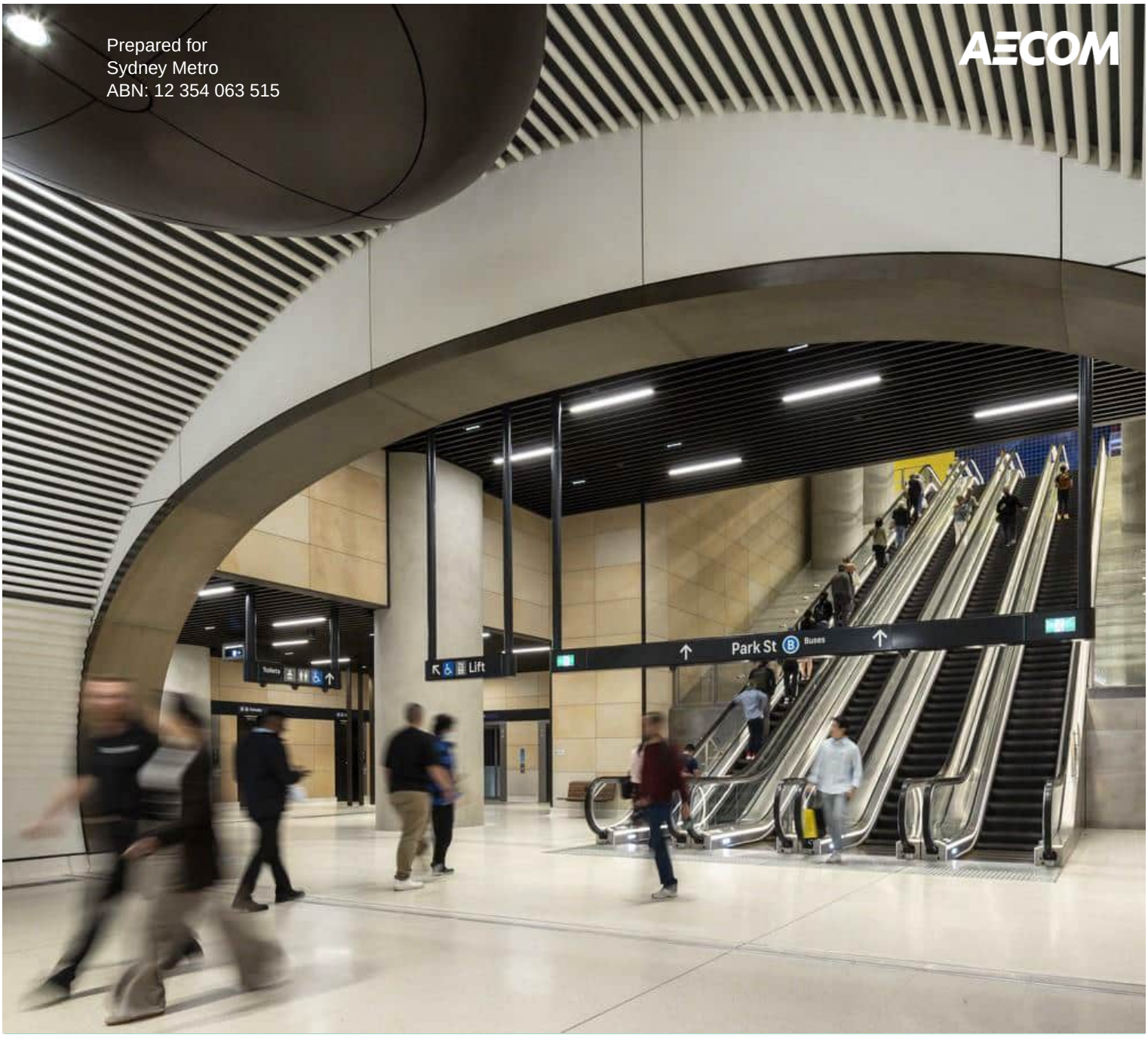
Prepared for
Sydney Metro
ABN: 12 354 063 515



Block 4 Report

Sydney Metro C&SW - Traffic and Interchange Monitoring

21-Feb-2025
Sydney Metro City and Southwest - Traffic and Interchange Monitoring
Doc No. 60705686-ACM-B4-RPT-TR-001-R00

Block 4 Report

Sydney Metro C&SW - Traffic and Interchange Monitoring

Client: Sydney Metro

ABN: 12 354 063 515

Prepared by

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21-Feb-2025

Job No.: 60705686

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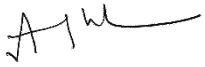
Quality Information

Document	Block 4 Report
Ref	60705686
	c:\users\wanj2\documents\sydney metro c&sw\block 4\report\60705686-acm-b4-rpt-tr-001-r01-traffic monitoring report.docx
Date	21-Feb-2025
Originator	Jimmy Wan
Checker/s	Sara Hu
Verifier/s	Anoop Sridhar

Revision History

Rev	Revision Date	Details	Approved	
			Name/Position	Signature
00	07-Feb-2025	Draft report	Anoop Sridhar Associate Director	
01	21-Feb-2025	Final Report	Sara Hu Senior Traffic Engineer	

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Terms and abbreviations

Term	Definition
AECOM	AECOM Australia Pty Ltd
Block 4	The fourth 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.
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 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 over 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. Sydney Metro City & Southwest (Chatswood to Sydenham) commenced operations on 19 August 2024.

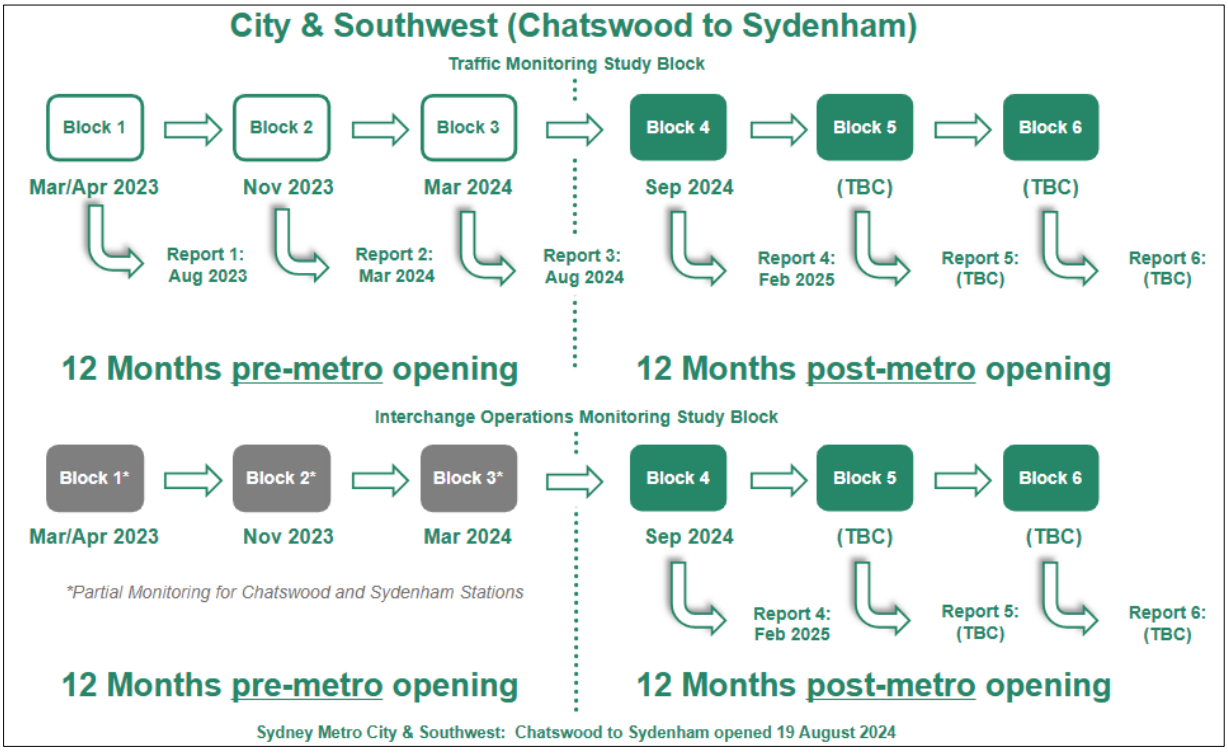


Figure 1-1 Traffic and interchange monitoring program

1.2 Purpose of this report

The Sydney Metro City & Southwest Chatswood to Sydenham – Traffic and Interchange Operation Monitoring report (this report) has been 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 of September 2024 (Block 4). Block 4 represents for first study block following the commencement of operations of the Sydney Metro City & Southwest Line (Chatswood to Sydenham).

1.3 Scope of this study

The overall scope of works for the Block 4 study covers the following:

- **Traffic monitoring**: Intersection surveys (including re-surveys) were conducted in August/September 2024, 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 two minutes for priority intersections) conducted for two hour periods around the identified weekday AM, PM and weekend peak hours.
- **Transport interchange monitoring:** Chatswood Station, Crows Nest Station, Victoria Cross Station, Barangaroo Station, Waterloo Station and Sydenham Station were considered for the Block 4 study. Interchange operation surveys were conducted at these six stations continuously for the same one-week period as the intersection surveys in August/September 2024. Interchange operation surveys collected the following information for taxi, bus stop, accessible parking 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 period, one weekday PM peak period, and one weekend peak period at each station.
- **Intersection assessment**: To assess the intersection operation performance during Block 4, a combination of isolated and network traffic modelling assessments were undertaken using SIDRA Intersection modelling software (SIDRA Intersection). The following data was 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 4 study were provided to Sydney Metro and the following key stakeholders in January 2025 for review and feedback:
    - Transport for NSW (TfNSW)
    - Willoughby City Council
    - North Sydney City Council
    - City of Sydney
    - Inner West Council.

Additionally, Block 4 study findings were presented to TfNSW, North Sydney 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 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 2032, Sydney Metro is expected to create a network of four metro lines (Northwest, City & Southwest, West, and Western Sydney Airport), 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 commenced operations on 19 August 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.

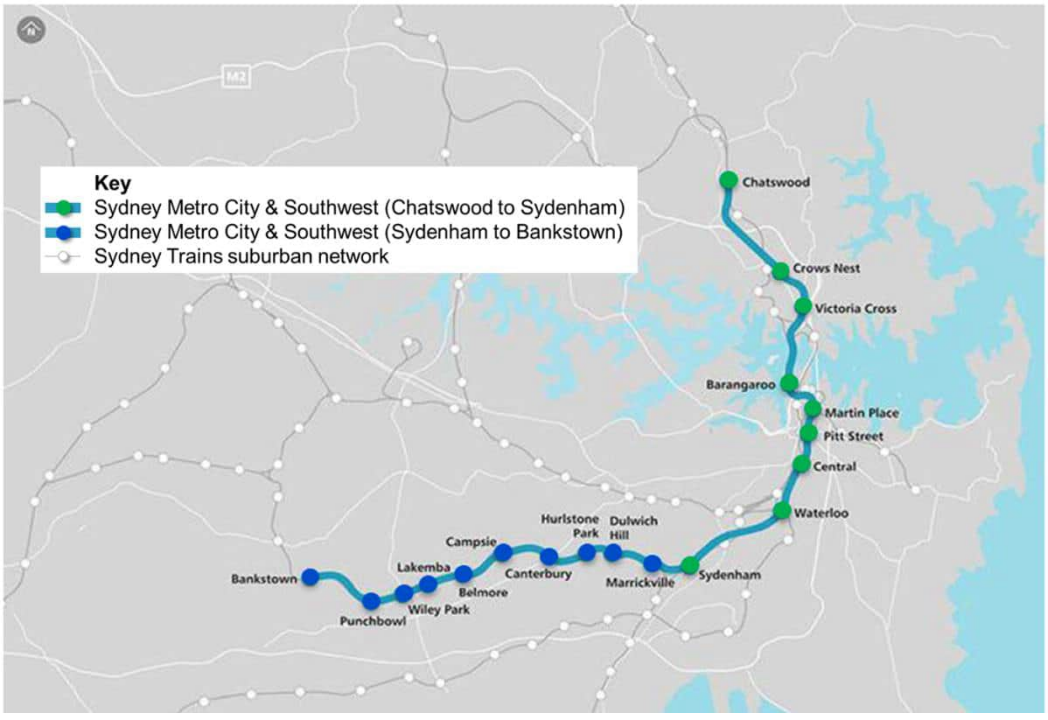


Figure 2-1 Sydney Metro City & Southwest overview

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 nine 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
Gadigal (formerly 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. 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.

The Crows Nest Station, Victoria Cross Station, Barangaroo Station, Waterloo Station and Sydenham Station had both intersection and interchange monitoring for Block 4, while the other stations had either traffic monitoring or interchange monitoring.

Table 3-2 outlines the type of assessment undertaken for each station in the Block 4 study.

Table 3-2 Assessments undertaken for each station in Block 4

Station	Traffic monitoring	Interchange monitoring	Remarks
Chatswood	✗	✓	No changes to road network
Chatswood Dive Site	✓	✗	No new kerbside usage proposed
Crows Nest	✓	✓	Interchanges operational from Block 4
Victoria Cross	✓	✓	Interchanges operational from Block 4
Barangaroo	✓	✓	Interchanges operational from Block 4
Martin Place	✓	✗	No new kerbside usage proposed

Station	Traffic monitoring	Interchange monitoring	Remarks
Gadigal	✓	✗	No new kerbside usage proposed
Central	✓	✗	No new kerbside usage proposed
Waterloo	✓	✓	Interchanges operational from Block 4
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, 63 intersections were assessed using SIDRA Intersection modelling during Block 4. The following intersections were excluded from the Block 4 analysis:

- CWD02 - Pedestrian Bridge Crossing along Mowbray Road: This location was solely included in traffic surveys for data collection and was not modelled
- CEN04 – New Pedestrian Mid-block Crossing at Randle Lane: This location was not operational during Block 4 and was therefore excluded from the analysis.

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
10	CST08	516	Albany Street/Willoughby Road	Signal
11	CST09	-	Albany Street/Oxley Street	Roundabout
12	CST10	-	Albany Street/Clarke Lane	Priority - Give Way

S.ID	Intersection ID	TCS ID	Intersection name	Intersection control type
13	CST11	-	Oxley Street/Clarke Lane	Priority - Stop
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 Hickson Road (north of Metro Station)	Pedestrian only - Zebra
37	BGU17	-	New Pedestrian Mid-block Crossing at Hickson Road (south of Metro Station)	Pedestrian only - Zebra
38	BGU18	305	Shelley Street/Erskine Street	Signal
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

S.ID	Intersection ID	TCS ID	Intersection name	Intersection control type
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 - Zebra
53	CEN05	2916	Elizabeth Street/Randle Street	Signal
54	WLO01	47	Botany Road/Raglan Street/ Henderson Road	Signal
55	WLO02	5057	Raglan Street/Cope Street	Signal
56	WLO03	137	Botany Road/Wellington Street/ Buckland Street	Signal
57	WLO04	-	Cope Street/Wellington Street	Priority - Stop
58	WLO05	55	Wyndham Street/Henderson Road	Signal
59	WLO06	-	New Pedestrian Mid-block Crossing at Cope Street	Pedestrian only - Zebra
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	Railway Parade/Sydenham Road	Signal
64	SYD05	-	Marrickville Road/Buckley Street	Priority - Give Way
65	SYD06	-	Sydenham Road/Buckley Street	Priority - Give Way

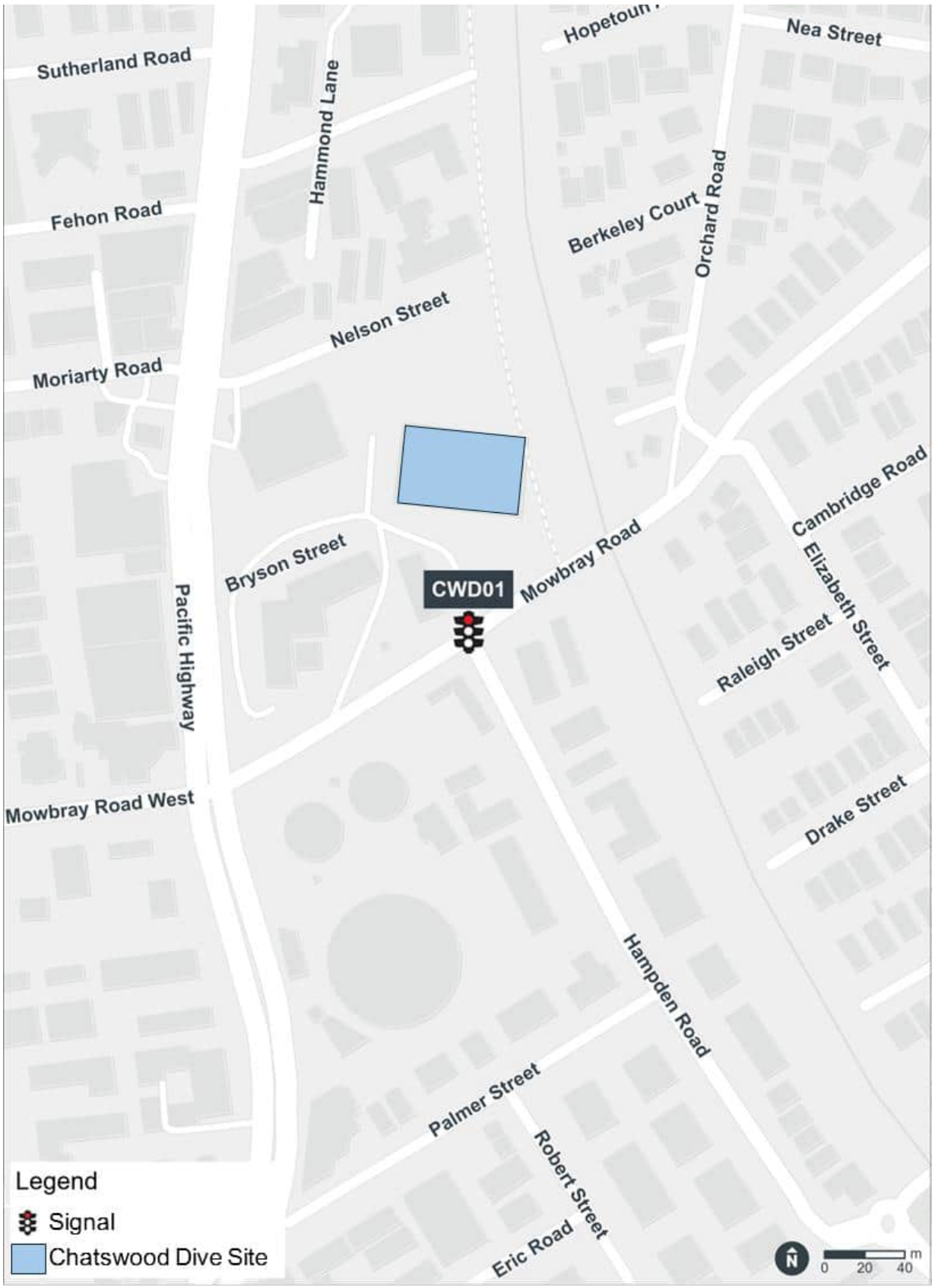


Figure 3-1 Chatswood Dive Site traffic study area

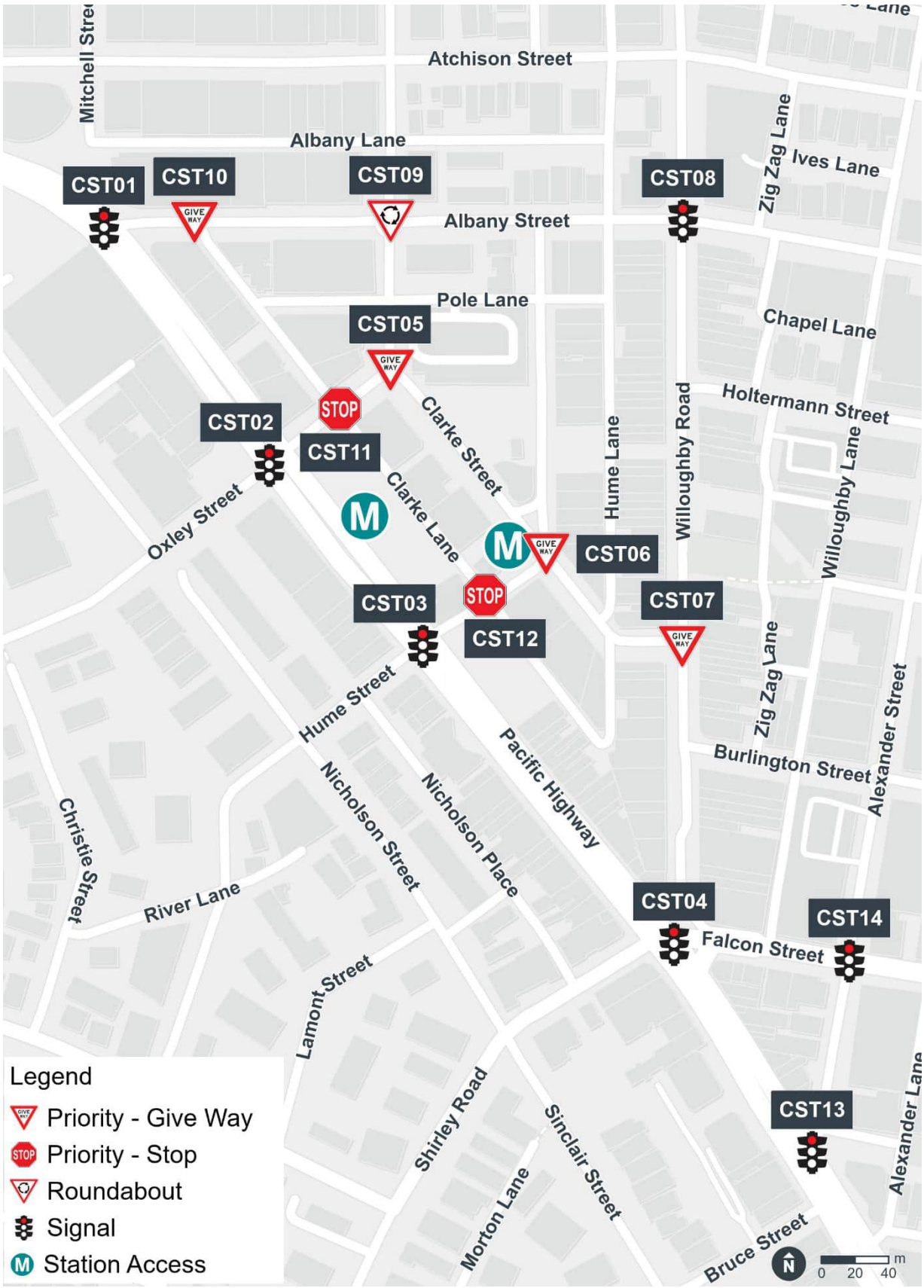


Figure 3-2 Crows Nest Station traffic study area

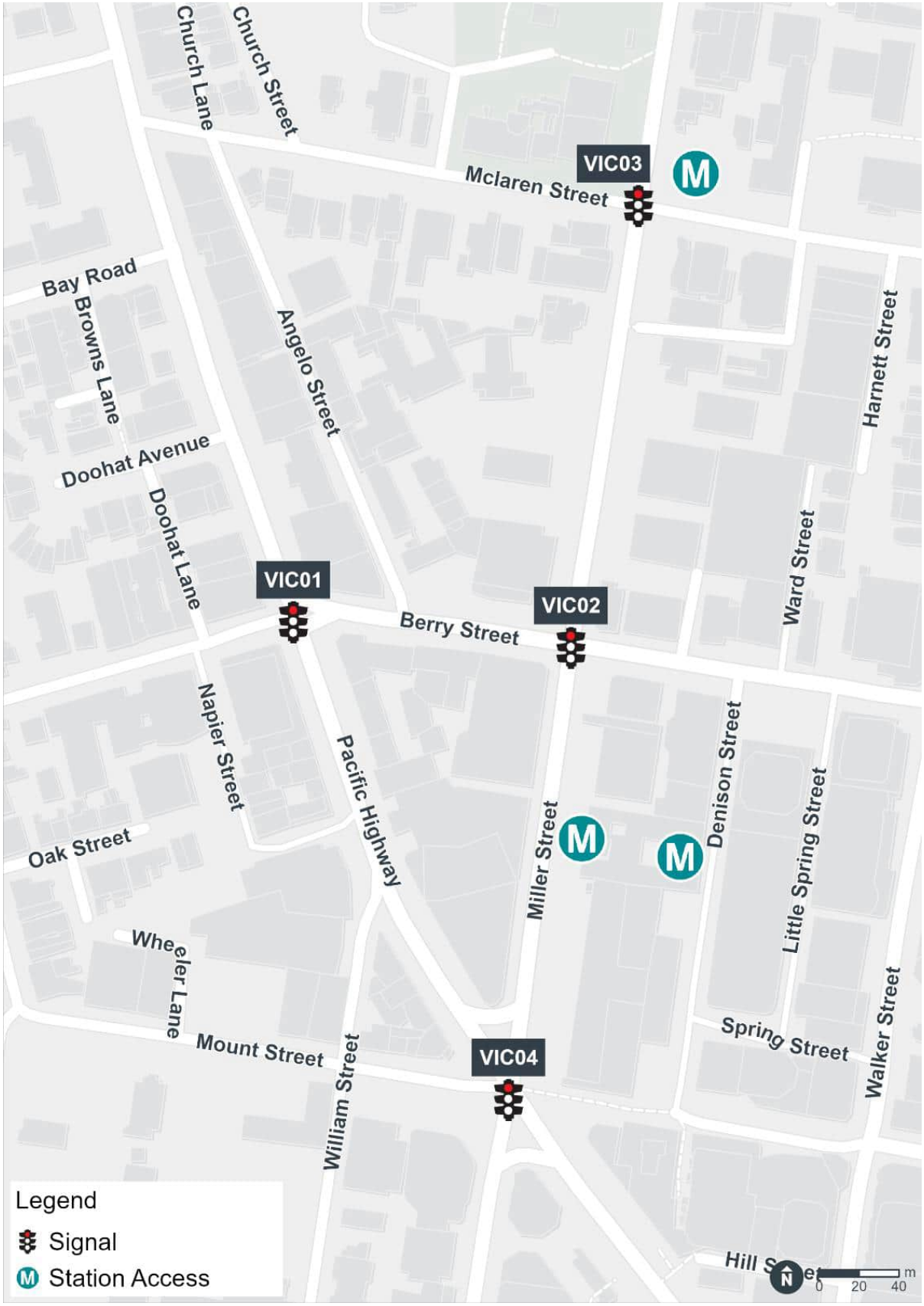


Figure 3-3 Victoria Cross Station traffic study area

Figure 3-4 Barangaroo Station traffic study area

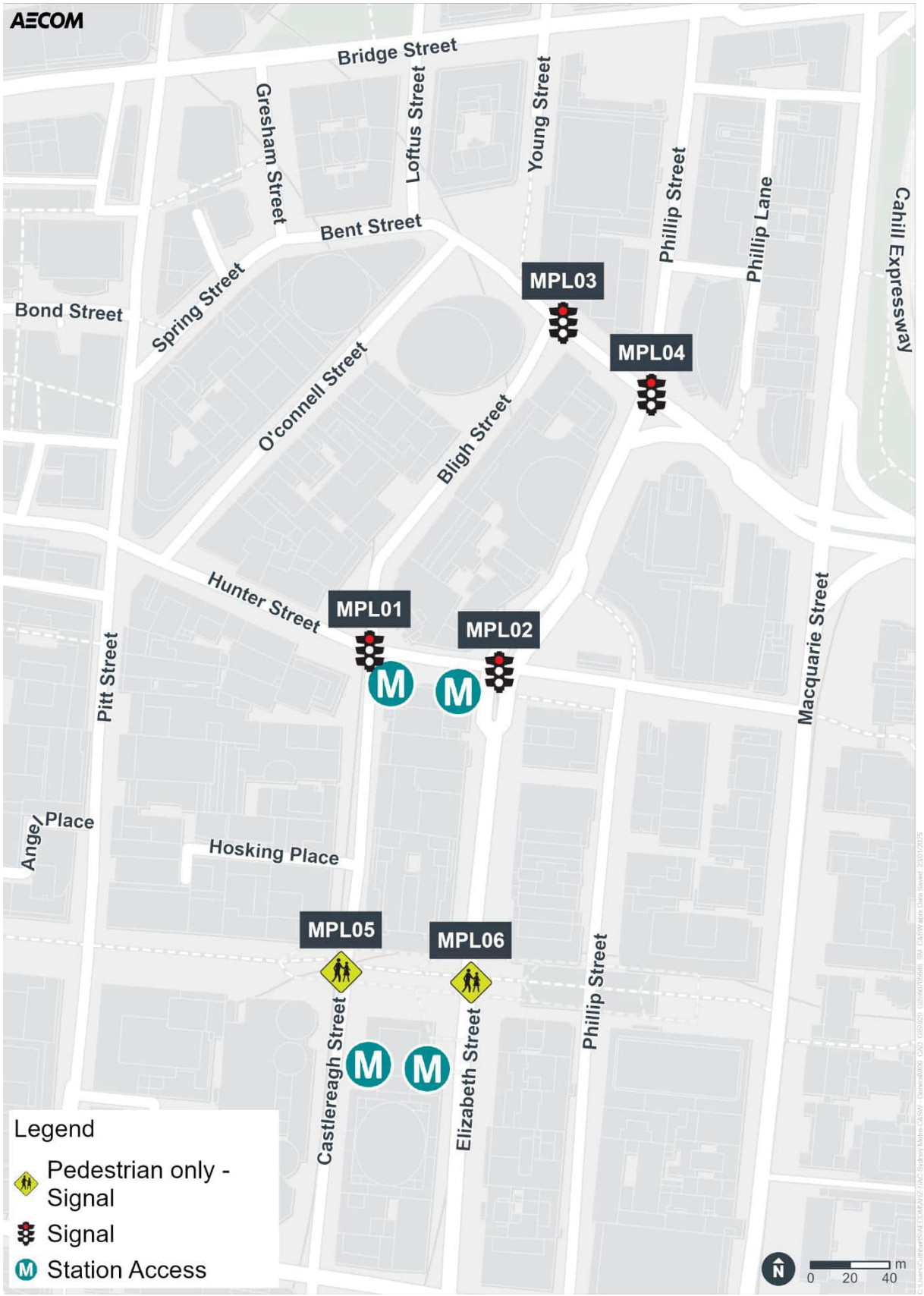


Figure 3-5 Martin Place Station traffic study area

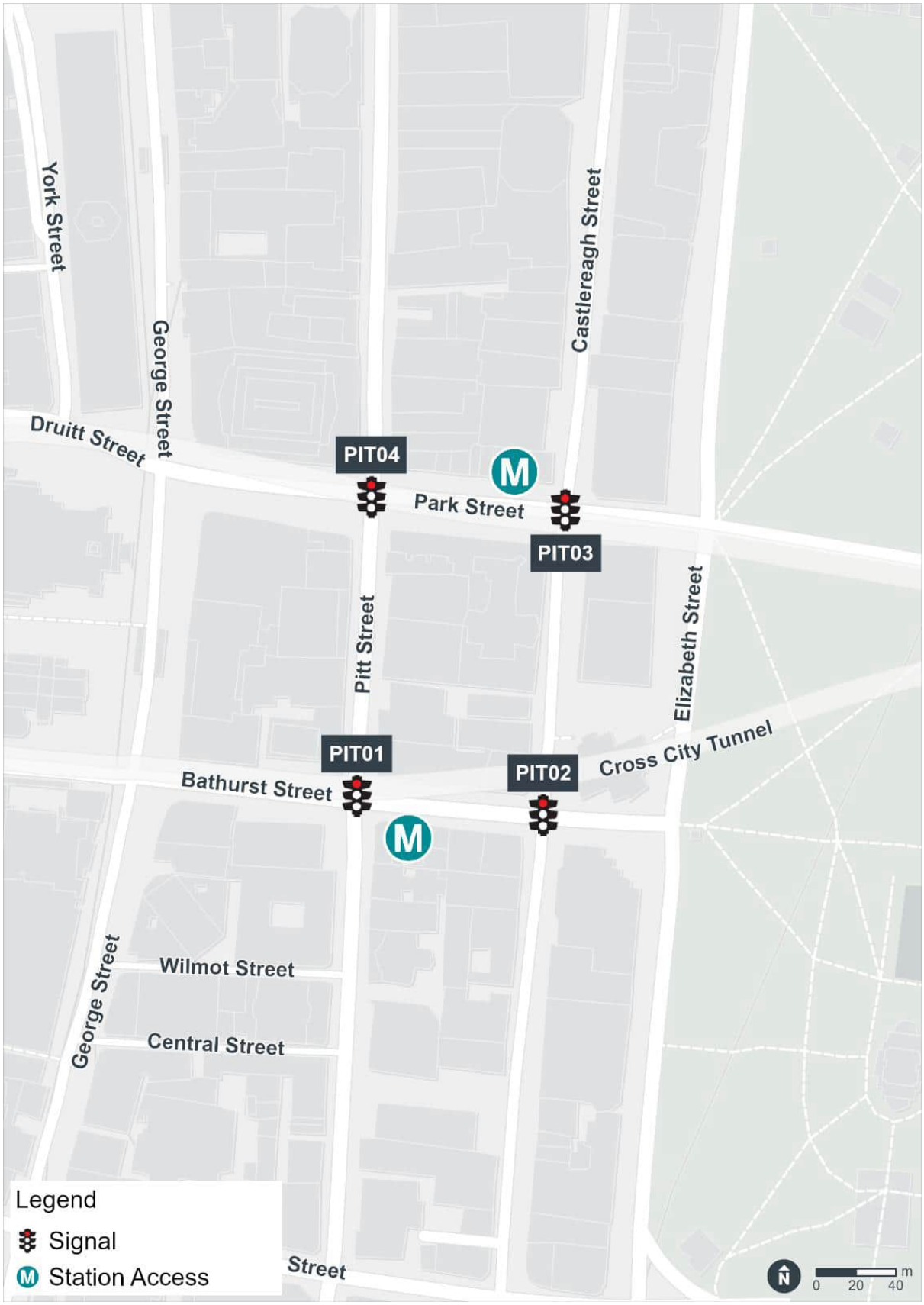


Figure 3-6 Gadigal Station traffic study area

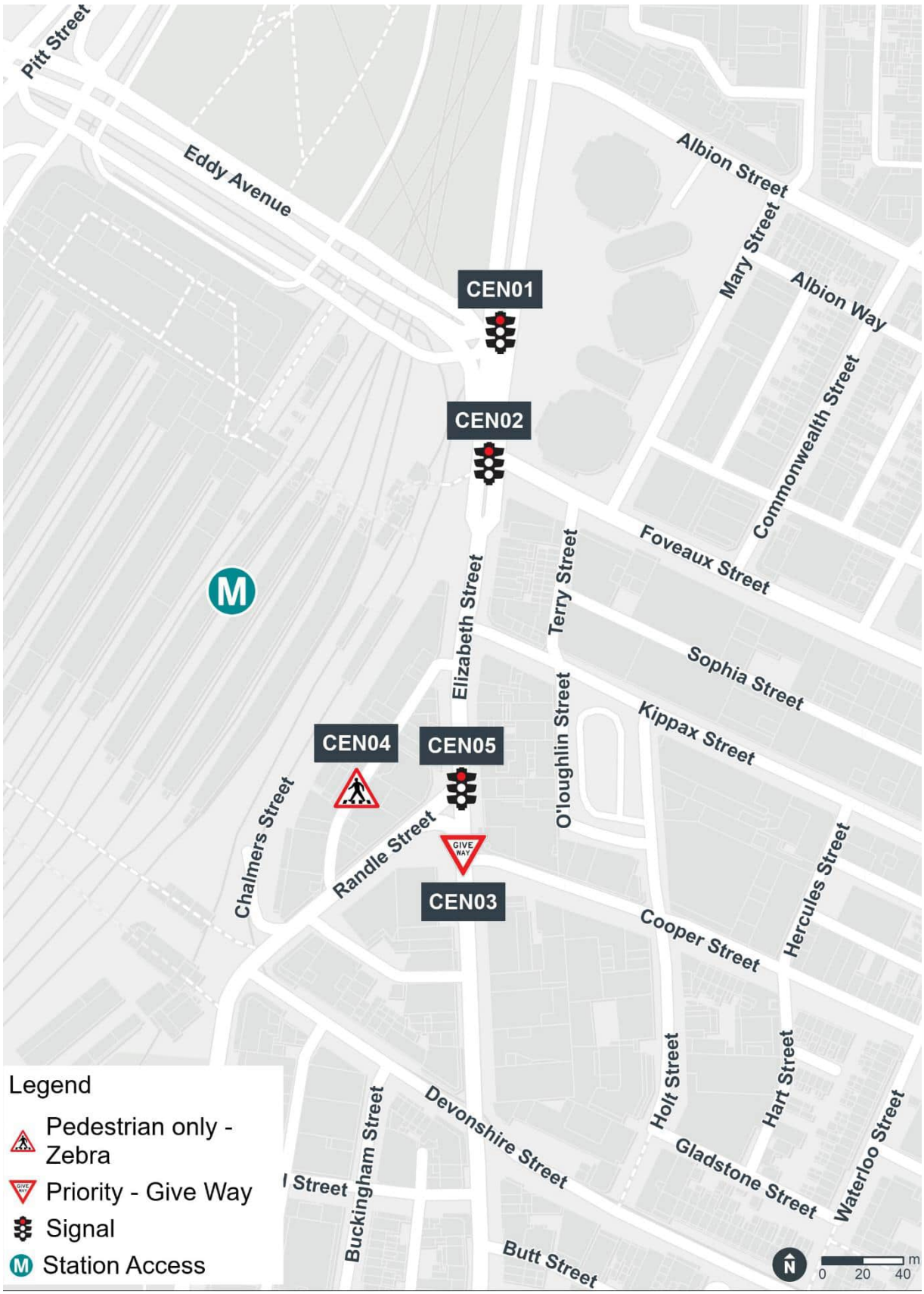


Figure 3-7 Central Station traffic study area

Figure 3-8 Waterloo Station traffic study area

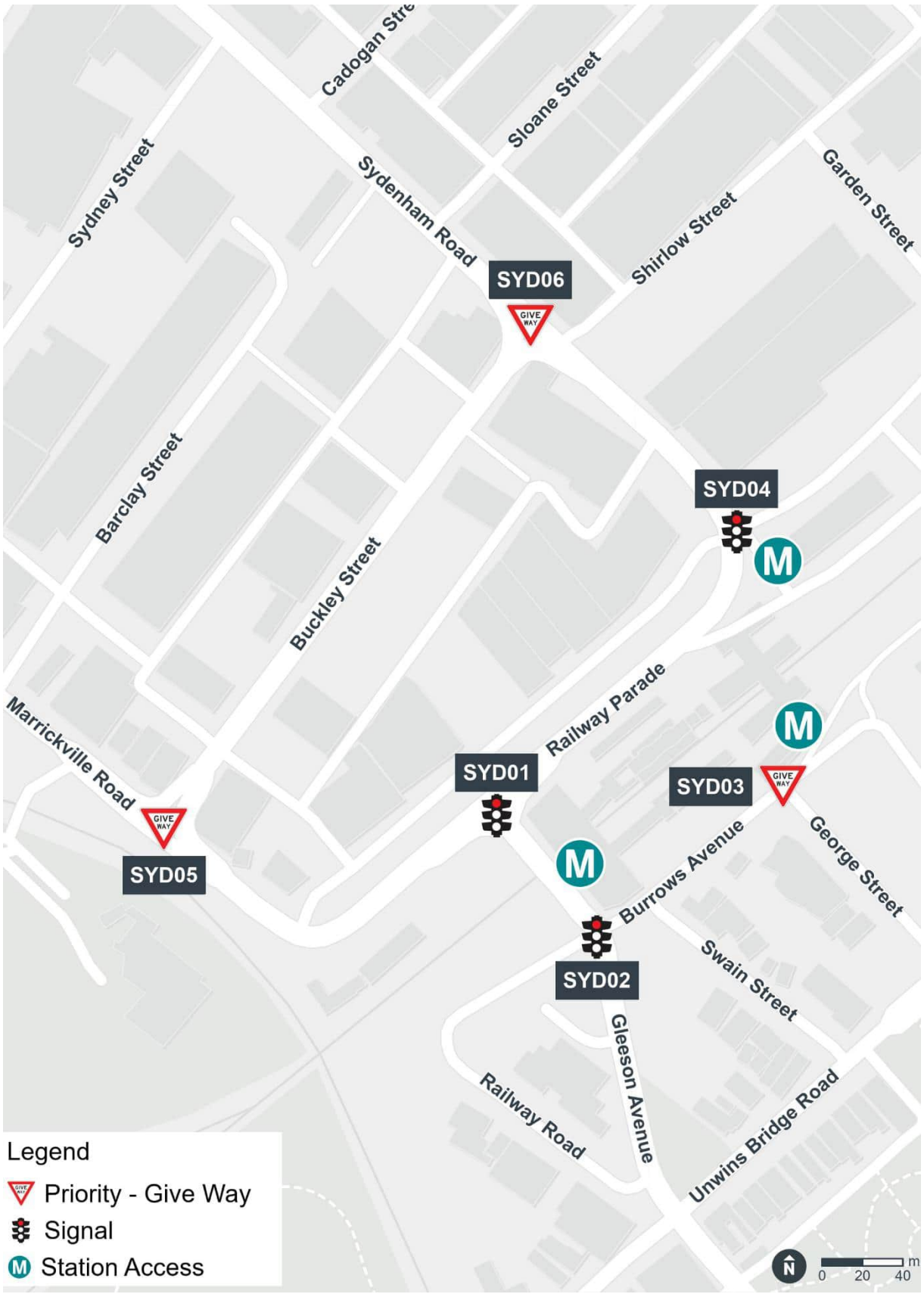


Figure 3-9 Sydenham Station traffic study area

3.3 Transport interchange monitoring

The transport interchange monitoring study area includes taxi, bus stop, accessible parking and kiss and ride facilities located near the stations along the City & Southwest Line (Chatswood to Sydenham). In Block 4, surveys were conducted for interchange facilities that were operational, namely Chatswood Station, Crows Nest Station, Victoria Cross Station, Barangaroo Station, Waterloo Station and Sydenham Station.

Similar to the intersections in the traffic study area, a five-character identifier was assigned to each taxi, bus stop, kiss and ride and accessible parking 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 4 study, including the associated type, identifier, station, street and side of road location, and number of bays.

Table 3-4 Block 4 – interchange 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
Kiss and ride	CSTK1	Crows Nest	Oxley Street	East	3
Kiss and ride	CSTK2	Crows Nest	Oxley Street	West	3
Kiss and ride	CSTK3	Crows Nest	Clarke Street	South	1
Taxi	CSTT1	Crows Nest	Clarke Street	South	2
Bus	VICB1	Victoria Cross	Miller Street	East	2
Bus	VICB2	Victoria Cross	Miller Street	West	2
Kiss and ride	VICK1	Victoria Cross	McLaren Street	North	5
Taxi	VICT1	Victoria Cross	McLaren Street	North	2
Accessible parking	VICA1	Victoria Cross	McLaren Street	North	1
Bus	BGUB1	Barangaroo	Hickson Road	East	1
Bus	BGUB2	Barangaroo	Hickson Road	West	1
Kiss and ride	BGUK1	Barangaroo	Hickson Road	West	1
Taxi	BGUT1	Barangaroo	Hickson Road	West	1
Bus	WLOB1	Waterloo	Raglan Street	South	2
Kiss and ride	WLOK1	Waterloo	Cope Street	West	4
Taxi	WLOT1	Waterloo	Cope Street	West	2
Accessible parking	WLOA1	Waterloo	Cope Street	West	1
Bus[1]	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

Type	ID	Station	Street	Side of road	Number of bays
Accessible parking	SYDA1	Sydenham	Bolton Street	North	2

Notes:
1. SYDB1 encompasses transit stop number (TSN) 220421, TSN 2204125 and TSN 220450.

Figure 3-10 to Figure 3-15 depict the location of each taxi, bus stop, accessible parking and kiss and ride facility assessed surrounding the six interchanges.

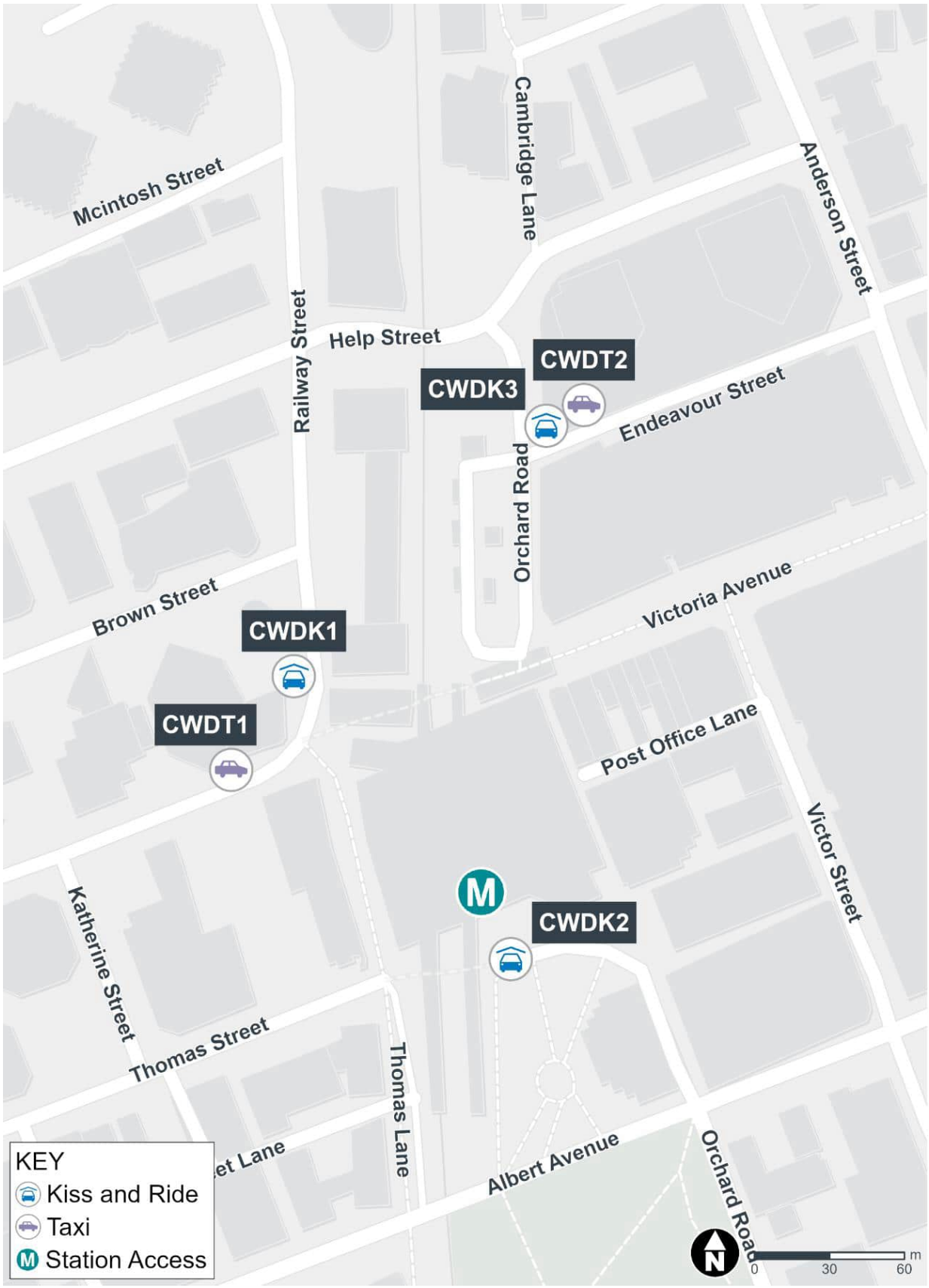


Figure 3-10 Chatswood Station interchange study area

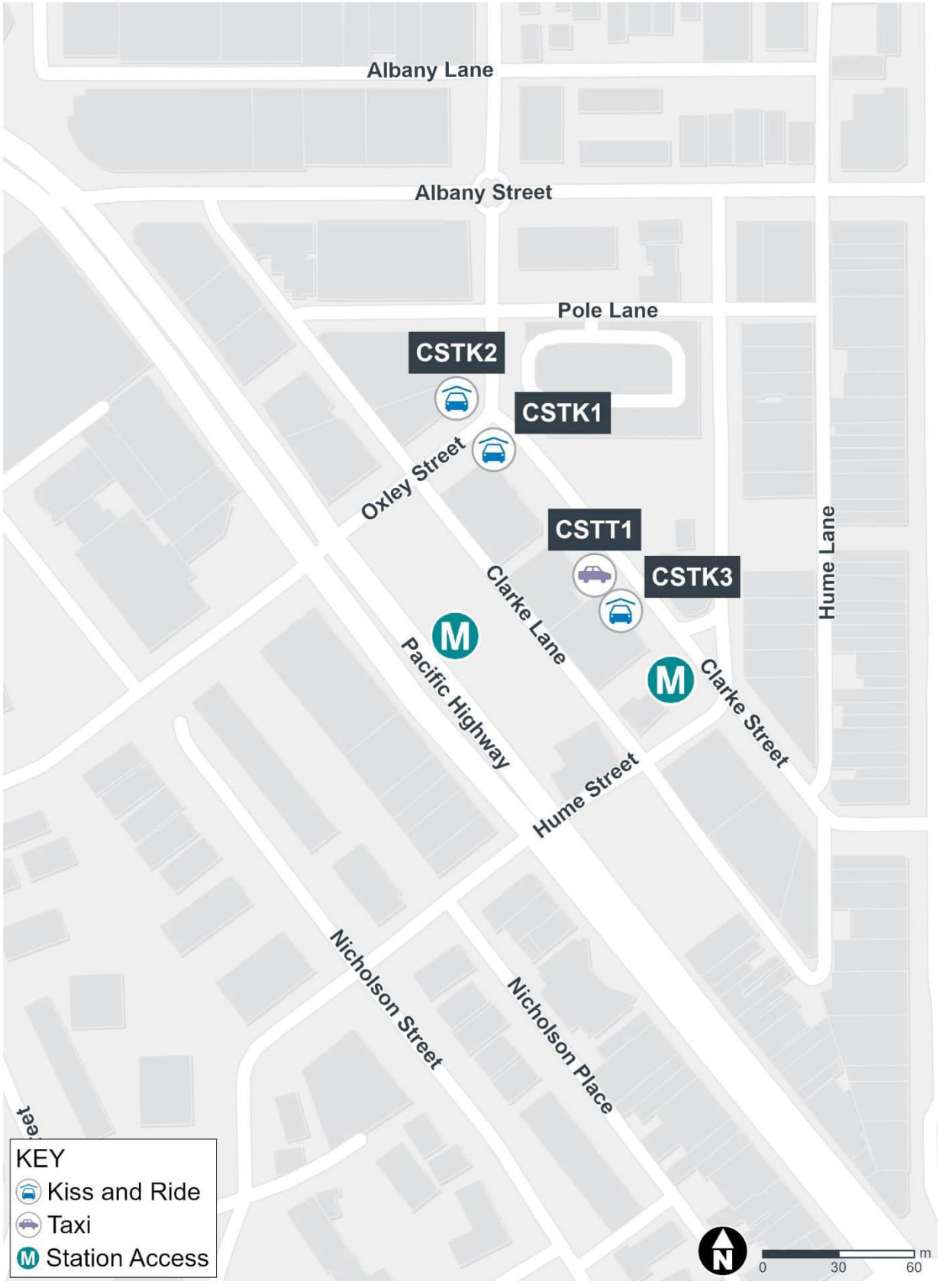


Figure 3-11 Crows Nest Station interchange study area

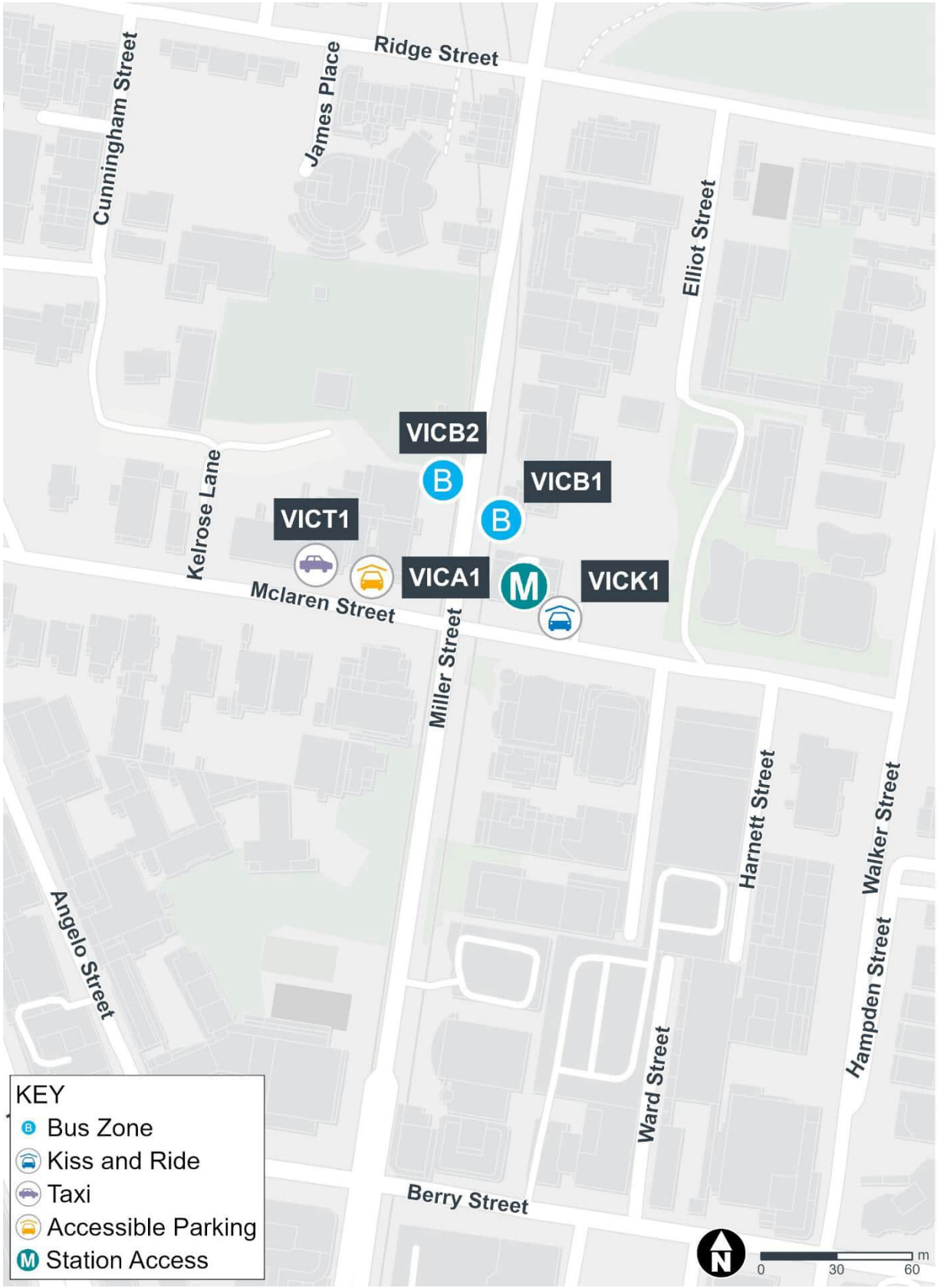


Figure 3-12 Victoria Cross Station interchange study area

Figure 3-13 Barangaroo Station interchange study area

Figure 3-14 Waterloo Station interchange study area

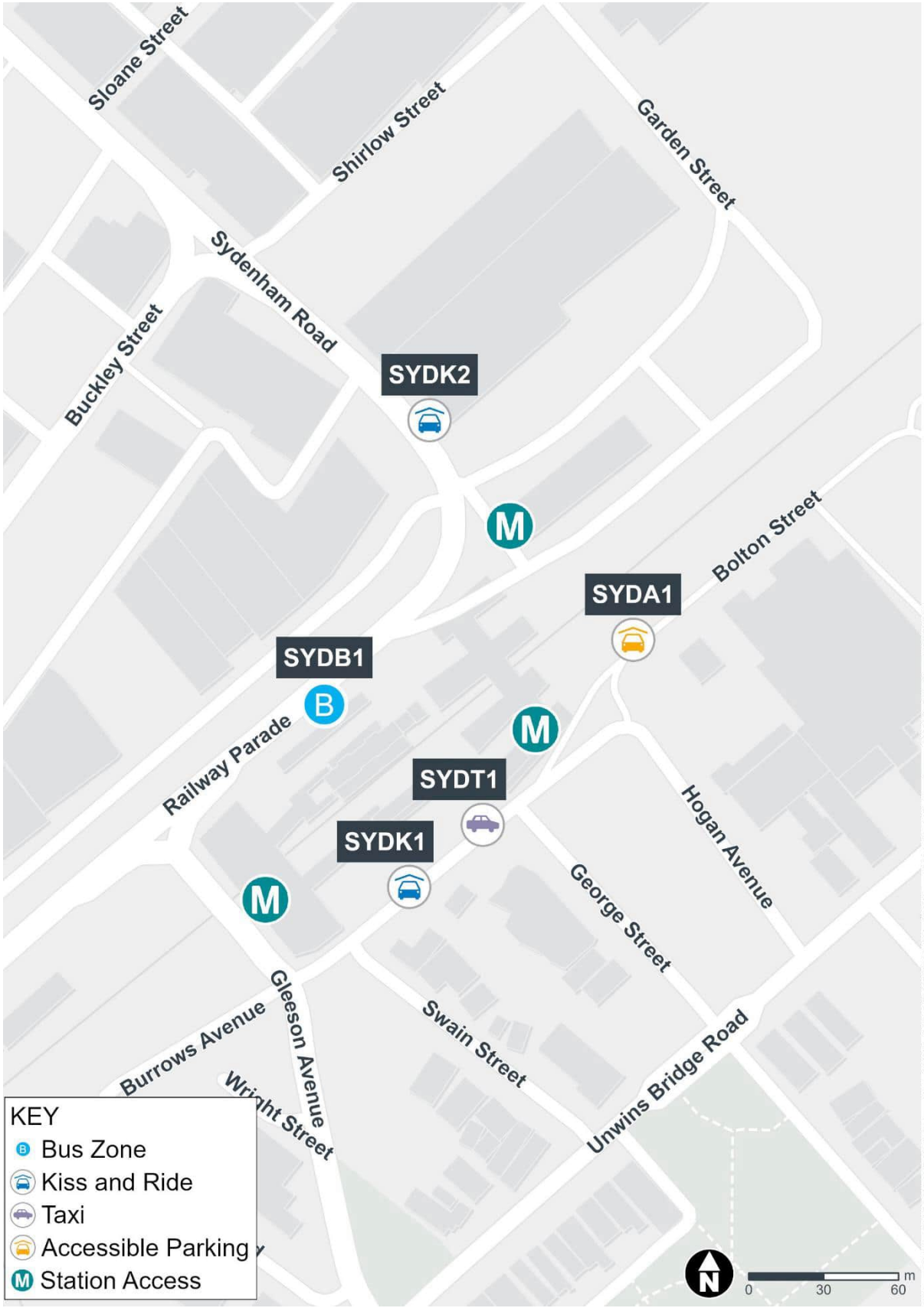


Figure 3-15 Sydenham Station interchange assessment study area

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 provided in the subsequent sections.

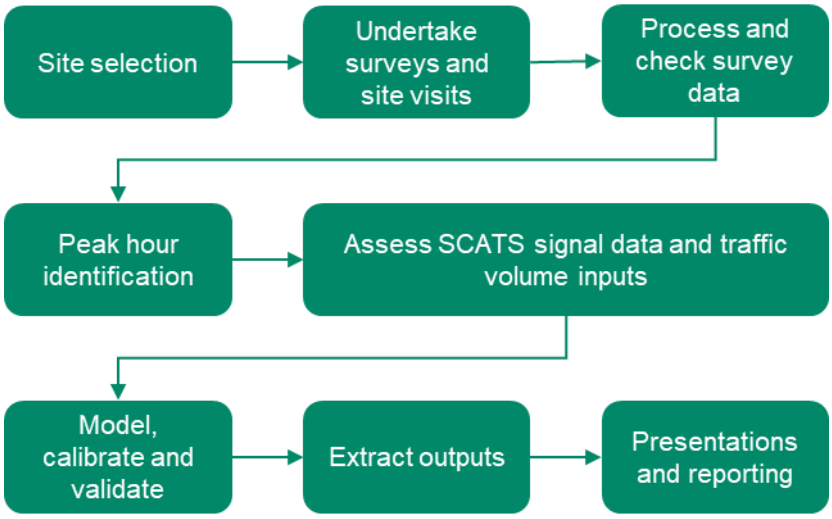


Figure 4-1 Traffic assessment methodology overview

4.1.1 Traffic surveys

Classified intersection counts were undertaken for 64 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**: Saturday 31 August 2024 to Friday 6 September 2024
- **Re-surveys**: Monday 16 September 2024 to Sunday 22 September 2024.

During the traffic surveys, data was gathered for various vehicle types including light vehicles, heavy vehicles, and buses, as well as for cyclists and pedestrians. In addition, 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.

SCATS traffic detector count data was provided by Sydney Metro, for the same dates the traffic surveys were undertaken. The traffic survey data was 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

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. 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.

In consultation with Sydney Metro, the time periods used to determine the intersection or network peak hour were updated for Block 3 onwards to consider the 24-hour traffic monitoring period during the survey period listed in Section 4.1.1. The revised time periods are listed below:

- weekday AM peak: 3am to 12pm
- weekday PM peak: 12pm to 3am
- weekend peak: 3am Saturday to 3am Monday.

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

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. Survey volumes were used for the intersection modelling. 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 TfNSW 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 LOS criteria

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 LOS 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.

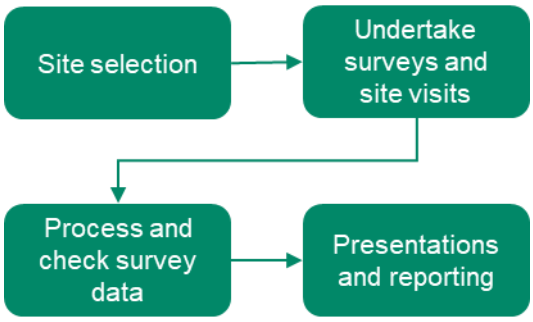


Figure 4-2 Interchange assessment methodology overview

4.2.1 Interchange surveys

Interchange surveys were undertaken at taxi, bus stop, kiss and ride and/or accessible parking facilities located at Chatswood Station, Crows Nest Station, Victoria Cross Station, Barangaroo Station, Waterloo Station and Sydenham Station (as outlined in Section 3.3).

