2	0.01	0.03	0.01	47.7
12	R2	All MCs	3	0.0	3	0.0	0.115	4.0	LOS A	0.0	0.2	0.01	0.03	0.01	42.6
Approach			222	0.5	222	0.5	0.115	0.1	NA	0.0	0.2	0.01	0.03	0.01	47.3
All Vehicles			484	1.5	484	1.5	0.139	0.4	NA	3.5	24.7	0.03	0.05	0.03	43.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CST12 [CST12 Hume St / Clarke Ln (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

NA
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Clarke Ln (SE)															
3	R2	All MCs	5	0.0	5	0.0	0.003	6.9	LOS A	0.0	0.0	0.00	1.00	0.00	27.8
Approach			5	0.0	5	0.0	0.003	6.9	LOS A	0.0	0.0	0.00	1.00	0.00	27.8
NorthEast: Hume St (NE)															
4	L2	All MCs	21	0.0	21	0.0	0.011	3.2	LOS A	0.0	0.0	0.00	0.50	0.00	34.8
Approach			21	0.0	21	0.0	0.011	3.2	NA	0.0	0.0	0.00	0.50	0.00	34.8
All Vehicles			26	0.0	26	0.0	0.011	3.9	NA	0.0	0.0	0.00	0.60	0.00	33.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CST13 [CST13 Pacific Hwy / Alexander St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 763
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 135 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
2	T1	All MCs	949	3.9	949	3.9	0.422	7.9	LOS A	8.9	64.0	0.57	0.50	0.57	36.3
3a	R1	All MCs	266	7.9	266	7.9	0.429	18.4	LOS B	6.5	48.9	0.62	0.73	0.62	24.4
Approach			1216	4.8	1216	4.8	0.429	10.2	LOS A	8.9	64.0	0.58	0.55	0.58	32.7
North: Alexander St (N)															
24a	L1	All MCs	269	3.5	269	3.5	* 0.420	22.3	LOS B	8.8	63.7	0.76	0.75	0.76	24.2
26b	R3	All MCs	125	0.8	125	0.8	0.874	84.0	LOS F	9.0	63.7	1.00	0.93	1.20	4.2
Approach			395	2.7	395	2.7	0.874	41.8	LOS C	9.0	63.7	0.83	0.80	0.90	14.2
NorthWest: Pacific Hwy (NW)															
7b	L3	All MCs	18	17.6	18	17.6	0.125	20.4	LOS B	0.3	3.1	0.13	0.29	0.13	39.3
8	T1	All MCs	1339	4.9	1339	4.9	* 0.765	15.6	LOS B	20.5	146.3	0.58	0.58	0.58	39.3
Approach			1357	5.0	1357	5.0	0.765	15.7	LOS B	20.5	146.3	0.57	0.58	0.57	39.3
All Vehicles			2967	4.6	2967	4.6	0.874	16.9	LOS B	20.5	146.3	0.61	0.60	0.62	30.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Alexander St (N)											
P6	Full	342	23.1	LOS C	0.6	0.6	0.82	0.82	39.8	20.0	0.50
NorthWest: Pacific Hwy (NW)											
P3	Full	96	55.3	LOS E	0.3	0.3	0.91	0.91	72.0	20.0	0.28
All Pedestrians		438	30.2	LOS D	0.6	0.6	0.84	0.84	46.9	20.0	0.43

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.

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MOVEMENT SUMMARY

Site: CST14 [CST14 Falcon St / Alexander St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 764
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 135 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Alexander St (S)															
1	L2	All MCs	5	20.0	5	20.0	0.835	76.8	LOS F	15.8	117.8	1.00	0.96	1.14	4.9
2	T1	All MCs	246	7.3	246	7.3	* 0.927	67.5	LOS E	15.8	117.8	1.00	0.96	1.16	8.3
3	R2	All MCs	56	9.4	56	9.4	0.927	93.2	LOS F	5.9	44.7	1.00	0.95	1.32	14.9
Approach			307	7.9	307	7.9	0.927	72.3	LOS F	15.8	117.8	1.00	0.96	1.18	9.9
East: Falcon St (E)															
4	L2	All MCs	41	0.0	41	0.0	0.283	6.7	LOS A	1.5	10.9	0.06	0.11	0.06	56.6
5	T1	All MCs	708	3.7	708	3.7	0.283	0.7	LOS A	13.5	99.1	0.05	0.08	0.05	57.5
6	R2	All MCs	6	100.0	6	100.0	0.283	7.3	LOS A	13.5	99.1	0.04	0.04	0.04	51.9
Approach			756	4.3	756	4.3	0.283	1.1	LOS A	13.5	99.1	0.05	0.08	0.05	57.4
North: Alexander St (N)															
7	L2	All MCs	21	5.0	21	5.0	0.720	71.9	LOS F	13.0	93.2	1.00	0.87	1.06	18.9
8	T1	All MCs	391	2.7	391	2.7	0.720	60.7	LOS E	13.8	98.7	1.00	0.87	1.05	5.6
Approach			412	2.8	412	2.8	0.720	61.3	LOS E	13.8	98.7	1.00	0.87	1.05	6.5
West: Falcon St (W)															
10	L2	All MCs	176	3.6	176	3.6	* 0.319	5.8	LOS A	1.1	7.6	0.04	0.27	0.04	39.4
11	T1	All MCs	705	3.6	705	3.6	0.319	0.4	LOS A	1.1	7.6	0.04	0.12	0.04	57.7
Approach			881	3.6	881	3.6	0.319	1.5	LOS A	1.1	7.6	0.04	0.15	0.04	55.5
All Vehicles			2356	4.2	2356	4.2	0.927	21.0	LOS B	15.8	117.8	0.34	0.36	0.37	29.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alexander St (S)											
P1	Full	135	57.3	LOS E	0.5	0.5	0.92	0.92	73.9	20.0	0.27
East: Falcon St (E)											
P2	Full	89	57.2	LOS E	0.3	0.3	0.92	0.92	73.8	20.0	0.27
North: Alexander St (N)											
P3	Full	99	57.2	LOS E	0.4	0.4	0.92	0.92	73.9	20.0	0.27
West: Falcon St (W)											
P4	Full	167	57.3	LOS E	0.6	0.6	0.92	0.92	74.0	20.0	0.27
All Pedestrians		491	57.3	LOS E	0.6	0.6	0.92	0.92	73.9	20.0	0.27

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.

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MOVEMENT SUMMARY

Site: CST01 [CST01 Pacific Hwy / Albany St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 768
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
22	T1	All MCs	1007	4.8	1007	4.8	0.387	11.9	LOS A	17.6	128.3	0.56	0.40	0.56	38.5
23b	R3	All MCs	140	0.0	140	0.0	* 0.220	39.1	LOS C	6.1	42.8	0.76	0.78	0.76	13.0
Approach			1147	4.2	1147	4.2	0.387	15.3	LOS B	17.6	128.3	0.59	0.44	0.59	33.9
East: Albany St (E)															
4b	L3	All MCs	37	0.0	37	0.0	* 0.889	78.0	LOS F	6.9	49.0	1.00	1.02	1.27	2.3
6a	R1	All MCs	545	2.1	545	2.1	0.889	67.6	LOS E	6.9	49.0	1.00	1.02	1.26	8.7
Approach			582	2.0	582	2.0	0.889	68.2	LOS E	6.9	49.0	1.00	1.02	1.26	8.3
NorthWest: Pacific Hwy (NW)															
27a	L1	All MCs	423	0.0	423	0.0	0.659	35.6	LOS C	20.1	141.0	0.84	0.82	0.84	13.1
28	T1	All MCs	924	3.5	924	3.5	* 0.902	60.4	LOS E	31.6	227.7	1.00	1.07	1.21	8.5
Approach			1347	2.4	1347	2.4	0.902	52.6	LOS D	31.6	227.7	0.95	0.99	1.09	9.6
All Vehicles			3077	3.0	3077	3.0	0.902	41.6	LOS C	31.6	227.7	0.82	0.79	0.94	14.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Pacific Hwy (SE)											
P5	Full	178	50.6	LOS E	0.6	0.6	0.90	0.90	217.2	200.0	0.92
East: Albany St (E)											
P2	Full	242	50.7	LOS E	0.8	0.8	0.91	0.91	67.4	20.0	0.30
All Pedestrians		420	50.6	LOS E	0.8	0.8	0.90	0.90	130.8	96.2	0.74

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.

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MOVEMENT SUMMARY

Site: CST02 [CST02 Pacific Hwy / Oxley St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 767
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
1	L2	All MCs	118	0.0	118	0.0	0.105	7.7	LOS A	0.9	6.0	0.11	0.55	0.11	39.7
2	T1	All MCs	947	5.0	947	5.0	0.345	2.8	LOS A	5.6	41.1	0.20	0.19	0.20	43.9
Approach			1065	4.4	1065	4.4	0.345	3.4	LOS A	5.6	41.1	0.19	0.23	0.19	42.7
NorthEast: Oxley St (NE)															
4	L2	All MCs	82	0.0	82	0.0	0.325	56.6	LOS E	4.6	32.4	0.95	0.76	0.95	2.7
5	T1	All MCs	154	0.0	154	0.0	0.704	60.7	LOS E	7.0	49.0	1.00	0.86	1.07	13.4
Approach			236	0.0	236	0.0	0.704	59.3	LOS E	7.0	49.0	0.98	0.83	1.03	10.4
NorthWest: Pacific Hwy (NW)															
7	L2	All MCs	65	0.0	65	0.0	0.050	22.5	LOS B	2.2	15.5	0.60	0.54	0.60	21.9
8	T1	All MCs	916	3.6	916	3.6	* 0.347	14.9	LOS B	18.2	131.6	0.66	0.36	0.66	26.6
Approach			981	3.3	981	3.3	0.347	15.4	LOS B	18.2	131.6	0.66	0.38	0.66	26.2
SouthWest: Oxley St (SW)															
10	L2	All MCs	223	0.9	223	0.9	* 0.899	91.0	LOS F	15.7	110.5	1.00	1.02	1.33	10.4
11	T1	All MCs	166	0.0	166	0.0	0.547	68.6	LOS E	9.4	66.1	0.97	0.79	0.97	13.9
12	R2	All MCs	117	2.7	117	2.7	0.930	84.7	LOS F	8.5	60.9	1.00	1.07	1.50	9.4
Approach			506	1.0	506	1.0	0.930	82.2	LOS F	15.7	110.5	0.99	0.95	1.25	11.1
All Vehicles			2788	3.1	2788	3.1	0.930	26.6	LOS B	18.2	131.6	0.57	0.46	0.62	18.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Pacific Hwy (SE)											
P1	Full	124	50.4	LOS E	0.4	0.4	0.90	0.90	67.1	20.0	0.30
NorthEast: Oxley St (NE)											
P2	Full	49	51.2	LOS E	0.2	0.2	0.91	0.91	67.8	20.0	0.29
SouthWest: Oxley St (SW)											
P4	Full	136	51.4	LOS E	0.4	0.4	0.91	0.91	68.0	20.0	0.29
All Pedestrians		309	51.0	LOS E	0.4	0.4	0.91	0.91	67.6	20.0	0.30

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.

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MOVEMENT SUMMARY

Site: CST03 [CST03 Pacific Hwy / Hume St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 766
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
1	L2	All MCs	47	0.0	47	0.0	0.244	6.3	LOS A	0.9	6.7	0.05	0.12	0.05	36.5
2	T1	All MCs	1006	4.7	1006	4.7	0.244	3.7	LOS A	7.2	52.6	0.27	0.23	0.27	45.7
Approach			1054	4.5	1054	4.5	0.244	3.8	LOS A	7.2	52.6	0.26	0.22	0.26	45.0
NorthWest: Pacific Hwy (NW)															
8	T1	All MCs	1116	3.2	1116	3.2	0.384	0.8	LOS A	2.5	18.1	0.08	0.07	0.08	54.7
9	R2	All MCs	1	100.0	1	100.0	* 0.384	7.6	LOS A	2.4	17.1	0.08	0.07	0.08	26.1
Approach			1117	3.3	1117	3.3	0.384	0.8	LOS A	2.5	18.1	0.08	0.07	0.08	54.6
SouthWest: Hume St (SW)															
10	L2	All MCs	59	0.0	59	0.0	* 0.283	60.8	LOS E	3.4	23.7	0.96	0.75	0.96	4.6
12	R2	All MCs	23	0.0	23	0.0	0.111	59.2	LOS E	1.3	9.1	0.93	0.71	0.93	4.9
Approach			82	0.0	82	0.0	0.283	60.4	LOS E	3.4	23.7	0.95	0.74	0.95	4.7
All Vehicles			2253	3.7	2253	3.7	0.384	4.4	LOS A	7.2	52.6	0.20	0.17	0.20	41.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Pacific Hwy (SE)											
P1	Full	14	50.2	LOS E	0.0	0.0	0.90	0.90	66.9	20.0	0.30
NorthWest: Pacific Hwy (NW)											
P3	Full	21	50.2	LOS E	0.1	0.1	0.90	0.90	66.9	20.0	0.30
SouthWest: Hume St (SW)											
P4	Full	136	53.2	LOS E	0.4	0.4	0.93	0.93	69.9	20.0	0.29
All Pedestrians		171	52.6	LOS E	0.4	0.4	0.92	0.92	69.3	20.0	0.29

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.

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MOVEMENT SUMMARY

Site: CST04 [CST04 Pacific Hwy / Falcon St / Shirley Rd (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 765
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
1	L2	All MCs	467	0.7	467	0.7	0.537	30.0	LOS C	19.8	139.3	0.75	0.81	0.75	22.4
2	T1	All MCs	619	6.0	619	6.0	0.500	31.5	LOS C	14.2	104.8	0.80	0.68	0.80	12.4
Approach			1086	3.7	1086	3.7	0.537	30.9	LOS C	19.8	139.3	0.78	0.74	0.78	17.5
East: Falcon St (E)															
21b	L3	All MCs	17	0.0	17	0.0	0.944	26.4	LOS B	18.6	130.6	0.98	1.00	1.17	7.1
21a	L1	All MCs	521	0.2	521	0.2	*0.944	45.9	LOS D	18.6	130.6	0.98	1.00	1.17	16.5
23a	R1	All MCs	403	2.6	403	2.6	0.589	23.7	LOS B	14.8	105.9	0.65	0.74	0.65	11.8
Approach			941	1.2	941	1.2	0.944	36.0	LOS C	18.6	130.6	0.84	0.89	0.95	15.2
North: Willoughby Rd (N)															
7	L2	All MCs	37	0.0	37	0.0	0.026	3.8	LOS A	0.2	1.2	0.09	0.48	0.09	36.9
Approach			37	0.0	37	0.0	0.026	3.8	LOS A	0.2	1.2	0.09	0.48	0.09	36.9
NorthWest: Pacific Hwy (NW)															
7a	L1	All MCs	435	2.4	435	2.4	*0.442	14.5	LOS B	8.3	59.4	0.66	0.76	0.66	27.6
8	T1	All MCs	703	3.6	703	3.6	0.556	10.7	LOS A	8.6	61.8	0.41	0.35	0.41	32.6
Approach			1138	3.1	1138	3.1	0.556	12.2	LOS A	8.6	61.8	0.51	0.51	0.51	30.6
SouthWest: Shirley Rd (SW)															
10	L2	All MCs	32	0.0	32	0.0	0.963	92.0	LOS F	22.6	158.9	1.00	1.18	1.43	8.3
12a	R1	All MCs	401	0.5	401	0.5	*0.963	83.5	LOS F	23.9	169.3	1.00	1.16	1.43	8.3
12	R2	All MCs	191	1.7	191	1.7	0.963	85.7	LOS F	23.9	169.3	1.00	1.13	1.42	8.1
Approach			623	0.8	623	0.8	0.963	84.6	LOS F	23.9	169.3	1.00	1.15	1.43	8.2
All Vehicles			3825	2.4	3825	2.4	0.963	35.1	LOS C	23.9	169.3	0.74	0.77	0.84	16.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Pacific Hwy (SE)											
P1	Full	117	49.5	LOS E	0.4	0.4	0.89	0.89	66.2	20.0	0.30
East: Falcon St (E)											
P5	Full	177	53.3	LOS E	0.6	0.6	0.93	0.93	70.0	20.0	0.29
NorthWest: Pacific Hwy (NW)											
P3	Full	288	49.9	LOS E	0.9	0.9	0.90	0.90	66.6	20.0	0.30
SouthWest: Shirley Rd (SW)											
P4	Full	143	53.2	LOS E	0.5	0.5	0.93	0.93	69.9	20.0	0.29
All Pedestrians		725	51.3	LOS E	0.9	0.9	0.91	0.91	68.0	20.0	0.29

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.

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MOVEMENT SUMMARY

Site: CST05 [CST05 Clarke St / Oxley St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Clarke St (SE)															
1	L2	All MCs	53	0.0	53	0.0	0.109	5.1	LOS A	0.4	2.7	0.36	0.58	0.36	32.0
3a	R1	All MCs	55	0.0	55	0.0	0.109	6.4	LOS A	0.4	2.7	0.36	0.58	0.36	32.0
Approach			107	0.0	107	0.0	0.109	5.8	LOS A	0.4	2.7	0.36	0.58	0.36	32.0
North: Oxley St (N)															
24a	L1	All MCs	164	0.6	164	0.6	0.185	4.4	LOS A	0.0	0.0	0.00	0.53	0.00	29.5
26a	R1	All MCs	179	0.0	179	0.0	0.185	4.1	LOS A	0.0	0.0	0.00	0.53	0.00	29.5
Approach			343	0.3	343	0.3	0.185	4.2	NA	0.0	0.0	0.00	0.53	0.00	29.5
SouthWest: Oxley St (SW)															
10a	L1	All MCs	165	0.0	165	0.0	0.149	2.8	LOS A	0.6	4.1	0.30	0.57	0.30	21.9
12	R2	All MCs	80	0.0	80	0.0	0.149	5.6	LOS A	0.6	4.1	0.30	0.57	0.30	21.9
Approach			245	0.0	245	0.0	0.149	3.7	NA	0.6	4.1	0.30	0.57	0.30	21.9
All Vehicles			696	0.2	696	0.2	0.185	4.3	NA	0.6	4.1	0.16	0.55	0.16	28.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CST06 [CST06 Clarke St / Hume St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Clarke St (SE)															
1	L2	All MCs	1	0.0	1	0.0	0.062	4.6	LOS A	0.0	0.0	0.00	0.00	0.00	49.7
2	T1	All MCs	119	0.0	119	0.0	0.062	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.7
Approach			120	0.0	120	0.0	0.062	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.7
NorthWest: Clarke St (NW)															
8	T1	All MCs	239	0.4	239	0.4	0.124	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	49.8
9	R2	All MCs	2	0.0	2	0.0	0.124	4.7	LOS A	0.0	0.1	0.01	0.01	0.01	49.7
Approach			241	0.4	241	0.4	0.124	0.0	NA	0.0	0.1	0.01	0.01	0.01	49.8
SouthWest: Hume St (SW)															
10	L2	All MCs	17	0.0	17	0.0	0.034	3.5	LOS A	0.1	0.4	0.23	0.50	0.23	23.9
12	R2	All MCs	5	0.0	5	0.0	0.034	4.5	LOS A	0.1	0.4	0.23	0.50	0.23	31.9
Approach			22	0.0	22	0.0	0.034	3.8	LOS A	0.1	0.4	0.23	0.50	0.23	27.2
All Vehicles			383	0.3	383	0.3	0.124	0.3	NA	0.1	0.4	0.02	0.03	0.02	48.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CST07 [CST07 Clarke St / Willoughby Rd (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Willoughby Rd (S)															
1	L2	All MCs	95	0.0	95	0.0	0.230	4.1	LOS A	1.1	8.3	0.43	0.40	0.43	30.2
2	T1	All MCs	114	12.0	114	12.0	0.230	3.1	LOS A	1.1	8.3	0.43	0.40	0.43	35.2
Approach			208	6.6	208	6.6	0.230	3.6	NA	1.1	8.3	0.43	0.40	0.43	33.4
North: Willoughby Rd (N)															
8	T1	All MCs	174	4.2	174	4.2	0.293	2.9	LOS A	1.3	9.2	0.48	0.47	0.48	34.6
9	R2	All MCs	59	0.0	59	0.0	0.293	7.9	LOS A	1.3	9.2	0.48	0.47	0.48	33.9
Approach			233	3.2	233	3.2	0.293	4.1	NA	1.3	9.2	0.48	0.47	0.48	34.4
West: Clarke St (W)															
10	L2	All MCs	86	0.0	86	0.0	0.198	6.2	LOS A	0.7	5.2	0.52	0.71	0.52	32.5
12	R2	All MCs	79	0.0	79	0.0	0.198	6.2	LOS A	0.7	5.2	0.52	0.71	0.52	26.4
Approach			165	0.0	165	0.0	0.198	6.2	LOS A	0.7	5.2	0.52	0.71	0.52	30.3
All Vehicles			606	3.5	606	3.5	0.293	4.5	NA	1.3	9.2	0.47	0.51	0.47	33.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CST08 [CST08 Albany St / Willoughby Rd (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TCS 516
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Willoughby Rd (S)															
1	L2	All MCs	64	18.0	64	18.0	0.174	39.4	LOS C	2.0	16.5	0.83	0.72	0.83	21.8
2	T1	All MCs	132	4.0	132	4.0	0.323	33.2	LOS C	4.4	31.4	0.82	0.68	0.82	25.6
3	R2	All MCs	11	0.0	11	0.0	0.323	42.1	LOS C	4.4	31.4	0.82	0.68	0.82	24.2
Approach			206	8.2	206	8.2	0.323	35.6	LOS C	4.4	31.4	0.82	0.69	0.82	24.3
East: Albany St (E)															
4	L2	All MCs	21	0.0	21	0.0	0.240	16.1	LOS B	5.0	35.5	0.54	0.48	0.54	32.7
5	T1	All MCs	306	0.7	306	0.7	0.480	10.0	LOS A	6.5	45.9	0.60	0.54	0.60	32.7
6	R2	All MCs	169	0.6	169	0.6	* 0.480	23.0	LOS B	6.5	45.9	0.79	0.75	0.79	26.4
Approach			497	0.6	497	0.6	0.480	14.7	LOS B	6.5	45.9	0.66	0.61	0.66	30.2
North: Willoughby Rd (N)															
7	L2	All MCs	124	0.0	124	0.0	0.167	21.2	LOS B	3.1	21.8	0.68	0.72	0.68	25.6
8	T1	All MCs	153	2.8	153	2.8	0.371	25.1	LOS B	5.8	41.7	0.84	0.74	0.84	24.5
9	R2	All MCs	32	0.0	32	0.0	* 0.371	34.8	LOS C	5.8	41.7	0.84	0.74	0.84	22.9
Approach			308	1.4	308	1.4	0.371	24.5	LOS B	5.8	41.7	0.78	0.73	0.78	24.7
West: Albany St (W)															
10	L2	All MCs	116	0.9	116	0.9	0.162	21.8	LOS B	3.0	20.8	0.69	0.72	0.69	25.3
11	T1	All MCs	343	0.0	343	0.0	* 0.391	15.8	LOS B	8.9	62.6	0.71	0.61	0.71	29.5
Approach			459	0.2	459	0.2	0.391	17.3	LOS B	8.9	62.6	0.71	0.64	0.71	28.3
All Vehicles			1471	1.7	1471	1.7	0.480	20.5	LOS B	8.9	62.6	0.72	0.66	0.72	27.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Willoughby Rd (S)												
P1	Full	85	89	29.9	LOS C	0.2	0.2	0.87	0.87	46.5	20.0	0.43
East: Albany St (E)												
P2	Full	231	243	30.1	LOS D	0.5	0.5	0.87	0.87	46.7	20.0	0.43
North: Willoughby Rd (N)												
P3	Full	129	136	29.9	LOS C	0.3	0.3	0.87	0.87	46.6	20.0	0.43
West: Albany St (W)												
P4	Full	150	158	30.0	LOS C	0.3	0.3	0.87	0.87	46.6	20.0	0.43
All Pedestrians		595	626	30.0	LOS C	0.5	0.5	0.87	0.87	46.6	20.0	0.43

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.

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MOVEMENT SUMMARY

Site: CST09 [CST09 Albany St / Oxley St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

NA
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Oxley St (S)															
1	L2	All MCs	61	0.0	61	0.0	0.457	9.5	LOS A	3.3	23.2	0.85	0.75	0.92	19.9
2	T1	All MCs	147	0.7	147	0.7	0.457	9.4	LOS A	3.3	23.2	0.85	0.75	0.92	31.3
3	R2	All MCs	73	0.0	73	0.0	0.457	12.2	LOS A	3.3	23.2	0.85	0.75	0.92	29.5
3u	U	All MCs	2	0.0	2	0.0	0.457	13.6	LOS A	3.3	23.2	0.85	0.75	0.92	19.9
Approach			283	0.4	283	0.4	0.457	10.2	LOS A	3.3	23.2	0.85	0.75	0.92	29.2
East: Albany St (E)															
4	L2	All MCs	38	0.0	38	0.0	0.882	15.9	LOS B	8.9	63.3	0.93	1.09	1.38	21.8
5	T1	All MCs	382	2.5	382	2.5	0.882	15.9	LOS B	8.9	63.3	0.93	1.09	1.38	21.8
6	R2	All MCs	27	0.0	27	0.0	0.882	18.6	LOS B	8.9	63.3	0.93	1.09	1.38	28.9
6u	U	All MCs	4	0.0	4	0.0	0.882	20.0	LOS B	8.9	63.3	0.93	1.09	1.38	28.1
Approach			452	2.1	452	2.1	0.882	16.1	LOS B	8.9	63.3	0.93	1.09	1.38	22.5
North: Oxley St (N)															
7	L2	All MCs	18	0.0	18	0.0	0.429	9.7	LOS A	2.9	20.7	0.85	0.76	0.90	33.4
8	T1	All MCs	140	0.0	140	0.0	0.429	9.5	LOS A	2.9	20.7	0.85	0.76	0.90	28.4
9	R2	All MCs	97	2.2	97	2.2	0.429	12.5	LOS A	2.9	20.7	0.85	0.76	0.90	28.4
9u	U	All MCs	1	0.0	1	0.0	0.429	13.8	LOS A	2.9	20.7	0.85	0.76	0.90	33.7
Approach			256	0.8	256	0.8	0.429	10.7	LOS A	2.9	20.7	0.85	0.76	0.90	29.0
West: Albany St (W)															
10	L2	All MCs	113	0.0	113	0.0	0.613	7.3	LOS A	6.3	44.0	0.79	0.63	0.82	34.0
11	T1	All MCs	377	0.3	377	0.3	0.613	7.1	LOS A	6.3	44.0	0.79	0.63	0.82	33.7
12	R2	All MCs	102	0.0	102	0.0	0.613	10.0	LOS A	6.3	44.0	0.79	0.63	0.82	25.3
12u	U	All MCs	4	0.0	4	0.0	0.613	11.4	LOS A	6.3	44.0	0.79	0.63	0.82	25.3
Approach			596	0.2	596	0.2	0.613	7.7	LOS A	6.3	44.0	0.79	0.63	0.82	32.9
All Vehicles			1586	0.9	1586	0.9	0.882	11.0	LOS A	8.9	63.3	0.85	0.80	1.01	28.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CST10 [CST10 Albany St / Clarke Ln (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Clarke Ln (SE)															
21a	L1	All MCs	38	0.0	38	0.0	0.081	5.0	LOS A	2.3	15.8	0.42	0.59	0.42	30.8
23b	R3	All MCs	4	0.0	4	0.0	0.081	15.9	LOS B	2.3	15.8	0.42	0.59	0.42	30.8
Approach			42	0.0	42	0.0	0.081	6.1	LOS A	2.3	15.8	0.42	0.59	0.42	30.8
East: Albany St (E)															
5	T1	All MCs	544	2.1	544	2.1	0.143	0.0	LOS A	14.0	99.8	0.00	0.00	0.00	49.9
Approach			544	2.1	544	2.1	0.143	0.0	NA	14.0	99.8	0.00	0.00	0.00	49.9
West: Albany St (W)															
11	T1	All MCs	558	0.2	558	0.2	0.287	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			558	0.2	558	0.2	0.287	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
All Vehicles			1144	1.1	1144	1.1	0.287	0.2	NA	14.0	99.8	0.02	0.02	0.02	47.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CST11 [CST11 Oxley St / Clarke Ln (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Clarke Ln (SE)															
1	L2	All MCs	1	0.0	1	0.0	0.004	4.9	LOS A	0.0	0.1	0.34	0.49	0.34	32.3
2	T1	All MCs	1	0.0	1	0.0	0.004	5.2	LOS A	0.0	0.1	0.34	0.49	0.34	32.3
3	R2	All MCs	1	0.0	1	0.0	0.004	6.9	LOS A	0.0	0.1	0.34	0.49	0.34	32.3
Approach			3	0.0	3	0.0	0.004	5.7	LOS A	0.0	0.1	0.34	0.49	0.34	32.3
NorthEast: Oxley St (NE)															
4	L2	All MCs	1	0.0	1	0.0	0.139	3.0	LOS A	3.6	25.5	0.07	0.07	0.07	42.4
5	T1	All MCs	231	0.0	231	0.0	0.139	0.0	LOS A	3.6	25.5	0.07	0.07	0.07	44.4
6	R2	All MCs	17	0.0	17	0.0	0.139	5.1	LOS A	3.6	25.5	0.07	0.07	0.07	44.4
Approach			248	0.0	248	0.0	0.139	0.4	NA	3.6	25.5	0.07	0.07	0.07	44.4
NorthWest: Clarke Ln (NW)															
7	L2	All MCs	20	0.0	20	0.0	0.028	5.2	LOS A	0.1	0.8	0.33	0.52	0.33	24.9
8	T1	All MCs	1	0.0	1	0.0	0.028	5.2	LOS A	0.1	0.8	0.33	0.52	0.33	34.0
9	R2	All MCs	5	0.0	5	0.0	0.028	6.9	LOS A	0.1	0.8	0.33	0.52	0.33	24.9
Approach			26	0.0	26	0.0	0.028	5.6	LOS A	0.1	0.8	0.33	0.52	0.33	25.5
SouthWest: Oxley St (SW)															
10	L2	All MCs	7	0.0	7	0.0	0.120	3.0	LOS A	0.0	0.1	0.00	0.02	0.00	48.1
11	T1	All MCs	224	0.0	224	0.0	0.120	0.0	LOS A	0.0	0.1	0.00	0.02	0.00	48.1
12	R2	All MCs	1	0.0	1	0.0	0.120	3.3	LOS A	0.0	0.1	0.00	0.02	0.00	42.6
Approach			233	0.0	233	0.0	0.120	0.1	NA	0.0	0.1	0.00	0.02	0.00	48.0
All Vehicles			511	0.0	511	0.0	0.139	0.5	NA	3.6	25.5	0.05	0.07	0.05	42.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CST12 [CST12 Hume St / Clarke Ln (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

NA
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Clarke Ln (SE)															
3	R2	All MCs	22	0.0	22	0.0	0.012	6.9	LOS A	0.0	0.0	0.00	1.00	0.00	27.8
Approach			22	0.0	22	0.0	0.012	6.9	LOS A	0.0	0.0	0.00	1.00	0.00	27.8
NorthEast: Hume St (NE)															
4	L2	All MCs	2	0.0	2	0.0	0.001	3.2	LOS A	0.0	0.0	0.00	0.50	0.00	34.8
Approach			2	0.0	2	0.0	0.001	3.2	NA	0.0	0.0	0.00	0.50	0.00	34.8
All Vehicles			24	0.0	24	0.0	0.012	6.6	NA	0.0	0.0	0.00	0.96	0.00	28.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CST13 [CST13 Pacific Hwy / Alexander St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 763
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
2	T1	All MCs	984	4.2	984	4.2	* 0.539	12.3	LOS A	11.8	85.6	0.74	0.65	0.74	29.8
3a	R1	All MCs	271	2.7	271	2.7	0.494	25.2	LOS B	10.1	72.1	0.79	0.83	0.79	20.0
Approach			1255	3.9	1255	3.9	0.539	15.1	LOS B	11.8	85.6	0.75	0.69	0.75	26.9
North: Alexander St (N)															
24a	L1	All MCs	232	2.7	232	2.7	* 0.399	28.6	LOS C	7.6	54.2	1.00	0.78	1.00	21.1
26b	R3	All MCs	157	0.7	157	0.7	* 0.528	66.2	LOS E	9.7	68.1	1.00	0.86	1.00	5.2
Approach			388	1.9	388	1.9	0.528	43.8	LOS D	9.7	68.1	1.00	0.81	1.00	13.1
NorthWest: Pacific Hwy (NW)															
7b	L3	All MCs	19	0.0	19	0.0	0.076	34.1	LOS C	0.8	8.6	0.64	0.60	0.64	21.6
8	T1	All MCs	954	2.6	954	2.6	0.514	18.7	LOS B	11.4	79.9	0.72	0.62	0.72	37.4
Approach			973	2.6	973	2.6	0.514	19.0	LOS B	11.4	79.9	0.71	0.62	0.71	37.2
All Vehicles			2616	3.1	2616	3.1	0.539	20.8	LOS B	11.8	85.6	0.78	0.68	0.78	26.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Alexander St (N)											
P6	Full	73	20.1	LOS C	0.1	0.1	0.79	0.79	36.8	20.0	0.54
NorthWest: Pacific Hwy (NW)											
P3	Full	102	50.4	LOS E	0.3	0.3	0.90	0.90	67.1	20.0	0.30
All Pedestrians		175	37.8	LOS D	0.3	0.3	0.86	0.86	54.5	20.0	0.37

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.

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MOVEMENT SUMMARY

Site: CST14 [CST14 Falcon St / Alexander St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 764
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Alexander St (S)															
1	L2	All MCs	18	0.0	18	0.0	0.473	42.0	LOS C	7.9	57.0	0.78	0.66	0.78	8.6
2	T1	All MCs	220	4.8	220	4.8	0.525	35.6	LOS C	7.9	57.0	0.80	0.67	0.80	13.4
3	R2	All MCs	41	2.6	41	2.6	0.525	52.8	LOS D	5.3	38.7	0.84	0.70	0.84	23.3
Approach			279	4.2	279	4.2	0.525	38.5	LOS C	7.9	57.0	0.80	0.67	0.80	15.2
East: Falcon St (E)															
4	L2	All MCs	20	0.0	20	0.0	0.536	24.6	LOS B	16.7	118.1	0.64	0.58	0.64	33.9
5	T1	All MCs	894	1.2	894	1.2	* 0.536	18.9	LOS B	16.7	118.1	0.64	0.57	0.64	34.1
6	R2	All MCs	5	100.0	5	100.0	0.536	25.3	LOS B	16.4	117.0	0.64	0.57	0.64	34.4
Approach			919	1.7	919	1.7	0.536	19.0	LOS B	16.7	118.1	0.64	0.57	0.64	34.1
North: Alexander St (N)															
7	L2	All MCs	48	2.2	48	2.2	* 0.530	57.8	LOS E	10.8	77.0	0.95	0.79	0.95	21.7
8	T1	All MCs	367	1.7	367	1.7	0.530	47.1	LOS D	12.0	84.9	0.94	0.79	0.94	6.9
Approach			416	1.8	416	1.8	0.530	48.4	LOS D	12.0	84.9	0.94	0.79	0.94	9.3
West: Falcon St (W)															
10	L2	All MCs	178	0.6	178	0.6	0.273	5.6	LOS A	0.7	5.0	0.03	0.26	0.03	40.7
11	T1	All MCs	712	1.8	712	1.8	0.273	0.2	LOS A	0.7	5.2	0.03	0.11	0.03	58.1
Approach			889	1.5	889	1.5	0.273	1.3	LOS A	0.7	5.2	0.03	0.14	0.03	56.1
All Vehicles			2503	1.9	2503	1.9	0.536	19.8	LOS B	16.7	118.1	0.49	0.47	0.49	30.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alexander St (S)											
P1	Full	69	52.1	LOS E	0.2	0.2	0.91	0.91	68.8	20.0	0.29
East: Falcon St (E)											
P2	Full	102	52.2	LOS E	0.3	0.3	0.92	0.92	68.9	20.0	0.29
North: Alexander St (N)											
P3	Full	126	52.3	LOS E	0.4	0.4	0.92	0.92	68.9	20.0	0.29
West: Falcon St (W)											
P4	Full	137	52.3	LOS E	0.4	0.4	0.92	0.92	68.9	20.0	0.29
All Pedestrians		435	52.2	LOS E	0.4	0.4	0.92	0.92	68.9	20.0	0.29

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.

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MOVEMENT SUMMARY

Site: CST01 [CST01 Pacific Hwy / Albany St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 768
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
22	T1	All MCs	1125	2.7	1125	2.7	0.418	12.5	LOS A	21.0	150.4	0.58	0.38	0.58	38.7
23b	R3	All MCs	167	1.3	167	1.3	* 0.219	36.5	LOS C	7.2	50.9	0.73	0.75	0.73	14.3
Approach			1293	2.5	1293	2.5	0.418	15.6	LOS B	21.0	150.4	0.60	0.43	0.60	34.4
East: Albany St (E)															
4b	L3	All MCs	26	0.0	26	0.0	0.903	83.8	LOS F	7.0	49.0	1.00	1.04	1.30	2.1
6a	R1	All MCs	504	0.6	504	0.6	* 0.903	73.5	LOS F	7.0	49.0	1.00	1.04	1.29	8.1
Approach			531	0.6	531	0.6	0.903	74.0	LOS F	7.0	49.0	1.00	1.04	1.29	7.8
NorthWest: Pacific Hwy (NW)															
27a	L1	All MCs	351	2.1	351	2.1	0.717	46.0	LOS D	19.4	138.4	0.93	0.84	0.93	10.6
28	T1	All MCs	711	5.0	711	5.0	* 0.888	64.9	LOS E	24.9	182.0	1.00	1.04	1.21	8.0
Approach			1061	4.1	1061	4.1	0.888	58.6	LOS E	24.9	182.0	0.98	0.98	1.12	8.7
All Vehicles			2884	2.7	2884	2.7	0.903	42.2	LOS C	24.9	182.0	0.81	0.74	0.92	14.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Pacific Hwy (SE)											
P5	Full	160	53.0	LOS E	0.5	0.5	0.91	0.91	219.7	200.0	0.91
East: Albany St (E)											
P2	Full	107	52.9	LOS E	0.4	0.4	0.90	0.90	69.6	20.0	0.29
All Pedestrians		267	53.0	LOS E	0.5	0.5	0.91	0.91	159.4	127.7	0.80

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.

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MOVEMENT SUMMARY

Site: CST02 [CST02 Pacific Hwy / Oxley St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 767
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
1	L2	All MCs	95	2.2	95	2.2	0.074	13.0	LOS A	1.4	10.3	0.26	0.64	0.26	36.1
2	T1	All MCs	1107	2.9	1107	2.9	* 0.429	4.1	LOS A	7.5	53.6	0.22	0.20	0.22	44.4
Approach			1202	2.8	1202	2.8	0.429	4.8	LOS A	7.5	53.6	0.22	0.23	0.22	42.5
NorthEast: Oxley St (NE)															
4	L2	All MCs	100	1.1	100	1.1	0.472	62.6	LOS E	6.1	43.2	0.98	0.78	0.98	2.5
5	T1	All MCs	80	1.3	80	1.3	0.450	62.3	LOS E	5.0	35.2	0.99	0.76	0.99	13.2
Approach			180	1.2	180	1.2	0.472	62.5	LOS E	6.1	43.2	0.98	0.77	0.98	7.9
NorthWest: Pacific Hwy (NW)															
7	L2	All MCs	63	0.0	63	0.0	0.047	13.6	LOS A	1.6	11.2	0.44	0.60	0.44	25.4
8	T1	All MCs	674	5.3	674	5.3	0.242	6.9	LOS A	8.7	63.8	0.42	0.30	0.42	35.6
Approach			737	4.9	737	4.9	0.242	7.5	LOS A	8.7	63.8	0.42	0.33	0.42	34.4
SouthWest: Oxley St (SW)															
10	L2	All MCs	185	0.6	185	0.6	* 0.810	80.7	LOS F	12.4	87.1	1.00	0.92	1.18	11.0
11	T1	All MCs	111	2.9	111	2.9	0.399	66.9	LOS E	6.5	46.4	0.95	0.76	0.95	13.4
12	R2	All MCs	88	2.4	88	2.4	0.609	69.8	LOS E	5.7	40.8	1.00	0.80	1.03	11.0
Approach			384	1.6	384	1.6	0.810	74.2	LOS F	12.4	87.1	0.99	0.85	1.08	11.6
All Vehicles			2503	3.1	2503	3.1	0.810	20.4	LOS B	12.4	87.1	0.45	0.39	0.47	21.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Pacific Hwy (SE)											
P1	Full	131	52.9	LOS E	0.4	0.4	0.90	0.90	69.6	20.0	0.29
NorthEast: Oxley St (NE)											
P2	Full	52	53.7	LOS E	0.2	0.2	0.91	0.91	70.3	20.0	0.28
SouthWest: Oxley St (SW)											
P4	Full	123	53.8	LOS E	0.4	0.4	0.91	0.91	70.5	20.0	0.28
All Pedestrians		305	53.4	LOS E	0.4	0.4	0.91	0.91	70.1	20.0	0.29

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.

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MOVEMENT SUMMARY

Site: CST03 [CST03 Pacific Hwy / Hume St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 766
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
1	L2	All MCs	35	3.0	35	3.0	0.090	7.4	LOS A	0.9	6.5	0.12	0.24	0.12	34.4
2	T1	All MCs	1124	3.0	1124	3.0	* 0.339	2.3	LOS A	7.5	53.6	0.19	0.19	0.19	50.6
Approach			1159	3.0	1159	3.0	0.339	2.5	LOS A	7.5	53.6	0.19	0.19	0.19	49.7
NorthWest: Pacific Hwy (NW)															
8	T1	All MCs	865	4.7	865	4.7	0.294	0.5	LOS A	1.2	8.8	0.05	0.04	0.05	56.6
9	R2	All MCs	1	100.0	1	100.0	0.294	7.2	LOS A	1.2	8.5	0.05	0.04	0.05	26.1
Approach			866	4.9	866	4.9	0.294	0.5	LOS A	1.2	8.8	0.05	0.04	0.05	56.5
SouthWest: Hume St (SW)															
10	L2	All MCs	78	0.0	78	0.0	* 0.419	65.9	LOS E	4.8	33.6	0.98	0.77	0.98	4.3
12	R2	All MCs	29	0.0	29	0.0	0.159	63.5	LOS E	1.8	12.3	0.95	0.72	0.95	4.6
Approach			107	0.0	107	0.0	0.419	65.3	LOS E	4.8	33.6	0.97	0.75	0.97	4.4
All Vehicles			2133	3.6	2133	3.6	0.419	4.8	LOS A	7.5	53.6	0.17	0.16	0.17	40.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Pacific Hwy (SE)											
P1	Full	12	52.7	LOS E	0.0	0.0	0.90	0.90	69.3	20.0	0.29
NorthWest: Pacific Hwy (NW)											
P3	Full	12	52.7	LOS E	0.0	0.0	0.90	0.90	69.3	20.0	0.29
SouthWest: Hume St (SW)											
P4	Full	67	55.5	LOS E	0.2	0.2	0.93	0.93	72.2	20.0	0.28
All Pedestrians		91	54.8	LOS E	0.2	0.2	0.92	0.92	71.5	20.0	0.28

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.