The interchange surveys were carried out over a one-week period, similar to the intersection surveys. In cases where data was corrupted or unavailable due to vandalism, resurveys were conducted. The survey dates were as follows:

- **Interchange Surveys:** Saturday 31 August 2024 to Friday 6 September 2024
- **Re-surveys:** Monday 16 September 2024 to Sunday 22 September 2024.

The key data captured as part of the interchange surveys includes:

- vehicle counts
- vehicle occupancy (boarding and alighting passengers only)
- vehicle dwell time
- vehicle queue length outside the bay.

In consultation with Sydney Metro, the time periods used to determine the interchange peak demand have been updated for Block 3 onwards to consider the 24-hour traffic monitoring period during the survey period listed in Section 4.1.1. The revised time periods are listed below:

- weekday AM peak: 3am to 12pm
- weekday PM peak: 12pm to 3am
- weekend peak: 3am Saturday to 3am Monday.

Site observations were completed in conjunction with the interchange surveys, ensuring at least one observation was carried out for each interchange facility during the above time periods. 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, kiss and ride or accessible parking) to understand usage patterns at the interchange 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 4 study area.

The SIDRA Intersection movement summary outputs for all modelled intersections during each peak hour are shown in Appendix D.

5.1 Chatswood Dive Site

The Chatswood Dive Site was used as 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. Following the opening of Sydney Metro City & Southwest Line (Chatswood to Sydenham), 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 bridge crossing along Mowbray Road over the rail line 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 LOS, while Figure 5-1 visualises a geospatial summary of the intersection LOS within the Chatswood Dive Site study area.

Table 5-1 Block 4 – 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	Tuesday	8:00am	Friday	4:45pm	Saturday	11:30am
-	CWD02	No modelling was undertaken					

Table 5-2 Block 4 – Chatswood Dive Site intersection performance summary

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

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

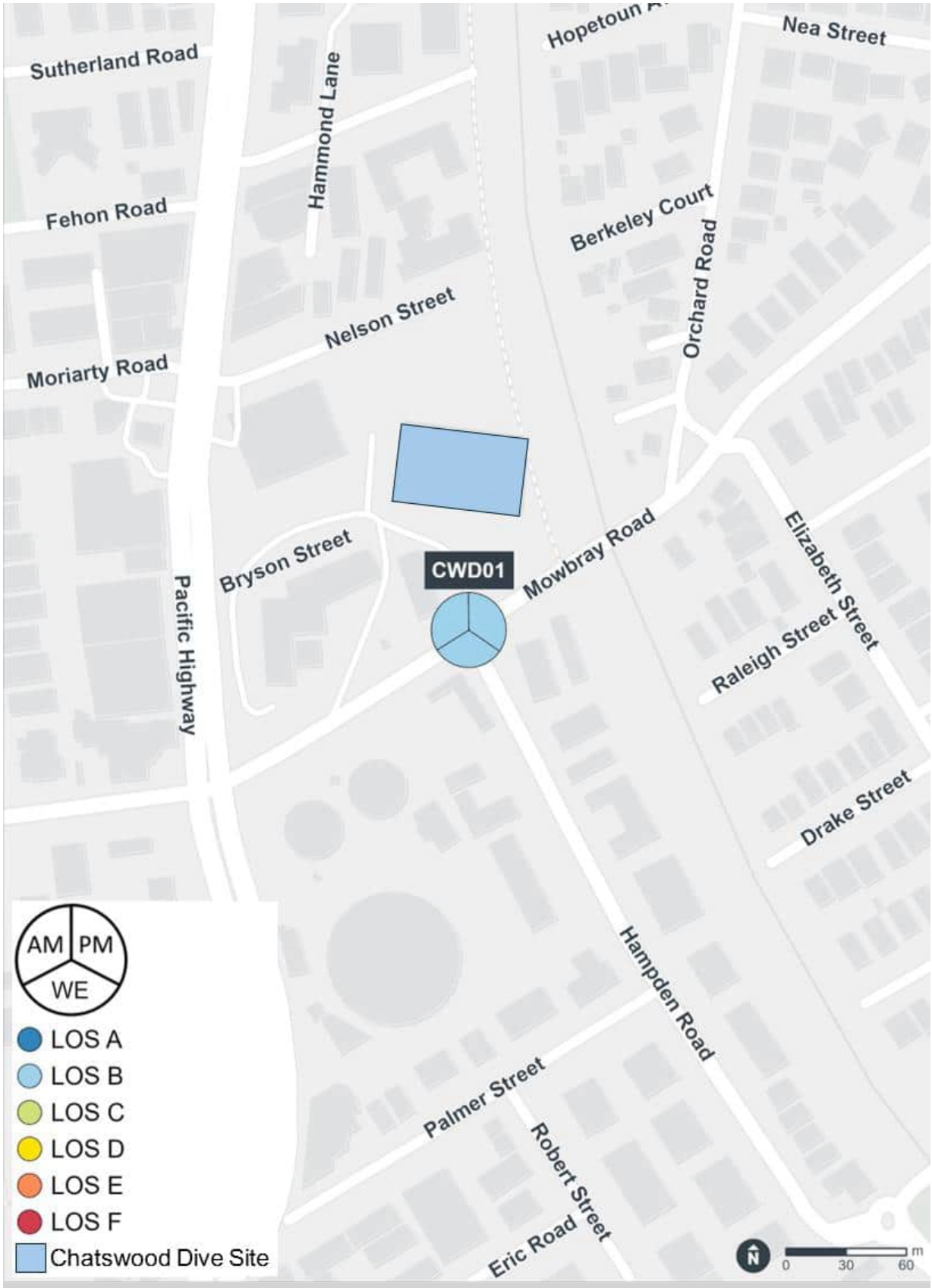
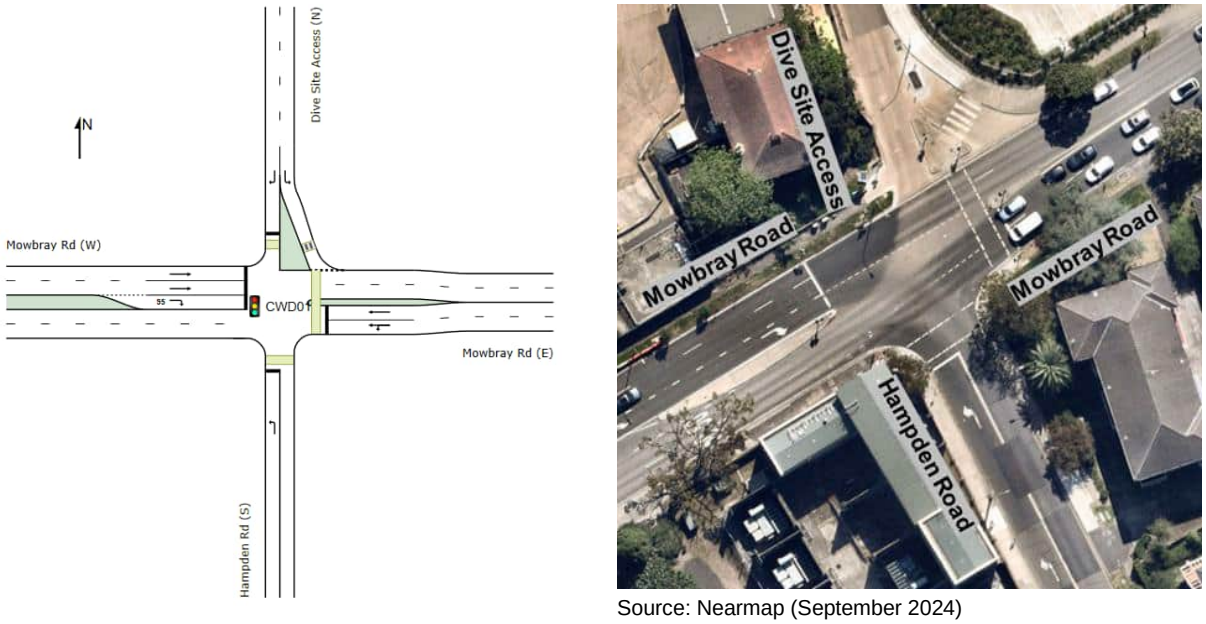


Figure 5-1 Block 4 – Chatswood Dive Site intersection performance summary

5.1.1 CWD01 – Mowbray Road/Hampden Road

The 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 Lane Cove. Furthermore, the Chatswood Dive Site exits on to Mowbray Road at this intersection. The pedestrian bridge crossing along Mowbray Road (CWD02) connects with the 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 (September 2024)

Figure 5-2 Block 4 – AM peak model 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 4 – Intersection performance summary of CWD01

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Mowbray Road/ Hampden Road (Signal)	Weekday AM	South	0.516	58.6	99.3	LOS E
		East	0.459	17.8	147.5	LOS B
		North	0.009	39.0	0.5	LOS C
		West	0.478	9.4	133.1	LOS A
		Total	**0.516**	**16.9**	**147.5**	**LOS B**
	Weekday PM	South	0.419	54.0	85.5	LOS D
		East	0.506	20.3	170.1	LOS B
		North	0.009	38.9	0.5	LOS C
		West	0.447	10.0	116.8	LOS A
		Total	**0.506**	**18.3**	**170.1**	**LOS B**
	Weekend	South	0.532	50.2	120.3	LOS D

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		East	0.548	22.7	182.7	LOS B
		North	0.010	38.4	0.5	LOS C
		West	0.501	10.6	129.6	LOS A
		Total	**0.548**	**19.3**	**182.7**	**LOS B**

Overall, the intersection of Mowbray Road and Hampden Road performs satisfactorily at LOS B during all peak hours. The 95th percentile queue on Mowbray Road extends from the east approach to the intersection of Elizabeth Street/Orchard Road and from the west approach to the intersection of the Pacific Highway/Mowbray Road during all peak hours.

5.1.2 CWD02 – Pedestrian Bridge Crossing along Mowbray Road

The 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 including 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 forms an extension of the eastern approach of the intersection of Mowbray Road and Hampden Road (CWD01, refer to Section 5.1.1).

5.1.3 Comparison with previous study blocks

Figure 5-3 provides a comparison of the total peak hourly traffic volumes recorded at CWD01 for Block 4 against previous study blocks. As shown, Block 4 traffic volumes are relatively lower during the AM and PM peak hours, and generally similar in the weekend peak hours compared to pre-opening conditions.

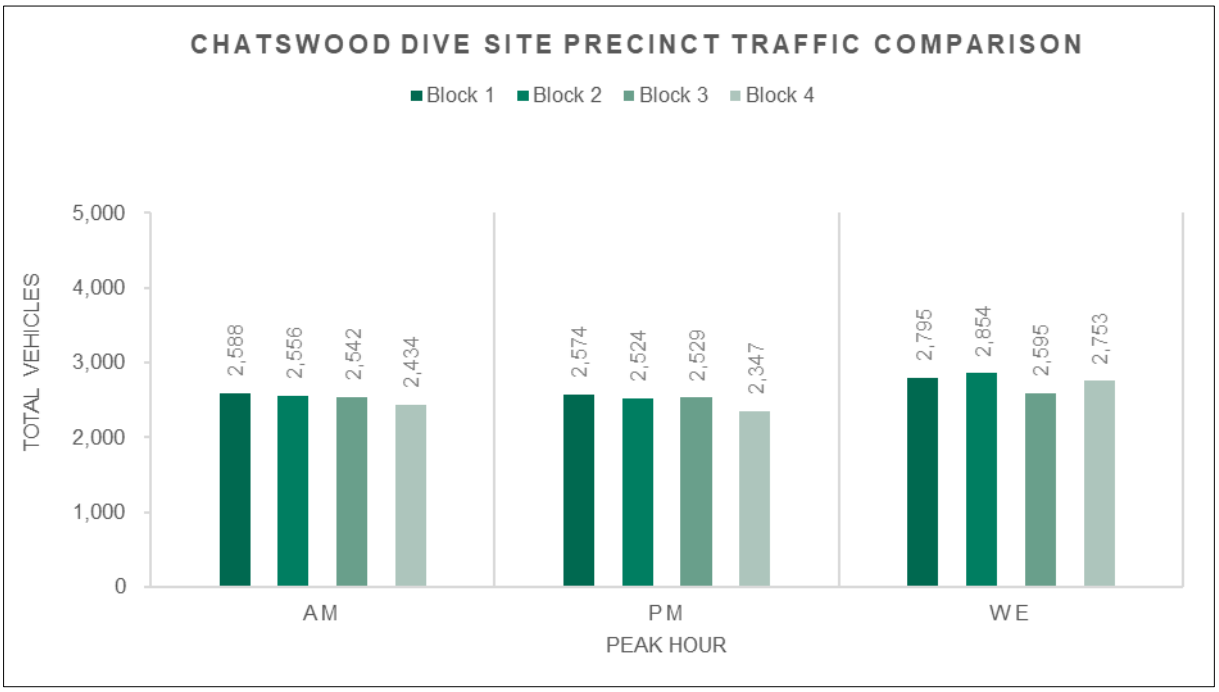
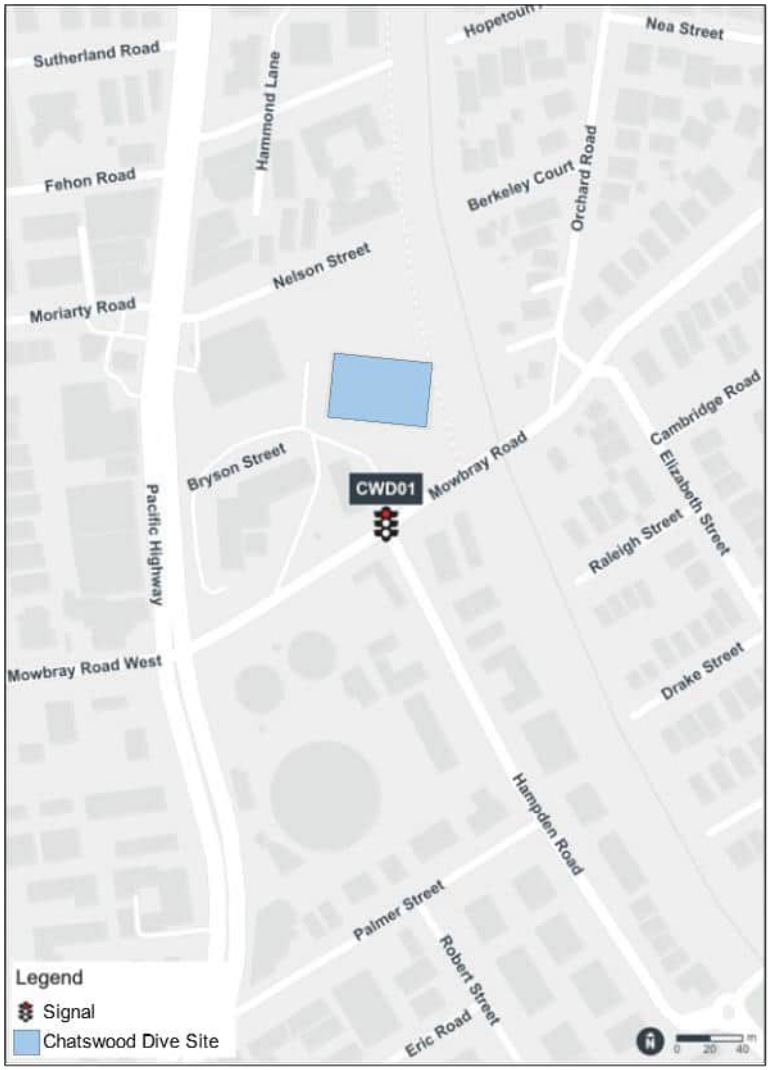


Figure 5-3 Study block comparison – Chatswood Dive Site peak hourly traffic volumes at CWD01

A comparison of the intersection LOS for Block 4 against previous study blocks is shown in Figure 5-4. The intersection in the Chatswood Dive Site study area performs at LOS B during all peak hours during Block 4, which is generally similar to previous study blocks.



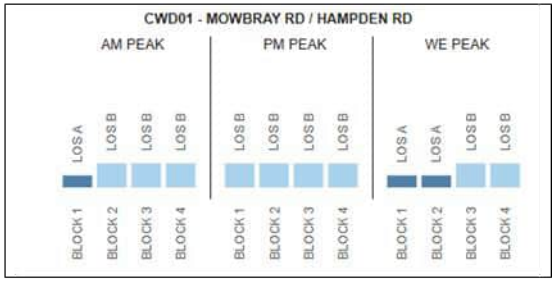


Figure 5-4 Study block comparison – Chatswood Dive Site intersection performance summary

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 has accesses from both the Pacific Highway and Clarke Street. The two entrances are listed below:

- Clarke Street Entry; along Clarke Street, west of Hume Street
- Pacific Highway Entry; along Pacific Highway, south of Oxley 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 Crows Nest Station, a cycleway runs along Oxley Street, Hume Street and Clarke Street and pedestrian footpaths are available throughout Crows Nest.

The Crows Nest Station study area consists of 14 intersections, although the intersection of Hume Street and Clarke Lane was still under construction for a part of Block 4. Table 5-4 presents the peak hours utilised for modelling the intersections. Table 5-5 provides a summary of the intersection LOS, while Figure 5-5 visualises a geospatial summary of the intersection LOS within the Crows Nest Station study area.

Table 5-4 Block 4 – 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	Tuesday	8:00am	Thursday	5:00pm	Saturday	12:00pm
	CST02						
	CST03						
	CST04						
	CST05						
	CST06						
	CST09						
	CST10						
	CST11						
	CST12						
	CST13						
	CST14						
-	CST07	Tuesday	8:15am	Wednesday	6:00pm	Saturday	6:30pm
-	CST08	Friday	8:00am	Wednesday	5:00pm	Saturday	11:30am

Table 5-5 Block 4 – Crows Nest Station intersection performance summary

Intersection ID	Intersection	LOS		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
CST01	Pacific Highway/Albany Street (Signal)	LOS B	LOS B	LOS B
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 C	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 B	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 A	LOS A	LOS A
CST11	Oxley Street/Clarke Lane (Priority – Stop)	LOS A	LOS A	LOS A
CST12	Hume Street/Clarke Lane (Priority – Stop)	Under construction	LOS A	Under construction
CST13	Pacific Highway/Alexander Street (Signal)	LOS B	LOS A	LOS A
CST14	Falcon Street/Alexander Street (Signal)	LOS B	LOS B	LOS B

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

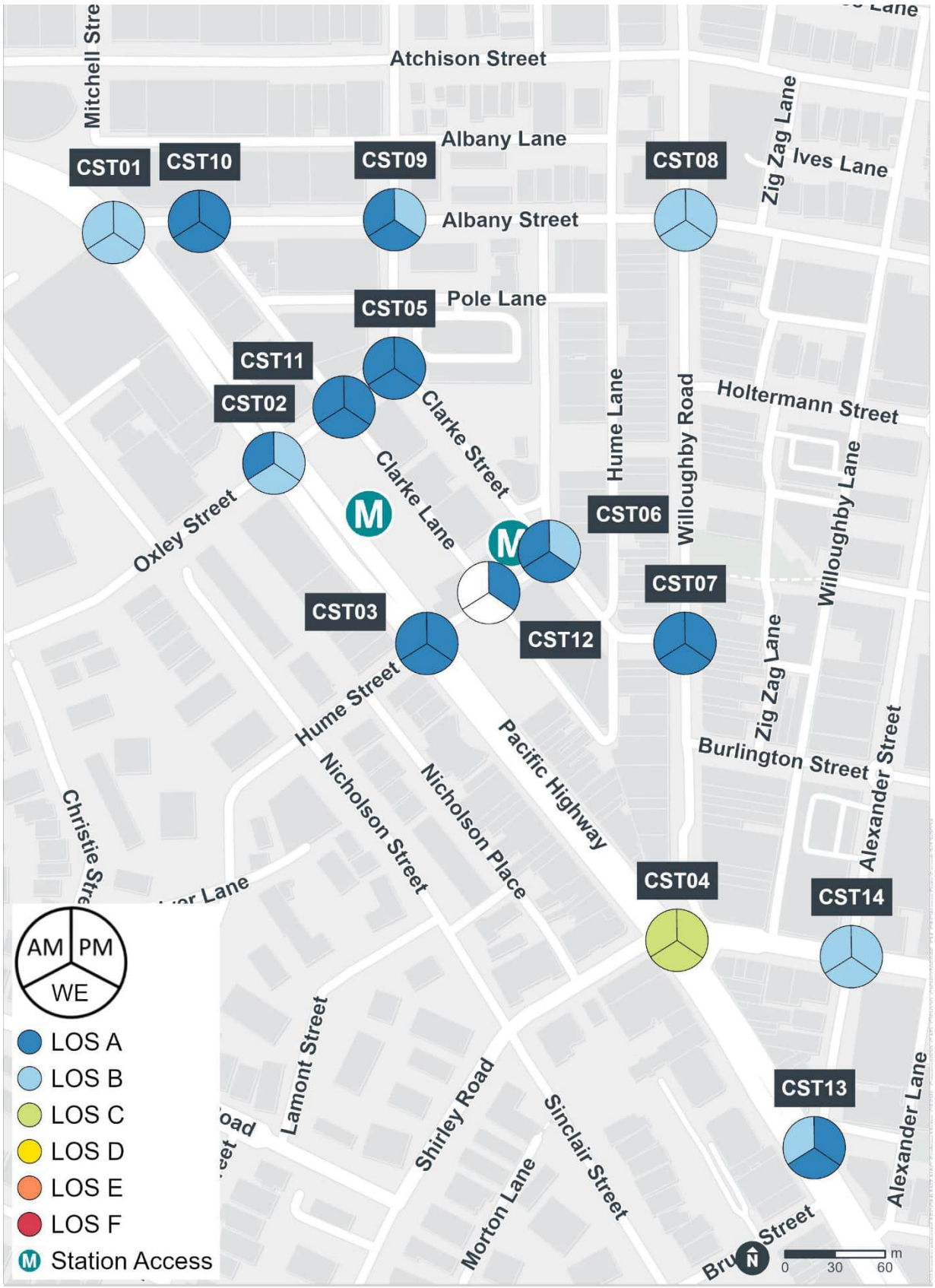


Figure 5-5 Block 4 – Crows Nest Station intersection performance summary

5.2.1 CST01 – Pacific Highway/Albany Street

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

Source: Nearmap (September 2024)

Figure 5-6 Block 4 – AM peak model 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 4 – Intersection performance summary of CST01

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Pacific Highway/ Albany Street (Signal)	Weekday AM	South-east	0.892	10.6	81.2	LOS A
		East	0.678	56.6	49.0	LOS E
		North-west	0.557	15.8	128.7	LOS B
		Total	**0.892**	**19.4**	**128.7**	**LOS B**
	Weekday PM	South-east	0.864	19.1	140.3	LOS B
		East	0.738	56.4	49.0	LOS D
		North-west	0.419	10.7	72.2	LOS A
		Total	**0.864**	**21.6**	**140.3**	**LOS B**
	Weekend	South-east	0.856	12.1	71.9	LOS A
		East	0.726	56.8	49.0	LOS E
		North-west	0.394	9.7	67.3	LOS A
		Total	**0.856**	**19.1**	**71.9**	**LOS B**

Overall, the intersection of the Pacific Highway (A1) and Albany Street performs satisfactorily at LOS B during all peak hours. The 95th percentile queue on Albany Street (east approach) extends back to Clarke Lane during all peak hours, and extends back on the Pacific Highway (south-east approach) to Oxley Street during the PM peak hour.

It was also noted that Block 4 pedestrian volumes at Pacific Highway (A1) and Albany Street significantly increased during the weekday AM and PM peak hour compared to pre-opening conditions. Given that CST01 is located along the frontage of Crows Nest station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

5.2.2 CST02 – Pacific Highway/Oxley Street

The signalised intersection, composed of the 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 the Pacific Highway (A1), linking Wahroonga and North Sydney.

During Block 4, the kerbside approach lane on Pacific Highway (A1) (south-east approach) was closed during the weekday AM peak hour due to construction works. Additionally, the pedestrian crossing on Pacific Highway (A1) (south-east approach) was closed during all peak hours.

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

Source: Nearmap (September 2024)

Figure 5-7 Block 4 – PM peak model 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 4 – Intersection performance summary of CST02

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Pacific Highway/ Oxley Street (Signal)	Weekday AM	South-east	0.579	7.9	91.7	LOS A
		North-east	0.246	47.6	38.2	LOS D
		North-west	0.345	1.4	23.4	LOS A
		South-west	0.505	58.2	66.8	LOS E

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		Total	**0.579**	**13.3**	**91.7**	**LOS A**
	Weekday PM	South-east	0.447	3.8	53.4	LOS A
		North-east	0.239	45.5	34.5	LOS D
		North-west	0.252	12.0	69.0	LOS A
		South-west	0.754	62.2	79.7	LOS E
		Total	**0.754**	**19.1**	**79.7**	**LOS B**
	Weekend	South-east	0.349	3.6	36.6	LOS A
		North-east	0.318	47.3	40.8	LOS D
		North-west	0.237	11.6	63.8	LOS A
		South-west	0.529	54.8	62.5	LOS D
		Total	**0.529**	**17.4**	**63.8**	**LOS B**

Overall, the intersection of the Pacific Highway (A1) and Oxley Street performs satisfactorily at LOS B or better during all peak hours. The 95th percentile queue on Oxley Street extends from the north-east approach to Clarke Lane during all peak hours and from the south-west approach back to Nicholson Street during the weekday PM peak hour.

It was also noted that Block 4 pedestrian volumes at Pacific Highway (A1) and Oxley Street significantly increased during all peak hours compared to pre-opening conditions. Given that CST02 is located along the frontage of Crows Nest station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

5.2.3 CST03 – Pacific Highway/Hume Street

The signalised intersection, composed of the Pacific Highway and Hume Street, is located directly south-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 Hume Street, linking Crows Nest and Wollstonecraft. A dedicated cycleway runs along both sides of Hume Street; however, it was not considered for this assessment.

Hume Street (north-east leg) was previously closed during Block 1 to 3 as part of the Sydney Metro construction works. During Block 4, access to Hume Street (north-eastern approach) was closed during the identified AM and weekend peak hours due to Sydney Metro construction; however, it was reopened to traffic during the identified PM peak hour. Additionally, the pedestrian crossing on Pacific Highway (south-east approach) was closed during all peak hours.

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

Source: Nearmap (September 2024)

Figure 5-8 Block 4 – PM peak model 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 4 – Intersection performance summary of CST03

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Pacific Highway/ Hume Street (Signal)	Weekday AM	South-east	0.433	0.7	10.2	LOS A
		North-east	Closed due to construction			
		North-west	0.334	3.2	73.7	LOS A
		South-west	0.501	64.9	46.0	LOS E
		Total	**0.501**	**5.0**	**73.7**	**LOS A**
	Weekday PM	South-east	0.294	6.4	59.8	LOS A
		North-east	0.139	54.5	13.9	LOS D
		North-west	0.359	6.5	77.8	LOS A
		South-west	0.328	58.9	31.0	LOS E
		Total	**0.359**	**9.7**	**77.8**	**LOS A**
	Weekend	South-east	0.331	7.0	66.4	LOS A
		North-east	Closed due to construction			
		North-west	0.321	5.3	63.9	LOS A
		South-west	0.349	61.0	27.6	LOS E
		Total	**0.349**	**8.4**	**66.4**	**LOS A**

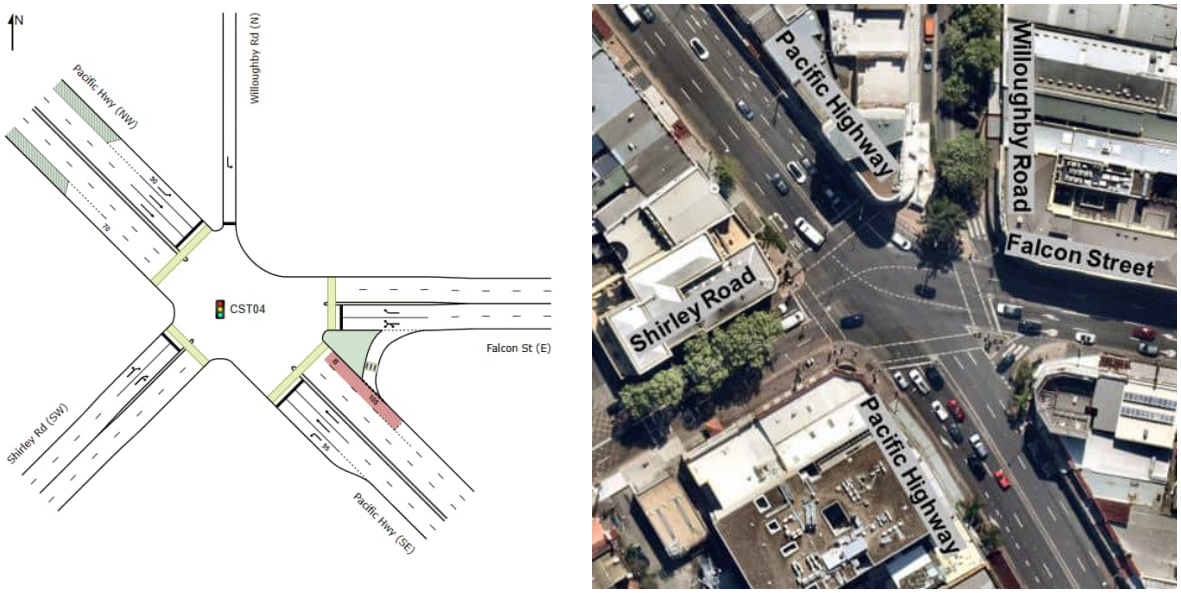
Overall, the intersection of the Pacific Highway (A1) and Hume Street performs satisfactorily at LOS A during all peak hours. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

It was also noted that Block 4 pedestrian volumes at Pacific Highway (A1) and Hume Street significantly increased during all peak hours compared to pre-opening conditions. Given that CST03 is located along the frontage of Crows Nest station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

5.2.4 CST04 – Pacific Highway/Falcon Street/Shirley Road

The signalised intersection, composed of the Pacific Highway, Falcon Street and Shirley Road, is located south-east of Crows Nest Station. It connects the State road of the 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 5-9 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-9 Block 4 – AM peak model 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 4 – Intersection performance summary of CST04

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Pacific Highway/ Falcon Street/ Shirley Road (Signal)	Weekday AM	South-east	0.638	29.9	173.9	LOS C
		East	0.921	61.6	130.6	LOS E
		North	0.035	3.8	1.6	LOS A
		North-west	0.730	22.1	173.8	LOS B
		South-west	0.928	77.5	211.7	LOS F
		Total	**0.928**	**41.0**	**211.7**	**LOS C**
	Weekday PM	South-east	0.779	33.4	161.3	LOS C
		East	0.878	38.1	130.6	LOS C
		North	0.050	3.8	2.6	LOS A

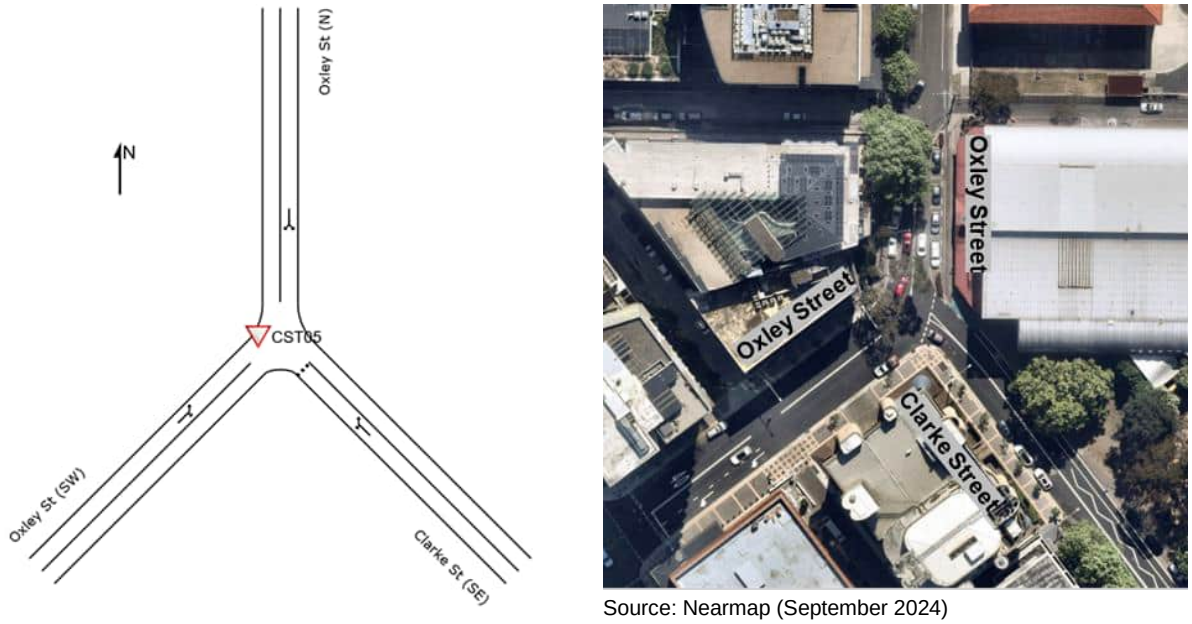
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		North-west	0.668	43.2	149.2	LOS D
		South-west	0.534	46.8	131.2	LOS D
		Total	**0.878**	**39.1**	**161.3**	**LOS C**
	Weekend	South-east	0.557	31.1	105.3	LOS C
		East	0.915	43.1	130.6	LOS D
		North	0.060	3.8	2.9	LOS A
		North-west	0.665	39.4	144.4	LOS C
		South-west	0.647	47.9	131.8	LOS D
		Total	**0.915**	**38.7**	**144.4**	**LOS C**

Overall, the intersection of the Pacific Highway (A1), Falcon Street, and Shirley Road performs at LOS C or better during all peak hours. The 95th percentile queue on the Pacific Highway (A1) (south-east approach) extends back to Alexander Street during the weekday AM and PM peak hours. Similarly, the 95th percentile queue on Falcon Street (east approach) extends back to Alexander Street during all peak hours.

5.2.5 CST05 – Clarke Street/Oxley Street

The 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. A dedicated cycleway runs along the eastern side of Oxley Street (north approach) and the northern side of Clarke Street; however, it was not considered for this assessment.

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



Source: Nearmap (September 2024)

Figure 5-10 Block 4 – AM peak model 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 4 – Intersection performance summary of CST05

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Clarke Street/ Oxley Street (Priority – Give Way)	Weekday AM	South-east	0.085	5.9	2.1	LOS A
		North	0.147	4.4	0.0	LOS A
		South-west	0.107	4.8	3.0	LOS A
		Total	**0.085**	**5.9**	**2.1**	**LOS A**
	Weekday PM	South-east	0.068	5.9	1.7	LOS A
		North	0.136	4.4	0.0	LOS A
		South-west	0.139	4.9	3.3	LOS A
		Total	**0.068**	**5.9**	**1.7**	**LOS A**
	Weekend	South-east	0.076	5.7	1.8	LOS A
		North	0.154	4.4	0.0	LOS A
		South-west	0.106	4.9	2.7	LOS A
		Total	**0.076**	**5.7**	**1.8**	**LOS A**

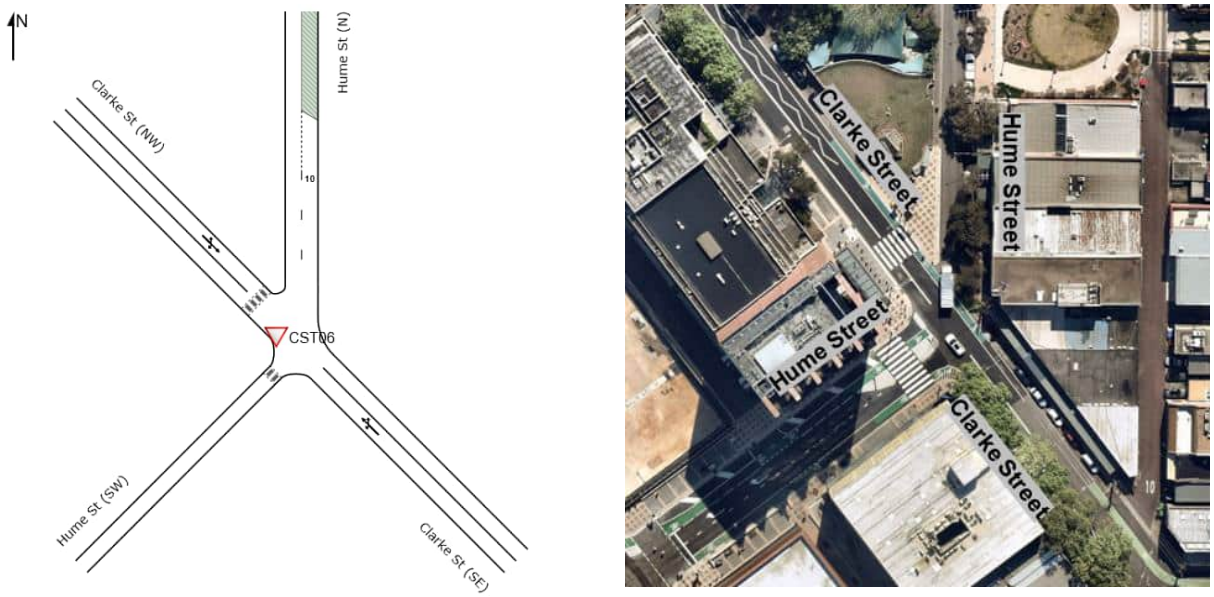
Overall, the intersection of Clarke Street and Oxley Street performs satisfactorily at LOS A during all peak hours. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.2.6 CST06 – Clarke Street/Hume Street

The 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. A dedicated cycleway runs along the northern side of Clarke Street and both sides of Hume Street (south-west approach); however, it was not considered for this assessment.

During Block 4, access to Hume Street (south-west approach) was limited to local area access and construction access only in the AM and weekend peak hours; however, it was open to general traffic during the PM peak hour.

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



Source: Nearmap (September 2024)

Figure 5-11 Block 4 – AM peak model 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 4 – Intersection performance summary of CST06

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Clarke Street/ Hume Street (Priority – Give Way)	Weekday AM	South-east	0.054	3.7	0.8	LOS A
		North-west	0.090	4.1	0.2	LOS A
		Total	**0.090**	**4.1**	**0.2**	**LOS A**
	Weekday PM	South-east	0.201	6.5	6.3	LOS A
		North-west	0.413	21.1	16.7	LOS B
		Total	**0.413**	**21.1**	**16.7**	**LOS B**
	Weekend	South-east	0.053	3.8	0.8	LOS A
		North-west	0.095	4.1	0.1	LOS A
		Total	**0.095**	**4.1**	**0.1**	**LOS A**

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

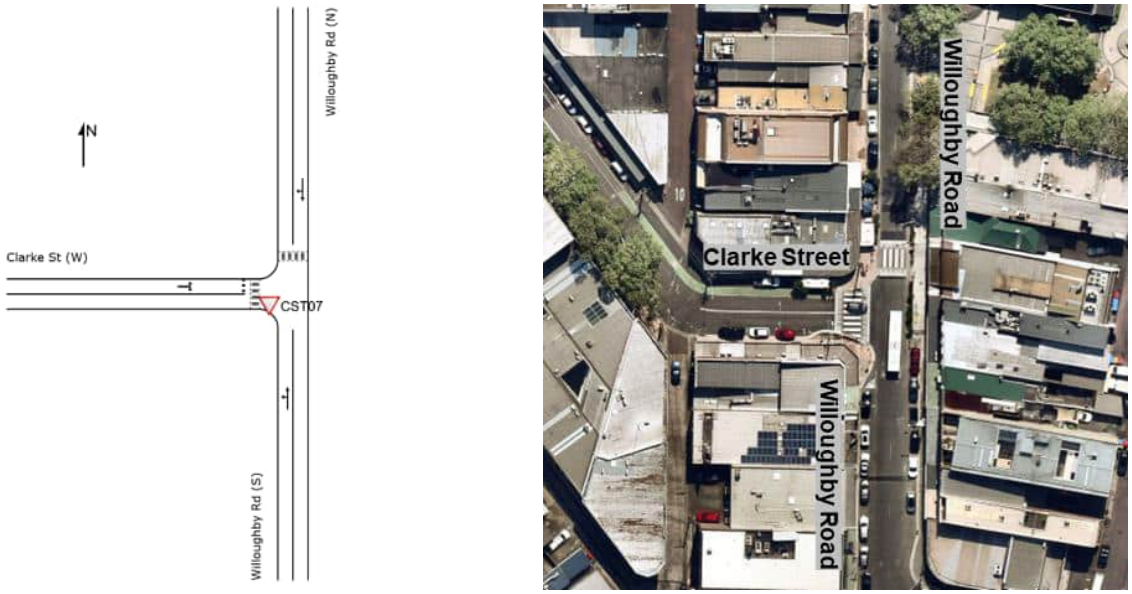
It was also noted that Block 4 pedestrian volumes at Clarke Street and Hume Street significantly increased during the weekday AM and weekend peak hours compared to pre-opening conditions. Given that CST06 is located along the frontage of Crows Nest station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

5.2.7 CST07 – Clarke Street/Willoughby Road

The 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. A dedicated cycleway runs along the northern side of Clarke Street; however, it was not considered for this assessment.

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



Source: Nearmap (September 2024)

Figure 5-12 Block 4 – AM peak model 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 4 – Intersection performance summary of CST07

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Clarke Street/ Willoughby Road (Priority – Give Way)	Weekday AM	South	0.177	5.2	6.1	LOS A
		North	0.065	8.1	2.1	LOS A
		West	0.154	6.3	3.8	LOS A
		Total	**0.065**	**8.1**	**2.1**	**LOS A**
	Weekday PM	South	0.192	5.6	6.7	LOS A
		North	0.176	8.5	5.4	LOS A
		West	0.233	7.7	6.1	LOS A
		Total	**0.176**	**8.5**	**5.4**	**LOS A**
	Weekend	South	0.218	5.8	7.7	LOS A
		North	0.214	9.1	6.7	LOS A
		West	0.212	8.4	5.3	LOS A
		Total	**0.214**	**9.1**	**6.7**	**LOS A**

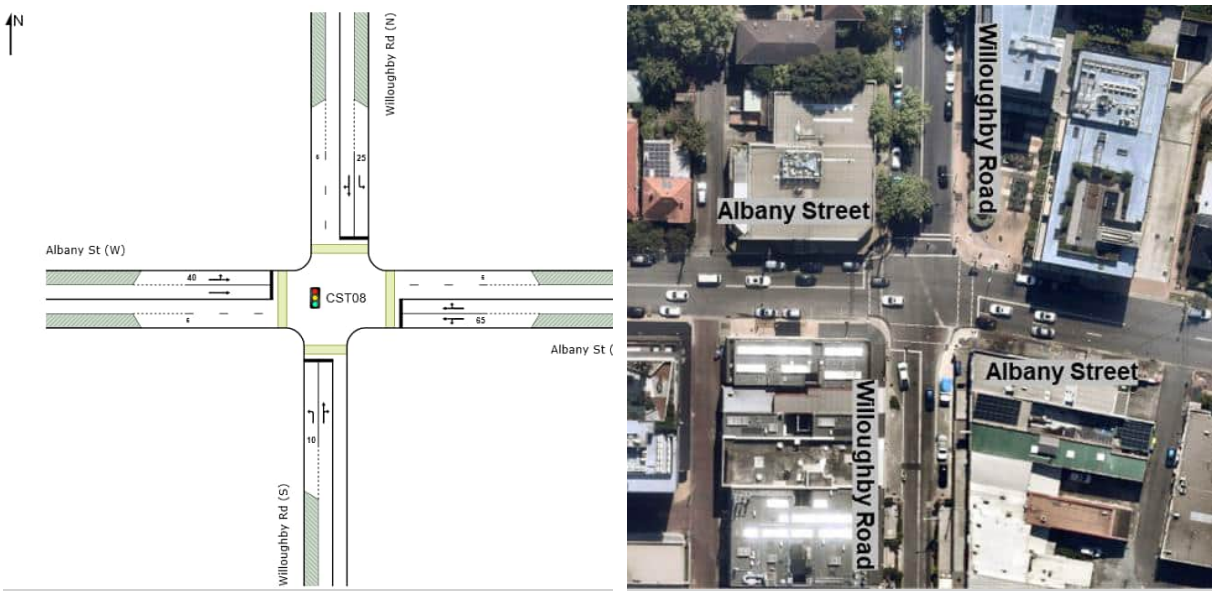
Overall, the intersection of Clarke Street and Willoughby Road performs satisfactorily at LOS A during all peak hours. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.2.8 CST08 – Albany Street/Willoughby Road

The 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.

During Block 4, the southern departure lane of Willoughby Road was closed during the AM peak hour due to construction works.

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



Source: Nearmap (September 2024)

Figure 5-13 Block 4 – AM peak model 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 4 - Intersection performance summary of CST08

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Albany Street/ Willoughby Road (Signal)	Weekday AM	South	0.038	23.3	2.8	LOS B
		East	0.521	13.5	46.9	LOS A
		North	0.270	19.4	28.0	LOS B
		West	0.462	19.3	55.5	LOS B
		Total	**0.521**	**16.9**	**55.5**	**LOS B**
	Weekday PM	South	0.207	24.4	19.3	LOS B
		East	0.447	15.0	39.6	LOS B
		North	0.437	22.6	38.3	LOS B
		West	0.493	20.3	64.9	LOS B

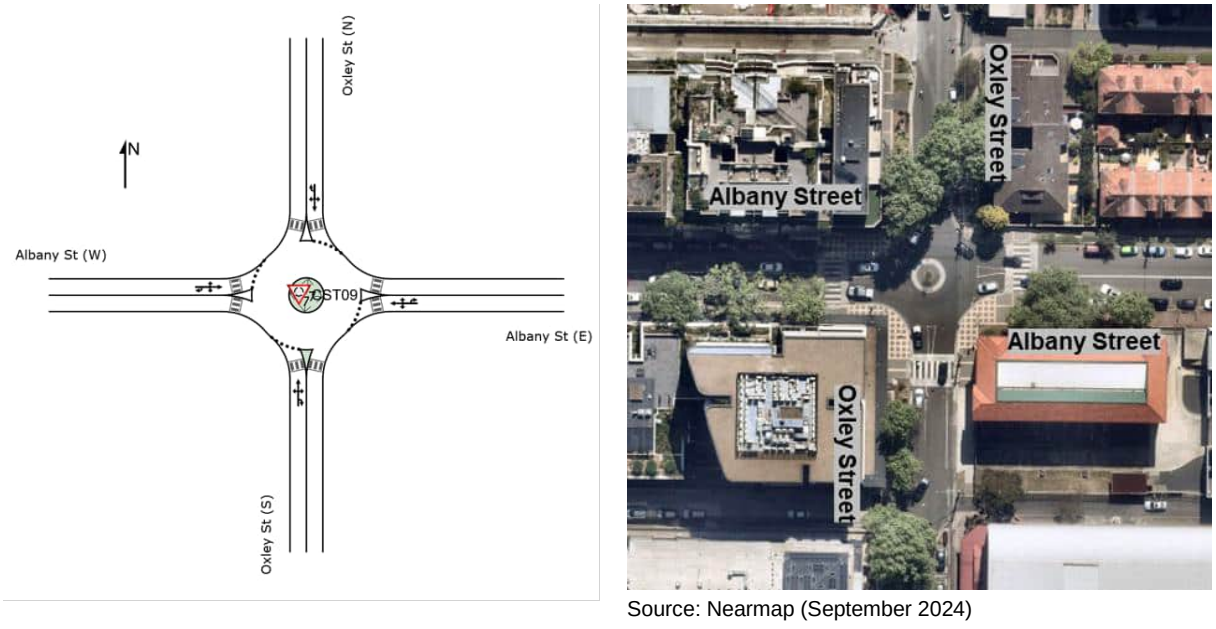
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		Total	**0.493**	**19.5**	**64.9**	**LOS B**
	Weekend	South	0.166	21.1	15.4	LOS B
		East	0.567	14.7	60.8	LOS B
		North	0.391	19.9	34.1	LOS B
		West	0.397	19.6	45.2	LOS B
		Total	**0.567**	**18.0**	**60.8**	**LOS B**

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

5.2.9 CST09 – Albany Street/Oxley Street

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



Source: Nearmap (September 2024)

Figure 5-14 Block 4 – AM peak model 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 4 – Intersection performance summary of CST09

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		South	0.236	11.8	11.2	LOS A

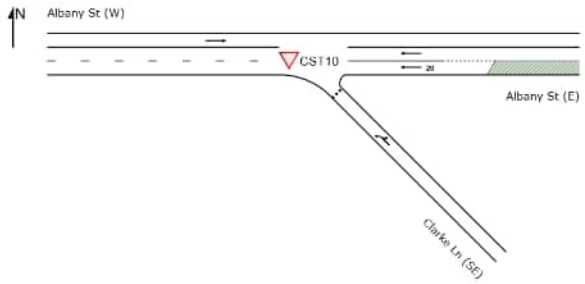
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Albany Street/Oxley Street (Roundabout)	Weekday AM	East	0.528	11.9	26.4	LOS A
		North	0.356	12.1	17.2	LOS A
		West	0.479	9.7	27.6	LOS A
		Total	**0.356**	**12.1**	**17.2**	**LOS A**
	Weekday PM	South	0.443	12.7	21.5	LOS A
		East	0.824	16.4	48.6	LOS B
		North	0.369	12.4	18.4	LOS A
		West	0.579	11.4	37.6	LOS A
		Total	**0.824**	**16.4**	**48.6**	**LOS B**
	Weekend	South	0.267	11.4	12.2	LOS A
		East	0.445	10.6	19.9	LOS A
		North	0.275	11.2	12.1	LOS A
		West	0.402	9.7	22.3	LOS A
		Total	**0.267**	**11.4**	**12.2**	**LOS A**

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

5.2.10 CST10 – Albany Street/Clarke Lane

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



Source: Nearmap (September 2024)

Figure 5-15 Block 4 – AM peak model 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 4 – Intersection performance summary of CST10

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Albany Street/ Clarke Lane (Priority – Give Way)	Weekday AM	South-east	0.062	13.6	27.5	LOS A
		East	0.226	0.0	65.9	LOS A
		West	0.250	0.0	0.0	LOS A
		Total	**0.062**	**13.6**	**27.5**	**LOS A**
	Weekday PM	South-east	0.049	14.4	6.0	LOS A
		East	0.125	0.0	63.6	LOS A
		West	0.270	0.0	0.0	LOS A
		Total	**0.049**	**14.4**	**6**	**LOS A**
	Weekend	South-east	0.043	12.8	20.3	LOS A
		East	0.212	0.0	61.1	LOS A
		West	0.226	0.0	0.0	LOS A
		Total	**0.043**	**12.8**	**20.3**	**LOS A**

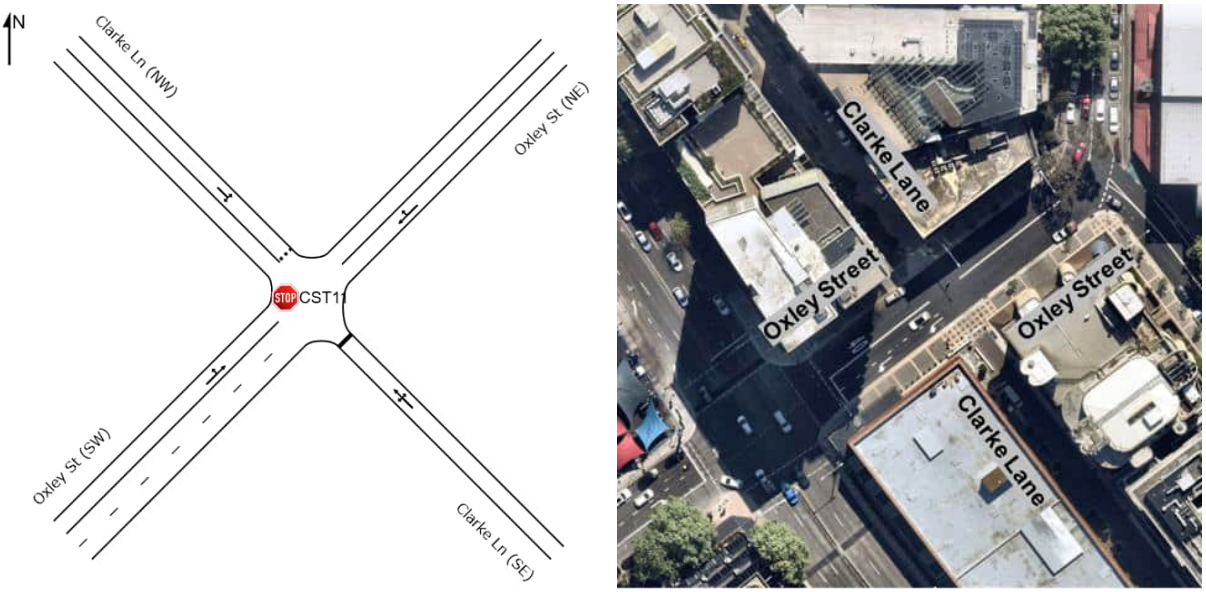
Overall, the intersection of Albany Street and Clarke Lane performs satisfactorily at LOS A during all peak hours. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

5.2.11 CST11 – Oxley Street/Clarke Lane

The 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.

Clarke Street (south-east approach) was previously closed during Block 1 to 3 as part of the Sydney Metro construction works. During Block 4, this road was reopened to traffic.

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



Source: Nearmap (September 2024)

Figure 5-16 Block 4 – AM peak model 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 4 – Intersection performance summary of CST11

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Oxley Street/ Clarke Lane (Priority – Stop)	Weekday AM	South-east	0.007	12.1	0.2	LOS A
		North-east	0.170	3.5	0.3	LOS A
		North-west	0.023	6.3	0.5	LOS A
		South-west	0.088	2.8	0.0	LOS A
		Total	**0.007**	**12.1**	**0.2**	**LOS A**
	Weekday PM	South-east	0.010	9.2	0.2	LOS A
		North-east	0.120	4.9	0.5	LOS A
		North-west	0.020	6.4	0.5	LOS A
		South-west	0.121	2.8	0.0	LOS A
		Total	**0.010**	**9.2**	**0.2**	**LOS A**
	Weekend	South-east	0.005	9.0	0.1	LOS A
		North-east	0.109	3.6	3.7	LOS A
		North-west	0.016	6.7	0.5	LOS A
		South-west	0.086	2.8	0.0	LOS A
		Total	**0.005**	**9.0**	**0.1**	**LOS A**

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

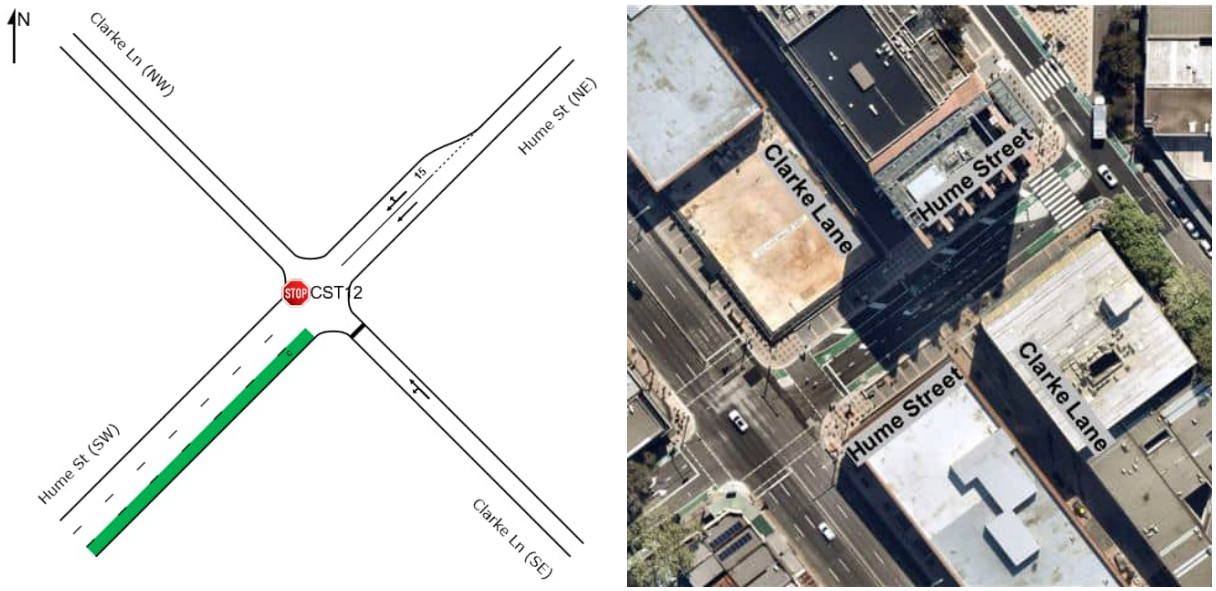
It was also noted that Block 4 pedestrian volumes at Oxley Street and Clarke Lane significantly increased during all peak hours compared to pre-opening conditions. Given that CST11 is located along the frontage of Crows Nest station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

5.2.12 CST12 – Hume Street/Clarke Lane

The priority intersection, composed of Hume Street and Clarke Lane, is located directly south-east of Crows Nest Station. It connects the local roads of Clarke Lane in Crows Nest and Hume Street, linking Crows Nest and Wollstonecraft. A dedicated cycleway runs along both sides of Hume Street; however, it was not considered for this assessment.

During Block 4, the intersection was closed due to construction works during the AM and weekend peak hours and, as such, was only modelled for the PM peak hour assessment as part of the Block 4 study.

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



Source: Nearmap (September 2024)

Figure 5-17 Block 4 – PM peak model 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 4 – Intersection performance summary of CST12

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Hume Street/ Clarke Lane (Priority - Stop)	Weekday AM	South-east	Closed due to construction			
		North-east				
		Total				
	Weekday PM	South-east	0.006	6.7	0.0	LOS A
		North-east	0.013	3.4	0.0	LOS A
		Total	**0.006**	**6.7**	**0.0**	**LOS A**
	Weekend	South-east	Closed due to construction			
		North-east				

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		Total				

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

5.2.13 CST13 – Pacific Highway/Alexander Street

The signalised intersection, composed of the Pacific Highway, Alexander Street and Hayberry Street, is located south-east of Crows Nest Station. It connects the State road of the 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 5-18 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.

Source: Nearmap (September 2024)

Figure 5-18 Block 4 – AM peak model 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 4 – Intersection performance summary of CST13

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Pacific Highway/ Alexander Street (Signal)	Weekday AM	South-east	0.545	9.7	74.9	LOS A
		North	0.707	45.7	88.1	LOS D
		North-west	0.679	12.0	126.1	LOS A
		Total	**0.707**	**15.0**	**126.1**	**LOS B**
		South-east	0.464	8.8	72.1	LOS A

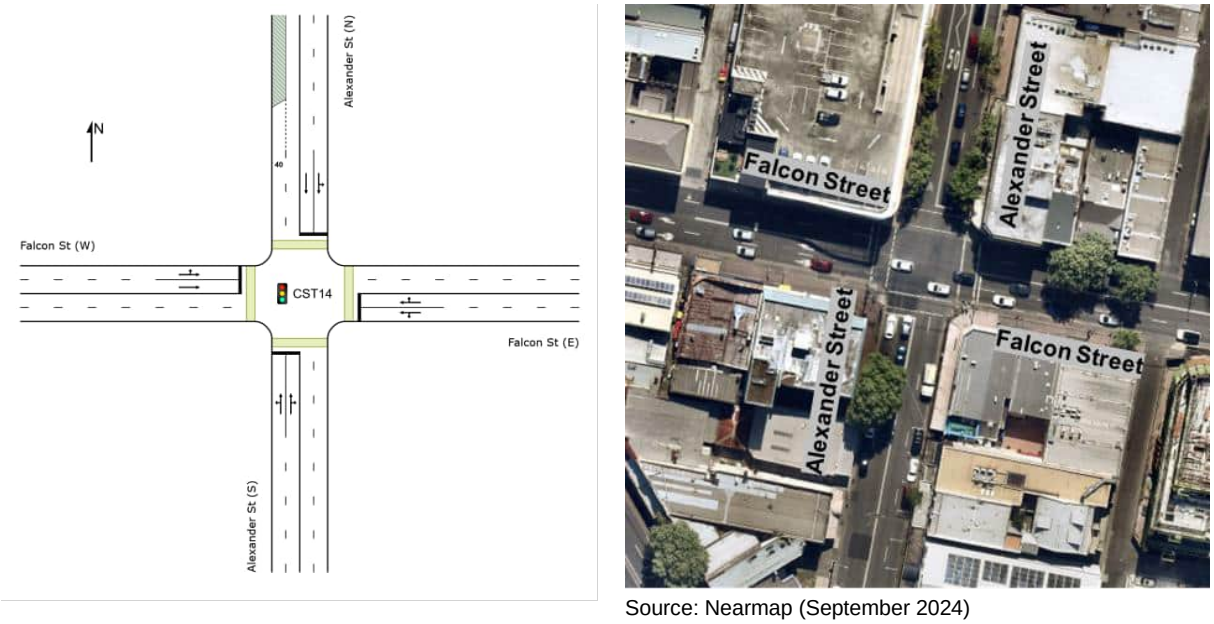
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
	Weekday PM	North	0.979	39.1	57.1	LOS C
		North-west	0.454	5.2	53.0	LOS A
		Total	**0.979**	**11.3**	**72.1**	**LOS A**
	Weekend	South-east	0.311	6.1	41.7	LOS A
		North	0.883	43.1	55.5	LOS D
		North-west	0.359	3.4	26.9	LOS A
		Total	**0.883**	**10.6**	**55.5**	**LOS A**

Overall, the intersection of the Pacific Highway (A1) and Alexander Street performs satisfactorily at LOS B or better during all peak hours. 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. Similarly, the 95th percentile queue on Alexander Street (north approach) extends back to Falcon Street during the AM peak hour.