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MOVEMENT SUMMARY

Site: CST04 [CST04 Pacific Hwy / Falcon St / Shirley Rd (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 765
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
1	L2	All MCs	261	1.2	261	1.2	0.268	19.4	LOS B	7.4	52.0	0.48	0.71	0.48	27.8
2	T1	All MCs	675	2.2	675	2.2	0.605	35.7	LOS C	17.4	124.2	0.85	0.73	0.85	11.2
Approach			936	1.9	936	1.9	0.605	31.1	LOS C	17.4	124.2	0.74	0.72	0.74	15.9
East: Falcon St (E)															
21b	L3	All MCs	14	0.0	14	0.0	0.897	18.6	LOS B	18.5	130.6	0.95	0.94	1.08	7.1
21a	L1	All MCs	384	1.1	384	1.1	* 0.897	45.7	LOS D	18.5	130.6	0.95	0.94	1.08	16.5
23a	R1	All MCs	437	4.1	437	4.1	0.756	33.2	LOS C	18.0	130.6	0.84	0.82	0.85	8.9
Approach			835	2.6	835	2.6	0.897	38.7	LOS C	18.5	130.6	0.90	0.88	0.96	13.4
North: Willoughby Rd (N)															
7	L2	All MCs	22	14.3	22	14.3	0.017	3.7	LOS A	0.1	0.7	0.07	0.47	0.07	37.1
Approach			22	14.3	22	14.3	0.017	3.7	LOS A	0.1	0.7	0.07	0.47	0.07	37.1
NorthWest: Pacific Hwy (NW)															
7a	L1	All MCs	349	4.8	349	4.8	* 0.444	18.1	LOS B	8.9	65.2	0.71	0.77	0.71	24.4
8	T1	All MCs	536	4.1	536	4.1	0.544	14.1	LOS A	8.0	57.8	0.44	0.38	0.44	28.4
Approach			885	4.4	885	4.4	0.544	15.7	LOS B	8.9	65.2	0.55	0.53	0.55	26.7
SouthWest: Shirley Rd (SW)															
10	L2	All MCs	64	3.3	64	3.3	0.966	98.2	LOS F	30.5	215.3	1.00	1.18	1.40	8.1
12a	R1	All MCs	612	0.7	612	0.7	* 0.966	84.7	LOS F	35.3	248.8	1.00	1.17	1.39	8.1
12	R2	All MCs	143	0.7	143	0.7	0.966	86.5	LOS F	35.3	248.8	1.00	1.17	1.37	8.2
Approach			819	0.9	819	0.9	0.966	86.0	LOS F	35.3	248.8	1.00	1.17	1.38	8.2
All Vehicles			3497	2.6	3497	2.6	0.966	41.7	LOS C	35.3	248.8	0.79	0.82	0.89	13.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Pacific Hwy (SE)											
P1	Full	109	52.0	LOS E	0.4	0.4	0.90	0.90	68.7	20.0	0.29
East: Falcon St (E)											
P5	Full	94	55.6	LOS E	0.3	0.3	0.93	0.93	72.3	20.0	0.28
NorthWest: Pacific Hwy (NW)											
P3	Full	189	52.2	LOS E	0.6	0.6	0.90	0.90	68.8	20.0	0.29
SouthWest: Shirley Rd (SW)											
P4	Full	72	55.6	LOS E	0.2	0.2	0.93	0.93	72.2	20.0	0.28
All Pedestrians		464	53.3	LOS E	0.6	0.6	0.91	0.91	70.0	20.0	0.29

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.

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MOVEMENT SUMMARY

Site: CST05 [CST05 Clarke St / Oxley St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Clarke St (SE)															
1	L2	All MCs	42	0.0	42	0.0	0.095	5.0	LOS A	0.3	2.4	0.31	0.55	0.31	32.6
3a	R1	All MCs	60	0.0	60	0.0	0.095	5.7	LOS A	0.3	2.4	0.31	0.55	0.31	32.6
Approach			102	0.0	102	0.0	0.095	5.4	LOS A	0.3	2.4	0.31	0.55	0.31	32.6
North: Oxley St (N)															
24a	L1	All MCs	146	0.7	146	0.7	0.147	4.4	LOS A	0.0	0.0	0.00	0.53	0.00	29.5
26a	R1	All MCs	132	0.8	132	0.8	0.147	4.1	LOS A	0.0	0.0	0.00	0.53	0.00	29.5
Approach			278	0.8	278	0.8	0.147	4.3	NA	0.0	0.0	0.00	0.53	0.00	29.5
SouthWest: Oxley St (SW)															
10a	L1	All MCs	128	1.6	128	1.6	0.113	2.8	LOS A	0.4	3.0	0.26	0.54	0.26	22.6
12	R2	All MCs	61	1.7	61	1.7	0.113	5.0	LOS A	0.4	3.0	0.26	0.54	0.26	22.6
Approach			189	1.7	189	1.7	0.113	3.5	NA	0.4	3.0	0.26	0.54	0.26	22.6
All Vehicles			569	0.9	569	0.9	0.147	4.2	NA	0.4	3.0	0.14	0.54	0.14	28.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: CST06 [CST06 Clarke St / Hume St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Clarke St (SE)															
1	L2	All MCs	1	0.0	1	0.0	0.068	4.6	LOS A	0.0	0.0	0.00	0.00	0.00	49.7
2	T1	All MCs	131	0.0	131	0.0	0.068	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.7
Approach			132	0.0	132	0.0	0.068	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.7
NorthWest: Clarke St (NW)															
8	T1	All MCs	198	0.5	198	0.5	0.103	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	49.9
9	R2	All MCs	1	0.0	1	0.0	0.103	4.6	LOS A	0.0	0.1	0.00	0.00	0.00	49.8
Approach			199	0.5	199	0.5	0.103	0.0	NA	0.0	0.1	0.00	0.00	0.00	49.9
SouthWest: Hume St (SW)															
10	L2	All MCs	2	0.0	2	0.0	0.005	3.5	LOS A	0.0	0.1	0.25	0.48	0.25	23.7
12	R2	All MCs	1	0.0	1	0.0	0.005	4.3	LOS A	0.0	0.1	0.25	0.48	0.25	31.8
Approach			3	0.0	3	0.0	0.005	3.8	LOS A	0.0	0.1	0.25	0.48	0.25	28.0
All Vehicles			334	0.3	334	0.3	0.103	0.1	NA	0.0	0.1	0.00	0.01	0.00	49.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: CST07 [CST07 Clarke St / Willoughby Rd (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Willoughby Rd (S)															
1	L2	All MCs	94	0.0	94	0.0	0.222	4.0	LOS A	1.1	7.9	0.38	0.36	0.38	31.2
2	T1	All MCs	125	5.9	125	5.9	0.222	2.2	LOS A	1.1	7.9	0.38	0.36	0.38	35.9
Approach			219	3.4	219	3.4	0.222	3.0	NA	1.1	7.9	0.38	0.36	0.38	34.4
North: Willoughby Rd (N)															
8	T1	All MCs	182	4.6	182	4.6	0.264	2.2	LOS A	1.2	8.5	0.42	0.38	0.42	35.7
9	R2	All MCs	44	2.4	44	2.4	0.264	7.4	LOS A	1.2	8.5	0.42	0.38	0.42	34.8
Approach			226	4.2	226	4.2	0.264	3.2	NA	1.2	8.5	0.42	0.38	0.42	35.5
West: Clarke St (W)															
10	L2	All MCs	84	0.0	84	0.0	0.190	5.7	LOS A	0.7	5.0	0.50	0.68	0.50	32.7
12	R2	All MCs	82	1.3	82	1.3	0.190	6.2	LOS A	0.7	5.0	0.50	0.68	0.50	26.7
Approach			166	0.6	166	0.6	0.190	5.9	LOS A	0.7	5.0	0.50	0.68	0.50	30.6
All Vehicles			612	2.9	612	2.9	0.264	3.9	NA	1.2	8.5	0.43	0.45	0.43	33.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CST08 [CST08 Albany St / Willoughby Rd (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TCS 516
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Willoughby Rd (S)															
1	L2	All MCs	91	3.5	91	3.5	0.144	31.0	LOS C	2.4	17.5	0.72	0.70	0.72	24.7
2	T1	All MCs	143	3.7	143	3.7	0.315	29.2	LOS C	4.5	32.4	0.77	0.65	0.77	27.0
3	R2	All MCs	14	0.0	14	0.0	* 0.315	37.0	LOS C	4.5	32.4	0.77	0.65	0.77	25.5
Approach			247	3.4	247	3.4	0.315	30.3	LOS C	4.5	32.4	0.75	0.67	0.75	26.0
East: Albany St (E)															
4	L2	All MCs	27	0.0	27	0.0	0.125	16.2	LOS B	2.4	17.1	0.55	0.50	0.55	31.2
5	T1	All MCs	308	0.3	308	0.3	0.623	14.0	LOS A	11.1	78.3	0.77	0.69	0.77	28.1
6	R2	All MCs	158	0.7	158	0.7	* 0.623	27.0	LOS B	11.1	78.3	0.86	0.77	0.86	26.1
Approach			494	0.4	494	0.4	0.623	18.3	LOS B	11.1	78.3	0.78	0.70	0.78	27.6
North: Willoughby Rd (N)															
7	L2	All MCs	106	0.0	106	0.0	0.127	18.3	LOS B	2.4	16.8	0.61	0.70	0.61	27.3
8	T1	All MCs	161	3.3	161	3.3	0.362	21.5	LOS B	6.1	43.7	0.79	0.72	0.79	26.1
9	R2	All MCs	46	0.0	46	0.0	0.362	28.9	LOS C	6.1	43.7	0.79	0.72	0.79	24.6
Approach			314	1.7	314	1.7	0.362	21.5	LOS B	6.1	43.7	0.73	0.71	0.73	26.2
West: Albany St (W)															
10	L2	All MCs	96	0.0	96	0.0	0.138	22.3	LOS B	2.5	17.2	0.69	0.71	0.69	25.0
11	T1	All MCs	286	1.1	286	1.1	* 0.371	18.3	LOS B	7.9	55.8	0.75	0.64	0.75	27.8
Approach			382	0.8	382	0.8	0.371	19.3	LOS B	7.9	55.8	0.74	0.66	0.74	27.0
All Vehicles			1437	1.3	1437	1.3	0.623	21.3	LOS B	11.1	78.3	0.75	0.69	0.75	26.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Willoughby Rd (S)												
P1	Full	42	44	29.8	LOS C	0.1	0.1	0.86	0.86	46.5	20.0	0.43
East: Albany St (E)												
P2	Full	107	113	29.9	LOS C	0.2	0.2	0.87	0.87	46.6	20.0	0.43
North: Willoughby Rd (N)												
P3	Full	59	62	29.8	LOS C	0.1	0.1	0.86	0.86	46.5	20.0	0.43
West: Albany St (W)												
P4	Full	15	16	29.8	LOS C	0.0	0.0	0.86	0.86	46.4	20.0	0.43
All Pedestrians		223	235	29.9	LOS C	0.2	0.2	0.87	0.87	46.5	20.0	0.43

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.

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MOVEMENT SUMMARY

Site: CST09 [CST09 Albany St / Oxley St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

NA
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Oxley St (S)															
1	L2	All MCs	69	0.0	69	0.0	0.295	7.9	LOS A	2.0	13.8	0.73	0.65	0.73	22.0
2	T1	All MCs	103	0.0	103	0.0	0.295	7.7	LOS A	2.0	13.8	0.73	0.65	0.73	33.2
3	R2	All MCs	39	2.7	39	2.7	0.295	10.7	LOS A	2.0	13.8	0.73	0.65	0.73	31.0
3u	U	All MCs	3	0.0	3	0.0	0.295	12.0	LOS A	2.0	13.8	0.73	0.65	0.73	22.0
Approach			215	0.5	215	0.5	0.295	8.4	LOS A	2.0	13.8	0.73	0.65	0.73	30.4
East: Albany St (E)															
4	L2	All MCs	52	0.0	52	0.0	0.547	7.7	LOS A	3.7	26.1	0.60	0.69	0.65	30.8
5	T1	All MCs	344	0.6	344	0.6	0.547	7.5	LOS A	3.7	26.1	0.60	0.69	0.65	30.8
6	R2	All MCs	21	0.0	21	0.0	0.547	10.4	LOS A	3.7	26.1	0.60	0.69	0.65	35.7
6u	U	All MCs	8	0.0	8	0.0	0.547	11.8	LOS A	3.7	26.1	0.60	0.69	0.65	35.1
Approach			425	0.5	425	0.5	0.547	7.7	LOS A	3.7	26.1	0.60	0.69	0.65	31.3
North: Oxley St (N)															
7	L2	All MCs	44	0.0	44	0.0	0.353	8.3	LOS A	2.3	16.2	0.77	0.70	0.77	34.8
8	T1	All MCs	115	0.0	115	0.0	0.353	8.1	LOS A	2.3	16.2	0.77	0.70	0.77	30.2
9	R2	All MCs	79	1.3	79	1.3	0.353	11.0	LOS A	2.3	16.2	0.77	0.70	0.77	30.2
9u	U	All MCs	7	0.0	7	0.0	0.353	12.3	LOS A	2.3	16.2	0.77	0.70	0.77	35.0
Approach			245	0.4	245	0.4	0.353	9.2	LOS A	2.3	16.2	0.77	0.70	0.77	31.5
West: Albany St (W)															
10	L2	All MCs	107	1.0	107	1.0	0.510	5.8	LOS A	4.6	32.5	0.62	0.55	0.62	35.0
11	T1	All MCs	339	2.5	339	2.5	0.510	5.7	LOS A	4.6	32.5	0.62	0.55	0.62	34.8
12	R2	All MCs	89	1.2	89	1.2	0.510	8.5	LOS A	4.6	32.5	0.62	0.55	0.62	26.9
12u	U	All MCs	11	0.0	11	0.0	0.510	9.9	LOS A	4.6	32.5	0.62	0.55	0.62	26.9
Approach			546	1.9	546	1.9	0.510	6.2	LOS A	4.6	32.5	0.62	0.55	0.62	34.0
All Vehicles			1432	1.0	1432	1.0	0.547	7.5	LOS A	4.6	32.5	0.66	0.63	0.67	32.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: CST10 [CST10 Albany St / Clarke Ln (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Clarke Ln (SE)															
21a	L1	All MCs	27	0.0	27	0.0	0.054	4.2	LOS A	6.5	45.4	0.17	0.50	0.17	31.8
23b	R3	All MCs	4	0.0	4	0.0	0.054	14.5	LOS B	6.5	45.4	0.17	0.50	0.17	31.8
Approach			32	0.0	32	0.0	0.054	5.6	LOS A	6.5	45.4	0.17	0.50	0.17	31.8
East: Albany St (E)															
5	T1	All MCs	503	0.6	503	0.6	0.236	0.0	LOS A	13.0	91.6	0.00	0.00	0.00	49.9
Approach			503	0.6	503	0.6	0.236	0.0	NA	13.0	91.6	0.00	0.00	0.00	49.9
West: Albany St (W)															
11	T1	All MCs	519	2.0	519	2.0	0.272	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			519	2.0	519	2.0	0.272	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
All Vehicles			1054	1.3	1054	1.3	0.272	0.2	NA	13.0	91.6	0.01	0.01	0.01	48.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: CST11 [CST11 Oxley St / Clarke Ln (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Clarke Ln (SE)															
1	L2	All MCs	1	100.0	1	100.0	0.008	6.0	LOS A	0.0	0.2	0.33	0.53	0.33	31.6
2	T1	All MCs	1	0.0	1	0.0	0.008	4.7	LOS A	0.0	0.2	0.33	0.53	0.33	31.6
3	R2	All MCs	4	0.0	4	0.0	0.008	6.2	LOS A	0.0	0.2	0.33	0.53	0.33	31.6
Approach			6	16.7	6	16.7	0.008	5.9	LOS A	0.0	0.2	0.33	0.53	0.33	31.6
NorthEast: Oxley St (NE)															
4	L2	All MCs	2	0.0	2	0.0	0.132	3.0	LOS A	0.1	0.4	0.03	0.03	0.03	42.9
5	T1	All MCs	172	0.6	172	0.6	0.132	0.0	LOS A	0.1	0.4	0.03	0.03	0.03	47.0
6	R2	All MCs	5	0.0	5	0.0	0.132	3.8	LOS A	0.1	0.4	0.03	0.03	0.03	47.0
Approach			179	0.6	179	0.6	0.132	0.1	NA	0.1	0.4	0.03	0.03	0.03	46.8
NorthWest: Clarke Ln (NW)															
7	L2	All MCs	13	0.0	13	0.0	0.021	5.0	LOS A	0.1	0.5	0.30	0.52	0.30	25.1
8	T1	All MCs	1	0.0	1	0.0	0.021	4.6	LOS A	0.1	0.5	0.30	0.52	0.30	34.2
9	R2	All MCs	7	0.0	7	0.0	0.021	6.2	LOS A	0.1	0.5	0.30	0.52	0.30	25.1
Approach			21	0.0	21	0.0	0.021	5.4	LOS A	0.1	0.5	0.30	0.52	0.30	25.9
SouthWest: Oxley St (SW)															
10	L2	All MCs	1	0.0	1	0.0	0.091	3.0	LOS A	0.0	0.1	0.00	0.01	0.00	49.2
11	T1	All MCs	173	1.8	173	1.8	0.091	0.0	LOS A	0.0	0.1	0.00	0.01	0.00	49.2
12	R2	All MCs	1	0.0	1	0.0	0.091	3.1	LOS A	0.0	0.1	0.00	0.01	0.00	42.9
Approach			175	1.8	175	1.8	0.091	0.0	NA	0.0	0.1	0.00	0.01	0.00	49.0
All Vehicles			381	1.4	381	1.4	0.132	0.5	NA	0.1	0.5	0.04	0.06	0.04	43.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: CST12 [CST12 Hume St / Clarke Ln (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

NA
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Clarke Ln (SE)															
3	R2	All MCs	2	0.0	2	0.0	0.001	6.9	LOS A	0.0	0.0	0.00	1.00	0.00	27.8
Approach			2	0.0	2	0.0	0.001	6.9	LOS A	0.0	0.0	0.00	1.00	0.00	27.8
NorthEast: Hume St (NE)															
4	L2	All MCs	1	0.0	1	0.0	0.001	3.2	LOS A	0.0	0.0	0.00	0.50	0.00	34.8
Approach			1	0.0	1	0.0	0.001	3.2	NA	0.0	0.0	0.00	0.50	0.00	34.8
All Vehicles			3	0.0	3	0.0	0.001	5.7	NA	0.0	0.0	0.00	0.83	0.00	30.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: CST13 [CST13 Pacific Hwy / Alexander St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 763
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
2	T1	All MCs	825	2.2	825	2.2	* 0.419	10.6	LOS A	8.8	62.4	0.66	0.57	0.66	32.0
3a	R1	All MCs	193	2.7	193	2.7	0.281	14.0	LOS A	5.1	36.8	0.53	0.68	0.53	28.5
Approach			1018	2.3	1018	2.3	0.419	11.2	LOS A	8.8	62.4	0.64	0.59	0.64	31.2
North: Alexander St (N)															
24a	L1	All MCs	189	1.1	189	1.1	* 0.343	28.7	LOS C	6.1	43.1	0.98	0.80	0.98	21.1
26b	R3	All MCs	111	0.0	111	0.0	* 0.421	68.4	LOS E	7.1	49.5	1.00	0.83	1.00	5.0
Approach			300	0.7	300	0.7	0.421	43.3	LOS D	7.1	49.5	0.99	0.81	0.99	13.5
NorthWest: Pacific Hwy (NW)															
7b	L3	All MCs	18	47.1	18	47.1	0.048	19.5	LOS B	0.4	4.0	0.44	0.58	0.44	25.7
8	T1	All MCs	673	2.2	673	2.2	0.341	10.6	LOS A	6.0	42.6	0.55	0.47	0.55	41.9
Approach			691	3.4	691	3.4	0.341	10.8	LOS A	6.0	42.6	0.54	0.47	0.54	41.6
All Vehicles			2008	2.4	2008	2.4	0.421	15.9	LOS B	8.8	62.4	0.66	0.58	0.66	29.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Alexander St (N)											
P6	Full	36	21.0	LOS C	0.1	0.1	0.80	0.80	37.7	20.0	0.53
NorthWest: Pacific Hwy (NW)											
P3	Full	65	52.8	LOS E	0.2	0.2	0.90	0.90	69.5	20.0	0.29
All Pedestrians		101	41.5	LOS E	0.2	0.2	0.87	0.87	58.2	20.0	0.34

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.

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MOVEMENT SUMMARY

Site: CST14 [CST14 Falcon St / Alexander St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 764
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Alexander St (S)															
1	L2	All MCs	25	33.3	25	33.3	0.634	62.9	LOS E	10.1	76.0	0.98	0.81	0.98	5.9
2	T1	All MCs	143	3.7	143	3.7	0.634	54.3	LOS D	10.1	76.0	0.98	0.81	0.98	10.0
3	R2	All MCs	46	0.0	46	0.0	0.825	82.2	LOS F	3.3	23.1	1.00	0.87	1.37	15.5
Approach			215	6.4	215	6.4	0.825	61.3	LOS E	10.1	76.0	0.98	0.82	1.06	11.4
East: Falcon St (E)															
4	L2	All MCs	28	0.0	28	0.0	0.633	7.2	LOS A	5.6	39.6	0.13	0.15	0.13	56.0
5	T1	All MCs	819	1.7	819	1.7	0.633	1.6	LOS A	5.6	39.6	0.16	0.16	0.16	55.8
6	R2	All MCs	4	100.0	4	100.0	0.633	14.0	LOS A	4.3	30.9	0.18	0.17	0.18	50.2
Approach			852	2.1	852	2.1	0.633	1.9	LOS A	5.6	39.6	0.16	0.16	0.16	55.8
North: Alexander St (N)															
7	L2	All MCs	36	0.0	36	0.0	0.183	91.0	LOS F	2.9	20.5	0.91	0.72	0.91	20.4
8	T1	All MCs	295	0.7	295	0.7	* 0.914	104.7	LOS F	20.4	143.8	0.99	1.08	1.29	4.8
Approach			331	0.6	331	0.6	0.914	103.2	LOS F	20.4	143.8	0.99	1.05	1.25	6.7
West: Falcon St (W)															
10	L2	All MCs	233	0.9	233	0.9	* 0.894	39.9	LOS C	11.2	79.2	0.46	0.85	0.75	12.4
11	T1	All MCs	751	2.9	751	2.9	0.542	0.5	LOS A	2.6	18.3	0.06	0.05	0.06	59.0
Approach			983	2.5	983	2.5	0.894	9.8	LOS A	11.2	79.2	0.15	0.24	0.22	42.4
All Vehicles			2380	2.4	2380	2.4	0.914	24.6	LOS B	20.4	143.8	0.34	0.38	0.42	30.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Alexander St (S)											
P1	Full	94	54.7	LOS E	0.3	0.3	0.92	0.92	71.3	20.0	0.28
East: Falcon St (E)											
P2	Full	61	54.6	LOS E	0.2	0.2	0.92	0.92	71.3	20.0	0.28
North: Alexander St (N)											
P3	Full	100	54.7	LOS E	0.3	0.3	0.92	0.92	71.4	20.0	0.28
West: Falcon St (W)											
P4	Full	161	54.8	LOS E	0.5	0.5	0.92	0.92	71.5	20.0	0.28
All Pedestrians		416	54.7	LOS E	0.5	0.5	0.92	0.92	71.4	20.0	0.28

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.

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MOVEMENT SUMMARY

Site: VIC01 [VIC01 Pacific Hwy / Berry St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: VIC-N1 [VIC Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 1206
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
1	L2	All MCs	89	1.2	89	1.2	0.211	7.0	LOS A	3.0	21.8	0.25	0.34	0.25	38.5
2	T1	All MCs	700	8.3	700	8.3	0.211	3.8	LOS A	3.3	24.4	0.27	0.26	0.27	50.1
23b	R3	All MCs	134	4.7	134	4.7	* 0.663	31.5	LOS C	4.0	28.8	0.98	0.81	1.04	18.7
Approach			923	7.1	923	7.1	0.663	8.1	LOS A	4.0	28.8	0.37	0.35	0.38	42.4
NorthWest: Pacific Hwy (NW)															
27a	L1	All MCs	554	9.9	554	9.9	0.210	8.7	LOS A	3.8	28.7	0.31	0.66	0.31	33.4
8	T1	All MCs	404	5.2	404	5.2	* 0.519	16.3	LOS B	11.9	86.9	0.79	0.69	0.79	23.9
Approach			958	7.9	958	7.9	0.519	11.9	LOS A	11.9	86.9	0.51	0.67	0.51	28.6
SouthWest: Berry St (SW)															
10	L2	All MCs	40	2.6	40	2.6	0.066	4.4	LOS A	0.3	1.9	0.15	0.50	0.15	37.4
Approach			40	2.6	40	2.6	0.066	4.4	LOS A	0.3	1.9	0.15	0.50	0.15	37.4
All Vehicles			1921	7.4	1921	7.4	0.663	9.9	LOS A	11.9	86.9	0.43	0.51	0.44	36.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Pacific Hwy (SE)											
P1	Full	228	39.1	LOS D	0.6	0.6	0.89	0.89	55.8	20.0	0.36
East: Berry St (E)											
P2	Full	327	42.0	LOS E	0.9	0.9	0.92	0.92	208.6	200.0	0.96
NorthWest: Pacific Hwy (NW)											
P3B	Slip/ Bypass	327	42.0	LOS E	0.9	0.9	0.92	0.92	58.6	20.0	0.34
SouthWest: Berry St (SW)											
P4	Full	260	22.8	LOS C	0.5	0.5	0.89	0.89	39.5	20.0	0.51
All Pedestrians		1143	37.1	LOS D	0.9	0.9	0.91	0.91	96.7	71.5	0.74

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.

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MOVEMENT SUMMARY

Site: VIC02 [VIC02 Miller St / Berry St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: VIC-N1 [VIC Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 874
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller St (S)															
2	T1	All MCs	225	11.2	225	11.2	0.242	15.8	LOS B	6.7	51.1	0.65	0.54	0.65	21.3
3	R2	All MCs	246	3.0	246	3.0	* 0.851	53.4	LOS D	11.4	81.7	1.00	1.12	1.21	14.8
Approach			472	6.9	472	6.9	0.851	35.5	LOS C	11.4	81.7	0.83	0.84	0.94	16.5
North: Miller St (N)															
7	L2	All MCs	246	5.1	246	5.1	* 0.778	49.9	LOS D	12.4	90.8	1.00	0.92	1.14	15.9
8	T1	All MCs	240	15.4	240	15.4	0.473	31.1	LOS C	9.7	76.5	0.87	0.73	0.87	15.3
Approach			486	10.2	486	10.2	0.778	40.6	LOS C	12.4	90.8	0.93	0.83	1.00	15.7
West: Berry St (W)															
10	L2	All MCs	79	13.3	79	13.3	* 0.439	38.1	LOS C	8.0	59.1	0.80	0.70	0.80	11.3
11	T1	All MCs	614	2.9	614	2.9	0.439	21.7	LOS B	9.2	66.2	0.72	0.63	0.72	21.0
12	R2	All MCs	46	68.2	46	68.2	0.439	31.7	LOS C	7.8	62.1	0.72	0.64	0.72	13.2
Approach			739	8.1	739	8.1	0.439	24.1	LOS B	9.2	66.2	0.73	0.64	0.73	19.8
All Vehicles			1697	8.4	1697	8.4	0.851	32.0	LOS C	12.4	90.8	0.82	0.75	0.87	17.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Miller St (S)											
P1	Full	318	42.0	LOS E	0.8	0.8	0.92	0.92	58.6	20.0	0.34
East: Berry St (E)											
P2	Full	455	43.1	LOS E	1.2	1.2	0.94	0.94	59.8	20.0	0.33
North: Miller St (N)											
P3	Full	317	40.1	LOS E	0.8	0.8	0.90	0.90	56.8	20.0	0.35
West: Berry St (W)											
P4	Full	700	43.6	LOS E	1.9	1.9	0.95	0.95	60.3	20.0	0.33
All Pedestrians		1789	42.6	LOS E	1.9	1.9	0.93	0.93	59.2	20.0	0.34

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.

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MOVEMENT SUMMARY

Site: VIC03 [VIC03 Miller St / McLaren St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: VIC-N1 [VIC Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 1156
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 65 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller St (S)															
1	L2	All MCs	69	4.5	69	4.5	0.075	11.4	LOS A	1.1	7.7	0.50	0.62	0.50	32.9
2	T1	All MCs	194	11.4	194	11.4	0.298	11.3	LOS A	4.4	34.3	0.66	0.57	0.66	32.4
3	R2	All MCs	23	40.9	23	40.9	0.298	21.0	LOS B	4.4	34.3	0.66	0.57	0.66	26.4
Approach			286	12.1	286	12.1	0.298	12.1	LOS A	4.4	34.3	0.62	0.59	0.62	32.1
East: McLaren St (E)															
4	L2	All MCs	80	7.9	80	7.9	* 0.759	42.8	LOS D	2.9	21.7	1.00	0.91	1.36	11.4
5	T1	All MCs	99	3.2	99	3.2	0.213	21.5	LOS B	2.6	18.4	0.83	0.66	0.83	29.0
Approach			179	5.3	179	5.3	0.759	31.0	LOS C	2.9	21.7	0.91	0.77	1.07	20.8
North: Miller St (N)															
7	L2	All MCs	29	7.1	29	7.1	0.333	23.1	LOS B	5.4	41.5	0.68	0.66	0.68	19.0
8	T1	All MCs	383	11.0	383	11.0	0.333	13.1	LOS A	5.4	41.5	0.69	0.67	0.69	25.7
9	R2	All MCs	62	6.8	62	6.8	* 0.333	22.3	LOS B	4.6	34.6	0.72	0.69	0.72	31.9
Approach			475	10.2	475	10.2	0.333	15.0	LOS B	5.4	41.5	0.70	0.67	0.70	26.2
West: McLaren St (W)															
10	L2	All MCs	49	2.1	49	2.1	0.093	23.2	LOS B	1.2	8.2	0.76	0.70	0.76	28.4
11	T1	All MCs	72	14.7	72	14.7	0.393	18.7	LOS B	3.0	22.8	0.92	0.72	0.92	23.8
12	R2	All MCs	34	3.1	34	3.1	* 0.393	39.0	LOS C	3.0	22.8	0.92	0.72	0.92	20.8
Approach			155	8.2	155	8.2	0.393	24.5	LOS B	3.0	22.8	0.87	0.72	0.87	24.9
All Vehicles			1095	9.6	1095	9.6	0.759	18.2	LOS B	5.4	41.5	0.74	0.67	0.76	26.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Miller St (S)											
P1	Full	305	21.9	LOS C	0.5	0.5	0.83	0.83	38.6	20.0	0.52
East: McLaren St (E)											
P2	Full	244	23.5	LOS C	0.4	0.4	0.85	0.85	40.2	20.0	0.50
North: Miller St (N)											
P3	Full	81	22.5	LOS C	0.1	0.1	0.83	0.83	39.2	20.0	0.51
West: McLaren St (W)											
P4	Full	241	22.7	LOS C	0.4	0.4	0.84	0.84	39.3	20.0	0.51
All Pedestrians		872	22.6	LOS C	0.5	0.5	0.84	0.84	39.3	20.0	0.51

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.

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MOVEMENT SUMMARY

Site: VIC04 [VIC04 Pacific Hwy / Miller St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: VIC-N1 [VIC Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 630
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller St (S)															
1	L2	All MCs	7	14.3	7	14.3	0.187	17.2	LOS B	3.6	30.9	0.63	0.65	0.63	27.3
1a	L1	All MCs	117	26.1	117	26.1	0.187	20.2	LOS B	3.6	30.9	0.63	0.65	0.63	19.2
2	T1	All MCs	171	13.0	171	13.0	0.644	38.9	LOS C	9.7	75.6	0.97	0.82	0.98	12.7
3b	R3	All MCs	40	13.2	40	13.2	* 0.644	50.3	LOS D	9.7	75.6	0.97	0.82	0.98	20.3
Approach			335	17.6	335	17.6	0.644	33.3	LOS C	9.7	75.6	0.84	0.76	0.85	16.0
SouthEast: Pacific Hwy (SE)															
21b	L3	All MCs	139	5.3	139	5.3	0.408	10.1	LOS A	6.4	46.1	0.69	0.73	0.69	31.3
21a	L1	All MCs	54	0.0	54	0.0	0.408	33.5	LOS C	6.4	46.1	0.69	0.73	0.69	32.8
22	T1	All MCs	636	4.6	636	4.6	0.408	24.9	LOS B	10.3	75.1	0.77	0.67	0.77	22.1
23a	R1	All MCs	302	3.8	302	3.8	* 0.747	44.1	LOS D	12.8	92.3	0.99	0.96	1.07	14.7
Approach			1131	4.3	1131	4.3	0.747	28.6	LOS C	12.8	92.3	0.82	0.76	0.84	21.5
North: Miller St (N)															
7a	L1	All MCs	91	37.2	91	37.2	0.118	7.3	LOS A	1.0	9.0	0.24	0.46	0.24	36.9
8	T1	All MCs	161	18.3	161	18.3	0.313	12.4	LOS A	2.2	17.5	0.38	0.34	0.38	29.2
9	R2	All MCs	12	0.0	12	0.0	0.313	18.6	LOS B	1.3	10.5	0.38	0.42	0.38	29.5
9b	R3	All MCs	19	16.7	19	16.7	0.313	19.0	LOS B	1.3	10.5	0.38	0.42	0.38	22.1
Approach			282	23.5	282	23.5	0.313	11.4	LOS A	2.2	17.5	0.34	0.39	0.34	31.1
NorthWest: Pacific Hwy (NW)															
28	T1	All MCs	245	6.9	245	6.9	0.240	25.8	LOS B	4.1	30.5	0.72	0.58	0.72	30.7
29a	R1	All MCs	168	1.3	168	1.3	0.446	25.7	LOS B	5.1	35.9	0.64	0.68	0.64	27.2
Approach			414	4.6	414	4.6	0.446	25.7	LOS B	5.1	35.9	0.69	0.62	0.69	29.2
All Vehicles			2161	8.9	2161	8.9	0.747	26.5	LOS B	12.8	92.3	0.73	0.68	0.75	23.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Miller St (S)											
P1	Full	577	40.6	LOS E	1.5	1.5	0.91	0.91	57.2	20.0	0.35
SouthEast: Pacific Hwy (SE)											
P5	Full	138	38.1	LOS D	0.3	0.3	0.88	0.88	54.7	20.0	0.37
North: Miller St (N)											
P3	Full	1044	40.5	LOS E	2.7	2.7	0.92	0.92	57.1	20.0	0.35
NorthWest: Pacific Hwy (NW)											
P7	Full	624	37.1	LOS D	1.5	1.5	0.87	0.87	53.8	20.0	0.37
All Pedestrians		2383	39.5	LOS D	2.7	2.7	0.90	0.90	56.1	20.0	0.36

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.

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MOVEMENT SUMMARY

Site: VIC01 [VIC01 Pacific Hwy / Berry St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: N101 [VIC Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 1206
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
1	L2	All MCs	41	0.0	41	0.0	0.054	10.4	LOS A	1.6	11.4	0.50	0.43	0.50	33.2
2	T1	All MCs	741	5.8	741	5.8	0.268	2.0	LOS A	4.1	30.0	0.16	0.14	0.16	54.9
23b	R3	All MCs	260	2.0	260	2.0	* 0.859	47.0	LOS D	9.4	66.8	1.00	0.95	1.22	13.9
Approach			1042	4.6	1042	4.6	0.859	13.6	LOS A	9.4	66.8	0.38	0.35	0.44	36.4
NorthWest: Pacific Hwy (NW)															
27a	L1	All MCs	586	7.0	586	7.0	0.214	8.4	LOS A	3.9	28.6	0.29	0.66	0.29	33.9
8	T1	All MCs	297	6.0	297	6.0	* 0.414	16.3	LOS B	8.6	63.3	0.77	0.65	0.77	23.9
Approach			883	6.7	883	6.7	0.414	11.0	LOS A	8.6	63.3	0.45	0.65	0.45	29.7
SouthWest: Berry St (SW)															
10	L2	All MCs	33	0.0	33	0.0	0.056	4.5	LOS A	0.2	1.6	0.15	0.51	0.15	37.5
Approach			33	0.0	33	0.0	0.056	4.5	LOS A	0.2	1.6	0.15	0.51	0.15	37.5
All Vehicles			1958	5.5	1958	5.5	0.859	12.3	LOS A	9.4	66.8	0.41	0.49	0.44	34.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Pacific Hwy (SE)											
P1	Full	223	39.1	LOS D	0.6	0.6	0.89	0.89	55.8	20.0	0.36
East: Berry St (E)											
P2	Full	207	41.8	LOS E	0.5	0.5	0.92	0.92	208.4	200.0	0.96
NorthWest: Pacific Hwy (NW)											
P3B	Slip/ Bypass	207	41.8	LOS E	0.5	0.5	0.92	0.92	58.4	20.0	0.34
SouthWest: Berry St (SW)											
P4	Full	218	23.6	LOS C	0.4	0.4	0.89	0.89	40.2	20.0	0.50
All Pedestrians		856	36.4	LOS D	0.6	0.6	0.90	0.90	89.4	63.6	0.71

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.

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MOVEMENT SUMMARY

Site: VIC02 [VIC02 Miller St / Berry St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: N101 [VIC Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 874
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller St (S)															
2	T1	All MCs	266	16.6	266	16.6	0.295	15.4	LOS B	7.9	63.1	0.65	0.55	0.65	21.5
3	R2	All MCs	245	6.0	245	6.0	* 0.701	40.7	LOS C	10.1	74.7	0.98	0.98	1.03	17.3
Approach			512	11.5	512	11.5	0.701	27.5	LOS B	10.1	74.7	0.81	0.76	0.83	18.7
North: Miller St (N)															
7	L2	All MCs	212	3.0	212	3.0	* 0.619	44.5	LOS D	9.7	69.8	0.97	0.82	0.97	17.0
8	T1	All MCs	203	10.4	203	10.4	0.396	30.9	LOS C	8.0	61.1	0.85	0.71	0.85	15.3
Approach			415	6.6	415	6.6	0.619	37.8	LOS C	9.7	69.8	0.91	0.76	0.91	16.4
West: Berry St (W)															
10	L2	All MCs	117	6.3	117	6.3	* 0.537	40.9	LOS C	10.4	75.2	0.87	0.76	0.87	10.2
11	T1	All MCs	735	2.1	735	2.1	0.537	29.2	LOS C	14.0	99.5	0.88	0.76	0.88	18.2
12	R2	All MCs	51	45.8	51	45.8	0.537	42.4	LOS C	12.3	93.3	0.89	0.77	0.89	10.5
Approach			902	5.1	902	5.1	0.537	31.5	LOS C	14.0	99.5	0.88	0.76	0.88	17.0
All Vehicles			1828	7.3	1828	7.3	0.701	31.8	LOS C	14.0	99.5	0.87	0.76	0.87	17.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Miller St (S)											
P1	Full	218	41.8	LOS E	0.6	0.6	0.92	0.92	58.5	20.0	0.34
East: Berry St (E)											
P2	Full	188	42.7	LOS E	0.5	0.5	0.93	0.93	59.3	20.0	0.34
North: Miller St (N)											
P3	Full	264	40.0	LOS E	0.7	0.7	0.90	0.90	56.7	20.0	0.35
West: Berry St (W)											
P4	Full	440	43.1	LOS E	1.2	1.2	0.94	0.94	59.8	20.0	0.33
All Pedestrians		1111	42.0	LOS E	1.2	1.2	0.92	0.92	58.7	20.0	0.34

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.

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MOVEMENT SUMMARY

Site: VIC03 [VIC03 Miller St / McLaren St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: N101 [VIC Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 1156
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 76 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller St (S)															
1	L2	All MCs	113	0.9	113	0.9	0.205	11.1	LOS A	3.6	27.3	0.51	0.55	0.51	33.6
2	T1	All MCs	237	18.7	237	18.7	0.205	8.5	LOS A	3.6	27.3	0.52	0.50	0.52	34.3
3	R2	All MCs	25	33.3	25	33.3	0.205	15.4	LOS B	3.1	25.3	0.52	0.47	0.52	28.8
Approach			375	14.3	375	14.3	0.205	9.8	LOS A	3.6	27.3	0.51	0.51	0.51	33.8
East: McLaren St (E)															
4	L2	All MCs	55	0.0	55	0.0	0.747	50.7	LOS D	2.3	16.3	1.00	0.86	1.35	10.1
5	T1	All MCs	89	1.2	89	1.2	* 0.252	29.4	LOS C	2.9	20.7	0.90	0.70	0.90	25.1
Approach			144	0.7	144	0.7	0.747	37.5	LOS C	2.9	20.7	0.93	0.76	1.07	19.2
North: Miller St (N)															
7	L2	All MCs	43	0.0	43	0.0	0.140	18.7	LOS B	2.5	18.2	0.55	0.60	0.55	19.3
8	T1	All MCs	285	8.9	285	8.9	0.339	11.4	LOS A	5.8	43.4	0.60	0.63	0.60	27.1
9	R2	All MCs	68	7.7	68	7.7	* 0.339	17.9	LOS B	5.8	43.4	0.61	0.64	0.61	34.0
Approach			397	7.7	397	7.7	0.339	13.3	LOS A	5.8	43.4	0.59	0.63	0.59	27.4
West: McLaren St (W)															
10	L2	All MCs	58	3.6	58	3.6	0.164	32.5	LOS C	1.8	13.2	0.87	0.73	0.87	24.3
11	T1	All MCs	77	0.0	77	0.0	0.403	25.7	LOS B	3.7	26.0	0.94	0.73	0.94	21.4
12	R2	All MCs	34	0.0	34	0.0	* 0.403	42.4	LOS C	3.7	26.0	0.94	0.73	0.94	18.5
Approach			168	1.3	168	1.3	0.403	31.4	LOS C	3.7	26.0	0.91	0.73	0.91	22.0
All Vehicles			1084	8.1	1084	8.1	0.747	18.1	LOS B	5.8	43.4	0.66	0.62	0.68	27.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Miller St (S)											
P1	Full	159	27.1	LOS C	0.3	0.3	0.85	0.85	43.8	20.0	0.46
East: McLaren St (E)											
P2	Full	282	29.0	LOS C	0.5	0.5	0.88	0.88	45.7	20.0	0.44
North: Miller St (N)											
P3	Full	144	28.0	LOS C	0.3	0.3	0.86	0.86	44.6	20.0	0.45
West: McLaren St (W)											
P4	Full	382	28.2	LOS C	0.7	0.7	0.87	0.87	44.9	20.0	0.45
All Pedestrians		967	28.2	LOS C	0.7	0.7	0.87	0.87	44.9	20.0	0.45

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.

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MOVEMENT SUMMARY

Site: VIC04 [VIC04 Pacific Hwy / Miller St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: N101 [VIC Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 630
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller St (S)															
1	L2	All MCs	8	0.0	8	0.0	0.166	18.7	LOS B	3.2	27.0	0.65	0.65	0.65	26.9
1a	L1	All MCs	100	24.2	100	24.2	0.166	21.3	LOS B	3.2	27.0	0.65	0.65	0.65	18.7
2	T1	All MCs	155	29.3	155	29.3	0.682	42.4	LOS C	8.7	75.8	0.98	0.87	1.05	12.1
3b	R3	All MCs	26	20.0	26	20.0	* 0.682	53.0	LOS D	8.7	75.8	0.98	0.87	1.05	19.5
Approach			289	25.8	289	25.8	0.682	35.4	LOS C	8.7	75.8	0.86	0.78	0.90	15.1
SouthEast: Pacific Hwy (SE)															
21b	L3	All MCs	245	3.9	245	3.9	0.562	10.2	LOS A	10.2	73.2	0.73	0.76	0.73	31.9
21a	L1	All MCs	40	0.0	40	0.0	* 0.562	35.6	LOS C	10.2	73.2	0.73	0.76	0.73	33.3
22	T1	All MCs	962	2.7	962	2.7	0.562	25.7	LOS B	16.1	115.3	0.82	0.73	0.82	22.0
23a	R1	All MCs	357	3.8	357	3.8	* 0.809	42.2	LOS C	14.4	104.1	1.00	1.00	1.13	15.2
Approach			1604	3.1	1604	3.1	0.809	27.2	LOS B	16.1	115.3	0.84	0.80	0.87	22.1
North: Miller St (N)															
7a	L1	All MCs	98	21.5	98	21.5	0.112	6.2	LOS A	0.9	7.1	0.19	0.43	0.19	38.0
8	T1	All MCs	140	15.0	140	15.0	0.274	15.6	LOS B	1.9	15.3	0.44	0.37	0.44	27.5
9	R2	All MCs	4	25.0	4	25.0	0.274	23.1	LOS B	1.4	10.8	0.44	0.42	0.44	28.2
9b	R3	All MCs	13	16.7	13	16.7	0.274	23.7	LOS B	1.4	10.8	0.44	0.42	0.44	20.4
Approach			255	17.8	255	17.8	0.274	12.5	LOS A	1.9	15.3	0.34	0.40	0.34	30.6
NorthWest: Pacific Hwy (NW)															
28	T1	All MCs	163	9.0	163	9.0	0.163	12.2	LOS A	1.4	10.4	0.36	0.29	0.36	41.4
29a	R1	All MCs	121	3.5	121	3.5	0.328	50.1	LOS D	5.9	42.7	1.00	0.83	1.00	19.1
Approach			284	6.7	284	6.7	0.328	28.3	LOS B	5.9	42.7	0.63	0.52	0.63	27.8
All Vehicles			2433	7.7	2433	7.7	0.809	26.8	LOS B	16.1	115.3	0.77	0.72	0.79	22.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Miller St (S)											
P1	Full	624	40.7	LOS E	1.6	1.6	0.91	0.91	57.3	20.0	0.35
SouthEast: Pacific Hwy (SE)											
P5	Full	186	38.1	LOS D	0.5	0.5	0.88	0.88	54.8	20.0	0.36
North: Miller St (N)											
P3	Full	1215	40.8	LOS E	3.2	3.2	0.93	0.93	57.5	20.0	0.35
NorthWest: Pacific Hwy (NW)											
P7	Full	451	36.8	LOS D	1.1	1.1	0.87	0.87	53.5	20.0	0.37
All Pedestrians		2476	39.8	LOS D	3.2	3.2	0.91	0.91	56.5	20.0	0.35

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.

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MOVEMENT SUMMARY

Site: VIC01 [VIC01 Pacific Hwy / Berry St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: N101 [VIC Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 1206
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Pacific Hwy (SE)															
1	L2	All MCs	19	0.0	19	0.0	0.048	4.3	LOS A	0.2	1.7	0.08	0.18	0.08	42.6
2	T1	All MCs	717	2.8	717	2.8	0.229	0.8	LOS A	1.4	10.1	0.08	0.08	0.08	57.8
23b	R3	All MCs	106	0.0	106	0.0	* 0.491	51.7	LOS D	4.8	33.5	1.00	0.81	1.00	12.9
Approach			842	2.4	842	2.4	0.491	7.3	LOS A	4.8	33.5	0.20	0.17	0.20	45.2
NorthWest: Pacific Hwy (NW)															
27a	L1	All MCs	536	3.7	536	3.7	0.170	6.2	LOS A	1.9	14.1	0.18	0.62	0.18	38.3
8	T1	All MCs	323	1.0	323	1.0	0.295	10.8	LOS A	7.3	51.5	0.56	0.48	0.56	30.0
Approach			859	2.7	859	2.7	0.295	7.9	LOS A	7.3	51.5	0.32	0.57	0.32	34.7
SouthWest: Berry St (SW)															
10	L2	All MCs	25	0.0	25	0.0	0.032	4.9	LOS A	0.2	1.1	0.14	0.50	0.14	37.8
Approach			25	0.0	25	0.0	0.032	4.9	LOS A	0.2	1.1	0.14	0.50	0.14	37.8
All Vehicles			1726	2.5	1726	2.5	0.491	7.6	LOS A	7.3	51.5	0.26	0.38	0.26	41.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Pacific Hwy (SE)											
P1	Full	37	33.9	LOS D	0.1	0.1	0.87	0.87	50.5	20.0	0.40
East: Berry St (E)											
P2	Full	66	36.6	LOS D	0.2	0.2	0.90	0.90	203.2	200.0	0.98
NorthWest: Pacific Hwy (NW)											
P3B	Slip/ Bypass	66	36.6	LOS D	0.2	0.2	0.90	0.90	53.2	20.0	0.38
SouthWest: Berry St (SW)											
P4	Full	85	1.0	LOS A	0.0	0.0	0.21	0.21	17.7	20.0	1.13
All Pedestrians		255	24.3	LOS C	0.2	0.2	0.67	0.67	80.0	66.9	0.84

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.

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MOVEMENT SUMMARY

Site: VIC02 [VIC02 Miller St / Berry St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: N101 [VIC Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 874
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller St (S)															
2	T1	All MCs	281	3.0	281	3.0	0.748	18.0	LOS B	7.7	55.0	0.75	0.69	0.76	18.4
3	R2	All MCs	127	0.8	127	0.8	* 0.748	35.1	LOS C	7.7	55.0	0.89	0.93	0.93	21.0
Approach			408	2.3	408	2.3	0.748	23.3	LOS B	7.7	55.0	0.79	0.76	0.81	19.5
North: Miller St (N)															
7	L2	All MCs	146	1.4	146	1.4	* 0.720	49.5	LOS D	6.7	47.8	1.00	0.89	1.14	16.1
8	T1	All MCs	178	4.1	178	4.1	0.450	34.1	LOS C	7.0	50.5	0.92	0.75	0.92	14.4
Approach			324	2.9	324	2.9	0.720	41.0	LOS C	7.0	50.5	0.96	0.81	1.02	15.4
West: Berry St (W)															
10	L2	All MCs	86	0.0	86	0.0	0.135	29.9	LOS C	3.1	21.7	0.86	0.74	0.86	11.0
11	T1	All MCs	565	1.5	565	1.5	0.369	21.2	LOS B	10.2	72.2	0.80	0.68	0.80	21.8
12	R2	All MCs	28	40.7	28	40.7	* 0.369	30.8	LOS C	9.3	68.3	0.79	0.69	0.79	13.8
Approach			680	2.9	680	2.9	0.369	22.7	LOS B	10.2	72.2	0.81	0.69	0.81	20.3
All Vehicles			1413	2.8	1413	2.8	0.748	27.1	LOS B	10.2	72.2	0.84	0.74	0.86	18.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Miller St (S)											
P1	Full	91	36.6	LOS D	0.2	0.2	0.90	0.90	53.3	20.0	0.38
East: Berry St (E)											
P2	Full	89	37.5	LOS D	0.2	0.2	0.91	0.91	54.2	20.0	0.37
North: Miller St (N)											
P3	Full	57	34.8	LOS D	0.1	0.1	0.88	0.88	51.4	20.0	0.39
West: Berry St (W)											
P4	Full	116	37.5	LOS D	0.3	0.3	0.92	0.92	54.2	20.0	0.37
All Pedestrians		353	36.8	LOS D	0.3	0.3	0.91	0.91	53.5	20.0	0.37

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.

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MOVEMENT SUMMARY

Site: VIC03 [VIC03 Miller St / McLaren St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: N101 [VIC Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 1156
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 71 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller St (S)															
1	L2	All MCs	74	0.0	74	0.0	0.064	9.3	LOS A	1.0	7.0	0.42	0.59	0.42	34.3
2	T1	All MCs	283	3.0	283	3.0	0.292	7.4	LOS A	5.2	37.3	0.53	0.47	0.53	35.6
3	R2	All MCs	22	0.0	22	0.0	0.292	14.3	LOS A	5.2	37.3	0.53	0.47	0.53	30.1
Approach			379	2.2	379	2.2	0.292	8.2	LOS A	5.2	37.3	0.51	0.49	0.51	35.1
East: McLaren St (E)															
4	L2	All MCs	41	0.0	41	0.0	0.262	40.2	LOS C	1.4	10.0	0.97	0.73	0.97	12.1
5	T1	All MCs	81	0.0	81	0.0	* 0.227	27.4	LOS B	2.5	17.3	0.89	0.69	0.89	26.0
Approach			122	0.0	122	0.0	0.262	31.7	LOS C	2.5	17.3	0.92	0.70	0.92	21.6
North: Miller St (N)															
7	L2	All MCs	35	0.0	35	0.0	0.063	13.8	LOS A	1.0	7.3	0.49	0.58	0.49	20.0
8	T1	All MCs	262	3.6	262	3.6	0.316	9.4	LOS A	5.3	38.4	0.56	0.61	0.56	29.5
9	R2	All MCs	57	0.0	57	0.0	* 0.316	15.9	LOS B	5.3	38.4	0.57	0.61	0.57	36.0
Approach			354	2.7	354	2.7	0.316	10.9	LOS A	5.3	38.4	0.55	0.61	0.55	29.4
West: McLaren St (W)															
10	L2	All MCs	60	1.8	60	1.8	0.146	29.3	LOS C	1.7	12.1	0.84	0.73	0.84	25.7
11	T1	All MCs	54	0.0	54	0.0	0.219	22.3	LOS B	2.1	15.2	0.87	0.67	0.87	23.6
12	R2	All MCs	20	5.3	20	5.3	* 0.219	34.9	LOS C	2.1	15.2	0.87	0.67	0.87	20.6
Approach			134	1.6	134	1.6	0.219	27.3	LOS B	2.1	15.2	0.86	0.70	0.86	24.3
All Vehicles			988	2.0	988	2.0	0.316	14.7	LOS B	5.3	38.4	0.62	0.59	0.62	29.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Miller St (S)											
P1	Full	48	24.6	LOS C	0.1	0.1	0.83	0.83	41.2	20.0	0.49
East: McLaren St (E)											
P2	Full	61	26.3	LOS C	0.1	0.1	0.86	0.86	42.9	20.0	0.47
North: Miller St (N)											
P3	Full	47	25.4	LOS C	0.1	0.1	0.85	0.85	42.1	20.0	0.48
West: McLaren St (W)											
P4	Full	71	25.4	LOS C	0.1	0.1	0.85	0.85	42.1	20.0	0.48
All Pedestrians		227	25.5	LOS C	0.1	0.1	0.85	0.85	42.1	20.0	0.47

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.

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MOVEMENT SUMMARY

Site: VIC04 [VIC04 Pacific Hwy / Miller St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: N101 [VIC Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 630
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Miller St (S)															
1	L2	All MCs	2	0.0	2	0.0	0.137	16.3	LOS B	2.6	20.3	0.59	0.61	0.59	29.0
1a	L1	All MCs	105	13.0	105	13.0	0.137	16.9	LOS B	2.6	20.3	0.59	0.61	0.59	21.3
2	T1	All MCs	209	4.0	209	4.0	* 0.607	35.2	LOS C	9.2	66.8	0.96	0.80	0.96	13.9
3b	R3	All MCs	17	0.0	17	0.0	0.607	43.4	LOS D	9.2	66.8	0.96	0.80	0.96	21.8
Approach			334	6.6	334	6.6	0.607	29.8	LOS C	9.2	66.8	0.84	0.74	0.84	16.2
SouthEast: Pacific Hwy (SE)															
21b	L3	All MCs	154	1.4	154	1.4	0.158	8.5	LOS A	1.6	11.4	0.38	0.68	0.38	37.4
21a	L1	All MCs	19	5.6	19	5.6	0.158	22.9	LOS B	1.6	11.4	0.38	0.68	0.38	37.9
22	T1	All MCs	618	1.0	618	1.0	* 0.480	25.8	LOS B	10.8	76.5	0.84	0.72	0.84	20.9
23a	R1	All MCs	199	0.5	199	0.5	* 0.554	40.8	LOS C	8.1	57.2	0.96	0.80	0.96	15.6
Approach			989	1.1	989	1.1	0.554	26.0	LOS B	10.8	76.5	0.79	0.73	0.79	22.5
North: Miller St (N)															
7a	L1	All MCs	59	25.0	59	25.0	0.086	8.0	LOS A	0.6	5.0	0.24	0.45	0.24	36.3
8	T1	All MCs	128	2.5	128	2.5	0.361	8.3	LOS A	1.4	10.3	0.28	0.26	0.28	32.0
9	R2	All MCs	5	0.0	5	0.0	0.361	14.1	LOS A	1.4	10.3	0.31	0.31	0.31	32.5
9b	R3	All MCs	14	7.7	14	7.7	0.361	14.7	LOS B	1.4	10.3	0.31	0.31	0.31	26.5
Approach			206	9.2	206	9.2	0.361	8.8	LOS A	1.4	10.3	0.27	0.32	0.27	33.0
NorthWest: Pacific Hwy (NW)															
28	T1	All MCs	166	1.3	166	1.3	0.130	14.2	LOS A	1.7	11.9	0.48	0.38	0.48	39.4
29a	R1	All MCs	163	0.6	163	0.6	0.455	46.6	LOS D	7.2	50.7	1.00	0.84	1.00	19.9
Approach			329	1.0	329	1.0	0.455	30.2	LOS C	7.2	50.7	0.74	0.61	0.74	26.7
All Vehicles			1859	2.9	1859	2.9	0.607	25.5	LOS B	10.8	76.5	0.73	0.66	0.73	23.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Miller St (S)											
P1	Full	98	34.8	LOS D	0.2	0.2	0.88	0.88	51.5	20.0	0.39
SouthEast: Pacific Hwy (SE)											
P5	Full	59	33.0	LOS D	0.1	0.1	0.86	0.86	49.7	20.0	0.40
North: Miller St (N)											
P3	Full	194	34.1	LOS D	0.4	0.4	0.87	0.87	50.7	20.0	0.39
NorthWest: Pacific Hwy (NW)											
P7	Full	86	31.4	LOS D	0.2	0.2	0.84	0.84	48.0	20.0	0.42
All Pedestrians		437	33.6	LOS D	0.4	0.4	0.87	0.87	50.2	20.0	0.40

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.

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MOVEMENT SUMMARY

Site: BUG01 [BGU01 Hickson Rd / Towns Pl (Site Folder: Block 1 - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Hickson Rd (E)															
4a	L1	All MCs	97	19.6	97	19.6	0.148	4.5	LOS A	0.6	5.0	0.39	0.54	0.39	37.3
6a	R1	All MCs	57	1.9	57	1.9	0.148	5.8	LOS A	0.6	5.0	0.39	0.54	0.39	34.9
Approach			154	13.0	154	13.0	0.148	5.0	NA	0.6	5.0	0.39	0.54	0.39	36.8
NorthWest: Towns Pl (NW)															
27a	L1	All MCs	104	10.1	104	10.1	0.269	5.0	LOS A	1.1	8.3	0.56	0.73	0.60	33.9
29	R2	All MCs	88	17.9	88	17.9	0.269	9.1	LOS A	1.1	8.3	0.56	0.73	0.60	35.4
Approach			193	13.7	193	13.7	0.269	6.9	LOS A	1.1	8.3	0.56	0.73	0.60	34.8
SouthWest: Hickson Rd (SW)															
30	L2	All MCs	126	10.0	126	10.0	0.281	4.5	LOS A	1.5	11.3	0.35	0.46	0.35	37.2
32a	R1	All MCs	246	11.5	246	11.5	0.281	3.2	LOS A	1.5	11.3	0.35	0.46	0.35	37.9
Approach			373	11.0	373	11.0	0.281	3.7	NA	1.5	11.3	0.35	0.46	0.35	37.7
All Vehicles			719	12.2	719	12.2	0.281	4.8	NA	1.5	11.3	0.41	0.55	0.43	36.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: BGU02 [BGU02 Dalgety Rd / Towns Pl (Site Folder: Block 1 - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Dalgety Rd (S)															
30	L2	All MCs	25	0.0	25	0.0	0.205	7.3	LOS A	1.2	9.3	0.44	0.59	0.44	23.8
3b	R3	All MCs	184	11.4	184	11.4	0.205	7.8	LOS A	1.2	9.3	0.44	0.59	0.44	30.8
32u	U	All MCs	4	0.0	4	0.0	0.205	8.2	LOS A	1.2	9.3	0.44	0.59	0.44	33.9
Approach			214	9.9	214	9.9	0.205	7.7	LOS A	1.2	9.3	0.44	0.59	0.44	29.7
SouthEast: Towns Pl (SE)															
21b	L3	All MCs	19	5.6	19	5.6	0.135	2.6	LOS A	0.8	6.3	0.07	0.74	0.07	32.0
21a	L1	All MCs	167	7.5	167	7.5	0.135	8.3	LOS A	0.8	6.3	0.07	0.74	0.07	17.0
23u	U	All MCs	15	57.1	15	57.1	0.135	7.2	LOS A	0.8	6.3	0.07	0.74	0.07	23.7
Approach			201	11.0	201	11.0	0.135	7.6	LOS A	0.8	6.3	0.07	0.74	0.07	19.0
West: Parking Access (W)															
12a	R1	All MCs	1	0.0	1	0.0	0.005	1.2	LOS A	0.0	0.2	0.42	0.19	0.42	9.6
29	R2	All MCs	3	0.0	3	0.0	0.005	1.2	LOS A	0.0	0.2	0.42	0.19	0.42	21.3
29u	U	All MCs	1	0.0	1	0.0	0.005	1.2	LOS A	0.0	0.2	0.42	0.19	0.42	9.8
Approach			5	0.0	5	0.0	0.005	1.2	LOS A	0.0	0.2	0.42	0.19	0.42	17.6
All Vehicles			420	10.3	420	10.3	0.205	7.6	LOS A	1.2	9.3	0.26	0.66	0.26	24.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: BGU03 [BGU03 Kent St / Argyle St (Site Folder: Block 1 - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kent St (S)															
1	L2	All MCs	67	1.6	67	1.6	0.511	5.9	LOS A	3.5	25.5	0.66	0.86	1.01	33.7
2	T1	All MCs	31	3.4	31	3.4	0.511	7.0	LOS A	3.5	25.5	0.66	0.86	1.01	32.1
3	R2	All MCs	212	5.0	212	5.0	0.511	13.1	LOS A	3.5	25.5	0.66	0.86	1.01	32.4
Approach			309	4.1	309	4.1	0.511	11.0	LOS A	3.5	25.5	0.66	0.86	1.01	32.7
East: Argyle St (E)															
4	L2	All MCs	2	0.0	2	0.0	0.224	4.6	LOS A	1.1	8.2	0.46	0.48	0.46	36.6
5	T1	All MCs	98	7.5	98	7.5	0.224	2.1	LOS A	1.1	8.2	0.46	0.48	0.46	36.2
6	R2	All MCs	135	5.5	135	5.5	0.224	5.0	LOS A	1.1	8.2	0.46	0.48	0.46	31.2
Approach			235	6.3	235	6.3	0.224	3.8	NA	1.1	8.2	0.46	0.48	0.46	34.0
North: Kent St (N)															
7	L2	All MCs	8	12.5	8	12.5	0.028	8.7	LOS A	0.1	0.7	0.43	0.91	0.43	27.5
8	T1	All MCs	12	0.0	12	0.0	0.028	8.8	LOS A	0.1	0.7	0.43	0.91	0.43	33.7
9	R2	All MCs	2	0.0	2	0.0	0.028	9.7	LOS A	0.1	0.7	0.43	0.91	0.43	30.9
Approach			22	4.8	22	4.8	0.028	8.8	LOS A	0.1	0.7	0.43	0.91	0.43	31.9
West: Argyle Pl (W)															
10	L2	All MCs	1	0.0	1	0.0	0.142	3.4	LOS A	0.7	5.3	0.38	0.35	0.38	35.4
11	T1	All MCs	85	14.8	85	14.8	0.142	2.2	LOS A	0.7	5.3	0.38	0.35	0.38	37.0
12	R2	All MCs	53	14.0	53	14.0	0.142	4.1	LOS A	0.7	5.3	0.38	0.35	0.38	37.4
Approach			139	14.4	139	14.4	0.142	2.9	NA	0.7	5.3	0.38	0.35	0.38	37.2
All Vehicles			705	6.9	705	6.9	0.511	6.9	NA	3.5	25.5	0.53	0.63	0.68	33.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

CCG MOVEMENT SUMMARY

Common Control Group: CCG1 [TCS 4272]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 1 Network - 2023 AM Peak)]

EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 85 seconds (CCG User-Given Phase Times)

Vehicle Movement Performance (CCG)

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
Site: BGU04 [BGU04 Pedestrian Mid-block Crossing at Kent St near Gas Ln]															
South: Kent St															
2	T1	All MCs	464	6.1	464	6.1	0.421	10.8	LOS A	11.1	81.6	0.62	0.54	0.62	32.3
Approach			464	6.1	464	6.1	0.421	10.8	LOS A	11.1	81.6	0.62	0.54	0.62	32.3
North: Kent St															
8	T1	All MCs	261	4.0	261	4.0	0.430	34.8	LOS C	5.4	39.3	0.94	0.75	0.94	21.5
Approach			261	4.0	261	4.0	0.430	34.8	LOS C	5.4	39.3	0.94	0.75	0.94	21.5
All Vehicles			725	5.4	725	5.4	0.430	19.4	LOS B	11.1	81.6	0.74	0.61	0.74	27.6
Site: BGU05 [BGU05 Kent St / Sydney Harbour Bridge (SHB) On-ramp]															
South: Kent St (S)															
2	T1	All MCs	308	6.5	308	6.5	0.561	6.4	LOS A	5.7	41.8	0.46	0.41	0.46	30.4
3a	R1	All MCs	409	8.0	409	8.0	* 0.506	23.8	LOS B	7.6	58.2	0.75	0.69	0.75	22.2
Approach			718	7.3	718	7.3	0.561	16.3	LOS B	7.6	58.2	0.63	0.57	0.63	24.4
East: Clarence St (E)															
4	L2	All MCs	148	1.4	148	1.4	0.531	40.6	LOS C	5.9	41.9	0.97	0.79	0.97	11.4
6	R2	All MCs	186	4.5	186	4.5	* 0.894	57.0	LOS E	10.0	72.7	1.00	1.16	1.52	8.9
Approach			335	3.1	335	3.1	0.894	49.7	LOS D	10.0	72.7	0.99	1.00	1.28	9.8
NorthEast: SHB On-ramp (NE)															
24a	L1	All MCs	66	0.0	66	0.0	0.059	31.4	LOS C	2.2	6.0	0.86	0.65	0.86	19.9
Approach			66	0.0	66	0.0	0.059	31.4	LOS C	2.2	6.0	0.86	0.65	0.86	19.9
North: Kent St (N)															
7b	L3	All MCs	185	4.5	185	4.5	0.507	43.7	LOS D	7.8	56.8	1.00	0.86	1.00	12.2
8	T1	All MCs	113	1.9	113	1.9	* 0.455	14.1	LOS A	2.3	16.4	0.50	0.39	0.50	11.9
Approach			298	3.5	298	3.5	0.507	32.5	LOS C	7.8	56.8	0.81	0.68	0.81	12.1
All Vehicles			1417	5.2	1417	5.2	0.894	28.3	LOS B	10.0	72.7	0.76	0.70	0.83	17.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance (CCG)											
Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
Site: BGU04 [BGU04 Pedestrian Mid-block Crossing at Kent St near Gas Ln]											
South: Kent St											
P1	Full	144	36.0	LOS D	0.3	0.3	0.92	0.92	202.7	200.0	0.99
All Pedestrians		144	36.0	LOS D	0.3	0.3	0.92	0.92	202.7	200.0	0.99
Site: BGU05 [BGU05 Kent St / Sydney Harbour Bridge (SHB) On-ramp]											
South: Kent St (S)											
P1	Full	349	32.7	LOS D	0.7	0.7	0.88	0.88	49.4	20.0	0.41
All Pedestrians		349	32.7	LOS D	0.7	0.7	0.88	0.88	49.4	20.0	0.41

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.

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MOVEMENT SUMMARY

Site: BGU06 [BGU06 Hickson Rd / Napoleon St / Sussex St (Site Folder: Block 1 - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 4625
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 71 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sussex St (S)															
2	T1	All MCs	324	9.1	324	9.1	0.348	10.7	LOS A	6.6	49.7	0.62	0.54	0.62	24.8
3	R2	All MCs	122	2.6	122	2.6	* 0.309	18.8	LOS B	2.8	20.4	0.80	0.73	0.80	22.1
Approach			446	7.3	446	7.3	0.348	12.9	LOS A	6.6	49.7	0.67	0.59	0.67	23.8
East: Napolean St (E)															
4	L2	All MCs	143	13.2	143	13.2	0.240	20.6	LOS B	3.5	27.2	0.73	0.72	0.73	15.9
6	R2	All MCs	184	14.9	184	14.9	* 0.511	30.3	LOS C	5.8	45.9	0.92	0.79	0.92	15.3
Approach			327	14.1	327	14.1	0.511	26.1	LOS B	5.8	45.9	0.84	0.76	0.84	15.5
North: Hickson Rd (N)															
7	L2	All MCs	93	10.2	93	10.2	0.179	23.1	LOS B	2.4	18.1	0.77	0.71	0.77	17.6
8	T1	All MCs	203	18.1	203	18.1	* 0.336	18.0	LOS B	5.2	41.8	0.77	0.64	0.77	11.5
Approach			296	15.7	296	15.7	0.336	19.6	LOS B	5.2	41.8	0.77	0.66	0.77	14.2
West: Car Park Access (W)															
10	L2	All MCs	1	0.0	1	0.0	0.040	43.6	LOS D	0.0	0.3	1.00	0.57	1.00	5.4
11	T1	All MCs	4	0.0	4	0.0	* 0.193	45.1	LOS D	0.2	1.5	1.00	0.63	1.00	8.5
12	R2	All MCs	1	0.0	1	0.0	0.193	45.1	LOS D	0.2	1.5	1.00	0.63	1.00	2.3
Approach			6	0.0	6	0.0	0.193	44.8	LOS D	0.2	1.5	1.00	0.62	1.00	7.1
All Vehicles			1076	11.6	1076	11.6	0.511	18.9	LOS B	6.6	49.7	0.75	0.66	0.75	18.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Sussex St (S)											
P1	Full	79	23.0	LOS C	0.1	0.1	0.81	0.81	39.6	20.0	0.50
East: Napolean St (E)											
P2	Full	227	23.1	LOS C	0.4	0.4	0.81	0.81	39.8	20.0	0.50
North: Hickson Rd (N)											
P3	Full	85	23.0	LOS C	0.1	0.1	0.81	0.81	39.6	20.0	0.50
West: Car Park Access (W)											
P4	Full	181	28.2	LOS C	0.3	0.3	0.89	0.89	44.8	20.0	0.45
All Pedestrians		573	24.7	LOS C	0.4	0.4	0.84	0.84	41.3	20.0	0.48

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.

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MOVEMENT SUMMARY

Site: BGU07 [BGU07 Margaret St / Kent St / Napoleon St (Site Folder: Block 1 - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 308

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 85 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kent St (S)															
1a	L1	All MCs	102	15.5	102	15.5	* 0.496	31.1	LOS C	11.3	86.3	0.77	0.70	0.77	18.7
2	T1	All MCs	566	7.6	566	7.6	0.496	21.3	LOS B	11.3	86.3	0.84	0.71	0.84	7.7
3	R2	All MCs	38	0.0	38	0.0	0.496	57.7	LOS E	7.6	57.1	0.88	0.75	0.88	7.1
Approach			706	8.3	706	8.3	0.496	24.7	LOS B	11.3	86.3	0.83	0.71	0.83	9.5
East: Margaret St (E)															
4	L2	All MCs	67	3.1	67	3.1	0.266	43.7	LOS D	2.8	20.2	1.00	0.77	1.00	7.3
6a	R1	All MCs	218	16.4	218	16.4	0.778	39.7	LOS C	8.4	65.3	1.00	0.95	1.11	12.3
6	R2	All MCs	82	2.6	82	2.6	* 0.778	41.7	LOS C	8.4	65.3	1.00	0.95	1.11	5.1
Approach			367	10.9	367	10.9	0.778	40.9	LOS C	8.4	65.3	1.00	0.92	1.09	10.0
North: Kent St (N)															
7	L2	All MCs	45	0.0	45	0.0	0.248	32.4	LOS C	3.4	25.6	0.67	0.60	0.67	19.9
8	T1	All MCs	149	7.0	149	7.0	0.248	24.7	LOS B	3.4	25.6	0.82	0.66	0.82	17.5
9b	R3	All MCs	74	4.3	74	4.3	0.248	12.0	LOS A	0.9	6.6	0.30	0.60	0.30	28.5
Approach			268	5.1	268	5.1	0.248	22.5	LOS B	3.4	25.6	0.65	0.64	0.65	20.5
NorthWest: Napoleon St (NW)															
27b	L3	All MCs	126	5.0	126	5.0	0.314	10.6	LOS A	3.0	22.3	0.59	0.67	0.59	23.7
27a	L1	All MCs	48	10.9	48	10.9	0.314	20.9	LOS B	3.0	22.3	0.59	0.67	0.59	23.7
Approach			175	6.6	175	6.6	0.314	13.4	LOS A	3.0	22.3	0.59	0.67	0.59	23.7
All Vehicles			1517	8.2	1517	8.2	0.778	26.9	LOS B	11.3	86.3	0.81	0.74	0.83	13.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Kent St (S)											
P1	Full	1017	31.0	LOS D	2.1	2.1	0.87	0.87	47.6	20.0	0.42
East: Margaret St (E)											
P2	Full	105	34.1	LOS D	0.2	0.2	0.90	0.90	50.8	20.0	0.39
North: Kent St (N)											
P3	Full	257	29.1	LOS C	0.5	0.5	0.83	0.83	45.8	20.0	0.44
NorthWest: Napoleon St (NW)											
P7	Full	901	29.9	LOS C	1.9	1.9	0.86	0.86	196.6	200.0	1.02
All Pedestrians		2280	30.5	LOS D	2.1	2.1	0.86	0.86	106.4	91.1	0.86

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.

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MOVEMENT SUMMARY

Site: BGU08 [BGU08 Margaret St / Clarence St (Site Folder: Block 1 - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 319
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 85 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Clarence St (S)															
1	L2	All MCs	51	12.5	51	12.5	0.518	42.3	LOS C	9.2	67.7	0.90	0.76	0.90	13.3
2	T1	All MCs	568	34.8	568	34.8	* 0.518	24.6	LOS B	9.2	67.7	0.84	0.71	0.84	17.5
3	R2	All MCs	16	0.0	16	0.0	0.518	33.8	LOS C	7.0	50.8	0.88	0.75	0.88	14.4
Approach			635	32.2	635	32.2	0.518	26.2	LOS B	9.2	67.7	0.85	0.71	0.85	17.1
East: Margaret St (E)															
5	T1	All MCs	343	9.8	343	9.8	0.481	14.4	LOS A	7.1	53.7	0.72	0.63	0.72	10.8
6	R2	All MCs	79	70.7	79	70.7	* 0.481	19.8	LOS B	4.2	39.6	0.81	0.72	0.81	14.4
Approach			422	21.2	422	21.2	0.481	15.4	LOS B	7.1	53.7	0.73	0.65	0.73	11.7
West: Margaret St (W)															
10	L2	All MCs	75	11.3	75	11.3	* 0.686	51.7	LOS D	6.6	50.8	1.00	0.88	1.08	7.4
11	T1	All MCs	77	12.3	77	12.3	0.686	37.9	LOS C	6.6	50.8	1.00	0.88	1.08	4.1
Approach			152	11.8	152	11.8	0.686	44.7	LOS D	6.6	50.8	1.00	0.88	1.08	5.8
All Vehicles			1208	25.8	1208	25.8	0.686	24.8	LOS B	9.2	67.7	0.83	0.71	0.84	14.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Clarence St (S)											
P1	Full	1484	37.2	LOS D	3.5	3.5	0.97	0.97	53.8	20.0	0.37
East: Margaret St (E)											
P2	Full	187	35.2	LOS D	0.4	0.4	0.91	0.91	51.8	20.0	0.39
North: Clarence St (N)											
P3	Full	574	33.9	LOS D	1.3	1.3	0.90	0.90	50.6	20.0	0.40
West: Margaret St (W)											
P4	Full	879	31.7	LOS D	1.9	1.9	0.88	0.88	48.3	20.0	0.41
All Pedestrians		3124	34.9	LOS D	3.5	3.5	0.93	0.93	51.6	20.0	0.39

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.

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MOVEMENT SUMMARY

Site: BGU09 [BGU09 Margaret St / York St (Site Folder: Block 1 - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 3042
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Margaret St (E)															
4	L2	All MCs	54	5.9	54	5.9	0.248	41.9	LOS C	2.4	18.4	0.92	0.74	0.92	13.1
5	T1	All MCs	89	61.2	89	61.2	0.248	27.8	LOS B	2.9	31.1	0.82	0.66	0.82	8.0
Approach			143	40.4	143	40.4	0.248	33.1	LOS C	2.9	31.1	0.86	0.69	0.86	10.6
North: York St (N)															
7	L2	All MCs	1	0.0	1	0.0	0.000	16.1	LOS B	0.0	0.1	0.57	0.48	0.57	15.4
8	T1	All MCs	814	28.5	814	28.5	0.309	10.5	LOS A	6.1	53.1	0.55	0.47	0.55	26.7
9	R2	All MCs	333	10.4	333	10.4	* 0.437	18.3	LOS B	9.1	69.2	0.66	0.76	0.66	11.3
Approach			1147	23.2	1147	23.2	0.437	12.8	LOS A	9.1	69.2	0.58	0.56	0.58	22.9
West: Margaret St (W)															
12	R2	All MCs	84	10.0	84	10.0	* 0.455	45.1	LOS D	3.6	27.7	0.97	0.77	0.97	11.2
Approach			84	10.0	84	10.0	0.455	45.1	LOS D	3.6	27.7	0.97	0.77	0.97	11.2
All Vehicles			1375	24.2	1375	24.2	0.455	16.9	LOS B	9.1	69.2	0.63	0.58	0.63	19.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: York St (S)											
P1	Full	1782	35.6	LOS D	4.2	4.2	0.92	0.92	52.2	20.0	0.38
East: Margaret St (E)											
P2	Full	2375	36.6	LOS D	5.8	5.8	0.95	0.95	53.2	20.0	0.38
North: York St (N)											
P3	Full	1428	33.2	LOS D	3.2	3.2	0.89	0.89	49.9	20.0	0.40
West: Margaret St (W)											
P4	Full	1254	37.5	LOS D	3.0	3.0	0.94	0.94	54.2	20.0	0.37
All Pedestrians		6839	35.8	LOS D	5.8	5.8	0.93	0.93	52.4	20.0	0.38

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.

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Project: C:\Users\YeungM\AECOM\ANZ-NAC-Sydney Metro-Sydney Metro C&SW Operational Monitoring - General\400_Technical\432_Traffic Analysis\SIDRA Modelling\01 Models (Geometry Only)\Block 1\Rev1_Review\04 SM C&SW_BGU (Block 1)_PS.sip9

MOVEMENT SUMMARY

Site: BGU10 [BGU10 Pedestrian Mid-block Crossing at Sussex St under Exchange Pl (Site Folder: Block 1 - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 3939 (?)
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sussex St (S)															
2	T1	All MCs	475	6.7	475	6.7	* 0.175	2.8	LOS A	2.4	17.5	0.31	0.27	0.31	33.1
Approach			475	6.7	475	6.7	0.175	2.8	LOS A	2.4	17.5	0.31	0.27	0.31	33.1
North: Sussex St (N)															
8	T1	All MCs	321	16.7	321	16.7	0.129	2.7	LOS A	1.5	12.3	0.30	0.25	0.30	32.2
Approach			321	16.7	321	16.7	0.129	2.7	LOS A	1.5	12.3	0.30	0.25	0.30	32.2
All Vehicles			796	10.7	796	10.7	0.175	2.8	LOS A	2.4	17.5	0.31	0.26	0.31	32.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		ped	m			sec	m	m/sec
South: Sussex St (S)											
P1	Full	493	24.5	LOS C	0.8	0.8	0.85	0.85	41.2	20.0	0.49
All Pedestrians		493	24.5	LOS C	0.8	0.8	0.85	0.85	41.2	20.0	0.49

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.

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MOVEMENT SUMMARY

Site: BGU11 [BGU11 Pedestrian Mid-block Crossing at Kent St near Margaret St (Site Folder: Block 1 - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 4109
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 45 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kent St (S)															
2	T1	All MCs	775	8.6	775	8.6	* 0.442	9.9	LOS A	5.3	40.4	0.73	0.62	0.73	22.1
Approach			775	8.6	775	8.6	0.442	9.9	LOS A	5.3	40.4	0.73	0.62	0.73	22.1
North: Kent St (N)															
8	T1	All MCs	169	5.6	169	5.6	0.137	8.4	LOS A	1.4	10.7	0.63	0.49	0.63	15.6
Approach			169	5.6	169	5.6	0.137	8.4	LOS A	1.4	10.7	0.63	0.49	0.63	15.6
All Vehicles			944	8.0	944	8.0	0.442	9.7	LOS A	5.3	40.4	0.72	0.59	0.72	21.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Kent St (S)											
P1	Full	1827	13.1	LOS B	1.9	1.9	0.79	0.79	29.8	20.0	0.67
All Pedestrians		1827	13.1	LOS B	1.9	1.9	0.79	0.79	29.8	20.0	0.67

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.

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MOVEMENT SUMMARY

Site: BGU12 [BGU12 Sussex St / Erskine St (Site Folder: Block 1 - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 310
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sussex St (S)															
1	L2	All MCs	68	4.6	68	4.6	* 0.464	42.6	LOS D	6.9	50.3	0.92	0.77	0.92	13.9
2	T1	All MCs	335	5.7	335	5.7	0.464	30.5	LOS C	8.5	62.5	0.90	0.75	0.90	14.9
Approach			403	5.5	403	5.5	0.464	32.5	LOS C	8.5	62.5	0.90	0.75	0.90	14.8
East: Erskine St (E)															
4	L2	All MCs	332	4.1	332	4.1	* 0.365	11.6	LOS A	5.8	42.3	0.43	0.63	0.43	26.5
5	T1	All MCs	106	11.9	106	11.9	0.170	2.7	LOS A	0.8	6.4	0.15	0.20	0.15	27.6
6	R2	All MCs	26	8.0	26	8.0	0.170	7.1	LOS A	0.8	6.4	0.15	0.20	0.15	27.6
Approach			464	6.1	464	6.1	0.365	9.3	LOS A	5.8	42.3	0.35	0.51	0.35	26.6
North: Sussex St (N)															
7	L2	All MCs	51	45.8	51	45.8	0.132	28.0	LOS B	1.6	15.8	0.75	0.69	0.75	13.4
8	T1	All MCs	231	11.9	231	11.9	0.186	21.6	LOS B	3.5	27.0	0.73	0.59	0.73	23.8
9	R2	All MCs	9	11.1	9	11.1	* 0.048	34.5	LOS C	0.3	2.6	0.88	0.66	0.88	11.5
Approach			291	17.8	291	17.8	0.186	23.1	LOS B	3.5	27.0	0.74	0.61	0.74	21.9
West: Erskine St (W)															
10	L2	All MCs	114	9.3	114	9.3	0.333	13.4	LOS A	7.8	58.0	0.57	0.56	0.57	13.0
11	T1	All MCs	276	6.1	276	6.1	0.333	11.8	LOS A	7.8	58.0	0.59	0.58	0.59	12.2
12	R2	All MCs	128	4.9	128	4.9	0.333	20.1	LOS B	4.9	36.1	0.65	0.67	0.65	22.0
Approach			518	6.5	518	6.5	0.333	14.2	LOS A	7.8	58.0	0.60	0.60	0.60	16.5
All Vehicles			1676	8.1	1676	8.1	0.464	18.8	LOS B	8.5	62.5	0.63	0.61	0.63	19.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Sussex St (S)											
P1	Full	227	33.3	LOS D	0.5	0.5	0.86	0.86	49.9	20.0	0.40
East: Erskine St (E)											
P2	Full	217	35.0	LOS D	0.5	0.5	0.89	0.89	51.7	20.0	0.39
North: Sussex St (N)											
P3	Full	443	33.6	LOS D	1.0	1.0	0.87	0.87	50.2	20.0	0.40
West: Erskine St (W)											
P4	Full	312	33.4	LOS D	0.7	0.7	0.87	0.87	50.0	20.0	0.40
All Pedestrians		1199	33.7	LOS D	1.0	1.0	0.87	0.87	50.4	20.0	0.40

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: BGU13 [BGU13 Kent St / Erskine St (Site Folder: Block 1 - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 307
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kent St (S)															
1	L2	All MCs	116	3.6	116	3.6	0.162	22.0	LOS B	3.2	23.5	0.68	0.69	0.68	18.8
2	T1	All MCs	605	8.3	605	8.3	* 0.348	18.3	LOS B	7.5	57.4	0.69	0.59	0.69	19.9
3	R2	All MCs	17	0.0	17	0.0	0.055	12.1	LOS A	2.6	7.0	0.49	0.41	0.49	22.2
Approach			738	7.4	738	7.4	0.348	18.8	LOS B	7.5	57.4	0.69	0.60	0.69	19.8
East: Erskine St (E)															
5	T1	All MCs	252	6.7	252	6.7	0.255	24.4	LOS B	4.9	36.2	0.78	0.65	0.78	7.1
6	R2	All MCs	25	0.0	25	0.0	0.255	31.1	LOS C	4.2	30.8	0.79	0.66	0.79	6.8
Approach			277	6.1	277	6.1	0.255	25.0	LOS B	4.9	36.2	0.78	0.65	0.78	7.1
North: Kent St (N)															
7	L2	All MCs	1	0.0	1	0.0	0.019	11.6	LOS A	1.3	3.5	0.48	0.36	0.48	18.6
8	T1	All MCs	65	0.0	65	0.0	0.019	9.7	LOS A	1.3	3.5	0.48	0.36	0.48	23.6
9	R2	All MCs	97	7.6	97	7.6	* 0.688	51.3	LOS D	4.5	33.9	1.00	0.87	1.15	5.9
Approach			163	4.5	163	4.5	0.688	34.4	LOS C	4.5	33.9	0.79	0.66	0.88	11.9
West: Erskine St (W)															
10	L2	All MCs	121	5.2	121	5.2	0.297	19.0	LOS B	3.9	28.9	0.56	0.61	0.56	11.6
11	T1	All MCs	205	16.4	205	16.4	* 0.297	16.0	LOS B	3.9	28.9	0.57	0.50	0.57	16.2
Approach			326	12.3	326	12.3	0.297	17.1	LOS B	3.9	30.6	0.56	0.54	0.56	14.5
All Vehicles			1504	7.9	1504	7.9	0.688	21.3	LOS B	7.5	57.4	0.69	0.60	0.70	15.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Kent St (S)											
P1	Full	497	36.3	LOS D	1.2	1.2	0.91	0.91	53.0	20.0	0.38
East: Erskine St (E)											
P2	Full	438	37.1	LOS D	1.0	1.0	0.92	0.92	53.8	20.0	0.37
North: Kent St (N)											
P3	Full	368	36.1	LOS D	0.9	0.9	0.90	0.90	52.8	20.0	0.38
West: Erskine St (W)											
P4	Full	539	36.4	LOS D	1.3	1.3	0.91	0.91	53.0	20.0	0.38
All Pedestrians		1842	36.5	LOS D	1.3	1.3	0.91	0.91	53.1	20.0	0.38

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.

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MOVEMENT SUMMARY

Site: BGU14 [BGU14 Sussex St / King St (Site Folder: Block 1 - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 4 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 284
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: King St (E)															
4a	L1	All MCs	35	0.0	35	0.0	0.045	41.5	LOS C	1.5	4.0	1.00	0.71	1.00	18.9
Approach			35	0.0	35	0.0	0.045	41.5	LOS C	1.5	4.0	1.00	0.71	1.00	18.9
North: Sussex St (N)															
7	L2	All MCs	46	31.8	46	31.8	0.905	58.9	LOS E	16.4	123.6	1.00	1.18	1.39	10.6
8	T1	All MCs	597	5.3	597	5.3	* 0.905	51.8	LOS D	17.6	129.0	1.00	1.18	1.38	17.2
Approach			643	7.2	643	7.2	0.905	52.3	LOS D	17.6	129.0	1.00	1.18	1.38	16.8
SouthWest: King St (SW)															
30a	L1	All MCs	437	5.1	437	5.1	* 0.504	21.1	LOS B	13.2	96.2	0.74	0.78	0.74	33.3
32a	R1	All MCs	1358	3.3	1358	3.3	* 0.527	14.7	LOS B	13.5	97.3	0.60	0.70	0.60	34.0
32b	R3	All MCs	392	6.2	392	6.2	0.384	12.4	LOS A	7.7	56.4	0.48	0.74	0.48	37.3
Approach			2186	4.1	2186	4.1	0.527	15.5	LOS B	13.5	97.3	0.61	0.72	0.61	34.5
All Vehicles			2864	4.8	2864	4.8	0.905	24.1	LOS B	17.6	129.0	0.70	0.82	0.78	29.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Sussex St (S)											
P1	Full	165	40.4	LOS E	0.4	0.4	0.95	0.95	57.1	20.0	0.35
East: King St (E)											
P2	Full	176	36.7	LOS D	0.4	0.4	0.91	0.91	53.4	20.0	0.37
North: Sussex St (N)											
P3	Full	422	36.2	LOS D	1.0	1.0	0.90	0.90	52.9	20.0	0.38
SouthWest: King St (SW)											
P8	Full	255	37.8	LOS D	0.6	0.6	0.92	0.92	204.4	200.0	0.98
P8B	Slip/ Bypass	221	40.5	LOS E	0.5	0.5	0.95	0.95	207.2	200.0	0.97
All Pedestrians		1239	37.9	LOS D	1.0	1.0	0.92	0.92	112.2	89.1	0.79

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.