5.2.14 CST14 – Falcon Street/Alexander Street

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



Source: Nearmap (September 2024)

Figure 5-19 Block 4 – AM peak model 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 4 – Intersection performance summary of CST14

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Falcon Street/ Alexander Street (Signal)	Weekday AM	South	0.478	59.5	71.0	LOS E
		East	0.672	12.1	127.1	LOS A
		North	0.767	80.2	121.7	LOS F
		West	0.558	5.9	58.4	LOS A
		Total	**0.767**	**23.8**	**127.1**	**LOS B**
	Weekday PM	South	0.468	61.1	64.5	LOS E
		East	0.515	22.9	111.2	LOS B
		North	0.439	48.6	64.3	LOS D
		West	0.355	2.0	19.4	LOS A
		Total	**0.515**	**21.5**	**111.2**	**LOS B**
	Weekend	South	0.478	59.5	71.0	LOS E
		East	0.670	20.2	167.5	LOS B
		North	0.767	79.8	121.7	LOS F
		West	0.558	5.7	58.4	LOS A
		Total	**0.767**	**26.7**	**167.5**	**LOS B**

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

5.2.15 Comparison with previous study blocks

Figure 5-20 provides a comparison of the total peak hourly traffic volumes recorded across all intersections for Block 4 against previous study blocks. As shown, Block 4 traffic volumes are slightly lower during all peak hours compared to pre-opening conditions.

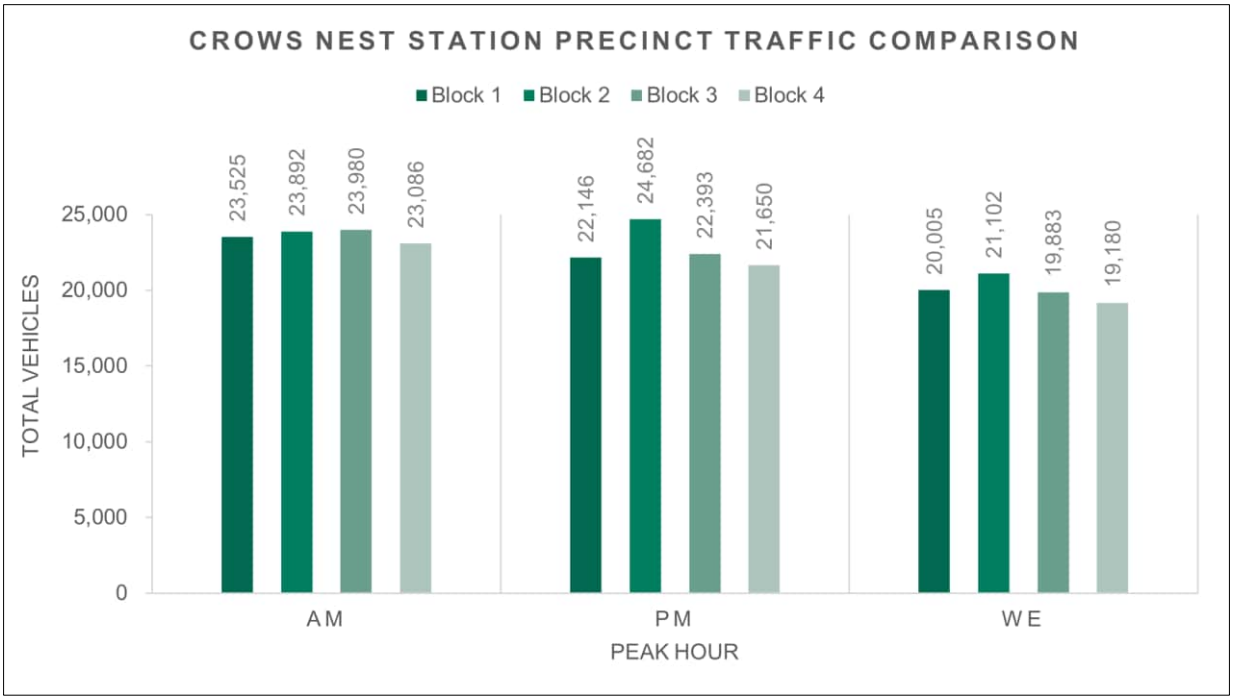


Figure 5-20 Study block comparison – Crows Nest Station peak hourly traffic volume across all intersections

A comparison of the intersection LOS for Block 4 against previous study blocks is shown in Figure 5-21 and Figure 5-22. All intersections in the Crows Nest Station study area perform at LOS C or better during Block 4, which is generally similar to previous study blocks.

Pacific Highway/Falcon Street/Shirley Road (CST04) had a notable change in LOS, whereby the intersection improved from a LOS D to a LOS C in the AM peak hour compared to Block 3. This change in LOS for CST04 was due to lower traffic volumes at this intersection in Block 4 during the AM peak hour.

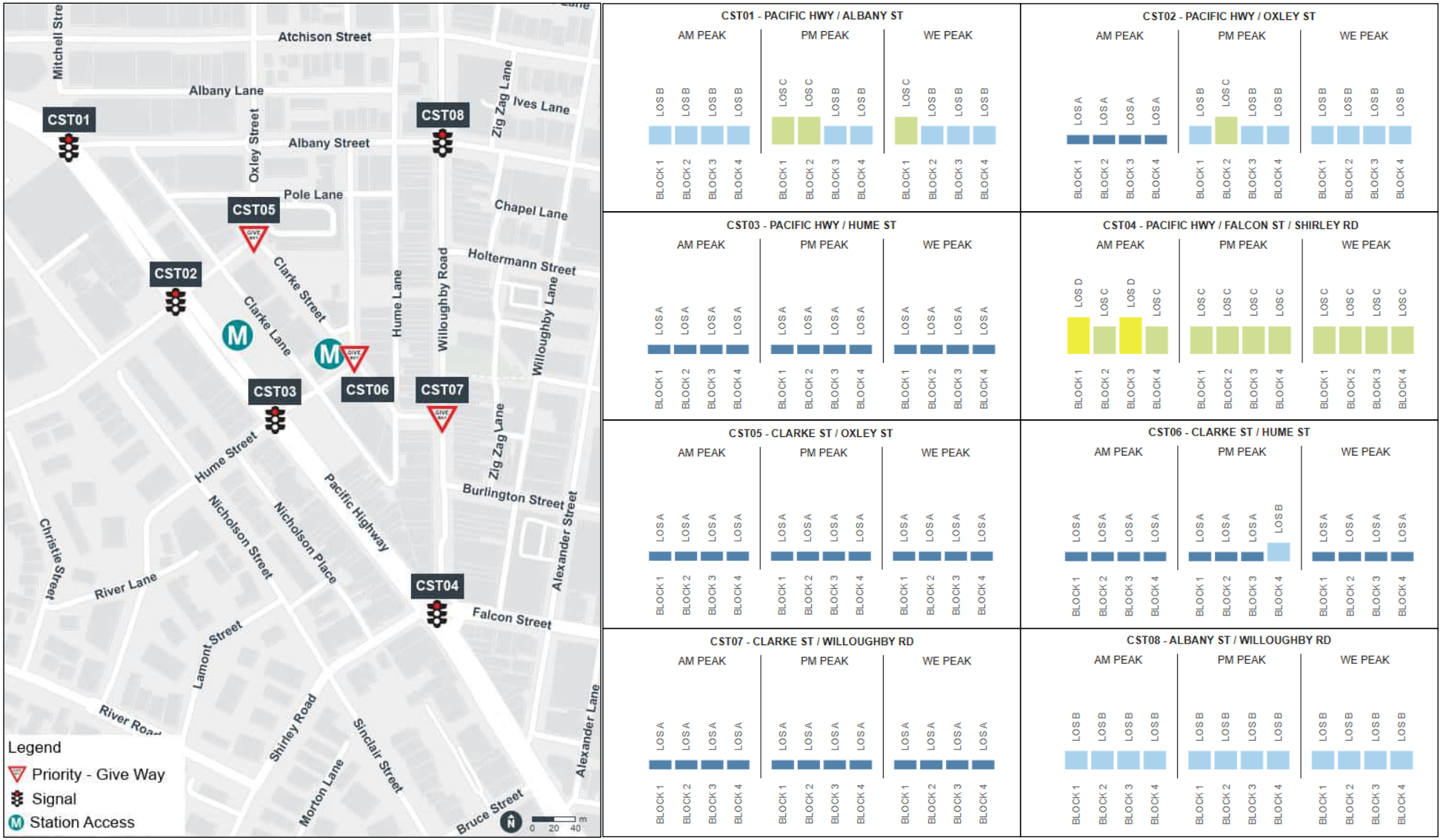


Figure 5-21 Study block comparison – Crows Nest Station intersection performance summary (CST01-CST08)

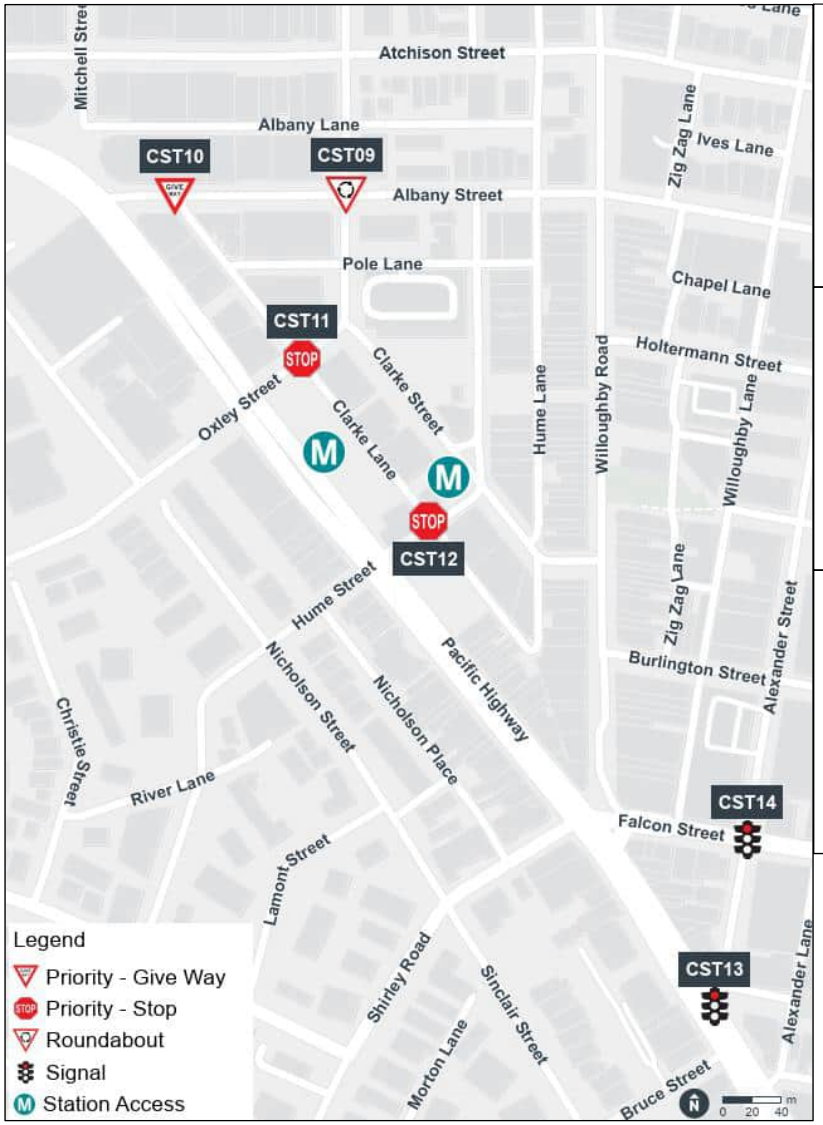


Figure 5-22 Study block comparison – Crows Nest Station intersection performance summary (CST09-CST14)

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 has multiple accesses on Miller Street and Denison Street. The accesses are separated into Victoria Cross North and Victoria Cross South. The three station entrances are listed below:

- Victoria Cross North Entry; at the north-east corner of the intersection of Miller Street and McLaren Street
- Victoria Cross South Entry (Miller Street); along Miller Street, south of Berry Street
- Victoria Cross South Entry (Denison Street); along Denison Street, south of Berry 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. Note that during Block 4, traffic volumes across the Victoria Cross Station study area may have been impacted due to the ongoing construction works associated with the nearby Warringah Freeway Upgrade project.

Table 5-20 presents the peak hours utilised for modelling the intersections. Table 5-21 provides a summary of the intersection LOS while Figure 5-23 visualises a geospatial summary of the intersection LOS within the Victoria Cross Station study area.

Table 5-20 Block 4 – 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	Tuesday	7:45am	Friday	2:45pm	Saturday	12:00pm
	VIC02						
	VIC03						
	VIC04						

Table 5-21 Block 4 – Victoria Cross Station intersection performance summary

Intersection ID	Intersection	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 D	LOS C	LOS C
VIC03	Miller Street/McLaren Street (Signal)	LOS B	LOS B	LOS B
VIC04	Pacific Highway/Miller Street (Signal)	LOS C	LOS C	LOS C

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

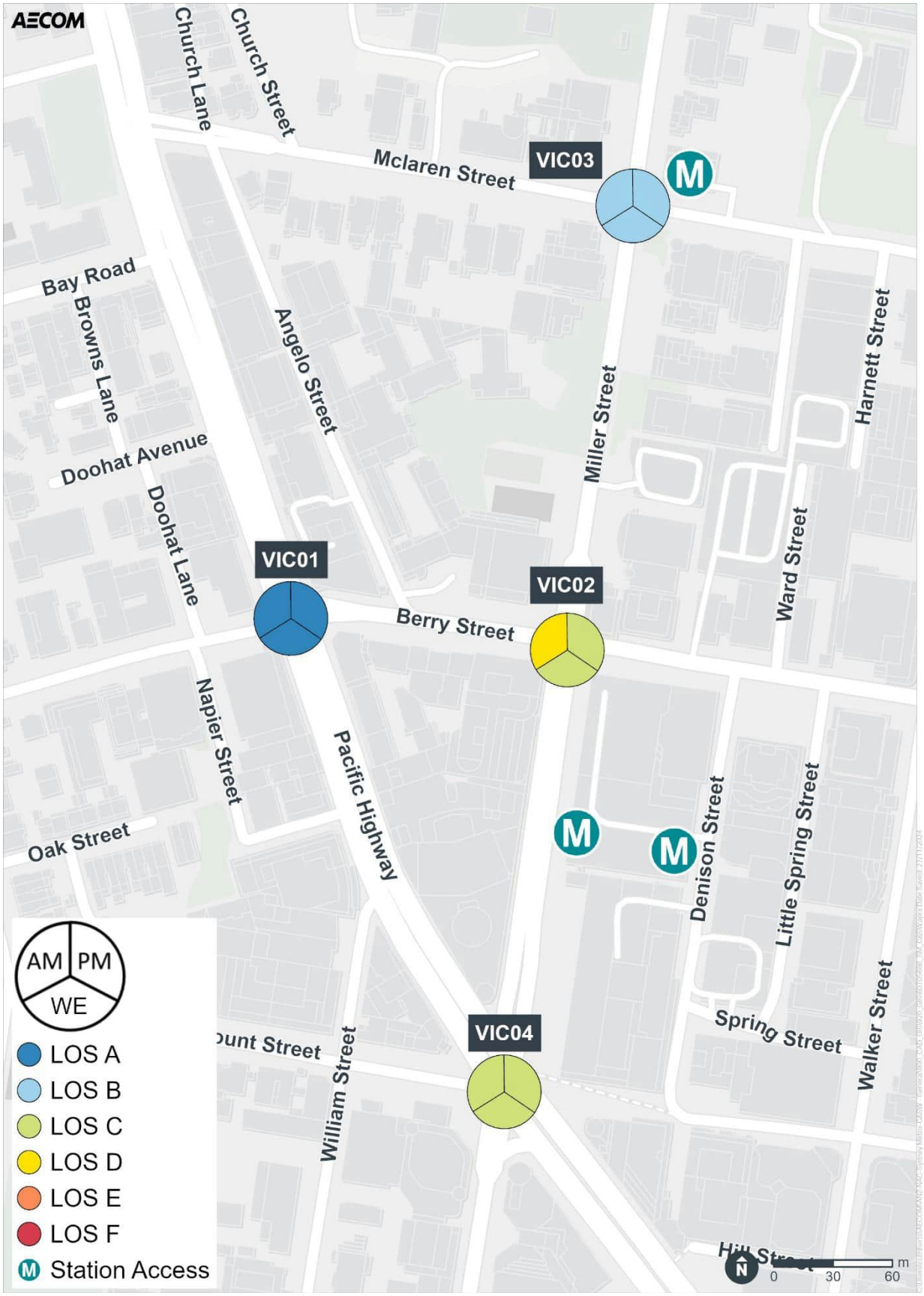
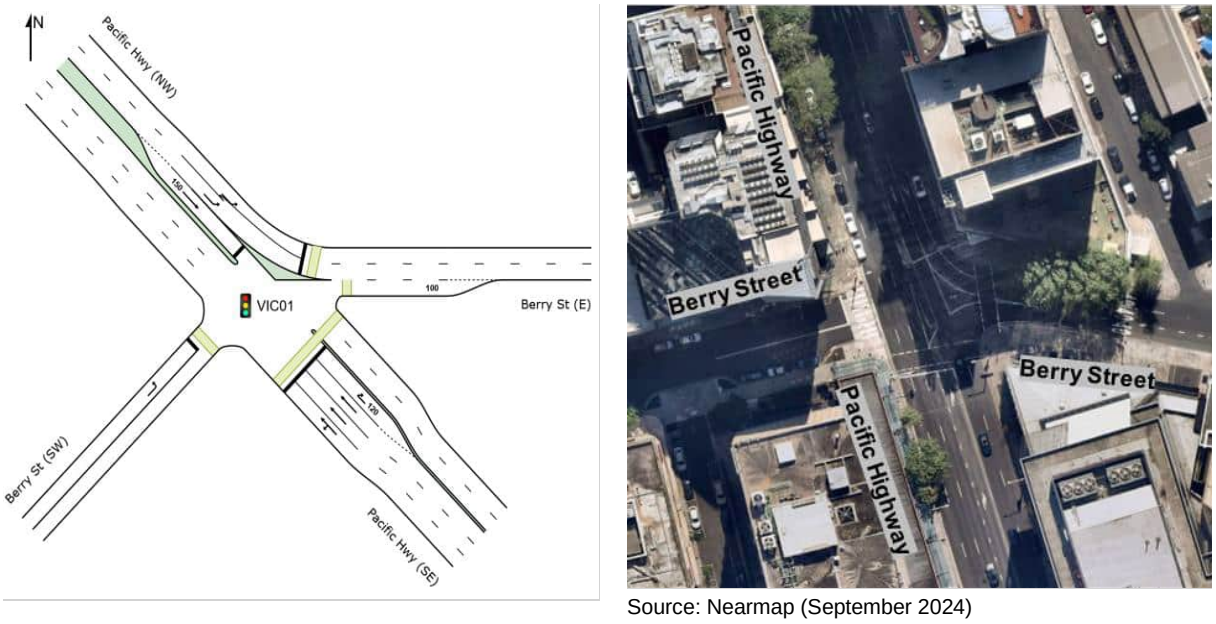


Figure 5-23 Block 4 – Victoria Cross Station intersection performance summary

5.3.1 VIC01 – Pacific Highway/Berry Street

The signalised intersection, composed of the Pacific Highway and Berry Street, is located west of southern access to Victoria Cross Station. It connects the State road of the 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 5-24 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-24 Block 4 – AM peak model 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 4 – Intersection performance summary of VIC01

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Pacific Highway/ Berry Street (Signal)	Weekday AM	South-east	0.852	9.9	60.8	LOS A
		North-west	0.668	14.1	108.7	LOS A
		South-west	0.114	5.9	4.4	LOS A
		Total	**0.852**	**11.9**	**108.7**	**LOS A**
	Weekday PM	South-east	0.855	12.9	55	LOS A
		North-west	0.461	12.2	79.5	LOS A
		South-west	0.066	4.0	1.4	LOS A
		Total	**0.855**	**12.4**	**79.5**	**LOS A**
	Weekend	South-east	0.649	7.5	30.5	LOS A
		North-west	0.325	9.5	57.9	LOS A
		South-west	0.024	4.4	0.7	LOS A
		Total	**0.649**	**8.4**	**57.9**	**LOS A**

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

It was also noted that Block 4 vehicle volumes at Pacific Highway (A1) and Berry Street significantly decreased during the weekend peak hour compared to pre-opening conditions. Traffic diversions in place for the Warringah Freeway construction works may have caused the drop in vehicle volumes at VIC01.

5.3.2 VIC02 – Miller Street/Berry Street

The signalised intersection, composed of Miller Street and Berry Street, is located directly adjacent to the southern access to Victoria Cross Station. 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 4, the southern departure kerbside lane of Miller Street was partially closed off during the PM peak hour, due to Sydney Metro construction.

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

Source: Nearmap (September 2024)

Figure 5-25 Block 4 – AM peak model 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 4 – Intersection performance summary of VIC02

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Miller Street/Berry Street (Signal)	Weekday AM	South	0.974	56.6	186.2	LOS E
		North	0.793	52.7	135.2	LOS D
		West	0.695	34.1	155.6	LOS C
		Total	**0.974**	**44.0**	**186.2**	**LOS D**
	Weekday PM	South	0.639	19.1	75.3	LOS B
		North	0.826	46.1	73.8	LOS D

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		West	0.481	40.9	91.6	LOS C
		Total	**0.826**	**34.2**	**91.6**	**LOS C**
	Weekend	South	0.682	24.1	69.1	LOS B
		North	0.839	48.0	63.4	LOS D
		West	0.431	31.9	74.6	LOS C
		Total	**0.839**	**32.9**	**74.6**	**LOS C**

Overall, the intersection of Miller Street and Berry Street performs satisfactorily at LOS D or better during all peak hours; noting however, it is close to capacity as indicated by the degree of saturation being close to 1.00. The 95th percentile queue on Miller Street (south approach) extends back to the Pacific Highway (A1) during the weekday AM peak hour. Similarly, the 95th percentile queue on Berry Street (west approach) extends back to the Pacific Highway (A1) during the AM peak hour.

It was also noted that Block 4 pedestrian volumes at Miller Street and Berry Street significantly increased during the weekend peak hour compared to pre-opening conditions. Given that VIC02 is located in close proximity of Victoria Cross station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

5.3.3 VIC03 – Miller Street/McLaren Street

The signalised intersection, composed of Miller Street and McLaren Street, is located directly adjacent to the northern access to Victoria Cross Station. It connects the regional road of Miller Street, linking North Sydney and Cammeray, with the local road of McLaren Street in North Sydney.

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

Source: Nearmap (September 2024)

Figure 5-26 Block 4 – AM peak model 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 4 – Intersection performance summary of VIC03

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Miller Street/McLaren Street (Signal)	Weekday AM	South	0.437	13.6	88.6	LOS A
		East	0.752	76.3	47.7	LOS F
		North	0.388	15.2	84.4	LOS B
		West	0.783	52.1	55.6	LOS D
		Total	**0.783**	**27.1**	**88.6**	**LOS B**
	Weekday PM	South	0.290	12.1	40.5	LOS A
		East	0.269	32.7	22.1	LOS C
		North	0.476	16.1	59.1	LOS B
		West	0.440	34.3	25.4	LOS C
		Total	**0.476**	**19.0**	**59.1**	**LOS B**
	Weekend	South	0.317	10.7	49.3	LOS A
		East	0.485	45.3	23.1	LOS D
		North	0.402	14.4	62.5	LOS A
		West	0.330	34.9	23.8	LOS C
		Total	**0.485**	**19.2**	**62.5**	**LOS B**

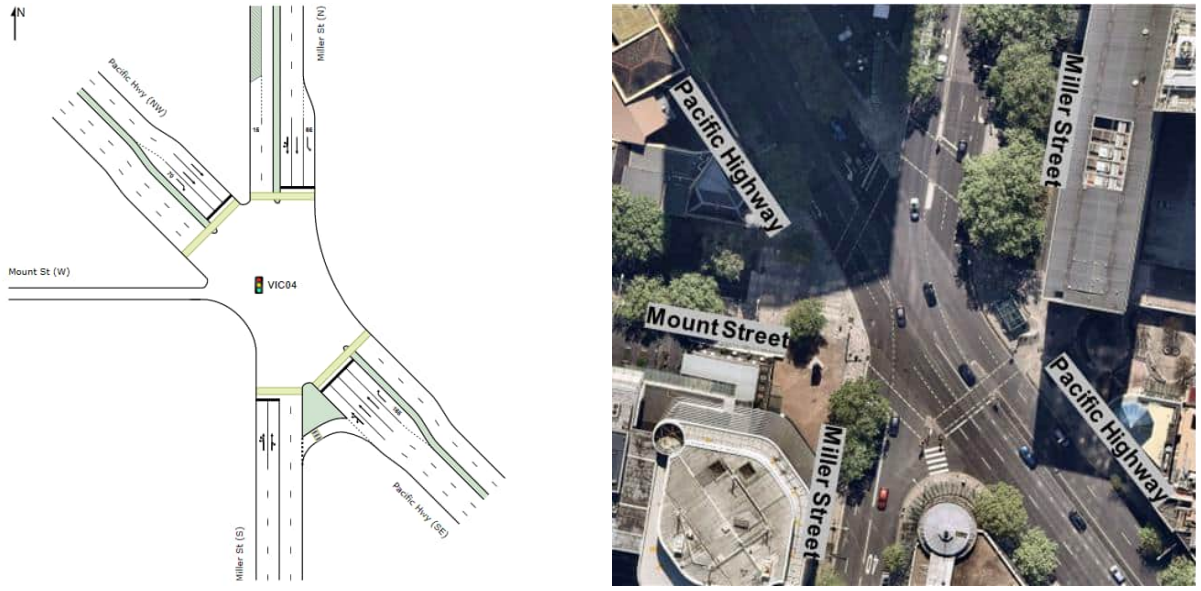
Overall, the intersection of Miller Street and McLaren Street performs satisfactorily at LOS B during all peak hours. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

It was also noted that Block 4 pedestrian volumes at Miller Street and McLaren Street significantly increased during the weekday PM peak hour compared to pre-opening conditions. Given that VIC03 is located in close proximity of Victoria Cross station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

5.3.4 VIC04 – Pacific Highway/Miller Street

The signalised intersection, composed of the Pacific Highway, Miller Street and Mount Street, is located south of the southern access to Victoria Cross Station. It connects the State road of the 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 5-27 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-27 Block 4 – AM peak model 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 4 – Intersection performance summary of VIC04

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Pacific Highway/ Miller Street (Signal)	Weekday AM	South	0.663	45.0	77.3	LOS D
		South-east	0.882	43.5	171.8	LOS D
		North	0.405	14.8	33.5	LOS B
		North-west	0.488	33.0	71.5	LOS C
		Total	**0.882**	**37.9**	**171.8**	**LOS C**
	Weekday PM	South	0.778	44.4	89.8	LOS D
		South-east	0.799	28.1	93.0	LOS B
		North	0.294	11.8	13.4	LOS A
		North-west	0.505	35.9	63.2	LOS C
		Total	**0.799**	**30.7**	**93.0**	**LOS C**
	Weekend	South	0.573	35.8	55.8	LOS C
		South-east	0.676	31.1	86.6	LOS C
		North	0.478	26.4	36.5	LOS B
		North-west	0.413	29.7	56.9	LOS C
		Total	**0.676**	**31.0**	**86.6**	**LOS C**

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

It was also noted that Block 4 pedestrian volumes at Pacific Highway (A1) and Miller Street significantly increased during the weekday PM peak hour compared to pre-opening conditions. Given that VIC04 is located in close proximity of Victoria Cross station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

5.3.5 Comparison with previous study blocks

Figure 5-28 provides a comparison of the total peak hourly traffic volumes recorded across all intersections for Block 4 against previous study blocks. As shown, Block 4 traffic volumes are slightly higher during the AM peak hour and slightly lower in the PM and weekend peak hours compared to pre-opening conditions. The variability in traffic volumes in the area between study blocks may be due to the ongoing construction works associated with the nearby Warringah Freeway Upgrade project.

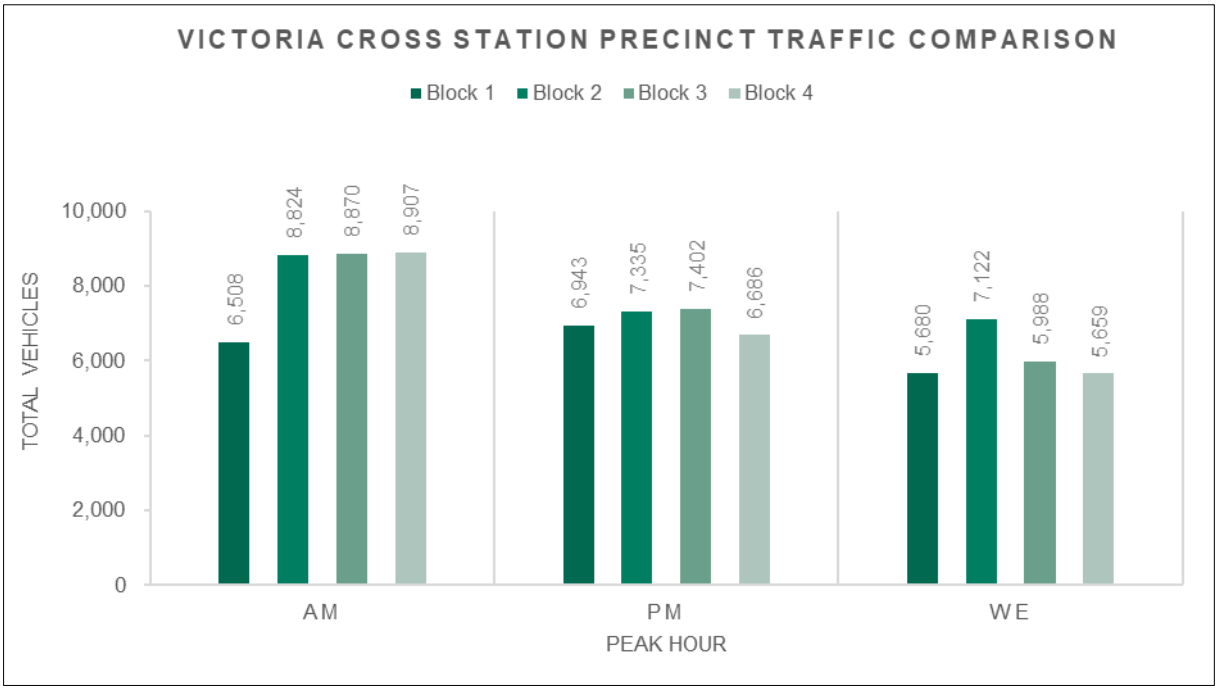


Figure 5-28 Study block comparison – Victoria Cross Station peak hourly traffic volume across all intersections

A comparison of the intersection LOS for Block 4 against previous study blocks is shown in Figure 5-29. All intersections in the Victoria Cross Station precinct perform at LOS D or better during Block 4, which is generally similar to previous study blocks.

Miller Street/Berry Street (VIC02) had a notable change in LOS, whereby the intersection reduced from a LOS C to a LOS D in the AM peak hour compared to Block 3. However, it should be noted that this intersection was on the border of LOS C and D during Block 3. This change in LOS for VIC02 was due to higher traffic volumes at this intersection in Block 4 during the AM peak hour.

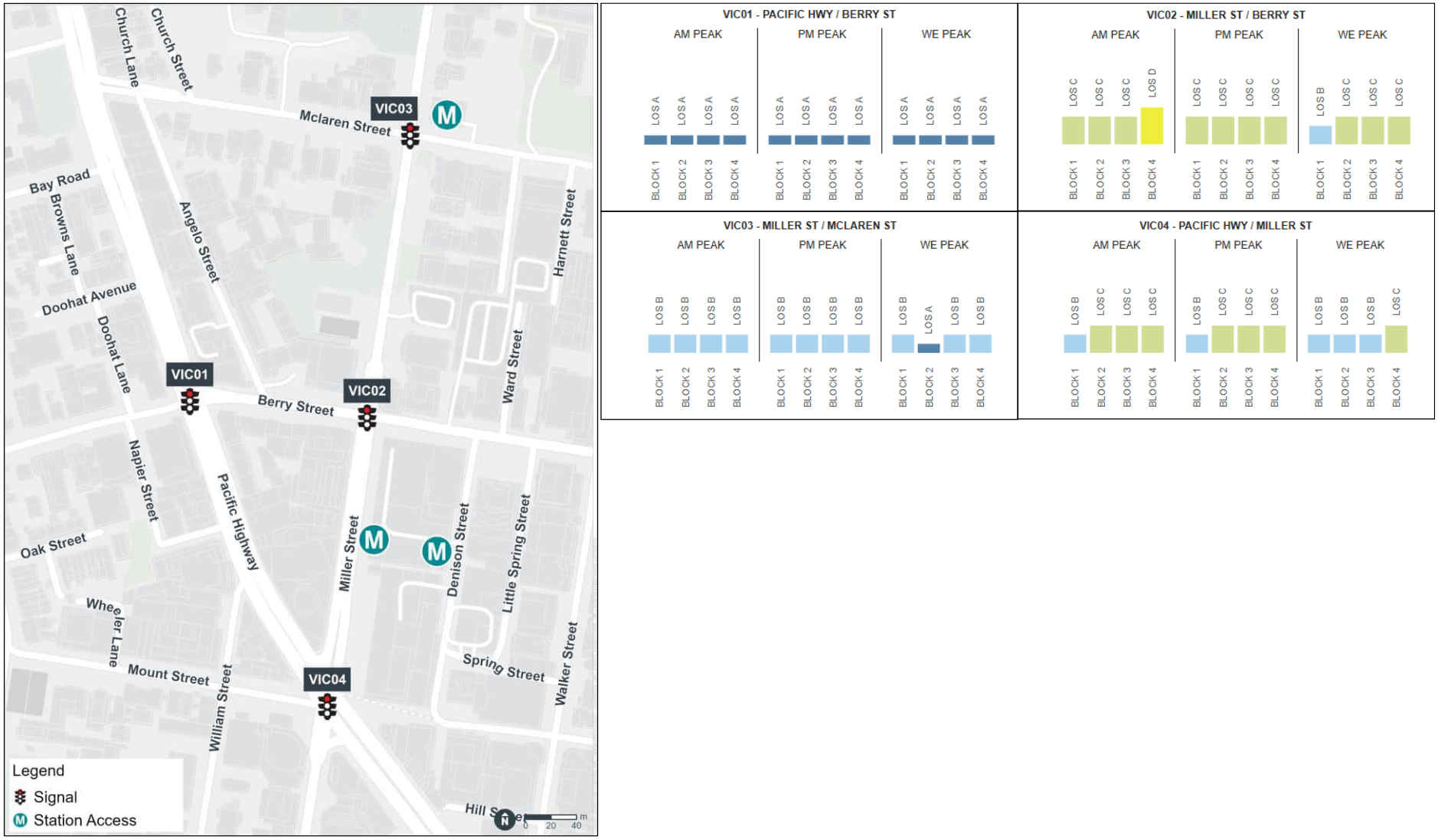


Figure 5-29 Study block comparison – Victoria Cross Station intersection performance summary

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 is accessed from Hickson Road via the two station entrances listed below:

- Escalator access only; along Hickson Road, south of Munn Street
- Lift access only; along Hickson Road, south of Munn Street.

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. Table 5-26 presents the peak hours utilised for modelling the intersections. Table 5-27 provides a summary of the intersection LOS while Figure 5-30 visualises a geospatial summary of the intersection LOS within the Barangaroo Station study area.

Table 5-26 Block 4 – 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	5:45pm	Saturday	6:00pm
	BGU02						
	BGU16						
	BGU17						
BGU-N2	BGU04	Wednesday	8:15am	Wednesday	5:30pm	Saturday	6:00pm
	BGU05						
	BGU07						
	BGU08						
	BGU09						
BGU-N3	BGU06	Thursday	8:30am	Wednesday	5:30pm	Saturday	5:30pm
	BGU10						
	BGU11						
	BGU12						
	BGU13						
	BGU18						
BGU-N4	BGU14	Thursday	8:30am	Thursday	5:00pm	Saturday	6:00pm
	BGU15						
-	BGU03	Tuesday	8:30am	Wednesday	5:15pm	Saturday	5:30pm

Table 5-27 Block 4 – Barangaroo Station intersection performance summary

Intersection ID	Intersection	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 B	LOS A	LOS B
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
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 Hickson Road (north of Metro Station) (Pedestrian only - Zebra)	LOS A	LOS A	LOS A
BGU17	New Pedestrian Mid-block Crossing at Hickson Road (south of Metro Station) (Pedestrian only - Zebra)	LOS A	LOS A	LOS A
BGU18	Shelley Street/Erskine Street (Signal)	LOS B	LOS B	LOS B

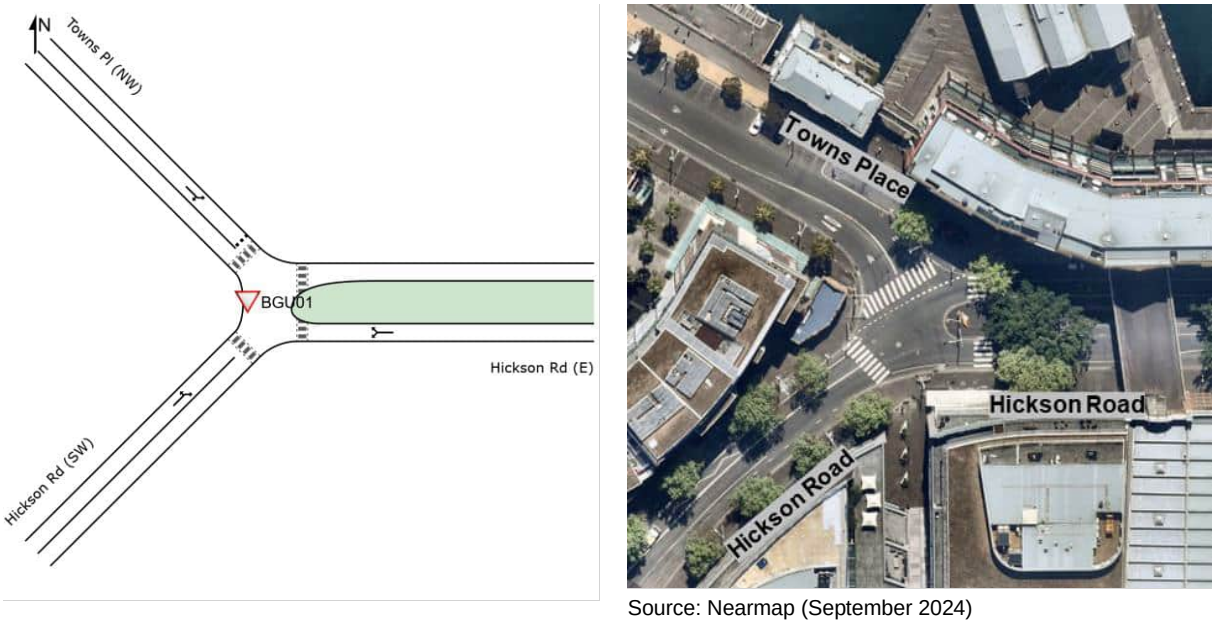
Overall, the intersection performance in the Barangaroo Station study area during the peak hours is satisfactory, operating at LOS C or better.

Figure 5-30 Block 4 – Barangaroo Station 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 5-31 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-31 Block 4 – AM peak model 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 4 – Intersection performance summary of BGU01

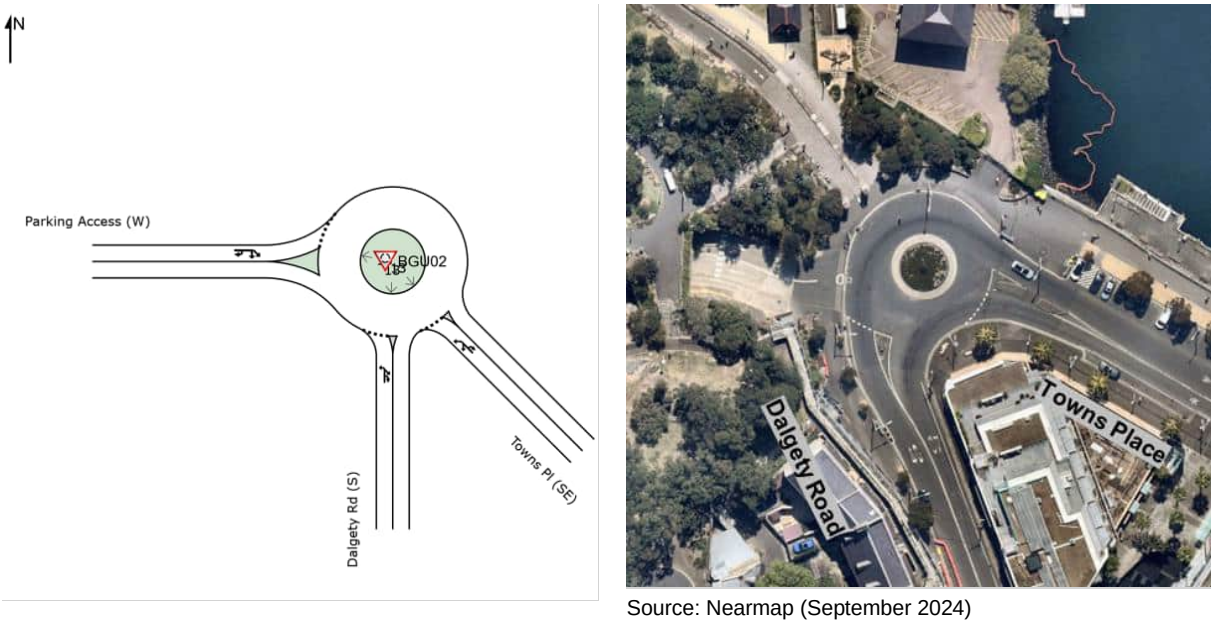
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Hickson Road/Towns Place (Priority – Give Way)	Weekday AM	East	0.147	6.3	4.9	LOS A
		North-west	0.246	8.5	7.0	LOS A
		South-west	0.205	5.3	7.6	LOS A
		Total	**0.246**	**8.5**	**7.0**	**LOS A**
	Weekday PM	East	0.289	8.4	9.7	LOS A
		North-west	0.351	13.3	10.9	LOS A
		South-west	0.319	5.7	12.2	LOS A
		Total	**0.351**	**13.3**	**10.9**	**LOS A**
	Weekend	East	0.305	8.2	10.8	LOS A
		North-west	0.413	14.2	13.8	LOS A
		South-west	0.351	4.7	14.7	LOS A
		Total	**0.413**	**14.2**	**13.8**	**LOS A**

Overall, the intersection of Hickson Road and Towns Place performs satisfactorily at LOS A during all peak hours. 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 5-32 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-32 Block 4 – AM peak model 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 4 – Intersection performance summary of BGU02

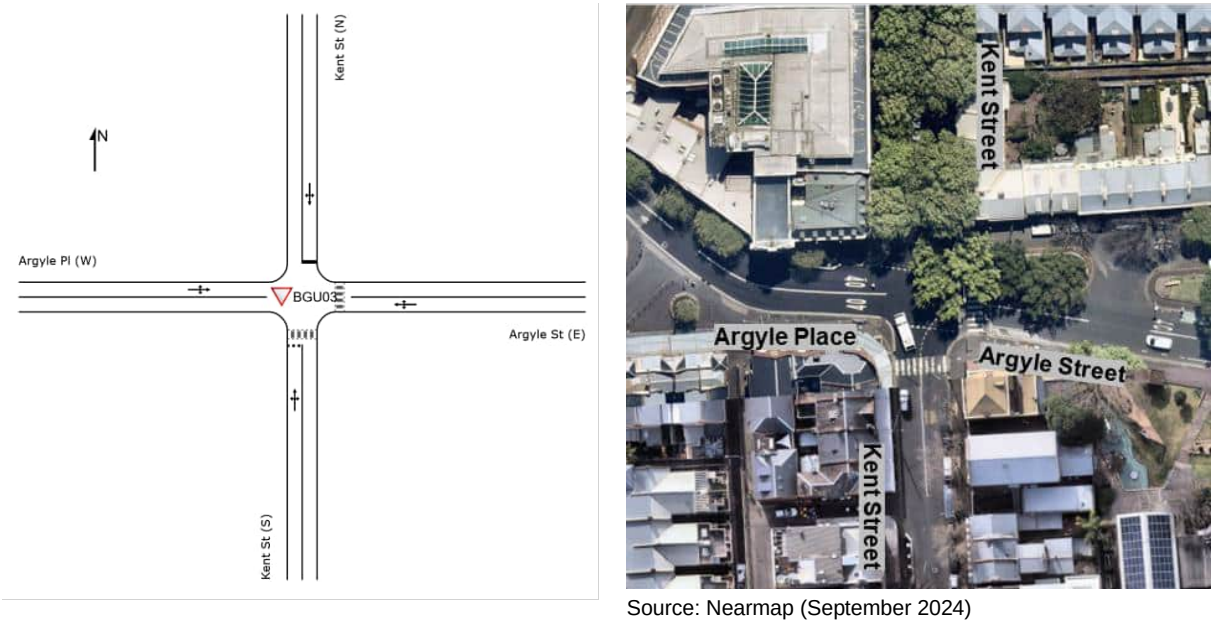
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Dalgety Road/Towns Place (Roundabout)	Weekday AM	South	0.138	7.0	6.0	LOS A
		South-east	0.092	8.2	4.2	LOS A
		West	0.004	1.5	0.2	LOS A
		Total	**0.092**	**8.2**	**4.2**	**LOS A**
	Weekday PM	South	0.130	7.0	5.6	LOS A
		South-east	0.165	8.3	7.6	LOS A
		West	0.025	1.2	0.9	LOS A
		Total	**0.165**	**8.3**	**7.6**	**LOS A**
	Weekend	South	0.156	6.9	6.6	LOS A
		South-east	0.119	8.2	5.4	LOS A
		West	0.010	1.4	0.4	LOS A
		Total	**0.119**	**8.2**	**5.4**	**LOS A**

Overall, the intersection of Dalgety Road and Towns Place performs satisfactorily at LOS A during all peak hours. 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 5-33 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-33 Block 4 – AM peak model 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 4 – Intersection performance summary of BGU03

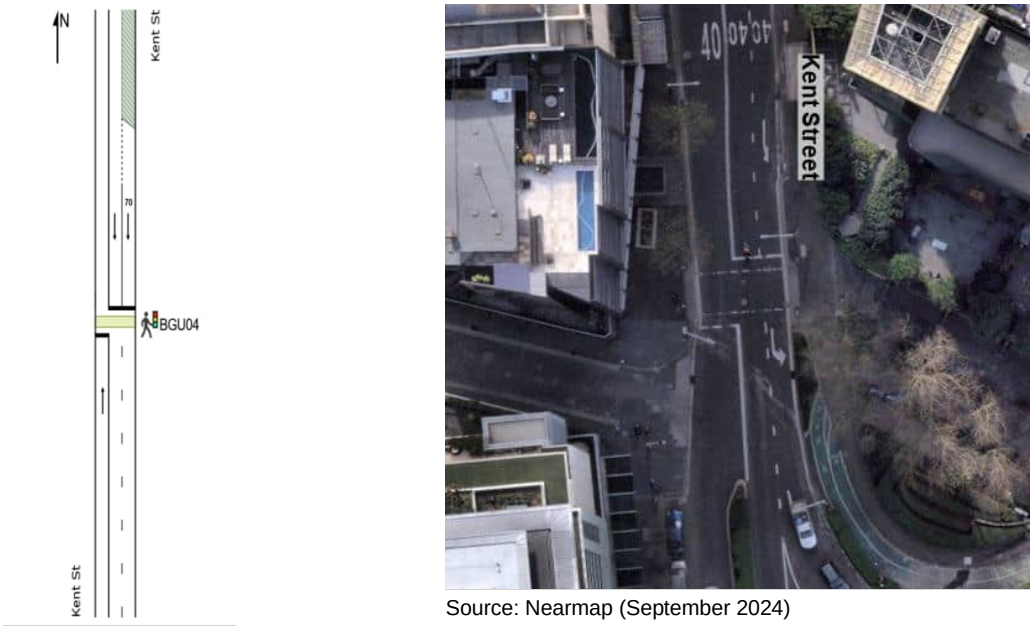
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Kent Street/ Argyle Street (Priority – Give Way)	Weekday AM	South	0.750	18.3	55.6	LOS B
		East	0.349	5.0	13.6	LOS A
		North	0.034	11.9	0.8	LOS A
		West	0.143	6.0	5.1	LOS A
		Total	**0.750**	**18.3**	**55.6**	**LOS B**
	Weekday PM	South	0.454	12.6	17.5	LOS A
		East	0.280	5.4	9.8	LOS A
		North	0.039	11.6	1.0	LOS A
		West	0.186	5.9	6.5	LOS A
		Total	**0.454**	**12.6**	**17.5**	**LOS A**
	Weekend	South	0.586	16.7	24.9	LOS B
		East	0.304	6.3	10.9	LOS A
		North	0.060	13.0	1.4	LOS A
		West	0.153	6.8	5.2	LOS A
		Total	**0.586**	**16.7**	**24.9**	**LOS B**

Overall, the intersection of Kent Street, Argyle Street and Argyle Place performs satisfactorily at LOS B or better during all peak hours. 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 5-34 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-34 Block 4 – AM peak model 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 4 – Intersection performance summary of BGU04

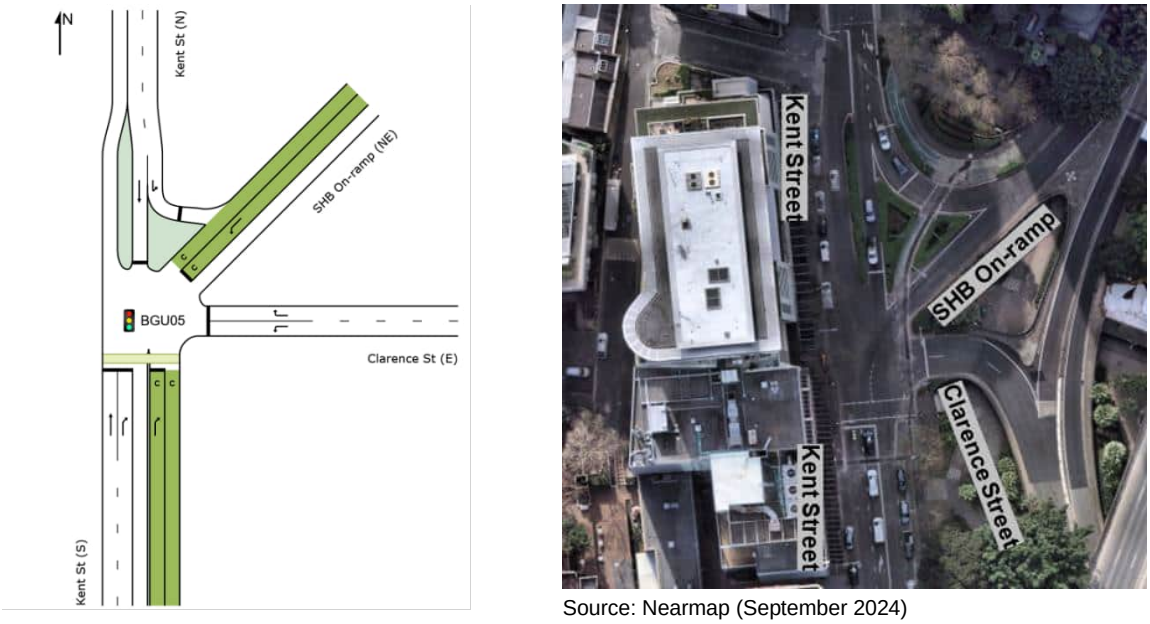
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Pedestrian Mid-block Crossing at Kent Street near Gas Lane (Pedestrian only – Signal)	Weekday AM	South	0.486	4.8	52.6	LOS A
		North	0.555	34.7	45.5	LOS C
		Total	**0.555**	**16.1**	**52.6**	**LOS B**
	Weekday PM	South	0.275	1.6	14.1	LOS A
		North	0.413	32.0	49.7	LOS C
		Total	**0.413**	**17.2**	**49.7**	**LOS B**
	Weekend	South	0.342	4.9	30.5	LOS A
		North	0.482	29.5	36.1	LOS C
		Total	**0.482**	**16.2**	**36.1**	**LOS B**

Overall, the pedestrian mid-block crossing at Kent Street, near Gas Lane, performs satisfactorily at LOS B during all peak hours. The 95th percentile queue on Kent Street (south approach) extends back to the Kent Street/Clarence Street intersection during the weekday AM peak hour.

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 (NE) cycleway was 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 5-35 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-35 Block 4 – AM peak model 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 4 – Intersection performance summary of BGU05

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Kent Street/ Sydney Harbour Bridge (SHB) On-ramp (Signal)	Weekday AM	South	0.563	15.1	82.7	LOS B
		East	0.491	32.1	47.0	LOS C
		North	0.509	35.0	40.4	LOS C
		Total	**0.563**	**22.4**	**82.7**	**LOS B**
	Weekday PM	South	0.441	9.6	63.4	LOS A
		East	0.633	42.7	57.8	LOS D
		North	0.540	36.0	46.2	LOS C
		Total	**0.633**	**21.6**	**63.4**	**LOS B**
	Weekend	South	0.376	16.7	43.4	LOS B
		East	0.323	27.2	29.2	LOS B

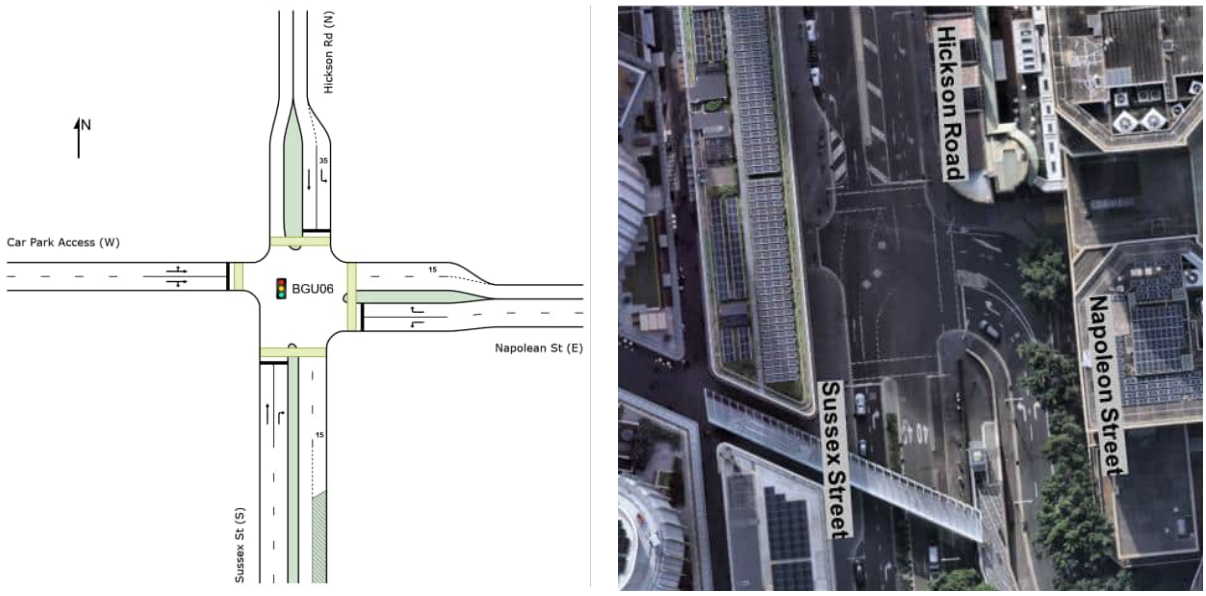
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		North	0.666	30.5	33.1	LOS C
		Total	**0.666**	**22.5**	**43.5**	**LOS B**

Overall, the intersection of Kent Street, Clarence Street and the SHB on-ramp performs satisfactorily at LOS B during all peak hours. 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 5-36 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-36 Block 4 – AM peak model 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 4 – Intersection performance summary of BGU06

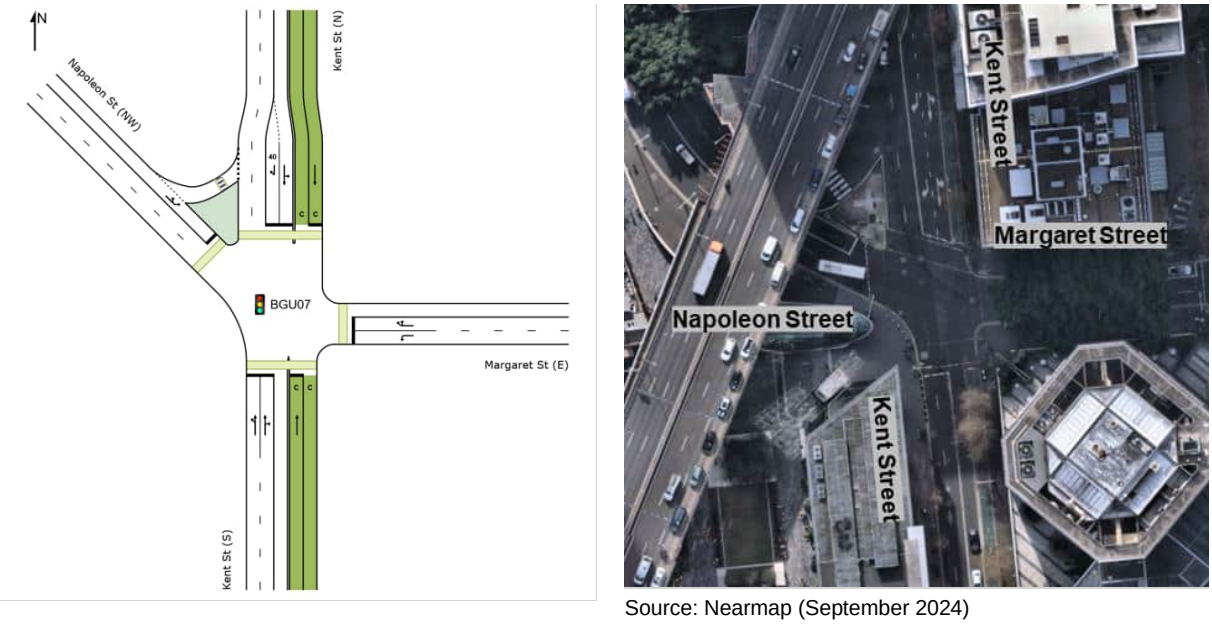
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Hickson Road/ Napoleon Street/ Sussex Street (Signal)	Weekday AM	South	0.347	12.7	50.4	LOS A
		East	0.420	26.5	43.5	LOS B
		North	0.360	19.2	49.4	LOS B
		West	0.243	47.8	1.9	LOS D
		Total	**0.420**	**18.9**	**50.4**	**LOS B**
	Weekday PM	South	0.492	17.7	67.7	LOS B
		East	0.464	31.8	40.3	LOS C
		North	0.597	28.4	86.8	LOS B
		West	0.583	42.9	20.3	LOS D
		Total	**0.597**	**26.0**	**86.8**	**LOS B**
	Weekend	South	0.320	11.0	44.7	LOS A
		East	0.471	26.4	46.4	LOS B
		North	0.423	16.5	58.3	LOS B
		West	0.195	44.3	1.5	LOS D
		Total	**0.471**	**17.1**	**58.3**	**LOS B**

Overall, the intersection of Hickson Road, Napoleon Street and Sussex Street performs satisfactorily at LOS B during all peak hours. 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 5-37 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-37 Block 4 – AM peak model 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 4 – Intersection performance summary of BGU07

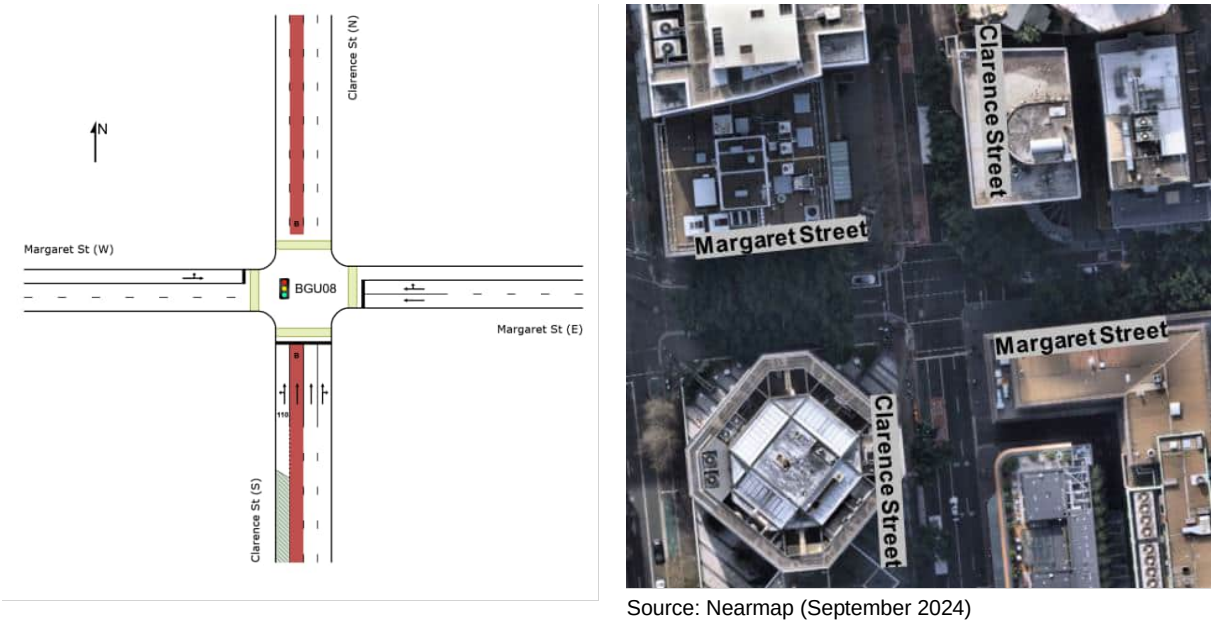
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Margaret Street/ Kent Street/ Napoleon Street (Signal)	Weekday AM	South	0.674	25.0	124.2	LOS B
		East	0.744	31.8	65.3	LOS C
		North	0.432	27.4	43.8	LOS B
		North-west	0.665	24.3	52.7	LOS B
		Total	**0.744**	**26.8**	**124.2**	**LOS B**
	Weekday PM	South	0.400	22.7	72.1	LOS B
		East	0.435	17.7	37.0	LOS B
		North	0.313	25.0	42.0	LOS B
		North-west	0.455	13.0	38.6	LOS A
		Total	**0.455**	**20.4**	**72.1**	**LOS B**
	Weekend	South	0.329	16.7	44.5	LOS B
		East	0.416	17.8	38.4	LOS B
		North	0.347	22.7	34.9	LOS B
		North-west	0.415	14.5	32.7	LOS A
		Total	**0.416**	**17.8**	**44.5**	**LOS B**

Overall, the intersection of Margaret Street, Kent Street and Napoleon Street performs satisfactorily at LOS B during all peak hours. The 95th percentile queue on Margaret Street (east approach) extends back to Clarence Street during the AM peak hour. Similarly, the 95th percentile queue on Kent Street (south approach) extends back to the pedestrian mid-block crossing near Margaret Street during the AM and PM peak hours.