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MOVEMENT SUMMARY

Site: BGU15 [BGU15 Kent St / King St (Site Folder: Block 1 - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 4 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 283
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kent St (S)															
1	L2	All MCs	4	0.0	4	0.0	0.110	41.6	LOS C	3.1	8.3	0.93	0.69	0.93	14.2
2	T1	All MCs	475	9.8	475	9.8	* 0.515	34.6	LOS C	7.9	60.8	0.93	0.75	0.93	21.2
3	R2	All MCs	174	6.1	174	6.1	* 0.488	40.0	LOS C	6.5	47.9	0.94	0.78	0.94	14.7
Approach			653	8.7	653	8.7	0.515	36.1	LOS C	7.9	60.8	0.93	0.76	0.93	19.6
East: King St (E)															
5	T1	All MCs	7	0.0	7	0.0	0.033	41.4	LOS C	0.4	1.1	0.97	0.62	0.97	4.6
6	R2	All MCs	2	0.0	2	0.0	0.033	53.2	LOS D	0.4	1.1	0.97	0.62	0.97	13.8
Approach			9	0.0	9	0.0	0.033	44.1	LOS D	0.4	1.1	0.97	0.62	0.97	7.2
North: Kent St (N)															
7	L2	All MCs	7	0.0	7	0.0	0.059	41.2	LOS C	1.6	4.4	0.93	0.66	0.93	11.4
8	T1	All MCs	35	0.0	35	0.0	0.059	37.8	LOS C	1.6	4.4	0.93	0.66	0.93	20.2
9	R2	All MCs	23	0.0	23	0.0	0.076	42.2	LOS C	0.9	2.5	0.93	0.68	0.93	12.9
Approach			65	0.0	65	0.0	0.076	39.8	LOS C	1.6	4.4	0.93	0.67	0.93	16.8
West: King St (W)															
10	L2	All MCs	263	4.4	263	4.4	* 0.549	26.4	LOS B	9.6	70.4	0.67	0.65	0.67	20.9
11	T1	All MCs	1119	4.8	1119	4.8	0.549	8.8	LOS A	9.8	71.6	0.49	0.44	0.49	22.1
Approach			1382	4.7	1382	4.7	0.549	12.2	LOS A	9.8	71.6	0.52	0.48	0.52	21.7
All Vehicles			2109	5.8	2109	5.8	0.549	20.6	LOS B	9.8	71.6	0.66	0.58	0.66	20.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Kent St (S)											
P1	Full	352	37.0	LOS D	0.8	0.8	0.91	0.91	53.7	20.0	0.37
East: King St (E)											
P2	Full	225	37.7	LOS D	0.5	0.5	0.92	0.92	54.4	20.0	0.37
North: Kent St (N)											
P3	Full	505	38.2	LOS D	1.2	1.2	0.93	0.93	54.8	20.0	0.36
West: King St (W)											
P4	Full	449	38.1	LOS D	1.1	1.1	0.93	0.93	54.7	20.0	0.37
All Pedestrians		1532	37.8	LOS D	1.2	1.2	0.92	0.92	54.5	20.0	0.37

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.

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MOVEMENT SUMMARY

Site: BGU18 [BGU18 Shelley St / Erskine St (Site Folder: Block 1 - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 305
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 45 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shelley St (S)															
1	L2	All MCs	25	4.2	25	4.2	0.197	17.8	LOS B	2.0	14.3	0.73	0.61	0.73	17.3
2	T1	All MCs	101	3.1	101	3.1	0.197	10.3	LOS A	2.0	14.3	0.73	0.61	0.73	23.7
3	R2	All MCs	282	7.1	282	7.1	* 0.568	17.5	LOS B	5.4	39.9	0.87	0.80	0.87	14.7
Approach			408	5.9	408	5.9	0.568	15.8	LOS B	5.4	39.9	0.83	0.74	0.83	17.2
East: Erskine St (E)															
4	L2	All MCs	44	14.3	44	14.3	0.103	17.3	LOS B	0.8	6.0	0.78	0.69	0.78	17.6
5	T1	All MCs	72	13.2	72	13.2	* 0.291	12.1	LOS A	2.4	17.7	0.78	0.68	0.78	16.5
6	R2	All MCs	68	1.5	68	1.5	0.291	16.3	LOS B	2.4	17.7	0.78	0.68	0.78	17.7
Approach			184	9.1	184	9.1	0.291	14.9	LOS B	2.4	17.7	0.78	0.68	0.78	17.2
North: Shelley St (N)															
7	L2	All MCs	101	3.1	101	3.1	0.235	15.7	LOS B	1.7	12.1	0.76	0.72	0.76	13.7
8	T1	All MCs	7	0.0	7	0.0	0.033	11.1	LOS A	0.2	1.9	0.72	0.57	0.72	22.7
9	R2	All MCs	7	42.9	7	42.9	0.033	16.4	LOS B	0.2	1.9	0.72	0.57	0.72	14.0
Approach			116	5.5	116	5.5	0.235	15.5	LOS B	1.7	12.1	0.75	0.70	0.75	14.4
West: Erskine St (W)															
10	L2	All MCs	5	20.0	5	20.0	0.134	16.6	LOS B	0.9	7.2	0.71	0.56	0.71	20.2
11	T1	All MCs	136	8.5	136	8.5	0.134	10.8	LOS A	1.3	9.5	0.71	0.56	0.71	14.0
12	R2	All MCs	3	0.0	3	0.0	0.134	16.5	LOS B	1.3	9.5	0.71	0.56	0.71	22.1
Approach			144	8.8	144	8.8	0.134	11.1	LOS A	1.3	9.5	0.71	0.56	0.71	14.6
All Vehicles			853	7.0	853	7.0	0.568	14.8	LOS B	5.4	39.9	0.79	0.69	0.79	16.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shelley St (S)											
P1	Full	166	11.5	LOS B	0.2	0.2	0.72	0.72	178.1	200.0	1.12
East: Erskine St (E)											
P2	Full	81	11.4	LOS B	0.1	0.1	0.71	0.71	178.1	200.0	1.12
North: Shelley St (N)											
P3	Full	146	11.4	LOS B	0.1	0.1	0.72	0.72	178.1	200.0	1.12
West: Erskine St (W)											
P4	Full	235	11.5	LOS B	0.2	0.2	0.72	0.72	178.2	200.0	1.12
All Pedestrians		628	11.5	LOS B	0.2	0.2	0.72	0.72	178.1	200.0	1.12

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.

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MOVEMENT SUMMARY

Site: BUG01 [BGU01 Hickson Rd / Towns Pl (Site Folder: Block 1 - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Hickson Rd (E)															
4a	L1	All MCs	120	6.1	120	6.1	0.188	4.2	LOS A	0.8	6.1	0.40	0.54	0.40	37.3
6a	R1	All MCs	83	0.0	83	0.0	0.188	6.0	LOS A	0.8	6.1	0.40	0.54	0.40	34.8
Approach			203	3.6	203	3.6	0.188	5.0	NA	0.8	6.1	0.40	0.54	0.40	36.8
NorthWest: Towns Pl (NW)															
27a	L1	All MCs	145	2.9	145	2.9	0.279	5.0	LOS A	1.2	8.4	0.55	0.72	0.60	34.4
29	R2	All MCs	82	5.1	82	5.1	0.279	8.2	LOS A	1.2	8.4	0.55	0.72	0.60	35.8
Approach			227	3.7	227	3.7	0.279	6.1	LOS A	1.2	8.4	0.55	0.72	0.60	35.0
SouthWest: Hickson Rd (SW)															
30	L2	All MCs	116	6.4	116	6.4	0.278	4.1	LOS A	1.5	10.9	0.32	0.44	0.32	37.3
32a	R1	All MCs	280	4.5	280	4.5	0.278	3.1	LOS A	1.5	10.9	0.32	0.44	0.32	38.0
Approach			396	5.1	396	5.1	0.278	3.4	NA	1.5	10.9	0.32	0.44	0.32	37.8
All Vehicles			826	4.3	826	4.3	0.279	4.5	NA	1.5	10.9	0.40	0.54	0.41	37.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: BGU02 [BGU02 Dalgety Rd / Towns Pl (Site Folder: Block 1 - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Dalgety Rd (S)															
30	L2	All MCs	8	0.0	8	0.0	0.176	7.2	LOS A	1.1	7.7	0.41	0.58	0.41	23.9
3b	R3	All MCs	184	2.9	184	2.9	0.176	7.4	LOS A	1.1	7.7	0.41	0.58	0.41	31.1
32u	U	All MCs	3	0.0	3	0.0	0.176	8.0	LOS A	1.1	7.7	0.41	0.58	0.41	34.0
Approach			196	2.7	196	2.7	0.176	7.4	LOS A	1.1	7.7	0.41	0.58	0.41	30.7
SouthEast: Towns Pl (SE)															
21b	L3	All MCs	11	0.0	11	0.0	0.134	2.9	LOS A	0.8	6.2	0.21	0.67	0.21	31.8
21a	L1	All MCs	143	5.9	143	5.9	0.134	8.3	LOS A	0.8	6.2	0.21	0.67	0.21	16.9
23u	U	All MCs	23	0.0	23	0.0	0.134	7.2	LOS A	0.8	6.2	0.21	0.67	0.21	23.6
Approach			177	4.8	177	4.8	0.134	7.8	LOS A	0.8	6.2	0.21	0.67	0.21	18.5
West: Parking Access (W)															
12a	R1	All MCs	24	0.0	24	0.0	0.064	1.3	LOS A	0.4	2.6	0.43	0.24	0.43	9.6
29	R2	All MCs	44	0.0	44	0.0	0.064	1.3	LOS A	0.4	2.6	0.43	0.24	0.43	21.6
29u	U	All MCs	1	0.0	1	0.0	0.064	1.3	LOS A	0.4	2.6	0.43	0.24	0.43	9.7
Approach			69	0.0	69	0.0	0.064	1.3	LOS A	0.4	2.6	0.43	0.24	0.43	18.6
All Vehicles			442	3.1	442	3.1	0.176	6.6	LOS A	1.1	7.7	0.33	0.56	0.33	23.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: BGU03 [BGU03 Kent St / Argyle St (Site Folder: Block 1 - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kent St (S)															
1	L2	All MCs	100	1.1	100	1.1	0.414	4.9	LOS A	2.4	16.9	0.52	0.70	0.64	35.7
2	T1	All MCs	32	3.3	32	3.3	0.414	5.4	LOS A	2.4	16.9	0.52	0.70	0.64	34.6
3	R2	All MCs	212	3.0	212	3.0	0.414	7.8	LOS A	2.4	16.9	0.52	0.70	0.64	34.7
Approach			343	2.5	343	2.5	0.414	6.7	LOS A	2.4	16.9	0.52	0.70	0.64	35.0
East: Argyle St (E)															
4	L2	All MCs	122	0.9	122	0.9	0.193	3.5	LOS A	1.0	7.0	0.04	0.24	0.04	37.8
5	T1	All MCs	113	3.7	113	3.7	0.193	0.0	LOS A	1.0	7.0	0.04	0.24	0.04	37.9
6	R2	All MCs	8	0.0	8	0.0	0.193	3.6	LOS A	1.0	7.0	0.04	0.24	0.04	34.1
Approach			243	2.2	243	2.2	0.193	1.9	NA	1.0	7.0	0.04	0.24	0.04	37.8
North: Kent St (N)															
7	L2	All MCs	4	25.0	4	25.0	0.032	7.8	LOS A	0.1	0.8	0.36	0.90	0.36	27.1
8	T1	All MCs	18	0.0	18	0.0	0.032	9.2	LOS A	0.1	0.8	0.36	0.90	0.36	33.5
9	R2	All MCs	2	0.0	2	0.0	0.032	8.8	LOS A	0.1	0.8	0.36	0.90	0.36	30.7
Approach			24	4.3	24	4.3	0.032	8.9	LOS A	0.1	0.8	0.36	0.90	0.36	32.7
West: Argyle Pl (W)															
10	L2	All MCs	2	0.0	2	0.0	0.107	3.4	LOS A	0.5	3.6	0.05	0.31	0.05	35.8
11	T1	All MCs	49	6.4	49	6.4	0.107	0.0	LOS A	0.5	3.6	0.05	0.31	0.05	37.4
12	R2	All MCs	83	0.0	83	0.0	0.107	3.9	LOS A	0.5	3.6	0.05	0.31	0.05	37.7
Approach			135	2.3	135	2.3	0.107	2.5	NA	0.5	3.6	0.05	0.31	0.05	37.6
All Vehicles			745	2.4	745	2.4	0.414	4.5	NA	2.4	16.9	0.27	0.49	0.33	36.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

CCG MOVEMENT SUMMARY

Common Control Group: CCG1 [TCS 4272]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 1 Network - 2023 PM Peak)]

EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (CCG User-Given Phase Times)

Vehicle Movement Performance (CCG)

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
Site: BGU04 [BGU04 Pedestrian Mid-block Crossing at Kent St near Gas Ln]															
South: Kent St															
2	T1	All MCs	382	0.6	382	0.6	0.296	8.5	LOS A	8.5	59.9	0.55	0.42	0.55	33.7
Approach			382	0.6	382	0.6	0.296	8.5	LOS A	8.5	59.9	0.55	0.42	0.55	33.7
North: Kent St															
8	T1	All MCs	304	1.0	304	1.0	0.621	41.8	LOS C	7.0	49.2	0.99	0.82	1.03	19.7
Approach			304	1.0	304	1.0	0.621	41.8	LOS C	7.0	49.2	0.99	0.82	1.03	19.7
All Vehicles			686	0.8	686	0.8	0.621	23.3	LOS B	8.5	59.9	0.75	0.59	0.76	26.0
Site: BGU05 [BGU05 Kent St / Sydney Harbour Bridge (SHB) On-ramp]															
South: Kent St (S)															
2	T1	All MCs	239	0.9	239	0.9	0.236	3.4	LOS A	2.4	17.2	0.25	0.21	0.25	34.3
3a	R1	All MCs	699	4.2	699	4.2	*0.730	14.1	LOS A	13.2	96.2	0.60	0.62	0.60	28.0
Approach			938	3.4	938	3.4	0.730	11.4	LOS A	13.2	96.2	0.51	0.52	0.51	28.9
East: Clarence St (E)															
4	L2	All MCs	41	5.1	41	5.1	0.233	45.6	LOS D	1.7	12.8	0.96	0.73	0.96	10.5
6	R2	All MCs	149	0.0	149	0.0	*0.576	41.6	LOS C	6.3	44.0	0.97	0.80	0.97	11.2
Approach			191	1.1	191	1.1	0.576	42.4	LOS C	6.3	44.0	0.96	0.79	0.96	11.1
NorthEast: SHB On-ramp (NE)															
24a	L1	All MCs	161	0.0	161	0.0	0.190	37.6	LOS C	6.2	16.7	0.93	0.73	0.93	18.6
Approach			161	0.0	161	0.0	0.190	37.6	LOS C	6.2	16.7	0.93	0.73	0.93	18.6
North: Kent St (N)															
7b	L3	All MCs	165	0.6	165	0.6	0.576	49.1	LOS D	7.5	52.6	1.00	0.85	1.00	11.2
8	T1	All MCs	127	1.7	127	1.7	*0.747	37.1	LOS C	5.5	39.0	0.96	0.79	1.01	5.5
Approach			293	1.1	293	1.1	0.747	43.9	LOS D	7.5	52.6	0.98	0.82	1.00	9.3
All Vehicles			1582	2.3	1582	2.3	0.747	23.8	LOS B	13.2	96.2	0.69	0.63	0.70	20.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance (CCG)											
Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
Site: BGU04 [BGU04 Pedestrian Mid-block Crossing at Kent St near Gas Ln]											
South: Kent St											
P1	Full	163	38.5	LOS D	0.4	0.4	0.93	0.93	205.2	200.0	0.97
All Pedestrians		163	38.5	LOS D	0.4	0.4	0.93	0.93	205.2	200.0	0.97
Site: BGU05 [BGU05 Kent St / Sydney Harbour Bridge (SHB) On-ramp]											
South: Kent St (S)											
P1	Full	262	35.1	LOS D	0.6	0.6	0.89	0.89	51.7	20.0	0.39
All Pedestrians		262	35.1	LOS D	0.6	0.6	0.89	0.89	51.7	20.0	0.39

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.

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MOVEMENT SUMMARY

Site: BGU06 [BGU06 Hickson Rd / Napoleon St / Sussex St (Site Folder: Block 1 - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 4625
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 75 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sussex St (S)															
2	T1	All MCs	415	1.5	415	1.5	0.438	13.2	LOS A	9.8	69.6	0.69	0.60	0.69	22.8
3	R2	All MCs	97	0.0	97	0.0	* 0.308	22.2	LOS B	2.6	18.0	0.84	0.74	0.84	20.5
Approach			512	1.2	512	1.2	0.438	14.9	LOS B	9.8	69.6	0.72	0.63	0.72	22.2
East: Napolean St (E)															
4	L2	All MCs	99	21.3	99	21.3	0.214	24.7	LOS B	2.7	22.7	0.78	0.72	0.78	14.2
6	R2	All MCs	215	5.9	215	5.9	* 0.659	35.7	LOS C	7.7	56.9	0.98	0.85	1.03	13.9
Approach			314	10.7	314	10.7	0.659	32.2	LOS C	7.7	56.9	0.92	0.81	0.95	14.0
North: Hickson Rd (N)															
7	L2	All MCs	151	2.1	151	2.1	0.270	25.8	LOS B	4.2	30.1	0.80	0.74	0.80	16.9
8	T1	All MCs	316	4.0	316	4.0	* 0.479	21.1	LOS B	9.0	65.5	0.82	0.70	0.82	10.5
Approach			466	3.4	466	3.4	0.479	22.6	LOS B	9.0	65.5	0.81	0.71	0.81	13.3
West: Car Park Access (W)															
10	L2	All MCs	2	0.0	2	0.0	0.075	39.1	LOS C	0.3	2.0	0.97	0.64	0.97	5.8
11	T1	All MCs	27	0.0	27	0.0	* 0.358	40.4	LOS C	1.4	9.9	0.99	0.70	0.99	9.1
12	R2	All MCs	15	0.0	15	0.0	0.358	40.6	LOS C	1.4	9.9	1.00	0.72	1.00	2.5
Approach			44	0.0	44	0.0	0.358	40.4	LOS C	1.4	9.9	0.99	0.71	0.99	7.1
All Vehicles			1336	4.2	1336	4.2	0.659	22.5	LOS B	9.8	69.6	0.81	0.70	0.82	16.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Sussex St (S)											
P1	Full	81	24.9	LOS C	0.1	0.1	0.82	0.82	41.6	20.0	0.48
East: Napolean St (E)											
P2	Full	178	25.0	LOS C	0.3	0.3	0.82	0.82	41.7	20.0	0.48
North: Hickson Rd (N)											
P3	Full	81	24.9	LOS C	0.1	0.1	0.82	0.82	41.6	20.0	0.48
West: Car Park Access (W)											
P4	Full	127	30.1	LOS D	0.2	0.2	0.90	0.90	46.8	20.0	0.43
All Pedestrians		467	26.3	LOS C	0.3	0.3	0.84	0.84	43.0	20.0	0.46

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.

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MOVEMENT SUMMARY

Site: BGU07 [BGU07 Margaret St / Kent St / Napoleon St (Site Folder: Block 1 - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 308

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kent St (S)															
1a	L1	All MCs	52	18.4	52	18.4	* 0.474	26.0	LOS B	12.4	91.2	0.69	0.63	0.69	20.9
2	T1	All MCs	695	4.1	695	4.1	0.474	20.1	LOS B	12.4	91.2	0.77	0.67	0.77	8.6
3	R2	All MCs	34	0.0	34	0.0	0.474	56.3	LOS D	8.9	64.1	0.86	0.73	0.86	7.3
Approach			780	4.9	780	4.9	0.474	22.0	LOS B	12.4	91.2	0.77	0.67	0.77	9.5
East: Margaret St (E)															
4	L2	All MCs	32	0.0	32	0.0	0.109	40.9	LOS C	1.3	8.9	0.93	0.71	0.93	7.7
6a	R1	All MCs	222	10.0	222	10.0	0.657	34.5	LOS C	8.7	65.3	0.95	0.83	0.97	13.6
6	R2	All MCs	56	1.9	56	1.9	* 0.657	36.5	LOS C	8.7	65.3	0.95	0.83	0.97	5.8
Approach			309	7.5	309	7.5	0.657	35.5	LOS C	8.7	65.3	0.95	0.82	0.96	11.9
North: Kent St (N)															
7	L2	All MCs	52	0.0	52	0.0	0.278	19.1	LOS B	2.8	19.6	0.39	0.41	0.39	25.8
8	T1	All MCs	281	0.4	281	0.4	0.278	27.4	LOS B	6.9	18.5	0.74	0.63	0.74	17.1
9b	R3	All MCs	28	0.0	28	0.0	0.096	7.3	LOS A	0.1	0.9	0.11	0.54	0.11	31.7
Approach			361	0.3	361	0.3	0.278	24.6	LOS B	6.9	19.6	0.64	0.59	0.64	18.7
NorthWest: Napoleon St (NW)															
27b	L3	All MCs	187	2.2	187	2.2	0.327	9.2	LOS A	4.3	30.6	0.56	0.67	0.56	24.1
27a	L1	All MCs	58	0.0	58	0.0	0.327	20.9	LOS B	4.3	30.6	0.56	0.67	0.56	24.1
Approach			245	1.7	245	1.7	0.327	11.9	LOS A	4.3	30.6	0.56	0.67	0.56	24.1
All Vehicles			1696	3.9	1696	3.9	0.657	23.6	LOS B	12.4	91.2	0.75	0.68	0.75	14.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Kent St (S)											
P1	Full	882	33.3	LOS D	2.0	2.0	0.88	0.88	50.0	20.0	0.40
East: Margaret St (E)											
P2	Full	144	36.7	LOS D	0.3	0.3	0.91	0.91	53.3	20.0	0.37
North: Kent St (N)											
P3	Full	298	31.6	LOS D	0.6	0.6	0.84	0.84	48.3	20.0	0.41
NorthWest: Napoleon St (NW)											
P7	Full	597	32.0	LOS D	1.3	1.3	0.85	0.85	198.7	200.0	1.01
All Pedestrians		1921	32.9	LOS D	2.0	2.0	0.87	0.87	96.2	75.9	0.79

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.

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MOVEMENT SUMMARY

Site: BGU08 [BGU08 Margaret St / Clarence St (Site Folder: Block 1 - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 319
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Clarence St (S)															
1	L2	All MCs	31	6.9	31	6.9	* 0.527	42.7	LOS D	10.9	76.8	0.88	0.76	0.88	13.5
2	T1	All MCs	754	20.3	754	20.3	0.527	26.2	LOS B	12.2	85.6	0.85	0.72	0.85	17.1
3	R2	All MCs	23	0.0	23	0.0	0.259	32.2	LOS C	3.0	33.7	0.78	0.66	0.78	14.5
Approach			807	19.2	807	19.2	0.527	27.0	LOS B	12.2	85.6	0.85	0.72	0.85	16.9
East: Margaret St (E)															
5	T1	All MCs	259	8.9	259	8.9	0.389	13.5	LOS A	5.7	43.2	0.65	0.57	0.65	11.3
6	R2	All MCs	101	68.8	101	68.8	* 0.389	18.9	LOS B	3.6	36.5	0.77	0.72	0.77	14.1
Approach			360	25.7	360	25.7	0.389	15.0	LOS B	5.7	43.2	0.68	0.61	0.68	12.4
West: Margaret St (W)															
10	L2	All MCs	92	2.3	92	2.3	* 0.516	47.3	LOS D	6.5	46.1	0.99	0.80	0.99	7.8
11	T1	All MCs	61	0.0	61	0.0	0.516	34.4	LOS C	6.5	46.1	0.99	0.80	0.99	4.3
Approach			153	1.4	153	1.4	0.516	42.2	LOS C	6.5	46.1	0.99	0.80	0.99	6.5
All Vehicles			1320	18.9	1320	18.9	0.527	25.5	LOS B	12.2	85.6	0.82	0.70	0.82	14.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Clarence St (S)											
P1	Full	1321	39.5	LOS D	3.3	3.3	0.96	0.96	56.2	20.0	0.36
East: Margaret St (E)											
P2	Full	293	37.8	LOS D	0.7	0.7	0.92	0.92	54.5	20.0	0.37
North: Clarence St (N)											
P3	Full	747	36.7	LOS D	1.8	1.8	0.92	0.92	53.4	20.0	0.37
West: Margaret St (W)											
P4	Full	711	33.9	LOS D	1.6	1.6	0.88	0.88	50.6	20.0	0.40
All Pedestrians		3072	37.4	LOS D	3.3	3.3	0.93	0.93	54.1	20.0	0.37

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.

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MOVEMENT SUMMARY

Site: BGU09 [BGU09 Margaret St / York St (Site Folder: Block 1 - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 3042
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Margaret St (E)															
4	L2	All MCs	105	1.0	105	1.0	0.322	39.1	LOS C	4.1	29.2	0.91	0.76	0.91	13.4
5	T1	All MCs	114	60.2	114	60.2	0.300	26.0	LOS B	3.9	41.2	0.80	0.65	0.80	8.7
Approach			219	31.7	219	31.7	0.322	32.3	LOS C	4.1	41.2	0.86	0.71	0.86	11.7
North: York St (N)															
7	L2	All MCs	1	0.0	1	0.0	0.000	17.9	LOS B	0.0	0.1	0.60	0.48	0.60	14.7
8	T1	All MCs	818	23.8	818	23.8	0.318	12.1	LOS A	6.6	55.4	0.59	0.51	0.59	25.4
9	R2	All MCs	245	8.6	245	8.6	* 0.296	18.7	LOS B	6.4	48.2	0.64	0.74	0.64	11.2
Approach			1064	20.3	1064	20.3	0.318	13.6	LOS A	6.6	55.4	0.60	0.56	0.60	22.7
West: Margaret St (W)															
12	R2	All MCs	82	0.0	82	0.0	* 0.420	43.9	LOS D	3.5	24.5	0.96	0.77	0.96	11.4
Approach			82	0.0	82	0.0	0.420	43.9	LOS D	3.5	24.5	0.96	0.77	0.96	11.4
All Vehicles			1365	20.9	1365	20.9	0.420	18.4	LOS B	6.6	55.4	0.66	0.60	0.66	19.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: York St (S)											
P1	Full	1195	34.7	LOS D	2.8	2.8	0.90	0.90	51.3	20.0	0.39
East: Margaret St (E)											
P2	Full	1138	34.6	LOS D	2.6	2.6	0.90	0.90	51.2	20.0	0.39
North: York St (N)											
P3	Full	666	32.1	LOS D	1.5	1.5	0.86	0.86	48.8	20.0	0.41
West: Margaret St (W)											
P4	Full	541	36.4	LOS D	1.3	1.3	0.91	0.91	53.0	20.0	0.38
All Pedestrians		3540	34.4	LOS D	2.8	2.8	0.89	0.89	51.1	20.0	0.39

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: BGU10 [BGU10 Pedestrian Mid-block Crossing at Sussex St under Exchange Pl (Site Folder: Block 1 - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 3939 (?)
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sussex St (S)															
2	T1	All MCs	561	1.1	561	1.1	* 0.196	2.9	LOS A	2.8	20.1	0.32	0.27	0.32	33.0
Approach			561	1.1	561	1.1	0.196	2.9	LOS A	2.8	20.1	0.32	0.27	0.32	33.0
North: Sussex St (N)															
8	T1	All MCs	495	7.0	495	7.0	0.183	2.8	LOS A	2.5	18.4	0.32	0.27	0.32	31.9
Approach			495	7.0	495	7.0	0.183	2.8	LOS A	2.5	18.4	0.32	0.27	0.32	31.9
All Vehicles			1056	3.9	1056	3.9	0.196	2.9	LOS A	2.8	20.1	0.32	0.27	0.32	32.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Sussex St (S)											
P1	Full	481	24.5	LOS C	0.8	0.8	0.85	0.85	41.2	20.0	0.49
All Pedestrians		481	24.5	LOS C	0.8	0.8	0.85	0.85	41.2	20.0	0.49

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.

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MOVEMENT SUMMARY

Site: BGU11 [BGU11 Pedestrian Mid-block Crossing at Kent St near Margaret St (Site Folder: Block 1 - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 4109
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 45 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kent St (S)															
2	T1	All MCs	718	5.4	718	5.4	* 0.402	9.7	LOS A	4.9	36.1	0.72	0.60	0.72	22.3
Approach			718	5.4	718	5.4	0.402	9.7	LOS A	4.9	36.1	0.72	0.60	0.72	22.3
North: Kent St (N)															
8	T1	All MCs	313	0.3	313	0.3	0.185	8.5	LOS A	2.1	15.0	0.64	0.51	0.64	15.3
Approach			313	0.3	313	0.3	0.185	8.5	LOS A	2.1	15.0	0.64	0.51	0.64	15.3
All Vehicles			1031	3.9	1031	3.9	0.402	9.4	LOS A	4.9	36.1	0.70	0.57	0.70	20.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Kent St (S)											
P1	Full	975	12.6	LOS B	1.0	1.0	0.76	0.76	29.3	20.0	0.68
All Pedestrians		975	12.6	LOS B	1.0	1.0	0.76	0.76	29.3	20.0	0.68

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.

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MOVEMENT SUMMARY

Site: BGU12 [BGU12 Sussex St / Erskine St (Site Folder: Block 1 - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 310
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sussex St (S)															
1	L2	All MCs	63	0.0	63	0.0	* 0.466	39.9	LOS C	8.0	56.4	0.90	0.76	0.90	14.7
2	T1	All MCs	399	0.5	399	0.5	0.466	29.5	LOS C	9.3	65.1	0.89	0.75	0.89	15.3
Approach			462	0.5	462	0.5	0.466	30.9	LOS C	9.3	65.1	0.89	0.75	0.89	15.2
East: Erskine St (E)															
4	L2	All MCs	394	1.1	394	1.1	0.449	12.7	LOS A	7.8	54.8	0.48	0.66	0.48	25.7
5	T1	All MCs	118	6.3	118	6.3	0.245	2.4	LOS A	1.1	7.7	0.15	0.24	0.15	26.9
6	R2	All MCs	55	1.9	55	1.9	0.245	6.7	LOS A	1.1	7.7	0.15	0.24	0.15	26.9
Approach			566	2.2	566	2.2	0.449	10.0	LOS A	7.8	54.8	0.38	0.53	0.38	25.9
North: Sussex St (N)															
7	L2	All MCs	29	42.9	29	42.9	0.073	26.6	LOS B	0.9	8.7	0.72	0.67	0.72	13.9
8	T1	All MCs	414	4.3	414	4.3	0.302	21.9	LOS B	6.5	47.0	0.75	0.63	0.75	23.7
9	R2	All MCs	15	21.4	15	21.4	* 0.075	33.2	LOS C	0.5	4.3	0.86	0.68	0.86	11.9
Approach			458	7.4	458	7.4	0.302	22.5	LOS B	6.5	47.0	0.76	0.63	0.76	22.8
West: Erskine St (W)															
10	L2	All MCs	96	3.3	96	3.3	0.355	14.0	LOS A	8.9	63.4	0.60	0.57	0.60	12.4
11	T1	All MCs	264	2.4	264	2.4	0.355	13.0	LOS A	8.9	63.4	0.60	0.57	0.60	12.4
12	R2	All MCs	233	3.2	233	3.2	* 0.533	24.2	LOS B	7.7	55.5	0.79	0.78	0.79	18.9
Approach			593	2.8	593	2.8	0.533	17.6	LOS B	8.9	63.4	0.68	0.66	0.68	16.4
All Vehicles			2079	3.1	2079	3.1	0.533	19.6	LOS B	9.3	65.1	0.66	0.64	0.66	19.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Sussex St (S)											
P1	Full	278	33.3	LOS D	0.6	0.6	0.87	0.87	50.0	20.0	0.40
East: Erskine St (E)											
P2	Full	195	35.0	LOS D	0.4	0.4	0.88	0.88	51.6	20.0	0.39
North: Sussex St (N)											
P3	Full	311	33.4	LOS D	0.7	0.7	0.87	0.87	50.0	20.0	0.40
West: Erskine St (W)											
P4	Full	243	33.3	LOS D	0.5	0.5	0.86	0.86	49.9	20.0	0.40
All Pedestrians		1026	33.6	LOS D	0.7	0.7	0.87	0.87	50.3	20.0	0.40

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: BGU13 [BGU13 Kent St / Erskine St (Site Folder: Block 1 - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 307
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kent St (S)															
1	L2	All MCs	141	0.0	141	0.0	0.163	18.2	LOS B	3.5	24.8	0.61	0.68	0.61	20.7
2	T1	All MCs	674	5.5	674	5.5	* 0.339	14.9	LOS B	8.0	59.3	0.63	0.54	0.63	22.1
3	R2	All MCs	1	0.0	1	0.0	0.024	8.0	LOS A	1.4	3.9	0.38	0.29	0.38	24.8
Approach			816	4.5	816	4.5	0.339	15.4	LOS B	8.0	59.3	0.63	0.56	0.63	21.9
East: Erskine St (E)															
5	T1	All MCs	273	4.2	273	4.2	0.349	32.2	LOS C	5.5	39.6	0.89	0.72	0.89	5.7
6	R2	All MCs	8	0.0	8	0.0	0.349	40.1	LOS C	5.1	37.3	0.89	0.72	0.89	5.7
Approach			281	4.1	281	4.1	0.349	32.5	LOS C	5.5	39.6	0.89	0.72	0.89	5.7
North: Kent St (N)															
7	L2	All MCs	1	0.0	1	0.0	0.038	8.0	LOS A	2.5	6.6	0.38	0.31	0.38	21.6
8	T1	All MCs	160	0.0	160	0.0	0.038	6.0	LOS A	2.5	6.6	0.38	0.31	0.38	25.7
9	R2	All MCs	153	0.7	153	0.7	* 0.801	51.6	LOS D	7.3	51.7	1.00	0.98	1.26	5.9
Approach			314	0.3	314	0.3	0.801	28.2	LOS B	7.3	51.7	0.68	0.63	0.81	14.2
West: Erskine St (W)															
10	L2	All MCs	54	3.9	54	3.9	0.364	29.2	LOS C	4.7	34.8	0.76	0.66	0.76	8.7
11	T1	All MCs	240	7.0	240	7.0	* 0.364	26.4	LOS B	4.9	36.5	0.77	0.64	0.77	11.8
Approach			294	6.5	294	6.5	0.364	26.9	LOS B	4.9	36.5	0.77	0.65	0.77	11.2
All Vehicles			1704	4.0	1704	4.0	0.801	22.6	LOS B	8.0	59.3	0.71	0.62	0.73	15.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Kent St (S)											
P1	Full	443	36.2	LOS D	1.0	1.0	0.91	0.91	52.9	20.0	0.38
East: Erskine St (E)											
P2	Full	349	37.0	LOS D	0.8	0.8	0.91	0.91	53.7	20.0	0.37
North: Kent St (N)											
P3	Full	500	36.3	LOS D	1.2	1.2	0.91	0.91	53.0	20.0	0.38
West: Erskine St (W)											
P4	Full	333	36.1	LOS D	0.8	0.8	0.90	0.90	52.7	20.0	0.38
All Pedestrians		1625	36.4	LOS D	1.2	1.2	0.91	0.91	53.0	20.0	0.38

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.

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MOVEMENT SUMMARY

Site: BGU14 [BGU14 Sussex St / King St (Site Folder: Block 1 - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 4 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 284
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: King St (E)															
4a	L1	All MCs	155	0.0	155	0.0	0.243	44.0	LOS D	6.6	17.9	1.00	0.78	1.00	18.5
Approach			155	0.0	155	0.0	0.243	44.0	LOS D	6.6	17.9	1.00	0.78	1.00	18.5
North: Sussex St (N)															
7	L2	All MCs	154	12.3	154	12.3	* 0.665	26.6	LOS B	18.9	136.9	0.85	0.77	0.85	18.5
8	T1	All MCs	975	1.1	975	1.1	0.665	20.6	LOS B	20.0	141.6	0.84	0.76	0.84	26.0
Approach			1128	2.6	1128	2.6	0.665	21.4	LOS B	20.0	141.6	0.84	0.76	0.84	25.3
SouthWest: King St (SW)															
30a	L1	All MCs	448	0.2	448	0.2	0.543	14.5	LOS A	8.9	62.4	0.79	0.79	0.79	36.4
32a	R1	All MCs	935	3.2	935	3.2	* 0.575	26.4	LOS B	14.8	106.7	0.83	0.79	0.83	28.5
32b	R3	All MCs	179	10.6	179	10.6	0.296	24.5	LOS B	5.3	40.5	0.71	0.77	0.71	31.9
Approach			1562	3.2	1562	3.2	0.575	22.8	LOS B	14.8	106.7	0.81	0.79	0.81	31.3
All Vehicles			2845	2.8	2845	2.8	0.665	23.4	LOS B	20.0	141.6	0.83	0.78	0.83	28.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Sussex St (S)											
P1	Full	184	40.4	LOS E	0.4	0.4	0.95	0.95	57.1	20.0	0.35
East: King St (E)											
P2	Full	168	36.7	LOS D	0.4	0.4	0.91	0.91	53.4	20.0	0.37
North: Sussex St (N)											
P3	Full	554	36.4	LOS D	1.3	1.3	0.91	0.91	53.1	20.0	0.38
SouthWest: King St (SW)											
P8	Full	398	38.0	LOS D	0.9	0.9	0.93	0.93	204.7	200.0	0.98
P8B	Slip/ Bypass	331	40.7	LOS E	0.8	0.8	0.96	0.96	207.4	200.0	0.96
All Pedestrians		1635	38.1	LOS D	1.3	1.3	0.93	0.93	121.6	100.2	0.82

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.

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MOVEMENT SUMMARY

Site: BGU15 [BGU15 Kent St / King St (Site Folder: Block 1 - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 4 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 283
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kent St (S)															
1	L2	All MCs	15	0.0	15	0.0	0.112	41.6	LOS C	3.1	8.4	0.94	0.69	0.94	14.1
2	T1	All MCs	568	6.7	568	6.7	* 0.520	31.6	LOS C	9.6	71.3	0.91	0.75	0.91	22.1
3	R2	All MCs	187	1.1	187	1.1	0.404	36.2	LOS C	6.5	46.2	0.90	0.77	0.90	15.6
Approach			771	5.2	771	5.2	0.520	32.9	LOS C	9.6	71.3	0.90	0.76	0.90	20.5
East: King St (E)															
5	T1	All MCs	56	0.0	56	0.0	0.112	40.0	LOS C	2.4	6.4	0.95	0.69	0.95	4.9
6	R2	All MCs	3	0.0	3	0.0	0.112	49.2	LOS D	2.4	6.4	0.95	0.69	0.95	14.6
Approach			59	0.0	59	0.0	0.112	40.5	LOS C	2.4	6.4	0.95	0.69	0.95	5.6
North: Kent St (N)															
7	L2	All MCs	14	0.0	14	0.0	0.126	41.7	LOS C	3.5	9.5	0.94	0.70	0.94	11.3
8	T1	All MCs	77	0.0	77	0.0	0.126	38.3	LOS C	3.5	9.5	0.94	0.70	0.94	20.1
9	R2	All MCs	84	0.0	84	0.0	* 0.291	44.6	LOS D	3.5	9.5	0.97	0.75	0.97	12.5
Approach			175	0.0	175	0.0	0.291	41.6	LOS C	3.5	9.5	0.95	0.72	0.95	16.0
West: King St (W)															
10	L2	All MCs	184	0.0	184	0.0	* 0.502	32.6	LOS C	7.5	53.1	0.78	0.70	0.78	19.0
11	T1	All MCs	900	5.0	900	5.0	0.502	8.5	LOS A	7.5	53.1	0.42	0.36	0.42	22.2
Approach			1084	4.2	1084	4.2	0.502	12.6	LOS A	7.5	53.1	0.48	0.42	0.48	21.1
All Vehicles			2088	4.1	2088	4.1	0.520	23.3	LOS B	9.6	71.3	0.69	0.58	0.69	19.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Kent St (S)											
P1	Full	343	37.0	LOS D	0.8	0.8	0.91	0.91	53.6	20.0	0.37
East: King St (E)											
P2	Full	252	37.8	LOS D	0.6	0.6	0.92	0.92	54.4	20.0	0.37
North: Kent St (N)											
P3	Full	428	38.0	LOS D	1.0	1.0	0.93	0.93	54.7	20.0	0.37
West: King St (W)											
P4	Full	460	38.1	LOS D	1.1	1.1	0.93	0.93	54.8	20.0	0.37
All Pedestrians		1483	37.8	LOS D	1.1	1.1	0.92	0.92	54.4	20.0	0.37

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.

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MOVEMENT SUMMARY

Site: BGU18 [BGU18 Shelley St / Erskine St (Site Folder: Block 1 - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 305
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 45 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shelley St (S)															
1	L2	All MCs	20	5.3	20	5.3	0.154	16.9	LOS B	1.6	11.3	0.71	0.59	0.71	17.4
2	T1	All MCs	82	2.6	82	2.6	0.154	10.3	LOS A	1.6	11.3	0.71	0.59	0.71	23.9
3	R2	All MCs	203	2.6	203	2.6	* 0.687	22.6	LOS B	4.7	33.3	0.95	0.92	1.13	12.4
Approach			305	2.8	305	2.8	0.687	18.9	LOS B	4.7	33.3	0.87	0.81	0.99	15.6
East: Erskine St (E)															
4	L2	All MCs	49	21.3	49	21.3	0.147	19.4	LOS B	0.9	7.6	0.84	0.70	0.84	16.5
5	T1	All MCs	104	1.0	104	1.0	* 0.285	12.4	LOS A	2.6	18.0	0.80	0.67	0.80	16.6
6	R2	All MCs	43	0.0	43	0.0	0.285	18.5	LOS B	2.6	18.0	0.80	0.67	0.80	17.8
Approach			197	5.9	197	5.9	0.285	15.5	LOS B	2.6	18.0	0.81	0.68	0.81	16.8
North: Shelley St (N)															
7	L2	All MCs	196	0.0	196	0.0	0.470	16.3	LOS B	3.5	24.8	0.82	0.77	0.82	13.4
8	T1	All MCs	3	33.3	3	33.3	0.020	10.6	LOS A	0.1	1.1	0.69	0.56	0.69	22.5
9	R2	All MCs	5	20.0	5	20.0	0.020	14.9	LOS B	0.1	1.1	0.69	0.56	0.69	14.0
Approach			204	1.0	204	1.0	0.470	16.1	LOS B	3.5	24.8	0.81	0.76	0.81	13.6
West: Erskine St (W)															
10	L2	All MCs	15	0.0	15	0.0	0.240	19.5	LOS B	1.6	12.0	0.76	0.62	0.76	19.1
11	T1	All MCs	194	6.0	194	6.0	0.240	11.5	LOS A	1.9	13.8	0.75	0.61	0.75	13.2
12	R2	All MCs	4	25.0	4	25.0	0.240	19.1	LOS B	1.9	13.8	0.74	0.60	0.74	21.6
Approach			213	5.9	213	5.9	0.240	12.2	LOS A	1.9	13.8	0.75	0.61	0.75	14.0
All Vehicles			919	3.8	919	3.8	0.687	16.0	LOS B	4.7	33.3	0.82	0.72	0.86	15.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shelley St (S)											
P1	Full	272	11.5	LOS B	0.2	0.2	0.72	0.72	178.2	200.0	1.12
East: Erskine St (E)											
P2	Full	56	11.4	LOS B	0.1	0.1	0.71	0.71	178.1	200.0	1.12
North: Shelley St (N)											
P3	Full	237	11.5	LOS B	0.2	0.2	0.72	0.72	178.2	200.0	1.12
West: Erskine St (W)											
P4	Full	179	11.5	LOS B	0.2	0.2	0.72	0.72	178.1	200.0	1.12
All Pedestrians		743	11.5	LOS B	0.2	0.2	0.72	0.72	178.2	200.0	1.12

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.