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



Source: Nearmap (September 2024)

Figure 5-38 Block 4 – AM peak model 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 4 – Intersection performance summary of BGU08

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Margaret Street/ Clarence Street (Signal)	Weekday AM	South	0.706	22.7	83.5	LOS B
		East	0.505	21.4	55.4	LOS B
		West	0.862	48.5	63.1	LOS D
		Total	**0.862**	**25.8**	**83.5**	LOS B
	Weekday PM	South	0.532	22.5	95.0	LOS B
		East	0.278	12.6	29.6	LOS A
		West	0.627	40.9	55.3	LOS C
		Total	**0.627**	**22.3**	**95.0**	**LOS B**
	Weekend	South	0.226	16.5	27.5	LOS B
		East	0.191	9.5	15.0	LOS A
		West	0.572	29.5	44.0	LOS C
		Total	**0.572**	**17.3**	**44.0**	**LOS B**

Overall, the intersection of Margaret Street and Clarence Street performs satisfactorily at LOS B during all peak hours. The 95th percentile queue on Margaret Street (west approach) extends back to Kent

Street during all peak hours. Similarly, the 95th percentile queue on Margaret Street (east approach) extends back to York Street during the AM peak hour.

It was also noted that Block 4 pedestrian volumes at Margaret Street and Clarence Street significantly decreased during the weekday AM peak hour compared to pre-opening conditions. The drop in pedestrian volume may have been caused by pedestrians utilising Sydney Metro to travel to/from Barangaroo Station instead of connecting to Wynyard Station.

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

Source: Nearmap (September 2024)

Figure 5-39 Block 4 – AM peak model 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 4 – Intersection performance summary of BGU09

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Margaret Street/York Street (Signal)	Weekday AM	East	0.194	22.8	22.3	LOS B
		North	0.407	13.7	56.4	LOS A
		West	0.170	35.6	18.9	LOS C
		Total	**0.407**	**15.8**	**56.4**	**LOS B**
	Weekday PM	East	0.186	18.3	28.7	LOS B
		North	0.375	20.7	63.0	LOS B
		West	0.268	31.8	37.0	LOS C
		Total	**0.375**	**21.3**	**63.0**	**LOS B**
	Weekend	East	0.092	18.0	9.7	LOS B
		North	0.293	13.7	38.9	LOS A

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		West	0.289	29.4	32.7	LOS C
		Total	**0.293**	**15.9**	**38.9**	**LOS B**

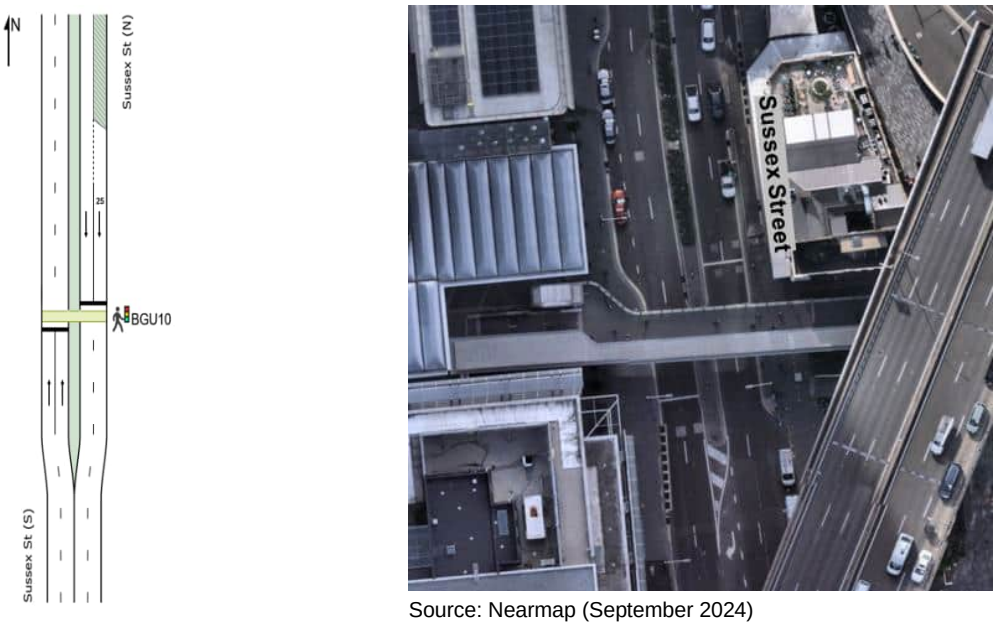
Overall, the intersection of Margaret Street and York Street performs satisfactorily at LOS B during all peak hours. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

It was also noted that Block 4 pedestrian volumes at Margaret Street and York Street significantly decreased during the weekday AM peak hour compared to pre-opening conditions. The drop in pedestrian volume may have been caused by pedestrians utilising Sydney Metro to travel to/from Barangaroo Station instead of connecting to Wynyard Station.

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 5-40 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-40 Block 4 – AM peak model 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 4 – Intersection performance summary of BGU10

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Pedestrian Mid-block Crossing at Sussex	Weekday AM	South	0.191	6.8	23.9	LOS A
		North	0.202	6.8	25.1	LOS A
		Total	**0.202**	**6.8**	**25.1**	**LOS A**

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Street under Exchange Place (Pedestrian only – Signal)	Weekday PM	South	0.249	8.1	30.8	LOS A
		North	0.254	8.1	31.4	LOS A
		Total	**0.254**	**8.1**	**31.4**	**LOS A**
	Weekend	South	0.217	7.9	28.1	LOS A
		North	0.206	7.8	26.3	LOS A
		Total	**0.217**	**7.8**	**28.1**	**LOS A**

Overall, the pedestrian mid-block crossing at Sussex Street under Exchange Place performs satisfactorily at LOS A during all peak hours. 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 5-41 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.

Source: Nearmap (September 2024)

Figure 5-41 Block 4 – AM peak model 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 4 – Intersection performance summary of BGU11

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Pedestrian Mid-block Crossing at Kent Street near Margaret Street (Pedestrian only – Signal)	Weekday AM	South	0.445	10.7	39.7	LOS A
		North	0.255	9.6	20.7	LOS A
		Total	**0.445**	**10.4**	**39.7**	**LOS A**
	Weekday PM	South	0.352	10.2	30.0	LOS A
		North	0.229	9.4	18.6	LOS A
		Total	**0.352**	**9.9**	**30.0**	**LOS A**
	Weekend	South	0.265	10.0	21.8	LOS A
		North	0.192	9.5	15.2	LOS A
		Total	**0.265**	**9.8**	**21.8**	**LOS A**

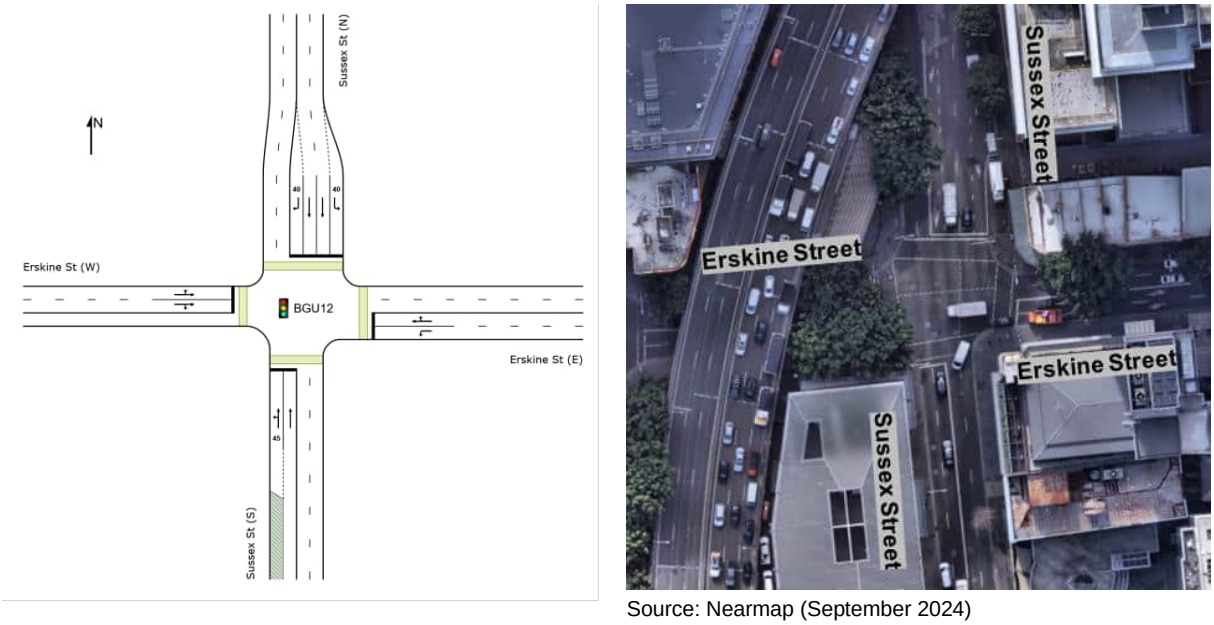
Overall, the pedestrian mid-block crossing at Kent Street, near Margaret Street, performs satisfactorily at LOS A during all peak hours. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

It was also noted that Block 4 pedestrian volumes at the Mid-block crossing at Kent Street near Margaret Street significantly increased during the weekday PM peak hour compared to pre-opening conditions. Exact reasons for the increase in pedestrian volume are unknown, however it may be unrelated to the Sydney Metro opening given the intersection is located well away from Barangaroo Station.

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



Source: Nearmap (September 2024)

Figure 5-42 Block 4 – AM peak model 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 4 – Intersection performance summary of BGU12

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Sussex Street/ Erskine Street (Signal)	Weekday AM	South	0.360	29.7	48.4	LOS C
		East	0.528	8.8	60.1	LOS A
		North	0.294	22.7	45.4	LOS B
		West	0.563	17.6	70.7	LOS B
		Total	**0.563**	**18.1**	**70.7**	**LOS B**
	Weekday PM	South	0.424	31.4	55.0	LOS C
		East	0.457	10.2	59.8	LOS A
		North	0.383	24.5	59.7	LOS B
		West	0.493	15.5	59.3	LOS B
		Total	**0.493**	**19.6**	**59.8**	**LOS B**
	Weekend	South	0.494	31.2	69.6	LOS C
		East	0.481	9.4	42.3	LOS A
		North	0.242	22.5	36.8	LOS B
		West	0.531	17.1	73.4	LOS B
		Total	**0.531**	**19.3**	**73.4**	**LOS B**

Overall, the intersection of Sussex Street and Erskine Street performs satisfactorily at LOS B during all peak hours. The 95th percentile queue on Erskine Street (west approach) extends back to Shelley Street during all peak hours.

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

Source: Nearmap (September 2024)

Figure 5-43 Block 4 – AM peak model 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 4 – Intersection performance summary of BGU13

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Kent Street/ Erskine Street (Signal)	Weekday AM	South	0.278	13.6	47.2	LOS A
		East	0.452	36.0	46.3	LOS C
		North	0.940	45.1	76.7	LOS D
		West	0.422	32.7	40.3	LOS C
		Total	**0.940**	**26.7**	**76.7**	**LOS B**
	Weekday PM	South	0.362	25.1	49.7	LOS B
		East	0.220	24.1	31.0	LOS B
		North	0.601	28.2	52.0	LOS B
		West	0.253	26.7	38.8	LOS B
		Total	**0.601**	**25.9**	**52.0**	**LOS B**
	Weekend	South	0.184	16.4	29.3	LOS B
		East	0.479	48.4	40.5	LOS D
		North	0.762	42.9	48.9	LOS D
		West	0.556	43.1	55.3	LOS D
		Total	**0.762**	**33.8**	**55.3**	**LOS C**

Overall, the intersection of Kent Street and Erskine Street performs satisfactorily at LOS C or better during all peak hours. The 95th percentile queue on Erskine Street (east approach) extends to Clarence Street during the AM and weekend peak hours.

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

Source: Nearmap (September 2024)

Figure 5-44 Block 4 – AM peak model 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 4 – Intersection performance summary of BGU14

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Sussex Street/King Street (Signal)	Weekday AM	North	0.658	26.1	120.7	LOS B
		South-west	0.802	27.3	193.4	LOS B
		Total	**0.802**	**27.2**	**193.4**	**LOS B**
	Weekday PM	North	0.653	18.6	144.4	LOS B
		South-west	0.621	25.8	110.0	LOS B
		Total	**0.653**	**24.1**	**144.4**	**LOS B**
	Weekend	North	0.442	18.3	81.9	LOS B
		South-west	0.761	25.5	162.1	LOS B
		Total	**0.761**	**23.8**	**162.1**	**LOS B**

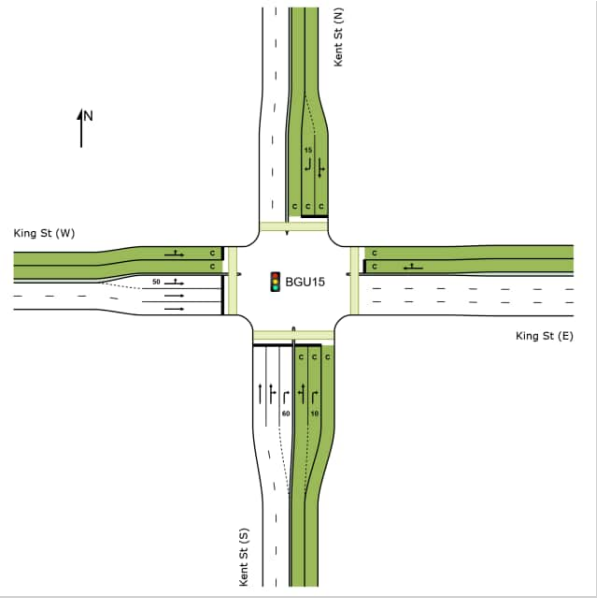
Overall, the intersection of Sussex Street and King Street performs satisfactorily at LOS B during all peak hours. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

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



Source: Nearmap (September 2024)

Figure 5-45 Block 4 – AM peak model 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 4 – Intersection performance summary of BGU15

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Kent Street/ King Street (Signal)	Weekday AM	South	0.623	40.2	66.1	LOS C
		West	0.553	6.0	37.8	LOS A
		Total	**0.623**	**17.5**	**66.1**	**LOS B**
	Weekday PM	South	0.442	32.4	64.2	LOS C
		West	0.427	5.6	32.8	LOS A
		Total	**0.442**	**20.2**	**64.2**	**LOS B**
	Weekend	South	0.424	38.2	45.3	LOS C
		West	0.418	8.2	62.6	LOS A
		Total	**0.424**	**17.8**	**62.6**	**LOS B**

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

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

The unsignalised pedestrian mid-block crossing at Hickson Road (north of the metro station) is located directly east of Barangaroo Station.

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

Source: Nearmap (September 2024)

Figure 5-46 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU16

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

Table 5-43 Block 4 – Intersection performance summary of BGU16

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
New Pedestrian Mid-block Crossing at Hickson Road (north of metro station) (Pedestrian only - Zebra)	Weekday AM	South	0.178	2.1	5.7	LOS A
		North	0.102	2.1	3	LOS A
		Total	**0.178**	**2.1**	**5.7**	**LOS A**
	Weekday PM	South	0.241	2.1	7.9	LOS A
		North	0.162	2.1	4.9	LOS A
		Total	**0.241**	**2.1**	**7.9**	**LOS A**
	Weekend	South	0.328	2.1	12.1	LOS A
		North	0.181	2.1	5.5	LOS A
		Total	**0.328**	**2.1**	**12.1**	**LOS A**

Overall, the new pedestrian mid-block crossing at Hickson Road (north of metro station) performs satisfactorily at LOS A during all peak hours. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

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

The unsignalised pedestrian mid-block crossing at Hickson Road (south of the metro station) is located directly east of Barangaroo Station.

Figure 5-47 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.

Source: Nearmap (September 2024)

Figure 5-47 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU17

Table 5-44 presents a performance summary of this intersection.

Table 5-44 Block 4 – Intersection performance summary of BGU17

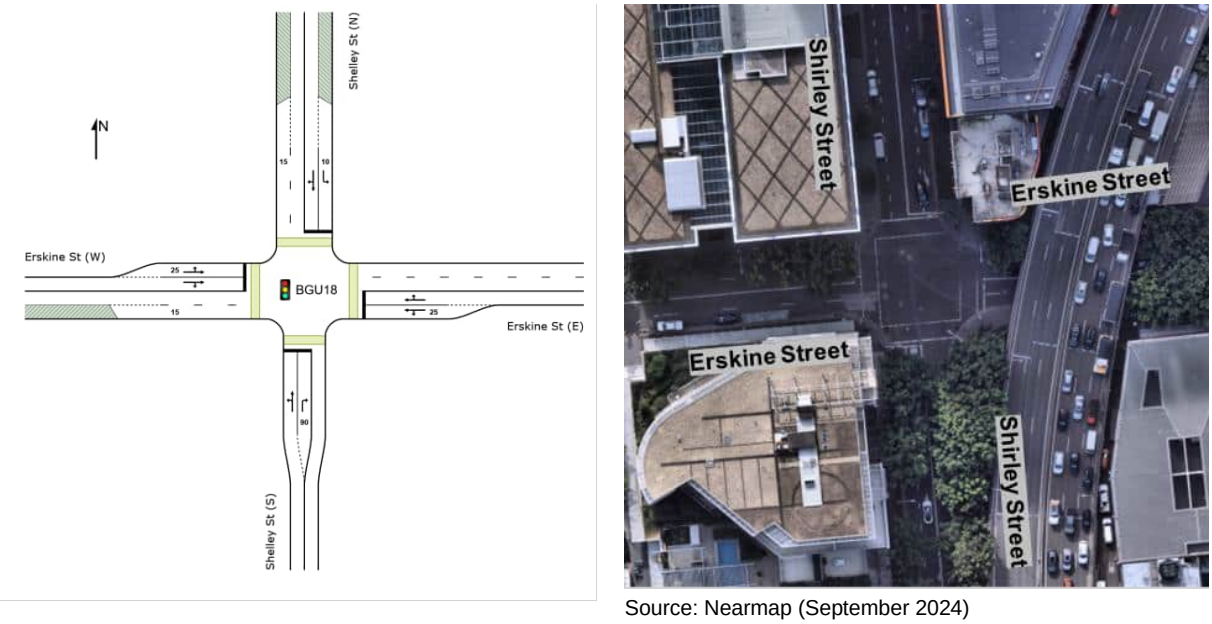
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
New Pedestrian Mid-block Crossing at Hickson Road (south of metro station) (Pedestrian only - Zebra)	Weekday AM	South	0.183	2.2	5.9	LOS A
		North	0.105	2.2	3.1	LOS A
		Total	**0.183**	**2.2**	**5.9**	**LOS A**
	Weekday PM	South	0.249	2.2	8.2	LOS A
		North	0.168	2.2	5.1	LOS A
		Total	**0.249**	**2.2**	**8.2**	**LOS A**
	Weekend	South	0.343	2.3	12.6	LOS A
		North	0.189	2.3	5.8	LOS A
		Total	**0.343**	**2.3**	**12.6**	**LOS A**

Overall, the new pedestrian mid-block crossing at Hickson Road (south of metro station) performs satisfactorily at LOS A during all peak hours. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

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



Source: Nearmap (September 2024)

Figure 5-48 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of BGU18

Table 5-45 presents a performance summary of this intersection.

Table 5-45 Block 4 – Intersection performance summary of BGU18

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Shelley Street/ Erskine Street (Signal)	Weekday AM	South	0.554	12.2	67.0	LOS A
		East	0.547	39.8	47.3	LOS C
		North	0.091	10.1	6.8	LOS A
		West	0.457	36.7	37.1	LOS C
		Total	**0.554**	**22.9**	**67.0**	**LOS B**
	Weekday PM	South	0.382	12.6	39.0	LOS A
		East	0.316	36.3	28.0	LOS C
		North	0.231	11.3	24.9	LOS A
		West	0.316	33.7	28.3	LOS C
		Total	**0.382**	**20.5**	**39.0**	**LOS B**
	Weekend	South	0.437	12.6	29.9	LOS A
		East	0.637	45.2	70.3	LOS D
		North	0.106	11.7	15.3	LOS A
		West	0.300	31.1	35.3	LOS C
		Total	**0.637**	**27.9**	**70.3**	**LOS B**

Overall, the intersection of Shelley Street and Erskine Street performs satisfactorily at LOS B during all peak hours. The 95th percentile queue on Erskine Street (east approach) extends back to Sussex Street during the weekday AM and weekend peak hours.

5.4.19 Comparison with previous study blocks

Figure 5-49 provides a comparison of the total peak hourly traffic volumes recorded across all intersections for Block 4 against previous study blocks. As shown, Block 4 traffic volumes are slightly higher during all peak hours compared to the pre-opening conditions.

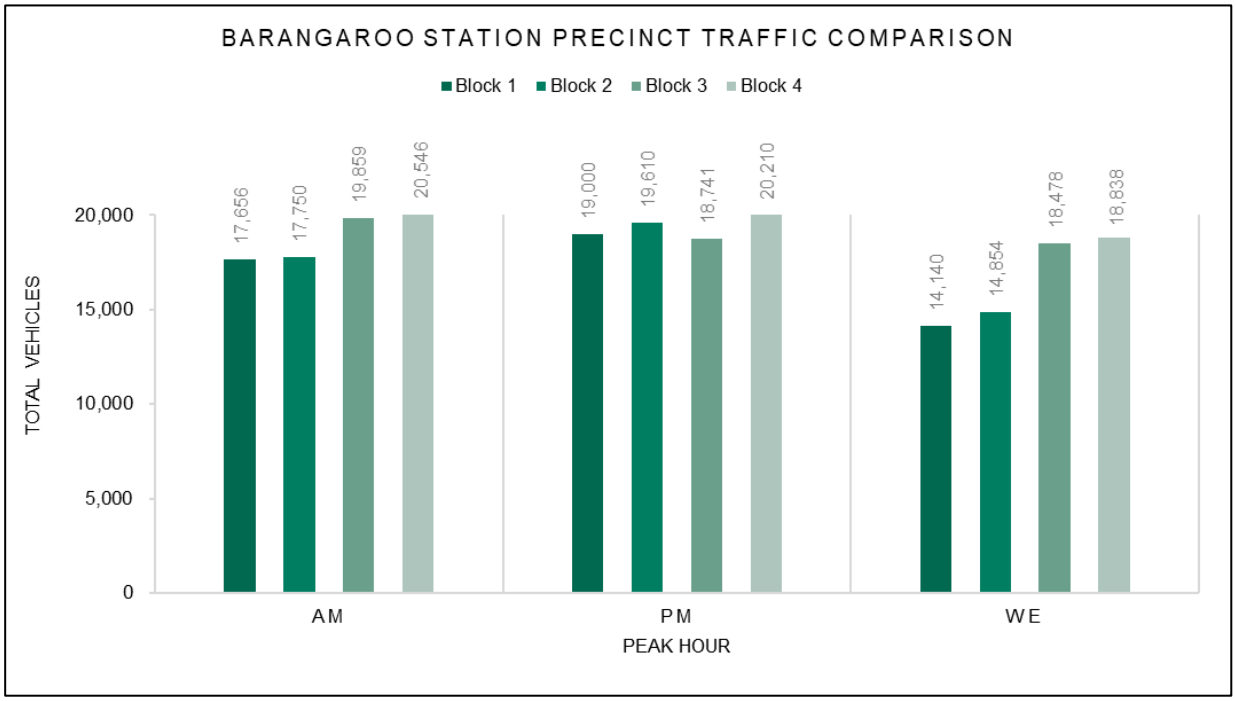


Figure 5-49 Study block comparison – Barangaroo Station peak hourly traffic volume across all intersections

A comparison of the intersection LOS for Block 4 against previous study blocks is shown in Figure 5-50 and Figure 5-51. All intersections in the Barangaroo Station study area perform at LOS C or better during Block 4, which is generally similar to previous study blocks.

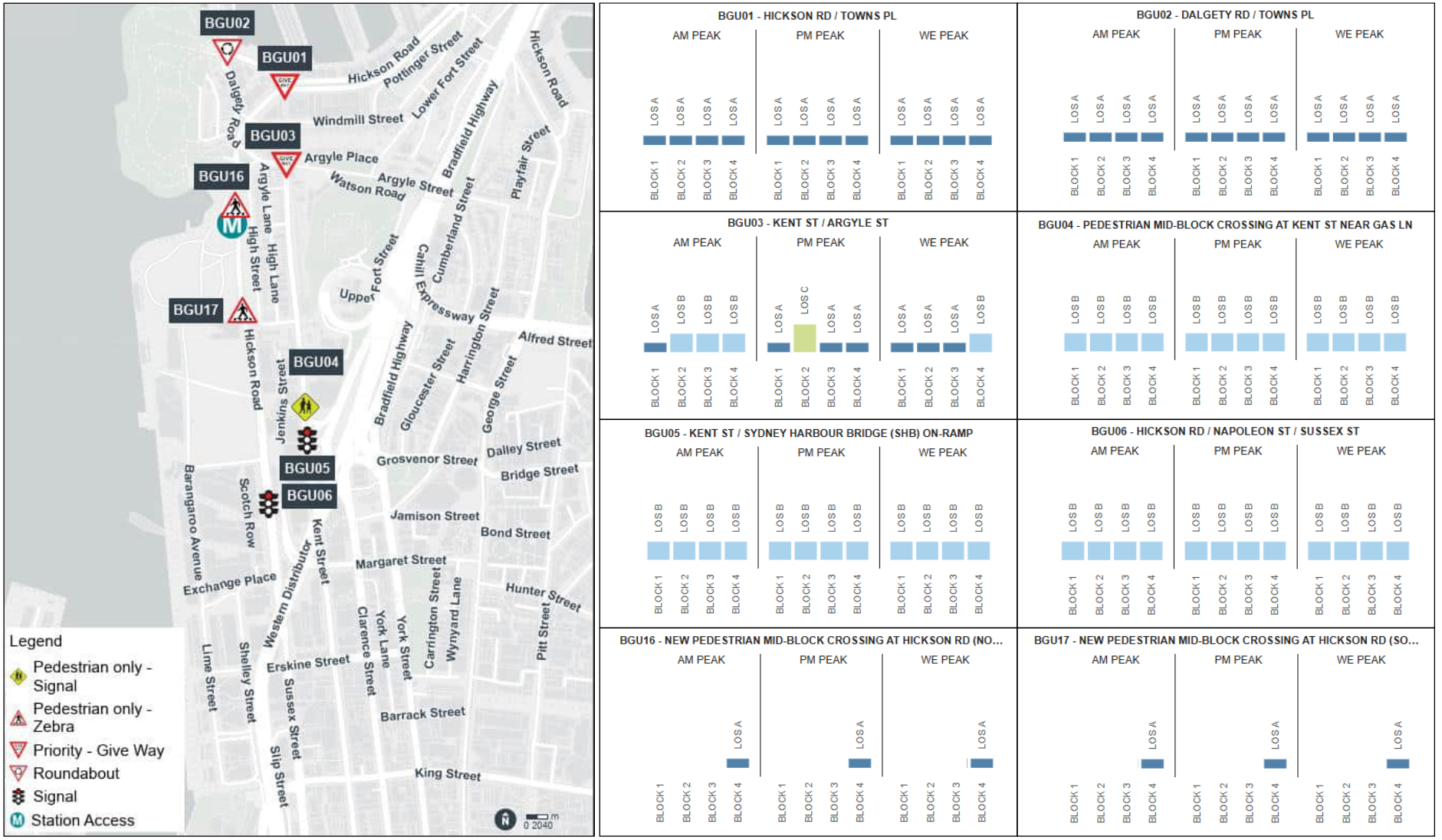


Figure 5-50 Study block comparison – Barangaroo Station intersection performance summary (BGU01-BGU06 & BGU16-BGU17)

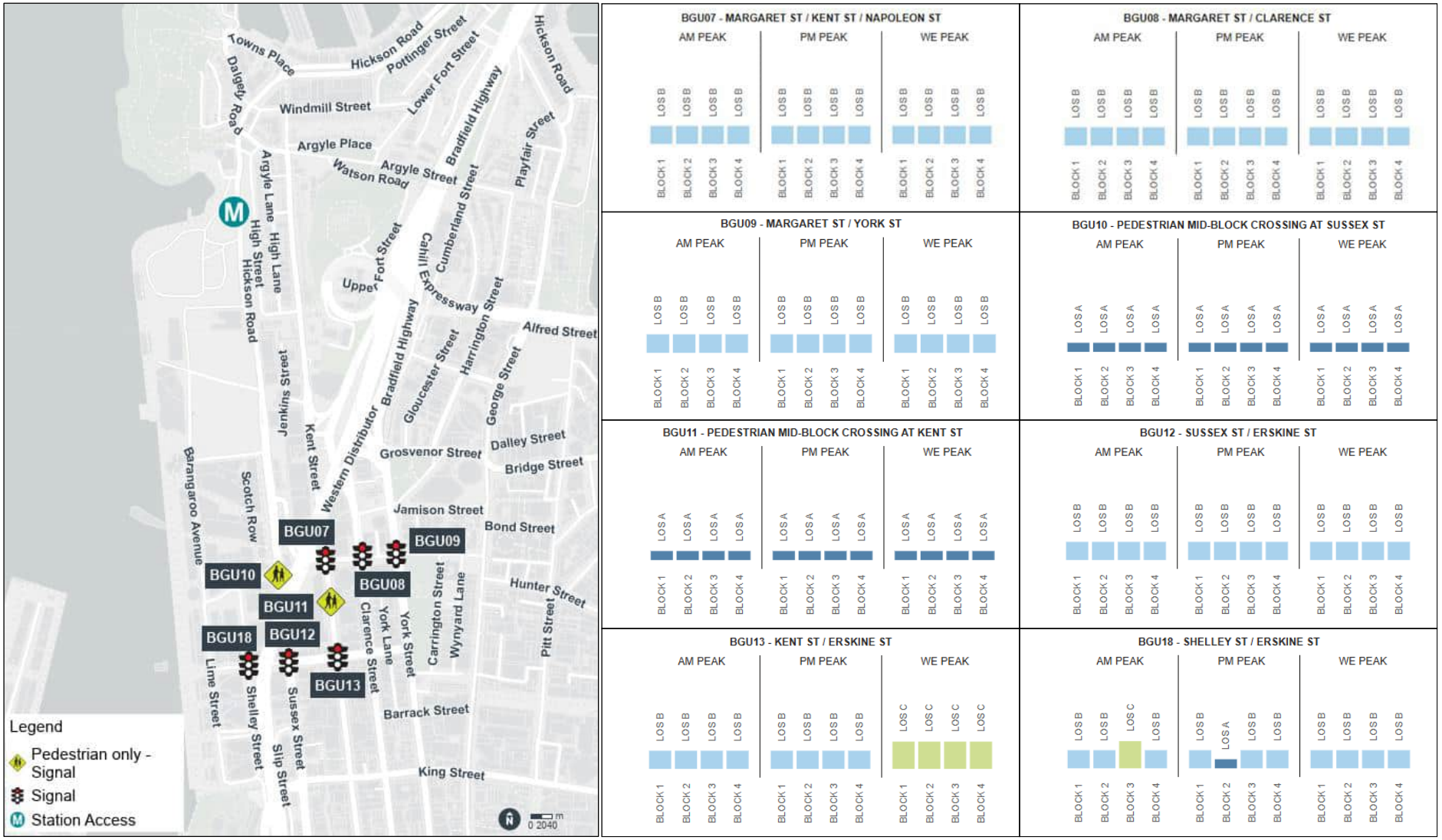
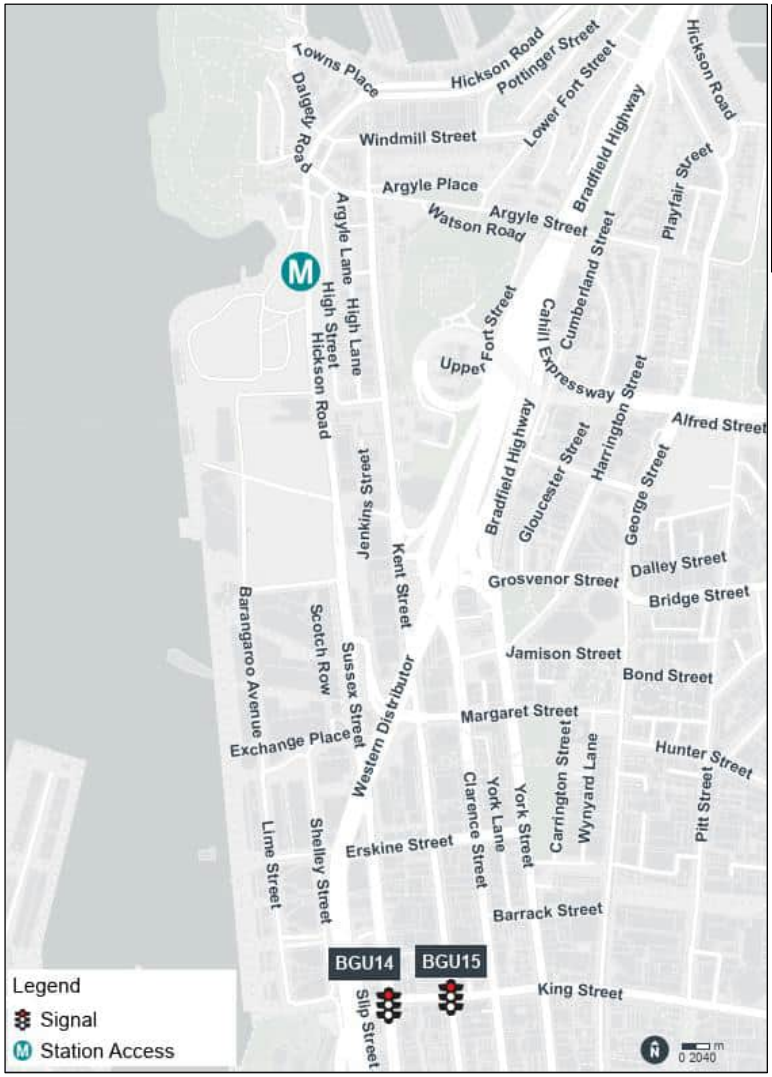


Figure 5-51 Study block comparison – Barangaroo Station intersection performance summary (BGU07-BGU13, BGU18)



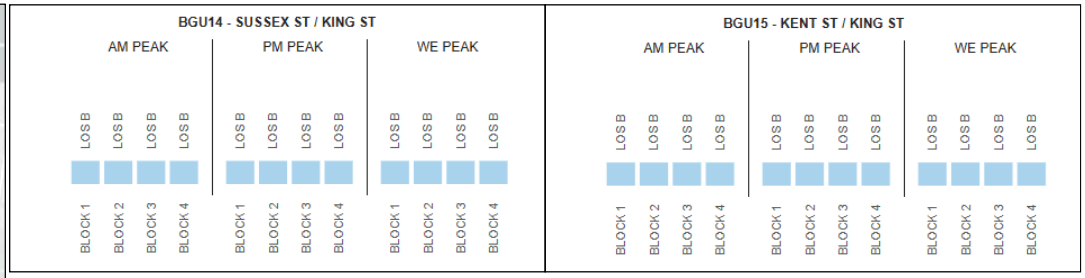


Figure 5-52 Study block comparison – Barangaroo Station intersection performance summary (BGU14-BGU15)

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 has various accesses from Hunter Street, Castlereagh Street, Elizabeth Street and Martin Place. The accesses are separated into Martin Place North and Martin Place South. The four entrances are listed below:

- Martin Place North Entry (Hunter Street/Castlereagh Street); at the south-east corner of the intersection of Hunter Street, Castlereagh Street and Bligh Street
- Martin Place North Entry (Hunter Street/Elizabeth Street); at the south-west corner of the intersection of Hunter Street, Elizabeth Street and Chifley Square
- Martin Place South Entry (Castlereagh Street); along the eastern side of Castlereagh Street, north of King Street
- Martin Place South Entry (Elizabeth Street); along the western side of Elizabeth Street, north of King Street.

Bus services are available within approximately 150 metres of Martin Place Station, located at Elizabeth Street and Castlereagh Street. Pedestrian connections between the existing Martin Place Station platforms and metro station platforms are provided. The existing taxi ranks close to the station were retained. New bicycle parking racks are provided on Castlereagh Street and Elizabeth Street near the Martin Place North accesses.

The Martin Place Station study area consists of six intersections. Table 5-46 presents the peak hours utilised for modelling the intersections. Table 5-47 provides a summary of the intersection LOS while Figure 5-53 visualises a geospatial summary of the intersection LOS within the Martin Place Station study area.

Table 5-46 Block 4 – 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	8:30am	Wednesday	5:45pm	Saturday	6:15pm
	MPL02						
	MPL03						
	MPL04						
-	MPL05	Monday	8:15am	Wednesday	6:30pm	Saturday	5:30pm
-	MPL06	Wednesday	8:30am	Wednesday	5:15pm	Saturday	5:30pm

Table 5-47 Block 4 – Martin Place Station intersection performance summary

Intersection ID	Intersection	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 B	LOS C	LOS C
MPL03	Bent Street/Bligh Street (Signal)	LOS A	LOS A	LOS A
MPL04	Bent Street/Phillip Street (Signal)	LOS B	LOS B	LOS B

Intersection ID	Intersection	LOS		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
MPL05	Pedestrian Mid-block Crossing at Castlereagh Street (Signal)	LOS B	LOS A	LOS A
MPL06	Pedestrian Mid-block Crossing at Elizabeth Street (Signal)	LOS A	LOS A	LOS A

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

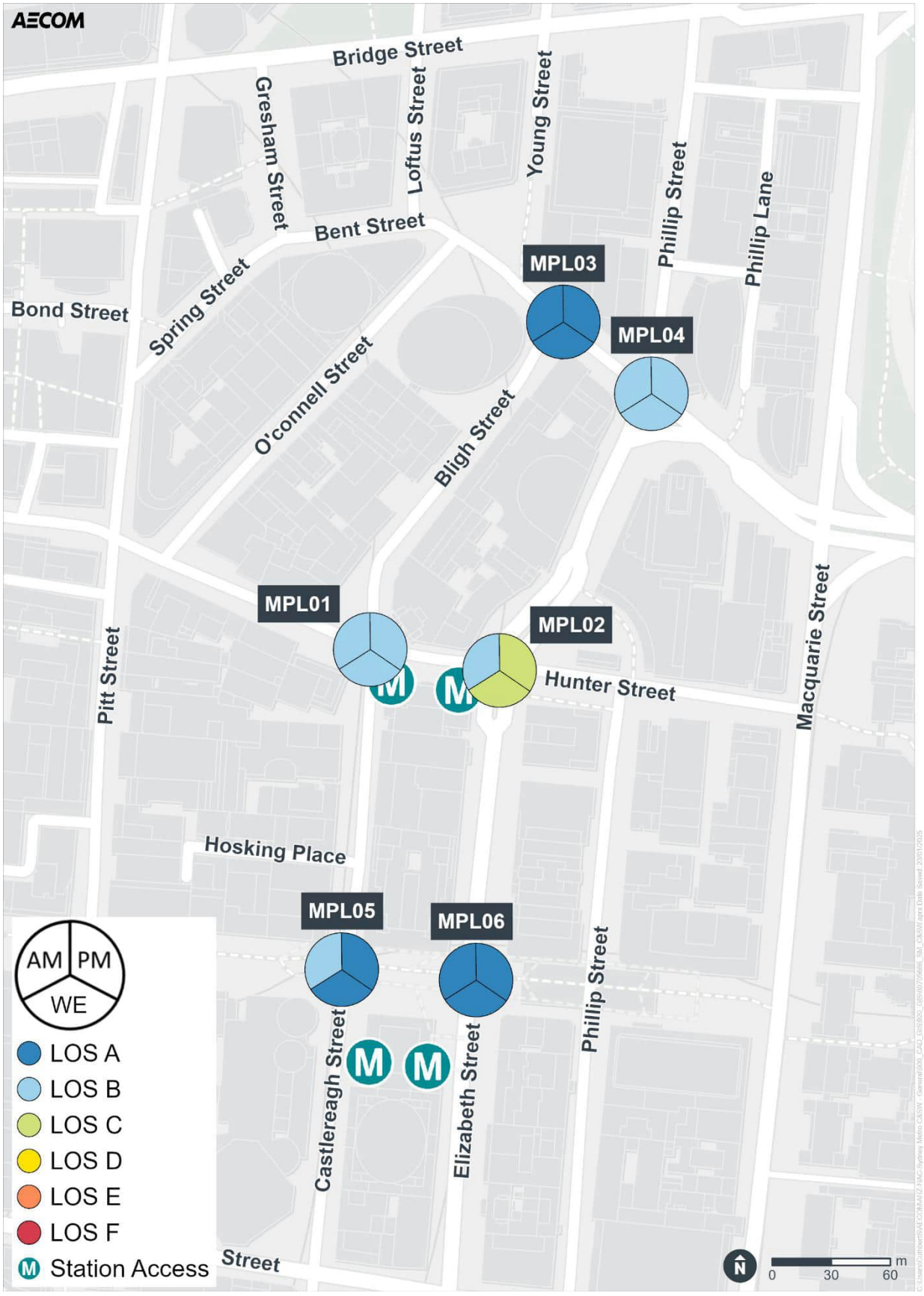
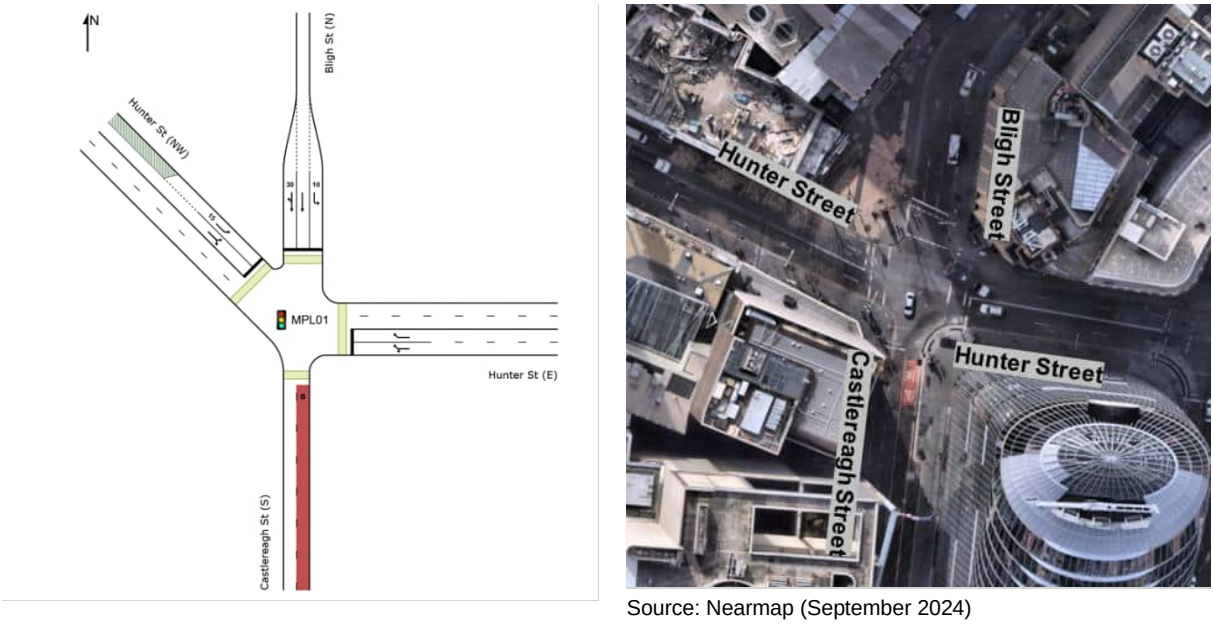


Figure 5-53 Block 4 – Martin Place Station intersection performance summary

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



Source: Nearmap (September 2024)

Figure 5-54 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of MPL01

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

Table 5-48 Block 4 – Intersection performance summary of MPL01

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Hunter Street/ Castlereagh Street/ Bligh Street (Signal)	Weekday AM	East	0.293	11.4	38.6	LOS A
		North	0.638	54.5	33.4	LOS D
		North-west	0.271	11.1	34.3	LOS A
		Total	**0.638**	**20.1**	**38.6**	**LOS B**
	Weekday PM	East	0.256	12.1	31.5	LOS A
		North	0.704	55.7	37.2	LOS D
		North-west	0.330	10.2	37.9	LOS A
		Total	**0.704**	**19.2**	**37.9**	**LOS B**
	Weekend	East	0.447	21.0	53.9	LOS B
		North	0.599	40.4	20.0	LOS C
		North-west	0.173	8.3	19.1	LOS A
		Total	**0.599**	**19.4**	**53.9**	**LOS B**

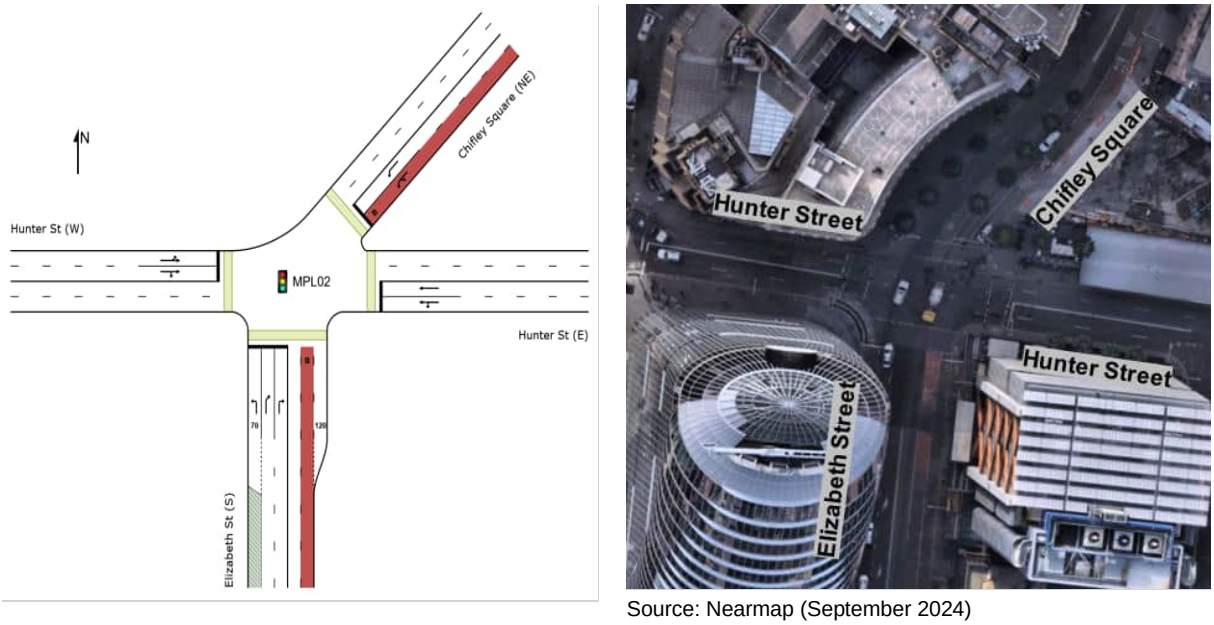
Overall, the intersection of Hunter Street, Castlereagh Street and Bligh Street performs satisfactorily at LOS B during all peak hours. The 95th percentile queue on Hunter Street (east approach) extends back to Elizabeth Street during the weekend peak hour.

It was also noted that Block 4 pedestrian volumes at Hunter Street and Castlereagh Street significantly increased across all peak hours compared to pre-opening conditions. Given that MPL01 is located in close proximity of Martin Place station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

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



Source: Nearmap (September 2024)

Figure 5-55 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of MPL02

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

Table 5-49 Block 4 – Intersection performance summary of MPL02

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Hunter Street/ Elizabeth Street/ Chifley Square (Signal)	Weekday AM	South	0.850	21.2	126.5	LOS B
		East	0.484	32.2	45.4	LOS C
		North-east	0.381	14.9	26.9	LOS B
		West	0.537	32.0	65.3	LOS C
		Total	**0.850**	**24.8**	**126.5**	**LOS B**
	Weekday PM	South	0.947	33.9	209.6	LOS C
		East	0.419	32.8	38.1	LOS C
		North-east	0.351	28.5	52.9	LOS B
		West	0.531	32.8	65.3	LOS C
		Total	**0.947**	**32.8**	**209.6**	**LOS C**
	Weekend	South	0.903	41.0	199.9	LOS C
		East	0.652	38.9	39.3	LOS C

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		North-east	0.288	17.5	25.6	LOS B
		West	0.354	24.4	50.1	LOS B
		Total	**0.903**	**34.5**	**199.9**	**LOS C**

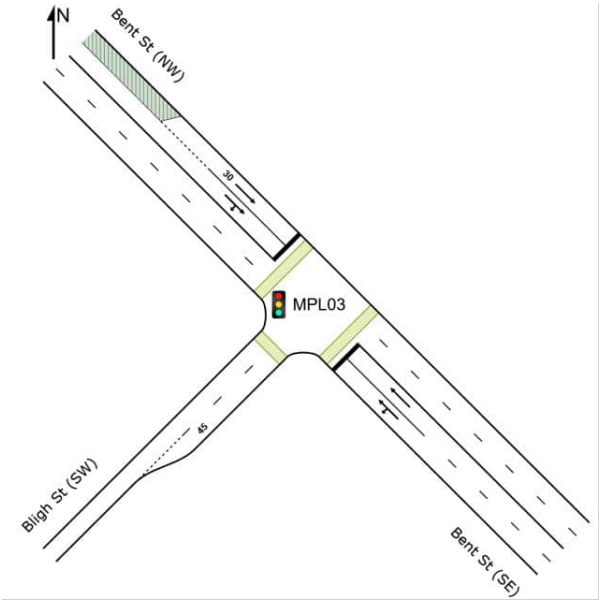
Overall, the intersection of Hunter Street, Elizabeth Street and Chifley Square performs satisfactorily at LOS C or better during all peak hours. The 95th percentile queue on Elizabeth Street (south approach) extends back to the mid-block crossing on Elizabeth Street (MPL06) during all peak hours. Similarly,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

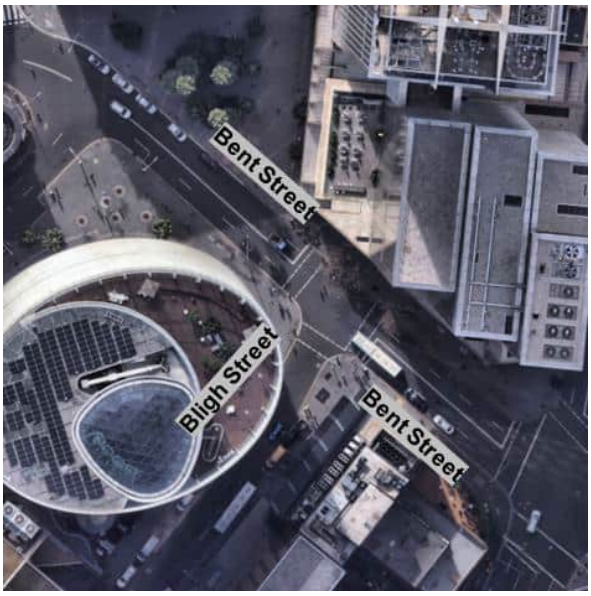
It was also noted that Block 4 pedestrian volumes at Hunter Street, Elizabeth Street and Chiefly Square significantly increased during the weekday AM peak hour compared to pre-opening conditions. Given that MPL02 is located in close proximity of Martin Place station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

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





Source: Nearmap (September 2024)

Figure 5-56 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of MPL03

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

Table 5-50 Block 4 – Intersection performance summary of MPL03

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Bent Street/ Bligh Street (Signal)	Weekday AM	South-east	0.285	4.1	39.1	LOS A
		North-west	0.101	3.7	11.0	LOS A
		Total	**0.285**	**4.0**	**39.1**	**LOS A**
	Weekday PM	South-east	0.246	3.6	24.3	LOS A
		North-west	0.092	3.5	10.0	LOS A
		Total	**0.246**	**3.6**	**24.3**	**LOS A**
	Weekend	South-east	0.386	5.5	31.4	LOS A
		North-west	0.086	3.8	9.0	LOS A
		Total	**0.386**	**5.1**	**31.4**	**LOS A**

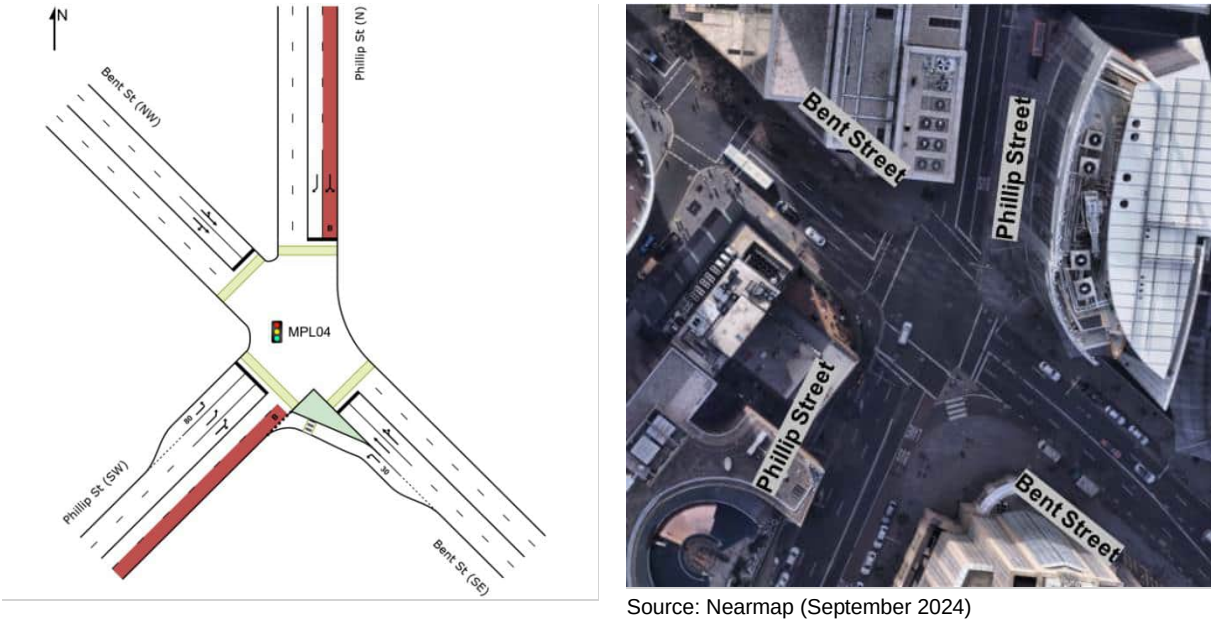
Overall, the intersection of Bent Street and Bligh Street performs satisfactorily at LOS A during all peak hours. The 95th percentile queue on Bent Street (south-east approach) extends back to Phillip Street during the weekday AM and weekend peak hours.

It was also noted that Block 4 pedestrian volumes at Bent Street and Bligh Street significantly increased during the weekday AM peak hour compared to pre-opening conditions. Given that MPL03 is located in close proximity of Martin Place station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

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 5-57 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-57 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of MPL04

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

Table 5-51 Block 4 – Intersection performance summary of MPL04

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Bent Street/ Phillip Street (Signal)	Weekday AM	South-east	0.596	23.5	85.4	LOS B
		North	0.212	20.0	33.3	LOS B
		North-west	0.142	19.7	16.8	LOS B
		South-west	0.416	18.2	63.0	LOS B
		Total	**0.596**	**20.5**	**85.4**	**LOS B**
	Weekday PM	South-east	0.667	36.8	65.4	LOS C
		North	0.189	11.0	29.2	LOS A
		North-west	0.329	35.3	22.6	LOS C
		South-west	0.400	10.7	61.8	LOS A
		Total	**0.667**	**18.8**	**65.4**	**LOS B**
	Weekend	South-east	0.390	26.3	46.8	LOS B
		North	0.158	13.5	21.8	LOS A
		North-west	0.167	21.3	15.9	LOS B
		South-west	0.293	13.6	45.6	LOS A
		Total	**0.390**	**17.7**	**46.8**	**LOS B**

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

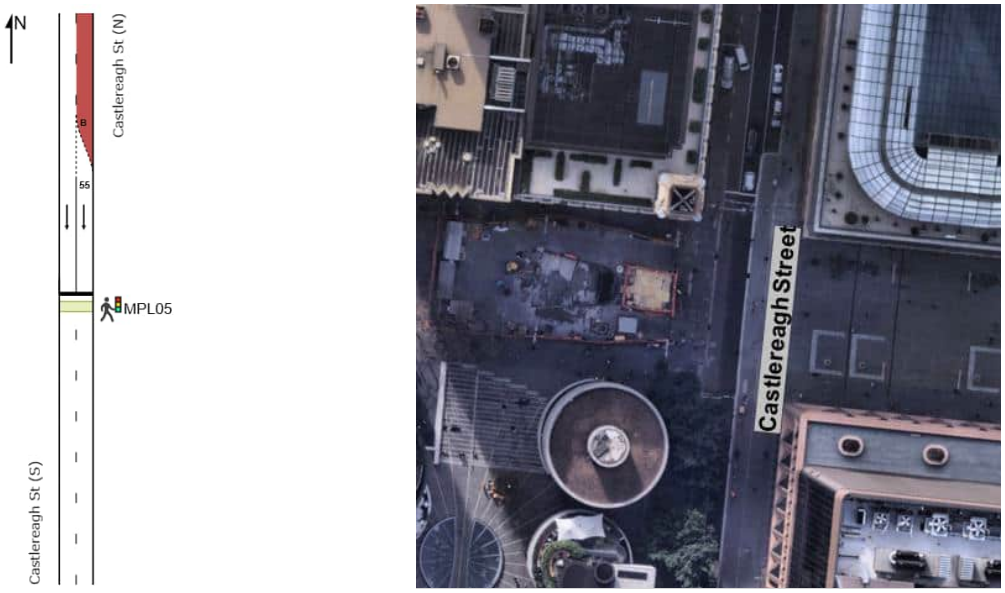
It was also noted that Block 4 pedestrian volumes at Hunter Street, Elizabeth Street and Chiefly Square significantly decreased during the weekday PM peak hour compared to pre-opening conditions. Exact reasons for the drop in pedestrian volumes are unknown.

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 4, the configuration of the intersection was restructured as two approach/departure lanes (previously three approach/departure lanes in pre-opening conditions). Additionally, the eastern kerbside approach lane of Castlereagh Street was altered to be a partial bus and general traffic lane.

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



Source: Nearmap (September 2024)

Figure 5-58 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of MPL05

Table 5-52 presents a performance summary of this intersection.

Table 5-52 Block 4 – Intersection performance summary of MPL05

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Pedestrian Mid-block Crossing at Castlereagh Street (Pedestrian only – Signal)	Weekday AM	North	0.429	15.5	29.5	LOS B
		Total	**0.429**	**15.5**	**29.5**	**LOS B**
	Weekday PM	North	0.281	12.3	21.2	LOS A
		Total	**0.281**	**12.3**	**21.2**	**LOS A**
	Weekend	North	0.180	12.6	12.6	LOS A
		Total	**0.180**	**12.6**	**12.6**	**LOS A**

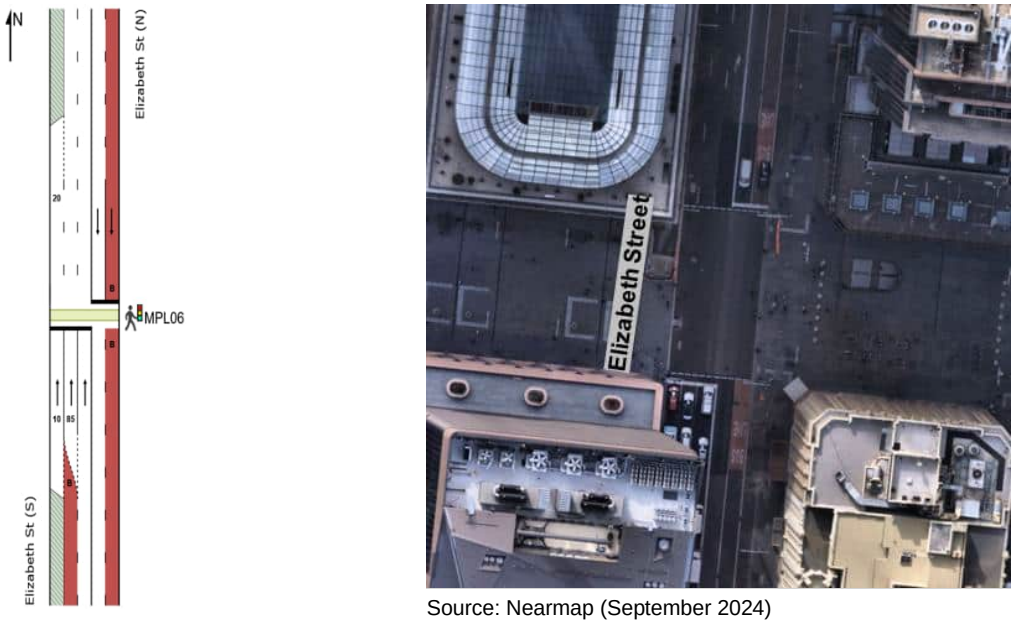
Overall, the pedestrian mid-block crossing at Castlereagh Street performs satisfactorily at LOS B or better during all peak hours. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

It was also noted that Block 4 pedestrian volumes at the mid-block crossing at Castlereagh Street significantly increased during the weekday AM peak hour compared to pre-opening conditions. Given that MPL05 is located in close proximity of Martin Place station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

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



Source: Nearmap (September 2024)

Figure 5-59 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of MPL06

Table 5-53 presents a performance summary of this intersection.