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MOVEMENT SUMMARY

Site: BUG01 [BGU01 Hickson Rd / Towns Pl (Site Folder: Block 1 - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Hickson Rd (E)															
4a	L1	All MCs	134	5.5	134	5.5	0.153	3.7	LOS A	0.7	5.1	0.19	0.46	0.19	37.7
6a	R1	All MCs	72	0.0	72	0.0	0.153	4.2	LOS A	0.7	5.1	0.19	0.46	0.19	35.7
Approach			205	3.6	205	3.6	0.153	3.9	NA	0.7	5.1	0.19	0.46	0.19	37.4
NorthWest: Towns Pl (NW)															
27a	L1	All MCs	134	5.5	134	5.5	0.159	3.6	LOS A	0.6	4.6	0.39	0.54	0.39	35.7
29	R2	All MCs	41	0.0	41	0.0	0.159	6.1	LOS A	0.6	4.6	0.39	0.54	0.39	36.8
Approach			175	4.2	175	4.2	0.159	4.2	LOS A	0.6	4.6	0.39	0.54	0.39	36.1
SouthWest: Hickson Rd (SW)															
30	L2	All MCs	49	10.6	49	10.6	0.159	3.8	LOS A	0.8	5.7	0.15	0.38	0.15	37.8
32a	R1	All MCs	204	2.6	204	2.6	0.159	2.6	LOS A	0.8	5.7	0.15	0.38	0.15	38.3
Approach			254	4.1	254	4.1	0.159	2.8	NA	0.8	5.7	0.15	0.38	0.15	38.2
All Vehicles			634	4.0	634	4.0	0.159	3.5	NA	0.8	5.7	0.23	0.45	0.23	37.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: BGU02 [BGU02 Dalgety Rd / Towns Pl (Site Folder: Block 1 - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Dalgety Rd (S)															
30	L2	All MCs	5	0.0	5	0.0	0.105	6.3	LOS A	0.6	4.3	0.19	0.55	0.19	24.4
3b	R3	All MCs	133	4.0	133	4.0	0.105	6.5	LOS A	0.6	4.3	0.19	0.55	0.19	31.9
32u	U	All MCs	1	0.0	1	0.0	0.105	7.2	LOS A	0.6	4.3	0.19	0.55	0.19	34.5
Approach			139	3.8	139	3.8	0.105	6.5	LOS A	0.6	4.3	0.19	0.55	0.19	31.5
SouthEast: Towns Pl (SE)															
21b	L3	All MCs	54	9.8	54	9.8	0.067	2.6	LOS A	0.4	2.9	0.05	0.62	0.05	33.9
21a	L1	All MCs	36	2.9	36	2.9	0.067	8.1	LOS A	0.4	2.9	0.05	0.62	0.05	18.1
23u	U	All MCs	13	0.0	13	0.0	0.067	6.9	LOS A	0.4	2.9	0.05	0.62	0.05	27.2
Approach			102	6.2	102	6.2	0.067	5.1	LOS A	0.4	2.9	0.05	0.62	0.05	28.1
West: Parking Access (W)															
12a	R1	All MCs	4	0.0	4	0.0	0.007	0.8	LOS A	0.0	0.3	0.33	0.14	0.33	9.7
29	R2	All MCs	3	0.0	3	0.0	0.007	0.8	LOS A	0.0	0.3	0.33	0.14	0.33	21.7
29u	U	All MCs	1	0.0	1	0.0	0.007	0.8	LOS A	0.0	0.3	0.33	0.14	0.33	9.8
Approach			8	0.0	8	0.0	0.007	0.8	LOS A	0.0	0.3	0.33	0.14	0.33	15.7
All Vehicles			249	4.6	249	4.6	0.105	5.7	LOS A	0.6	4.3	0.14	0.57	0.14	29.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: BGU03 [BGU03 Kent St / Argyle St (Site Folder: Block 1 - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kent St (S)															
1	L2	All MCs	75	1.4	75	1.4	0.360	3.7	LOS A	1.6	11.7	0.40	0.54	0.40	36.2
2	T1	All MCs	31	0.0	31	0.0	0.360	3.7	LOS A	1.6	11.7	0.40	0.54	0.40	35.3
3	R2	All MCs	208	3.5	208	3.5	0.360	6.6	LOS A	1.6	11.7	0.40	0.54	0.40	35.3
Approach			314	2.7	314	2.7	0.360	5.6	LOS A	1.6	11.7	0.40	0.54	0.40	35.5
East: Argyle St (E)															
4	L2	All MCs	136	3.1	136	3.1	0.172	3.7	LOS A	0.8	6.1	0.19	0.34	0.19	36.9
5	T1	All MCs	61	15.5	61	15.5	0.172	0.5	LOS A	0.8	6.1	0.19	0.34	0.19	36.7
6	R2	All MCs	18	0.0	18	0.0	0.172	3.9	LOS A	0.8	6.1	0.19	0.34	0.19	32.3
Approach			215	6.4	215	6.4	0.172	2.8	NA	0.8	6.1	0.19	0.34	0.19	36.7
North: Kent St (N)															
7	L2	All MCs	15	0.0	15	0.0	0.037	7.1	LOS A	0.1	0.9	0.31	0.89	0.31	28.2
8	T1	All MCs	16	0.0	16	0.0	0.037	8.4	LOS A	0.1	0.9	0.31	0.89	0.31	34.0
9	R2	All MCs	4	0.0	4	0.0	0.037	8.3	LOS A	0.1	0.9	0.31	0.89	0.31	31.3
Approach			35	0.0	35	0.0	0.037	7.8	LOS A	0.1	0.9	0.31	0.89	0.31	32.1
West: Argyle Pl (W)															
10	L2	All MCs	1	0.0	1	0.0	0.101	3.4	LOS A	0.5	3.4	0.24	0.33	0.24	35.4
11	T1	All MCs	55	1.9	55	1.9	0.101	0.4	LOS A	0.5	3.4	0.24	0.33	0.24	37.0
12	R2	All MCs	74	4.3	74	4.3	0.101	4.3	LOS A	0.5	3.4	0.24	0.33	0.24	37.5
Approach			129	3.3	129	3.3	0.101	2.6	NA	0.5	3.4	0.24	0.33	0.24	37.3
All Vehicles			693	3.8	693	3.8	0.360	4.3	NA	1.6	11.7	0.30	0.46	0.30	36.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

CCG MOVEMENT SUMMARY

Common Control Group: CCG1 [TCS 4272]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (CCG User-Given Phase Times)

Vehicle Movement Performance (CCG)

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
Site: BGU04 [BGU04 Pedestrian Mid-block Crossing at Kent St near Gas Ln]															
South: Kent St															
2	T1	All MCs	264	0.0	264	0.0	0.245	10.2	LOS A	5.3	37.0	0.67	0.52	0.67	32.6
Approach			264	0.0	264	0.0	0.245	10.2	LOS A	5.3	37.0	0.67	0.52	0.67	32.6
North: Kent St															
8	T1	All MCs	233	0.9	233	0.9	0.356	26.8	LOS B	3.4	24.0	0.93	0.73	0.93	24.1
Approach			233	0.9	233	0.9	0.356	26.8	LOS B	3.4	24.0	0.93	0.73	0.93	24.1
All Vehicles			497	0.4	497	0.4	0.356	18.0	LOS B	5.3	37.0	0.79	0.62	0.79	28.2
Site: BGU05 [BGU05 Kent St / Sydney Harbour Bridge (SHB) On-ramp]															
South: Kent St (S)															
2	T1	All MCs	188	0.0	188	0.0	0.174	8.6	LOS A	3.2	22.7	0.58	0.48	0.58	28.2
3a	R1	All MCs	238	0.9	238	0.9	* 0.434	24.1	LOS B	6.2	43.9	0.89	0.76	0.89	23.4
Approach			426	0.5	426	0.5	0.434	17.2	LOS B	6.2	43.9	0.75	0.64	0.75	24.8
East: Clarence St (E)															
4	L2	All MCs	24	0.0	24	0.0	0.071	27.6	LOS B	0.7	4.6	0.86	0.68	0.86	14.8
6	R2	All MCs	92	0.0	92	0.0	0.214	25.8	LOS B	2.4	16.9	0.85	0.73	0.85	15.4
Approach			116	0.0	116	0.0	0.214	26.2	LOS B	2.4	16.9	0.85	0.72	0.85	15.3
NorthEast: SHB On-ramp (NE)															
24a	L1	All MCs	22	0.0	22	0.0	0.020	24.5	LOS B	0.6	1.5	0.86	0.61	0.86	21.5
Approach			22	0.0	22	0.0	0.020	24.5	LOS B	0.6	1.5	0.86	0.61	0.86	21.5
North: Kent St (N)															
7b	L3	All MCs	103	0.0	103	0.0	* 0.275	33.1	LOS C	3.3	23.4	1.00	0.82	1.00	14.8
8	T1	All MCs	124	1.7	124	1.7	* 0.602	27.9	LOS B	3.8	27.1	0.94	0.75	0.96	7.1
Approach			227	0.9	227	0.9	0.602	30.2	LOS C	3.8	27.1	0.97	0.78	0.98	11.3
All Vehicles			792	0.5	792	0.5	0.602	22.5	LOS B	6.2	43.9	0.83	0.69	0.83	19.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance (CCG)											
Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
Site: BGU04 [BGU04 Pedestrian Mid-block Crossing at Kent St near Gas Ln]											
South: Kent St											
P1	Full	53	25.9	LOS C	0.1	0.1	0.89	0.89	192.6	200.0	1.04
All Pedestrians		53	25.9	LOS C	0.1	0.1	0.89	0.89	192.6	200.0	1.04
Site: BGU05 [BGU05 Kent St / Sydney Harbour Bridge (SHB) On-ramp]											
South: Kent St (S)											
P1	Full	103	22.5	LOS C	0.2	0.2	0.83	0.83	39.2	20.0	0.51
All Pedestrians		103	22.5	LOS C	0.2	0.2	0.83	0.83	39.2	20.0	0.51

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.

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MOVEMENT SUMMARY

Site: BGU06 [BGU06 Hickson Rd / Napoleon St / Sussex St (Site Folder: Block 1 - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 4625
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 67 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sussex St (S)															
2	T1	All MCs	318	3.3	318	3.3	0.322	9.9	LOS A	6.0	43.0	0.61	0.52	0.61	25.5
3	R2	All MCs	48	0.0	48	0.0	* 0.133	17.2	LOS B	1.0	7.0	0.76	0.68	0.76	22.9
Approach			366	2.9	366	2.9	0.322	10.9	LOS A	6.0	43.0	0.63	0.55	0.63	25.0
East: Napolean St (E)															
4	L2	All MCs	48	19.6	48	19.6	0.092	19.8	LOS B	1.1	8.9	0.71	0.67	0.71	16.3
6	R2	All MCs	179	3.5	179	3.5	* 0.419	27.2	LOS B	5.1	36.9	0.89	0.77	0.89	16.4
Approach			227	6.9	227	6.9	0.419	25.7	LOS B	5.1	36.9	0.85	0.75	0.85	16.3
North: Hickson Rd (N)															
7	L2	All MCs	140	3.0	140	3.0	0.227	20.6	LOS B	3.3	23.7	0.75	0.72	0.75	18.7
8	T1	All MCs	288	4.7	288	4.7	* 0.415	17.1	LOS B	7.1	51.7	0.79	0.67	0.79	11.8
Approach			428	4.2	428	4.2	0.415	18.2	LOS B	7.1	51.7	0.78	0.69	0.78	14.9
West: Car Park Access (W)															
10	L2	All MCs	1	0.0	1	0.0	0.038	41.1	LOS C	0.0	0.3	1.00	0.57	1.00	5.6
11	T1	All MCs	1	0.0	1	0.0	* 0.074	41.6	LOS C	0.1	0.6	1.00	0.59	1.00	8.9
12	R2	All MCs	1	0.0	1	0.0	0.074	41.6	LOS C	0.1	0.6	1.00	0.59	1.00	2.4
Approach			3	0.0	3	0.0	0.074	41.4	LOS C	0.1	0.6	1.00	0.58	1.00	5.9
All Vehicles			1025	4.3	1025	4.3	0.419	17.3	LOS B	7.1	51.7	0.74	0.65	0.74	18.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Sussex St (S)											
P1	Full	14	21.0	LOS C	0.0	0.0	0.79	0.79	37.6	20.0	0.53
East: Napolean St (E)											
P2	Full	82	21.0	LOS C	0.1	0.1	0.79	0.79	37.7	20.0	0.53
North: Hickson Rd (N)											
P3	Full	24	21.0	LOS C	0.0	0.0	0.79	0.79	37.7	20.0	0.53
West: Car Park Access (W)											
P4	Full	45	26.0	LOS C	0.1	0.1	0.88	0.88	42.7	20.0	0.47
All Pedestrians		165	22.4	LOS C	0.1	0.1	0.82	0.82	39.1	20.0	0.51

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.

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MOVEMENT SUMMARY

Site: BGU07 [BGU07 Margaret St / Kent St / Napoleon St (Site Folder: Block 1 - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 308

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kent St (S)															
1a	L1	All MCs	46	13.6	46	13.6	0.318	15.5	LOS B	5.6	40.0	0.64	0.57	0.64	23.8
2	T1	All MCs	326	1.0	326	1.0	0.318	13.2	LOS A	5.6	40.0	0.71	0.60	0.71	11.4
3	R2	All MCs	15	0.0	15	0.0	* 0.318	62.2	LOS E	2.6	18.1	0.93	0.73	0.93	7.2
Approach			387	2.4	387	2.4	0.318	15.4	LOS B	5.6	40.0	0.71	0.61	0.71	13.1
East: Margaret St (E)															
4	L2	All MCs	26	12.0	26	12.0	0.074	26.4	LOS B	0.7	5.4	0.85	0.69	0.85	10.6
6a	R1	All MCs	168	5.0	168	5.0	0.349	21.9	LOS B	4.7	34.5	0.85	0.73	0.85	18.1
6	R2	All MCs	12	0.0	12	0.0	0.349	23.9	LOS B	4.7	34.5	0.85	0.73	0.85	8.7
Approach			206	5.6	206	5.6	0.349	22.6	LOS B	4.7	34.5	0.85	0.72	0.85	16.8
North: Kent St (N)															
7	L2	All MCs	35	0.0	35	0.0	0.335	48.4	LOS D	4.0	28.0	0.92	0.75	0.92	17.4
8	T1	All MCs	126	0.0	126	0.0	* 0.335	20.4	LOS B	4.0	28.0	0.94	0.74	0.94	18.9
9b	R3	All MCs	22	19.0	22	19.0	0.092	10.7	LOS A	0.2	1.4	0.24	0.56	0.24	29.3
Approach			183	2.3	183	2.3	0.335	24.5	LOS B	4.0	28.0	0.85	0.72	0.85	19.8
NorthWest: Napoleon St (NW)															
27b	L3	All MCs	116	3.6	116	3.6	0.261	8.3	LOS A	2.9	20.6	0.65	0.68	0.65	23.3
27a	L1	All MCs	72	1.5	72	1.5	* 0.261	15.1	LOS B	2.9	20.6	0.65	0.68	0.65	23.3
Approach			187	2.8	187	2.8	0.261	10.9	LOS A	2.9	20.6	0.65	0.68	0.65	23.3
All Vehicles			964	3.2	964	3.2	0.349	17.8	LOS B	5.6	40.0	0.76	0.67	0.76	17.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Kent St (S)											
P1	Full	161	20.1	LOS C	0.2	0.2	0.79	0.79	36.8	20.0	0.54
East: Margaret St (E)											
P2	Full	28	24.2	LOS C	0.0	0.0	0.86	0.86	40.8	20.0	0.49
North: Kent St (N)											
P3	Full	28	19.3	LOS B	0.0	0.0	0.77	0.77	35.9	20.0	0.56
NorthWest: Napoleon St (NW)											
P7	Full	82	19.3	LOS B	0.1	0.1	0.77	0.77	186.0	200.0	1.08
All Pedestrians		300	20.2	LOS C	0.2	0.2	0.79	0.79	77.9	69.3	0.89

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.

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MOVEMENT SUMMARY

Site: BGU08 [BGU08 Margaret St / Clarence St (Site Folder: Block 1 - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 319
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Clarence St (S)															
1	L2	All MCs	20	0.0	20	0.0	0.334	20.4	LOS B	4.1	29.3	0.74	0.62	0.74	19.2
2	T1	All MCs	404	12.5	404	12.5	* 0.334	15.9	LOS B	4.7	33.3	0.75	0.62	0.75	22.2
3	R2	All MCs	0	0.0	0	0.0	0.000	0.0	NA	0.0	0.0	0.00	0.00	0.00	0.0
Approach			424	11.9	424	11.9	0.334	16.1	LOS B	4.7	33.3	0.75	0.62	0.75	22.1
East: Margaret St (E)															
5	T1	All MCs	185	6.3	185	6.3	0.169	11.8	LOS A	2.6	19.4	0.65	0.54	0.65	12.3
6	R2	All MCs	40	31.6	40	31.6	* 0.169	16.8	LOS B	1.7	14.1	0.72	0.63	0.72	15.8
Approach			225	10.7	225	10.7	0.169	12.7	LOS A	2.6	19.4	0.67	0.56	0.67	13.2
West: Margaret St (W)															
10	L2	All MCs	81	0.0	81	0.0	0.277	27.6	LOS B	3.5	24.8	0.90	0.75	0.90	11.2
11	T1	All MCs	44	2.4	44	2.4	* 0.277	22.5	LOS B	3.5	24.8	0.90	0.75	0.90	6.5
Approach			125	0.8	125	0.8	0.277	25.8	LOS B	3.5	24.8	0.90	0.75	0.90	9.7
All Vehicles			775	9.8	792	9.6	0.334	16.3	LOS B	4.7	33.3	0.73	0.61	0.73	18.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Clarence St (S)											
P1	Full	173	25.2	LOS C	0.3	0.3	0.88	0.88	41.8	20.0	0.48
East: Margaret St (E)											
P2	Full	53	25.0	LOS C	0.1	0.1	0.88	0.88	41.7	20.0	0.48
North: Clarence St (N)											
P3	Full	54	23.3	LOS C	0.1	0.1	0.85	0.85	40.0	20.0	0.50
West: Margaret St (W)											
P4	Full	53	20.8	LOS C	0.1	0.1	0.80	0.80	37.5	20.0	0.53
All Pedestrians		332	24.2	LOS C	0.3	0.3	0.86	0.86	40.8	20.0	0.49

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.

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MOVEMENT SUMMARY

Site: BGU09 [BGU09 Margaret St / York St (Site Folder: Block 1 - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 3042
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Margaret St (E)															
4	L2	All MCs	42	5.0	42	5.0	0.091	27.6	LOS B	1.3	9.1	0.79	0.69	0.79	16.6
5	T1	All MCs	37	42.9	37	42.9	0.077	18.9	LOS B	1.0	9.3	0.70	0.53	0.70	11.0
Approach			79	22.7	79	22.7	0.091	23.5	LOS B	1.3	9.3	0.75	0.61	0.75	14.8
North: York St (N)															
7	L2	All MCs	1	0.0	1	0.0	0.000	16.7	LOS B	0.0	0.1	0.61	0.48	0.61	15.2
8	T1	All MCs	622	9.0	622	9.0	* 0.238	12.8	LOS A	4.7	35.3	0.62	0.52	0.62	24.9
9	R2	All MCs	178	4.7	178	4.7	0.224	18.4	LOS B	4.2	30.9	0.65	0.73	0.65	11.3
Approach			801	8.0	801	8.0	0.238	14.0	LOS A	4.7	35.3	0.62	0.56	0.62	22.4
West: Margaret St (W)															
12	R2	All MCs	67	1.6	51	2.1	* 0.139	28.9	LOS C	1.6	11.2	0.81	0.71	0.81	15.0
Approach			67	1.6	51	2.1	0.139	28.9	LOS C	1.6	11.2	0.81	0.71	0.81	15.0
All Vehicles			947	8.8	931	8.9	0.238	15.6	LOS B	4.7	35.3	0.64	0.58	0.64	21.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: York St (S)											
P1	Full	174	28.3	LOS C	0.3	0.3	0.84	0.84	44.9	20.0	0.45
East: Margaret St (E)											
P2	Full	277	28.4	LOS C	0.5	0.5	0.85	0.85	45.1	20.0	0.44
North: York St (N)											
P3	Full	96	26.5	LOS C	0.2	0.2	0.82	0.82	43.2	20.0	0.46
West: Margaret St (W)											
P4	Full	189	30.9	LOS D	0.4	0.4	0.88	0.88	47.5	20.0	0.42
All Pedestrians		736	28.8	LOS C	0.5	0.5	0.85	0.85	45.4	20.0	0.44

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.

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MOVEMENT SUMMARY

Site: BGU10 [BGU10 Pedestrian Mid-block Crossing at Sussex St under Exchange Pl (Site Folder: Block 1 - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 3939 (?)
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sussex St (S)															
2	T1	All MCs	365	3.5	365	3.5	* 0.130	2.7	LOS A	1.8	12.6	0.30	0.25	0.30	33.3
Approach			365	3.5	365	3.5	0.130	2.7	LOS A	1.8	12.6	0.30	0.25	0.30	33.3
North: Sussex St (N)															
8	T1	All MCs	289	8.0	289	8.0	0.108	2.7	LOS A	1.4	10.2	0.30	0.24	0.30	32.3
Approach			289	8.0	289	8.0	0.108	2.7	LOS A	1.4	10.2	0.30	0.24	0.30	32.3
All Vehicles			655	5.5	655	5.5	0.130	2.7	LOS A	1.8	12.6	0.30	0.25	0.30	32.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Sussex St (S)											
P1	Full	62	24.1	LOS C	0.1	0.1	0.83	0.83	40.8	20.0	0.49
All Pedestrians		62	24.1	LOS C	0.1	0.1	0.83	0.83	40.8	20.0	0.49

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.

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MOVEMENT SUMMARY

Site: BGU11 [BGU11 Pedestrian Mid-block Crossing at Kent St near Margaret St (Site Folder: Block 1 - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 4109
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 45 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kent St (S)															
2	T1	All MCs	397	2.9	397	2.9	* 0.242	9.2	LOS A	2.8	20.0	0.68	0.55	0.68	23.4
Approach			397	2.9	397	2.9	0.242	9.2	LOS A	2.8	20.0	0.68	0.55	0.68	23.4
North: Kent St (N)															
8	T1	All MCs	184	4.6	184	4.6	0.207	8.9	LOS A	2.3	16.8	0.66	0.53	0.66	15.6
Approach			184	4.6	184	4.6	0.207	8.9	LOS A	2.3	16.8	0.66	0.53	0.66	15.6
All Vehicles			581	3.4	581	3.4	0.242	9.1	LOS A	2.8	20.0	0.67	0.55	0.67	21.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Kent St (S)											
P1	Full	14	12.1	LOS B	0.0	0.0	0.73	0.73	28.8	20.0	0.70
All Pedestrians		14	12.1	LOS B	0.0	0.0	0.73	0.73	28.8	20.0	0.70

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.

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MOVEMENT SUMMARY

Site: BGU12 [BGU12 Sussex St / Erskine St (Site Folder: Block 1 - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 310
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Sussex St (S)															
1	L2	All MCs	66	0.0	66	0.0	0.278	30.4	LOS C	5.1	36.4	0.81	0.70	0.81	16.3
2	T1	All MCs	242	3.5	242	3.5	* 0.278	25.8	LOS B	5.3	38.3	0.81	0.67	0.81	16.7
Approach			308	2.7	308	2.7	0.278	26.8	LOS B	5.3	38.3	0.81	0.68	0.81	16.6
East: Erskine St (E)															
4	L2	All MCs	365	1.7	365	1.7	0.401	10.7	LOS A	6.0	42.3	0.40	0.62	0.40	27.1
5	T1	All MCs	133	4.0	133	4.0	0.226	2.7	LOS A	1.1	8.0	0.15	0.22	0.15	27.0
6	R2	All MCs	42	0.0	42	0.0	0.226	7.2	LOS A	1.1	8.0	0.15	0.22	0.15	27.0
Approach			540	2.1	540	2.1	0.401	8.5	LOS A	6.0	42.3	0.32	0.49	0.32	27.1
North: Sussex St (N)															
7	L2	All MCs	20	36.8	20	36.8	0.041	23.5	LOS B	0.6	5.2	0.67	0.64	0.67	15.1
8	T1	All MCs	280	5.6	280	5.6	0.201	20.2	LOS B	4.1	30.3	0.71	0.58	0.71	24.4
9	R2	All MCs	15	0.0	15	0.0	* 0.047	26.6	LOS B	0.5	3.2	0.78	0.66	0.78	13.8
Approach			315	7.4	315	7.4	0.201	20.8	LOS B	4.1	30.3	0.71	0.59	0.71	23.6
West: Erskine St (W)															
10	L2	All MCs	87	3.6	87	3.6	0.154	13.3	LOS A	3.2	23.4	0.51	0.55	0.51	12.8
11	T1	All MCs	214	3.9	214	3.9	0.748	16.9	LOS B	10.2	73.4	0.76	0.76	0.80	8.4
12	R2	All MCs	269	2.7	269	2.7	* 0.748	28.1	LOS B	10.2	73.4	0.87	0.85	0.92	18.7
Approach			571	3.3	571	3.3	0.748	21.6	LOS B	10.2	73.4	0.77	0.77	0.81	15.4
All Vehicles			1734	3.6	1734	3.6	0.748	18.3	LOS B	10.2	73.4	0.63	0.63	0.64	20.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Sussex St (S)											
P1	Full	96	33.1	LOS D	0.2	0.2	0.86	0.86	49.7	20.0	0.40
East: Erskine St (E)											
P2	Full	27	34.7	LOS D	0.1	0.1	0.88	0.88	51.4	20.0	0.39
North: Sussex St (N)											
P3	Full	143	33.1	LOS D	0.3	0.3	0.86	0.86	49.8	20.0	0.40
West: Erskine St (W)											
P4	Full	37	33.0	LOS D	0.1	0.1	0.86	0.86	49.7	20.0	0.40
All Pedestrians		303	33.2	LOS D	0.3	0.3	0.86	0.86	49.9	20.0	0.40

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.

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MOVEMENT SUMMARY

Site: BGU13 [BGU13 Kent St / Erskine St (Site Folder: Block 1 - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 307
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kent St (S)															
1	L2	All MCs	93	0.0	93	0.0	0.121	20.9	LOS B	2.5	17.5	0.65	0.68	0.65	19.2
2	T1	All MCs	309	2.4	309	2.4	* 0.192	17.8	LOS B	4.2	29.9	0.67	0.55	0.67	20.8
3	R2	All MCs	1	0.0	1	0.0	0.004	10.2	LOS A	0.2	0.5	0.43	0.31	0.43	23.5
Approach			403	1.8	403	1.8	0.192	18.5	LOS B	4.2	29.9	0.66	0.58	0.66	20.4
East: Erskine St (E)															
5	T1	All MCs	309	2.7	309	2.7	0.489	44.6	LOS D	6.0	42.7	0.88	0.72	0.88	6.2
6	R2	All MCs	8	0.0	8	0.0	* 0.489	52.4	LOS D	5.8	41.7	0.88	0.72	0.88	6.2
Approach			318	2.6	318	2.6	0.489	44.8	LOS D	6.0	42.7	0.88	0.72	0.88	6.2
North: Kent St (N)															
7	L2	All MCs	5	0.0	5	0.0	0.006	10.0	LOS A	0.4	1.0	0.43	0.34	0.43	19.6
8	T1	All MCs	17	0.0	17	0.0	0.006	7.8	LOS A	0.4	1.0	0.43	0.34	0.43	24.3
9	R2	All MCs	138	2.3	138	2.3	* 0.715	48.9	LOS D	6.4	45.5	1.00	0.89	1.14	6.2
Approach			160	2.0	160	2.0	0.715	43.3	LOS D	6.4	45.5	0.92	0.82	1.04	7.9
West: Erskine St (W)															
10	L2	All MCs	68	3.1	68	3.1	0.137	28.1	LOS B	1.7	12.3	0.59	0.65	0.59	9.7
11	T1	All MCs	165	8.3	165	8.3	0.367	26.8	LOS B	4.8	35.9	0.69	0.57	0.69	13.9
Approach			234	6.8	234	6.8	0.367	27.1	LOS B	4.8	35.9	0.66	0.59	0.66	12.7
All Vehicles			1115	3.1	1115	3.1	0.715	31.4	LOS C	6.4	45.5	0.76	0.66	0.78	12.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Kent St (S)											
P1	Full	148	35.8	LOS D	0.3	0.3	0.89	0.89	52.4	20.0	0.38
East: Erskine St (E)											
P2	Full	80	36.6	LOS D	0.2	0.2	0.90	0.90	53.2	20.0	0.38
North: Kent St (N)											
P3	Full	106	35.7	LOS D	0.2	0.2	0.89	0.89	52.4	20.0	0.38
West: Erskine St (W)											
P4	Full	58	35.6	LOS D	0.1	0.1	0.89	0.89	52.3	20.0	0.38
All Pedestrians		393	35.9	LOS D	0.3	0.3	0.90	0.90	52.6	20.0	0.38

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.

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MOVEMENT SUMMARY

Site: BGU14 [BGU14 Sussex St / King St (Site Folder: Block 1 - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 4 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 284
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: King St (E)															
4a	L1	All MCs	18	0.0	18	0.0	0.025	41.9	LOS C	0.8	2.0	1.00	0.68	1.00	18.8
Approach			18	0.0	18	0.0	0.025	41.9	LOS C	0.8	2.0	1.00	0.68	1.00	18.8
North: Sussex St (N)															
7	L2	All MCs	98	10.8	98	10.8	0.492	22.4	LOS B	12.8	92.5	0.73	0.67	0.73	20.6
8	T1	All MCs	781	1.6	781	1.6	0.492	17.0	LOS B	13.5	95.6	0.73	0.65	0.73	27.7
Approach			879	2.6	879	2.6	0.492	17.6	LOS B	13.5	95.6	0.73	0.66	0.73	27.1
SouthWest: King St (SW)															
30a	L1	All MCs	325	3.9	325	3.9	* 0.420	14.1	LOS A	6.0	43.1	0.75	0.76	0.75	36.7
32a	R1	All MCs	859	0.9	859	0.9	* 0.568	27.0	LOS B	14.5	102.0	0.84	0.80	0.84	28.7
32b	R3	All MCs	173	8.5	173	8.5	0.296	25.8	LOS B	5.3	39.6	0.73	0.77	0.73	31.4
Approach			1357	2.6	1357	2.6	0.568	23.7	LOS B	14.5	102.0	0.80	0.78	0.80	31.0
All Vehicles			2254	2.6	2254	2.6	0.568	21.5	LOS B	14.5	102.0	0.78	0.73	0.78	29.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Sussex St (S)											
P1	Full	129	40.4	LOS E	0.3	0.3	0.95	0.95	57.0	20.0	0.35
East: King St (E)											
P2	Full	143	36.7	LOS D	0.3	0.3	0.91	0.91	53.3	20.0	0.37
North: Sussex St (N)											
P3	Full	152	35.8	LOS D	0.3	0.3	0.89	0.89	52.4	20.0	0.38
SouthWest: King St (SW)											
P8	Full	100	37.5	LOS D	0.2	0.2	0.91	0.91	204.2	200.0	0.98
P8B	Slip/ Bypass	38	40.2	LOS E	0.1	0.1	0.95	0.95	206.9	200.0	0.97
All Pedestrians		562	37.7	LOS D	0.3	0.3	0.92	0.92	91.1	64.2	0.70

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.

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MOVEMENT SUMMARY

Site: BGU15 [BGU15 Kent St / King St (Site Folder: Block 1 - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 4 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 283
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kent St (S)															
1	L2	All MCs	2	0.0	2	0.0	0.013	40.8	LOS C	0.4	1.0	0.91	0.60	0.91	14.2
2	T1	All MCs	266	2.0	266	2.0	* 0.376	26.9	LOS B	7.5	53.7	0.82	0.67	0.82	23.7
3	R2	All MCs	143	0.0	143	0.0	0.281	32.3	LOS C	4.9	34.2	0.84	0.75	0.84	16.6
Approach			412	1.3	412	1.3	0.376	28.8	LOS C	7.5	53.7	0.83	0.70	0.83	21.4
East: King St (E)															
5	T1	All MCs	11	0.0	11	0.0	0.023	38.2	LOS C	0.5	1.2	0.93	0.61	0.93	5.1
6	R2	All MCs	1	0.0	1	0.0	0.023	47.2	LOS D	0.5	1.2	0.93	0.61	0.93	14.9
Approach			12	0.0	12	0.0	0.023	39.0	LOS C	0.5	1.2	0.93	0.61	0.93	6.3
North: Kent St (N)															
7	L2	All MCs	4	0.0	4	0.0	0.016	40.8	LOS C	0.4	1.2	0.91	0.61	0.91	11.3
8	T1	All MCs	7	0.0	7	0.0	* 0.016	37.4	LOS C	0.4	1.2	0.91	0.61	0.91	20.1
9	R2	All MCs	5	0.0	5	0.0	0.017	41.5	LOS C	0.2	0.6	0.91	0.63	0.91	13.1
Approach			17	0.0	17	0.0	0.017	39.6	LOS C	0.4	1.2	0.91	0.62	0.91	15.8
West: King St (W)															
10	L2	All MCs	147	0.0	147	0.0	* 0.497	44.3	LOS D	7.9	55.4	0.96	0.80	0.96	15.6
11	T1	All MCs	801	2.5	801	2.5	* 0.497	9.5	LOS A	7.9	55.4	0.45	0.38	0.45	21.4
Approach			948	2.1	948	2.1	0.497	14.9	LOS B	7.9	55.4	0.53	0.45	0.53	19.4
All Vehicles			1388	1.8	1388	1.8	0.497	19.5	LOS B	7.9	55.4	0.63	0.53	0.63	20.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Kent St (S)											
P1	Full	127	36.6	LOS D	0.3	0.3	0.90	0.90	53.3	20.0	0.38
East: King St (E)											
P2	Full	173	37.6	LOS D	0.4	0.4	0.92	0.92	54.3	20.0	0.37
North: Kent St (N)											
P3	Full	118	37.5	LOS D	0.3	0.3	0.92	0.92	54.2	20.0	0.37
West: King St (W)											
P4	Full	93	37.5	LOS D	0.2	0.2	0.91	0.91	54.2	20.0	0.37
All Pedestrians		511	37.3	LOS D	0.4	0.4	0.91	0.91	54.0	20.0	0.37

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.

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MOVEMENT SUMMARY

Site: BGU18 [BGU18 Shelley St / Erskine St (Site Folder: Block 1 - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 305
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 45 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Shelley St (S)															
1	L2	All MCs	33	6.5	33	6.5	0.145	14.6	LOS B	1.5	10.4	0.69	0.59	0.69	17.6
2	T1	All MCs	66	0.0	66	0.0	0.145	9.7	LOS A	1.5	10.4	0.69	0.59	0.69	24.2
3	R2	All MCs	232	3.2	232	3.2	* 0.975	60.3	LOS E	10.2	73.6	1.00	1.62	2.40	5.8
Approach			331	2.9	331	2.9	0.975	45.7	LOS D	10.2	73.6	0.91	1.31	1.89	8.3
East: Erskine St (E)															
4	L2	All MCs	76	5.6	76	5.6	0.162	17.6	LOS B	1.3	9.7	0.80	0.71	0.80	17.5
5	T1	All MCs	116	0.9	116	0.9	0.228	10.9	LOS A	2.2	15.5	0.74	0.61	0.74	18.3
6	R2	All MCs	22	0.0	22	0.0	0.228	16.7	LOS B	2.2	15.5	0.74	0.61	0.74	19.5
Approach			214	2.5	214	2.5	0.228	13.9	LOS A	2.2	15.5	0.76	0.65	0.76	18.0
North: Shelley St (N)															
7	L2	All MCs	140	2.3	140	2.3	0.204	13.9	LOS A	2.1	15.2	0.71	0.70	0.71	14.8
8	T1	All MCs	22	0.0	22	0.0	0.055	9.5	LOS A	0.5	3.4	0.66	0.55	0.66	24.4
9	R2	All MCs	12	0.0	12	0.0	0.055	13.6	LOS A	0.5	3.4	0.66	0.55	0.66	15.1
Approach			174	1.8	174	1.8	0.204	13.3	LOS A	2.1	15.2	0.70	0.67	0.70	16.3
West: Erskine St (W)															
10	L2	All MCs	18	0.0	18	0.0	0.251	17.0	LOS B	2.6	18.8	0.75	0.62	0.75	19.9
11	T1	All MCs	199	4.2	199	4.2	* 0.251	11.4	LOS A	2.6	18.8	0.76	0.63	0.76	13.0
12	R2	All MCs	20	10.5	20	10.5	0.251	20.2	LOS B	1.3	9.7	0.78	0.65	0.78	19.7
Approach			237	4.4	237	4.4	0.251	12.6	LOS A	2.6	18.8	0.76	0.63	0.76	14.5
All Vehicles			955	3.0	955	3.0	0.975	24.5	LOS B	10.2	73.6	0.80	0.88	1.14	11.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Shelley St (S)											
P1	Full	191	11.5	LOS B	0.2	0.2	0.72	0.72	178.1	200.0	1.12
East: Erskine St (E)											
P2	Full	12	11.4	LOS B	0.0	0.0	0.71	0.71	178.0	200.0	1.12
North: Shelley St (N)											
P3	Full	117	11.4	LOS B	0.1	0.1	0.71	0.71	178.1	200.0	1.12
West: Erskine St (W)											
P4	Full	71	11.4	LOS B	0.1	0.1	0.71	0.71	178.1	200.0	1.12
All Pedestrians		389	11.4	LOS B	0.2	0.2	0.72	0.72	178.1	200.0	1.12

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.

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MOVEMENT SUMMARY

Site: MPL01 [MPL01 Hunter St / Castlereagh St / Bligh St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 244
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Hunter St (E)															
4	L2	All MCs	249	20.3	249	20.3	* 0.421	25.1	LOS B	7.9	65.3	0.78	0.76	0.78	15.8
6a	R1	All MCs	326	4.8	326	4.8	0.394	16.5	LOS B	8.5	61.9	0.63	0.65	0.63	18.7
Approach			576	11.5	576	11.5	0.421	20.2	LOS B	8.5	65.3	0.70	0.70	0.70	17.2
North: Bligh St (N)															
7	L2	All MCs	96	34.1	96	34.1	* 0.421	45.0	LOS D	3.6	26.9	0.85	0.74	0.85	12.9
8	T1	All MCs	82	15.4	82	15.4	0.106	31.3	LOS C	1.5	9.1	0.76	0.58	0.76	20.9
9b	R3	All MCs	6	50.0	6	50.0	0.106	36.2	LOS C	1.3	8.8	0.76	0.59	0.76	18.9
Approach			184	26.3	184	26.3	0.421	38.6	LOS C	3.6	26.9	0.81	0.67	0.81	16.8
NorthWest: Hunter St (NW)															
27a	L1	All MCs	252	10.9	252	10.9	0.288	13.3	LOS A	4.1	31.2	0.58	0.64	0.58	18.0
29a	R1	All MCs	86	8.5	86	8.5	* 0.288	16.2	LOS B	4.1	31.2	0.67	0.68	0.67	23.9
Approach			338	10.3	338	10.3	0.288	14.1	LOS A	4.1	31.2	0.60	0.65	0.60	20.1
All Vehicles			1098	13.6	1098	13.6	0.421	21.4	LOS B	8.5	65.3	0.69	0.68	0.69	17.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Castlereagh St (S)											
P1	Full	571	39.2	LOS D	1.4	1.4	0.94	0.94	205.9	200.0	0.97
East: Hunter St (E)											
P2	Full	256	35.0	LOS D	0.6	0.6	0.89	0.89	201.7	200.0	0.99
North: Bligh St (N)											
P3	Full	618	39.3	LOS D	1.5	1.5	0.95	0.95	206.0	200.0	0.97
NorthWest: Hunter St (NW)											
P7	Full	387	36.1	LOS D	0.9	0.9	0.90	0.90	202.8	200.0	0.99
All Pedestrians		1832	38.0	LOS D	1.5	1.5	0.93	0.93	204.7	200.0	0.98

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.

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MOVEMENT SUMMARY

Site: MPL02 [MPL02 Hunter St / Elizabeth St / Chifley Square (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 302
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Elizabeth St (S)															
1	L2	All MCs	328	14.7	328	14.7	0.369	25.1	LOS B	8.0	48.5	0.60	0.70	0.60	18.4
3a	R1	All MCs	575	20.0	575	20.0	* 0.935	61.3	LOS E	33.1	271.0	1.00	1.21	1.37	8.4
3	R2	All MCs	140	8.3	140	8.3	0.408	29.4	LOS C	4.9	26.9	0.88	0.77	0.88	17.7
Approach			1043	16.8	1043	16.8	0.935	45.6	LOS D	33.1	271.0	0.86	0.99	1.06	11.4
East: Hunter St (E)															
4	L2	All MCs	121	1.7	121	1.7	0.533	25.5	LOS B	7.9	41.6	0.87	0.77	0.87	17.6
5	T1	All MCs	244	8.6	244	8.6	* 0.533	32.0	LOS C	7.9	41.6	0.88	0.75	0.88	11.9
Approach			365	6.3	365	6.3	0.533	29.8	LOS C	7.9	41.6	0.88	0.76	0.88	14.1
NorthEast: Chifley Square (NE)															
24b	L3	All MCs	54	5.9	54	5.9	0.293	37.3	LOS C	3.2	30.2	0.86	0.75	0.86	16.5
24a	L1	All MCs	232	36.4	232	36.4	0.443	30.1	LOS C	7.2	61.9	0.86	0.76	0.86	18.0
Approach			285	30.6	285	30.6	0.443	31.4	LOS C	7.2	61.9	0.86	0.76	0.86	17.7
West: Hunter St (W)															
10a	L1	All MCs	149	9.9	149	9.9	0.430	37.0	LOS C	9.3	62.6	0.93	0.80	0.93	5.3
11	T1	All MCs	102	5.2	102	5.2	0.430	24.3	LOS B	9.3	62.6	0.93	0.80	0.93	13.1
12	R2	All MCs	92	44.8	92	44.8	* 0.430	36.4	LOS C	4.0	33.1	0.96	0.79	0.96	12.9
Approach			343	17.8	343	17.8	0.430	33.0	LOS C	9.3	62.6	0.94	0.80	0.94	10.2
All Vehicles			2037	17.0	2037	17.0	0.935	38.7	LOS C	33.1	271.0	0.87	0.88	0.98	12.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Elizabeth St (S)											
P1	Full	673	33.0	LOS D	1.5	1.5	0.87	0.87	199.7	200.0	1.00
East: Hunter St (E)											
P2	Full	833	38.7	LOS D	2.0	2.0	0.94	0.94	205.4	200.0	0.97
NorthEast: Chifley Square (NE)											
P6	Full	521	32.8	LOS D	1.1	1.1	0.86	0.86	199.5	200.0	1.00
West: Hunter St (W)											
P4	Full	246	35.9	LOS D	0.6	0.6	0.90	0.90	202.6	200.0	0.99
All Pedestrians		2273	35.4	LOS D	2.0	2.0	0.90	0.90	202.0	200.0	0.99

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.

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MOVEMENT SUMMARY

Site: MPL03 [MPL03 Bent St / Bligh St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 1412
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Bent St (SE)															
21	L2	All MCs	158	26.0	158	26.0	0.273	7.5	LOS A	4.2	33.9	0.35	0.45	0.35	16.7
22	T1	All MCs	473	10.2	473	10.2	* 0.273	2.6	LOS A	4.2	33.9	0.21	0.23	0.21	29.2
Approach			631	14.2	631	14.2	0.273	3.8	LOS A	4.2	33.9	0.24	0.29	0.24	26.3
NorthWest: Bent St (NW)															
28	T1	All MCs	123	4.3	123	4.3	0.085	2.5	LOS A	1.3	9.1	0.25	0.21	0.25	26.6
29	R2	All MCs	80	18.4	80	18.4	* 0.175	8.1	LOS A	1.1	9.2	0.41	0.62	0.41	15.4
Approach			203	9.8	203	9.8	0.175	4.7	LOS A	1.3	9.2	0.31	0.37	0.31	20.6
All Vehicles			834	13.1	834	13.1	0.273	4.0	LOS A	4.2	33.9	0.26	0.31	0.26	25.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Bent St (SE)											
P5	Full	197	35.8	LOS D	0.5	0.5	0.90	0.90	202.5	200.0	0.99
NorthWest: Bent St (NW)											
P7	Full	504	36.3	LOS D	1.2	1.2	0.91	0.91	203.0	200.0	0.99
SouthWest: Bligh St (SW)											
P8	Full	353	37.0	LOS D	0.8	0.8	0.91	0.91	203.7	200.0	0.98
All Pedestrians		1054	36.5	LOS D	1.2	1.2	0.91	0.91	203.1	200.0	0.98

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.