Table 5-53 Block 4 – Intersection performance summary of MPL06

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Pedestrian Mid-block Crossing at Elizabeth Street (Pedestrian only – Signal)	Weekday AM	South	0.424	8.8	77.9	LOS A
		North	0.338	7.6	58.3	LOS A
		Total	**0.424**	**9.7**	**77.9**	**LOS A**
	Weekday PM	South	0.431	8.9	80.3	LOS A
		North	0.323	7.5	55.2	LOS A
		Total	**0.431**	**9.9**	**80.3**	**LOS A**
	Weekend	South	0.374	8.4	66.2	LOS A
		North	0.191	6.8	29.4	LOS A
		Total	**0.374**	**9.5**	**66.2**	**LOS A**

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

5.5.7 Comparison with previous study blocks

Figure 5-60 provides a comparison of the total peak hourly traffic volumes recorded across all intersections for Block 4 against previous study blocks. As shown, Block 4 traffic volumes are relatively similar during the AM and PM peak hours, and slightly higher during the weekend peak hour compared to pre-opening conditions.

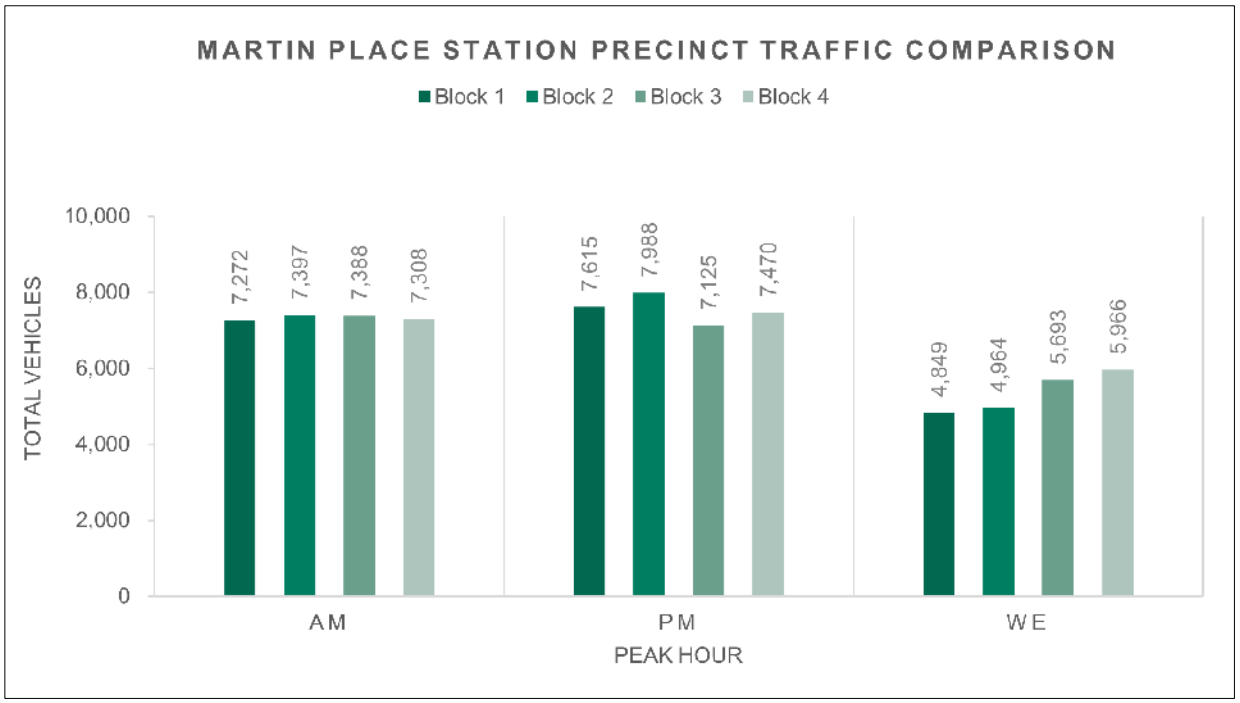


Figure 5-60 Study block comparison – Martin Place Station peak hourly traffic volumes across all intersections

A comparison of the intersection LOS for Block 4 against previous study blocks is shown in Figure 5-61. All intersections in the Martin Place Station study area perform at a LOS C or better during Block 4, which is generally similar to previous study blocks.

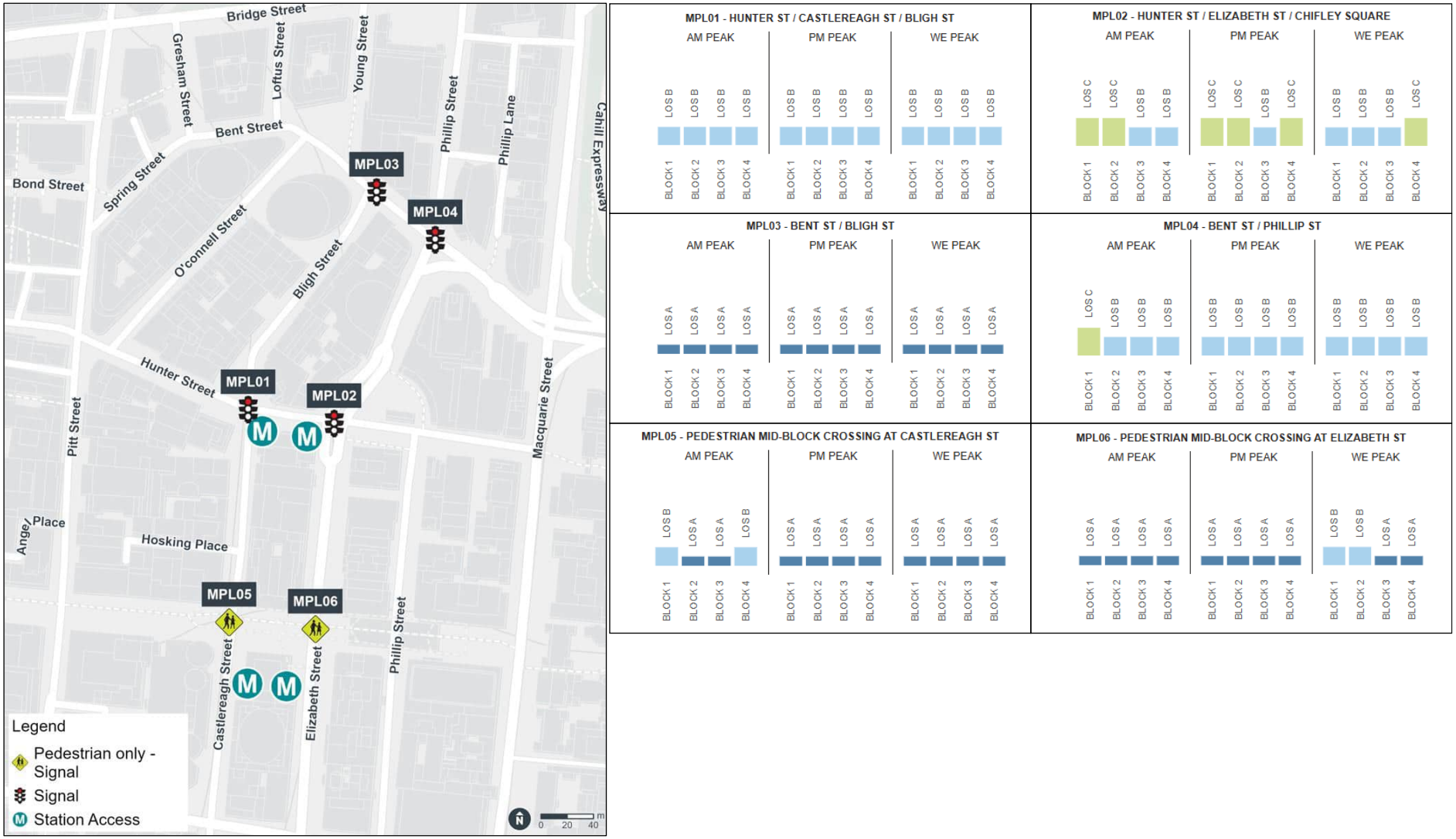


Figure 5-61 Study block comparison – Martin Place Station intersection performance summary

5.6 Gadigal Station

Gadigal Station (previously 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.

Gadigal Station has accesses from both Park Street and Bathurst Street. The two entrances are listed below:

- Park Street Entry; along Park Street between Pitt Street and Castlereagh Street
- Bathurst Street Entry; along Bathurst Street between Pitt Street and Castlereagh Street.

The over station developments at Gadigal Station were still under construction during Block 4, including some of the public domain works.

Several bus routes operate within the vicinity of the new Gadigal Station. Bus services are available within approximately 100 metres of Gadigal Station, located at Elizabeth Street and Park Street. The CBD and South-East Light Rail also operates nearby along George Street.

New bicycle parking racks are available on Park Street and Bathurst Street, near the station entrances.

The Gadigal Station study area consists of four intersections. Table 5-54 presents the peak hours utilised for modelling the intersections. Table 5-55 provides a summary of the intersection LOS while Figure 5-62 visualises a geospatial summary of the intersection LOS within the Gadigal Station study area.

Table 5-54 Block 4 – Gadigal 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	Thursday	9:00am	Thursday	5:00pm	Saturday	1:45pm
	PIT02						
	PIT03						
	PIT04						

Table 5-55 Block 4 – Gadigal Station intersection performance summary

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

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

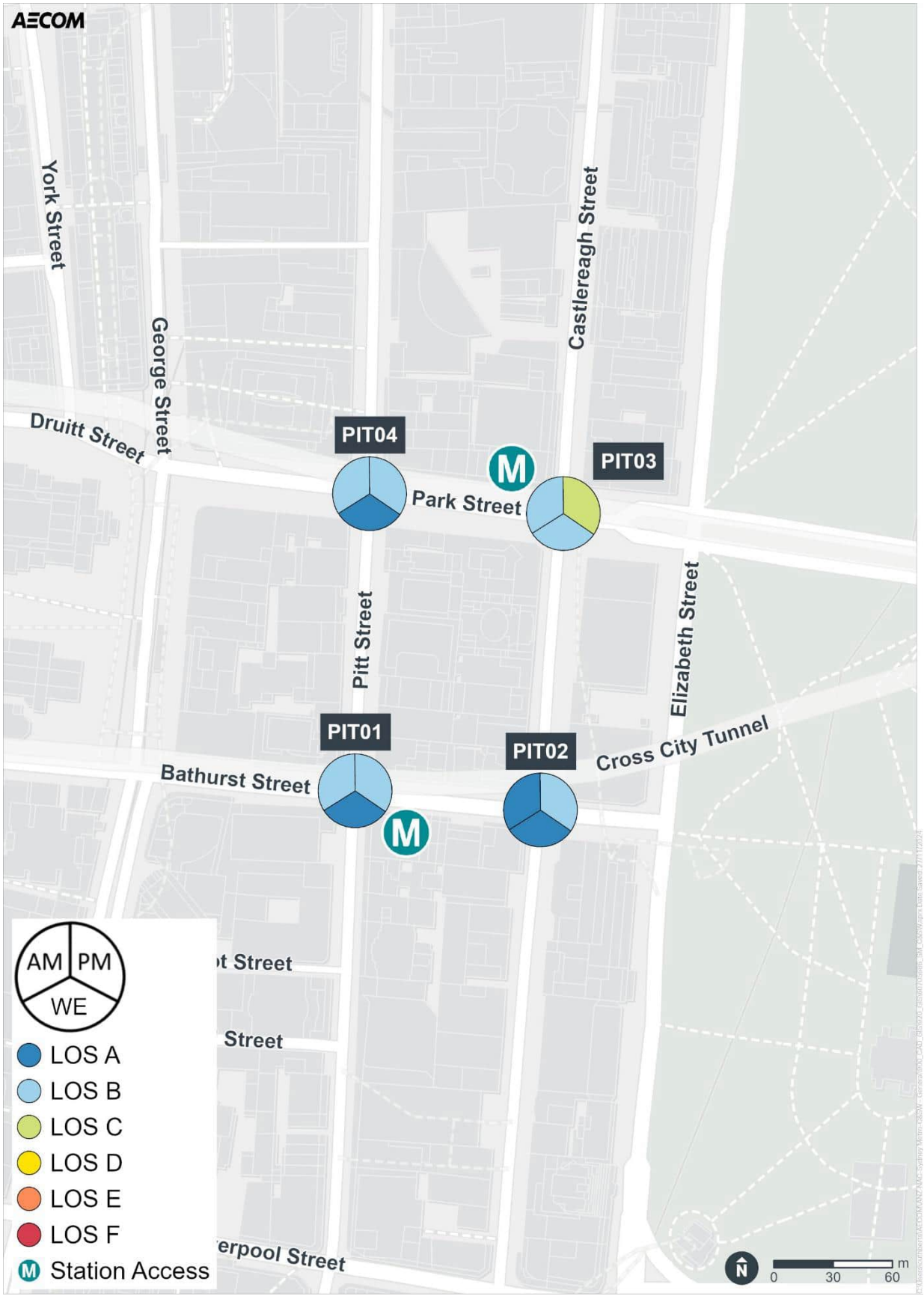


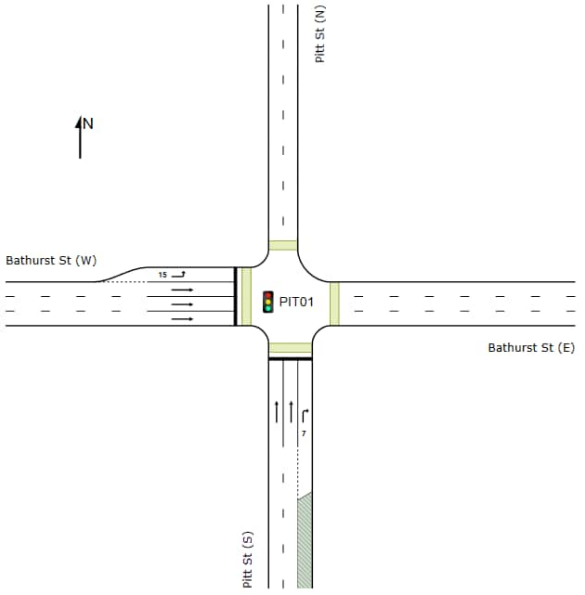
Figure 5-62 Block 4 – Gadigal Station intersection performance summary

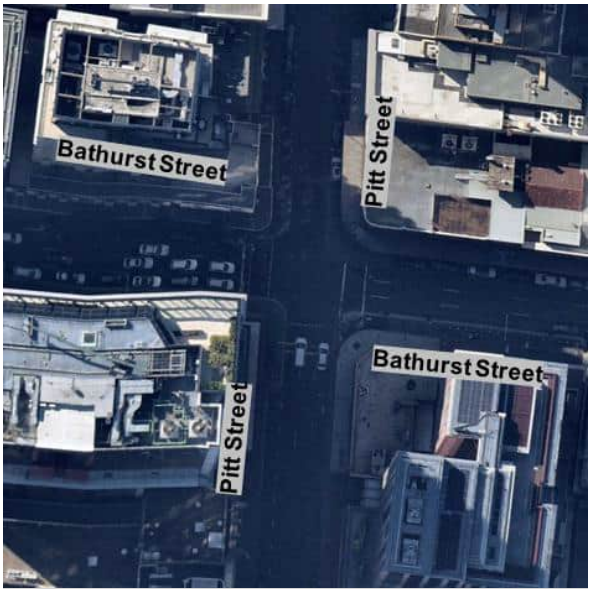
5.6.1 PIT01 – Pitt Street/Bathurst Street

The signalised intersection, composed of Pitt Street and Bathurst Street, is located directly west of the Bathurst Street access to Gadigal Station. It connects the major local road of Pitt Street and major regional road of Bathurst Street running through the inner Sydney CBD.

During Block 4, the available storage on the right turn kerbside lane on Pitt Street (south approach) was reduced during the AM and PM peak hours due to the a construction work zone. Additionally, Pitt Street (south approach) was closed during the weekend peak hour to facilitate construction works.

Figure 5-63 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.





Source: Nearmap (September 2024)

Figure 5-63 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of PIT01

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

Table 5-56 Block 4 – Intersection performance summary of PIT01

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Pitt Street/ Bathurst Street (Signal)	Weekday AM	South	0.618	31.0	27.9	LOS C
		West	0.437	10.7	40.6	LOS A
		Total	**0.618**	**15.4**	**40.6**	**LOS B**
	Weekday PM	South	0.427	31.5	39.1	LOS C
		West	0.341	10.4	57.1	LOS A
		Total	**0.427**	**15.7**	**57.1**	**LOS B**
	Weekend	South	0.001	15.8	0.0	LOS B
		West	0.361	9.9	33.0	LOS A
		Total	**0.361**	**10.0**	**33.0**	**LOS A**

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

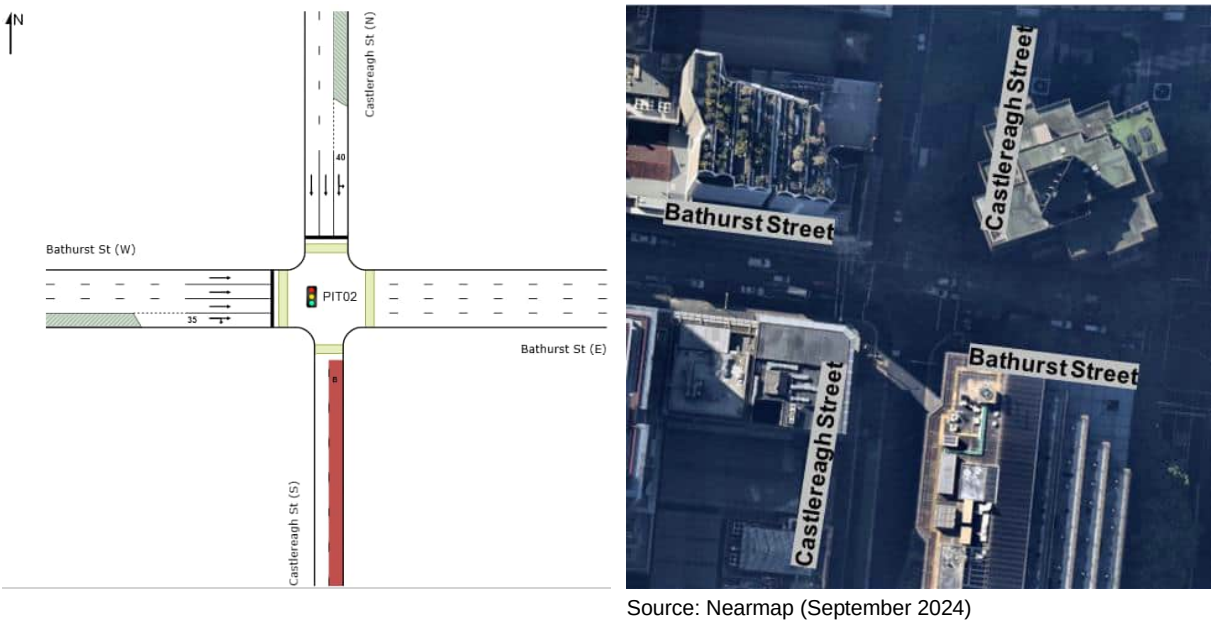
It was also noted that Block 4 pedestrian volumes at Pitt Street and Bathurst Street significantly increased during the weekday AM and weekend peak hours compared to pre-opening conditions. Given that PIT01 is located along the frontage of Gadigal station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

5.6.2 PIT02 – Castlereagh Street/Bathurst Street

The signalised intersection, composed of Castlereagh Street and Bathurst Street, is located directly east of the Bathurst Street access to Gadigal Station. It connects the major local road of Castlereagh Street and major regional road of Bathurst Street running through the inner Sydney CBD.

During Block 4, the western kerb side lane on Castlereagh Street (north approach) was closed off due to construction works.

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



Source: Nearmap (September 2024)

Figure 5-64 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of PIT02

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

Table 5-57 Block 4 – Intersection performance summary of PIT02

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Castlereagh Street/ Bathurst Street (Signal)	Weekday AM	North	0.389	17.1	40.3	LOS B
		West	0.324	4.9	25.9	LOS A
		Total	**0.389**	**7.3**	**40.3**	**LOS A**
	Weekday PM	North	0.260	17.6	40.1	LOS B
		West	0.397	19.3	66.5	LOS B
		Total	**0.397**	**19.0**	**66.5**	**LOS B**
	Weekend	North	0.233	13.0	16.6	LOS A
		West	0.306	3.0	9.4	LOS A
		Total	**0.306**	**4.4**	**16.6**	**LOS A**

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

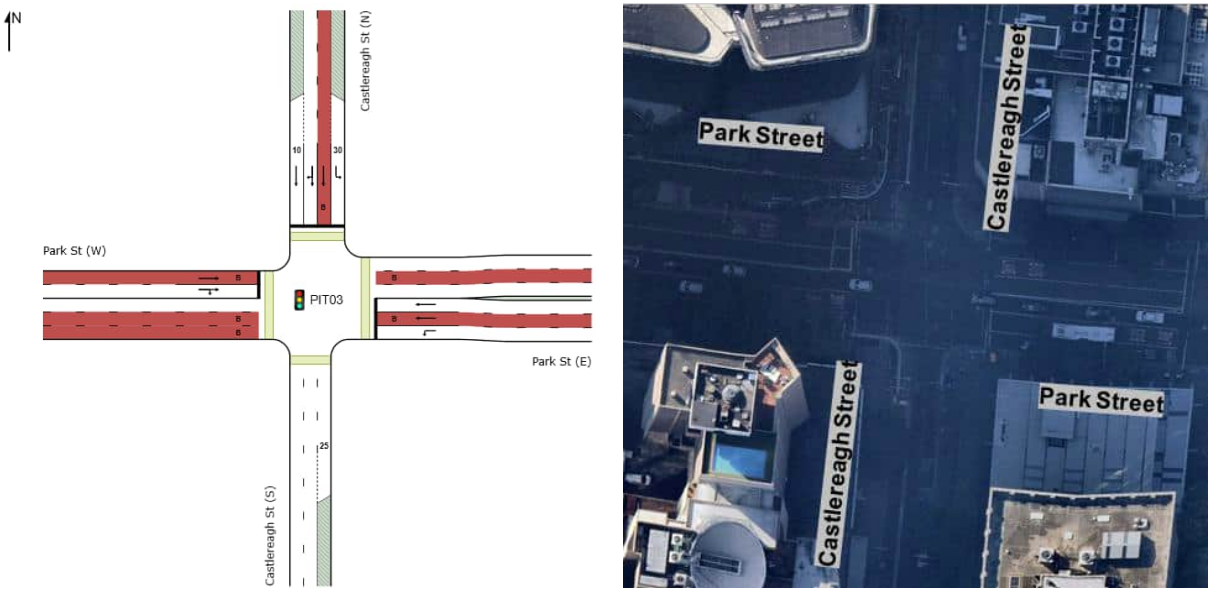
It was also noted that Block 4 pedestrian volumes at Castlereagh Street and Bathurst Street significantly decreased during the weekday AM peak hour compared to pre-opening conditions. Exact reasons for the decrease in pedestrian volumes are unknown, however there were significant construction works occurring on the footpaths at PIT02 which may have deterred pedestrians from crossing at this intersection and walking to adjacent intersections.

5.6.3 PIT03 – Park Street/Castlereagh Street

The signalised intersection, composed of Park Street and Castlereagh Street, is located directly east of the Park Street access to Gadigal Station. It connects the major regional road of Park Street and major local road of Castlereagh Street running through the inner Sydney CBD.

During Block 4, the northern kerbside lane on Park Street (west approach) was occupied by a work zone during the AM peak hour. The kerbside departure lane on Park Street (west approach) was also occupied by a work zone during the AM and weekend peak hour. Additionally, the western kerbside lane on Castlereagh Street (southern leg) was closed during all peak hours due to construction works.

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



Source: Nearmap (September 2024)

Figure 5-65 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of PIT03

Table 5-58 presents a performance summary of this intersection.

Table 5-58 Block 4 – Intersection performance summary of PIT03

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Park Street/ Castlereagh Street (Signal)	Weekday AM	East	0.491	18.6	77.4	LOS B
		North	0.644	50.7	59.7	LOS D
		West	0.307	15.4	43.6	LOS B
		Total	**0.644**	**27.4**	**77.4**	**LOS B**
	Weekday PM	East	0.308	16.8	52.8	LOS B
		North	0.753	51.1	90.3	LOS D

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		West	0.213	16.6	27.1	LOS B
		Total	**0.753**	**32.6**	**90.3**	**LOS C**
	Weekend	East	0.448	9.6	75.0	LOS A
		North	0.560	47.7	49.7	LOS D
		West	0.090	10.1	10.2	LOS A
		Total	**0.560**	**21.8**	**75.0**	**LOS B**

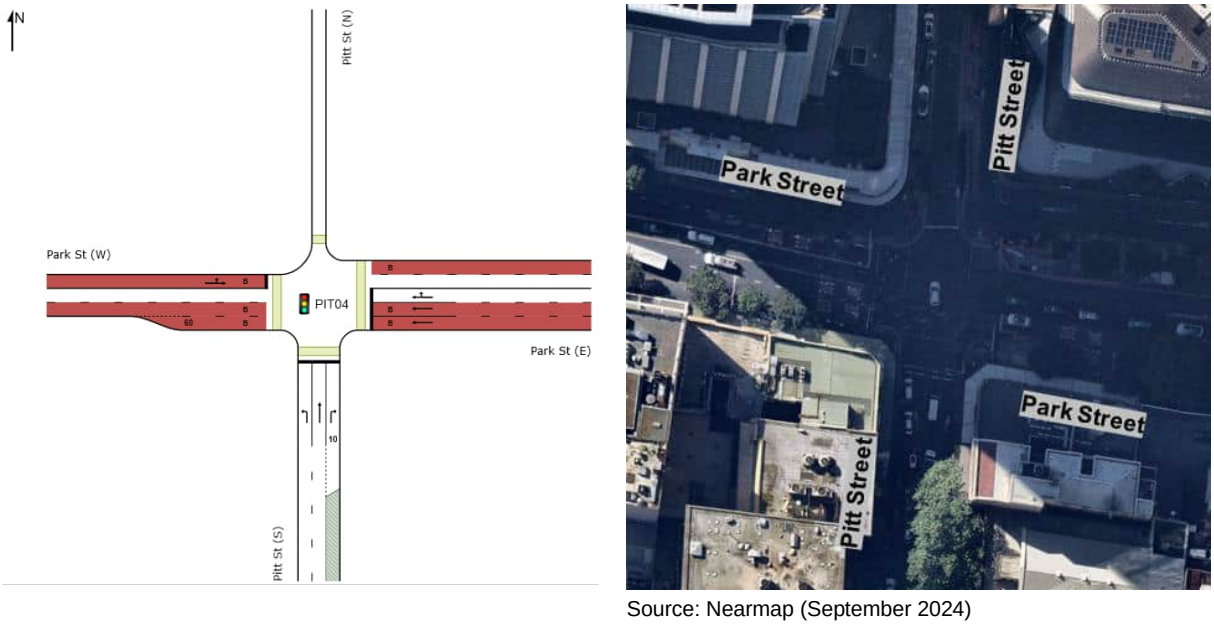
Overall, the intersection of Park Street and Castlereagh Street performs satisfactorily at LOS C or better during all peak hours. The 95th percentile queue on Park Street (east approach) extends back to Elizabeth Street during all peak hours.

5.6.4 PIT04 – Park Street/Pitt Street

The signalised intersection, composed of Park Street and Pitt Street, is located directly west of the Park Street access to Gadigal Station. It connects the major regional road of Park Street and major local road of Pitt Street running through the inner Sydney CBD.

During Block 4, the kerbside approach and departure lanes of Park Street (east approach) was occupied by a work zone towards Castlereagh Street during the AM and PM peak hours, whereas the weekend peak hour was only affected by the work zone on the kerbside departure lane of Park Street (east approach).

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



Source: Nearmap (September 2024)

Figure 5-66 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of PIT04

Table 5-59 presents a performance summary of this intersection.

Table 5-59 Block 4 – Intersection performance summary of PIT04

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Park Street/ Pitt Street (Signal)	Weekday AM	South	0.458	20.6	32.2	LOS B
		East	0.796	18.5	81.1	LOS B
		West	0.194	10.7	14.5	LOS A
		Total	**0.796**	**18.8**	**81.1**	**LOS B**
	Weekday PM	South	0.417	19.7	27.6	LOS B
		East	0.657	13.0	59.0	LOS A
		West	0.238	10.9	18.3	LOS A
		Total	**0.657**	**15.6**	**59.0**	**LOS B**
	Weekend	South	0.262	17.3	17.1	LOS B
		East	0.732	12.8	76.8	LOS A
		West	0.111	8.9	8.4	LOS A
		Total	**0.732**	**13.8**	**76.8**	**LOS A**

Overall, the intersection of Park Street and Pitt Street performs satisfactorily at LOS B or better during all peak hours. The 95th percentile queue on Park Street (east approach) extends back to Castlereagh Street during the AM and weekend peak hour.

It was also noted that Block 4 pedestrian volumes at Park Street and Pitt Street significantly increased during the weekday PM and weekend peak hours compared to pre-opening conditions. Given that PIT04 is located along the frontage of Gadigal station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

5.6.5 Comparison with previous study blocks

Figure 5-67 provides a comparison of the total peak hourly traffic volumes recorded across all intersections for Block 4 against previous study blocks. As shown, traffic volumes are relatively similar during the AM and PM peak hours, and lower during the weekend peak hour compared to pre-opening conditions.

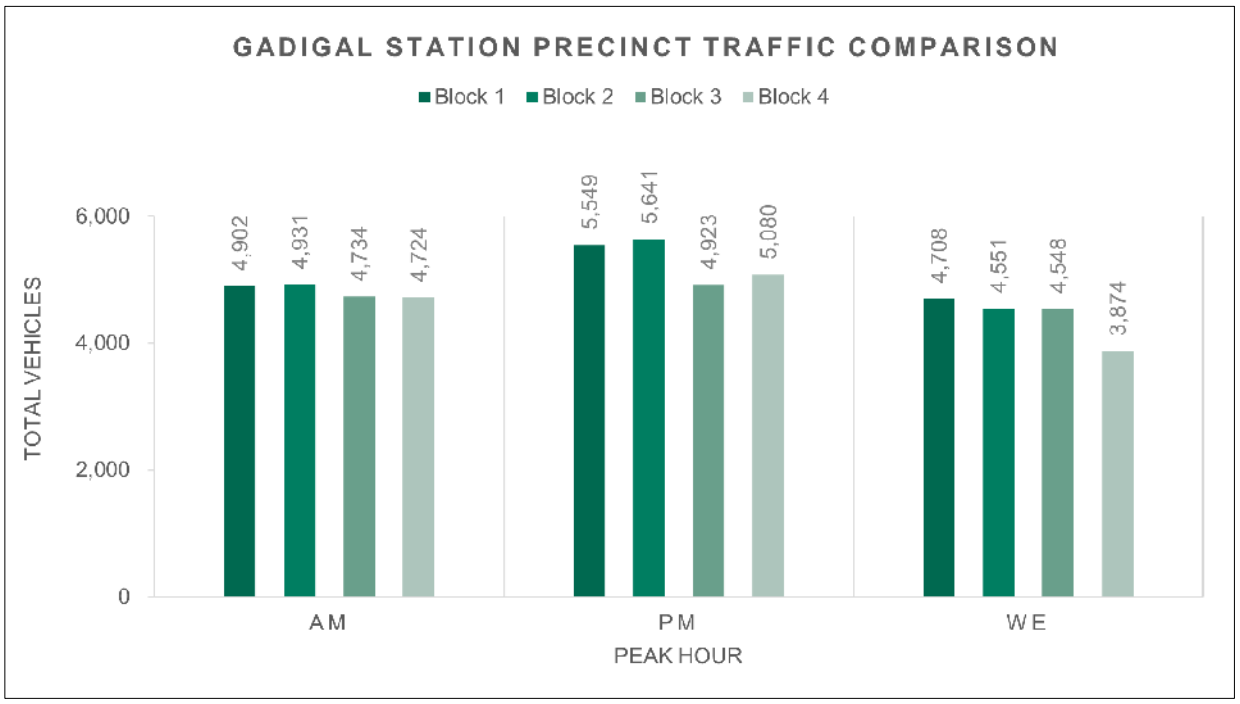


Figure 5-67 Study block comparison – Gadigal Station peak hourly traffic volumes across all intersections

A comparison of the intersection LOS for Block 4 against previous study blocks is shown in Figure 5-68. All intersections in the Gadigal Station study area perform at LOS C or better during Block 4, which is generally similar to previous study blocks.

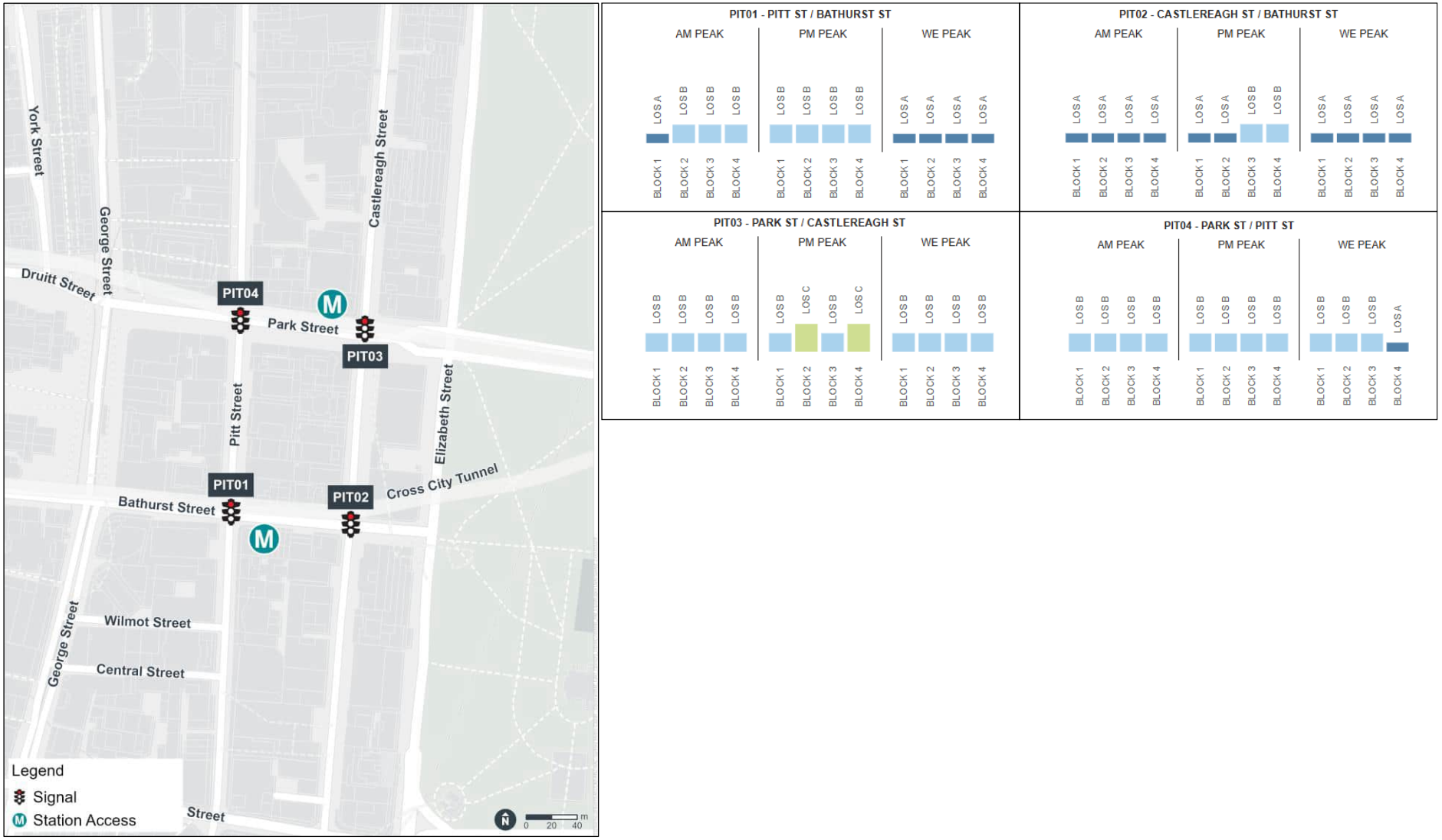


Figure 5-68 Study block comparison – Gadigal Station intersection performance summary

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.

The Sydney Metro lines were built under the existing platforms 13, 14 and 15 in Central Station. In addition to the existing seven entrances, a new eastern entrance was recently opened on Chalmers Street providing access to both train and metro platforms.

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.

The Central Station study area consists of five intersections. During Block 4, one intersection (CEN04) which will be a new pedestrian mid-block crossing had not yet been constructed. Table 5-60 presents the peak hours utilised for modelling the intersections. Table 5-61 provides a summary of the intersection LOS while Figure 5-69 visualises a geospatial summary of the intersection LOS within the Central Station study area.

Table 5-60 Block 4 – 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	12:00pm
	CEN02						
CEN-N2	CEN03	Wednesday	8:15am	Thursday	5:30pm	Saturday	12:00pm
	CEN05						
	CEN04	Under construction.					

Table 5-61 Block 4 – Central Station intersection performance summary

Intersection ID	Intersection	LOS		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
CEN01	Elizabeth Street/Eddy Avenue (Signal)	LOS B	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)	Not operational		
CEN05	Elizabeth Street/Randle Street (Signal)	LOS A	LOS A	LOS A

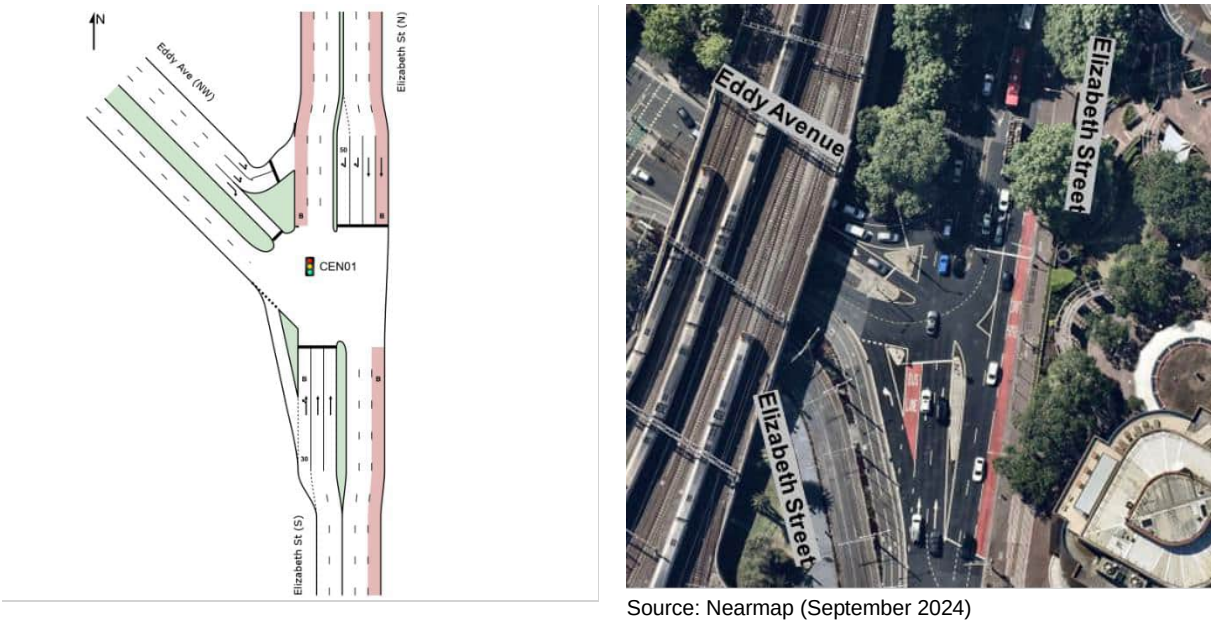
Overall, the intersection performance in the Central Station study area during the peak hours is satisfactory, operating at LOS C or better.

Figure 5-69 Block 4 – Central Station intersection performance summary

5.7.1 CEN01 – Elizabeth Street/Eddy Avenue

The signalised intersection, composed of Elizabeth Street and Eddy Avenue, is located north-east 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 5-70 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-70 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CEN01

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

Table 5-62 Block 4 – Intersection performance summary of CEN01

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Elizabeth Street/ Eddy Avenue (Signal)	Weekday AM	South	0.728	12.3	57.1	LOS A
		North	0.733	36.3	155.1	LOS C
		North-west	0.832	30.0	78.1	LOS C
		Total	**0.832**	**22.5**	**155.1**	**LOS B**
	Weekday PM	South	0.618	10.4	57.1	LOS A
		North	0.864	51.2	198.2	LOS D
		North-west	0.627	22.6	60.6	LOS B
		Total	**0.864**	**26.6**	**198.2**	**LOS B**
	Weekend	South	0.405	6.2	44.4	LOS A
		North	0.458	31.7	53.9	LOS C
		North-west	0.615	26.6	48.4	LOS B
		Total	**0.615**	**18.0**	**53.9**	**LOS B**

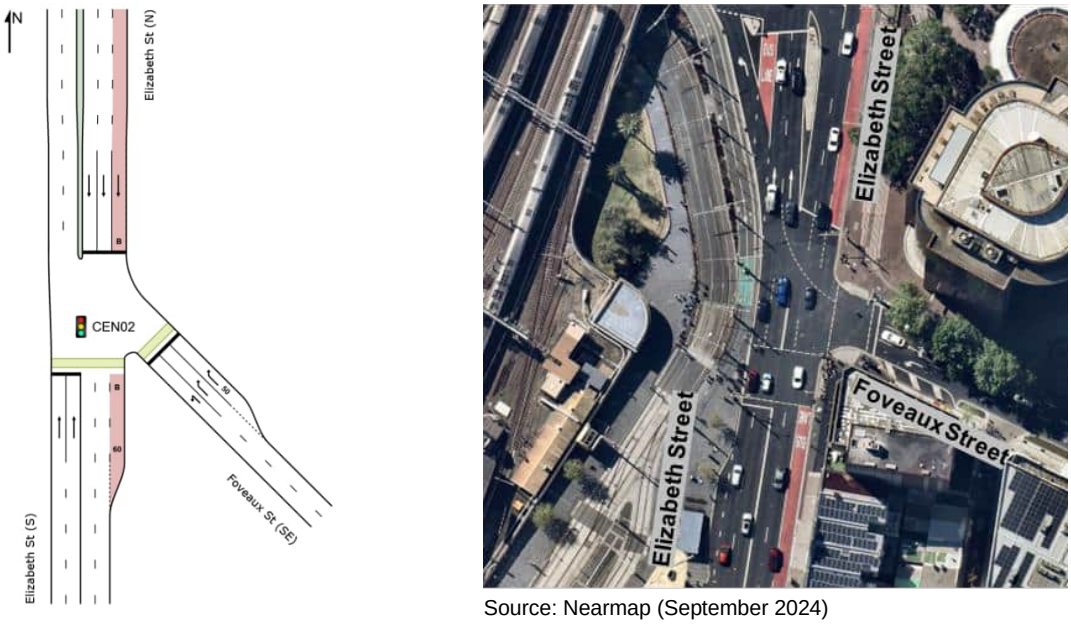
Overall, the intersection of Elizabeth Street and Eddy Avenue performs satisfactorily at LOS B during all peak hours. The 95th percentile queue on Elizabeth Street (north approach) extends back to Albion

Street during the weekday AM and PM peak hours. Similarly, the 95th percentile queue on Eddy Avenue (north-west approach) extends back to the pedestrian mid-block crossing on Eddy Avenue during all peak hours and the queues on Elizabeth Street (south approach) extends back to the intersection of Elizabeth Street/Foveaux Street (CEN02) during all peak hours.

5.7.2 CEN02 – Elizabeth Street/Foveaux Street

The signalised intersection, composed of Elizabeth Street and Foveaux Street, is located east 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 5-71 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-71 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CEN02

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

Table 5-63 Block 4 – Intersection performance summary of CEN02

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Elizabeth Street/ Foveaux Street (Signal)	Weekday AM	South	0.636	27.9	150.5	LOS B
		South-east	0.628	27.8	80.2	LOS B
		North	0.385	10.4	57.1	LOS A
		Total	**0.636**	**23.2**	**150.5**	**LOS B**
	Weekday PM	South	0.554	32.1	110.8	LOS C
		South-east	0.890	45.0	160.7	LOS D
		North	0.500	10.8	57.1	LOS A
		Total	**0.890**	**30.7**	**160.7**	**LOS C**
	Weekend	South	0.498	25.3	103.5	LOS B
		South-east	0.310	22.7	50.2	LOS B
		North	0.307	9.2	47.3	LOS A

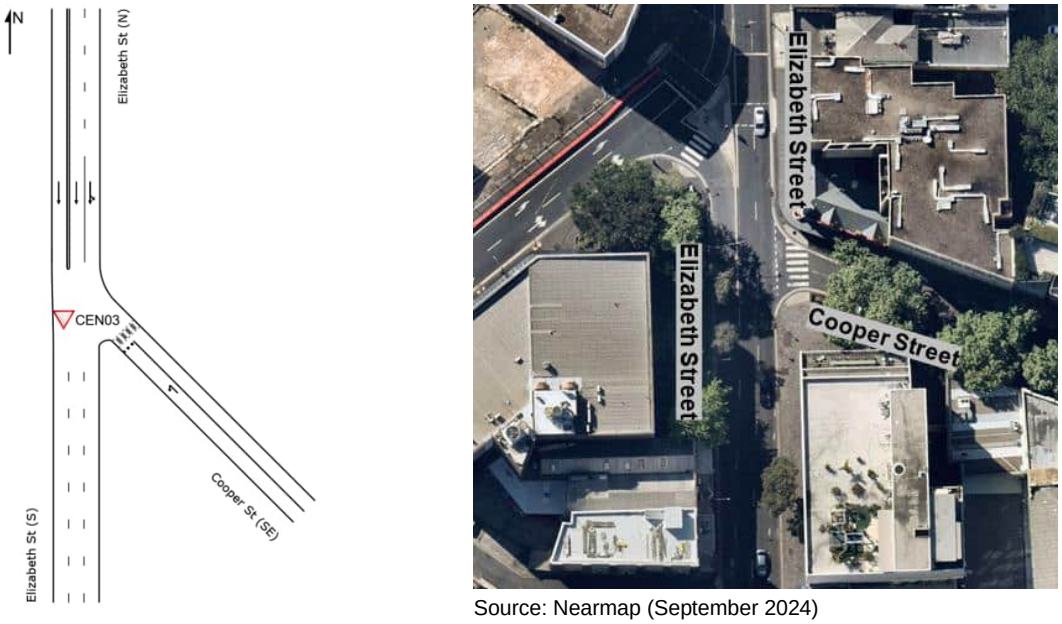
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		Total	**0.498**	**19.9**	**103.5**	**LOS B**

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

5.7.3 CEN03 – Elizabeth Street/Cooper Street

The priority intersection, composed of Elizabeth Street and Cooper Street, is located east 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 5-72 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-72 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CEN03

Table 5-64 presents a performance summary of this intersection.

Table 5-64 Block 4 – Intersection performance summary of CEN03

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Elizabeth Street/ Cooper Street (Priority – Give Way)	Weekday AM	South-east	0.091	6.9	2.6	LOS A
		North	0.224	3.6	5.3	LOS A
		Total	**0.091**	**6.9**	**2.6**	**LOS A**
	Weekday PM	South-east	0.135	8.4	3.7	LOS A
		North	0.298	3.5	4.0	LOS A
		Total	**0.135**	**8.4**	**3.7**	**LOS A**

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
	Weekend	South-east	0.068	5.9	1.9	LOS A
		North	0.180	2.8	2.5	LOS A
		Total	**0.068**	**5.9**	**1.9**	**LOS A**

Overall, the intersection of Elizabeth Street and Cooper Street performs satisfactorily at LOS A during all peak hours. 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

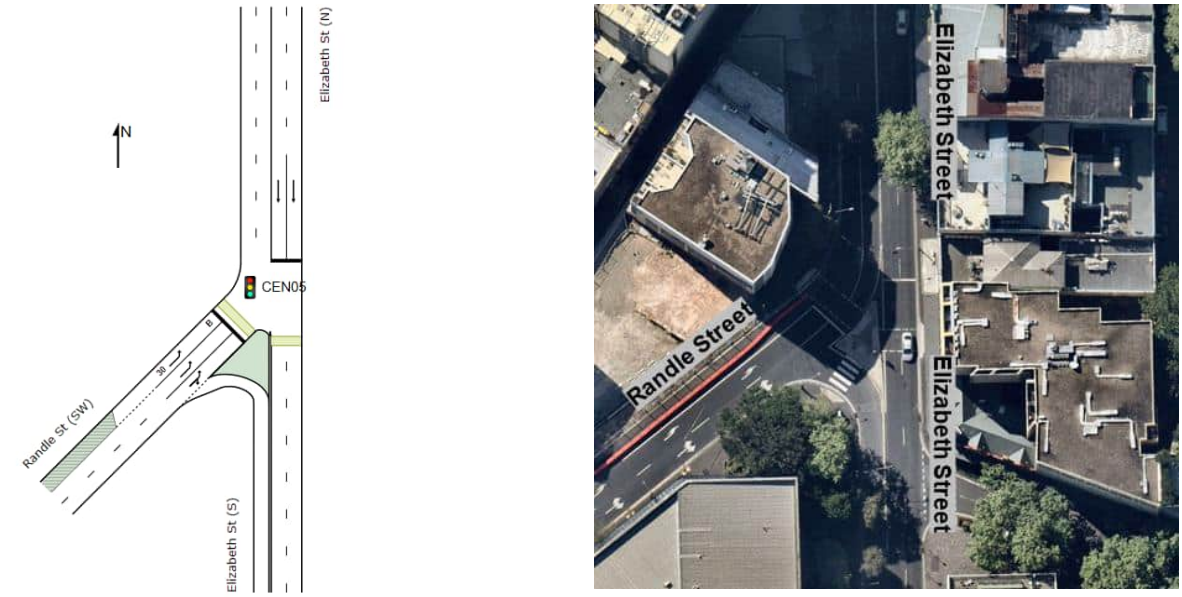
The proposed pedestrian mid-block crossing at Randle Lane would be located directly east of Central Station. During Block 4, the mid-block crossing was yet to be constructed and therefore was not operational. As such, it was not assessed as part of the Block 4 study.

5.7.5 CEN05 – Elizabeth Street/Randle Street

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

During Block 4, the kerbside bus lane on Randle Street (south-western approach) was closed off due to construction works.

Figure 5-73 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-73 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of CEN05

Table 5-65 presents a performance summary of this intersection.

Table 5-65 Block 4 – Intersection performance summary of CEN05

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Elizabeth Street/ Randle Street (Signal)	Weekday AM	North	0.258	2.4	34.4	LOS A
		South-west	0.404	7.1	51.8	LOS A
		Total	**0.404**	**5.1**	**51.8**	**LOS A**
	Weekday PM	North	0.346	2.9	52.9	LOS A
		South-west	0.313	6.2	35.5	LOS A
		Total	**0.346**	**4.3**	**52.9**	**LOS A**
	Weekend	North	0.220	2.2	26.9	LOS A
		South-west	0.310	6.1	32.7	LOS A
		Total	**0.310**	**4.3**	**32.7**	**LOS A**

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

5.7.6 Comparison with previous study blocks

Figure 5-74 provides a comparison of the total peak hourly traffic volumes recorded across all intersections for Block 4 against previous study blocks. As shown, Block 4 traffic volumes are relatively similar in the AM and PM peak hours, and lower in the weekend peak hour compared to pre-opening conditions.

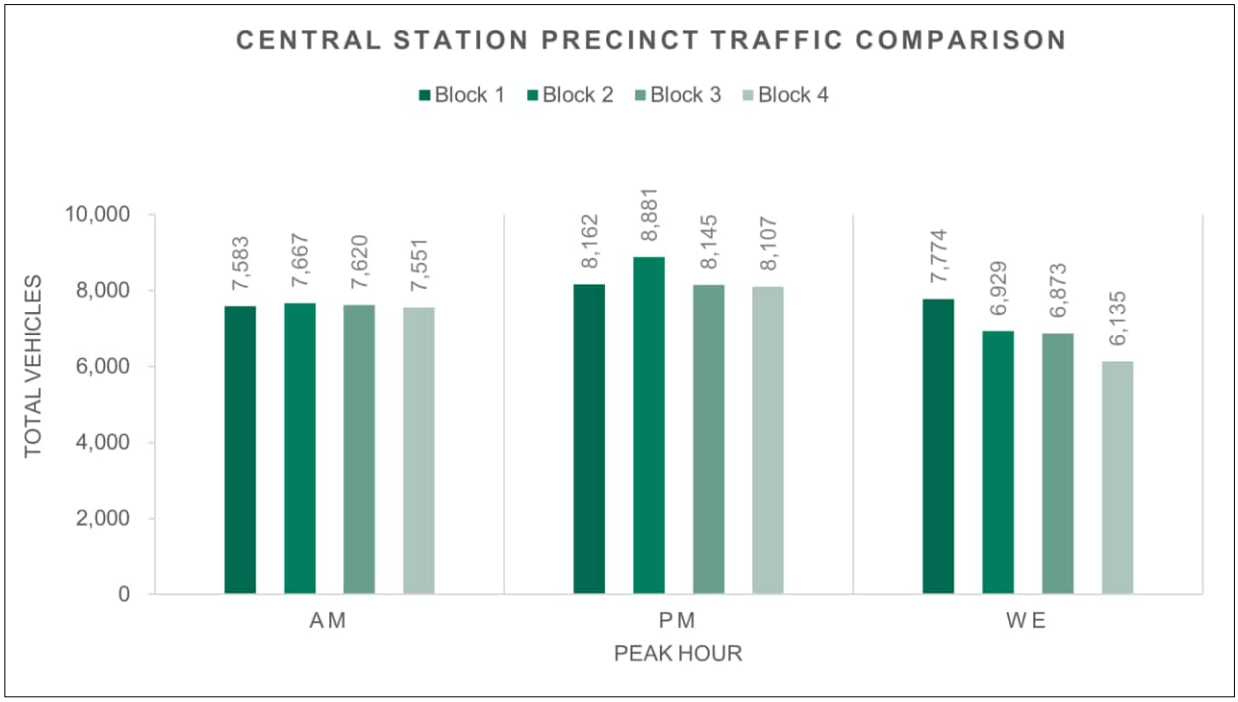


Figure 5-74 Study block comparison – Central Station peak hourly traffic volumes across all intersections

A comparison of the intersection LOS for Block 4 against previous study blocks is shown in Figure 5-75. All intersections in the Central Station study area perform at LOS C or better during Block 4, which is generally similar to previous study blocks.

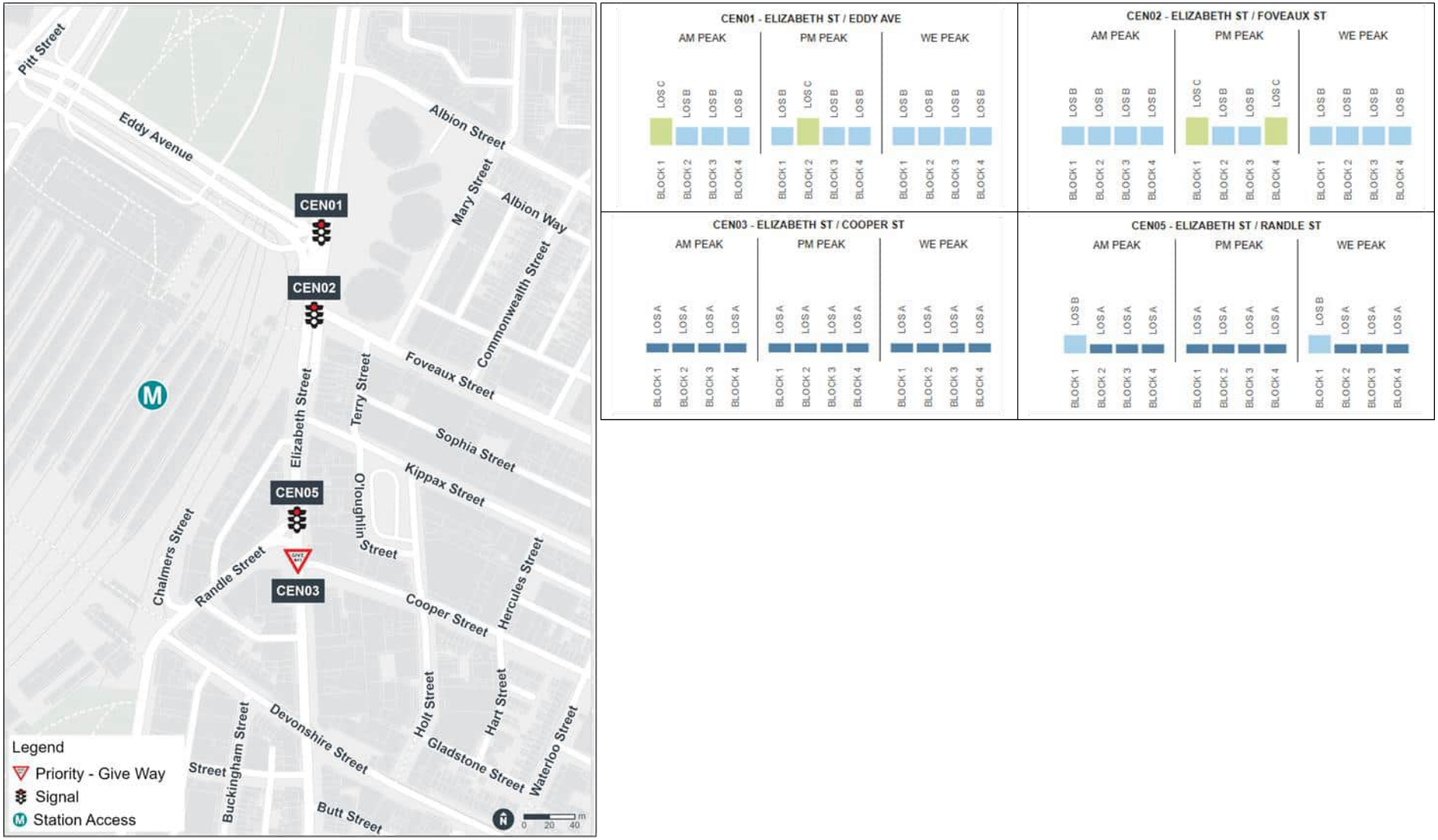


Figure 5-75 Study block comparison – Central Station intersection performance summary

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 has accesses on both Raglan Street and Cope Street. The two entrances are listed below:

- Raglan Street Entry; at the south-west corner of the intersection of Raglan Street and Cope Street
- Cope Street Entry; along the western side of Cope Street, north of 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. Table 5-66 presents the peak hours utilised for modelling the intersections.

Table 5-67 provides a summary of the intersection LOS while Figure 5-76 visualises a geospatial summary of the intersection LOS within the Waterloo Station study area.

Table 5-66 Block 4 – 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	Thursday	7:45am	Thursday	4:45pm	Saturday	12:30pm
	WLO02						
	WLO03						
	WLO04						
	WLO05						
	WLO06						

Table 5-67 Block 4 – Waterloo Station intersection performance summary

Intersection ID	Intersection	LOS		
		Weekday AM Peak	Weekday PM Peak	Weekend Peak
WLO01	Botany Road/Raglan Street/ Henderson Road (Signal)	LOS B	LOS C	LOS C
WLO02	Raglan Street/Cope Street (Signal)	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 (Stop)	LOS A	LOS A	LOS A
WLO05	Wyndham Street/Henderson Road (Signal)	LOS B	LOS C	LOS C
WLO06	New Pedestrian Mid-block Crossing at Cope Street (Pedestrian only – Zebra)	LOS A	LOS A	LOS A

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

Figure 5-76 Block 4 – Waterloo Station 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 5-77 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.

Source: Nearmap (September 2024)

Figure 5-77 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of WLO01

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

Table 5-68 Block 4 – Intersection performance summary of WLO01

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Botany Road/ Raglan Street/ Henderson Road (Signal)	Weekday AM	South	0.689	30.9	133.5	LOS C
		East	0.432	51.2	42.9	LOS D
		North	0.681	22.6	93.7	LOS B
		West	0.622	16.0	28.0	LOS B
		Total	**0.689**	**26.8**	**133.5**	**LOS B**
	Weekday PM	South	0.916	72.7	169.9	LOS F
		East	0.803	62.7	67.0	LOS E
		North	0.849	26.3	145.3	LOS B
		West	0.904	23.7	68.1	LOS B
		Total	**0.916**	**40.4**	**169.9**	**LOS C**
	Weekend	South	0.556	45.6	103.5	LOS D
		East	0.508	55.1	44.4	LOS D
		North	0.792	28.0	126.5	LOS B
		West	0.708	18.3	29.4	LOS B

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		Total	**0.792**	**33.3**	**126.5**	**LOS C**

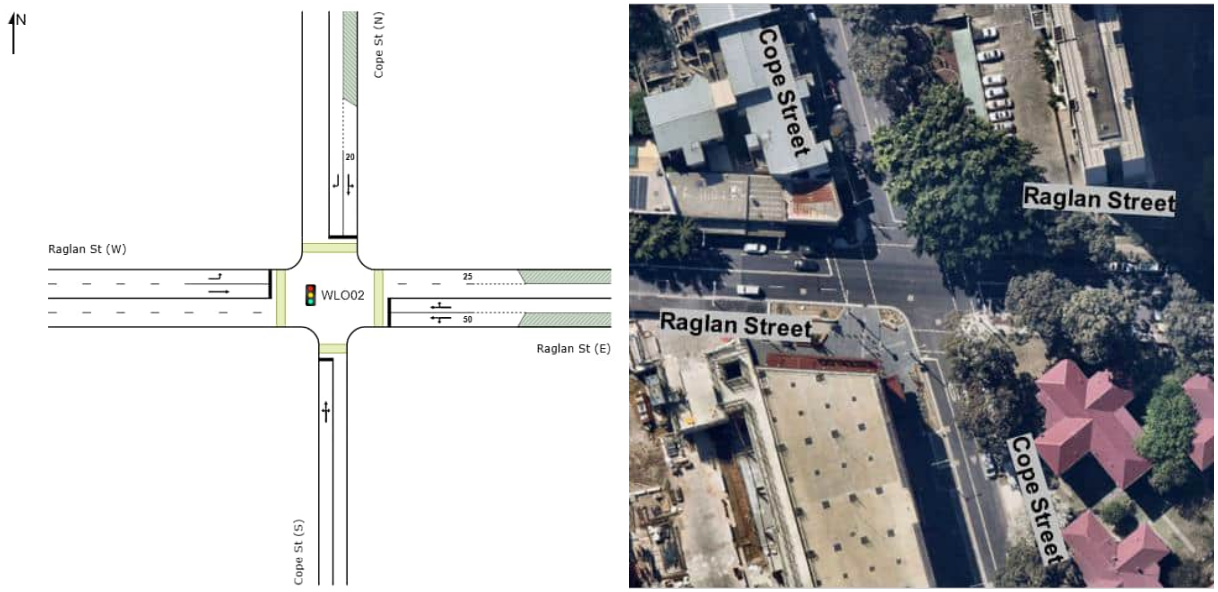
Overall, the intersection of Botany Road, Raglan Street and Henderson Road performs satisfactorily at LOS C or better during all peak hours. The 95th percentile queue on Raglan Street (east approach) extends back to Cope Street during the weekday PM peak hour. Similarly, the 95th percentile queue on Henderson Road (west approach) extend back to the intersection of Wyndham Street/Henderson Street (WLO05) during the weekday PM peak hour.