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MOVEMENT SUMMARY

Site: MPL04 [MPL04 Bent St / Phillip St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 242
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Bent St (SE)															
21	L2	All MCs	102	35.1	102	35.1	0.132	25.4	LOS B	1.0	9.1	0.24	0.50	0.24	25.9
22	T1	All MCs	380	4.4	380	4.4	0.984	88.4	LOS F	20.5	149.1	1.00	1.40	1.71	4.5
23a	R1	All MCs	93	3.4	93	3.4	* 0.984	80.7	LOS F	9.1	65.7	1.00	1.33	1.86	9.2
Approach			575	9.7	575	9.7	0.984	75.9	LOS F	20.5	149.1	0.86	1.23	1.47	6.3
North: Phillip St (N)															
7a	L1	All MCs	132	7.2	132	7.2	* 0.167	14.4	LOS A	3.2	25.5	0.54	0.62	0.54	24.5
9a	R1	All MCs	178	29.0	178	29.0	0.167	8.8	LOS A	3.2	25.5	0.43	0.53	0.43	25.6
Approach			309	19.7	309	19.7	0.167	11.2	LOS A	3.2	25.5	0.48	0.57	0.48	25.0
NorthWest: Bent St (NW)															
27b	L3	All MCs	12	0.0	12	0.0	0.240	42.5	LOS D	2.1	15.2	0.82	0.64	0.82	14.4
28	T1	All MCs	102	5.2	102	5.2	0.240	31.2	LOS C	2.1	15.6	0.82	0.64	0.82	11.1
29	R2	All MCs	5	0.0	5	0.0	0.240	46.3	LOS D	2.1	15.6	0.82	0.63	0.82	5.2
Approach			119	4.4	119	4.4	0.240	33.0	LOS C	2.1	15.6	0.82	0.64	0.82	11.2
SouthWest: Phillip St (SW)															
30	L2	All MCs	253	25.8	253	25.8	0.271	10.5	LOS A	4.6	39.7	0.45	0.64	0.45	22.6
30a	L1	All MCs	313	19.2	313	19.2	0.268	7.4	LOS A	5.6	45.9	0.45	0.49	0.45	31.3
32	R2	All MCs	159	2.6	159	2.6	* 0.277	17.2	LOS B	4.3	31.0	0.76	0.68	0.76	21.7
Approach			724	17.9	724	17.9	0.277	10.7	LOS A	5.6	45.9	0.52	0.58	0.52	26.5
All Vehicles			1727	14.6	1727	14.6	0.984	34.0	LOS C	20.5	149.1	0.65	0.80	0.85	14.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Bent St (SE)											
P5	Full	640	34.7	LOS D	1.5	1.5	0.89	0.89	201.4	200.0	0.99
North: Phillip St (N)											
P3	Full	538	36.4	LOS D	1.3	1.3	0.91	0.91	203.0	200.0	0.99
NorthWest: Bent St (NW)											
P7	Full	386	36.1	LOS D	0.9	0.9	0.90	0.90	202.8	200.0	0.99
SouthWest: Phillip St (SW)											
P8	Full	529	34.6	LOS D	1.2	1.2	0.89	0.89	201.2	200.0	0.99
All Pedestrians		2094	35.4	LOS D	1.5	1.5	0.90	0.90	202.0	200.0	0.99

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.

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MOVEMENT SUMMARY

Site: MPL05 [MPL05 Pedestrian Mid-block Crossing at Castlereagh St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TCS 245
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 47 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
North: Castlereagh St (N)															
8	T1	All MCs	484	17.2	484	17.2	* 0.699	14.6	LOS B	9.7	75.8	0.89	0.82	0.96	25.0
Approach			484	17.2	484	17.2	0.699	14.6	LOS B	9.7	75.8	0.89	0.82	0.96	25.0
All Vehicles			484	17.2	484	17.2	0.699	14.6	LOS B	9.7	75.8	0.89	0.82	0.96	25.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Castlereagh St (S)												
P1	Full	2824	2973	17.5	LOS B	3.7	3.7	0.92	0.92	184.2	200.0	1.09
All Pedestrians		2824	2973	17.5	LOS B	3.7	3.7	0.92	0.92	184.2	200.0	1.09

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.

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MOVEMENT SUMMARY

Site: MPL06 [MPL06 Pedestrian Mid-block Crossing at Elizabeth St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TCS 287
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 72 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Elizabeth St (S)															
2	T1	All MCs	1041	15.5	1041	15.5	* 0.542	14.4	LOS A	11.4	90.6	0.66	0.58	0.66	27.8
Approach			1041	15.5	1041	15.5	0.542	11.6	LOS A	11.4	90.6	0.66	0.58	0.66	27.8
North: Elizabeth St (N)															
8	T1	All MCs	457	28.1	457	28.1	0.340	9.3	LOS A	6.7	49.2	0.57	0.49	0.57	29.0
Approach			457	28.1	457	28.1	0.340	9.3	LOS A	6.7	49.2	0.57	0.49	0.57	29.0
All Vehicles			1498	19.3	1498	19.3	0.542	12.9	LOS A	11.4	90.6	0.64	0.55	0.64	28.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Elizabeth St (S)												
P1	Full	3716	3912	31.9	LOS D	8.2	8.2	1.03	1.03	198.6	200.0	1.01
All Pedestrians		3716	3912	31.9	LOS D	8.2	8.2	1.03	1.03	198.6	200.0	1.01

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.

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MOVEMENT SUMMARY

Site: MPL01 [MPL01 Hunter St / Castlereagh St / Bligh St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 244
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Hunter St (E)															
4	L2	All MCs	172	20.2	172	20.2	* 0.319	20.2	LOS B	5.6	44.8	0.64	0.69	0.64	18.4
6a	R1	All MCs	328	0.6	328	0.6	0.319	14.1	LOS A	6.6	46.3	0.56	0.61	0.56	19.8
Approach			500	7.4	500	7.4	0.319	16.2	LOS B	6.6	46.3	0.59	0.64	0.59	19.2
North: Bligh St (N)															
7	L2	All MCs	123	15.4	123	15.4	* 0.665	59.1	LOS E	5.3	33.3	0.97	0.83	1.05	11.1
8	T1	All MCs	126	11.7	126	11.7	0.190	40.5	LOS C	2.7	15.9	0.86	0.67	0.86	18.9
9b	R3	All MCs	11	0.0	11	0.0	0.190	43.2	LOS D	2.3	14.2	0.86	0.68	0.86	17.1
Approach			260	13.0	260	13.0	0.665	49.4	LOS D	5.3	33.3	0.91	0.75	0.95	15.2
NorthWest: Hunter St (NW)															
27a	L1	All MCs	379	6.9	379	6.9	0.396	11.2	LOS A	5.9	43.3	0.56	0.64	0.56	19.2
29a	R1	All MCs	117	3.6	117	3.6	* 0.396	12.8	LOS A	5.9	43.3	0.61	0.67	0.61	25.4
Approach			496	6.2	496	6.2	0.396	11.6	LOS A	5.9	43.3	0.57	0.65	0.57	21.3
All Vehicles			1256	8.0	1256	8.0	0.665	21.3	LOS B	6.6	46.3	0.65	0.67	0.66	18.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Castlereagh St (S)											
P1	Full	669	39.4	LOS D	1.6	1.6	0.95	0.95	206.0	200.0	0.97
East: Hunter St (E)											
P2	Full	297	35.1	LOS D	0.7	0.7	0.89	0.89	201.8	200.0	0.99
North: Bligh St (N)											
P3	Full	326	38.8	LOS D	0.8	0.8	0.93	0.93	205.5	200.0	0.97
NorthWest: Hunter St (NW)											
P7	Full	435	36.2	LOS D	1.0	1.0	0.91	0.91	202.9	200.0	0.99
All Pedestrians		1727	37.7	LOS D	1.6	1.6	0.92	0.92	204.4	200.0	0.98

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.

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MOVEMENT SUMMARY

Site: MPL02 [MPL02 Hunter St / Elizabeth St / Chifley Square (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 302
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Elizabeth St (S)															
1	L2	All MCs	254	2.1	254	2.1	0.242	24.1	LOS B	5.4	27.9	0.52	0.66	0.52	19.8
3a	R1	All MCs	633	13.6	633	13.6	* 0.909	54.0	LOS D	33.1	259.0	1.00	1.11	1.27	9.7
3	R2	All MCs	131	0.8	131	0.8	0.332	28.3	LOS B	4.4	22.5	0.86	0.76	0.86	18.1
Approach			1017	9.1	1017	9.1	0.909	43.2	LOS D	33.1	259.0	0.86	0.95	1.03	12.2
East: Hunter St (E)															
4	L2	All MCs	109	4.8	109	4.8	0.391	23.4	LOS B	6.8	38.3	0.83	0.74	0.83	18.0
5	T1	All MCs	238	13.3	238	13.3	* 0.391	31.2	LOS C	6.8	38.3	0.85	0.72	0.85	12.3
Approach			347	10.6	347	10.6	0.391	28.7	LOS C	6.8	38.3	0.84	0.72	0.84	14.4
NorthEast: Chifley Square (NE)															
24b	L3	All MCs	32	10.0	32	10.0	0.319	40.2	LOS C	2.9	31.7	0.87	0.74	0.87	16.2
24a	L1	All MCs	282	19.0	282	19.0	0.481	33.2	LOS C	9.1	65.3	0.90	0.78	0.90	17.1
Approach			314	18.1	314	18.1	0.481	33.9	LOS C	9.1	65.3	0.90	0.78	0.90	17.0
West: Hunter St (W)															
10a	L1	All MCs	196	0.5	196	0.5	0.504	37.8	LOS C	10.2	65.3	0.94	0.82	0.94	5.1
11	T1	All MCs	214	2.5	214	2.5	0.504	25.0	LOS B	10.2	65.3	0.94	0.80	0.94	13.5
12	R2	All MCs	93	40.9	93	40.9	* 0.504	35.6	LOS C	7.7	50.4	0.93	0.78	0.93	14.4
Approach			502	8.8	502	8.8	0.504	31.9	LOS C	10.2	65.3	0.94	0.80	0.94	10.8
All Vehicles			2180	10.6	2180	10.6	0.909	37.0	LOS C	33.1	259.0	0.88	0.86	0.96	13.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Elizabeth St (S)											
P1	Full	688	33.0	LOS D	1.5	1.5	0.87	0.87	199.7	200.0	1.00
East: Hunter St (E)											
P2	Full	847	38.7	LOS D	2.0	2.0	0.94	0.94	205.4	200.0	0.97
NorthEast: Chifley Square (NE)											
P6	Full	458	32.7	LOS D	1.0	1.0	0.86	0.86	199.4	200.0	1.00
West: Hunter St (W)											
P4	Full	209	35.9	LOS D	0.5	0.5	0.90	0.90	202.5	200.0	0.99
All Pedestrians		2203	35.4	LOS D	2.0	2.0	0.90	0.90	202.1	200.0	0.99

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.

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MOVEMENT SUMMARY

Site: MPL03 [MPL03 Bent St / Bligh St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 1412
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Bent St (SE)															
21	L2	All MCs	144	21.9	144	21.9	0.239	6.8	LOS A	3.0	23.3	0.27	0.41	0.27	18.3
22	T1	All MCs	420	5.8	420	5.8	* 0.239	3.3	LOS A	3.0	23.3	0.25	0.27	0.25	27.6
Approach			564	9.9	564	9.9	0.239	4.1	LOS A	3.0	23.3	0.26	0.30	0.26	25.6
NorthWest: Bent St (NW)															
28	T1	All MCs	199	0.0	199	0.0	0.133	2.9	LOS A	2.2	15.5	0.28	0.23	0.28	25.3
29	R2	All MCs	86	2.4	86	2.4	* 0.152	7.7	LOS A	1.1	8.2	0.39	0.61	0.39	16.0
Approach			285	0.7	285	0.7	0.152	4.3	LOS A	2.2	15.5	0.31	0.35	0.31	21.4
All Vehicles			849	6.8	849	6.8	0.239	4.2	LOS A	3.0	23.3	0.27	0.32	0.27	24.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Bent St (SE)											
P5	Full	187	35.8	LOS D	0.4	0.4	0.90	0.90	202.5	200.0	0.99
NorthWest: Bent St (NW)											
P7	Full	742	36.7	LOS D	1.7	1.7	0.92	0.92	203.4	200.0	0.98
SouthWest: Bligh St (SW)											
P8	Full	278	36.9	LOS D	0.6	0.6	0.91	0.91	203.5	200.0	0.98
All Pedestrians		1207	36.6	LOS D	1.7	1.7	0.91	0.91	203.3	200.0	0.98

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.

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MOVEMENT SUMMARY

Site: MPL04 [MPL04 Bent St / Phillip St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 242
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Bent St (SE)															
21	L2	All MCs	75	7.0	75	7.0	0.074	17.0	LOS B	0.7	4.9	0.26	0.50	0.26	26.1
22	T1	All MCs	300	3.5	300	3.5	0.747	46.5	LOS D	9.4	67.5	1.00	0.93	1.15	7.1
23a	R1	All MCs	44	7.1	44	7.1	* 0.747	51.9	LOS D	6.4	46.9	1.00	0.93	1.19	13.3
Approach			419	4.5	419	4.5	0.747	41.8	LOS C	9.4	67.5	0.87	0.85	1.00	9.1
North: Phillip St (N)															
7a	L1	All MCs	148	0.0	148	0.0	* 0.196	15.9	LOS B	4.0	30.6	0.58	0.64	0.58	23.7
9a	R1	All MCs	217	24.8	217	24.8	0.196	9.8	LOS A	4.0	30.6	0.47	0.55	0.47	24.5
Approach			365	14.7	365	14.7	0.196	12.3	LOS A	4.0	30.6	0.51	0.59	0.51	24.1
NorthWest: Bent St (NW)															
27b	L3	All MCs	24	0.0	24	0.0	0.489	44.7	LOS D	4.2	29.7	0.88	0.71	0.88	13.9
28	T1	All MCs	149	0.0	149	0.0	0.489	32.7	LOS C	4.2	29.7	0.88	0.71	0.88	10.5
29	R2	All MCs	24	0.0	24	0.0	0.489	44.8	LOS D	3.5	24.4	0.88	0.70	0.88	4.8
Approach			198	0.0	198	0.0	0.489	35.6	LOS C	4.2	29.7	0.88	0.71	0.88	10.4
SouthWest: Phillip St (SW)															
30	L2	All MCs	262	17.3	262	17.3	0.247	9.7	LOS A	4.5	36.4	0.42	0.63	0.42	23.5
30a	L1	All MCs	329	11.5	329	11.5	0.268	7.2	LOS A	5.6	42.9	0.42	0.51	0.42	31.5
32	R2	All MCs	238	2.2	238	2.2	* 0.438	20.2	LOS B	7.3	52.2	0.85	0.71	0.85	20.2
Approach			829	10.7	829	10.7	0.438	11.7	LOS A	7.3	52.2	0.54	0.61	0.54	25.7
All Vehicles			1812	8.9	1812	8.9	0.747	21.4	LOS B	9.4	67.5	0.65	0.67	0.68	18.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Bent St (SE)											
P5	Full	728	34.9	LOS D	1.7	1.7	0.89	0.89	201.5	200.0	0.99
North: Phillip St (N)											
P3	Full	529	36.4	LOS D	1.2	1.2	0.91	0.91	203.0	200.0	0.99
NorthWest: Bent St (NW)											
P7	Full	373	36.1	LOS D	0.9	0.9	0.90	0.90	202.8	200.0	0.99
SouthWest: Phillip St (SW)											
P8	Full	416	34.4	LOS D	0.9	0.9	0.88	0.88	201.1	200.0	0.99
All Pedestrians		2046	35.4	LOS D	1.7	1.7	0.90	0.90	202.0	200.0	0.99

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.

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MOVEMENT SUMMARY

Site: MPL05 [MPL05 Pedestrian Mid-block Crossing at Castlereagh St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TCS 245
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 44 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
North: Castlereagh St (N)															
8	T1	All MCs	416	9.4	416	9.4	* 0.557	12.3	LOS A	6.9	49.0	0.84	0.71	0.84	26.5
Approach			416	9.4	416	9.4	0.557	12.3	LOS A	6.9	49.0	0.84	0.71	0.84	26.5
All Vehicles			416	9.4	416	9.4	0.557	12.3	LOS A	6.9	49.0	0.84	0.71	0.84	26.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Castlereagh St (S)												
P1	Full	2706	2848	15.8	LOS B	3.2	3.2	0.90	0.90	182.5	200.0	1.10
All Pedestrians		2706	2848	15.8	LOS B	3.2	3.2	0.90	0.90	182.5	200.0	1.10

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.

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MOVEMENT SUMMARY

Site: MPL06 [MPL06 Pedestrian Mid-block Crossing at Elizabeth St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TCS 287
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 91 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Elizabeth St (S)															
2	T1	All MCs	1025	9.8	1025	9.8	* 0.434	11.0	LOS A	10.8	81.6	0.51	0.45	0.51	30.0
Approach			1025	9.8	1025	9.8	0.434	8.8	LOS A	10.8	81.6	0.51	0.45	0.51	30.0
North: Elizabeth St (N)															
8	T1	All MCs	483	21.1	483	21.1	0.310	7.3	LOS A	7.4	52.7	0.46	0.40	0.46	30.7
Approach			483	21.1	483	21.1	0.310	7.3	LOS A	7.4	52.7	0.46	0.40	0.46	30.7
All Vehicles			1508	13.4	1508	13.4	0.434	9.8	LOS A	10.8	81.6	0.50	0.44	0.50	30.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Elizabeth St (S)												
P1	Full	4943	5203	46.0	LOS E	15.3	15.3	1.14	1.14	212.7	200.0	0.94
All Pedestrians		4943	5203	46.0	LOS E	15.3	15.3	1.14	1.14	212.7	200.0	0.94

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.

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MOVEMENT SUMMARY

Site: MPL01 [MPL01 Hunter St / Castlereagh St / Bligh St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 244
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Hunter St (E)															
4	L2	All MCs	81	2.6	81	2.6	0.108	15.7	LOS B	1.3	9.3	0.53	0.63	0.53	21.8
6a	R1	All MCs	209	1.0	209	1.0	* 0.258	13.3	LOS A	3.4	24.3	0.55	0.58	0.55	22.7
Approach			291	1.4	291	1.4	0.258	13.9	LOS A	3.4	24.3	0.54	0.60	0.54	22.4
North: Bligh St (N)															
7	L2	All MCs	66	33.3	66	33.3	* 0.263	29.2	LOS C	1.9	14.5	0.89	0.74	0.89	14.6
8	T1	All MCs	37	8.6	37	8.6	0.055	21.7	LOS B	0.6	3.3	0.83	0.61	0.83	22.4
9b	R3	All MCs	6	0.0	6	0.0	0.055	28.6	LOS C	0.5	3.2	0.83	0.63	0.83	20.3
Approach			109	23.1	109	23.1	0.263	26.6	LOS B	1.9	14.5	0.86	0.69	0.86	17.8
NorthWest: Hunter St (NW)															
27a	L1	All MCs	192	6.6	192	6.6	0.127	9.6	LOS A	1.9	14.0	0.50	0.58	0.50	20.9
29a	R1	All MCs	43	0.0	43	0.0	* 0.127	10.7	LOS A	1.7	12.5	0.53	0.58	0.53	26.5
Approach			235	5.4	235	5.4	0.127	9.8	LOS A	1.9	14.0	0.51	0.58	0.51	22.4
All Vehicles			635	6.6	635	6.6	0.263	14.6	LOS B	3.4	24.3	0.58	0.61	0.58	21.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Castlereagh St (S)											
P1	Full	151	26.0	LOS C	0.2	0.2	0.90	0.90	192.7	200.0	1.04
East: Hunter St (E)											
P2	Full	93	22.5	LOS C	0.1	0.1	0.83	0.83	189.2	200.0	1.06
North: Bligh St (N)											
P3	Full	82	26.0	LOS C	0.1	0.1	0.90	0.90	192.6	200.0	1.04
NorthWest: Hunter St (NW)											
P7	Full	96	23.4	LOS C	0.2	0.2	0.85	0.85	190.0	200.0	1.05
All Pedestrians		421	24.6	LOS C	0.2	0.2	0.87	0.87	191.3	200.0	1.05

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.

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MOVEMENT SUMMARY

Site: MPL02 [MPL02 Hunter St / Elizabeth St / Chifley Square (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 302
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Elizabeth St (S)															
1	L2	All MCs	138	1.5	138	1.5	0.153	13.2	LOS A	2.4	12.2	0.58	0.66	0.58	20.0
3a	R1	All MCs	440	17.0	440	17.0	0.679	19.8	LOS B	11.9	95.8	0.88	0.81	0.90	16.4
3	R2	All MCs	134	2.4	134	2.4	* 0.359	21.7	LOS B	3.3	16.8	0.88	0.76	0.88	20.6
Approach			712	11.2	712	11.2	0.679	18.9	LOS B	11.9	95.8	0.82	0.77	0.83	18.0
East: Hunter St (E)															
4	L2	All MCs	74	7.1	74	7.1	0.093	14.4	LOS A	1.3	7.2	0.59	0.65	0.59	24.5
5	T1	All MCs	152	1.4	152	1.4	* 0.247	18.0	LOS B	3.6	18.3	0.78	0.63	0.78	16.9
Approach			225	3.3	225	3.3	0.247	16.9	LOS B	3.6	18.3	0.71	0.64	0.71	19.8
NorthEast: Chifley Square (NE)															
24b	L3	All MCs	22	4.8	22	4.8	0.194	30.7	LOS C	1.2	12.4	0.87	0.72	0.87	18.4
24a	L1	All MCs	135	27.3	135	27.3	* 0.293	25.7	LOS B	3.1	24.5	0.88	0.74	0.88	19.6
Approach			157	24.2	157	24.2	0.293	26.4	LOS B	3.1	24.5	0.88	0.73	0.88	19.4
West: Hunter St (W)															
10a	L1	All MCs	108	3.9	108	3.9	0.212	20.0	LOS B	4.0	26.0	0.81	0.69	0.81	8.6
11	T1	All MCs	79	1.3	79	1.3	0.212	13.1	LOS A	4.0	26.0	0.82	0.70	0.82	19.1
12	R2	All MCs	66	46.0	66	46.0	* 0.212	18.5	LOS B	2.0	15.8	0.83	0.72	0.83	19.7
Approach			254	14.1	254	14.1	0.212	17.5	LOS B	4.0	26.0	0.82	0.70	0.82	15.8
All Vehicles			1347	12.0	1347	12.0	0.679	19.1	LOS B	11.9	95.8	0.81	0.73	0.82	18.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Elizabeth St (S)											
P1	Full	53	20.1	LOS C	0.1	0.1	0.79	0.79	186.7	200.0	1.07
East: Hunter St (E)											
P2	Full	120	25.1	LOS C	0.2	0.2	0.88	0.88	191.8	200.0	1.04
NorthEast: Chifley Square (NE)											
P6	Full	158	20.1	LOS C	0.2	0.2	0.79	0.79	186.8	200.0	1.07
West: Hunter St (W)											
P4	Full	112	23.4	LOS C	0.2	0.2	0.85	0.85	190.0	200.0	1.05
All Pedestrians		442	22.3	LOS C	0.2	0.2	0.83	0.83	189.0	200.0	1.06

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.

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MOVEMENT SUMMARY

Site: MPL03 [MPL03 Bent St / Bligh St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 1412
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Bent St (SE)															
21	L2	All MCs	71	28.4	71	28.4	0.085	6.2	LOS A	0.4	3.6	0.19	0.51	0.19	18.2
22	T1	All MCs	402	5.0	402	5.0	* 0.390	3.4	LOS A	3.1	22.6	0.26	0.23	0.26	29.9
Approach			473	8.5	473	8.5	0.390	3.8	LOS A	3.1	22.6	0.25	0.27	0.25	28.2
NorthWest: Bent St (NW)															
28	T1	All MCs	160	1.3	160	1.3	0.098	3.5	LOS A	1.3	9.5	0.36	0.32	0.36	22.2
29	R2	All MCs	38	13.9	38	13.9	* 0.098	8.2	LOS A	0.7	5.6	0.43	0.49	0.43	18.2
Approach			198	3.7	198	3.7	0.098	4.4	LOS A	1.3	9.5	0.38	0.36	0.38	21.3
All Vehicles			671	7.1	671	7.1	0.390	4.0	LOS A	3.1	22.6	0.29	0.29	0.29	26.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Bent St (SE)											
P5	Full	25	23.3	LOS C	0.0	0.0	0.85	0.85	190.0	200.0	1.05
NorthWest: Bent St (NW)											
P7	Full	104	23.4	LOS C	0.2	0.2	0.85	0.85	190.0	200.0	1.05
SouthWest: Bligh St (SW)											
P8	Full	49	24.2	LOS C	0.1	0.1	0.86	0.86	190.8	200.0	1.05
All Pedestrians		179	23.6	LOS C	0.2	0.2	0.85	0.85	190.2	200.0	1.05

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.

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MOVEMENT SUMMARY

Site: MPL04 [MPL04 Bent St / Phillip St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 242
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 65 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Bent St (SE)															
21	L2	All MCs	28	7.4	28	7.4	0.023	4.2	LOS A	0.1	0.9	0.18	0.46	0.18	28.4
22	T1	All MCs	319	2.6	319	2.6	* 0.790	29.0	LOS C	10.0	71.7	0.97	0.93	1.14	9.7
23a	R1	All MCs	38	5.6	38	5.6	0.790	35.7	LOS C	10.0	71.7	1.00	1.00	1.22	17.2
Approach			385	3.3	385	3.3	0.790	27.8	LOS B	10.0	71.7	0.91	0.90	1.08	11.2
North: Phillip St (N)															
7a	L1	All MCs	38	2.8	38	2.8	0.104	13.8	LOS A	1.4	11.1	0.58	0.60	0.58	25.6
9a	R1	All MCs	118	30.4	118	30.4	* 0.104	11.0	LOS A	1.4	11.1	0.56	0.58	0.56	23.3
Approach			156	23.6	156	23.6	0.104	11.7	LOS A	1.4	11.2	0.56	0.58	0.56	24.0
NorthWest: Bent St (NW)															
27b	L3	All MCs	7	0.0	7	0.0	0.229	24.0	LOS B	2.2	15.6	0.75	0.60	0.75	19.2
28	T1	All MCs	147	0.7	147	0.7	0.229	20.4	LOS B	2.2	15.6	0.78	0.62	0.78	14.8
29	R2	All MCs	12	0.0	12	0.0	0.229	31.9	LOS C	1.9	13.2	0.82	0.64	0.82	7.0
Approach			166	0.6	166	0.6	0.229	21.4	LOS B	2.2	15.6	0.78	0.62	0.78	14.6
SouthWest: Phillip St (SW)															
30	L2	All MCs	168	19.4	168	19.4	0.183	13.3	LOS A	3.4	27.7	0.67	0.60	0.67	20.7
30a	L1	All MCs	229	17.9	229	17.9	0.221	10.3	LOS A	4.6	37.4	0.68	0.51	0.68	29.0
32	R2	All MCs	151	3.5	151	3.5	* 0.238	16.1	LOS B	3.5	25.6	0.96	0.61	0.96	22.3
Approach			548	14.4	548	14.4	0.238	12.8	LOS A	4.6	37.4	0.75	0.56	0.75	25.1
All Vehicles			1256	10.3	1256	10.3	0.790	18.4	LOS B	10.0	71.7	0.78	0.68	0.83	19.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Bent St (SE)											
P5	Full	118	21.7	LOS C	0.2	0.2	0.82	0.82	188.4	200.0	1.06
North: Phillip St (N)											
P3	Full	28	23.3	LOS C	0.0	0.0	0.85	0.85	190.0	200.0	1.05
NorthWest: Bent St (NW)											
P7	Full	83	23.4	LOS C	0.1	0.1	0.85	0.85	190.0	200.0	1.05
SouthWest: Phillip St (SW)											
P8	Full	78	21.7	LOS C	0.1	0.1	0.82	0.82	188.3	200.0	1.06
All Pedestrians		307	22.3	LOS C	0.2	0.2	0.83	0.83	189.0	200.0	1.06

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.

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MOVEMENT SUMMARY

Site: MPL05 [MPL05 Pedestrian Mid-block Crossing at Castlereagh St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TCS 245
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 51 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
North: Castlereagh St (N)															
8	T1	All MCs	216	5.4	216	5.4	* 0.211	6.4	LOS A	2.7	20.1	0.54	0.45	0.54	31.7
Approach			216	5.4	216	5.4	0.211	6.4	LOS A	2.7	20.1	0.54	0.45	0.54	31.7
All Vehicles			216	5.4	216	5.4	0.211	6.4	LOS A	2.7	20.1	0.54	0.45	0.54	31.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		ped	m			sec	m	m/sec
South: Castlereagh St (S)												
P1	Full	589	620	17.8	LOS B	0.8	0.8	0.85	0.85	184.4	200.0	1.08
All Pedestrians		589	620	17.8	LOS B	0.8	0.8	0.85	0.85	184.4	200.0	1.08

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.

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MOVEMENT SUMMARY

Site: MPL06 [MPL06 Pedestrian Mid-block Crossing at Elizabeth St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TCS 287
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 45 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Elizabeth St (S)															
2	T1	All MCs	709	11.0	709	11.0	* 0.672	20.7	LOS B	7.2	55.4	0.92	0.83	1.00	23.8
Approach			709	11.0	709	11.0	0.672	17.5	LOS B	7.2	55.4	0.92	0.83	1.00	23.8
North: Elizabeth St (N)															
8	T1	All MCs	274	26.2	274	26.2	0.389	14.3	LOS A	3.9	28.0	0.83	0.68	0.83	25.2
Approach			274	26.2	274	26.2	0.389	14.3	LOS A	3.9	28.0	0.83	0.68	0.83	25.2
All Vehicles			983	15.2	983	15.2	0.672	18.9	LOS B	7.2	55.4	0.90	0.79	0.96	24.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Elizabeth St (S)												
P1	Full	600	632	14.0	LOS B	0.6	0.6	0.80	0.80	180.6	200.0	1.11
All Pedestrians		600	632	14.0	LOS B	0.6	0.6	0.80	0.80	180.6	200.0	1.11

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.

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MOVEMENT SUMMARY

Site: PIT01 [PIT01 Pitt St / Bathurst St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 2312
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 52 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Pitt St (S)															
2	T1	All MCs	271	7.0	271	7.0	* 0.297	17.7	LOS B	2.9	21.5	0.85	0.68	0.85	21.8
3	R2	All MCs	108	8.7	108	8.7	0.369	25.7	LOS B	2.6	19.5	0.92	0.77	0.92	17.9
Approach			379	7.5	379	7.5	0.369	20.0	LOS B	2.9	21.5	0.87	0.71	0.87	20.6
West: Bathurst St (W)															
10	L2	All MCs	245	3.9	245	3.9	* 0.374	16.0	LOS B	4.4	31.5	0.73	0.74	0.73	14.8
11	T1	All MCs	945	4.6	945	4.6	0.338	8.3	LOS A	4.9	35.7	0.62	0.53	0.62	20.5
Approach			1191	4.4	1191	4.4	0.374	9.9	LOS A	4.9	35.7	0.64	0.57	0.64	19.0
All Vehicles			1569	5.2	1569	5.2	0.374	12.4	LOS A	4.9	35.7	0.70	0.61	0.70	19.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Pitt St (S)											
P1	Full	752	21.0	LOS C	1.0	1.0	0.91	0.91	37.7	20.0	0.53
East: Bathurst St (E)											
P2	Full	369	20.7	LOS C	0.5	0.5	0.90	0.90	37.3	20.0	0.54
North: Pitt St (N)											
P3	Full	803	21.1	LOS C	1.1	1.1	0.92	0.92	37.7	20.0	0.53
West: Bathurst St (W)											
P4	Full	678	18.3	LOS B	0.9	0.9	0.85	0.85	35.0	20.0	0.57
All Pedestrians		2602	20.3	LOS C	1.1	1.1	0.90	0.90	36.9	20.0	0.54

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.

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MOVEMENT SUMMARY

Site: PIT02 [PIT02 Castlereagh St / Bathurst St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 2281
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 52 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
North: Castlereagh St (N)															
7	L2	All MCs	85	8.6	85	8.6	0.326	26.0	LOS B	2.1	15.5	0.93	0.75	0.93	15.0
8	T1	All MCs	262	10.0	262	10.0	* 0.256	15.8	LOS B	2.6	20.1	0.81	0.65	0.81	27.0
Approach			347	9.7	347	9.7	0.326	18.3	LOS B	2.6	20.1	0.84	0.67	0.84	24.3
West: Bathurst St (W)															
11	T1	All MCs	888	4.5	888	4.5	0.319	3.4	LOS A	3.2	23.1	0.30	0.26	0.30	30.1
12	R2	All MCs	156	7.4	156	7.4	* 0.319	13.3	LOS A	2.5	18.8	0.55	0.66	0.55	26.7
Approach			1044	4.9	1044	4.9	0.319	4.9	LOS A	3.2	23.1	0.33	0.32	0.33	29.0
All Vehicles			1392	6.1	1392	6.1	0.326	8.2	LOS A	3.2	23.1	0.46	0.41	0.46	26.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Castlereagh St (S)											
P1	Full	746	16.7	LOS B	0.9	0.9	0.81	0.81	33.3	20.0	0.60
East: Bathurst St (E)											
P2	Full	371	15.6	LOS B	0.4	0.4	0.78	0.78	32.3	20.0	0.62
North: Castlereagh St (N)											
P3	Full	424	19.8	LOS B	0.6	0.6	0.88	0.88	36.5	20.0	0.55
West: Bathurst St (W)											
P4	Full	347	16.4	LOS B	0.4	0.4	0.80	0.80	33.1	20.0	0.60
All Pedestrians		1888	17.1	LOS B	0.9	0.9	0.82	0.82	33.8	20.0	0.59

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.

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MOVEMENT SUMMARY

Site: PIT03 [PIT03 Park St / Castlereagh St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 250
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 91 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Park St (E)															
4	L2	All MCs	97	4.3	97	4.3	0.108	15.5	LOS B	2.2	16.1	0.55	0.64	0.55	9.1
5	T1	All MCs	397	17.8	397	17.8	* 0.349	10.9	LOS A	8.2	60.7	0.56	0.48	0.56	11.9
Approach			494	15.1	494	15.1	0.349	11.8	LOS A	8.2	60.7	0.56	0.52	0.56	11.2
North: Castlereagh St (N)															
7	L2	All MCs	143	8.8	143	8.8	0.320	32.9	LOS C	5.2	39.1	0.85	0.76	0.85	17.7
8	T1	All MCs	226	8.4	226	8.4	* 0.567	34.9	LOS C	9.1	68.3	0.94	0.78	0.94	16.5
9	R2	All MCs	91	10.5	91	10.5	0.432	44.7	LOS D	3.9	29.6	0.96	0.77	0.96	13.8
Approach			460	8.9	460	8.9	0.567	36.2	LOS C	9.1	68.3	0.92	0.77	0.92	16.3
West: Park St (W)															
11	T1	All MCs	139	30.3	139	30.3	0.214	11.0	LOS A	3.3	25.2	0.56	0.50	0.56	19.2
12	R2	All MCs	49	25.5	49	25.5	* 0.214	15.1	LOS B	3.3	25.2	0.59	0.54	0.59	15.4
Approach			188	29.1	188	29.1	0.214	12.1	LOS A	3.3	25.2	0.57	0.51	0.57	18.3
All Vehicles			1142	14.9	1142	14.9	0.567	21.7	LOS B	9.1	68.3	0.70	0.62	0.70	15.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Castlereagh St (S)											
P1	Full	801	40.1	LOS E	2.0	2.0	0.95	0.95	56.8	20.0	0.35
East: Park St (E)											
P2	Full	283	33.8	LOS D	0.6	0.6	0.87	0.87	50.5	20.0	0.40
North: Castlereagh St (N)											
P3	Full	581	36.9	LOS D	1.4	1.4	0.91	0.91	53.6	20.0	0.37
West: Park St (W)											
P4	Full	333	33.9	LOS D	0.7	0.7	0.87	0.87	50.6	20.0	0.40
All Pedestrians		1998	37.3	LOS D	2.0	2.0	0.92	0.92	53.9	20.0	0.37

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.

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MOVEMENT SUMMARY

Site: PIT04 [PIT04 Park St / Pitt St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 235
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 91 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Pitt St (S)															
1	L2	All MCs	136	6.2	136	6.2	* 0.887	36.8	LOS C	4.3	32.1	1.00	0.99	1.48	13.3
2	T1	All MCs	274	6.5	274	6.5	0.537	26.7	LOS B	5.8	42.6	0.86	0.72	0.86	28.2
3	R2	All MCs	97	3.3	97	3.3	0.351	36.2	LOS C	2.3	16.3	0.93	0.75	0.93	13.9
Approach			506	5.8	506	5.8	0.887	31.2	LOS C	5.8	42.6	0.91	0.80	1.04	21.4
East: Park St (E)															
5	T1	All MCs	393	19.6	393	19.6	0.738	14.6	LOS B	9.5	69.9	0.89	0.79	0.93	18.8
6	R2	All MCs	95	3.3	95	3.3	* 0.738	19.9	LOS B	9.5	69.9	0.93	0.84	0.97	24.6
Approach			487	16.4	487	16.4	0.738	15.7	LOS B	9.5	69.9	0.90	0.80	0.93	20.4
West: Park St (W)															
10	L2	All MCs	1	100.0	1	100.0	0.136	18.2	LOS B	0.8	10.2	0.68	0.53	0.68	28.1
11	T1	All MCs	49	100.0	49	100.0	0.136	10.3	LOS A	0.8	10.2	0.68	0.53	0.68	16.7
Approach			51	100.0	51	100.0	0.136	10.4	LOS A	0.8	10.2	0.68	0.53	0.68	17.2
All Vehicles			1044	15.3	1044	15.3	0.887	23.0	LOS B	9.5	69.9	0.90	0.79	0.97	20.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Pitt St (S)											
P1	Full	991	17.1	LOS B	1.2	1.2	0.88	0.88	33.8	20.0	0.59
East: Park St (E)											
P2	Full	385	13.4	LOS B	0.4	0.4	0.77	0.77	30.1	20.0	0.66
North: Pitt St (N)											
P3	Full	584	18.6	LOS B	0.7	0.7	0.91	0.91	35.3	20.0	0.57
West: Park St (W)											
P4	Full	806	12.9	LOS B	0.9	0.9	0.76	0.76	29.6	20.0	0.68
All Pedestrians		2766	15.7	LOS B	1.2	1.2	0.84	0.84	32.4	20.0	0.62

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.

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MOVEMENT SUMMARY

Site: PIT01 [PIT01 Pitt St / Bathurst St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 2312
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Pitt St (S)															
2	T1	All MCs	298	0.4	298	0.4	0.432	39.9	LOS C	7.7	54.3	0.89	0.73	0.89	16.2
3	R2	All MCs	164	3.2	164	3.2	* 0.690	70.8	LOS F	7.1	51.4	0.98	0.85	1.08	13.0
Approach			462	1.4	462	1.4	0.690	50.9	LOS D	7.7	54.3	0.92	0.77	0.96	14.9
West: Bathurst St (W)															
10	L2	All MCs	191	4.4	191	4.4	0.226	17.2	LOS B	4.1	29.9	0.53	0.66	0.53	15.4
11	T1	All MCs	1149	1.6	1149	1.6	* 0.347	9.7	LOS A	8.7	61.4	0.52	0.45	0.52	19.6
Approach			1340	2.0	1340	2.0	0.347	10.7	LOS A	8.7	61.4	0.52	0.48	0.52	18.9
All Vehicles			1802	1.8	1802	1.8	0.690	21.0	LOS B	8.7	61.4	0.62	0.56	0.63	16.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Pitt St (S)											
P1	Full	714	40.4	LOS E	1.8	1.8	0.96	0.96	57.1	20.0	0.35
East: Bathurst St (E)											
P2	Full	589	40.2	LOS E	1.4	1.4	0.96	0.96	56.9	20.0	0.35
North: Pitt St (N)											
P3	Full	1135	41.1	LOS E	2.8	2.8	0.98	0.98	57.8	20.0	0.35
West: Bathurst St (W)											
P4	Full	927	37.9	LOS D	2.2	2.2	0.94	0.94	54.6	20.0	0.37
All Pedestrians		3365	39.9	LOS D	2.8	2.8	0.96	0.96	56.6	20.0	0.35

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.

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MOVEMENT SUMMARY

Site: PIT02 [PIT02 Castlereagh St / Bathurst St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 2281
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 90 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
North: Castlereagh St (N)															
7	L2	All MCs	140	9.8	140	9.8	* 0.441	39.3	LOS C	5.6	42.6	0.93	0.78	0.93	11.5
8	T1	All MCs	285	22.1	285	22.1	0.439	29.7	LOS C	8.3	59.0	0.87	0.71	0.87	21.1
Approach			425	18.1	425	18.1	0.441	32.8	LOS C	8.3	59.0	0.89	0.74	0.89	18.1
West: Bathurst St (W)															
11	T1	All MCs	1153	1.7	1153	1.7	0.292	3.9	LOS A	5.9	41.8	0.25	0.23	0.25	28.7
12	R2	All MCs	143	3.7	143	3.7	* 0.292	14.0	LOS A	5.1	36.7	0.44	0.53	0.44	27.9
Approach			1296	1.9	1296	1.9	0.292	5.0	LOS A	5.9	41.8	0.27	0.27	0.27	28.5
All Vehicles			1721	5.9	1721	5.9	0.441	11.9	LOS A	8.3	59.0	0.42	0.38	0.42	23.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Castlereagh St (S)											
P1	Full	409	35.3	LOS D	0.9	0.9	0.89	0.89	51.9	20.0	0.39
East: Bathurst St (E)											
P2	Full	293	34.2	LOS D	0.7	0.7	0.88	0.88	50.9	20.0	0.39
North: Castlereagh St (N)											
P3	Full	1037	40.0	LOS E	2.6	2.6	0.96	0.96	56.7	20.0	0.35
West: Bathurst St (W)											
P4	Full	1064	36.3	LOS D	2.5	2.5	0.92	0.92	52.9	20.0	0.38
All Pedestrians		2803	37.3	LOS D	2.6	2.6	0.93	0.93	54.0	20.0	0.37

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.

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MOVEMENT SUMMARY

Site: PIT03 [PIT03 Park St / Castlereagh St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 250
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 91 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Park St (E)															
4	L2	All MCs	61	12.1	61	12.1	0.100	16.5	LOS B	1.7	14.6	0.56	0.61	0.56	9.1
5	T1	All MCs	433	16.5	433	16.5	* 0.349	11.9	LOS A	9.0	63.9	0.58	0.51	0.58	11.1
Approach			494	16.0	494	16.0	0.349	12.5	LOS A	9.0	63.9	0.58	0.52	0.58	10.8
North: Castlereagh St (N)															
7	L2	All MCs	151	0.7	151	0.7	0.286	30.8	LOS C	5.2	36.9	0.82	0.75	0.82	18.4
8	T1	All MCs	273	19.7	273	19.7	0.674	54.1	LOS D	9.5	67.8	0.94	0.81	0.98	16.5
9	R2	All MCs	86	7.3	86	7.3	* 0.772	74.5	LOS F	4.1	30.9	1.00	0.95	1.32	12.5
Approach			509	12.0	509	12.0	0.772	50.7	LOS D	9.5	67.8	0.92	0.81	0.99	16.2
West: Park St (W)															
11	T1	All MCs	174	27.3	174	27.3	0.298	12.7	LOS A	4.9	37.8	0.61	0.54	0.61	17.9
12	R2	All MCs	65	32.3	65	32.3	* 0.298	17.0	LOS B	4.9	37.8	0.64	0.59	0.64	14.1
Approach			239	28.6	239	28.6	0.298	13.8	LOS A	4.9	37.8	0.62	0.55	0.62	16.9
All Vehicles			1242	16.8	1242	16.8	0.772	28.4	LOS B	9.5	67.8	0.73	0.65	0.76	15.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Castlereagh St (S)											
P1	Full	1183	40.8	LOS E	3.0	3.0	0.97	0.97	57.4	20.0	0.35
East: Park St (E)											
P2	Full	327	33.9	LOS D	0.7	0.7	0.87	0.87	50.6	20.0	0.40
North: Castlereagh St (N)											
P3	Full	1086	37.8	LOS D	2.6	2.6	0.93	0.93	54.4	20.0	0.37
West: Park St (W)											
P4	Full	573	34.2	LOS D	1.3	1.3	0.88	0.88	50.9	20.0	0.39
All Pedestrians		3169	37.9	LOS D	3.0	3.0	0.93	0.93	54.5	20.0	0.37

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.

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MOVEMENT SUMMARY

Site: PIT04 [PIT04 Park St / Pitt St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 235
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Pitt St (S)															
1	L2	All MCs	151	5.6	151	5.6	* 0.967	51.3	LOS D	5.8	42.4	1.00	1.12	1.76	10.6
2	T1	All MCs	224	0.0	224	0.0	0.407	20.6	LOS B	4.3	30.4	0.82	0.67	0.82	28.9
3	R2	All MCs	116	2.7	116	2.7	0.601	34.1	LOS C	2.9	20.9	1.00	0.79	1.03	12.9
Approach			491	2.4	491	2.4	0.967	33.2	LOS C	5.8	42.4	0.91	0.84	1.16	18.4
East: Park St (E)															
5	T1	All MCs	460	16.7	460	16.7	0.697	13.2	LOS A	8.9	63.4	0.88	0.75	0.88	20.0
6	R2	All MCs	59	1.8	59	1.8	* 0.697	19.2	LOS B	8.9	63.4	0.91	0.79	0.91	25.7
Approach			519	15.0	519	15.0	0.697	13.9	LOS A	8.9	63.4	0.88	0.76	0.88	20.9
West: Park St (W)															
10	L2	All MCs	1	100.0	1	100.0	0.178	18.6	LOS B	1.0	13.4	0.70	0.55	0.70	27.9
11	T1	All MCs	64	100.0	64	100.0	0.178	10.6	LOS A	1.0	13.4	0.70	0.55	0.70	16.4
Approach			65	100.0	65	100.0	0.178	10.8	LOS A	1.0	13.4	0.70	0.55	0.70	16.8
All Vehicles			1075	14.4	1075	14.4	0.967	22.5	LOS B	8.9	63.4	0.89	0.78	1.00	19.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance											
Mov ID	Crossing	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE [Ped	Dist]	Prop. Que	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	sec		ped	m			sec	m	m/sec
South: Pitt St (S)											
P1	Full	1582	17.3	LOS B	2.0	2.0	0.90	0.90	34.0	20.0	0.59
East: Park St (E)											
P2	Full	1468	13.8	LOS B	1.6	1.6	0.80	0.80	30.5	20.0	0.66
North: Pitt St (N)											
P3	Full	1461	19.0	LOS B	1.9	1.9	0.95	0.95	35.7	20.0	0.56
West: Park St (W)											
P4	Full	1529	13.0	LOS B	1.7	1.7	0.78	0.78	29.7	20.0	0.67
All Pedestrians		6041	15.8	LOS B	2.0	2.0	0.86	0.86	32.4	20.0	0.62

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.

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MOVEMENT SUMMARY

Site: PIT01 [PIT01 Pitt St / Bathurst St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 2312
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 45 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Pitt St (S)															
2	T1	All MCs	222	0.9	222	0.9	0.235	15.3	LOS B	2.0	14.4	0.84	0.66	0.84	23.3
3	R2	All MCs	107	4.9	107	4.9	* 0.391	23.8	LOS B	2.3	16.7	0.94	0.77	0.94	18.6
Approach			329	2.2	329	2.2	0.391	18.1	LOS B	2.3	16.7	0.87	0.69	0.87	21.5
West: Bathurst St (W)															
10	L2	All MCs	216	1.5	216	1.5	0.280	13.9	LOS A	3.2	22.6	0.69	0.71	0.69	16.1
11	T1	All MCs	1039	1.5	1039	1.5	* 0.381	8.3	LOS A	5.0	35.8	0.67	0.57	0.67	20.6
Approach			1255	1.5	1255	1.5	0.381	9.2	LOS A	5.0	35.8	0.67	0.59	0.67	19.6
All Vehicles			1584	1.7	1584	1.7	0.391	11.1	LOS A	5.0	35.8	0.71	0.62	0.71	20.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Pitt St (S)											
P1	Full	303	17.1	LOS B	0.3	0.3	0.88	0.88	33.8	20.0	0.59
East: Bathurst St (E)											
P2	Full	301	17.1	LOS B	0.3	0.3	0.88	0.88	33.8	20.0	0.59
North: Pitt St (N)											
P3	Full	198	17.0	LOS B	0.2	0.2	0.87	0.87	33.7	20.0	0.59
West: Bathurst St (W)											
P4	Full	449	14.7	LOS B	0.5	0.5	0.82	0.82	31.3	20.0	0.64
All Pedestrians		1252	16.2	LOS B	0.5	0.5	0.85	0.85	32.9	20.0	0.61

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.

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MOVEMENT SUMMARY

Site: PIT02 [PIT02 Castlereagh St / Bathurst St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 2281
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 45 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
North: Castlereagh St (N)															
7	L2	All MCs	73	1.4	73	1.4	0.162	18.4	LOS B	1.3	9.3	0.82	0.71	0.82	18.2
8	T1	All MCs	168	8.1	168	8.1	* 0.150	12.4	LOS A	1.4	10.3	0.76	0.59	0.76	29.0
Approach			241	6.1	241	6.1	0.162	14.2	LOS A	1.4	10.3	0.78	0.63	0.78	26.3
West: Bathurst St (W)															
11	T1	All MCs	1023	1.5	1023	1.5	0.382	3.6	LOS A	3.2	22.5	0.34	0.30	0.34	29.5
12	R2	All MCs	131	3.2	131	3.2	* 0.382	11.2	LOS A	2.3	16.8	0.48	0.57	0.48	29.3
Approach			1154	1.7	1154	1.7	0.382	4.5	LOS A	3.2	22.5	0.36	0.33	0.36	29.5
All Vehicles			1395	2.5	1395	2.5	0.382	6.1	LOS A	3.2	22.5	0.43	0.38	0.43	28.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Castlereagh St (S)											
P1	Full	439	14.7	LOS B	0.5	0.5	0.81	0.81	31.3	20.0	0.64
East: Bathurst St (E)											
P2	Full	140	12.2	LOS B	0.1	0.1	0.74	0.74	28.8	20.0	0.69
North: Castlereagh St (N)											
P3	Full	224	16.2	LOS B	0.2	0.2	0.85	0.85	32.9	20.0	0.61
West: Bathurst St (W)											
P4	Full	171	12.9	LOS B	0.2	0.2	0.76	0.76	29.6	20.0	0.68
All Pedestrians		974	14.4	LOS B	0.5	0.5	0.80	0.80	31.0	20.0	0.64

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.

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MOVEMENT SUMMARY

Site: PIT03 [PIT03 Park St / Castlereagh St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 250
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Park St (E)															
4	L2	All MCs	43	2.4	43	2.4	0.047	12.7	LOS A	0.9	6.5	0.48	0.59	0.48	10.7
5	T1	All MCs	465	8.1	465	8.1	* 0.481	10.2	LOS A	10.5	74.9	0.58	0.51	0.58	12.5
Approach			508	7.7	508	7.7	0.481	10.4	LOS A	10.5	74.9	0.57	0.52	0.57	12.3
North: Castlereagh St (N)															
7	L2	All MCs	101	2.1	101	2.1	0.209	31.3	LOS C	3.5	24.8	0.82	0.73	0.82	18.2
8	T1	All MCs	155	5.4	155	5.4	* 0.381	33.4	LOS C	5.8	42.0	0.90	0.73	0.90	17.0
9	R2	All MCs	69	4.5	69	4.5	0.507	48.1	LOS D	3.1	22.7	0.99	0.77	0.99	13.1
Approach			325	4.2	325	4.2	0.507	35.9	LOS C	5.8	42.0	0.89	0.74	0.89	16.4
West: Park St (W)															
11	T1	All MCs	105	27.0	105	27.0	0.151	8.7	LOS A	2.3	16.9	0.51	0.46	0.51	20.8
12	R2	All MCs	36	8.8	36	8.8	* 0.151	14.5	LOS A	2.3	16.9	0.54	0.50	0.54	16.9
Approach			141	22.4	141	22.4	0.151	10.2	LOS A	2.3	16.9	0.52	0.47	0.52	19.9
All Vehicles			975	8.6	975	8.6	0.507	18.9	LOS B	10.5	74.9	0.67	0.59	0.67	15.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Castlereagh St (S)											
P1	Full	579	39.2	LOS D	1.4	1.4	0.95	0.95	55.9	20.0	0.36
East: Park St (E)											
P2	Full	222	33.2	LOS D	0.5	0.5	0.86	0.86	49.9	20.0	0.40
North: Castlereagh St (N)											
P3	Full	304	36.0	LOS D	0.7	0.7	0.90	0.90	52.7	20.0	0.38
West: Park St (W)											
P4	Full	492	33.6	LOS D	1.1	1.1	0.87	0.87	50.3	20.0	0.40
All Pedestrians		1597	36.1	LOS D	1.4	1.4	0.90	0.90	52.7	20.0	0.38

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.

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MOVEMENT SUMMARY

Site: PIT04 [PIT04 Park St / Pitt St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 235
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Pitt St (S)															
1	L2	All MCs	138	1.5	138	1.5	* 0.970	51.7	LOS D	5.4	38.2	1.00	1.11	1.79	10.6
2	T1	All MCs	226	0.9	226	0.9	0.401	21.7	LOS B	4.5	31.6	0.82	0.68	0.82	28.6
3	R2	All MCs	64	1.6	64	1.6	0.352	34.4	LOS C	1.6	11.1	0.97	0.74	0.97	13.0
Approach			428	1.2	428	1.2	0.970	33.3	LOS C	5.4	38.2	0.90	0.83	1.16	19.2
East: Park St (E)															
5	T1	All MCs	447	8.9	447	8.9	0.788	16.7	LOS B	11.9	84.9	0.93	0.86	1.00	17.7
6	R2	All MCs	87	1.2	87	1.2	* 0.788	20.7	LOS B	11.9	84.9	0.95	0.89	1.03	23.8
Approach			535	7.7	535	7.7	0.788	17.4	LOS B	11.9	84.9	0.93	0.86	1.01	19.1
West: Park St (W)															
10	L2	All MCs	1	100.0	1	100.0	0.079	17.4	LOS B	0.4	5.8	0.66	0.50	0.66	28.5
11	T1	All MCs	28	100.0	28	100.0	0.079	9.7	LOS A	0.4	5.8	0.66	0.50	0.66	17.2
Approach			29	100.0	29	100.0	0.079	10.0	LOS A	0.4	5.8	0.66	0.50	0.66	18.0
All Vehicles			993	7.6	993	7.6	0.970	24.0	LOS B	11.9	84.9	0.91	0.84	1.06	19.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Pitt St (S)											
P1	Full	900	16.8	LOS B	1.1	1.1	0.88	0.88	33.4	20.0	0.60
East: Park St (E)											
P2	Full	667	13.4	LOS B	0.7	0.7	0.78	0.78	30.1	20.0	0.67
North: Pitt St (N)											
P3	Full	340	18.1	LOS B	0.4	0.4	0.90	0.90	34.8	20.0	0.57
West: Park St (W)											
P4	Full	881	12.7	LOS B	1.0	1.0	0.76	0.76	29.4	20.0	0.68
All Pedestrians		2788	14.9	LOS B	1.1	1.1	0.82	0.82	31.5	20.0	0.63

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.

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CCG MOVEMENT SUMMARY

Common Control Group: CCG1 [CEN-N1]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CEN-N1 [CEN Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 108 seconds (CCG User-Given Phase Times)

Vehicle Movement Performance (CCG)

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
Site: CEN01 [CEN01 Elizabeth St / Eddy Ave]															
South: Elizabeth St (S)															
1a	L1	All MCs	340	5.6	340	5.6	0.311	2.1	LOS A	0.8	6.3	0.06	0.34	0.06	30.8
2	T1	All MCs	1123	7.3	1123	7.3	* 0.649	8.4	LOS A	7.9	57.1	0.55	0.55	0.55	25.0
Approach			1463	6.9	1463	6.9	0.649	7.0	LOS A	7.9	57.1	0.44	0.50	0.44	25.8
North: Elizabeth St (N)															
8	T1	All MCs	493	10.3	493	10.3	* 0.833	39.2	LOS C	25.2	185.7	0.96	0.94	1.08	8.8
9b	R3	All MCs	208	18.7	208	18.7	0.548	53.1	LOS D	5.4	43.6	0.98	0.79	0.98	9.6
Approach			701	12.8	701	12.8	0.833	43.3	LOS D	25.2	185.7	0.97	0.90	1.05	9.1
NorthWest: Eddy Ave (NW)															
27b	L3	All MCs	707	8.5	707	8.5	* 0.981	72.6	LOS F	20.9	157.2	1.00	1.27	1.56	7.7
29a	R1	All MCs	156	10.8	156	10.8	0.892	66.4	LOS E	9.5	72.9	1.00	1.11	1.41	3.5
Approach			863	8.9	863	8.9	0.981	71.5	LOS F	20.9	157.2	1.00	1.24	1.53	7.1
All Vehicles			3027	8.8	3027	8.8	0.981	33.8	LOS C	25.2	185.7	0.72	0.81	0.89	11.5
Site: CEN02 [CEN02 Elizabeth St / Foveaux St]															
South: Elizabeth St (S)															
2	T1	All MCs	961	8.0	961	8.0	0.719	31.5	LOS C	21.8	162.8	0.92	0.81	0.92	12.0
Approach			961	8.0	961	8.0	0.719	31.5	LOS C	21.8	162.8	0.92	0.81	0.92	12.0
SouthEast: Foveaux St (SE)															
21b	L3	All MCs	151	2.1	151	2.1	0.284	32.7	LOS C	5.9	41.7	0.78	0.75	0.78	17.2
23a	R1	All MCs	502	4.8	502	4.8	0.608	26.9	LOS B	10.2	74.4	0.81	0.78	0.81	12.3
Approach			653	4.2	653	4.2	0.608	28.2	LOS B	10.2	74.4	0.80	0.77	0.80	13.8
North: Elizabeth St (N)															
8	T1	All MCs	648	10.4	648	10.4	0.403	10.0	LOS A	7.8	57.1	0.34	0.29	0.34	25.1
Approach			648	10.4	648	10.4	0.403	10.0	LOS A	7.8	57.1	0.34	0.29	0.34	25.1
All Vehicles			2262	7.6	2262	7.6	0.719	24.4	LOS B	21.8	162.8	0.72	0.65	0.72	15.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: CEN03 [CEN03 Elizabeth St / Cooper St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CEN-N2 [CEN Network 2 (Network Folder: Block 1 Network - 2023 AM Peak)]

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Cooper St (SE)															
21b	L3	All MCs	89	4.7	89	4.7	0.090	6.2	LOS A	0.4	2.7	0.48	0.64	0.48	33.7
Approach			89	4.7	89	4.7	0.090	6.2	LOS A	0.4	2.7	0.48	0.64	0.48	33.7
North: Elizabeth St (N)															
7a	L1	All MCs	67	3.1	67	3.1	0.156	5.0	LOS A	0.5	4.0	0.24	0.26	0.24	36.5
8	T1	All MCs	705	12.5	705	12.5	0.156	0.0	LOS A	0.5	4.0	0.06	0.06	0.06	38.8
Approach			773	11.7	773	11.7	0.156	0.4	NA	0.5	4.0	0.07	0.08	0.07	38.3
All Vehicles			862	11.0	862	11.0	0.156	1.0	NA	0.5	4.0	0.11	0.14	0.11	37.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CEN05 [CEN05 Elizabeth St / Randle St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CEN-N2 [CEN Network 2 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 2916
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
North: Elizabeth St (N)															
8	T1	All MCs	700	11.4	700	11.4	0.247	2.6	LOS A	4.4	33.7	0.26	0.23	0.26	33.5
Approach			700	11.4	700	11.4	0.247	2.6	LOS A	4.4	33.7	0.26	0.23	0.26	33.5
SouthWest: Randle St (SW)															
30a	L1	All MCs	1058	8.1	1058	8.1	* 0.705	30.8	LOS C	22.6	169.0	0.76	0.78	0.76	20.6
32b	R3	All MCs	73	14.5	73	14.5	* 0.705	5.3	LOS A	16.2	122.5	0.78	0.81	0.78	13.5
Approach			1131	8.5	1131	8.5	0.705	29.1	LOS C	22.6	169.0	0.76	0.78	0.76	20.3
All Vehicles			1831	9.6	1831	9.6	0.705	19.0	LOS B	22.6	169.0	0.57	0.57	0.57	22.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Elizabeth St (S)											
P1	Full	407	49.1	LOS E	1.2	1.2	0.95	0.95	215.7	200.0	0.93
SouthWest: Randle St (SW)											
P8	Full	287	45.1	LOS E	0.8	0.8	0.91	0.91	211.8	200.0	0.94
All Pedestrians		695	47.4	LOS E	1.2	1.2	0.94	0.94	214.1	200.0	0.93

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.

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CCG MOVEMENT SUMMARY

Common Control Group: CCG1 [CCGName]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CEN-N1 [CEN Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (CCG User-Given Phase Times)

Vehicle Movement Performance (CCG)

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
Site: CEN01 [CEN01 Elizabeth St / Eddy Ave]															
South: Elizabeth St (S)															
1a	L1	All MCs	466	0.7	466	0.7	0.400	2.7	LOS A	3.0	22.2	0.16	0.42	0.16	29.0
2	T1	All MCs	917	4.4	917	4.4	* 0.548	11.3	LOS A	8.1	57.1	0.64	0.60	0.64	22.3
Approach			1383	3.1	1383	3.1	0.548	8.4	LOS A	8.1	57.1	0.47	0.54	0.47	23.7
North: Elizabeth St (N)															
8	T1	All MCs	620	5.9	620	5.9	* 0.779	36.9	LOS C	29.2	207.7	0.96	0.86	0.98	9.2
9b	R3	All MCs	359	10.0	359	10.0	0.636	49.8	LOS D	9.2	69.9	0.97	0.83	0.99	10.1
Approach			979	7.4	979	7.4	0.779	41.6	LOS C	29.2	207.7	0.97	0.85	0.98	9.6
NorthWest: Eddy Ave (NW)															
27b	L3	All MCs	716	4.6	716	4.6	* 0.792	30.8	LOS C	13.8	100.4	0.98	0.91	1.08	14.3
29a	R1	All MCs	160	11.2	160	11.2	* 0.936	74.6	LOS F	10.6	81.0	1.00	1.20	1.53	3.1
Approach			876	5.8	876	5.8	0.936	38.8	LOS C	13.8	100.4	0.98	0.96	1.16	11.3
All Vehicles			3238	5.1	3238	5.1	0.936	26.7	LOS B	29.2	207.7	0.76	0.75	0.81	13.4
Site: CEN02 [CEN02 Elizabeth St / Foveaux St]															
South: Elizabeth St (S)															
2	T1	All MCs	691	4.6	691	4.6	0.582	33.9	LOS C	15.5	113.1	0.89	0.77	0.89	11.4
Approach			691	4.6	691	4.6	0.582	33.9	LOS C	15.5	113.1	0.89	0.77	0.89	11.4
SouthEast: Foveaux St (SE)															
21b	L3	All MCs	198	2.1	198	2.1	0.318	29.2	LOS C	7.4	52.6	0.74	0.75	0.74	18.3
23a	R1	All MCs	693	1.7	693	1.7	0.890	51.6	LOS D	22.7	161.1	0.97	1.07	1.27	7.5
Approach			891	1.8	891	1.8	0.890	46.6	LOS D	22.7	161.1	0.92	1.00	1.15	9.7
North: Elizabeth St (N)															
8	T1	All MCs	780	7.0	780	7.0	0.529	9.6	LOS A	8.0	57.1	0.34	0.29	0.34	25.5
Approach			780	7.0	780	7.0	0.529	9.6	LOS A	8.0	57.1	0.34	0.29	0.34	25.5
All Vehicles			2361	4.3	2361	4.3	0.890	30.7	LOS C	22.7	161.1	0.72	0.70	0.81	13.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: CEN03 [CEN03 Elizabeth St / Cooper St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CEN-N2 [CEN Network 2 (Network Folder: Block 1 Network - 2023 PM Peak)]

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Cooper St (SE)															
21b	L3	All MCs	94	1.1	94	1.1	0.101	6.6	LOS A	0.4	2.9	0.52	0.68	0.52	33.4
Approach			94	1.1	94	1.1	0.101	6.6	LOS A	0.4	2.9	0.52	0.68	0.52	33.4
North: Elizabeth St (N)															
7a	L1	All MCs	74	0.0	74	0.0	0.199	5.4	LOS A	0.6	4.5	0.21	0.23	0.21	36.8
8	T1	All MCs	977	5.5	977	5.5	0.199	0.0	LOS A	0.6	4.5	0.05	0.06	0.05	38.9
Approach			1051	5.1	1051	5.1	0.199	0.4	NA	0.6	4.5	0.06	0.07	0.06	38.5
All Vehicles			1144	4.8	1144	4.8	0.199	0.9	NA	0.6	4.5	0.10	0.12	0.10	37.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CEN05 [CEN05 Elizabeth St / Randle St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CEN-N2 [CEN Network 2 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 2916
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
North: Elizabeth St (N)															
8	T1	All MCs	985	5.3	985	5.3	0.329	2.9	LOS A	6.7	49.2	0.28	0.25	0.28	33.0
Approach			985	5.3	985	5.3	0.329	2.9	LOS A	6.7	49.2	0.28	0.25	0.28	33.0
SouthWest: Randle St (SW)															
30a	L1	All MCs	798	4.7	798	4.7	* 0.502	24.8	LOS B	14.6	106.6	0.65	0.72	0.65	22.0
32b	R3	All MCs	65	1.6	65	1.6	* 0.502	5.1	LOS A	10.2	74.0	0.65	0.74	0.65	15.1
Approach			863	4.5	863	4.5	0.502	23.3	LOS B	14.6	106.6	0.65	0.72	0.65	21.6
All Vehicles			1848	5.0	1848	5.0	0.502	12.4	LOS A	14.6	106.6	0.45	0.47	0.45	25.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Elizabeth St (S)											
P1	Full	389	49.0	LOS E	1.2	1.2	0.95	0.95	215.7	200.0	0.93
SouthWest: Randle St (SW)											
P8	Full	312	45.1	LOS E	0.9	0.9	0.91	0.91	211.8	200.0	0.94
All Pedestrians		701	47.3	LOS E	1.2	1.2	0.93	0.93	214.0	200.0	0.93

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.

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CCG MOVEMENT SUMMARY

Common Control Group: CCG1 [CCGName]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CEN-N1 [CEN Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 112 seconds (CCG User-Given Phase Times)

Vehicle Movement Performance (CCG)

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
Site: CEN01 [CEN01 Elizabeth St / Eddy Ave]															
South: Elizabeth St (S)															
1a	L1	All MCs	401	2.4	401	2.4	0.454	2.7	LOS A	5.4	39.4	0.28	0.43	0.28	28.3
2	T1	All MCs	958	8.5	958	8.5	* 0.454	6.8	LOS A	6.0	45.2	0.48	0.46	0.48	27.3
Approach			1359	6.7	1359	6.7	0.454	5.6	LOS A	6.0	45.2	0.42	0.45	0.42	27.5
North: Elizabeth St (N)															
8	T1	All MCs	500	4.4	500	4.4	0.366	27.8	LOS B	9.9	72.3	0.78	0.66	0.78	11.3
9b	R3	All MCs	307	6.5	307	6.5	0.664	54.9	LOS D	8.3	61.6	0.99	0.84	1.04	9.4
Approach			807	5.2	807	5.2	0.664	38.1	LOS C	9.9	72.3	0.86	0.73	0.88	10.3
NorthWest: Eddy Ave (NW)															
27b	L3	All MCs	591	3.0	591	3.0	* 0.723	30.3	LOS C	11.3	80.8	0.97	0.86	1.01	14.5
29a	R1	All MCs	126	7.5	126	7.5	* 0.666	57.1	LOS E	7.0	52.4	1.00	0.85	1.07	4.0
Approach			717	3.8	717	3.8	0.723	35.0	LOS C	11.3	80.8	0.97	0.86	1.02	12.2
All Vehicles			2883	5.5	2883	5.5	0.723	22.0	LOS B	11.3	80.8	0.68	0.63	0.70	15.1
Site: CEN02 [CEN02 Elizabeth St / Foveaux St]															
South: Elizabeth St (S)															
2	T1	All MCs	848	8.9	848	8.9	* 0.647	31.8	LOS C	19.3	145.2	0.89	0.78	0.89	11.9
Approach			848	8.9	848	8.9	0.647	31.8	LOS C	19.3	145.2	0.89	0.78	0.89	11.9
SouthEast: Foveaux St (SE)															
21b	L3	All MCs	234	1.4	234	1.4	0.408	33.3	LOS C	9.6	68.2	0.80	0.78	0.80	17.0
23a	R1	All MCs	511	2.9	511	2.9	0.406	23.1	LOS B	9.1	65.3	0.70	0.72	0.70	13.6
Approach			744	2.4	744	2.4	0.408	26.3	LOS B	9.6	68.2	0.73	0.74	0.73	15.1
North: Elizabeth St (N)															
8	T1	All MCs	626	5.0	626	5.0	0.351	8.5	LOS A	8.0	57.1	0.28	0.24	0.28	26.7
Approach			626	5.0	626	5.0	0.351	8.5	LOS A	8.0	57.1	0.28	0.24	0.28	26.7
All Vehicles			2219	5.6	2219	5.6	0.647	23.4	LOS B	19.3	145.2	0.66	0.61	0.66	15.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

MOVEMENT SUMMARY

Site: CEN03 [CEN03 Elizabeth St / Cooper St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CEN-N2 [CEN Network 2 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Cooper St (SE)															
21b	L3	All MCs	67	3.1	67	3.1	0.062	5.7	LOS A	0.3	1.8	0.44	0.59	0.44	33.9
Approach			67	3.1	67	3.1	0.062	5.7	LOS A	0.3	1.8	0.44	0.59	0.44	33.9
North: Elizabeth St (N)															
7a	L1	All MCs	47	0.0	47	0.0	0.186	3.2	LOS A	0.3	2.5	0.08	0.10	0.08	37.7
8	T1	All MCs	967	4.9	967	4.9	0.186	0.0	LOS A	0.3	2.5	0.02	0.03	0.02	39.5
Approach			1015	4.7	1015	4.7	0.186	0.2	NA	0.3	2.5	0.03	0.03	0.03	39.3
All Vehicles			1082	4.6	1082	4.6	0.186	0.5	NA	0.3	2.5	0.05	0.07	0.05	38.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: CEN05 [CEN05 Elizabeth St / Randle St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CEN-N2 [CEN Network 2 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 2916
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
North: Elizabeth St (N)															
8	T1	All MCs	920	4.9	920	4.9	0.306	2.8	LOS A	6.1	44.6	0.27	0.24	0.27	33.1
Approach			920	4.9	920	4.9	0.306	2.8	LOS A	6.1	44.6	0.27	0.24	0.27	33.1
SouthWest: Randle St (SW)															
30a	L1	All MCs	935	8.8	935	8.8	* 0.604	27.6	LOS B	18.0	135.1	0.70	0.75	0.70	21.3
32b	R3	All MCs	95	2.2	95	2.2	* 0.604	4.7	LOS A	14.4	106.8	0.71	0.78	0.71	14.4
Approach			1029	8.2	1029	8.2	0.604	25.5	LOS B	18.0	135.1	0.70	0.75	0.70	20.9
All Vehicles			1949	6.6	1949	6.6	0.604	14.8	LOS B	18.0	135.1	0.50	0.51	0.50	24.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Elizabeth St (S)											
P1	Full	124	48.5	LOS E	0.4	0.4	0.94	0.94	215.1	200.0	0.93
SouthWest: Randle St (SW)											
P8	Full	64	44.7	LOS E	0.2	0.2	0.90	0.90	211.3	200.0	0.95
All Pedestrians		188	47.2	LOS E	0.4	0.4	0.93	0.93	213.8	200.0	0.94

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.

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MOVEMENT SUMMARY

Site: WLO01 [WLO01 Botany Rd / Raglan St / Henderson Rd (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 47
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Botany Rd (S)															
1	L2	All MCs	802	5.4	802	5.4	* 0.775	33.0	LOS C	19.9	145.7	0.86	0.84	0.88	17.0
Approach			802	5.4	802	5.4	0.775	33.0	LOS C	19.9	145.7	0.86	0.84	0.88	17.0
East: Raglan St (E)															
4	L2	All MCs	33	16.1	33	16.1	* 0.776	89.3	LOS F	8.0	60.1	1.00	0.93	1.20	4.5
5	T1	All MCs	229	5.5	229	5.5	0.776	83.1	LOS F	8.0	60.1	1.00	0.93	1.20	4.6
Approach			262	6.8	262	6.8	0.776	83.8	LOS F	8.0	60.1	1.00	0.93	1.20	4.5
North: Botany Rd (N)															
7	L2	All MCs	73	18.8	73	18.8	0.370	11.1	LOS A	9.5	72.8	0.37	0.39	0.37	35.2
8	T1	All MCs	902	9.3	902	9.3	0.370	5.4	LOS A	9.8	74.0	0.37	0.36	0.37	35.8
9	R2	All MCs	601	4.6	601	4.6	* 0.789	56.0	LOS D	18.4	134.1	1.00	0.90	1.10	10.1
Approach			1576	7.9	1576	7.9	0.789	25.0	LOS B	18.4	134.1	0.61	0.57	0.65	18.3
West: Henderson Rd (W)															
11	T1	All MCs	234	2.3	234	2.3	0.702	18.4	LOS B	5.8	41.7	0.57	0.48	0.59	11.7
12	R2	All MCs	35	9.1	35	9.1	0.702	66.2	LOS E	4.0	29.4	0.97	0.77	1.02	4.6
Approach			268	3.1	268	3.1	0.702	24.5	LOS B	5.8	41.7	0.63	0.51	0.65	9.8
All Vehicles			2908	6.7	2908	6.7	0.789	32.5	LOS C	19.9	145.7	0.72	0.67	0.76	15.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Botany Rd (S)											
P1	Full	47	49.6	LOS E	0.1	0.1	0.91	0.91	66.3	20.0	0.30
East: Raglan St (E)											
P2	Full	48	49.6	LOS E	0.2	0.2	0.91	0.91	66.3	20.0	0.30
North: Botany Rd (N)											
P3	Full	99	48.8	LOS E	0.3	0.3	0.90	0.90	65.5	20.0	0.31
West: Henderson Rd (W)											
P4	Full	57	47.8	LOS E	0.2	0.2	0.89	0.89	64.5	20.0	0.31
All Pedestrians		252	48.9	LOS E	0.3	0.3	0.90	0.90	65.6	20.0	0.31

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.

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MOVEMENT SUMMARY

Site: WLO02 [WLO02 Raglan St / Cope St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

NA
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Raglan St (E)															
5	T1	All MCs	202	7.8	202	7.8	0.198	4.2	LOS A	1.3	9.7	0.28	0.45	0.28	40.2
6	R2	All MCs	35	3.0	35	3.0	0.198	7.3	LOS A	1.3	9.7	0.28	0.45	0.28	42.0
6u	U	All MCs	3	0.0	3	0.0	0.198	8.7	LOS A	1.3	9.7	0.28	0.45	0.28	42.5
Approach			240	7.0	240	7.0	0.198	4.7	LOS A	1.3	9.7	0.28	0.45	0.28	40.6
North: Cope St (N)															
7	L2	All MCs	17	6.3	17	6.3	0.082	5.3	LOS A	0.5	3.6	0.43	0.59	0.43	40.4
9	R2	All MCs	64	3.3	64	3.3	0.082	8.3	LOS A	0.5	3.6	0.43	0.59	0.43	35.8
9u	U	All MCs	1	0.0	1	0.0	0.082	9.6	LOS A	0.5	3.6	0.43	0.59	0.43	39.5
Approach			82	3.8	82	3.8	0.082	7.7	LOS A	0.5	3.6	0.43	0.59	0.43	37.3
West: Raglan St (W)															
10	L2	All MCs	83	0.0	83	0.0	0.219	3.9	LOS A	1.2	9.1	0.16	0.44	0.16	39.7
11	T1	All MCs	205	7.2	205	7.2	0.219	3.8	LOS A	1.2	9.1	0.16	0.44	0.16	41.2
12u	U	All MCs	5	0.0	5	0.0	0.219	8.4	LOS A	1.2	9.1	0.16	0.44	0.16	28.7
Approach			294	5.0	294	5.0	0.219	3.9	LOS A	1.2	9.1	0.16	0.44	0.16	40.8
All Vehicles			616	5.6	616	5.6	0.219	4.7	LOS A	1.3	9.7	0.25	0.46	0.25	40.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: WLO03 [WLO03 Botany Rd / Wellington St / Buckland St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 137
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Botany Rd (S)															
2	T1	All MCs	780	5.3	780	5.3	* 0.484	8.9	LOS A	16.4	119.6	0.51	0.48	0.51	34.6
3	R2	All MCs	104	7.1	104	7.1	0.484	22.3	LOS B	8.1	59.8	0.58	0.61	0.58	29.9
Approach			884	5.5	884	5.5	0.484	10.5	LOS A	16.4	119.6	0.52	0.49	0.52	34.0
East: Wellington St (E)															
4	L2	All MCs	46	11.4	46	11.4	0.168	51.1	LOS D	2.4	18.1	0.89	0.73	0.89	16.7
6	R2	All MCs	21	5.0	21	5.0	0.101	52.7	LOS D	1.1	7.9	0.89	0.71	0.89	4.5
Approach			67	9.4	67	9.4	0.168	51.6	LOS D	2.4	18.1	0.89	0.73	0.89	13.7
North: Botany Rd (N)															
7	L2	All MCs	21	10.0	21	10.0	0.390	13.5	LOS A	10.2	77.1	0.40	0.37	0.40	35.5
8	T1	All MCs	947	9.6	947	9.6	0.390	6.6	LOS A	10.4	78.6	0.40	0.36	0.40	42.4
Approach			968	9.6	968	9.6	0.390	6.8	LOS A	10.4	78.6	0.40	0.36	0.40	42.3
West: Buckland St (W)															
10	L2	All MCs	5	0.0	5	0.0	0.332	50.8	LOS D	6.3	45.3	0.90	0.73	0.90	5.9
11	T1	All MCs	120	2.6	120	2.6	* 0.332	45.5	LOS D	6.3	45.3	0.90	0.73	0.90	5.9
12	R2	All MCs	16	6.7	16	6.7	0.064	50.3	LOS D	0.8	5.8	0.87	0.69	0.87	16.9
Approach			141	3.0	141	3.0	0.332	46.3	LOS D	6.3	45.3	0.90	0.72	0.90	7.7
All Vehicles			2061	7.4	2061	7.4	0.484	12.5	LOS A	16.4	119.6	0.50	0.46	0.50	34.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Botany Rd (S)											
P1	Full	61	48.7	LOS E	0.2	0.2	0.90	0.90	65.4	20.0	0.31
East: Wellington St (E)											
P2	Full	120	48.8	LOS E	0.4	0.4	0.90	0.90	65.5	20.0	0.31
North: Botany Rd (N)											
P3	Full	64	48.7	LOS E	0.2	0.2	0.90	0.90	65.4	20.0	0.31
West: Buckland St (W)											
P4	Full	56	48.7	LOS E	0.2	0.2	0.90	0.90	65.4	20.0	0.31
All Pedestrians		301	48.8	LOS E	0.4	0.4	0.90	0.90	65.4	20.0	0.31

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.

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MOVEMENT SUMMARY

Site: WLO04 [WLO04 Cope St / Wellington St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

NA
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Cope St (S)															
1	L2	All MCs	18	0.0	18	0.0	0.026	4.3	LOS A	0.1	1.0	0.21	0.53	0.21	33.3
3	R2	All MCs	12	0.0	12	0.0	0.026	7.0	LOS A	0.1	1.0	0.21	0.53	0.21	35.7
3u	U	All MCs	1	0.0	1	0.0	0.026	8.4	LOS A	0.1	1.0	0.21	0.53	0.21	36.6
Approach			31	0.0	31	0.0	0.026	5.5	LOS A	0.1	1.0	0.21	0.53	0.21	34.6
East: Wellington St (E)															
4	L2	All MCs	15	0.0	15	0.0	0.053	4.2	LOS A	0.3	2.4	0.16	0.45	0.16	37.8
5	T1	All MCs	45	11.6	45	11.6	0.053	4.1	LOS A	0.3	2.4	0.16	0.45	0.16	33.8
6u	U	All MCs	3	0.0	3	0.0	0.053	8.2	LOS A	0.3	2.4	0.16	0.45	0.16	36.3
Approach			63	8.3	63	8.3	0.053	4.3	LOS A	0.3	2.4	0.16	0.45	0.16	35.3
West: Wellington St (W)															
11	T1	All MCs	201	6.8	201	6.8	0.166	3.5	LOS A	0.9	6.5	0.08	0.47	0.08	35.1
12	R2	All MCs	29	0.0	29	0.0	0.166	6.5	LOS A	0.9	6.5	0.08	0.47	0.08	35.6
12u	U	All MCs	7	0.0	7	0.0	0.166	7.9	LOS A	0.9	6.5	0.08	0.47	0.08	28.5
Approach			238	5.8	238	5.8	0.166	4.0	LOS A	0.9	6.5	0.08	0.47	0.08	35.0
All Vehicles			332	5.7	332	5.7	0.166	4.2	LOS A	0.9	6.5	0.11	0.47	0.11	35.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: WLO05 [WLO05 Wyndham St / Henderson Rd (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 55
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wyndham St (S)															
1	L2	All MCs	23	4.5	23	4.5	* 0.793	79.6	LOS F	13.3	98.3	1.00	0.94	1.15	11.4
2	T1	All MCs	423	6.5	423	6.5	0.793	67.5	LOS E	13.9	103.0	1.00	0.94	1.14	18.2
3	R2	All MCs	7	28.6	7	28.6	0.793	74.3	LOS F	13.9	103.0	1.00	0.94	1.14	12.0
Approach			454	6.7	454	6.7	0.793	68.2	LOS E	13.9	103.0	1.00	0.94	1.14	17.7
East: Henderson Rd (E)															
4	L2	All MCs	177	2.4	177	2.4	0.327	6.0	LOS A	2.2	15.9	0.10	0.30	0.10	40.0
5	T1	All MCs	651	3.9	651	3.9	0.327	1.7	LOS A	2.9	21.0	0.12	0.18	0.12	40.2
6	R2	All MCs	782	6.3	782	6.3	* 0.675	17.4	LOS B	9.2	67.7	0.74	0.79	0.74	25.0
Approach			1609	4.9	1609	4.9	0.675	9.8	LOS A	9.2	67.7	0.42	0.49	0.42	29.4
West: Henderson Rd (W)															
10	L2	All MCs	343	6.4	343	6.4	* 0.851	89.0	LOS F	17.1	126.3	0.97	0.92	1.13	12.0
11	T1	All MCs	273	2.3	273	2.3	0.572	42.6	LOS D	14.1	100.3	0.93	0.79	0.93	5.4
Approach			616	4.6	616	4.6	0.851	68.5	LOS E	17.1	126.3	0.95	0.86	1.04	9.9
All Vehicles			2679	5.1	2679	5.1	0.851	33.2	LOS C	17.1	126.3	0.64	0.65	0.69	19.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Wyndham St (S)											
P1	Full	39	49.6	LOS E	0.1	0.1	0.91	0.91	66.3	20.0	0.30
East: Henderson Rd (E)											
P2	Full	65	47.8	LOS E	0.2	0.2	0.89	0.89	64.5	20.0	0.31
North: Wyndham St (N)											
P3	Full	65	49.6	LOS E	0.2	0.2	0.91	0.91	66.3	20.0	0.30
West: Henderson Rd (W)											
P4	Full	134	48.0	LOS E	0.4	0.4	0.90	0.90	64.6	20.0	0.31
All Pedestrians		303	48.5	LOS E	0.4	0.4	0.90	0.90	65.2	20.0	0.31

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.

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MOVEMENT SUMMARY

Site: WLO01 [WLO01 Botany Rd / Raglan St / Henderson Rd (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 47
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Botany Rd (S)															
1	L2	All MCs	653	6.1	653	6.1	* 0.702	49.7	LOS D	17.9	132.2	0.98	0.85	0.98	12.7
Approach			653	6.1	653	6.1	0.702	49.7	LOS D	17.9	132.2	0.98	0.85	0.98	12.7
East: Raglan St (E)															
4	L2	All MCs	24	13.0	24	13.0	* 0.785	91.0	LOS F	7.8	56.9	1.00	0.93	1.21	4.4
5	T1	All MCs	235	2.2	235	2.2	0.785	84.4	LOS F	8.1	57.8	1.00	0.93	1.21	4.5
Approach			259	3.3	259	3.3	0.785	85.0	LOS F	8.1	57.8	1.00	0.93	1.21	4.5
North: Botany Rd (N)															
7	L2	All MCs	64	16.4	64	16.4	0.389	12.0	LOS A	10.6	77.5	0.37	0.37	0.37	35.9
8	T1	All MCs	1035	3.9	1035	3.9	0.389	4.9	LOS A	10.6	76.9	0.36	0.35	0.36	36.7
9	R2	All MCs	728	1.4	728	1.4	* 0.747	49.5	LOS D	20.1	142.2	0.98	0.87	1.01	11.2
Approach			1827	3.3	1827	3.3	0.747	22.9	LOS B	20.1	142.2	0.61	0.56	0.62	19.3
West: Henderson Rd (W)															
11	T1	All MCs	196	1.1	196	1.1	0.742	15.2	LOS B	6.2	43.5	0.57	0.48	0.60	13.9
12	R2	All MCs	48	2.2	48	2.2	0.742	66.2	LOS E	3.3	23.6	1.00	0.77	1.06	4.1
Approach			244	1.3	244	1.3	0.742	25.3	LOS B	6.2	43.5	0.65	0.54	0.69	9.5
All Vehicles			2983	3.8	2983	3.8	0.785	34.4	LOS C	20.1	142.2	0.73	0.65	0.76	14.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Botany Rd (S)											
P1	Full	62	49.6	LOS E	0.2	0.2	0.91	0.91	66.3	20.0	0.30
East: Raglan St (E)											
P2	Full	96	49.7	LOS E	0.3	0.3	0.91	0.91	66.4	20.0	0.30
North: Botany Rd (N)											
P3	Full	126	48.9	LOS E	0.4	0.4	0.90	0.90	65.5	20.0	0.31
West: Henderson Rd (W)											
P4	Full	83	47.9	LOS E	0.3	0.3	0.89	0.89	64.5	20.0	0.31
All Pedestrians		367	49.0	LOS E	0.4	0.4	0.91	0.91	65.7	20.0	0.30

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.

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Project: C:\Users\YeungM\AECOM\ANZ-NAC-Sydney Metro-Sydney Metro C&SW Operational Monitoring - General\400_Technical\432_Traffic Analysis\SIDRA Modelling\01 Models (Geometry Only)\Block 1\Rev1_Review\08 SM C&SW_WLO (Block 1)_PS.sip9

MOVEMENT SUMMARY

Site: WLO02 [WLO02 Raglan St / Cope St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

NA
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Raglan St (E)															
5	T1	All MCs	185	5.1	185	5.1	0.186	4.3	LOS A	1.2	8.8	0.31	0.46	0.31	40.0
6	R2	All MCs	31	3.4	31	3.4	0.186	7.4	LOS A	1.2	8.8	0.31	0.46	0.31	41.9
6u	U	All MCs	3	0.0	3	0.0	0.186	8.8	LOS A	1.2	8.8	0.31	0.46	0.31	42.4
Approach			219	4.8	219	4.8	0.186	4.8	LOS A	1.2	8.8	0.31	0.46	0.31	40.5
North: Cope St (N)															
7	L2	All MCs	25	0.0	25	0.0	0.099	5.3	LOS A	0.6	4.2	0.44	0.59	0.44	40.6
9	R2	All MCs	75	0.0	75	0.0	0.099	8.3	LOS A	0.6	4.2	0.44	0.59	0.44	35.9
9u	U	All MCs	1	0.0	1	0.0	0.099	9.7	LOS A	0.6	4.2	0.44	0.59	0.44	39.6
Approach			101	0.0	101	0.0	0.099	7.5	LOS A	0.6	4.2	0.44	0.59	0.44	37.8
West: Raglan St (W)															
10	L2	All MCs	57	0.0	57	0.0	0.202	3.9	LOS A	1.1	8.4	0.15	0.44	0.15	39.7
11	T1	All MCs	204	6.2	204	6.2	0.202	3.8	LOS A	1.1	8.4	0.15	0.44	0.15	41.2
12u	U	All MCs	12	0.0	12	0.0	0.202	8.4	LOS A	1.1	8.4	0.15	0.44	0.15	28.7
Approach			273	4.6	273	4.6	0.202	4.0	LOS A	1.1	8.4	0.15	0.44	0.15	40.7
All Vehicles			593	3.9	593	3.9	0.202	4.9	LOS A	1.2	8.8	0.26	0.47	0.26	40.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: WLO03 [WLO03 Botany Rd / Wellington St / Buckland St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 137
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Botany Rd (S)															
2	T1	All MCs	602	6.3	602	6.3	0.332	5.3	LOS A	8.7	64.1	0.37	0.35	0.37	39.5
3	R2	All MCs	66	0.0	66	0.0	0.332	12.7	LOS A	4.5	32.6	0.39	0.44	0.39	36.9
Approach			668	5.7	668	5.7	0.332	6.1	LOS A	8.7	64.1	0.37	0.36	0.37	39.2
East: Wellington St (E)															
4	L2	All MCs	66	3.2	66	3.2	0.317	58.2	LOS E	3.7	26.4	0.96	0.76	0.96	15.4
6	R2	All MCs	39	2.7	39	2.7	0.211	56.8	LOS E	2.1	15.2	0.94	0.74	0.94	4.2
Approach			105	3.0	105	3.0	0.317	57.7	LOS E	3.7	26.4	0.95	0.75	0.95	12.1
North: Botany Rd (N)															
7	L2	All MCs	29	7.1	29	7.1	* 0.399	8.1	LOS A	6.2	44.8	0.21	0.21	0.21	43.1
8	T1	All MCs	1087	4.0	1087	4.0	0.399	2.4	LOS A	6.2	44.8	0.21	0.20	0.21	46.9
Approach			1117	4.1	1117	4.1	0.399	2.5	LOS A	6.2	44.8	0.21	0.20	0.21	46.8
West: Buckland St (W)															
10	L2	All MCs	9	0.0	9	0.0	0.246	54.3	LOS D	3.6	25.9	0.92	0.72	0.92	5.4
11	T1	All MCs	60	1.8	60	1.8	* 0.246	49.0	LOS D	3.6	25.9	0.92	0.72	0.92	5.4
12	R2	All MCs	18	0.0	18	0.0	0.090	55.5	LOS D	1.0	6.7	0.92	0.69	0.92	15.7
Approach			87	1.2	87	1.2	0.246	50.9	LOS D	3.6	25.9	0.92	0.71	0.92	8.3
All Vehicles			1978	4.4	1978	4.4	0.399	8.8	LOS A	8.7	64.1	0.33	0.31	0.33	38.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Botany Rd (S)											
P1	Full	60	48.7	LOS E	0.2	0.2	0.90	0.90	65.4	20.0	0.31
East: Wellington St (E)											
P2	Full	102	48.8	LOS E	0.3	0.3	0.90	0.90	65.5	20.0	0.31
North: Botany Rd (N)											
P3	Full	48	48.7	LOS E	0.1	0.1	0.90	0.90	65.4	20.0	0.31
West: Buckland St (W)											
P4	Full	84	48.8	LOS E	0.3	0.3	0.90	0.90	65.4	20.0	0.31
All Pedestrians		295	48.8	LOS E	0.3	0.3	0.90	0.90	65.4	20.0	0.31

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.