It was also noted that Block 4 pedestrian volumes at Botany Road, Raglan Street and Henderson Road significantly increased across all peak hours compared to pre-opening conditions. Given that WLO01 is located along the frontage of Waterloo station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

5.8.2 WLO02 – Raglan Street/Cope Street

The signalised intersection, 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 4, the intersection was redesigned from a roundabout intersection to a signalised intersection to cater for the opening of the Waterloo metro station.

Figure 5-78 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-78 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of WLO02

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

Table 5-69 Block 4 – Intersection performance summary of WLO02

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Raglan Street/Cope Street (Signal)	Weekday AM	South	0.141	14.0	6.0	LOS A
		East	0.185	9.6	10.3	LOS A
		North	0.302	19.5	5.6	LOS B

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		West	0.334	10.7	20.6	LOS A
		Total	**0.334**	**11.5**	**20.6**	**LOS A**
	Weekday PM	South	0.114	17.4	5.7	LOS B
		East	0.218	10.8	15.2	LOS A
		North	0.252	22.5	8.5	LOS B
		West	0.269	11.6	21.5	LOS A
		Total	**0.269**	**12.9**	**21.5**	**LOS A**
	Weekend	South	0.077	13.1	3.3	LOS A
		East	0.168	9.2	9.6	LOS A
		North	0.195	18.3	4.7	LOS B
		West	0.324	10.5	20.0	LOS A
		Total	**0.324**	**11.0**	**20.0**	**LOS A**

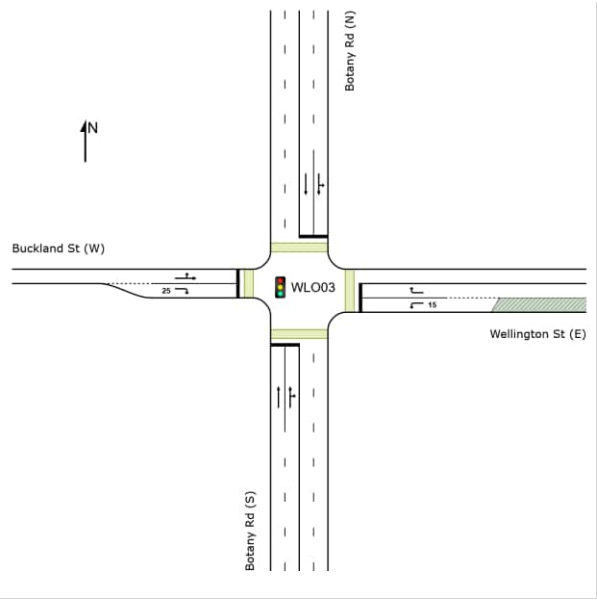
Overall, the intersection of Raglan Street and Cope Street performs satisfactorily at LOS A during all peak hours. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

It was also noted that Block 4 pedestrian volumes at Raglan Street and Cope Street significantly increased across all peak hours compared to pre-opening conditions. Given that WLO02 is located along the frontage of Waterloo station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

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 5-79 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-79 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of WLO03

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

Table 5-70 Block 4 – Intersection performance summary of WLO03

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Botany Road/ Wellington Street/ Buckland Street (Signal)	Weekday AM	South	0.361	5.2	66.4	LOS A
		East	0.222	58.8	13.6	LOS E
		North	0.314	3.7	47.6	LOS A
		West	0.340	52.8	30.8	LOS D
		Total	**0.361**	**8.6**	**66.4**	**LOS A**
	Weekday PM	South	0.363	6.1	71.0	LOS A
		East	0.319	59.1	25.1	LOS E
		North	0.365	2.5	41.7	LOS A
		West	0.306	52.6	30.3	LOS D
		Total	**0.365**	**8.9**	**71.0**	**LOS A**
	Weekend	South	0.428	7.3	74.7	LOS A
		East	0.214	59.4	17.6	LOS E
		North	0.561	8.3	82.0	LOS A
		West	0.341	53.6	33.8	LOS D
		Total	**0.561**	**13.6**	**82.0**	**LOS A**

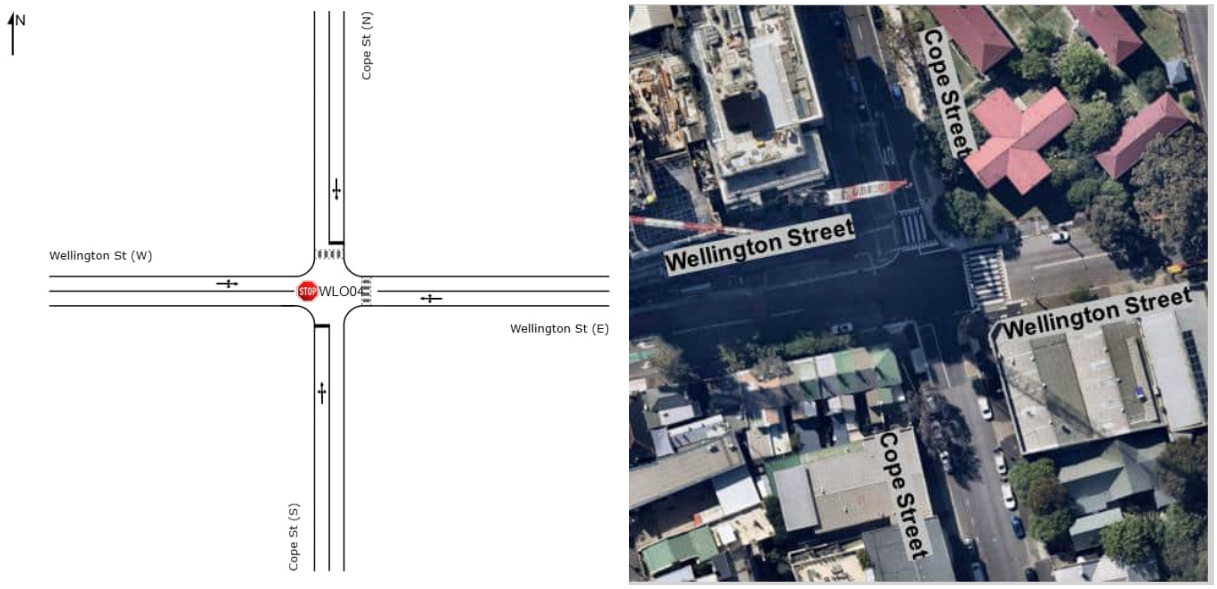
Overall, the intersection of Botany Road, Wellington Street and Buckland Street performs satisfactorily at LOS A during all peak hours. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

It was also noted that Block 4 pedestrian volumes at Botany Road, Wellington Street and Buckland Street significantly increased during the weekend peak hour compared to pre-opening conditions. Given that WLO03 is located along the frontage of Waterloo station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

5.8.4 WLO04 – Cope Street/Wellington Street

The priority intersection, 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 4, the intersection was redesigned from a roundabout intersection to a priority intersection to cater for the opening of the Waterloo metro station.

Figure 5-80 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-80 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of WLO03

Table 5-71 presents a performance summary of this intersection.

Table 5-71 Block 4 – Intersection performance summary of WLO04

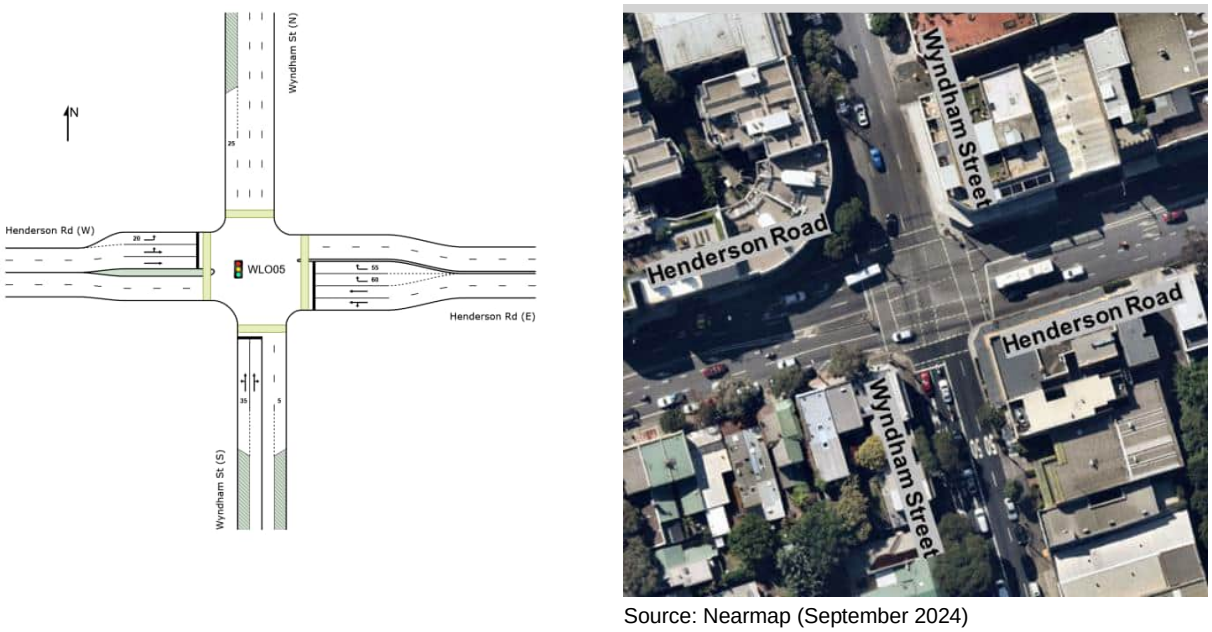
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Cope Street/ Wellington Street (Stop)	Weekday AM	South	0.038	8.5	1.0	LOS A
		East	0.043	5.8	1.4	LOS A
		North	0.011	7.8	0.3	LOS A
		West	0.074	4.8	1.5	LOS A
		Total	**0.038**	**8.5**	**1.0**	**LOS A**
	Weekday PM	South	0.040	8.6	1.1	LOS A
		East	0.052	5.5	1.6	LOS A
		North	0.011	7.9	0.3	LOS A
		West	0.094	4.7	1.6	LOS A
		Total	**0.040**	**8.6**	**1.1**	**LOS A**
	Weekend	South	0.028	8.1	0.7	LOS A
		East	0.040	5.2	1.3	LOS A
		North	0.013	7.4	0.3	LOS A
		West	0.102	4.7	2.9	LOS A
		Total	**0.028**	**8.1**	**0.7**	**LOS A**

Overall, the intersection of Cope Street and Wellington Street performs satisfactorily at LOS A during all peak hours. 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 5-81 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-81 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of WLO05

Table 5-72 presents a performance summary of this intersection.

Table 5-72 Block 4 – Intersection performance summary of WLO05

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Wyndham Street/ Henderson Road (Signal)	Weekday AM	South	0.633	53.1	74.1	LOS D
		East	0.618	7.9	51.5	LOS A
		West	0.742	60.1	94.1	LOS E
		Total	**0.742**	**27.6**	**94.1**	**LOS B**
	Weekday PM	South	0.677	59.0	73.0	LOS E
		East	0.402	14.6	79.7	LOS B
		West	0.651	60.3	100.4	LOS E
		Total	**0.677**	**31.2**	**100.4**	**LOS C**
	Weekend	South	0.584	53.4	62.9	LOS D
		East	0.331	13.1	67.7	LOS A
		West	0.667	61.4	94.2	LOS E
		Total	**0.667**	**30.8**	**94.2**	**LOS C**

Overall, the intersection of Wyndham Street and Henderson Road performs satisfactorily at LOS C or better during all peak hours. The 95th percentile queue on Henderson Road (east approach) extends

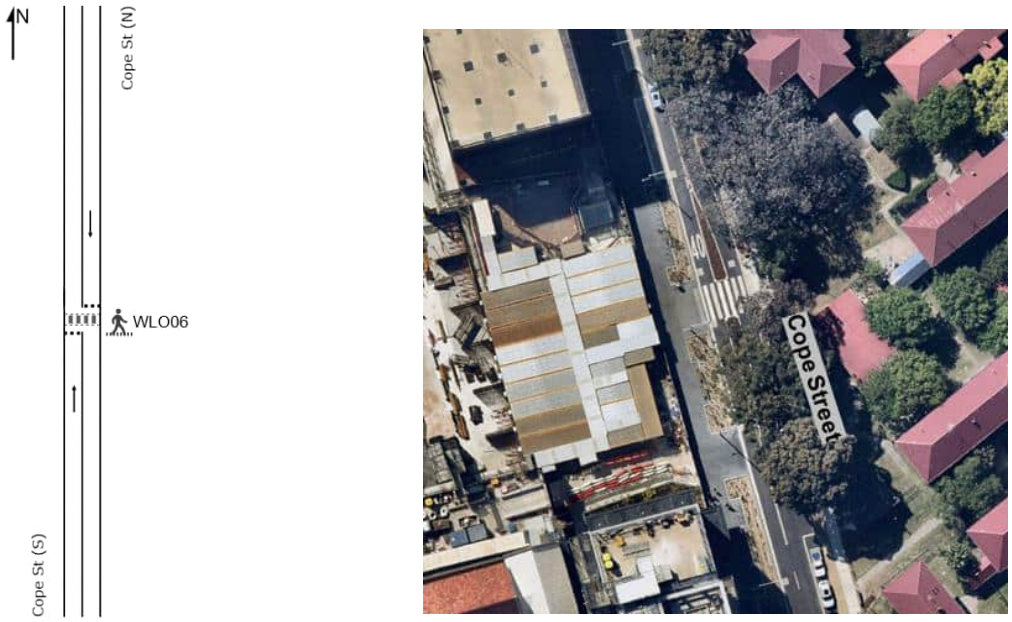
back to Botany Road during the weekday PM and weekend peak hours. Similarly, the 95th percentile queue on Henderson Road (west approach) extends back to Garden Street during all peak hours.

It was also noted that Block 4 pedestrian volumes at Wyndham Street and Henderson Road significantly increased across all peak hours compared to pre-opening conditions. Given that WLO05 is located along the frontage of Waterloo station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

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. This crossing was under construction during Block 1 to 3, however was operational during Block 4.

Figure 5-82 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-82 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of WLO06

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

Table 5-73 Block 4 – Intersection performance summary of WLO06

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
New Pedestrian Mid-block Crossing at Cope Street (Pedestrian only – Zebra)	Weekday AM	South	0.030	2.2	0.8	LOS A
		North	0.007	2.2	0.2	LOS A
		Total	**0.030**	**2.2**	**0.8**	**LOS A**
	Weekday PM	South	0.022	2.1	0.5	LOS A
		North	0.005	2.1	0.1	LOS A
		Total	**0.022**	**2.1**	**0.5**	**LOS A**
	Weekend	South	0.013	2.1	0.3	LOS A
		North	0.006	2.1	0.2	LOS A
		Total	**0.013**	**2.1**	**0.3**	**LOS A**

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

5.8.7 Comparison with previous study blocks

Figure 5-83 provides a comparison of the total peak hourly traffic volumes recorded across all intersections for Block 4 against previous study blocks. As shown, Block 4 traffic volumes are slightly lower during the AM and PM peak hours, and generally similar in the weekend peak hour compared to pre-opening conditions.

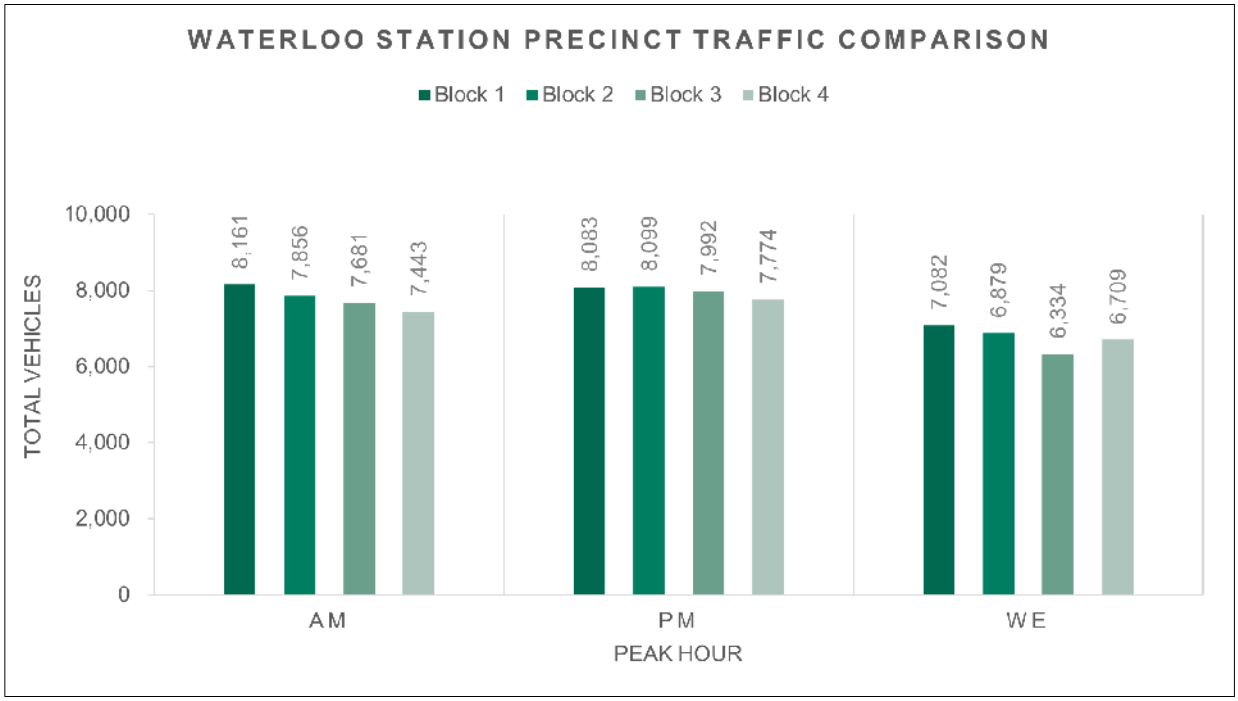


Figure 5-83 Study block comparison – Waterloo Station peak hourly traffic volumes across all intersections

A comparison of the intersection LOS for Block 4 against previous study blocks is shown in Figure 5-84. All intersections in the Waterloo Station study area perform at LOS C or better during Block 4, which is generally similar to previous study blocks.

Botany Road/Raglan Street (WLO01) had a notable change in LOS, whereby the intersection improved from a LOS D to a LOS C in the PM peak hour compared to Block 3. This change in LOS for WLO01 was due to lower traffic volumes at this intersection in Block 4 during the PM peak hour.

Figure 5-84 Study block comparison – Waterloo Station intersection performance summary

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 have been upgraded and extended to facilitate metro functionality. In addition to the existing entrance at Gleeson Avenue, two new entrances have been constructed – one in the north and the other in the south. The northern entry opens onto a plaza near the corner of Railway Parade, and the southern entry provides access onto a plaza on Burrows Avenue near Hogan Avenue.

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

The Sydenham Station study area consists of six intersections. Table 5-74 presents the peak hours utilised for modelling the intersections. Table 5-75 provides a summary of the intersection LOS while Figure 5-85 visualises a geospatial summary of the intersection LOS within the Sydenham Station study area.

Table 5-74 Block 4 – 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	Tuesday	8:00am	Wednesday	4:30pm	Saturday	10:45am
	SYD02						
-	SYD03	Monday	11:30am	Wednesday	5:00pm	Saturday	12:15pm
-	SYD04	Thursday	8:00am	Thursday	3:30pm	Saturday	10:45am
-	SYD05	Tuesday	8:00am	Friday	4:45pm	Saturday	1:30pm
-	SYD06	Tuesday	8:00am	Wednesday	4:30pm	Saturday	11:15am

Table 5-75 Block 4 – Sydenham Station intersection performance summary

Intersection ID	Intersection	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	Railway Parade/Sydenham Road (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, the intersection performance in the Sydenham Station study area during the peak hours is satisfactory, operating at LOS B or better.

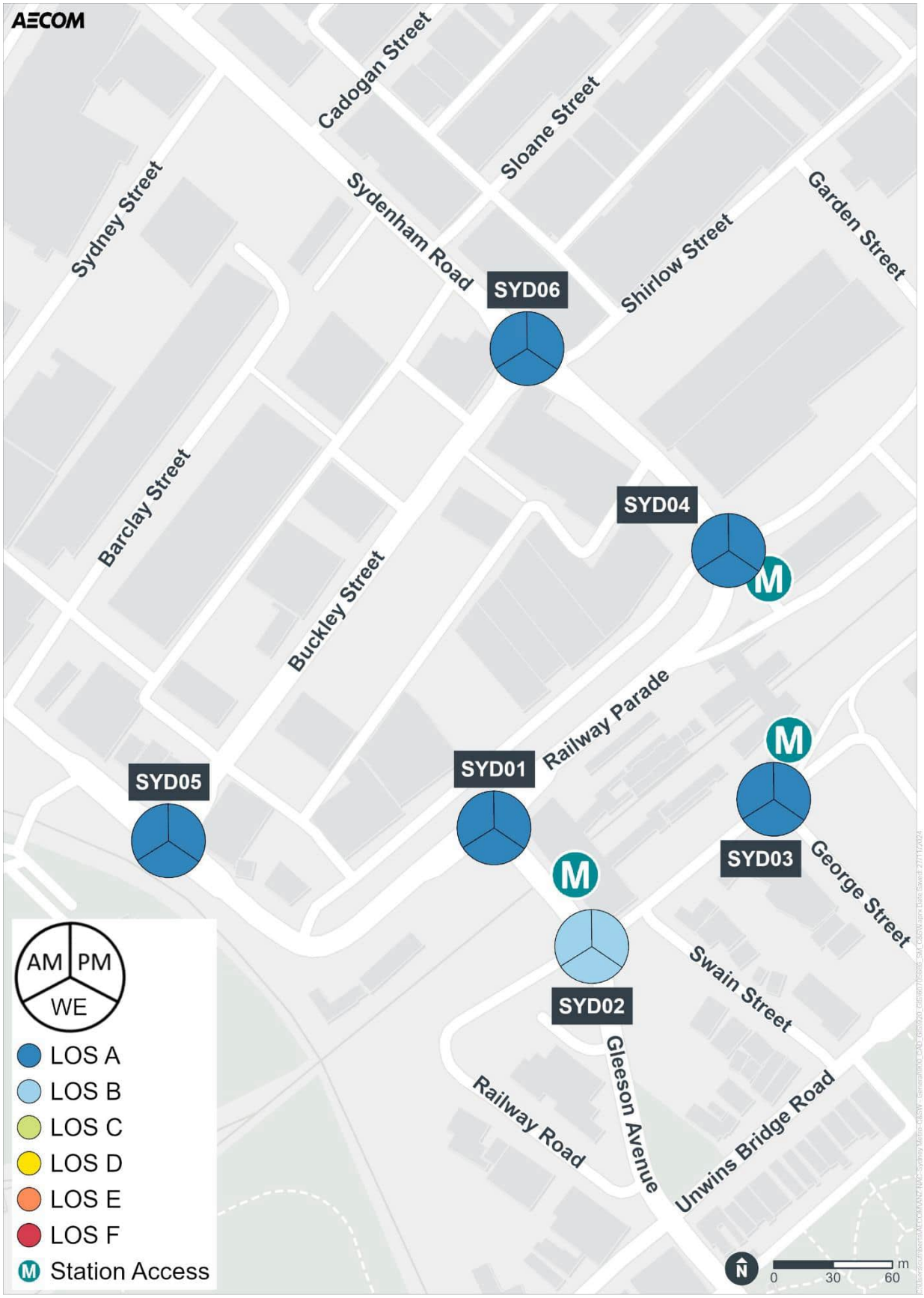
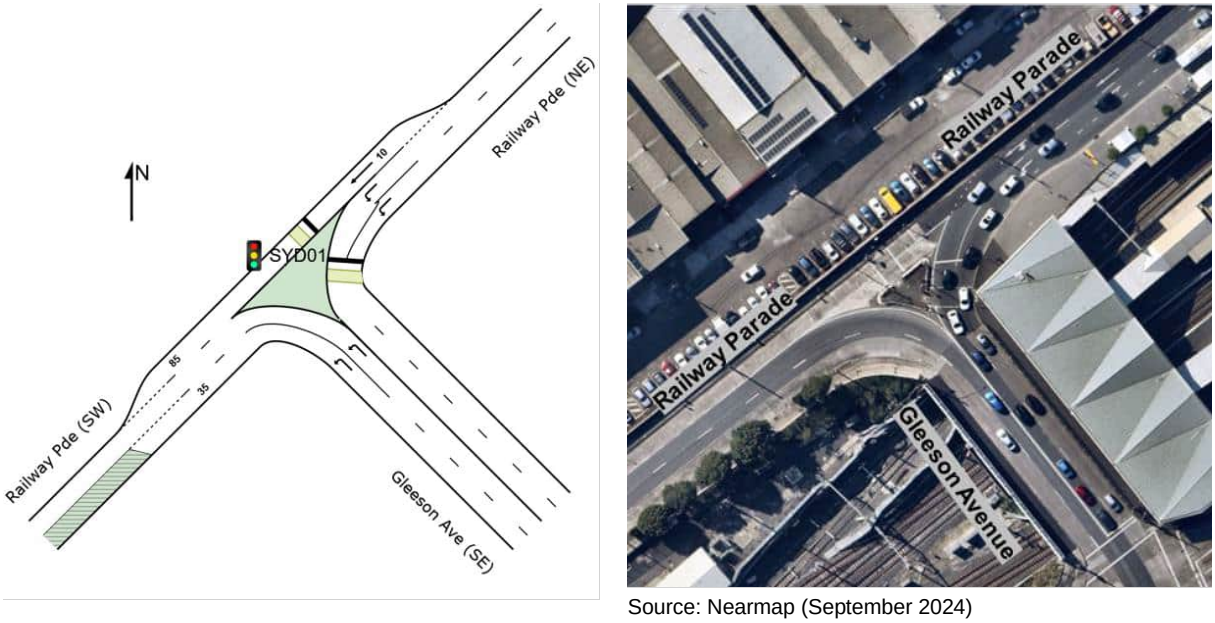


Figure 5-85 Block 4 – Sydenham Station intersection performance summary

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 5-86 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-86 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of SYD01

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

Table 5-76 Block 4 – Intersection performance summary of SYD01

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Railway Parade/ Gleeson Avenue (Signal)	Weekday AM	South-east	0.211	4.5	0.0	LOS A
		North-east	0.505	14.0	54.6	LOS A
		Total	**0.505**	**11.1**	**54.6**	**LOS A**
	Weekday PM	South-east	0.245	4.6	0.0	LOS A
		North-east	0.442	12.9	47.0	LOS A
		Total	**0.442**	**9.9**	**47.0**	**LOS A**
	Weekend	South-east	0.201	4.5	0.0	LOS A
		North-east	0.434	9.8	66.5	LOS A
		Total	**0.434**	**8.2**	**66.5**	**LOS A**

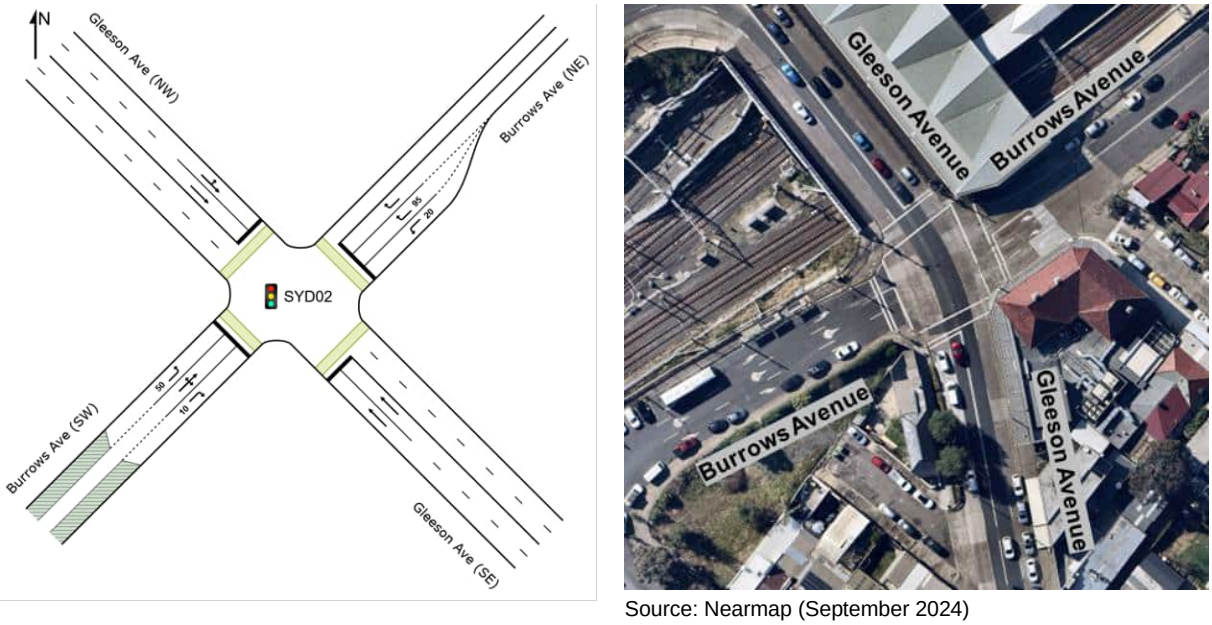
Overall, the intersection of Railway Parade and Gleeson Avenue performs satisfactorily at LOS A during all peak hours. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

It was also noted that Block 4 vehicle volumes at Railway Parade and Gleeson Avenue significantly decreased across all peak hours compared to pre-opening conditions. Exact reasons for the reduction in vehicle demand is unknown, however the reduction in traffic volumes at SYD01 is consistent with that suggested by SCATS detector data.

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 5-87 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-87 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of SYD02

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

Table 5-77 Block 4 – Intersection performance summary of SYD02

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Burrows Avenue/ Gleeson Avenue (Signal)	Weekday AM	South-east	0.341	15.3	74.4	LOS B
		North-east	0.371	53.1	32.8	LOS D
		North-west	0.533	5.7	57.5	LOS A
		South-west	0.148	52.5	10.6	LOS D
		Total	**0.533**	**15.9**	**74.4**	**LOS B**
	Weekday PM	South-east	0.430	17.5	94.7	LOS B
		North-east	0.629	58.6	61.8	LOS E
		North-west	0.520	5.6	49.8	LOS A
		South-west	0.100	48.5	8.2	LOS D
		Total	**0.629**	**20.1**	**94.7**	**LOS B**
	Weekend	South-east	0.347	12.8	79.2	LOS A
		North-east	0.464	56.6	39.4	LOS E
		North-west	0.531	5.7	64.8	LOS A
		South-west	0.181	54.0	11.6	LOS D
		Total	**0.531**	**14.6**	**79.2**	**LOS B**

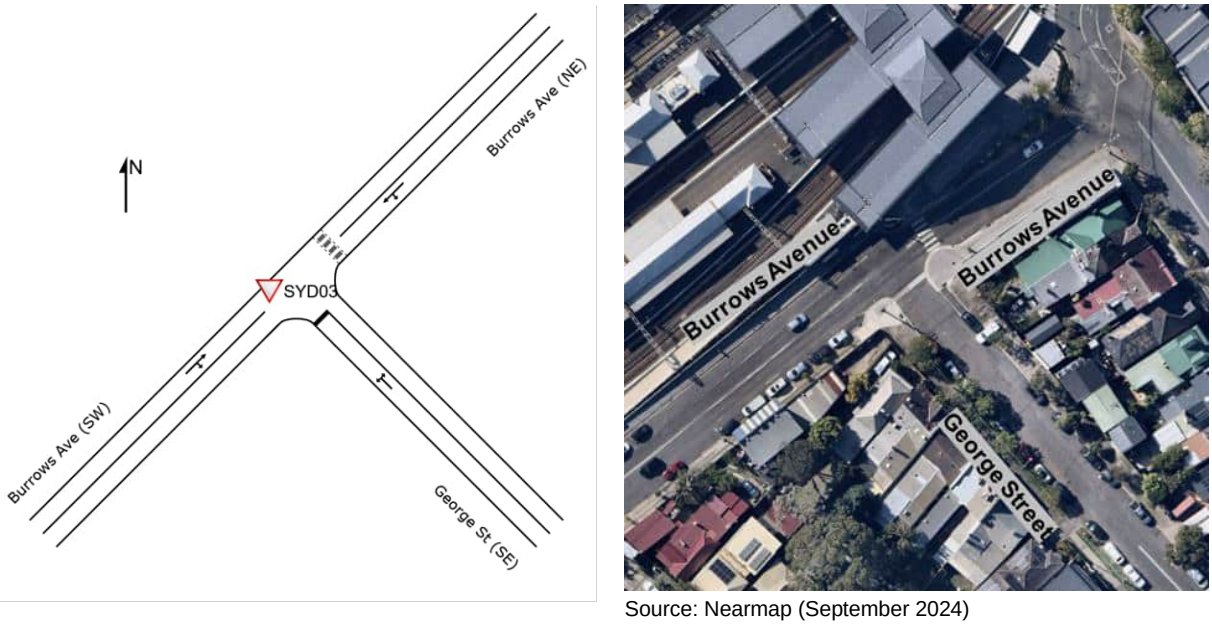
Overall, the intersection of Burrows Avenue and Gleeson Avenue performs satisfactorily at LOS B during all peak hours. The 95th percentile queue on Gleeson Avenue (north-west approach) extends back to Railway Parade during the weekday AM and weekend peak hours.

It was also noted that Block 4 pedestrian volumes at Burrows Avenue and Gleeson Avenue significantly increased during the weekday PM and weekend peak hours compared to pre-opening conditions. Given that SYD02 is located along the frontage of Sydenham station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

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 5-88 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-88 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of SYD03

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

Table 5-78 Block 4 – Intersection performance summary of SYD03

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Burrows Avenue/ George Street (Priority – Give Way)	Weekday AM	South-east	0.024	9.4	0.5	LOS A
		North-east	0.176	4.1	6.4	LOS A
		South-west	0.200	5.2	6.5	LOS A
		Total	**0.024**	**9.4**	**0.5**	**LOS A**
	Weekday PM	South-east	0.028	10.3	0.6	LOS A
		North-east	0.306	4.3	12.4	LOS A
		South-west	0.157	5.8	4.7	LOS A
		Total	**0.028**	**10.3**	**0.6**	**LOS A**
	Weekend	South-east	0.036	10.0	0.8	LOS A

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		North-east	0.205	4.2	7.5	LOS A
		South-west	0.232	5.4	7.5	LOS A
		Total	**0.036**	**10.0**	**0.8**	**LOS A**

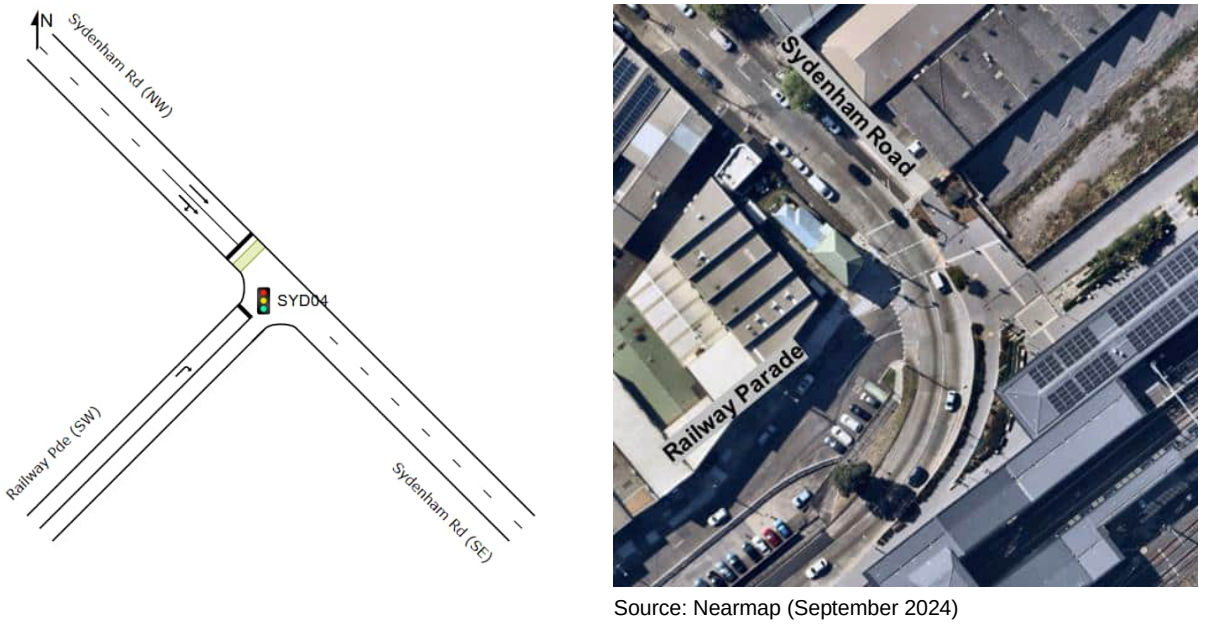
Overall, the intersection of Burrows Avenue and George Street performs satisfactorily at LOS A during all peak hours. The 95th percentile queue lengths are accommodated within the approach distances for all approaches.

It was also noted that Block 4 pedestrian volumes at Burrows Avenue and George Street significantly increased during the weekend peak hour compared to pre-opening conditions. Given that SYD03 is located along the frontage of Sydenham station, the rise in pedestrian activity is likely associated to commuters accessing Sydney Metro during Block 4.

5.9.4 SYD04 – Railway Parade/Sydenham Road

The signalised intersection, composed of Railway Parade and Sydenham Road, is located directly north of Sydenham Station. It connects the State roads of Railway Parade and Sydenham Road in Sydenham.

Figure 5-89 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-89 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of SYD04

Table 5-79 presents a performance summary of this intersection.

Table 5-79 Block 4 – Intersection performance summary of SYD04

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		North-west	0.450	6.4	68.0	LOS A

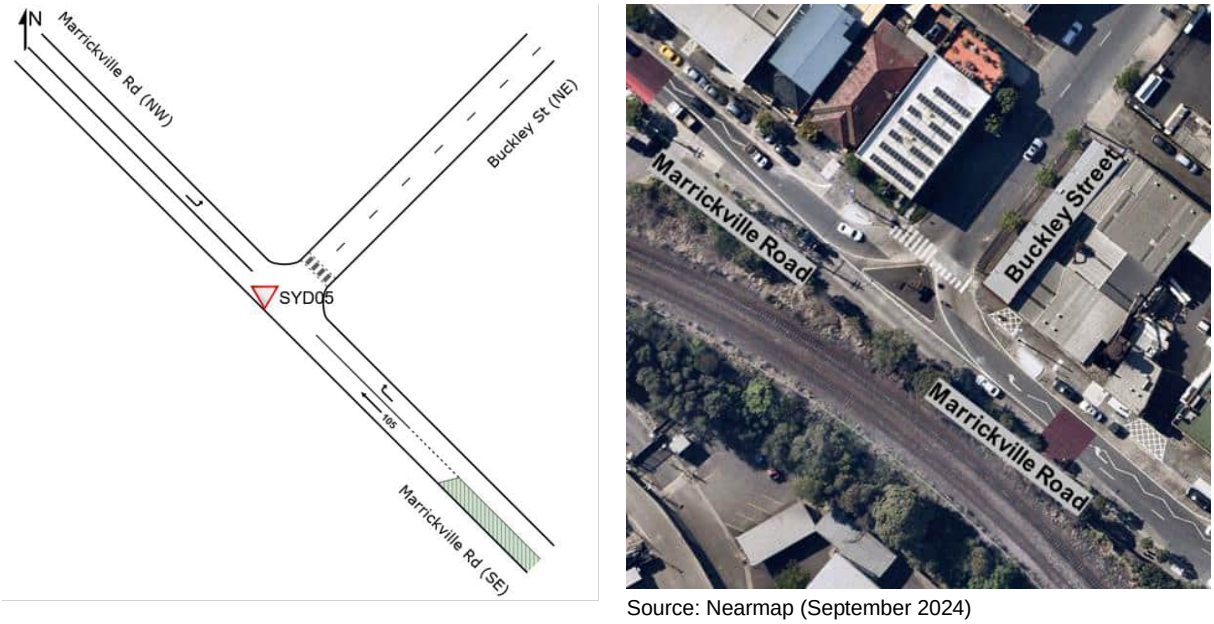
Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Railway Parade/ Sydenham Road (Signal)	Weekday AM	South-west	0.022	30.0	1.7	LOS C
		Total	**0.450**	**6.6**	**68.0**	**LOS A**
	Weekday PM	North-west	0.420	5.6	65.2	LOS A
		South-west	0.057	31.8	4.6	LOS C
		Total	**0.420**	**6.0**	**65.2**	**LOS A**
	Weekend	North-west	0.446	5.7	71.7	LOS A
		South-west	0.093	36.0	7.9	LOS C
		Total	**0.446**	**6.4**	**71.7**	**LOS A**

Overall, the intersection of Railway Parade and Sydenham Road performs satisfactorily at LOS A during all peak hours. 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 5-90 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.



Source: Nearmap (September 2024)

Figure 5-90 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of SYD05

Table 5-80 presents a performance summary of this intersection.

Table 5-80 Block 4 – Intersection performance summary of SYD05

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		South-east	0.739	8.7	35.6	LOS A

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Marrickville Road/ Buckley Street (Priority – Give Way)	Weekday AM	North-west	0.887	12.4	65.6	LOS A
		Total	**0.887**	**12.4**	**65.6**	**LOS A**
	Weekday PM	South-east	0.706	7.7	33.4	LOS A
		North-west	0.692	7.8	22.1	LOS A
		Total	**0.692**	**7.8**	**22.1**	**LOS A**
	Weekend	South-east	0.341	6.2	12.9	LOS A
		North-west	0.298	6.1	10.0	LOS A
		Total	**0.341**	**6.2**	**12.9**	**LOS A**

Overall, the intersection of Marrickville Road and Buckley Street performs satisfactorily at LOS A during all peak hours. 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 5-91 illustrates both the general intersection layout as modelled in SIDRA Intersection and the layout as per aerial imagery.

Source: Nearmap (September 2024)

Figure 5-91 Block 4 – AM peak model SIDRA Intersection layout (left) and Nearmap aerial imagery (right) of SYD06

Table 5-81 presents a performance summary of this intersection.

Table 5-81 Block 4 – Intersection performance summary of SYD06

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
		North-west	0.418	0.1	0.0	LOS A

Intersection	Peak	Approach	Degree of saturation	Average delay (seconds)	95th percentile queue (metres)	LOS
Sydenham Road/ Buckley Street (Priority – Give Way)	Weekday AM	South-west	0.261	5.8	0.0	LOS A
		Total	**0.261**	**5.8**	**0.0**	**LOS A**
	Weekday PM	North-west	0.396	0.1	0.0	LOS A
		South-west	0.196	5.8	0.0	LOS A
		Total	**0.196**	**5.8**	**0.0**	**LOS A**
	Weekend	North-west	0.388	0.1	0.0	LOS A
		South-west	0.245	5.8	0.0	LOS A
		Total	**0.245**	**5.8**	**0.0**	**LOS A**

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

5.9.7 Comparison with previous study blocks

Figure 5-92 provides a comparison of the total peak hourly traffic volumes recorded across all intersections for Block 4 against previous study blocks. As shown, Block 4 traffic volumes are generally similar to pre-opening conditions during all peak hours.

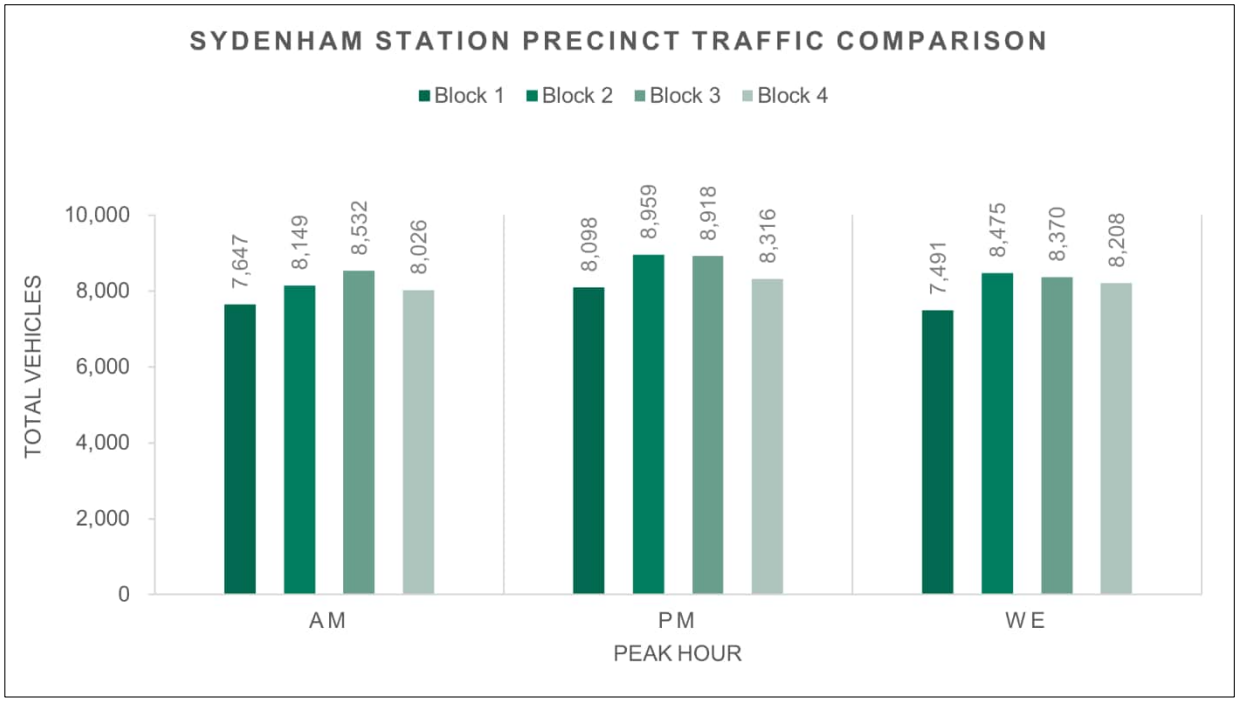


Figure 5-92 Study block comparison – Sydenham Station peak hourly traffic volumes across all intersections

A comparison of the intersection LOS for Block 4 against previous study blocks is shown in Figure 5-93. All intersections in the Sydenham site perform at a LOS B or better during Block 4, which is generally similar to previous study blocks.

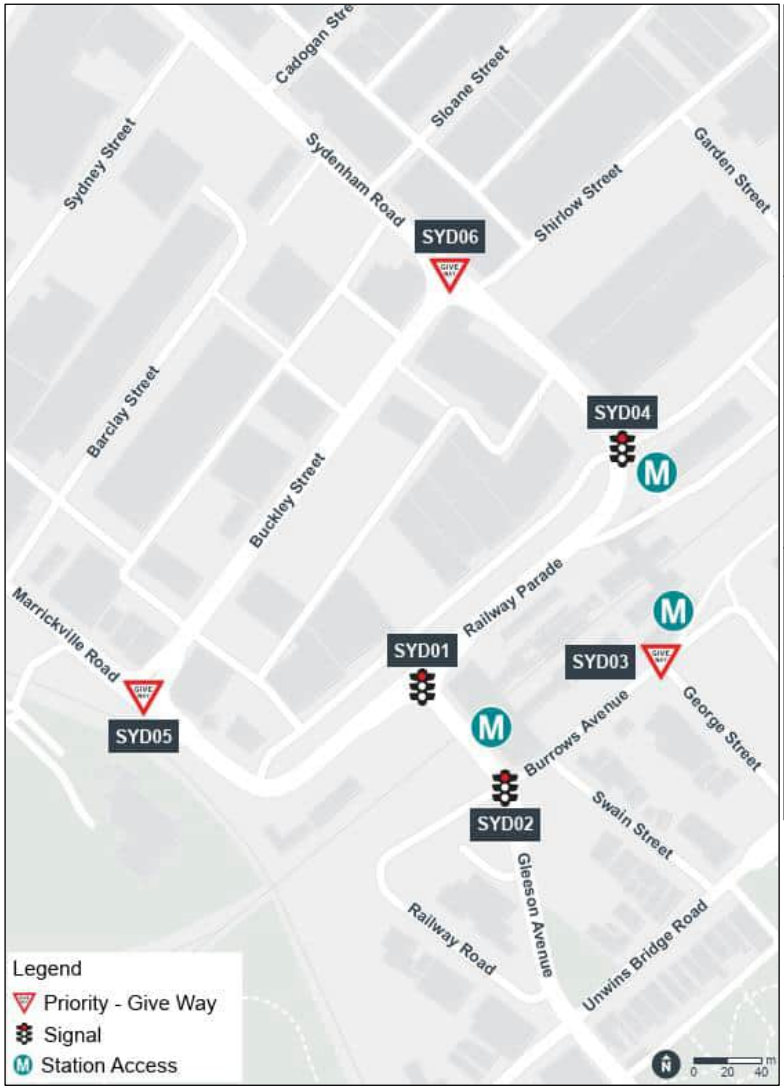


Figure 5-93 Study block comparison – Sydenham Station intersection performance summary

6.0 Transport interchange monitoring

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

6.1 Chatswood Station

In the Chatswood Station study area, a total of five taxi and kiss and ride facilities were assessed during Block 4. 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.

6.1.1 Kiss and ride

Table 6-1 presents a summary of the peak hour vehicle demands for the kiss and ride facilities, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- CWDK1 Railway Street:
  - The highest demand recorded at CWDK1 occurred during the weekend peak hour, when there were 26 vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from one to two minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.
- CWDK2 69 Albert Avenue:
  - The highest demand recorded at CWDK2 occurred during the weekday AM peak hour, when there were 75 vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from one to three minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.
- CWDK3 Endeavour Street:
  - The highest demand recorded at CWDK3 occurred during the weekday AM peak hour, when there were 35 vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from one to three minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.

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

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
CWDK1 (Railway Street)	Peak hour	Thursday 7am-8am	Friday 6pm-7pm	Saturday 6pm-7pm
	Vehicles (vehicle per hour)	23	22	26
	Average dwell time (minutes)	1	1	2
	Boarding/alighting passenger (excluding driver)	31	24	35

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
CWDK2 (Albert Avenue)	Peak hour	Monday 7am-8am	Wednesday 4pm-5pm	Sunday 5pm-6pm
	Vehicles (vehicle per hour)	75	45	31
	Average dwell time (minutes)	1	2	3
	Boarding/alighting passenger (excluding driver)	114	29	45
CWDK3 (Endeavour Street)	Peak hour	Wednesday 7am-8am	Friday 6pm-7pm	Saturday 4pm-5pm
	Vehicles (vehicle per hour)	35	31	27
	Average dwell time (minutes)	1	1	3
	Boarding/alighting passenger (excluding driver)	45	31	23

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

Figure 6-1 to Figure 6-3 present the daily demand profile for the three kiss and ride facilities at Chatswood Station.

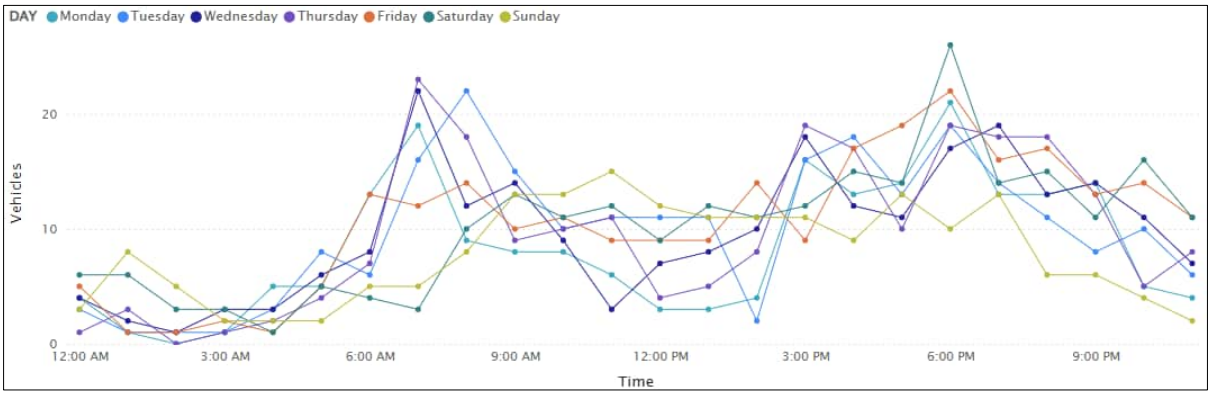


Figure 6-1 Block 4 – Daily demand profile of CWDK1

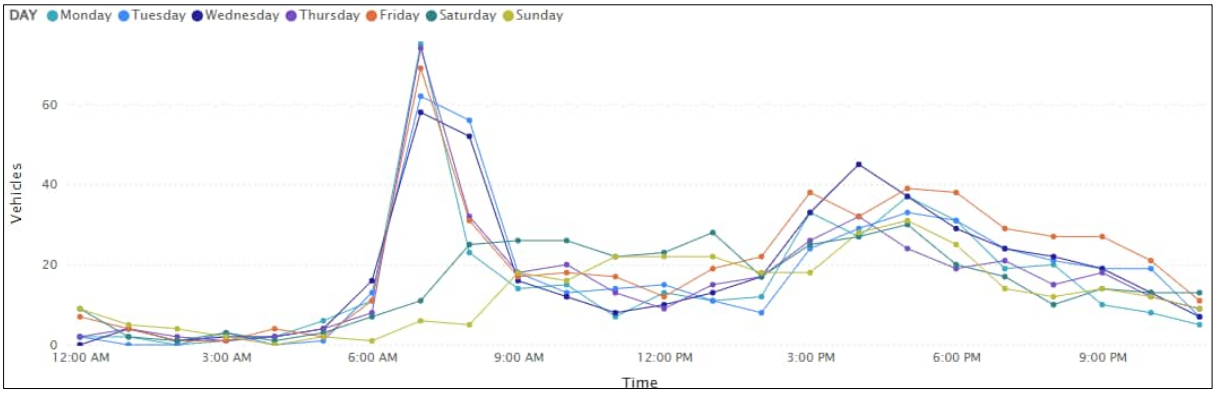


Figure 6-2 Block 4 – Daily demand profile of CWDK2

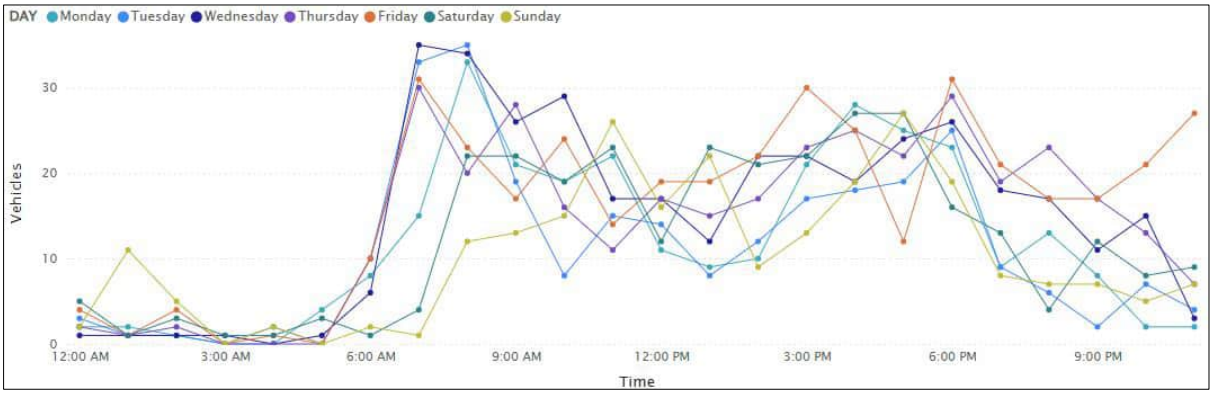


Figure 6-3 Block 4 – Daily demand profile of CWDK3

6.1.2 Taxi

Table 6-2 presents a summary of the peak hour vehicle demands for the taxi facilities, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- CWDT1 Victoria Avenue:
  - The highest demand recorded at CWDT1 occurred during the weekend peak hour, when there were 29 vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from six to 13 minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.
- CWDT2 Endeavour Street:
  - The highest demand recorded at CWDT2 occurred during the weekend peak hour, where there were 17 vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from one to three minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.

Table 6-2 Block 4 – Chatswood Station interchange assessment peak hour summary (taxi)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
CWDT1 (Victoria Avenue)	Peak hour	Tuesday 9am-10am	Friday 11pm-12am	Saturday 6pm-7pm
	Vehicles (vehicle per hour)	24	26	29
	Average dwell time (minutes)	13	6	9
	Boarding/alighting passenger (excluding driver)	19	34	31
CWDT2 (Endeavour Street)	Peak hour	Tuesday 9am-10am	Tuesday 4pm-5pm	Saturday 7pm-8pm
	Vehicles (vehicle per hour)	15	15	17
	Average dwell time (minutes)	1	2	3

	Boarding/alighting passenger (excluding driver)	16	17	24

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

Figure 6-4 and Figure 6-5 present the daily demand profile for the two taxi facilities at Chatswood Station.

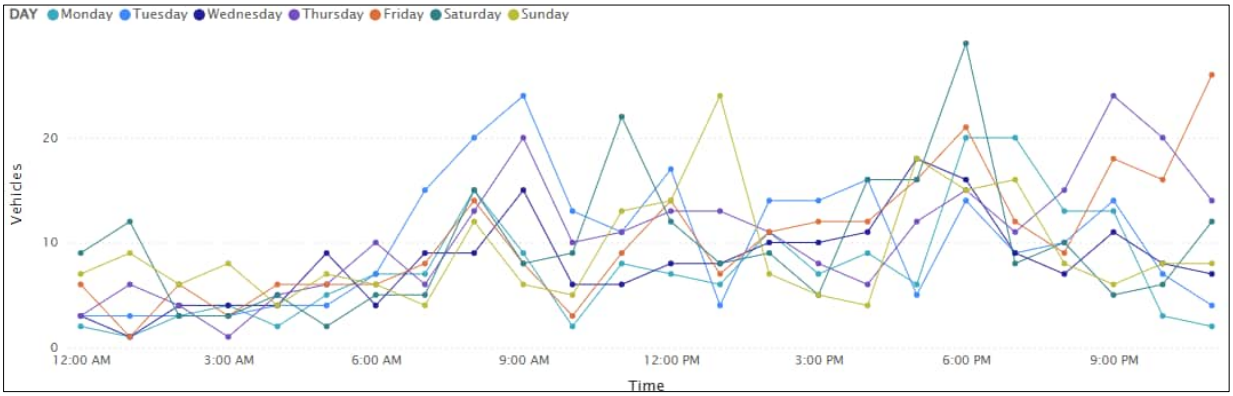


Figure 6-4 Block 4 – Daily hourly demand profile of CWDT1

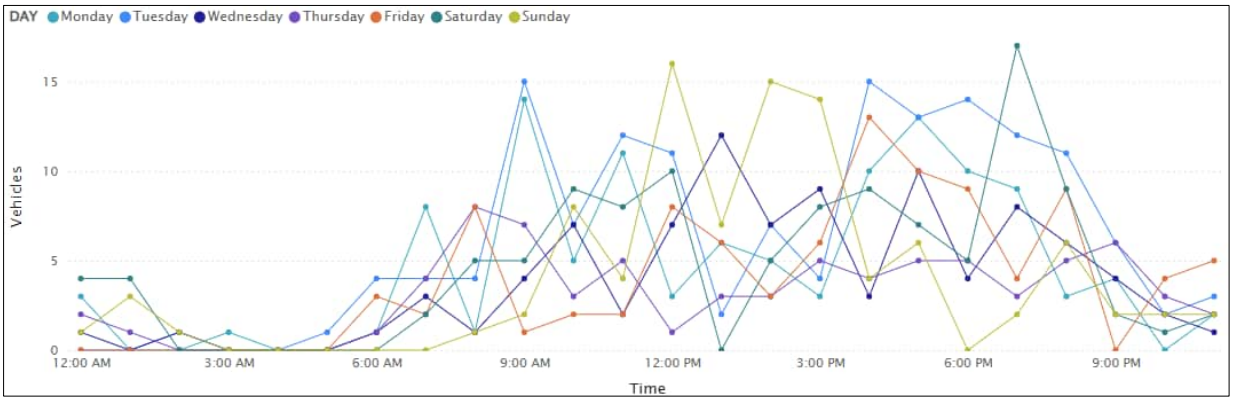


Figure 6-5 Block 4 – Daily demand profile of CWDT2

6.1.3 Comparison with previous study blocks

Figure 6-6 provides a comparison of the total peak hourly vehicle demand recorded across the interchange facilities for Block 4 against pre-opening conditions. Key findings were as follows:

- CWDK1 Railway Street vehicle demands are generally similar during all peak hours compared to pre-opening conditions.
- CWDK2 69 Albert Avenue vehicle demands are generally similar during all peak hours compared to pre-opening conditions.
- CWDK3 Endeavour Street vehicle demands are generally similar during all peak hours compared to pre-opening conditions.
- CWDT1 Victoria Avenue vehicle demands are generally similar during all peak hours compared to pre-opening conditions.
- CWDT2 Endeavour Street vehicle demands are generally similar during all peak hours compared to pre-opening conditions in Block 2 and 3, however Block 1 demands were much lower.

Similarly, Figure 6-7 provides a comparison of the total peak hourly boarding and alighting demand recorded across the interchange facilities for Block 4 against pre-opening conditions. Key findings were as follows:

- CWDK1 Railway Street boarding and alighting demands are generally similar during all peak hours compared to pre-opening conditions.
- CWDK2 69 Albert Avenue boarding and alighting demands are generally similar during all peak hours compared to pre-opening conditions.
- CWDK3 Endeavour Street boarding and alighting demands are generally similar during the weekday AM and PM peak hours, and lower during the weekend peak hour compared to pre-opening conditions.
- CWDT1 Victoria Avenue boarding and alighting demands are generally similar during all peak hours compared to pre-opening conditions.
- CWDT2 Endeavour Street boarding and alighting demands are generally similar during all peak hours compared to pre-opening conditions in Blocks 2 and 3, however Block 1 demands were much lower.

Figure 6-6 Study block comparison – Chatswood Station interchange vehicle demand summary

Figure 6-7 Study block comparison – Chatswood Station interchange boarding and alighting demand summary

6.2 Crows Nest Station

In the Crows Nest Station study area, a total of four taxi and kiss and ride facilities were assessed during Block 4. These included one taxi facility and three kiss and ride facilities. Refer to Section 3.3 for detailed information about their locations and the number of bays.

6.2.1 Kiss and ride

Table 6-3 presents a summary of the peak hour vehicle demands for the kiss and ride facilities, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- CSTK1 Oxley Street (east):
  - The highest demand recorded at CSTK1 occurred during the weekend peak hour, when there were eight vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours was up to one minute.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.
- CSTK2 Oxley Street (west):
  - The highest demand recorded at CSTK2 occurred during the weekday AM peak hour, when there were 13 vehicles per hour
  - The average dwell time during the weekday and weekend peak hours ranged from one to eight minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.
- CSTK3 Clarke Street:
  - The highest demand recorded at CSTK3 occurred during the weekday AM and weekend peak hours, when there were five vehicles per hour
  - The average dwell time during the weekday and weekend peak hours ranged from one to two minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues. However, during Block 4, kiss and ride demand was observed to also occur in the existing P10 minutes parking zone on the opposite side of the road from CSTK3 Clarke Street.

Table 6-3 Block 4 – Crows Nest Station interchange assessment peak hour summary (kiss and ride)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
CSTK1 (Oxley Street – East)	Peak hour	Thursday 7am-8am	Tuesday 4pm-5pm	Saturday 5pm-6pm
	Vehicles (vehicle per hour)	7	5	8
	Average dwell time (minutes)	1	1	1
	Boarding/alighting passenger (excluding driver)	6	6	11

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
CSTK2 (Oxley Street – West)	Peak hour	Thursday 8am-9am	Thursday 5pm-6pm	Sunday 2pm-3pm
	Vehicles (vehicle per hour)	13	10	9
	Average dwell time (minutes)	1	8	5
	Boarding/alighting passenger (excluding driver)	16	16	17
CSTK3 (Clarke Street)	Peak hour	Wednesday 7am-8am	Friday 5pm-6pm	Saturday 10am-11am
	Vehicles (vehicle per hour)	5	4	5
	Average dwell time (minutes)	2	1	1
	Boarding/alighting passenger (excluding driver)	4	4	4

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

Figure 6-8 to Figure 6-10 presents the daily demand profile for the three kiss and ride facilities at Crows Nest Station.

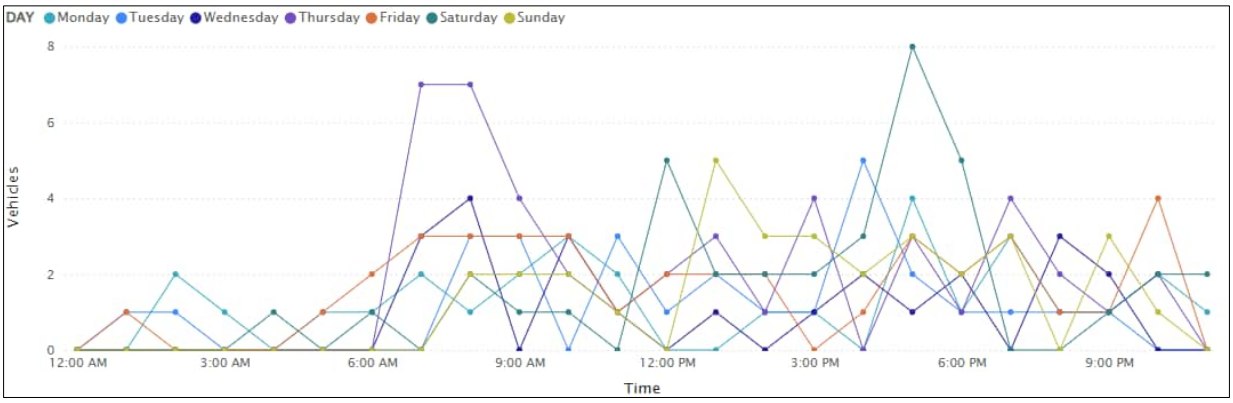


Figure 6-8 Block 4 – Daily demand profile of CSTK1

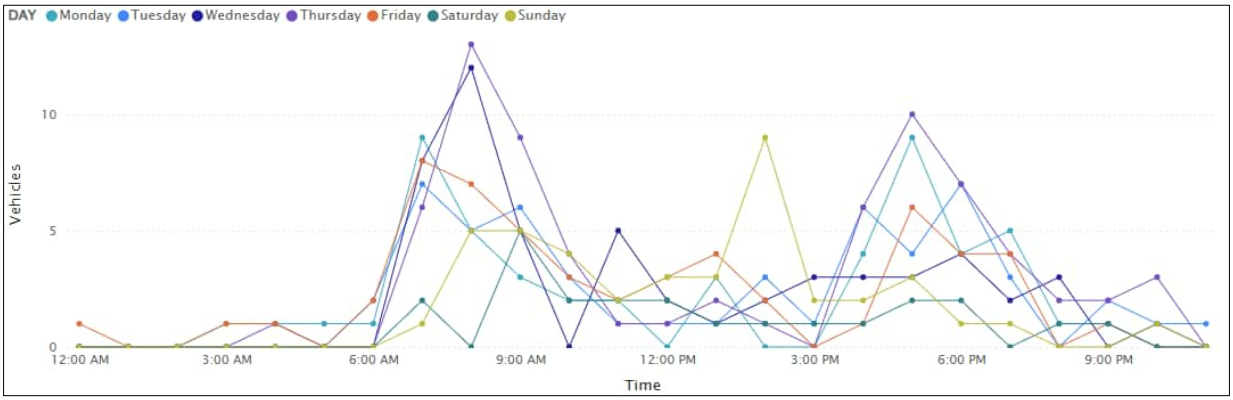


Figure 6-9 Block 4 – Daily demand profile of CSTK2

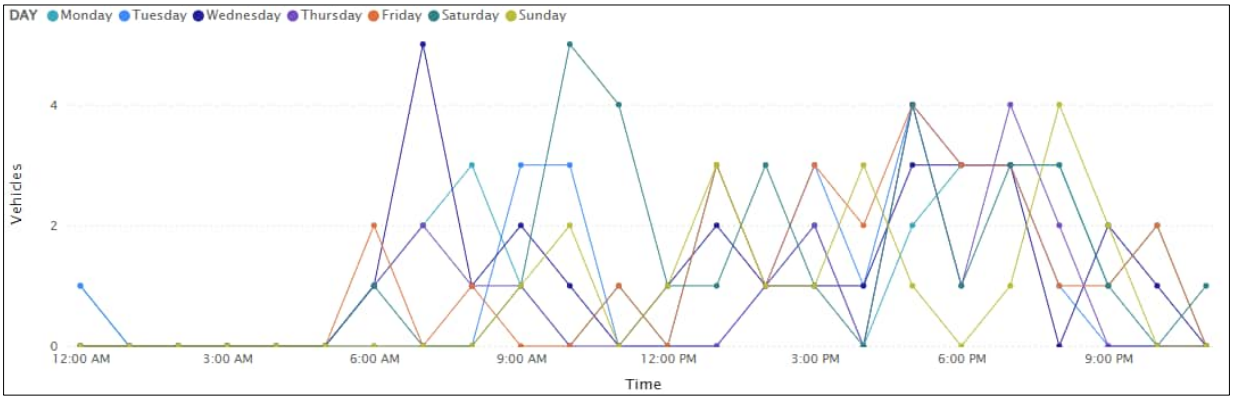


Figure 6-10 Block 4 – Daily demand profile of CSTK3

6.2.2 Taxi

Table 6-4 presents a summary of the peak hour vehicle demands for the taxi facility, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- CSTT1 Clarke Street:
  - The highest demand recorded at CSTT1 occurred during the weekday PM peak hour, when there were 11 vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from one to four minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues. Note that most vehicles accessing this bay were general vehicles.

Table 6-4 Block 4 – Crows Nest Station interchange assessment peak hour summary (taxi)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
CSTT1 (Clarke Street)	Peak hour	Tuesday 10am-11am	Wednesday 7pm-8pm	Saturday 7pm-8pm
	Vehicles (vehicle per hour)	6	11	7
	Average dwell time (minutes)	3	4	1
	Boarding/alighting passenger (excluding driver)	5	8	9

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

Figure 6-11 presents the daily demand profile for the taxi facility at Crows Nest Station.

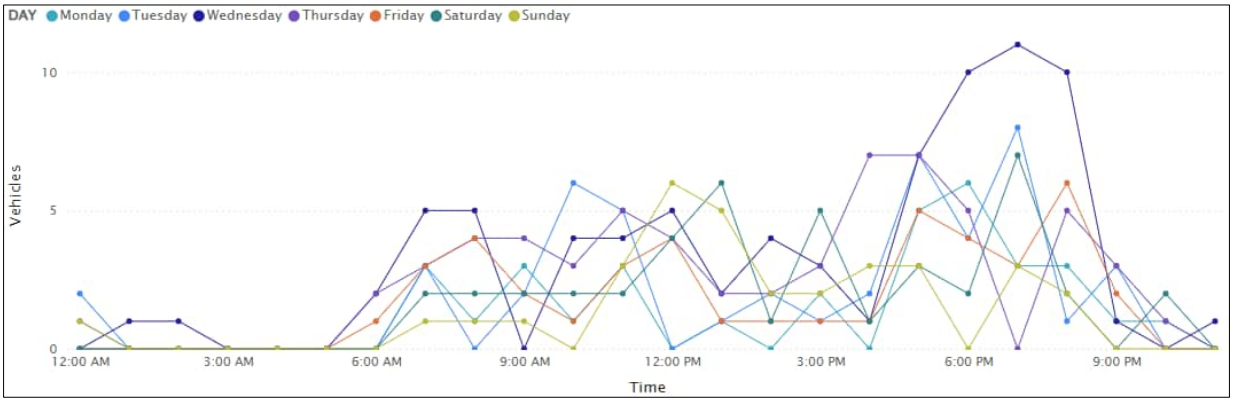


Figure 6-11 Block 4 – Daily hourly demand profile of CSTT1

6.2.3 Interchange demand summary

Figure 6-12 and Figure 6-13 provide a summary of the total peak hourly vehicle demand and boarding and alighting demand, respectively, recorded across the interchange facilities for Block 4.

Figure 6-12 Block 4 – Crows Nest Station interchange vehicle demand summary

Figure 6-13 Block 4 – Crows Nest Station interchange boarding and alighting demand summary

6.3 Victoria Cross Station

In the Victoria Cross Station study area, a total of five taxi, kiss and ride, bus, and accessible parking facilities were assessed during Block 4. These included one taxi facility, one kiss and ride facility, two bus facilities, and one accessible parking facility. Refer to Section 3.3 for detailed information about their locations and the number of bays.

6.3.1 Bus

Table 6-5 presents a summary of the peak hour demands for the bus facilities, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- VICB1 Miller Street (east):
  - The highest demand recorded at VICB1 occurred during the weekday AM peak hour, when there were 30 vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from one to two minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.
- VICB2 Miller Street (west):
  - The highest demand recorded at VICB2 occurred during the weekday PM peak hour, where there were 28 vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours was up to one minute.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.

Table 6-5 Block 4 – Victoria Cross Station interchange assessment peak hour summary (bus)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
VICB1 (Miller Street - East)	Peak hour	Tuesday 8am-9am	Monday 5pm-6pm	Saturday 4pm-5pm
	Vehicles (vehicle per hour)	30	14	12
	Average dwell time (minutes)	1	2	1
	Boarding/alighting passenger (excluding driver)	105	31	20
VICB2 (Miller Street - West)	Peak hour	Tuesday 8am-9am	Monday 3pm-4pm	Saturday 1pm-2pm
	Vehicles (vehicle per hour)	11	28	8
	Average dwell time (minutes)	1	1	1
	Boarding/alighting passenger (excluding driver)	20	26	4

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

Figure 6-14 and Figure 6-15 present the daily demand profile for the two bus facilities at Victoria Cross Station.

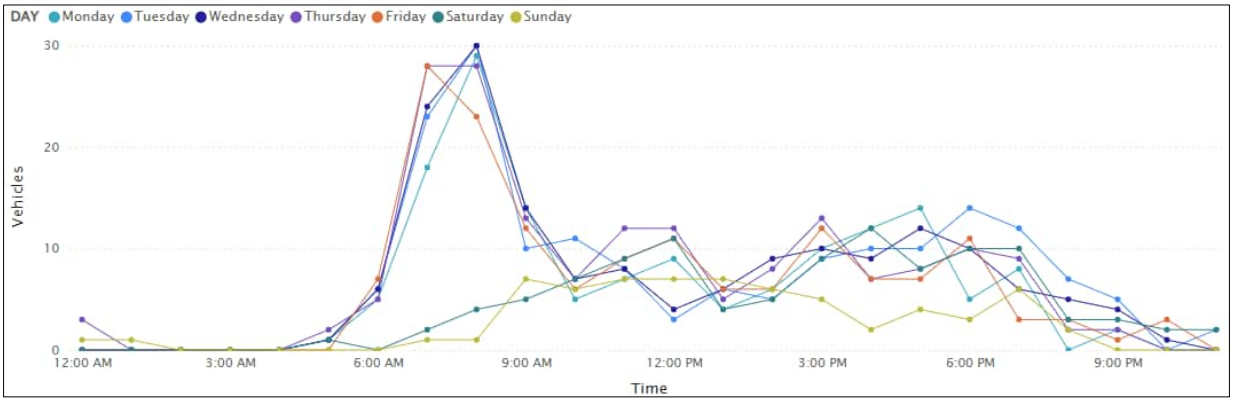


Figure 6-14 Block 4 – Daily demand profile of VICB1

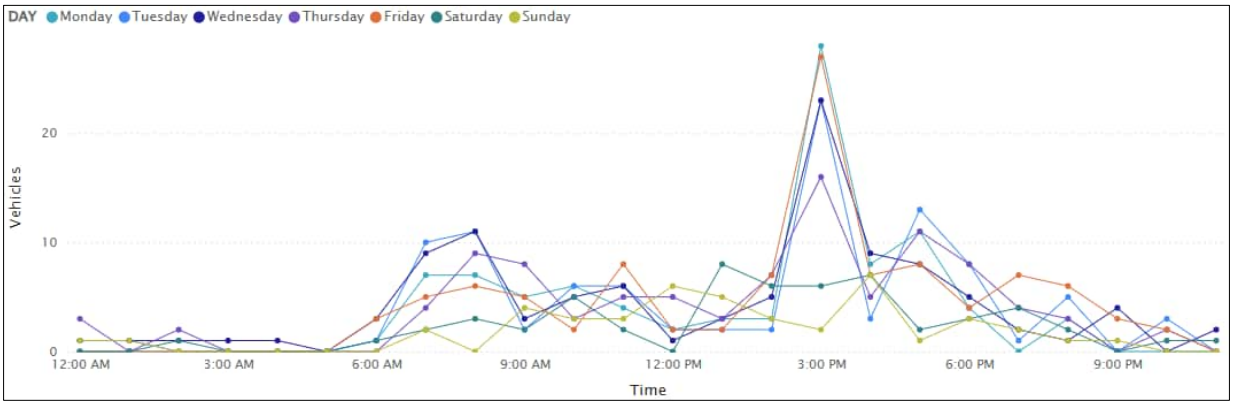


Figure 6-15 Block 4 – Daily demand profile of VICB2

6.3.2 Kiss and ride

Table 6-6 presents a summary of the peak hour vehicle demands for the kiss and ride facility, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- VICK1 McLaren Street:
  - The highest demand recorded at VICK1 occurred during the weekday AM peak hour, where there were 25 vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from one to four minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.

Table 6-6 Block 4 – Victoria Cross Station interchange assessment peak hour summary (kiss and ride)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
VICK1 (McLaren Street)	Peak hour	Tuesday 8am-9am	Thursday 5pm-6pm	Saturday 8am-9am
	Vehicles (vehicle per hour)	25	14	8
	Average dwell time (minutes)	1	3	4

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
	Boarding/alighting passenger (excluding driver)	21	13	8

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

Figure 6-16 presents the daily demand profile for the kiss and ride facility at Victoria Cross Station.

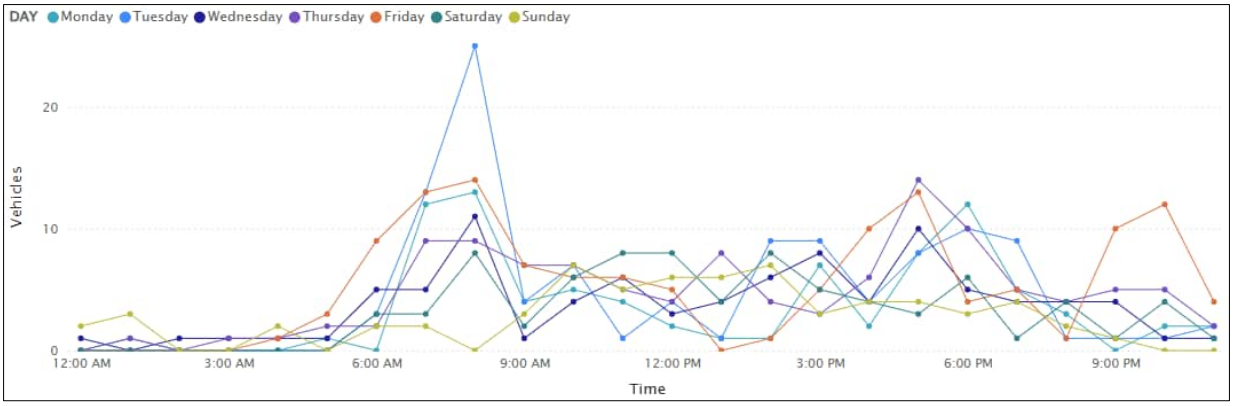


Figure 6-16 Block 4 – Daily demand profile of VICK1

6.3.3 Taxi

Table 6-7 presents a summary of the peak hour demands for the taxi facility, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- VICT1 McLaren Street:
  - The highest demand recorded at VICT1 occurred during the weekday AM peak hour, when there were eight vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from one to eight minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues. Note that most vehicles accessing this bay were general vehicles.

Table 6-7 Block 4 – Victoria Cross Station interchange assessment peak hour summary (taxi)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
VICT1 (McLaren Street)	Peak hour	Friday 8am-9am	Wednesday 6pm-7pm	Sunday 12pm-1pm
	Vehicles (vehicle per hour)	8	4	3
	Average dwell time (minutes)	8	2	1
	Boarding/alighting passenger (excluding driver)	11	5	0

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

Figure 6-17 presents the daily demand profile for the taxi facility at Victoria Cross Station.

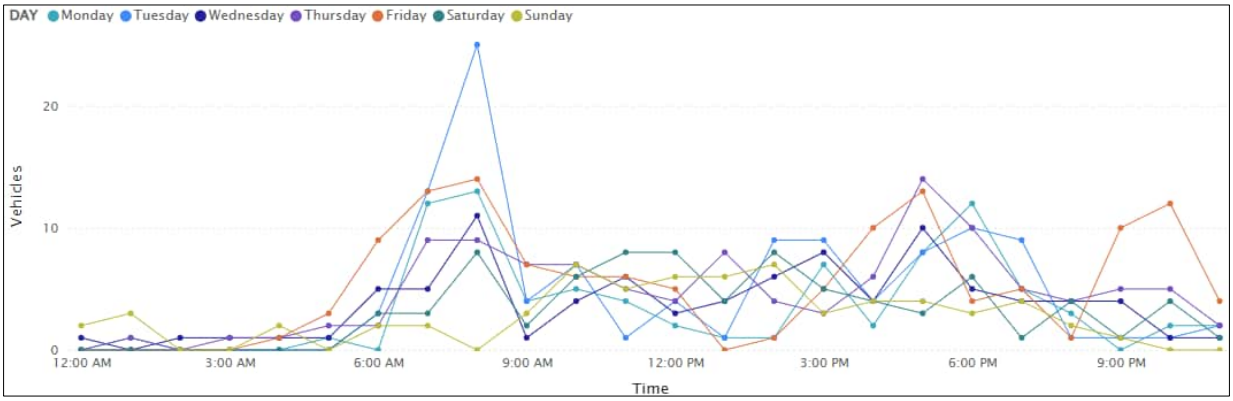


Figure 6-17 Block 4 – Daily demand profile of VICT1

6.3.4 Accessible parking

Table 6-8 presents a summary of the peak hour demands for the accessible parking facility, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- VICA1 McLaren Street:
  - The highest demand recorded at VICA1 occurred during the weekday AM peak hour, when there were 11 vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from one to 78 minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.

Table 6-8 Block 4 – Victoria Cross Station interchange assessment peak hour summary (accessible parking)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
VICA1 (McLaren Street)	Peak hour	Wednesday 8am-9am	Wednesday 3pm-4pm	Saturday 10am-11am
	Vehicles (vehicle per hour)	11	3	2
	Average dwell time (minutes)	1	1	78
	Boarding/alighting passenger (excluding driver)	9	5	8

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

Figure 6-18 presents the daily demand profile for the accessible parking at Victoria Cross Station.

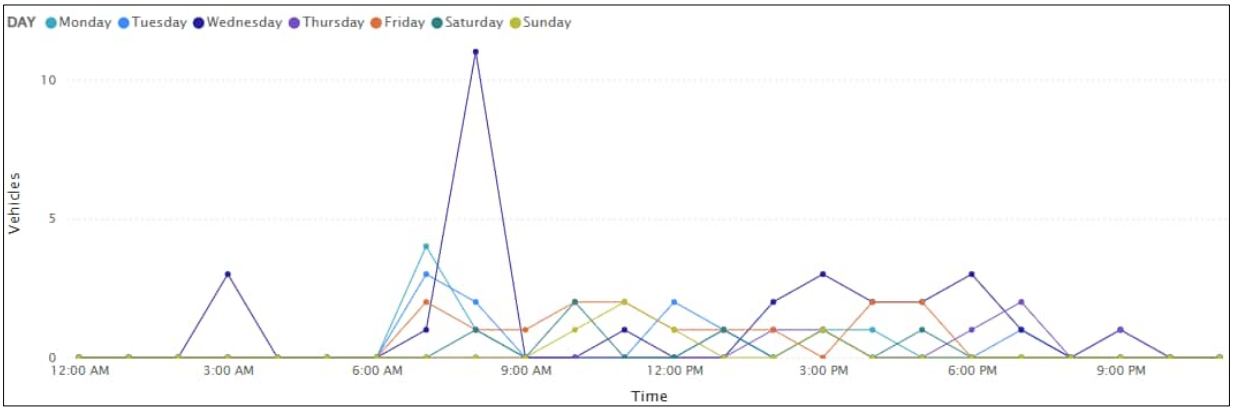
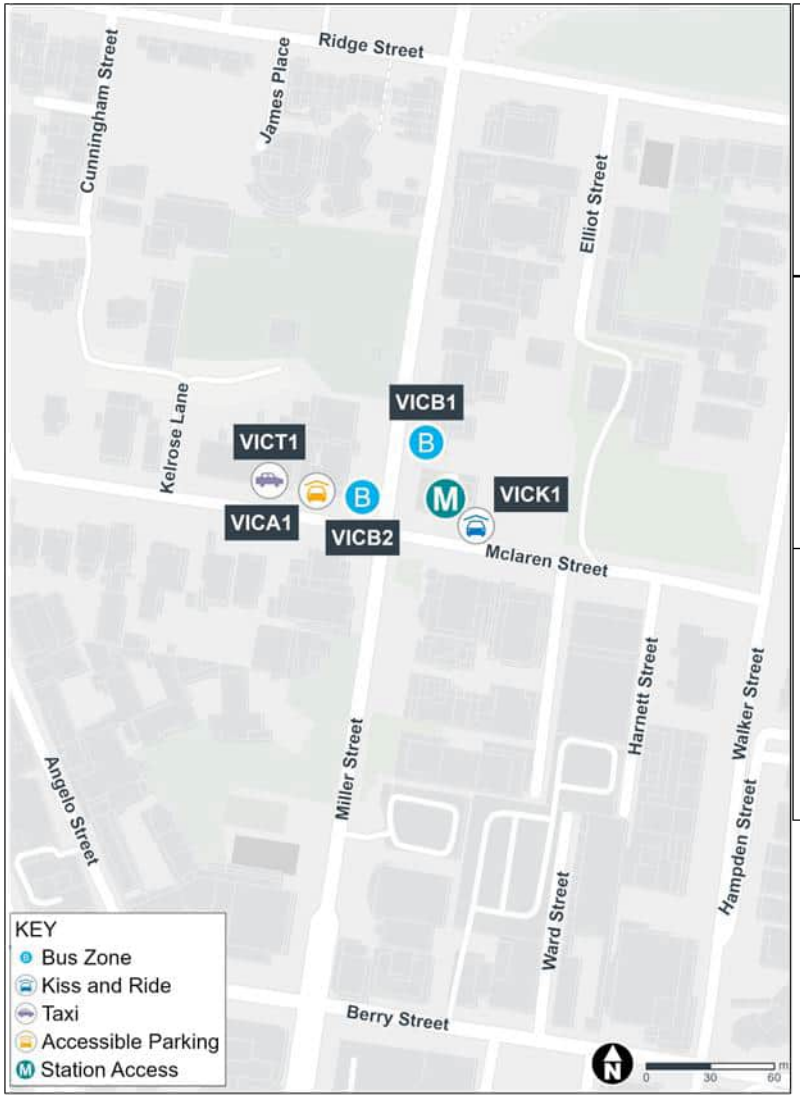
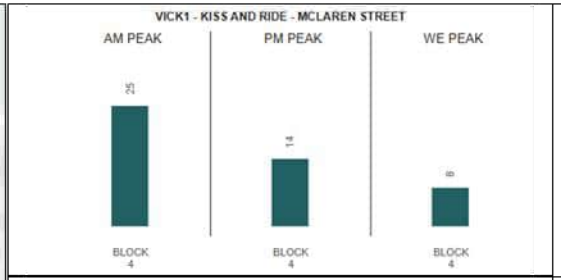


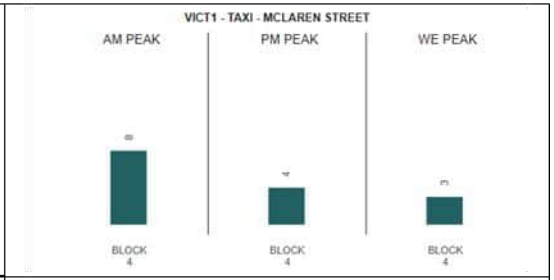
Figure 6-18 Block 4 – Daily demand profile of VICA1

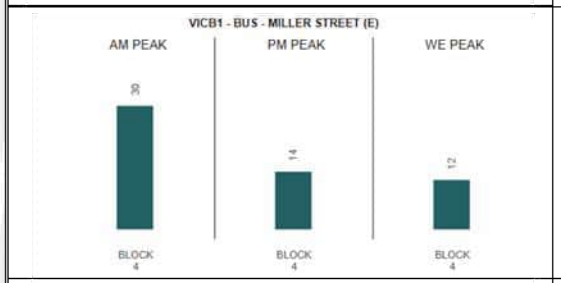
6.3.5 Interchange demand summary

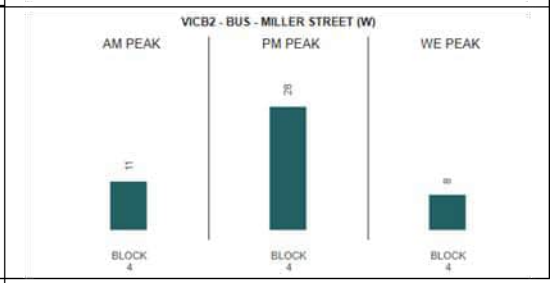
Figure 6-19 and Figure 6-20 provide a summary of the total peak hourly vehicle demand and boarding and alighting demand, respectively, recorded across the interchange facilities for Block 4.











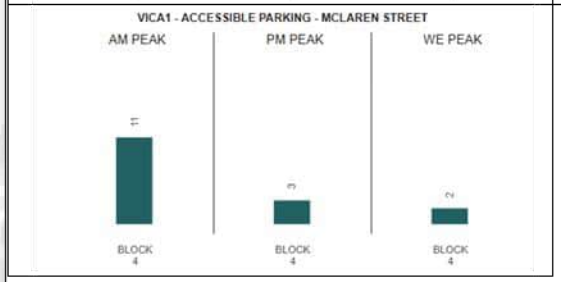


Figure 6-19 Block 4 – Victoria Cross Station interchange vehicle demand summary

Figure 6-20 Block 4 – Victoria Cross Station interchange boarding and alighting demand summary

6.4 Barangaroo Station

In the Barangaroo Station study area, a total of four taxi, kiss and ride, and bus facilities were assessed during Block 4. These included one taxi facility, one kiss and ride facility and two bus facilities. Refer to Section 3.3 for detailed information about their locations and the number of bays.

6.4.1 Bus

Table 6-9 presents a summary of the peak hour demands for the bus facilities, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- BGUB1 Hickson Road (east):
  - The highest demand recorded at BGUB1 occurred during the weekday PM peak hour, when there were nine vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours was up to one minute.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.
- BGUB2 Hickson Road (west):
  - The highest demand recorded at BGUB2 occurred during the weekday PM peak hour, when there were nine vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours was up to one minute.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.

Table 6-9 Block 4 – Barangaroo Station interchange assessment peak hour summary (bus)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
BGUB1 (Hickson Road - East)	Peak hour	Tuesday 8am-9am	Wednesday 5pm-6pm	Sunday 4pm-5pm
	Vehicles (vehicle per hour)	6	9	6
	Average dwell time (minutes)	1	1	1
	Boarding/alighting passenger (excluding driver)	8	32	25
BGUB2 (Hickson Road - West)	Peak hour	Thursday 7am-8am	Wednesday 6pm-7pm	Saturday 11am-12pm
	Vehicles (vehicle per hour)	5	9	7
	Average dwell time (minutes)	1	1	1
	Boarding/alighting passenger (excluding driver)	5	12	8

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

Figure 6-21 and Figure 6-22 present the daily demand profiles for the two bus facilities at Barangaroo Station.

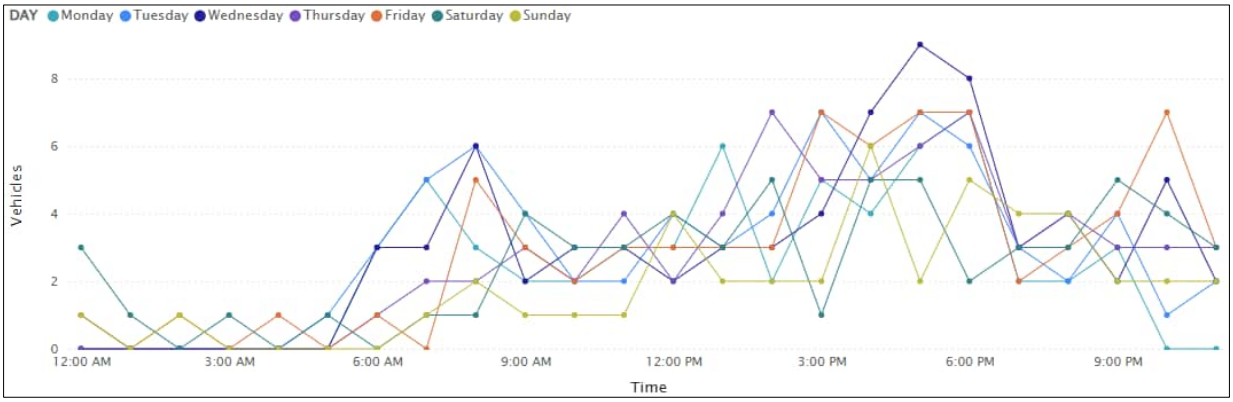


Figure 6-21 Block 4 – Daily demand profile of BGUB1

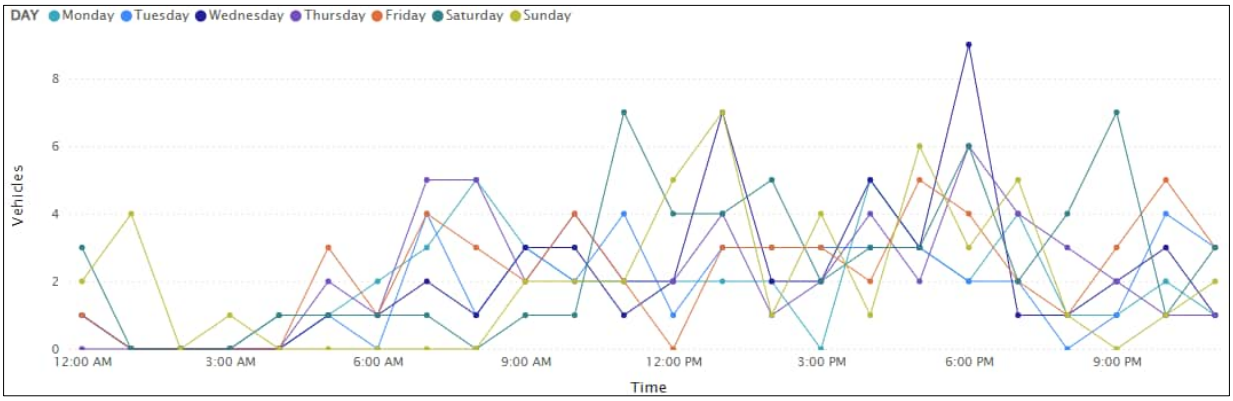


Figure 6-22 Block 4 – Daily demand profile of BGUB2

6.4.2 Kiss and ride

Table 6-10 presents a summary of the peak hour demands for the kiss and ride facility, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- BGUK1 Hickson Road:
  - The highest demand recorded at BGUK1 occurred during the weekday AM and PM peak hours, when there were three vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours was up to one minute.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.

Table 6-10 Block 4 – Barangaroo Station interchange assessment peak hour summary (kiss and ride)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
BGUK1 (Hickson Road)	Peak hour	Monday 7am-8am	Friday 4pm-5pm	Sunday 11am-12pm
	Vehicles (vehicle per hour)	3	3	2
	Average dwell time (minutes)	1	1	1

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
	Boarding/alighting passenger (excluding driver)	5	7	1

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

Figure 6-23 provides the daily demand profile for the kiss and ride facility at Barangaroo Station.

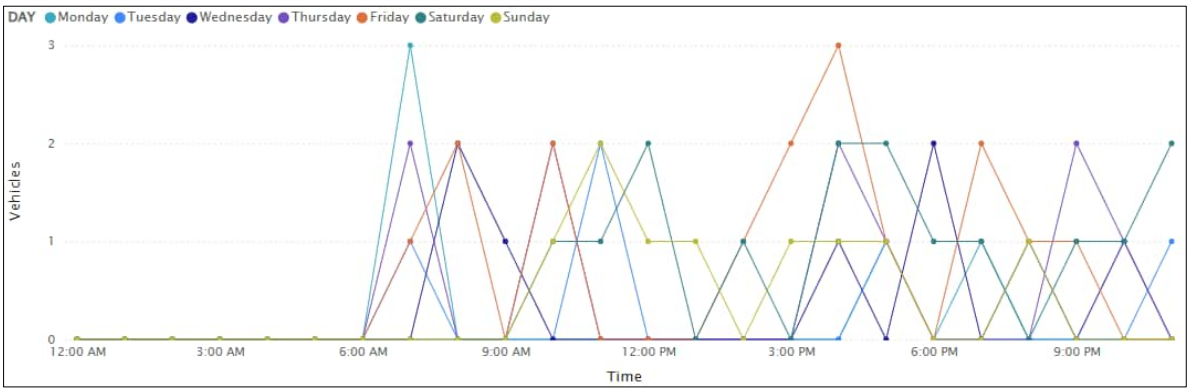


Figure 6-23 Block 4 – Daily demand profile of BGUK1

6.4.3 Taxi

Table 6-11 presents a summary of the peak hour demands for the taxi facility, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- BGUT1 Hickson Road:
  - The highest demand recorded at BGUT1 was one vehicle per hour which occurred during all peak hours.
  - The average dwell time during the weekday and weekend peak hours was up to one minute.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.

Table 6-11 Block 4 – Barangaroo Station interchange assessment peak hour summary (taxi)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
BGUT1 (Hickson Road)	Peak hour	Monday 9am-10am	Monday 12pm-1pm	Saturday 12pm-1pm
	Vehicles (vehicle per hour)	1	1	1
	Average dwell time (minutes)	1	1	1
	Boarding/alighting passenger (excluding driver)	0	2	0

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

Figure 6-24 presents the daily demand profile for the taxi facility at Barangaroo Station.

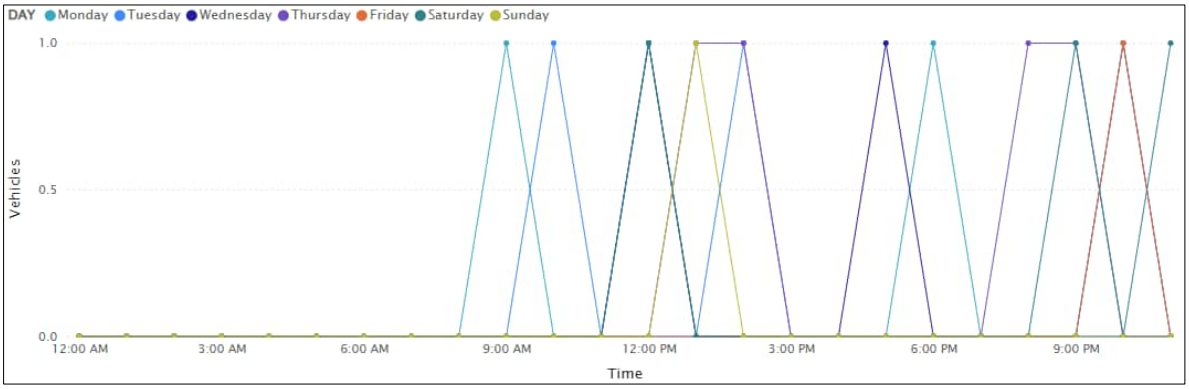


Figure 6-24 Block 4 – Daily demand profile of BGUT1

6.4.4 Interchange demand summary

Figure 6-25 and Figure 6-26 provide a summary of the total peak hourly vehicle demand and boarding and alighting demand, respectively, recorded across the interchange facilities for Block 4.

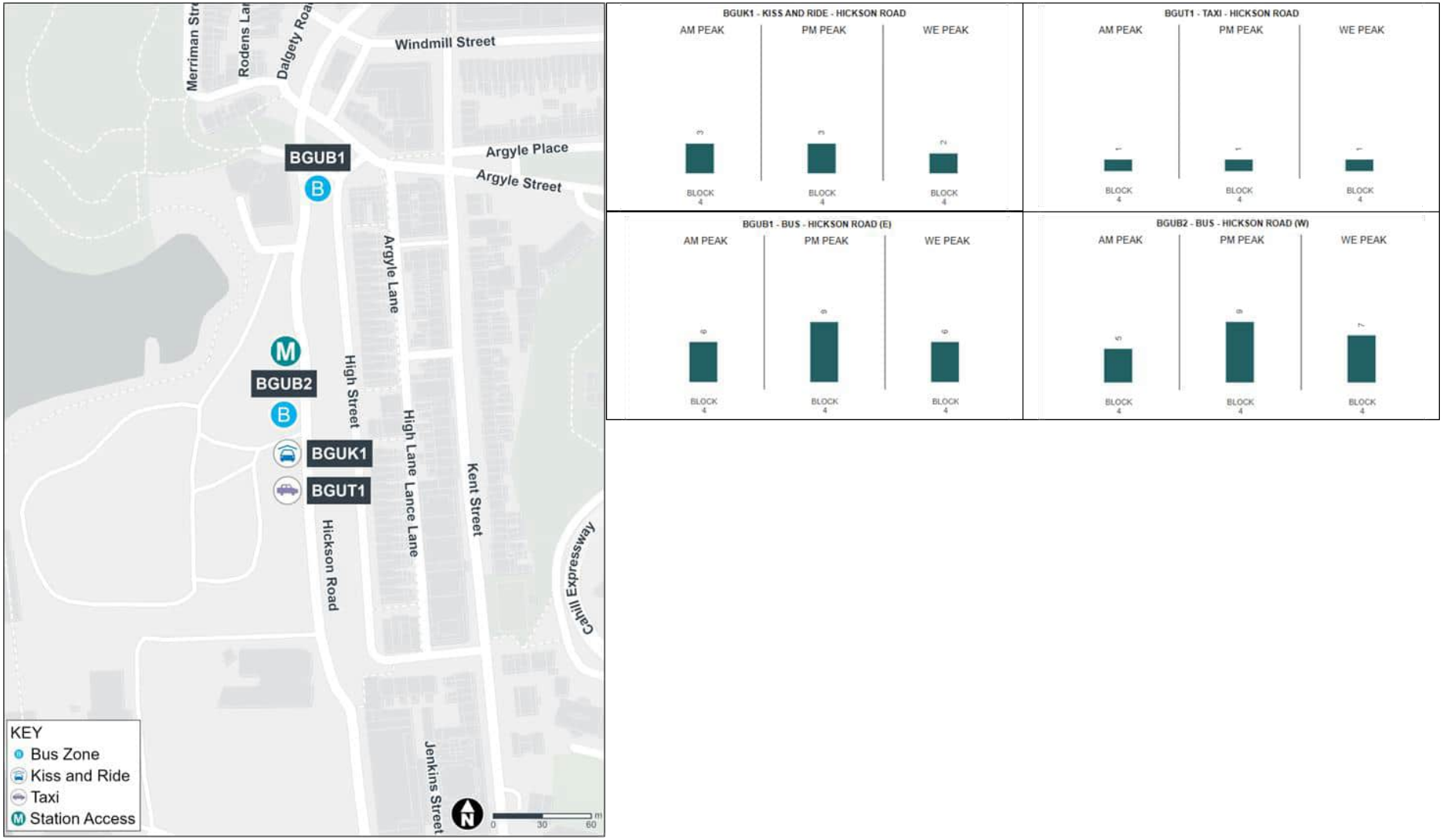
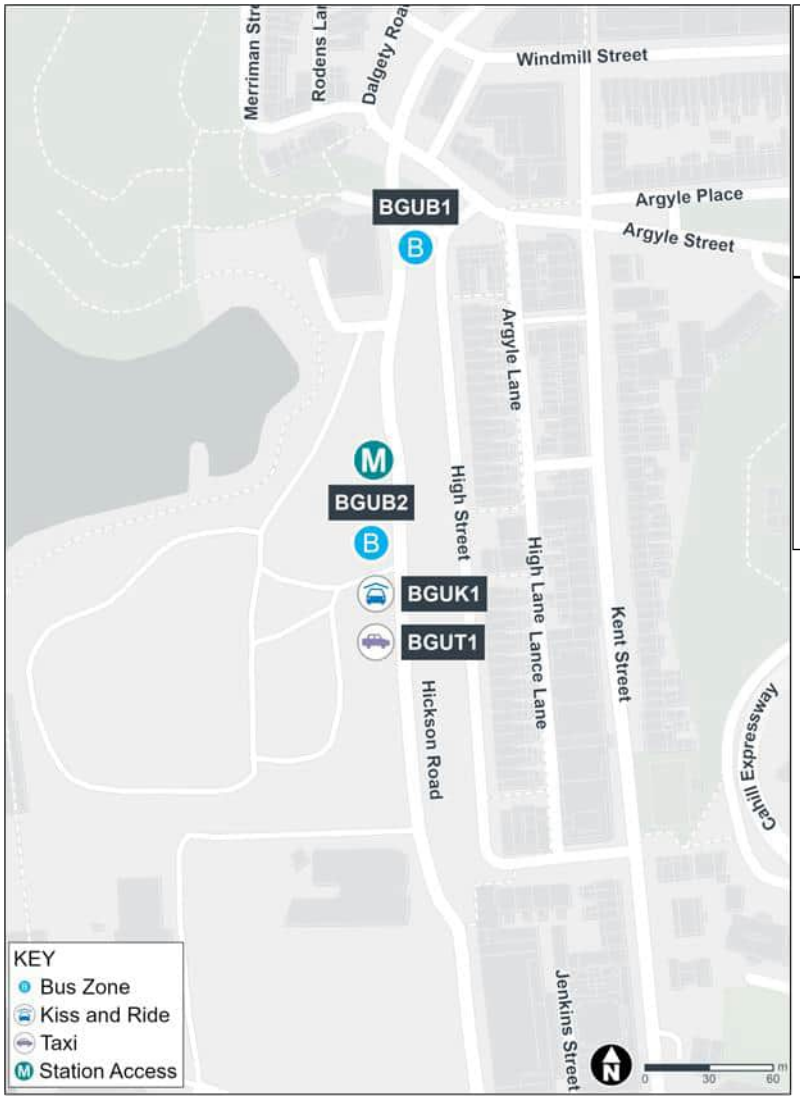
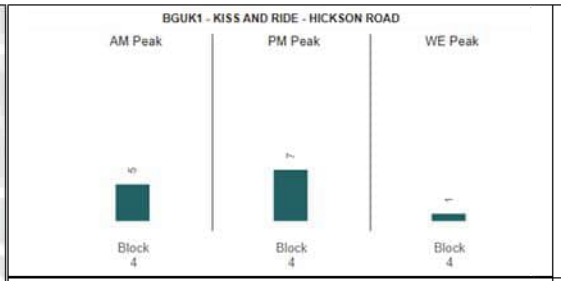
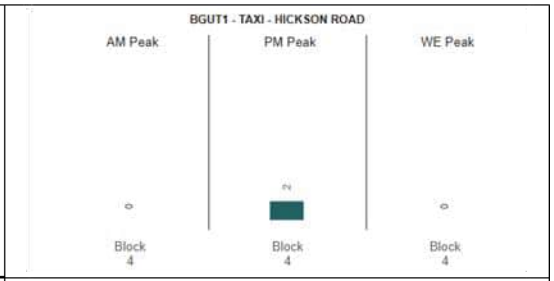
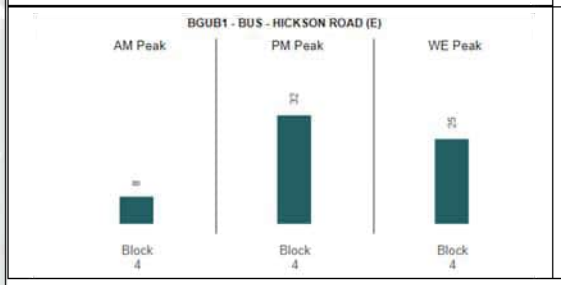


Figure 6-25 Block 4 – Barangaroo Station interchange vehicle demand summary









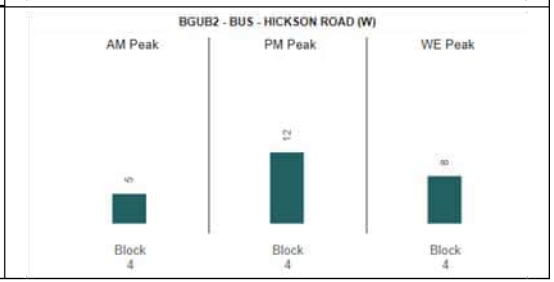


Figure 6-26 Block 4 – Barangaroo Station interchange boarding and alighting demand summary

6.5 Waterloo Station

In the Waterloo Station study area, a total of four taxi, kiss and ride, bus, and accessible parking facilities were assessed during Block 4. These included one taxi facility, one kiss and ride facility, one bus facility, and one accessible parking facility. Refer to Section 3.3 for detailed information about their locations and the number of bays.

6.5.1 Bus

Table 6-12 presents a summary of the peak hour demands for the bus facility, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- WLOB1 Raglan Street:
  - The highest demand recorded at WLOB1 occurred during the weekday PM peak hour, when there were 11 vehicles per hour.
  - The average dwell time during all the peak hours was up to one minute.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.

Table 6-12 Block 4 – Waterloo Station interchange assessment peak hour summary (bus)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
WLOB1 (Raglan Street)	Peak hour	Monday 8am-9am	Monday 3pm-4pm	Saturday 8am-9am
	Vehicles (vehicle per hour)	10	11	9
	Average dwell time (minutes)	1	1	1
	Boarding/alighting passenger (excluding driver)	87	31	25

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

Figure 6-27 presents the daily demand profile for the bus facility at Waterloo Station.

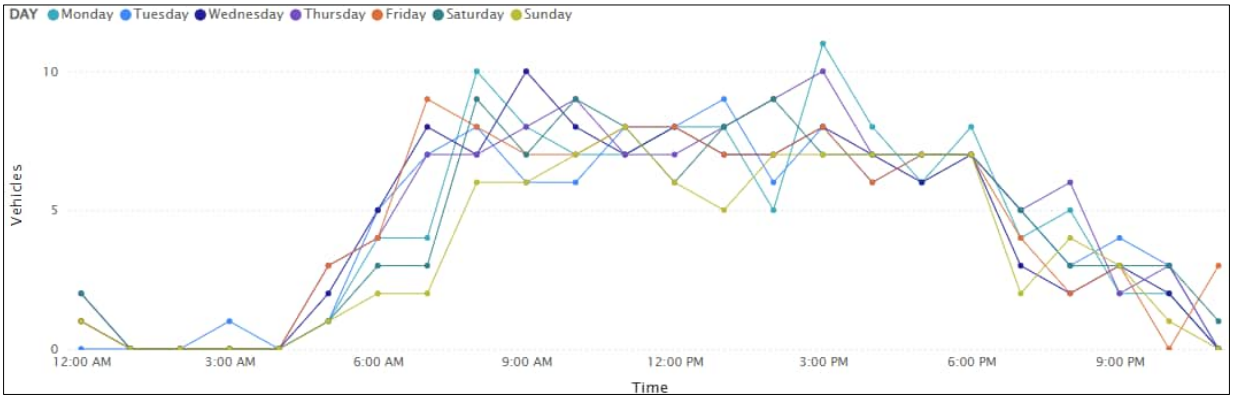


Figure 6-27 Block 4 – Daily demand profile of WLOB1

6.5.2 Kiss and ride

Table 6-13 presents a summary of the peak hour demands for the kiss and ride facility, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- WLOK1 Cope Street:
  - The highest demand recorded at WLOK1 occurred during the weekday PM peak hour, when there were 19 vehicles per hour
  - The average dwell time during the weekday and weekend peak hours ranged from one to five minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.

Table 6-13 Block 4 – Waterloo Station interchange assessment peak hour summary (kiss and ride)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
WLOK1 (Cope Street)	Peak hour	Thursday 8am-9am	Friday 5pm-6pm	Sunday 5pm-6pm
	Vehicles (vehicle per hour)	16	19	11
	Average dwell time (minutes)	1	2	5
	Boarding/alighting passenger (excluding driver)	16	18	10

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

Figure 6-28 presents the daily demand profile for the kiss and ride facility at Waterloo Station.

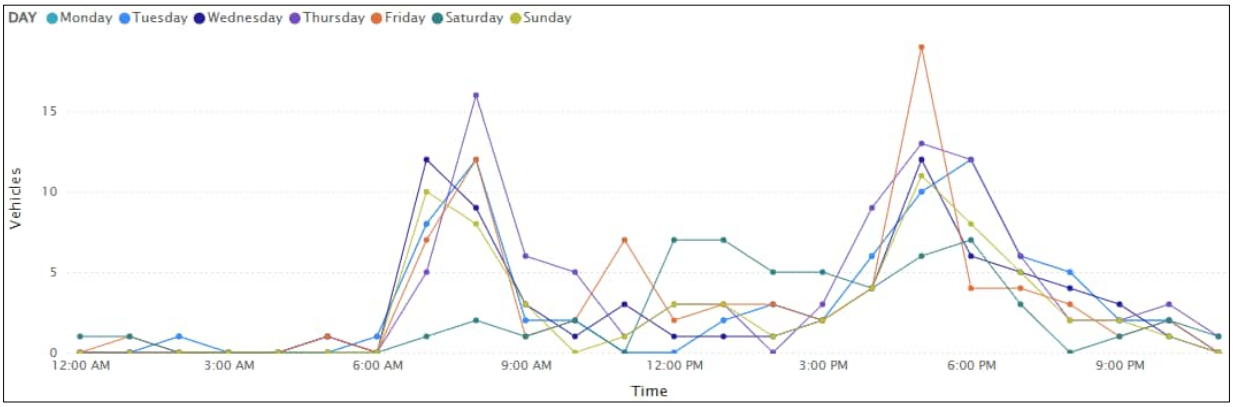


Figure 6-28 Block 4 – Daily demand profile of WLOK1

6.5.3 Taxi

Table 6-14 presents a summary of the peak hour demands for the taxi facility, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- WLOT1 Cope Street:
  - The highest demand recorded at WLOT1 occurred during the weekday AM peak hour, when there were five vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from one to three minutes.

- Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.

Table 6-14 Block 4 – Waterloo Station interchange assessment peak hour summary (taxi)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
WLOT1 (Cope Street)	Peak hour	Wednesday 8am-9am	Monday 3pm-4pm	Saturday 11pm-12am
	Vehicles (vehicle per hour)	5	4	4
	Average dwell time (minutes)	2	1	3
	Boarding/alighting passenger (excluding driver)	6	5	7

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

Figure 6-29 presents the daily demand profile for the taxi facility at Waterloo Station.

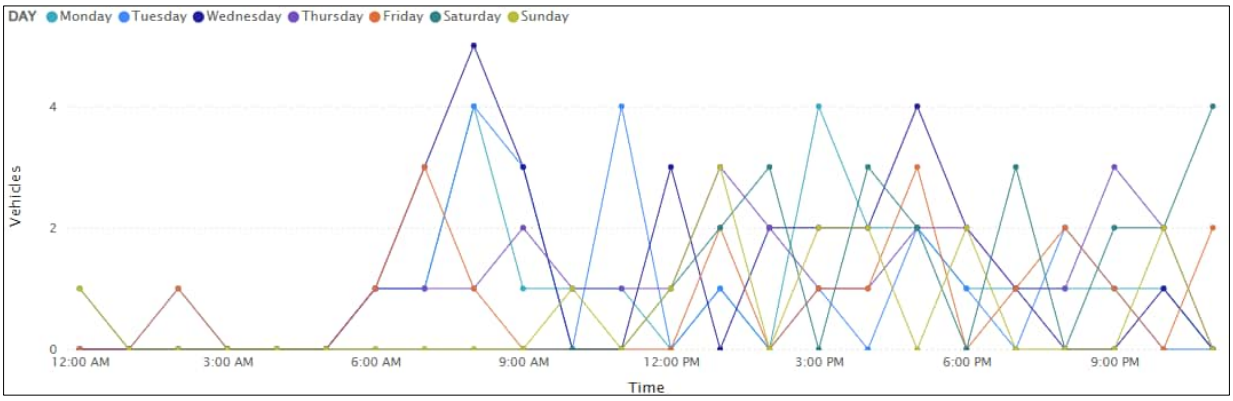


Figure 6-29 Block 4 – Daily demand profile of WLOT1

6.5.4 Accessible parking

Table 6-15 presents a summary of the peak hour demands for the accessible parking facility, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- WLOA1 Cope Street:
  - The highest demand recorded at WLOA1 occurred during the weekday PM peak hour, when there were three vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from one to four minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.

Table 6-15 Block 4 – Waterloo Station interchange assessment peak hour summary (accessible parking)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
WLOA1 (Cope Street)	Peak hour	Monday 6am-7am	Thursday 6pm-7pm	Saturday 10am-11am
	Vehicles (vehicle per hour)	1	3	1

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
	Average dwell time (minutes)	1	4	1
	Boarding/alighting passenger (excluding driver)	2	5	0

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

Figure 6-30 presents the daily demand profile for the accessible parking at Waterloo Station.

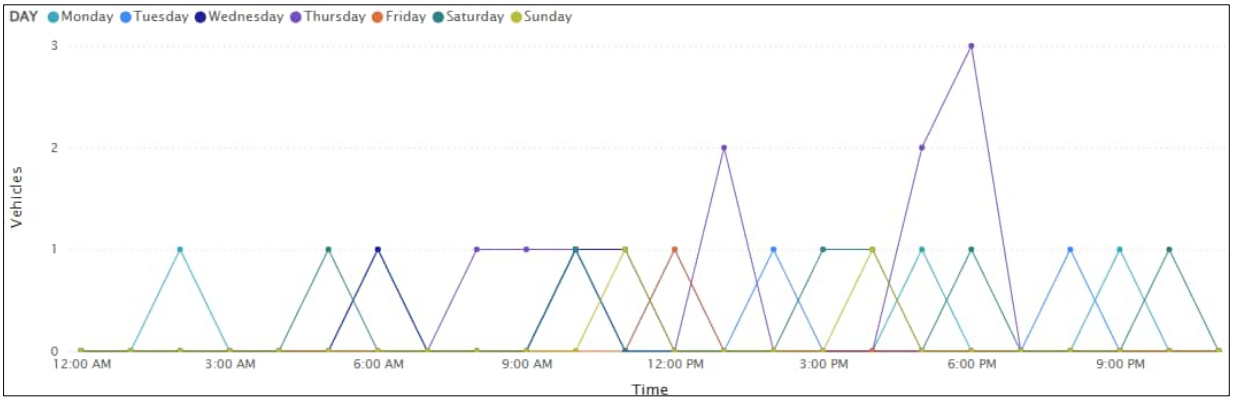
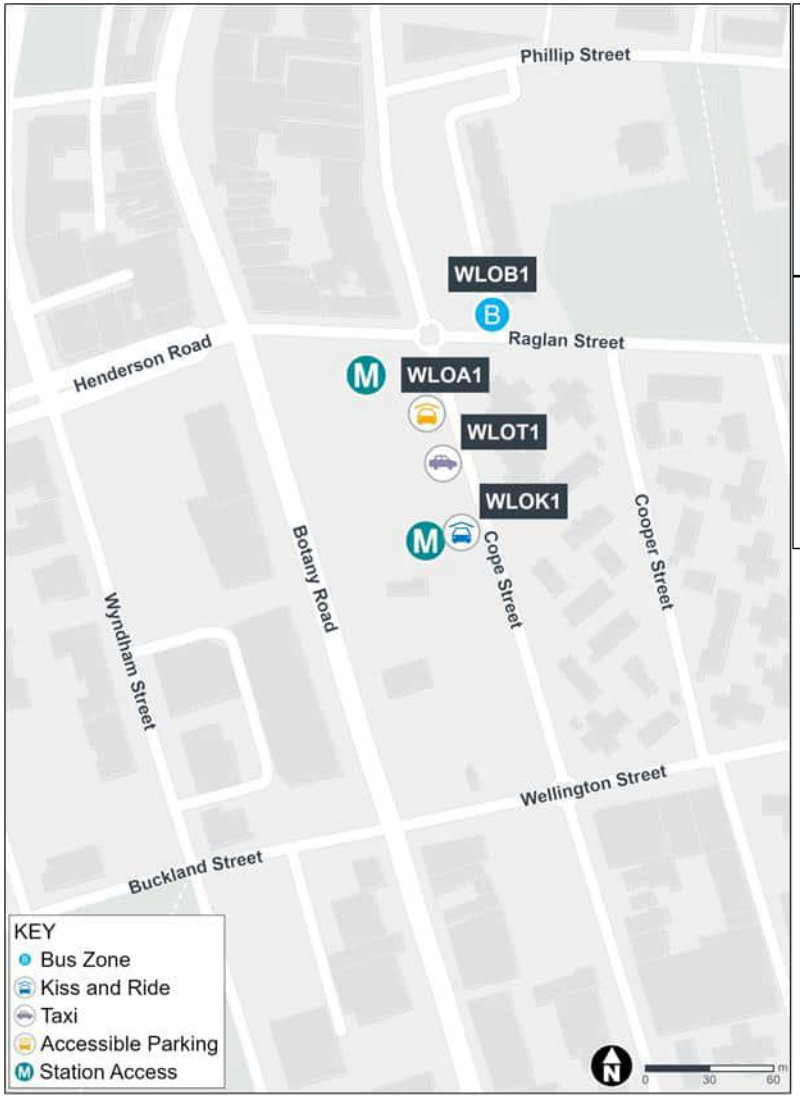
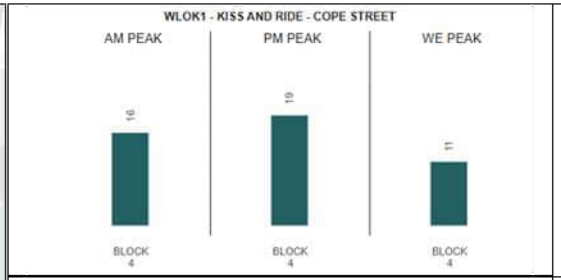


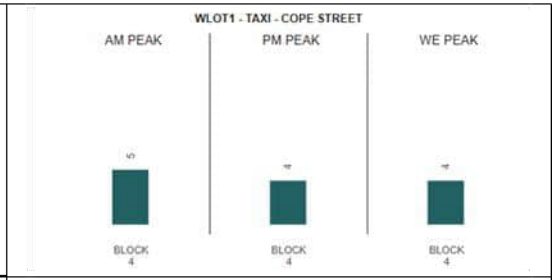
Figure 6-30 Block 4 – Daily demand profile of WLOA1

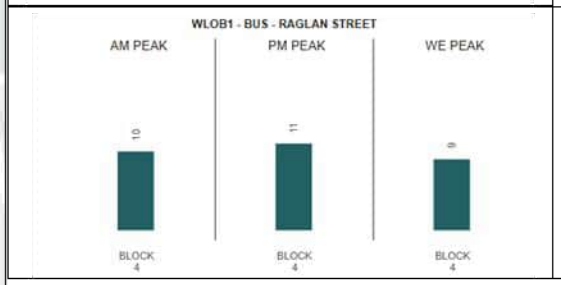
6.5.5 Interchange demand summary

Figure 6-31 and Figure 6-32 provide a summary of the total peak hourly vehicle demand and boarding and alighting demand, respectively, recorded across the interchange facilities for Block 4. It is noted that some drivers occasionally parked in the interchange facilities without picking up or dropping off passengers, resulting in vehicle demand sometimes being higher than the boarding and alighting demand.