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MOVEMENT SUMMARY

Site: WLO04 [WLO04 Cope St / Wellington St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

NA
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Cope St (S)															
1	L2	All MCs	27	0.0	27	0.0	0.036	4.5	LOS A	0.2	1.4	0.26	0.52	0.26	33.4
3	R2	All MCs	11	0.0	11	0.0	0.036	7.2	LOS A	0.2	1.4	0.26	0.52	0.26	35.8
3u	U	All MCs	2	50.0	2	50.0	0.036	9.2	LOS A	0.2	1.4	0.26	0.52	0.26	32.0
Approach			40	2.6	40	2.6	0.036	5.4	LOS A	0.2	1.4	0.26	0.52	0.26	34.1
East: Wellington St (E)															
4	L2	All MCs	19	5.6	19	5.6	0.076	4.2	LOS A	0.5	3.3	0.17	0.43	0.17	37.3
5	T1	All MCs	75	1.4	75	1.4	0.076	4.0	LOS A	0.5	3.3	0.17	0.43	0.17	34.0
6u	U	All MCs	1	100.0	1	100.0	0.076	9.4	LOS A	0.5	3.3	0.17	0.43	0.17	26.9
Approach			95	3.3	95	3.3	0.076	4.1	LOS A	0.5	3.3	0.17	0.43	0.17	34.9
West: Wellington St (W)															
11	T1	All MCs	121	0.9	121	0.9	0.111	3.5	LOS A	0.6	4.1	0.08	0.48	0.08	35.5
12	R2	All MCs	31	6.9	31	6.9	0.111	6.5	LOS A	0.6	4.1	0.08	0.48	0.08	34.5
12u	U	All MCs	6	16.7	6	16.7	0.111	7.9	LOS A	0.6	4.1	0.08	0.48	0.08	28.1
Approach			158	2.7	158	2.7	0.111	4.3	LOS A	0.6	4.1	0.08	0.48	0.08	35.1
All Vehicles			293	2.9	293	2.9	0.111	4.4	LOS A	0.6	4.1	0.13	0.47	0.13	34.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: WLO05 [WLO05 Wyndham St / Henderson Rd (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 55
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wyndham St (S)															
1	L2	All MCs	18	0.0	18	0.0	* 0.848	85.5	LOS F	16.7	118.1	1.00	1.01	1.21	11.1
2	T1	All MCs	517	1.4	517	1.4	0.848	73.3	LOS F	17.3	123.3	1.00	1.01	1.21	17.7
3	R2	All MCs	6	16.7	6	16.7	0.848	79.9	LOS F	17.3	123.3	1.00	1.01	1.21	11.5
Approach			541	1.6	541	1.6	0.848	73.8	LOS F	17.3	123.3	1.00	1.01	1.21	17.4
East: Henderson Rd (E)															
4	L2	All MCs	194	2.2	194	2.2	0.375	9.4	LOS A	6.6	46.5	0.27	0.41	0.27	35.8
5	T1	All MCs	738	1.0	738	1.0	0.375	3.6	LOS A	6.6	46.5	0.23	0.27	0.23	34.6
6	R2	All MCs	638	6.9	638	6.9	* 0.568	16.7	LOS B	6.6	49.2	0.70	0.76	0.70	25.5
Approach			1569	3.6	1569	3.6	0.568	9.6	LOS A	6.6	49.2	0.43	0.48	0.43	29.3
West: Henderson Rd (W)															
10	L2	All MCs	295	1.8	295	1.8	* 0.776	83.8	LOS F	13.8	98.1	0.97	0.86	1.07	12.5
11	T1	All MCs	256	0.8	256	0.8	0.567	44.1	LOS D	13.3	94.0	0.94	0.79	0.94	5.2
Approach			551	1.3	551	1.3	0.776	65.4	LOS E	13.8	98.1	0.96	0.83	1.01	9.9
All Vehicles			2661	2.7	2661	2.7	0.848	34.2	LOS C	17.3	123.3	0.65	0.66	0.71	19.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Wyndham St (S)											
P1	Full	53	49.6	LOS E	0.2	0.2	0.91	0.91	66.3	20.0	0.30
East: Henderson Rd (E)											
P2	Full	56	47.8	LOS E	0.2	0.2	0.89	0.89	64.5	20.0	0.31
North: Wyndham St (N)											
P3	Full	82	49.7	LOS E	0.3	0.3	0.91	0.91	66.3	20.0	0.30
West: Henderson Rd (W)											
P4	Full	138	48.0	LOS E	0.4	0.4	0.90	0.90	64.6	20.0	0.31
All Pedestrians		328	48.6	LOS E	0.4	0.4	0.90	0.90	65.3	20.0	0.31

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.

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MOVEMENT SUMMARY

Site: WLO01 [WLO01 Botany Rd / Raglan St / Henderson Rd (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 47
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Botany Rd (S)															
1	L2	All MCs	512	3.1	512	3.1	*0.761	60.4	LOS E	15.2	109.5	1.00	0.90	1.07	11.0
Approach			512	3.1	512	3.1	0.761	60.4	LOS E	15.2	109.5	1.00	0.90	1.07	11.0
East: Raglan St (E)															
4	L2	All MCs	28	11.1	28	11.1	*0.733	84.0	LOS F	8.1	58.9	1.00	0.89	1.13	4.8
5	T1	All MCs	245	3.4	245	3.4	0.733	77.4	LOS F	8.1	58.5	1.00	0.89	1.13	4.9
Approach			274	4.2	274	4.2	0.733	78.1	LOS F	8.1	58.9	1.00	0.89	1.13	4.9
North: Botany Rd (N)															
7	L2	All MCs	86	6.1	86	6.1	0.122	13.4	LOS A	2.7	20.1	0.33	0.48	0.33	32.1
8	T1	All MCs	828	4.4	828	4.4	0.608	11.3	LOS A	21.4	155.8	0.52	0.49	0.52	31.5
9	R2	All MCs	646	2.3	646	2.3	*0.822	54.8	LOS D	19.4	138.6	0.99	0.92	1.13	10.5
Approach			1561	3.6	1561	3.6	0.822	29.5	LOS C	21.4	155.8	0.70	0.67	0.76	17.4
West: Henderson Rd (W)															
11	T1	All MCs	243	0.9	243	0.9	0.619	10.7	LOS A	3.9	27.7	0.34	0.28	0.34	16.8
12	R2	All MCs	39	2.7	39	2.7	0.619	57.5	LOS E	3.9	27.7	0.89	0.73	0.91	5.4
Approach			282	1.1	282	1.1	0.619	17.2	LOS B	3.9	27.7	0.41	0.34	0.42	13.0
All Vehicles			2628	3.3	2628	3.3	0.822	39.2	LOS C	21.4	155.8	0.76	0.70	0.82	13.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Botany Rd (S)											
P1	Full	22	49.5	LOS E	0.1	0.1	0.91	0.91	66.2	20.0	0.30
East: Raglan St (E)											
P2	Full	54	49.6	LOS E	0.2	0.2	0.91	0.91	66.3	20.0	0.30
North: Botany Rd (N)											
P3	Full	77	48.8	LOS E	0.2	0.2	0.90	0.90	65.4	20.0	0.31
West: Henderson Rd (W)											
P4	Full	77	47.9	LOS E	0.2	0.2	0.89	0.89	64.5	20.0	0.31
All Pedestrians		229	48.7	LOS E	0.2	0.2	0.90	0.90	65.4	20.0	0.31

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.

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MOVEMENT SUMMARY

Site: WLO02 [WLO02 Raglan St / Cope St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

NA
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Raglan St (E)															
5	T1	All MCs	178	5.3	178	5.3	0.171	4.3	LOS A	1.1	8.1	0.30	0.45	0.30	40.2
6	R2	All MCs	25	0.0	25	0.0	0.171	7.3	LOS A	1.1	8.1	0.30	0.45	0.30	42.0
6u	U	All MCs	1	0.0	1	0.0	0.171	8.8	LOS A	1.1	8.1	0.30	0.45	0.30	42.5
Approach			204	4.6	204	4.6	0.171	4.7	LOS A	1.1	8.1	0.30	0.45	0.30	40.5
North: Cope St (N)															
7	L2	All MCs	21	0.0	21	0.0	0.097	5.6	LOS A	0.6	4.1	0.48	0.61	0.48	40.3
9	R2	All MCs	71	1.5	71	1.5	0.097	8.6	LOS A	0.6	4.1	0.48	0.61	0.48	35.4
9u	U	All MCs	2	0.0	2	0.0	0.097	10.1	LOS A	0.6	4.1	0.48	0.61	0.48	39.2
Approach			94	1.1	94	1.1	0.097	8.0	LOS A	0.6	4.1	0.48	0.61	0.48	37.2
West: Raglan St (W)															
10	L2	All MCs	56	0.0	56	0.0	0.231	3.9	LOS A	1.4	10.2	0.15	0.43	0.15	39.8
11	T1	All MCs	260	2.8	260	2.8	0.231	3.7	LOS A	1.4	10.2	0.15	0.43	0.15	41.3
12u	U	All MCs	11	0.0	11	0.0	0.231	8.4	LOS A	1.4	10.2	0.15	0.43	0.15	28.9
Approach			326	2.3	326	2.3	0.231	3.9	LOS A	1.4	10.2	0.15	0.43	0.15	40.9
All Vehicles			624	2.9	624	2.9	0.231	4.8	LOS A	1.4	10.2	0.25	0.46	0.25	40.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: WLO03 [WLO03 Botany Rd / Wellington St / Buckland St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 137
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Botany Rd (S)															
2	T1	All MCs	418	5.3	418	5.3	0.402	6.1	LOS A	8.9	64.5	0.40	0.39	0.40	37.6
3	R2	All MCs	71	0.0	71	0.0	0.402	16.8	LOS B	8.9	64.5	0.44	0.45	0.44	36.2
Approach			488	4.5	488	4.5	0.402	7.6	LOS A	8.9	64.5	0.40	0.40	0.40	37.4
East: Wellington St (E)															
4	L2	All MCs	68	0.0	68	0.0	0.276	57.6	LOS E	3.7	25.8	0.94	0.76	0.94	15.8
6	R2	All MCs	36	0.0	36	0.0	0.207	58.7	LOS E	2.0	13.8	0.95	0.73	0.95	4.1
Approach			104	0.0	104	0.0	0.276	58.0	LOS E	3.7	25.8	0.94	0.75	0.94	12.5
North: Botany Rd (N)															
7	L2	All MCs	28	0.0	28	0.0	0.113	10.5	LOS A	1.2	8.5	0.14	0.21	0.14	42.6
8	T1	All MCs	760	7.3	760	7.3	* 0.563	6.6	LOS A	8.6	63.7	0.24	0.23	0.24	46.5
Approach			788	7.1	788	7.1	0.563	6.7	LOS A	8.6	63.7	0.23	0.23	0.23	46.5
West: Buckland St (W)															
10	L2	All MCs	22	0.0	22	0.0	0.313	54.4	LOS D	4.6	33.2	0.93	0.74	0.93	5.3
11	T1	All MCs	65	3.2	65	3.2	* 0.313	49.6	LOS D	4.6	33.2	0.93	0.74	0.93	5.3
12	R2	All MCs	22	0.0	22	0.0	0.115	54.9	LOS D	1.2	8.2	0.92	0.71	0.92	15.8
Approach			109	1.9	109	1.9	0.313	51.7	LOS D	4.6	33.2	0.93	0.73	0.93	8.1
All Vehicles			1491	5.4	1491	5.4	0.563	13.9	LOS A	8.9	64.5	0.39	0.36	0.39	35.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Botany Rd (S)											
P1	Full	41	48.7	LOS E	0.1	0.1	0.90	0.90	65.3	20.0	0.31
East: Wellington St (E)											
P2	Full	51	48.7	LOS E	0.2	0.2	0.90	0.90	65.4	20.0	0.31
North: Botany Rd (N)											
P3	Full	23	48.6	LOS E	0.1	0.1	0.90	0.90	65.3	20.0	0.31
West: Buckland St (W)											
P4	Full	65	48.7	LOS E	0.2	0.2	0.90	0.90	65.4	20.0	0.31
All Pedestrians		180	48.7	LOS E	0.2	0.2	0.90	0.90	65.4	20.0	0.31

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.

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MOVEMENT SUMMARY

Site: WLO04 [WLO04 Cope St / Wellington St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

NA
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Cope St (S)															
1	L2	All MCs	21	0.0	21	0.0	0.026	4.5	LOS A	0.1	1.0	0.26	0.52	0.26	33.4
3	R2	All MCs	7	0.0	7	0.0	0.026	7.2	LOS A	0.1	1.0	0.26	0.52	0.26	35.9
3u	U	All MCs	1	0.0	1	0.0	0.026	8.6	LOS A	0.1	1.0	0.26	0.52	0.26	36.7
Approach			29	0.0	29	0.0	0.026	5.3	LOS A	0.1	1.0	0.26	0.52	0.26	34.4
East: Wellington St (E)															
4	L2	All MCs	14	0.0	14	0.0	0.069	4.1	LOS A	0.4	2.9	0.12	0.44	0.12	38.3
5	T1	All MCs	77	0.0	77	0.0	0.069	3.9	LOS A	0.4	2.9	0.12	0.44	0.12	34.6
6u	U	All MCs	2	0.0	2	0.0	0.069	8.1	LOS A	0.4	2.9	0.12	0.44	0.12	36.8
Approach			93	0.0	93	0.0	0.069	4.0	LOS A	0.4	2.9	0.12	0.44	0.12	35.6
West: Wellington St (W)															
11	T1	All MCs	145	1.4	145	1.4	0.113	3.5	LOS A	0.6	4.0	0.06	0.46	0.06	35.9
12	R2	All MCs	12	0.0	12	0.0	0.113	6.4	LOS A	0.6	4.0	0.06	0.46	0.06	35.8
12u	U	All MCs	9	0.0	9	0.0	0.113	7.8	LOS A	0.6	4.0	0.06	0.46	0.06	28.8
Approach			166	1.3	166	1.3	0.113	3.9	LOS A	0.6	4.0	0.06	0.46	0.06	35.7
All Vehicles			288	0.7	288	0.7	0.113	4.1	LOS A	0.6	4.0	0.10	0.46	0.10	35.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: WLO05 [WLO05 Wyndham St / Henderson Rd (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 55
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wyndham St (S)															
1	L2	All MCs	22	0.0	22	0.0	* 0.726	67.7	LOS E	12.9	91.8	0.98	0.87	1.05	12.0
2	T1	All MCs	427	2.2	427	2.2	0.726	61.2	LOS E	12.9	91.8	0.98	0.87	1.05	19.2
3	R2	All MCs	5	40.0	5	40.0	0.726	67.2	LOS E	12.8	92.2	0.98	0.87	1.05	12.7
Approach			455	2.5	455	2.5	0.726	61.6	LOS E	12.9	92.2	0.98	0.87	1.05	18.7
East: Henderson Rd (E)															
4	L2	All MCs	239	0.9	239	0.9	0.350	12.4	LOS A	10.1	71.4	0.42	0.54	0.42	31.8
5	T1	All MCs	662	2.4	662	2.4	0.350	7.5	LOS A	10.1	71.4	0.42	0.42	0.42	27.1
6	R2	All MCs	507	5.2	507	5.2	* 0.412	19.2	LOS B	5.4	39.7	0.71	0.76	0.71	23.9
Approach			1408	3.1	1408	3.1	0.412	12.5	LOS A	10.1	71.7	0.52	0.57	0.52	26.4
West: Henderson Rd (W)															
10	L2	All MCs	398	2.4	398	2.4	* 0.885	92.0	LOS F	20.6	147.0	0.97	0.94	1.17	11.7
11	T1	All MCs	278	0.8	278	0.8	0.574	42.6	LOS D	14.3	100.9	0.93	0.79	0.93	5.4
Approach			676	1.7	676	1.7	0.885	71.7	LOS F	20.6	147.0	0.95	0.88	1.07	9.9
All Vehicles			2539	2.7	2539	2.7	0.885	37.1	LOS C	20.6	147.0	0.72	0.70	0.76	18.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Wyndham St (S)											
P1	Full	23	49.6	LOS E	0.1	0.1	0.91	0.91	66.2	20.0	0.30
East: Henderson Rd (E)											
P2	Full	28	47.8	LOS E	0.1	0.1	0.89	0.89	64.4	20.0	0.31
North: Wyndham St (N)											
P3	Full	28	49.6	LOS E	0.1	0.1	0.91	0.91	66.2	20.0	0.30
West: Henderson Rd (W)											
P4	Full	28	47.8	LOS E	0.1	0.1	0.89	0.89	64.4	20.0	0.31
All Pedestrians		108	48.6	LOS E	0.1	0.1	0.90	0.90	65.3	20.0	0.31

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.

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MOVEMENT SUMMARY

Site: SYD01 [SYD01 Railway Pde / Gleeson Ave (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: SYD-N1 [SYD Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 3320
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Gleeson Ave (SE)															
1	L2	All MCs	867	7.5	867	7.5	0.381	4.8	LOS A	0.0	0.0	0.00	0.51	0.00	42.2
Approach			867	7.5	867	7.5	0.381	4.8	LOS A	0.0	0.0	0.00	0.51	0.00	42.2
NorthEast: Railway Pde (NE)															
4	L2	All MCs	1104	6.3	1104	6.3	* 0.529	11.8	LOS A	10.6	78.2	0.44	0.69	0.44	33.7
5	T1	All MCs	61	22.4	61	22.4	* 0.051	10.7	LOS A	0.4	3.3	0.27	0.21	0.27	56.3
Approach			1165	7.1	1165	7.1	0.529	11.7	LOS A	10.6	78.2	0.43	0.67	0.43	34.9
All Vehicles			2033	7.3	2033	7.3	0.529	8.8	LOS A	10.6	78.2	0.25	0.60	0.25	38.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Railway Pde (NE)											
P2	Full	218	22.4	LOS C	0.4	0.4	0.83	0.83	39.0	20.0	0.51
P2S	Slip/ Bypass	218	37.7	LOS D	0.5	0.5	0.92	0.92	54.4	20.0	0.37
All Pedestrians		436	30.0	LOS D	0.5	0.5	0.87	0.87	46.7	20.0	0.43

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.

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MOVEMENT SUMMARY

Site: SYD02 [SYD02 Burrows Ave / Gleeson Ave (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: SYD-N1 [SYD Network 1 (Network Folder: Block 1 Network - 2023 AM Peak)]

TCS 1152
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Gleeson Ave (SE)															
2	T1	All MCs	619	8.8	619	8.8	0.311	14.0	LOS A	8.8	66.4	0.58	0.50	0.58	22.1
Approach			619	8.8	619	8.8	0.311	14.0	LOS A	8.8	66.4	0.58	0.50	0.58	22.1
NorthEast: Burrows Ave (NE)															
4	L2	All MCs	36	26.5	36	26.5	0.195	58.4	LOS E	1.8	15.3	0.93	0.73	0.93	13.9
6	R2	All MCs	232	2.3	232	2.3	* 0.514	57.3	LOS E	6.2	44.0	0.98	0.79	0.98	9.3
Approach			267	5.5	267	5.5	0.514	57.5	LOS E	6.2	44.0	0.97	0.78	0.97	10.0
NorthWest: Gleeson Ave (NW)															
7	L2	All MCs	232	6.4	232	6.4	0.564	7.5	LOS A	8.2	60.8	0.31	0.45	0.31	33.9
8	T1	All MCs	873	6.3	873	6.3	* 0.564	5.4	LOS A	8.9	65.9	0.32	0.34	0.32	40.5
Approach			1104	6.3	1104	6.3	0.564	5.8	LOS A	8.9	65.9	0.32	0.37	0.32	38.7
SouthWest: Burrows Ave (SW)															
10	L2	All MCs	17	31.3	17	31.3	0.091	59.4	LOS E	0.6	5.0	0.95	0.67	0.95	10.6
11	T1	All MCs	4	0.0	4	0.0	0.091	44.9	LOS D	0.6	5.0	0.94	0.67	0.94	16.5
12	R2	All MCs	6	50.0	6	50.0	0.032	47.4	LOS D	0.3	2.9	0.87	0.66	0.87	16.0
Approach			27	30.8	27	30.8	0.091	54.4	LOS D	0.6	5.0	0.93	0.67	0.93	12.8
All Vehicles			2018	7.3	2018	7.3	0.564	15.8	LOS B	8.9	66.4	0.49	0.47	0.49	24.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Gleeson Ave (SE)											
P1	Full	7	42.8	LOS E	0.0	0.0	0.88	0.88	59.4	20.0	0.34
NorthEast: Burrows Ave (NE)											
P2	Full	136	43.0	LOS E	0.4	0.4	0.89	0.89	59.7	20.0	0.34
NorthWest: Gleeson Ave (NW)											
P3	Full	304	40.7	LOS E	0.8	0.8	0.87	0.87	57.3	20.0	0.35
SouthWest: Burrows Ave (SW)											
P4	Full	197	44.9	LOS E	0.6	0.6	0.91	0.91	61.6	20.0	0.32
All Pedestrians		644	42.5	LOS E	0.8	0.8	0.88	0.88	59.2	20.0	0.34

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.

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Project: C:\Users\YeungM\AECOM\ANZ-NAC-Sydney Metro-Sydney Metro C&SW Operational Monitoring - General\400_Technical\432_Traffic Analysis\SIDRA Modelling\01 Models (Geometry Only)\Block 1\Rev1_Review\09 SM C&SW_SYD (Block 1)_SH.sip9

MOVEMENT SUMMARY

Site: SYD03 [SYD03 Burrows Ave / George St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: George St (SE)															
4	L2	All MCs	18	0.0	18	0.0	0.022	8.2	LOS A	0.1	0.5	0.27	0.88	0.27	30.6
6	R2	All MCs	4	0.0	4	0.0	0.022	9.8	LOS A	0.1	0.5	0.27	0.88	0.27	26.6
Approach			22	0.0	22	0.0	0.022	8.5	LOS A	0.1	0.5	0.27	0.88	0.27	29.9
NorthEast: Burrows Ave (NE)															
7	L2	All MCs	4	0.0	4	0.0	0.206	4.2	LOS A	1.1	8.1	0.32	0.18	0.32	39.5
8	T1	All MCs	199	9.0	199	9.0	0.206	1.0	LOS A	1.1	8.1	0.32	0.18	0.32	45.5
Approach			203	8.8	203	8.8	0.206	1.1	NA	1.1	8.1	0.32	0.18	0.32	45.3
SouthWest: Burrows Ave (SW)															
2	T1	All MCs	208	5.6	208	5.6	0.225	1.0	LOS A	1.0	7.7	0.26	0.18	0.26	44.7
3	R2	All MCs	19	50.0	19	50.0	0.225	6.4	LOS A	1.0	7.7	0.26	0.18	0.26	35.5
Approach			227	9.3	227	9.3	0.225	1.5	NA	1.0	7.7	0.26	0.18	0.26	43.5
All Vehicles			453	8.6	453	8.6	0.225	1.6	NA	1.1	8.1	0.29	0.22	0.29	43.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: SYD04 [SYD04 Pedestrian Mid-block Crossing at Sydenham Rd (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TCS 4946
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthWest: Sydenham Rd (NW)															
8	T1	All MCs	1115	9.0	1115	9.0	* 0.445	5.9	LOS A	8.1	60.7	0.47	0.45	0.47	45.6
Approach			1115	9.0	1115	9.0	0.445	5.9	LOS A	8.1	60.7	0.47	0.45	0.47	45.6
All Vehicles			1115	9.0	1115	9.0	0.445	5.9	LOS A	8.1	60.7	0.47	0.45	0.47	45.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Sydenham Rd (SE)												
P1	Full	29	31	29.1	LOS C	0.1	0.1	0.82	0.82	195.8	200.0	1.02
All Pedestrians		29	31	29.1	LOS C	0.1	0.1	0.82	0.82	195.8	200.0	1.02

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.

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MOVEMENT SUMMARY

Site: SYD05 [SYD05 Marrickville Rd / Buckley St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Marrickville Rd (SE)															
2	T1	All MCs	448	16.4	448	16.4	0.268	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
3	R2	All MCs	573	9.0	573	9.0	0.747	8.1	LOS A	5.9	44.1	0.50	0.63	0.60	42.8
Approach			1021	12.3	1021	12.3	0.747	4.5	NA	5.9	44.1	0.28	0.35	0.34	49.8
NorthWest: Marrickville Rd (NW)															
7	L2	All MCs	444	7.8	444	7.8	0.727	8.2	LOS A	4.8	36.0	0.54	0.64	0.66	47.7
Approach			444	7.8	444	7.8	0.727	8.2	NA	4.8	36.0	0.54	0.64	0.66	47.7
All Vehicles			1465	10.9	1465	10.9	0.747	5.7	NA	5.9	44.1	0.36	0.44	0.44	49.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: SYD06 [SYD06 Sydenham Rd / Buckley St (Site Folder: Block 1 Model - 2023 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthWest: Sydenham Rd (NW)															
2	T1	All MCs	726	8.7	726	8.7	0.404	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach			726	8.7	726	8.7	0.404	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.7
SouthWest: Buckley St (SW)															
4	L2	All MCs	596	8.8	596	8.8	0.351	5.8	LOS A	0.0	0.0	0.00	0.52	0.00	50.8
6	R2	All MCs	399	8.4	399	8.4	0.234	5.9	LOS A	0.0	0.0	0.00	0.63	0.00	43.3
Approach			995	8.7	995	8.7	0.351	5.8	NA	0.0	0.0	0.00	0.57	0.00	48.6
All Vehicles			1721	8.7	1721	8.7	0.404	3.4	NA	0.0	0.0	0.00	0.33	0.00	52.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: SYD01 [SYD01 Railway Pde / Gleeson Ave (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: SYD-N1 [SYD Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 3320
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Gleeson Ave (SE)															
1	L2	All MCs	986	4.1	986	4.1	0.418	4.9	LOS A	0.0	0.0	0.00	0.51	0.00	42.8
Approach			986	4.1	986	4.1	0.418	4.9	LOS A	0.0	0.0	0.00	0.51	0.00	42.8
NorthEast: Railway Pde (NE)															
4	L2	All MCs	971	3.3	971	3.3	* 0.355	9.4	LOS A	6.4	45.7	0.32	0.64	0.32	36.5
5	T1	All MCs	57	7.4	57	7.4	0.039	6.9	LOS A	0.5	3.5	0.20	0.16	0.20	55.9
Approach			1027	3.5	1027	3.5	0.355	9.2	LOS A	6.4	45.7	0.31	0.62	0.31	37.7
All Vehicles			2014	3.8	2014	3.8	0.418	7.1	LOS A	6.4	45.7	0.16	0.57	0.16	40.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Railway Pde (NE)											
P2	Full	195	37.7	LOS D	0.5	0.5	0.92	0.92	54.3	20.0	0.37
P2S	Slip/ Bypass	195	37.7	LOS D	0.5	0.5	0.92	0.92	54.3	20.0	0.37
All Pedestrians		389	37.7	LOS D	0.5	0.5	0.92	0.92	54.3	20.0	0.37

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.

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MOVEMENT SUMMARY

Site: SYD02 [SYD02 Burrows Ave / Gleeson Ave (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: SYD-N1 [SYD Network 1 (Network Folder: Block 1 Network - 2023 PM Peak)]

TCS 1152
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Gleeson Ave (SE)															
2	T1	All MCs	679	4.3	679	4.3	0.336	13.8	LOS A	9.2	66.8	0.60	0.52	0.60	22.4
Approach			679	4.3	679	4.3	0.336	13.8	LOS A	9.2	66.8	0.60	0.52	0.60	22.4
NorthEast: Burrows Ave (NE)															
4	L2	All MCs	28	0.0	28	0.0	0.118	54.9	LOS D	1.3	8.8	0.92	0.71	0.92	15.3
6	R2	All MCs	281	0.4	281	0.4	* 0.554	53.2	LOS D	6.8	47.5	0.98	0.80	0.98	10.1
Approach			309	0.3	309	0.3	0.554	53.3	LOS D	6.8	47.5	0.97	0.79	0.97	10.6
NorthWest: Gleeson Ave (NW)															
7	L2	All MCs	166	4.4	166	4.4	0.494	6.9	LOS A	5.9	42.4	0.28	0.40	0.28	35.2
8	T1	All MCs	804	3.0	804	3.0	* 0.494	4.7	LOS A	6.4	46.0	0.28	0.30	0.28	42.0
Approach			971	3.3	971	3.3	0.494	5.1	LOS A	6.4	46.0	0.28	0.32	0.28	40.4
SouthWest: Burrows Ave (SW)															
10	L2	All MCs	26	36.0	26	36.0	0.131	54.3	LOS D	0.8	7.1	0.96	0.69	0.96	11.3
11	T1	All MCs	5	0.0	5	0.0	* 0.131	41.7	LOS C	0.8	7.1	0.95	0.69	0.95	17.4
12	R2	All MCs	16	33.3	16	33.3	0.072	44.2	LOS D	0.7	6.0	0.88	0.69	0.88	16.8
Approach			47	31.1	47	31.1	0.131	49.5	LOS D	0.8	7.1	0.93	0.69	0.93	13.9
All Vehicles			2006	3.8	2006	3.8	0.554	16.5	LOS B	9.2	66.8	0.51	0.47	0.51	23.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Gleeson Ave (SE)											
P1	Full	17	37.9	LOS D	0.0	0.0	0.87	0.87	54.5	20.0	0.37
NorthEast: Burrows Ave (NE)											
P2	Full	140	38.1	LOS D	0.3	0.3	0.88	0.88	54.7	20.0	0.37
NorthWest: Gleeson Ave (NW)											
P3	Full	201	35.6	LOS D	0.5	0.5	0.85	0.85	52.2	20.0	0.38
SouthWest: Burrows Ave (SW)											
P4	Full	129	39.8	LOS D	0.3	0.3	0.89	0.89	56.5	20.0	0.35
All Pedestrians		487	37.5	LOS D	0.5	0.5	0.87	0.87	54.2	20.0	0.37

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.

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MOVEMENT SUMMARY

Site: SYD03 [SYD03 Burrows Ave / George St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: George St (SE)															
4	L2	All MCs	5	0.0	5	0.0	0.007	8.6	LOS A	0.0	0.1	0.31	0.86	0.31	30.4
6	R2	All MCs	1	0.0	1	0.0	0.007	9.7	LOS A	0.0	0.1	0.31	0.86	0.31	26.4
Approach			6	0.0	6	0.0	0.007	8.8	LOS A	0.0	0.1	0.31	0.86	0.31	29.8
NorthEast: Burrows Ave (NE)															
7	L2	All MCs	4	0.0	4	0.0	0.271	3.9	LOS A	1.6	11.1	0.22	0.09	0.22	40.5
8	T1	All MCs	298	1.4	298	1.4	0.271	0.5	LOS A	1.6	11.1	0.22	0.09	0.22	46.8
Approach			302	1.4	302	1.4	0.271	0.5	NA	1.6	11.1	0.22	0.09	0.22	46.7
SouthWest: Burrows Ave (SW)															
2	T1	All MCs	163	0.0	163	0.0	0.169	0.4	LOS A	0.7	5.4	0.17	0.13	0.17	45.8
3	R2	All MCs	23	50.0	23	50.0	0.169	7.1	LOS A	0.7	5.4	0.17	0.13	0.17	36.0
Approach			186	6.2	186	6.2	0.169	1.2	NA	0.7	5.4	0.17	0.13	0.17	43.9
All Vehicles			495	3.2	495	3.2	0.271	0.9	NA	1.6	11.1	0.21	0.12	0.21	45.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: SYD04 [SYD04 Pedestrian Mid-block Crossing at Sydenham Rd (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TCS 4946
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 111 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthWest: Sydenham Rd (NW)															
8	T1	All MCs	1046	4.2	1046	4.2	* 0.393	5.3	LOS A	7.5	54.5	0.43	0.40	0.43	46.7
Approach			1046	4.2	1046	4.2	0.393	5.3	LOS A	7.5	54.5	0.43	0.40	0.43	46.7
All Vehicles			1046	4.2	1046	4.2	0.393	5.3	LOS A	7.5	54.5	0.43	0.40	0.43	46.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Sydenham Rd (SE)												
P1	Full	18	19	32.9	LOS D	0.0	0.0	0.84	0.84	199.5	200.0	1.00
All Pedestrians		18	19	32.9	LOS D	0.0	0.0	0.84	0.84	199.5	200.0	1.00

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.

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MOVEMENT SUMMARY

Site: SYD05 [SYD05 Marrickville Rd / Buckley St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Marrickville Rd (SE)															
2	T1	All MCs	822	1.9	822	1.9	0.430	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	All MCs	505	2.5	505	2.5	0.607	6.4	LOS A	2.9	20.8	0.29	0.58	0.30	44.6
Approach			1327	2.1	1327	2.1	0.607	2.5	NA	2.9	20.8	0.11	0.22	0.11	53.7
NorthWest: Marrickville Rd (NW)															
7	L2	All MCs	306	4.8	306	4.8	0.586	6.5	LOS A	2.1	15.2	0.32	0.55	0.34	49.0
Approach			306	4.8	306	4.8	0.586	6.5	NA	2.1	15.2	0.32	0.55	0.34	49.0
All Vehicles			1634	2.6	1634	2.6	0.607	3.2	NA	2.9	20.8	0.15	0.28	0.16	52.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: SYD06 [SYD06 Sydenham Rd / Buckley St (Site Folder: Block 1 Model - 2023 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthWest: Sydenham Rd (NW)															
2	T1	All MCs	778	3.4	778	3.4	0.412	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach			778	3.4	778	3.4	0.412	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.7
SouthWest: Buckley St (SW)															
4	L2	All MCs	548	5.4	548	5.4	0.312	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	51.0
6	R2	All MCs	367	6.9	367	6.9	0.212	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	43.5
Approach			916	6.0	916	6.0	0.312	5.8	NA	0.0	0.0	0.00	0.57	0.00	48.8
All Vehicles			1694	4.8	1694	4.8	0.412	3.2	NA	0.0	0.0	0.00	0.31	0.00	53.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: SYD01 [SYD01 Railway Pde / Gleeson Ave (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: SYD-N1 [SYD Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 3320
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 113 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Gleeson Ave (SE)															
1	L2	All MCs	903	2.0	903	2.0	0.375	4.8	LOS A	0.0	0.0	0.00	0.52	0.00	43.2
Approach			903	2.0	903	2.0	0.375	4.8	LOS A	0.0	0.0	0.00	0.52	0.00	43.2
NorthEast: Railway Pde (NE)															
4	L2	All MCs	948	6.7	948	6.7	* 0.331	7.2	LOS A	4.7	35.0	0.19	0.60	0.19	39.5
5	T1	All MCs	39	0.0	39	0.0	0.023	4.0	LOS A	0.3	1.8	0.13	0.10	0.13	57.8
Approach			987	6.4	987	6.4	0.331	7.1	LOS A	4.7	35.0	0.19	0.58	0.19	40.4
All Vehicles			1891	4.3	1891	4.3	0.375	6.0	LOS A	4.7	35.0	0.10	0.55	0.10	41.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
NorthEast: Railway Pde (NE)											
P2	Full	61	48.9	LOS E	0.2	0.2	0.93	0.93	65.6	20.0	0.30
P2S	Slip/ Bypass	61	48.9	LOS E	0.2	0.2	0.93	0.93	65.6	20.0	0.30
All Pedestrians		122	48.9	LOS E	0.2	0.2	0.93	0.93	65.6	20.0	0.30

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.

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MOVEMENT SUMMARY

Site: SYD02 [SYD02 Burrows Ave / Gleeson Ave (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: SYD-N1 [SYD Network 1 (Network Folder: Block 1 Network - 2023 Weekend Peak)]

TCS 1152
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Gleeson Ave (SE)															
2	T1	All MCs	649	1.1	649	1.1	0.289	12.2	LOS A	8.6	60.8	0.54	0.47	0.54	24.1
Approach			649	1.1	649	1.1	0.289	12.2	LOS A	8.6	60.8	0.54	0.47	0.54	24.1
NorthEast: Burrows Ave (NE)															
4	L2	All MCs	31	10.3	31	10.3	0.126	51.1	LOS D	1.5	11.1	0.90	0.72	0.90	14.7
6	R2	All MCs	234	0.5	234	0.5	* 0.481	51.0	LOS D	6.9	48.6	0.95	0.78	0.95	9.8
Approach			264	1.6	264	1.6	0.481	51.0	LOS D	6.9	48.6	0.94	0.78	0.94	10.5
NorthWest: Gleeson Ave (NW)															
7	L2	All MCs	226	4.7	226	4.7	0.407	6.7	LOS A	5.0	37.1	0.25	0.46	0.25	34.2
8	T1	All MCs	722	7.3	722	7.3	* 0.509	5.4	LOS A	7.7	57.2	0.28	0.31	0.28	41.7
Approach			948	6.7	948	6.7	0.509	5.7	LOS A	7.7	57.2	0.27	0.35	0.27	39.3
SouthWest: Burrows Ave (SW)															
10	L2	All MCs	20	47.4	20	47.4	* 0.216	61.7	LOS E	0.9	9.2	0.97	0.69	0.97	10.0
11	T1	All MCs	3	0.0	3	0.0	0.050	48.9	LOS D	0.3	2.7	0.95	0.64	0.95	16.6
12	R2	All MCs	8	12.5	8	12.5	0.044	51.8	LOS D	0.4	3.2	0.91	0.67	0.91	15.2
Approach			32	33.3	32	33.3	0.216	57.8	LOS E	0.9	9.2	0.96	0.68	0.96	12.1
All Vehicles			1894	4.5	1894	4.5	0.509	15.1	LOS B	8.6	60.8	0.47	0.45	0.47	24.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* 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	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Gleeson Ave (SE)											
P1	Full	15	42.8	LOS E	0.0	0.0	0.88	0.88	59.5	20.0	0.34
NorthEast: Burrows Ave (NE)											
P2	Full	116	43.0	LOS E	0.3	0.3	0.89	0.89	59.6	20.0	0.34
NorthWest: Gleeson Ave (NW)											
P3	Full	115	40.4	LOS E	0.3	0.3	0.86	0.86	57.0	20.0	0.35
SouthWest: Burrows Ave (SW)											
P4	Full	63	44.7	LOS E	0.2	0.2	0.90	0.90	61.3	20.0	0.33
All Pedestrians		308	42.3	LOS E	0.3	0.3	0.88	0.88	59.0	20.0	0.34

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.

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MOVEMENT SUMMARY

Site: SYD03 [SYD03 Burrows Ave / George St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: George St (SE)															
4	L2	All MCs	18	5.9	18	5.9	0.020	8.4	LOS A	0.1	0.4	0.25	0.89	0.25	30.4
6	R2	All MCs	3	0.0	3	0.0	0.020	9.1	LOS A	0.1	0.4	0.25	0.89	0.25	26.8
Approach			21	5.0	21	5.0	0.020	8.5	LOS A	0.1	0.4	0.25	0.89	0.25	29.9
NorthEast: Burrows Ave (NE)															
7	L2	All MCs	7	0.0	7	0.0	0.171	3.7	LOS A	0.9	6.4	0.12	0.05	0.12	41.3
8	T1	All MCs	191	2.8	191	2.8	0.171	0.2	LOS A	0.9	6.4	0.12	0.05	0.12	47.8
Approach			198	2.7	198	2.7	0.171	0.3	NA	0.9	6.4	0.12	0.05	0.12	47.5
SouthWest: Burrows Ave (SW)															
2	T1	All MCs	222	1.4	222	1.4	0.204	0.2	LOS A	0.9	6.7	0.10	0.07	0.10	46.8
3	R2	All MCs	18	0.0	18	0.0	0.204	5.3	LOS A	0.9	6.7	0.10	0.07	0.10	41.8
Approach			240	1.3	240	1.3	0.204	0.6	NA	0.9	6.7	0.10	0.07	0.10	46.2
All Vehicles			459	2.1	459	2.1	0.204	0.8	NA	0.9	6.7	0.12	0.10	0.12	45.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: SYD04 [SYD04 Pedestrian Mid-block Crossing at Sydenham Rd (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TCS 4946
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 110 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthWest: Sydenham Rd (NW)															
8	T1	All MCs	1046	4.2	1046	4.2	* 0.394	5.4	LOS A	7.5	54.5	0.43	0.41	0.43	46.6
Approach			1046	4.2	1046	4.2	0.394	5.4	LOS A	7.5	54.5	0.43	0.41	0.43	46.6
All Vehicles			1046	4.2	1046	4.2	0.394	5.4	LOS A	7.5	54.5	0.43	0.41	0.43	46.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Sydenham Rd (SE)												
P1	Full	20	21	32.4	LOS D	0.1	0.1	0.84	0.84	199.1	200.0	1.00
All Pedestrians		20	21	32.4	LOS D	0.1	0.1	0.84	0.84	199.1	200.0	1.00

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.

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MOVEMENT SUMMARY

Site: SYD05 [SYD05 Marrickville Rd / Buckley St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: Marrickville Rd (SE)															
2	T1	All MCs	588	2.0	588	2.0	0.308	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
3	R2	All MCs	524	1.4	524	1.4	0.306	5.9	LOS A	1.6	11.4	0.13	0.60	0.13	45.3
Approach			1113	1.7	1113	1.7	0.308	2.8	NA	1.6	11.4	0.06	0.28	0.06	52.8
NorthWest: Marrickville Rd (NW)															
7	L2	All MCs	409	2.6	409	2.6	0.301	5.8	LOS A	1.4	10.3	0.15	0.55	0.15	49.7
Approach			409	2.6	409	2.6	0.301	5.8	NA	1.4	10.3	0.15	0.55	0.15	49.7
All Vehicles			1522	1.9	1522	1.9	0.308	3.6	NA	1.6	11.4	0.09	0.35	0.09	51.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: SYD06 [SYD06 Sydenham Rd / Buckley St (Site Folder: Block 1 Model - 2023 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

NA
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthWest: Sydenham Rd (NW)															
2	T1	All MCs	595	3.5	595	3.5	0.315	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			595	3.5	595	3.5	0.315	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
SouthWest: Buckley St (SW)															
4	L2	All MCs	499	1.7	499	1.7	0.274	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	51.2
6	R2	All MCs	388	3.0	388	3.0	0.216	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	43.7
Approach			887	2.3	887	2.3	0.274	5.7	NA	0.0	0.0	0.00	0.57	0.00	48.7
All Vehicles			1482	2.8	1482	2.8	0.315	3.5	NA	0.0	0.0	0.00	0.34	0.00	52.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.