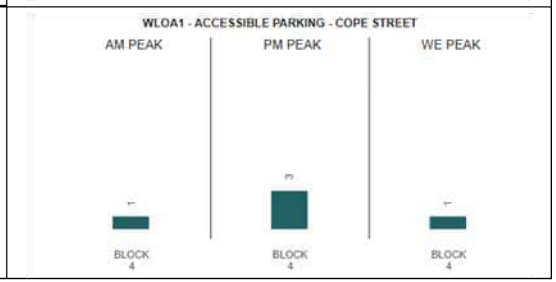
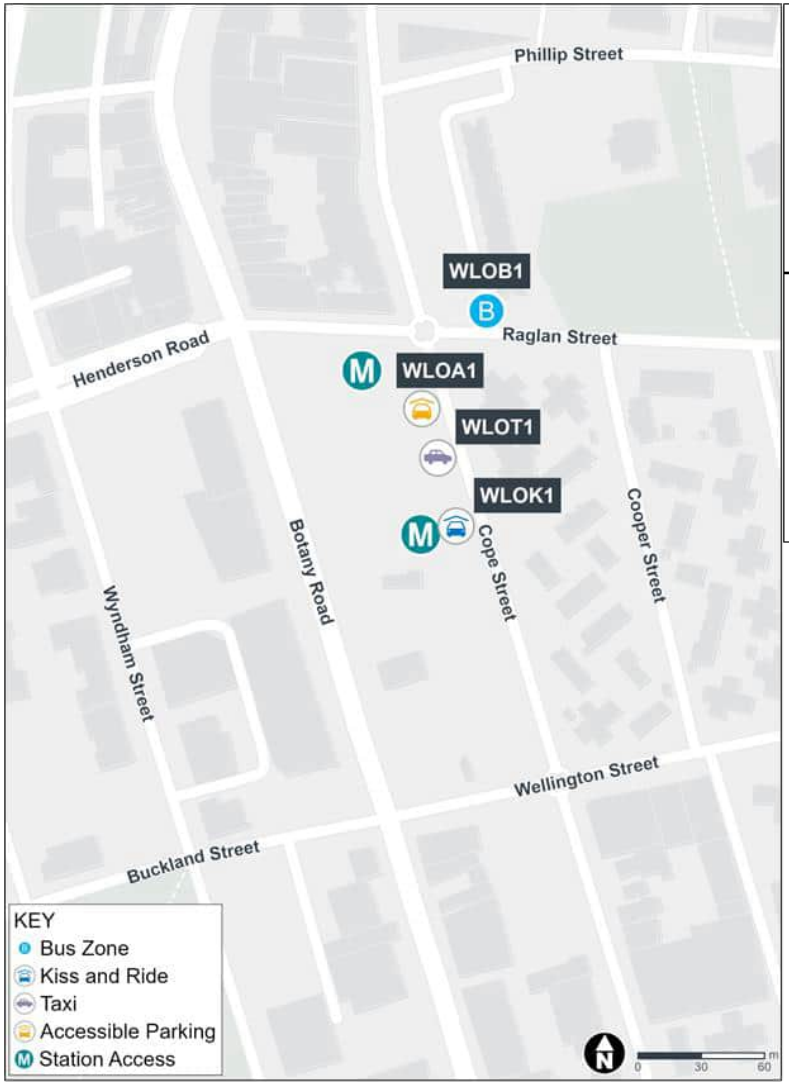
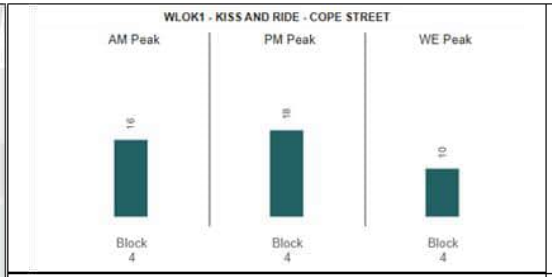
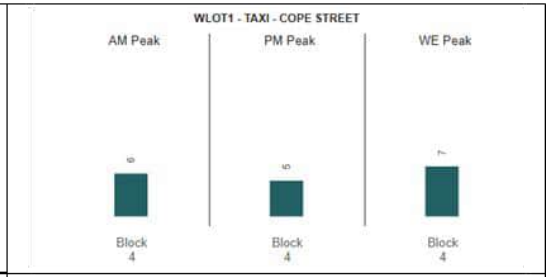
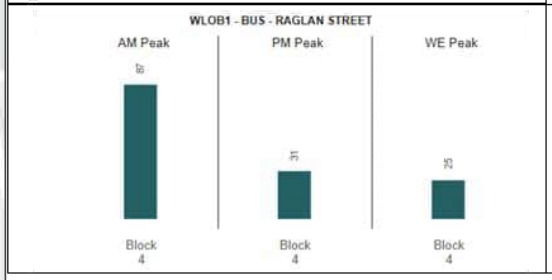


Figure 6-31 Block 4 – Waterloo Station interchange vehicle demand summary









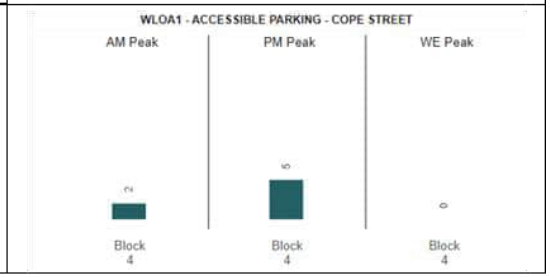


Figure 6-32 Block 4 – Waterloo Station interchange boarding and alighting demand summary

6.6 Sydenham Station

In the Sydenham Station study area, a total of five taxi, bus stop, kiss and ride and accessible parking facilities were assessed during Block 4. These included one bus facility, two kiss and ride facilities, one taxi facility and one accessible parking area. Refer to Section 3.3 for detailed information about their locations and the number of bays.

6.6.1 Bus

Table 6-16 presents a summary of the peak hour demands for the bus facility, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- SYDB1 Railway Parade:
  - The highest demand recorded at SYDB1 occurred during the weekday AM peak hour, when there were 16 vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from two to three minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.

Table 6-16 Block 4 – Sydenham Station interchange assessment peak hour summary (bus)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
SYDB1 (Railway Parade)	Peak hour	Tuesday 7am-8am	Tuesday 5pm-6pm	Saturday 1pm-2pm
	Vehicles (vehicle per hour)	16	15	8
	Average dwell time (minutes)	2	3	2
	Boarding/alighting passenger (excluding driver)	137	64	34

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

Figure 6-33 presents the daily demand profile for the bus facility at Sydenham Station.

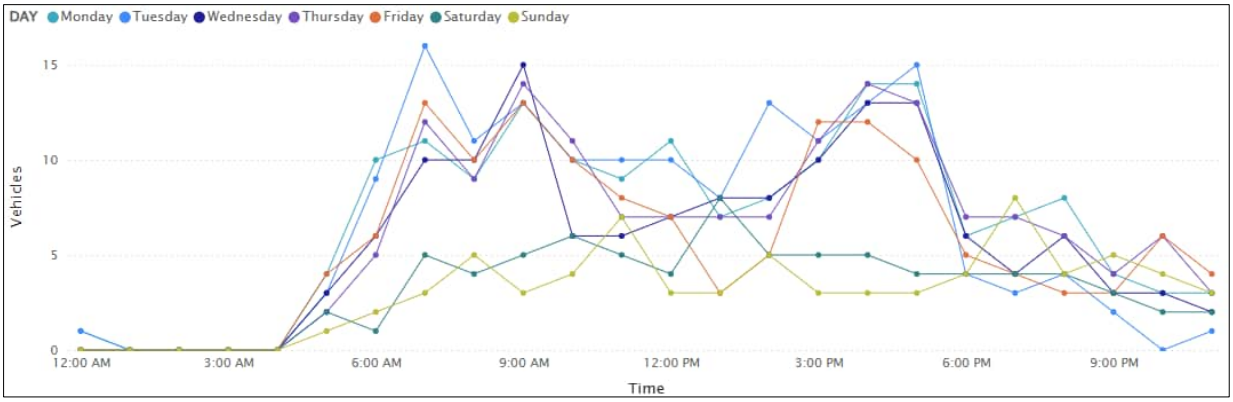


Figure 6-33 Block 4 – Daily demand profile of SYDB1

6.6.2 Kiss and ride

Table 6-17 presents a summary of the peak hour demands for the kiss and ride facilities, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- SYDK1 Burrows Avenue:
  - The highest demand recorded at SYDK1 occurred during the weekday PM peak hour, when there were 31 vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from two to three minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.
- SYDK2 Sydenham Road:
  - The highest demand recorded at SYDK2 occurred during the weekday AM peak hour, when there were 45 vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from one to two minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.

Table 6-17 Block 4 – Sydenham Station interchange assessment peak hour summary (kiss and ride)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
SYDK1 (Burrows Avenue)	Peak hour	Thursday 7am-8am	Thursday 6pm-7pm	Saturday 10am-11am
	Vehicles (vehicle per hour)	22	31	17
	Average dwell time (minutes)	2	2	3
	Boarding/alighting passenger (excluding driver)	29	33	18
SYDK2 (Sydenham Road)	Peak hour	Tuesday 8am-9am	Thursday 5pm-6pm	Saturday 5pm-6pm
	Vehicles (vehicle per hour)	45	22	20
	Average dwell time (minutes)	1	2	1
	Boarding/alighting passenger (excluding driver)	46	20	24

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

Figure 6-34 and Figure 6-35 provide daily demand profile for the kiss and ride facilities at Sydenham Station.

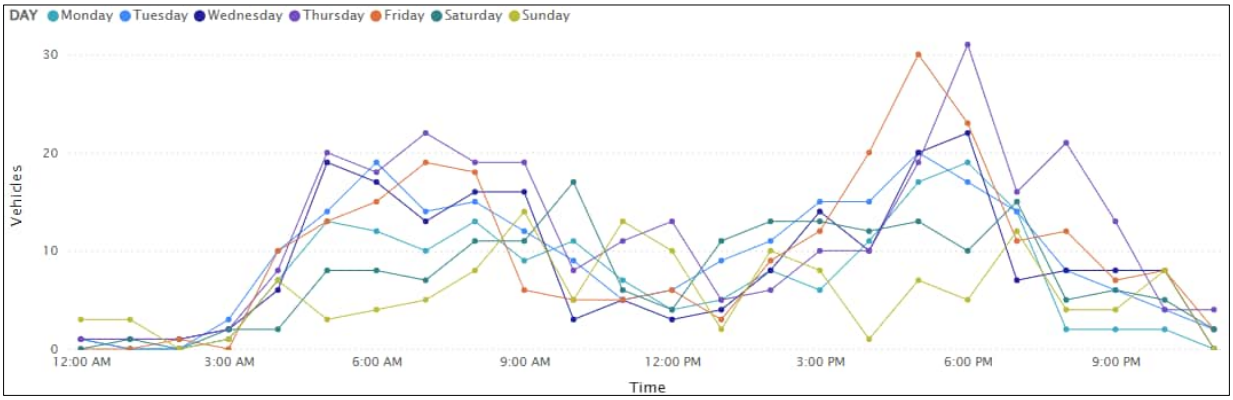


Figure 6-34 Block 4 – Daily demand profile of SYDK1

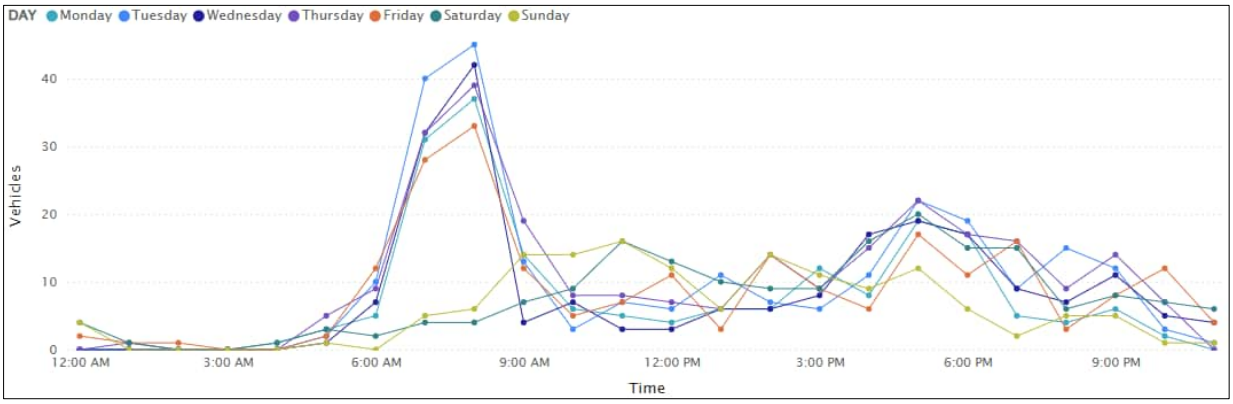


Figure 6-35 Block 4 – Daily demand profile of SYDK2

6.6.3 Taxi

Table 6-18 presents a summary of the peak hour demands for the taxi facility, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- SYDT1 Burrows Avenue:
  - The highest demand recorded at SYDT1 occurred during the weekday PM peak hour, when there were six vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from one to two minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues. Note that most vehicles accessing the bay were general vehicles.

Table 6-18 Block 4 – Sydenham Station interchange assessment peak hour summary (taxi)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
SYDT1 (Burrows Avenue)	Peak hour	Friday 6am-7am	Thursday 9pm-10pm	Sunday 1pm-2pm
	Vehicles (vehicle per hour)	4	6	5
	Average dwell time (minutes)	1	1	2

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
	Boarding/alighting passenger (excluding driver)	1	5	12

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

Figure 6-36 presents the daily demand profile for the taxi facility at Sydenham Station.

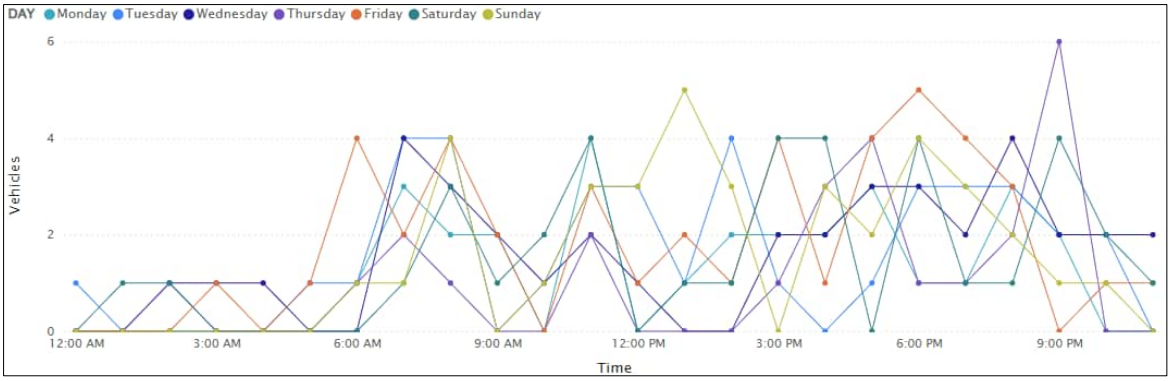


Figure 6-36 Block 4 – Daily demand profile of SYDT1

6.6.4 Accessible parking

Table 6-19 presents a summary of the peak hour demands for the accessible parking facility, as well as the average dwell time and total number of boarding/alighting passengers during the identified peak hours.

Based on the interchange survey data, the following were the key observations:

- SYDA1 Bolton Street:
  - The highest demand recorded at SYDA1 occurred during the weekday AM peak hour, when there were three vehicles per hour.
  - The average dwell time during the weekday and weekend peak hours ranged from four to 51 minutes.
  - Generally, no queues were observed to extend out of the bay and block the travel lane. Current number of bays are generally sufficient to cater the peak demand and queues.

Table 6-19 Block 4 – Sydenham Station interchange assessment peak hour summary (accessible parking)

ID	Peak hour			
	Summary	Weekday AM	Weekday PM	Weekend
SYDA1 (Bolton Street)	Peak hour	Tuesday 10am-11am	Thursday 12pm-1pm	Sunday 8am-9am
	Vehicles (vehicle per hour)	3	2	2
	Average dwell time (minutes)	4	29	51
	Boarding/alighting passenger (excluding driver)	7	4	8

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

Figure 6-37 presents the daily demand profile for the accessible parking at Sydenham Station.

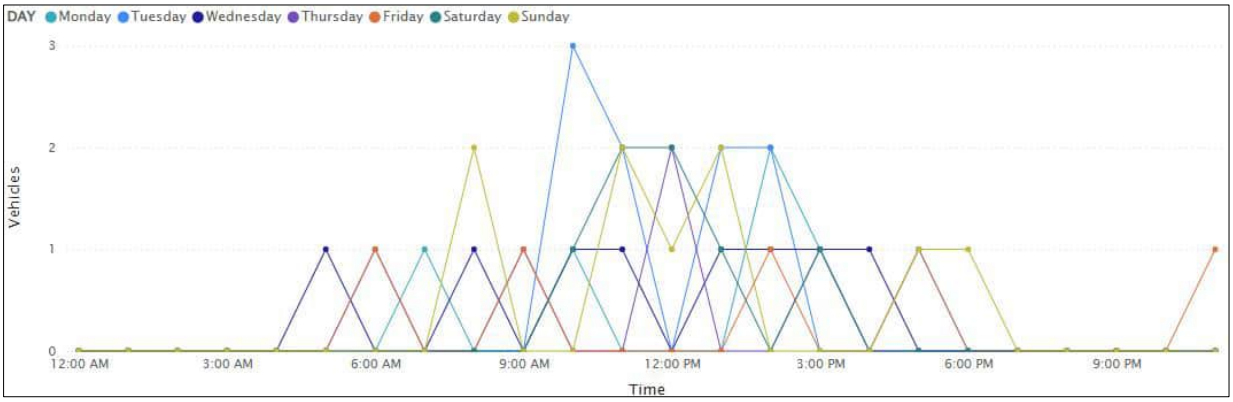


Figure 6-37 Block 4 – Daily demand profile of SYDA1

6.6.5 Comparison with previous study blocks

Figure 6-38 provides a comparison of the peak hourly vehicle demand recorded across the interchange facilities for Block 4 against pre-opening conditions. Key findings are as follows:

- SYDB1 Railway Parade vehicle demands are generally similar during all peak hours compared to pre-opening conditions.
- SYDK1 Burrows Avenue vehicle demands are generally similar in the weekday AM and weekend peak hours, and slightly higher in the weekday PM peak hour compared to pre-opening conditions.
- SYDK2 Sydenham Road vehicle demands are substantially higher during all peak hours compared to pre-opening conditions. This is likely due to the opening of the new Sydney Metro station access on Sydenham Road near this facility.
- SYDT1 Burrows Avenue vehicle demands are generally similar during all peak hours compared to pre-opening conditions in Block 2, however slightly higher than Block 1 and 3.
- SYDA1 Bolton Street vehicle demands are generally similar during all peak hours compared to pre-opening conditions.

Similarly, Figure 6-39 provides a comparison of the total peak hourly boarding and alighting demand recorded across the interchange facilities for Block 4 against pre-opening conditions. Key findings were as follows:

- SYDB1 Railway Parade boarding and alighting demands are:
  - slightly higher in the weekday AM peak hour compared to pre-opening conditions in Blocks 1, 2 and 3
  - similar in the weekday PM peak hour compared to pre-opening conditions in Block 1 and 3, however lower than Block 2 demands.
  - similar during the weekend peak hour compared to pre-opening conditions in Blocks 1, 2 and 3.
- SYDK1 Burrows Avenue boarding and alighting demands are generally similar during all peak hours compared to pre-opening conditions.
- SYDK2 Sydenham Road boarding and alighting demands are substantially higher during all peak hours compared to pre-opening conditions. This is likely due to the opening of the new Sydney Metro station access on Sydenham Road near this facility.
- SYDT1 Burrows Avenue boarding and alighting demands are:
  - similar during the weekday AM peak hour compared to pre-opening conditions in Blocks 1 and 3, however lower than Block 2 demands
  - similar during the weekday PM peak hour compared to pre-opening conditions in Blocks 1, 2 and 3

  - similar during the weekend peak hour compared to pre-opening conditions in Block 2, however higher than Block 1 and 3 demands.

- SYDA1 Bolton Street boarding and alighting demands are generally similar during all peak hours compared to pre-opening conditions.

It is noted that some drivers occasionally parked in the interchange facilities without picking up or dropping off passengers, resulting in vehicle demand sometimes being higher than the boarding and alighting demand.

Figure 6-38 Block 4 – Study block comparison – Sydenham Station interchange vehicle demand summary

Figure 6-39 Block 4 – Study block comparison – Sydenham Station interchange boarding and alighting demand summary

7.0 Summary

AECOM has been commissioned by Sydney Metro to undertake traffic and interchange monitoring 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).

This report relates to Block 4 which represents the first study block following the commencement of operations of the Sydney Metro City & Southwest Line (Chatswood to Sydenham).

The overall scope of works for the Block 4 study covers the following:

- **Traffic monitoring:** Intersection surveys were conducted for a one-week period in September 2024. The surveys included classified intersection count survey and vehicular queue length survey.
- **Transport interchange monitoring:** Surveys were conducted at all stations with operating interchange facilities, namely Chatswood Station, Crows Nest Station, Victoria Cross Station, Barangaroo Station, Waterloo Station and Sydenham Station. Interchange operation surveys were conducted at these six stations continuously for a one-week period in September 2024.
- **Site visit and observations:** Site visits were undertaken in conjunction with the traffic and interchange operation monitoring for at least one weekday AM peak period, one weekday PM peak period, and one weekend peak period at each station.
- **Intersection assessment:** To evaluate the intersection operation during Block 4, isolated and network traffic modelling assessments were performed using SIDRA Intersection modelling software.
- **Traffic and interchange monitoring report:** The key findings of the Block 4 study were presented to Sydney Metro and key stakeholders in January 2025. This report provides a summary of the details regarding the Block 4 traffic and interchange operation assessment.

Key findings of the Block 4 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 during all peak hours.
        - Block 4 intersection performance is generally similar to pre-opening conditions.
    - Crows Nest Station:
        - All intersections within the Crows Nest Station study area perform at LOS C or better during all peak hours.
        - Block 4 intersection performance is generally similar to pre-opening conditions. Pacific Highway/Falcon Street/Shirley Road (CST04) had a notable change in LOS, whereby the intersection improved from a LOS D to a C in the weekday AM peak hour compared to Block 3. This change in LOS for CST04 was due to lower traffic volumes at this intersection in Block 4.

- Victoria Cross Station:
  - All intersections within the Victoria Cross Station study area operate at LOS D or better during all peak hours.
  - Block 4 intersection performance is generally similar to pre-opening conditions. Miller Street/Berry Street (VIC02) had a notable change in LOS, whereby the intersection reduced from a LOS C to a D in the weekday AM peak hour compared to Block 3. It should be noted however that this intersection was on the border of LOS C and D during Block 3. This change in LOS for VIC02 was due to higher traffic volumes at this intersection in Block 4.
- Barangaroo Station:
  - All intersections within the Barangaroo Station study area operate at LOS C or better during all peak hours.
  - Block 4 intersection performance is generally similar to pre-opening conditions.
- Martin Place Station:
  - All intersections within the Martin Place Station study area operate at LOS C or better during all peak hours.
  - Block 4 intersection performance is generally similar to pre-opening conditions.
- Gadigal Station:
  - All intersections within the Gadigal Station study area operate at LOS C or better during all peak hours.
  - Block 4 intersection performance is generally similar to pre-opening conditions.
- Central Station:
  - All intersections within the Central Station study area operate at LOS C or better during all peak hours.
  - Block 4 intersection performance is generally similar to pre-opening conditions.
- Waterloo Station:
  - All intersections within the Waterloo Station study area operate at LOS C or better during all peak hours.
  - Block 4 intersection performance is generally similar to pre-opening conditions. Botany Road/Raglan Street (WLO01) had a notable change in LOS, whereby the intersection improved from a LOS D to a LOS C in the weekday PM peak hour compared to Block 3. This change in LOS for WLO01 was due to lower traffic volumes at this intersection in Block 4.
- Sydenham Station:
  - All intersections within the Sydenham Station study area operate at LOS B or better during all peak hours.
  - Block 4 intersection performance is generally similar to pre-opening conditions.

- **Transport interchange monitoring:** The interchange operation surveys focused on analysing taxi, bus stop, kiss and ride, and accessible parking facilities at Chatswood Station, Crows Nest Station, Victoria Cross Station, Barangaroo Station, Waterloo Station and Sydenham Station. The key findings are summarised as follows:
  - Chatswood Station:
    - The capacities of the interchange facilities were generally sufficient to cater for the existing demand, with no queues extending outside the bays.
    - Block 4 vehicle demands were generally similar to pre-opening conditions for all interchange facilities across all peak hours.

- Crows Nest Station:
  - The capacities of the interchange facilities were generally sufficient to cater for the existing demand, with no queues extending outside the bays.
- Victoria Cross Station
  - The capacities of the interchange facilities were generally sufficient to cater for the existing demand, with no queues extending outside the bays.
- Barangaroo Station
  - The capacities of the interchange facilities were generally sufficient to cater for the existing demand, with no queues extending outside the bays.
- Waterloo Station
  - The capacities of the interchange facilities were generally sufficient to cater for the existing demand, with no queues extending outside the bays.
- Sydenham Station:
  - The capacities of the interchange facilities were generally sufficient to cater for the existing demand, with no queues extending outside the bays.
  - Block 4 vehicle demands were generally similar to pre-opening conditions for all interchange facilities, with the exception of Sydenham Road (SYDK2) which had demands that were substantially higher than pre-opening conditions across all peak hours. This increase is likely due to the opening of the new Sydney Metro station access on Sydenham Road near this facility.

In summary, the results from Block 4 traffic monitoring demonstrate generally satisfactory intersection performance, consistently achieving LOS D or better across all stations. The assessment of interchange facilities at Chatswood, Crows Nest, Victoria Cross, Barangaroo, Waterloo and Sydenham stations generally indicates sufficient provision to meet the demand observed during Block 4.

Appendix A

Stakeholder meeting minutes

Appendix A Stakeholder meeting minutes

AECOM

Minutes of Meeting

Sydney Metro City & Southwest - Traffic and Interchange Operation Monitoring

Subject	Block 4 Presentation	Page	1
Venue	MS-Teams	Time	3:00pm - 4:00pm
Participants	Nita Hutapea (NH), Sydney Metro Jennifer Adams (JA), Inner West Council Minas Kassiou (MK), Inner West Council Michael Huy (MH), Inner West Council George Tsaprounis (GT), Inner West Council Arvind Narwal (AN), Inner West Council Anoop Sridhar (AS), AECOM Mack Brinums (MB), AECOM Jimmy Wan (JW), AECOM Mark Yeung (MY), AECOM		
Apologies	Garry Hitchcox (GH), Sydney Metro		
File/Ref No.	SM-C&SW-MM-IWC-004	Date	29-Jan-2025
Distribution	As above		

No	Item	Action	Date
1.	**Project Overview and Results** • NH gave an overview/background on the project. • AS gave an overview of scope of works, approach and results of Block 4 monitoring.	-	-
2.	• GT queried the number of bays at SYDK2 and whether the capacity was sufficient. • MB noted there were two formal bays, however there were a number of instances where vehicles would drop-off across the driveways on either side of the bay, effectively accommodating four cars at one time. Block 4 observations indicated that the bay was sufficient with accommodating the demand without impacting through traffic. However, it was close to capacity, with video footage indicating occasions where a vehicle would leave the bay as another vehicle would arrive. • AS noted Block 4 surveys occurred shortly after the opening of Sydney Metro. This bay would continue to be monitored in Block 5 and 6 to see if there is any change in demand as people become more aware of the available interchange facilities.	Note	-

No	Item	Action	Date
3.	• GT queried whether there was any data on turnstile numbers at Sydenham Station. • AS noted tap-on/tap-off data was available, however it was difficult to aggregate it to the exact dates the Block 4 surveys were completed. • MB noted that the Opal tap-on/tap-off data is collated by month. Sydney Metro commenced operations on 19 August 2024, therefore the August Opal data would not have shown the full increase in trips as a result of Sydney Metro given Sydney Metro was not operating for half the month. Similarly, the Bankstown line was closed in September, so September data would have been skewed whereby half the data would have had the Bankstown line open and half the data would have had the Bankstown line closed. • GT requested some further analysis on Opal data in future presentations. • For Council's reference, Train and Metro Station Entry and Exit data can be downloaded here: https://opendata.transport.nsw.gov.au/data/dataset/train-station-entries-and-exits-data	AECOM to provide some further analysis on Opal data in future presentations	Block 5
4.	• MH queried whether there was a breakdown of data available for the number of taxis vs general vehicles using SYDT1. • AS noted a breakdown of vehicles was not available, as the survey company just records when a vehicle enters or leaves a bay. Given the extensive amount of data being collected (24 hours for 7 days), it is difficult to go into further detail to difference between taxis and general vehicles. • It was agreed that AECOM would manually review the video footage for the identified AM, PM and WE peak hours and advise the split of taxis vs general vehicles. • MH requested further detail on use of SYDT1 for future presentations.	AECOM to review Block 4 video footage for the identified AM, PM and WE peak hours and advise the split of taxis vs general vehicles AECOM to provide further commentary on breakdown of vehicles during peak hours at SYDT1	7/02/2025 Block 5

Enclosures:

- Block 4 Presentation – Inner West Council
- Traffic survey data for Inner West Council sites

AECOM

Minutes of Meeting

Sydney Metro City & Southwest - Traffic and Interchange Operation Monitoring

Subject	Block 4 Presentation	Page	1
Venue	MS-Teams	Time	10:00am - 11:00am
Participants	Nita Hutapea (NH), Sydney Metro Jerimia Tukadra (JT), North Sydney Council Anoop Sridhar (AS), AECOM Mack Brinums (MB), AECOM Jimmy Wan (JW), AECOM Mark Yeung (MY), AECOM		
Apologies	Garry Hitchcox (GH), Sydney Metro		
File/Ref No.	SM-C&SW-MM-NSC-001	Date	22-Jan-2025
Distribution	As above		

No	Item	Action	Date
1.	**Introduction** • Attendees introduced themselves, highlighting their roles and organisations.		
2.	**Project Overview and Results** • NH gave an overview/background on the project. • AS gave an overview of scope of works and the approach for Block 4 monitoring.		
3.	• JT made note that all information was very helpful, particularly taxi demand information. • MB clarified that the taxi bay demand includes all vehicles that stopped in the bay, regardless of whether they were a taxi or not. At CSTT1 in particular, observations indicated the majority of this demand was associated with general vehicles.		
4.	• JT noted that Council has struggled to get taxis to use taxi zone on McLaren Street. • NH noted that Sydney Metro had contacted the Taxi Council to try and increase utilisation of bay, but also noted Block 4 surveys were undertaken shortly after opening of Metro so it may take some time for people to become familiar with all the facilities.	Note	

Enclosures:

- Block 4 Presentation – North Sydney Council
- Traffic survey data for the North Sydney Council sites

AECOM

Minutes of Meeting

Sydney Metro City & Southwest - Traffic and Interchange Operation Monitoring

Subject	Block 4 Presentation	Page	1
Venue	MS-Teams	Time	2:00pm - 3:00pm
Participants	Nita Hutapea (NH), Sydney Metro Chris Slenders (CS), TfNSW Anoop Sridhar (AS), AECOM Mack Brinums (MB), AECOM Jimmy Wan (JW), AECOM Mark Yeung (MY), AECOM		
Apologies	Garry Hitchcox (GH), Sydney Metro Khaled Dib (KD), TfNSW Zakaria Ahmad (ZA), TfNSW		
File/Ref No.	SM-C&SW-MM-TfNSW-004	Date	23-Jan-2025
Distribution	As above		

No	Item	Action	Date
1.	**Project Overview and Results** • MB gave an overview of Block 4 monitoring results.	-	-
2.	• CS noted it was interesting to see a reduction in pedestrian volumes at PIT02 given TfNSW have done separate surveys which indicated pedestrian volumes at this intersection had increased, although acknowledged surveys likely were completed at different times. • MB noted that there was quite a lot of construction work occurring at this intersection which reduced pedestrian path and crossing widths during Block 4, so pedestrians may have preferred to cross at a different intersection. Construction works associated with Castlereagh Street cycleway have now finished since the Block 4 surveys were completed.	-	-

Enclosures:

- Block 4 Presentation
- Block 4 Survey Data

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.

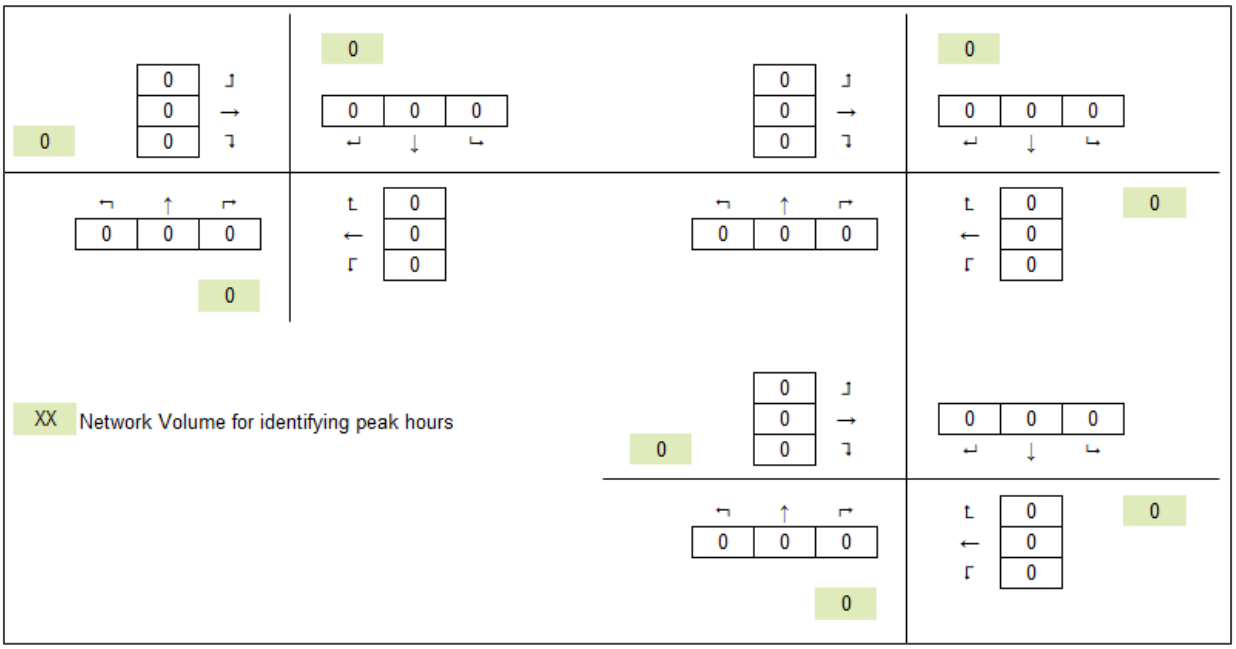


Figure 1 Adopted Network Volume for Network Peak Hour Identification

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				

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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	4-leg Intersection	1_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 - Stop	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 Hickson Rd (north of Metro Station)	Pedestrian only - Zebra	Pedestrian Mid-block Crossing	1_5	-	-
37	BGU17	Barangaroo Station	New Pedestrian Mid-block Crossing at Hickson Rd (south of Metro Station)	Pedestrian only - Zebra	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	Signal	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	Priority - Stop	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 - Zebra	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	Railway Pde / Sydenham Rd	Signal	3-leg Intersection	5_6_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	-	-

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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

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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 4

Dropdowns:

Vehicle Type:

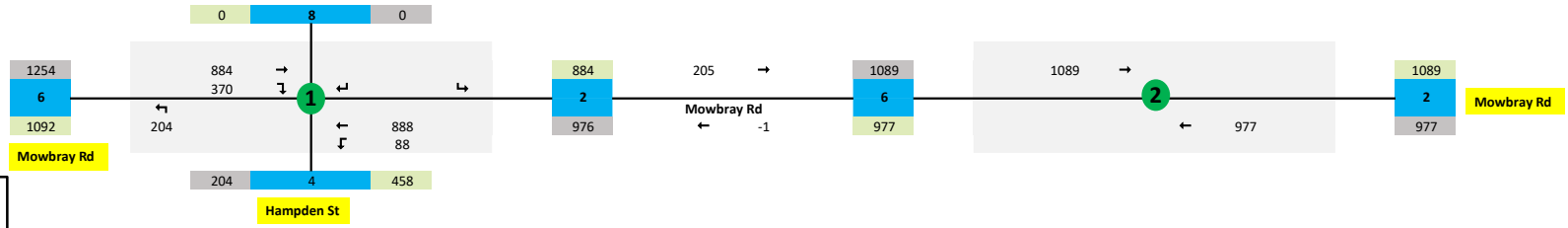
ALL VEHICLES

Time Period:

AM

CWD01 - 8:00 AM (Tue)

CWD02 - 8:00 AM (Tue)



Legend:

- Approach Number
- Approach Total
- Departure Total

Block 4

Dropdowns:

Vehicle Type:

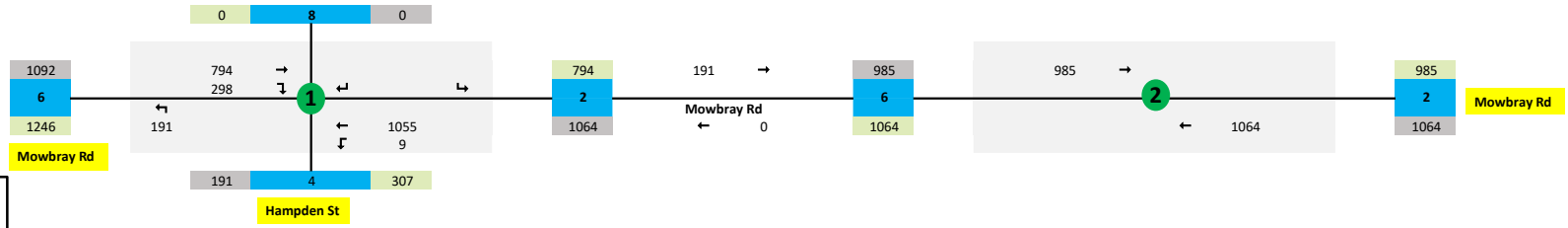
ALL VEHICLES

Time Period:

PM

CWD01 - 4:45 PM (Fri)

CWD02 - 4:45 PM (Fri)



Legend:

- Approach Number
- Approach Total
- Departure Total

Block 4

Dropdowns:

Vehicle Type:

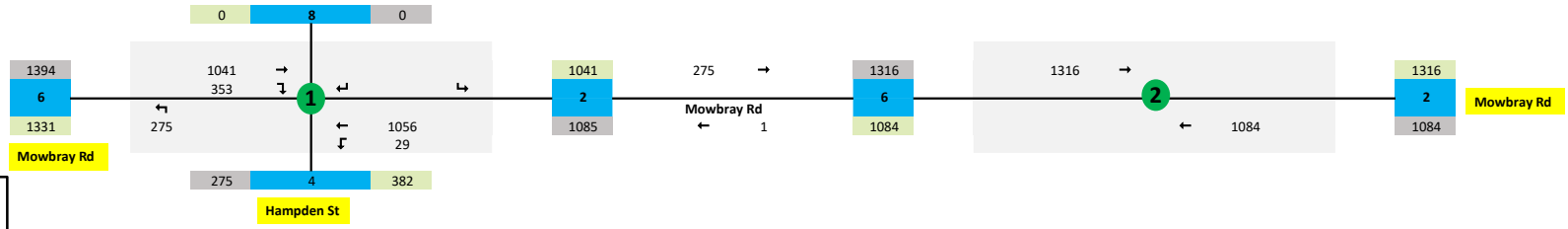
ALL VEHICLES

Time Period:

WEEKEND

CWD01 - 11:30 AM (Sat)

CWD02 - 11:30 AM (Sat)



Legend:

- Approach Number
- Approach Total
- Departure Total

Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

Time Period:

AM

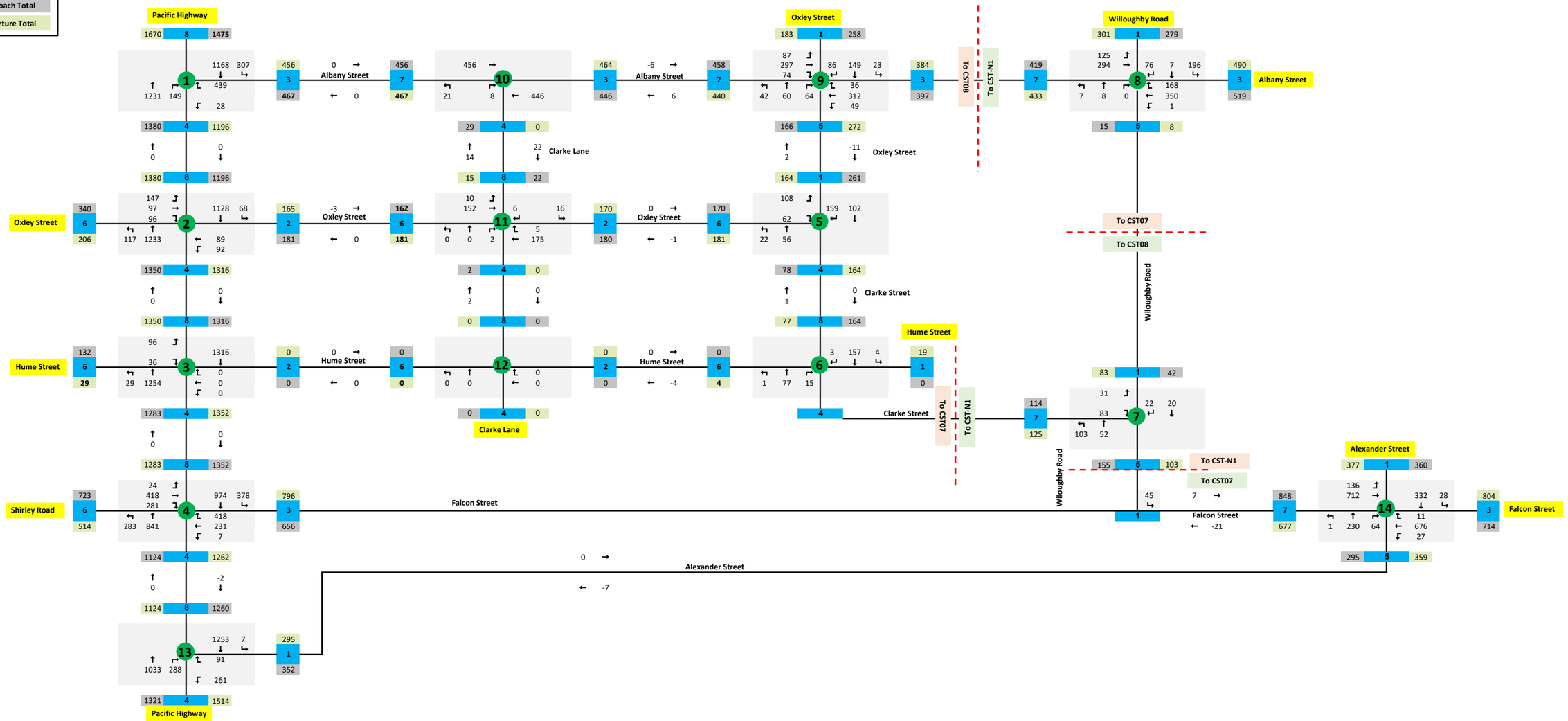
CST-N1 - 8:00 AM (Tue)

CST07 - 8:15 AM (Tue)

CST08 - 8:00 AM (Fri)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

Time Period:

PM

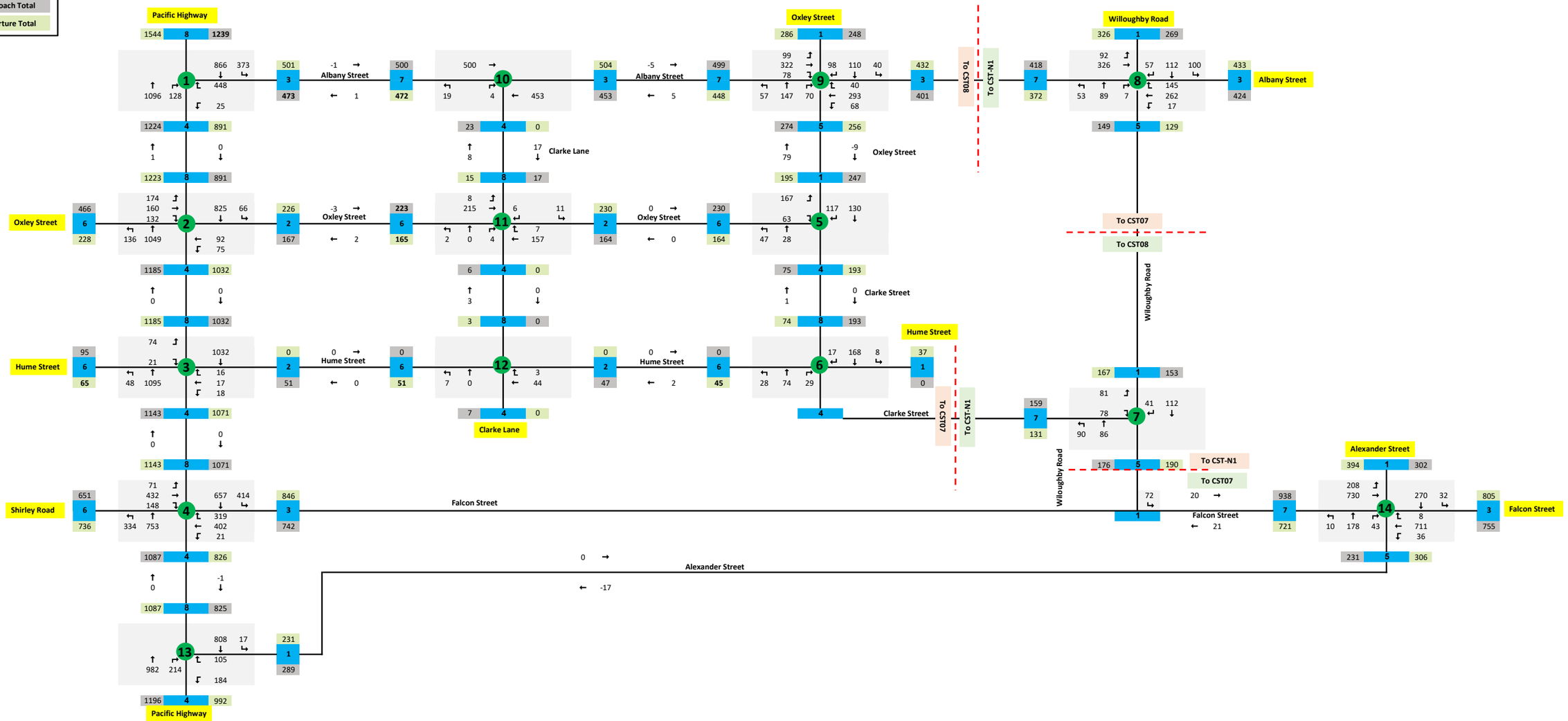
CST-N1 - 5:00 PM (Thu)

CST07 - 6:00 PM (Wed)

CST08 - 5:00 PM (Wed)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

Time Period:

WEEKEND

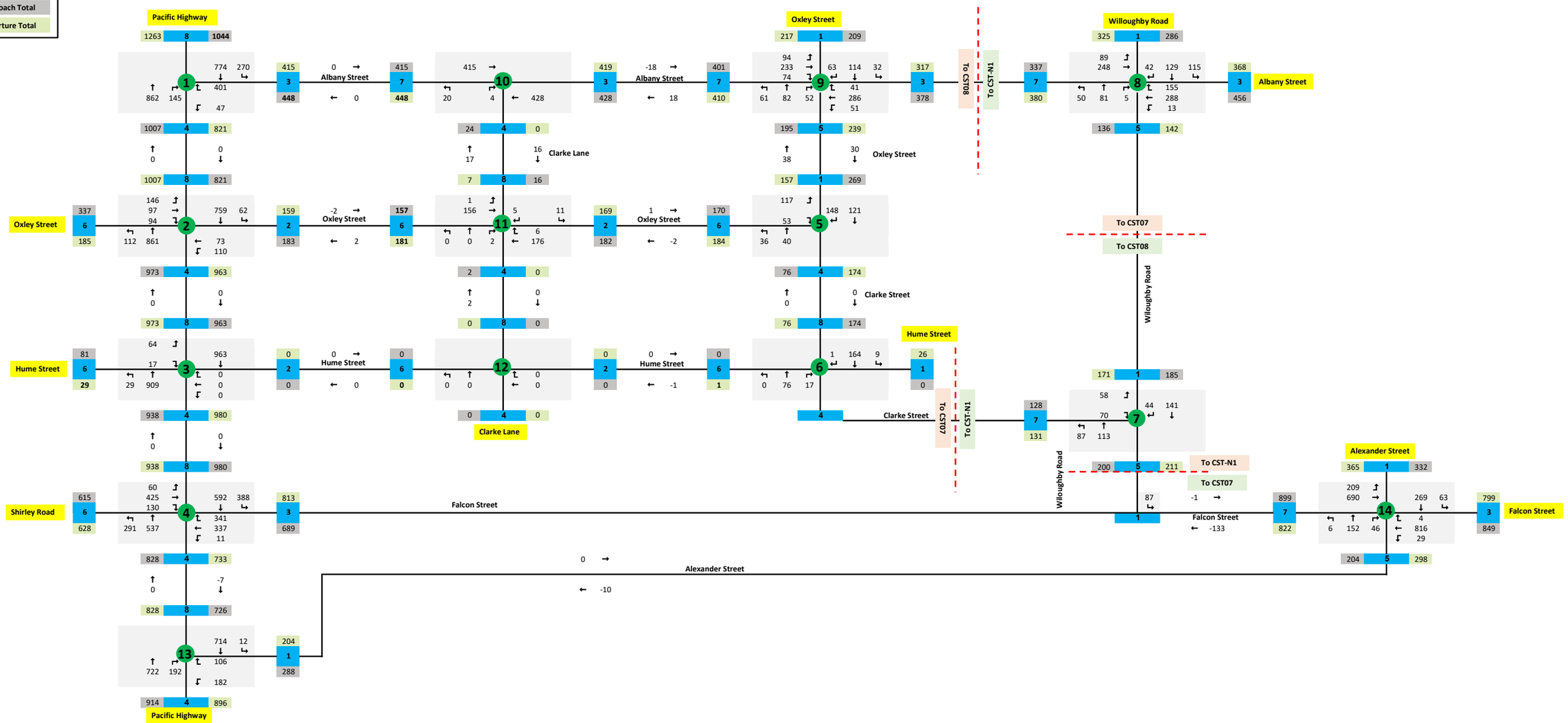
CST-N1 - 12:00 PM (Sat)

CST07 - 6:30 PM (Sat)

CST08 - 11:30 AM (Sat)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

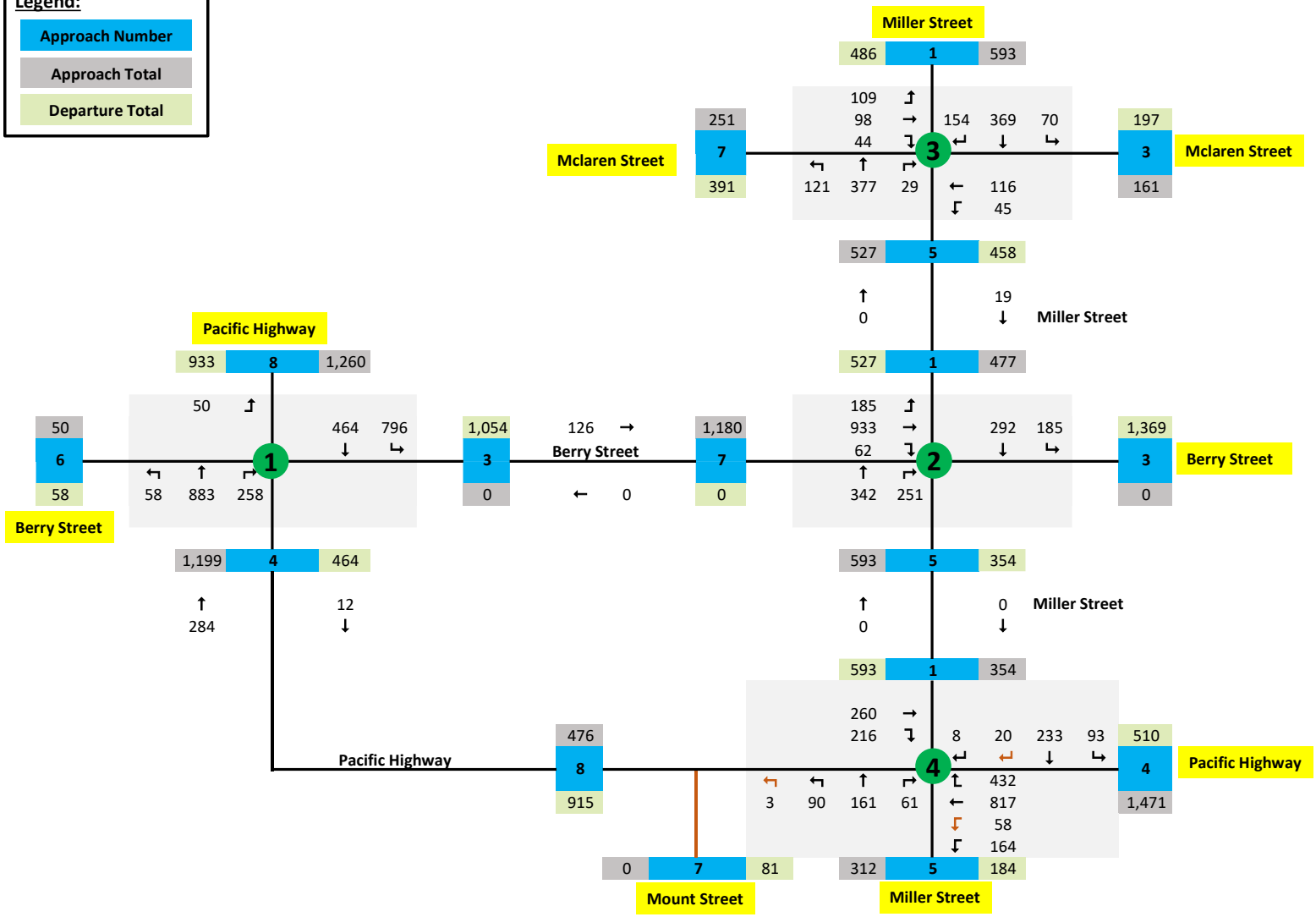
Time Period:

AM

VIC-N1 - 7:45 AM (Tue)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

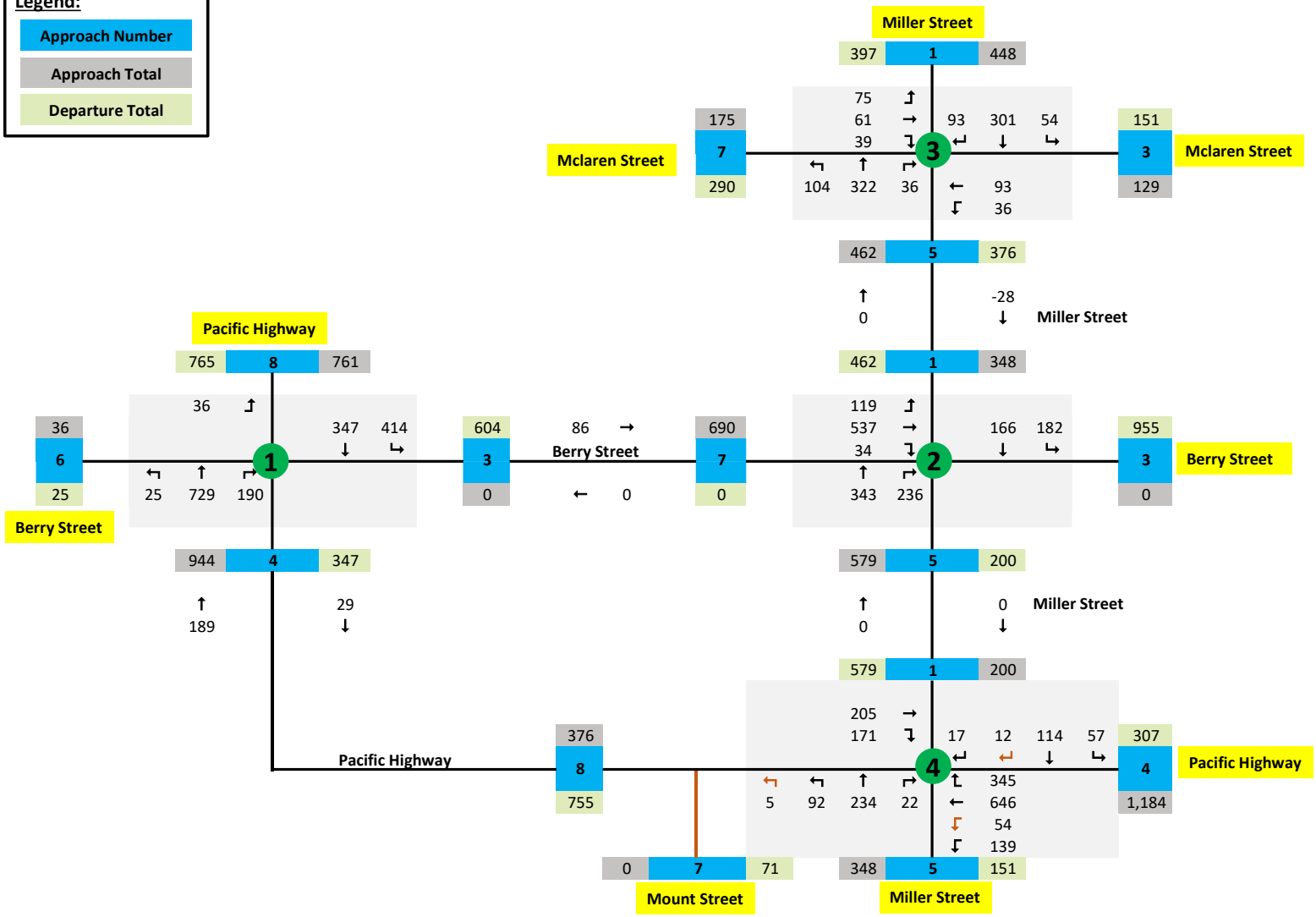
Time Period:

PM

VIC-N1 - 2:45 PM (Fri)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

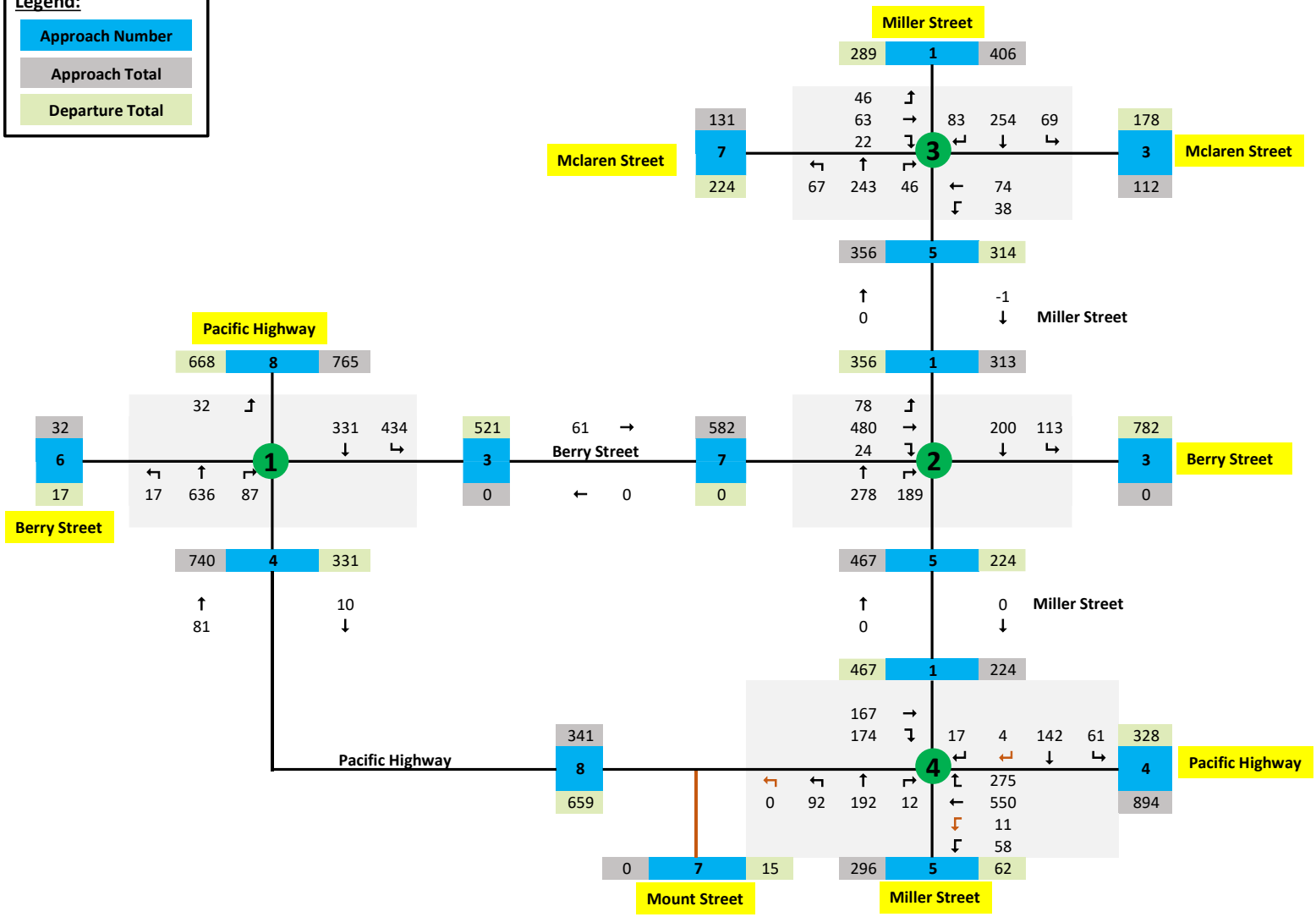
Time Period:

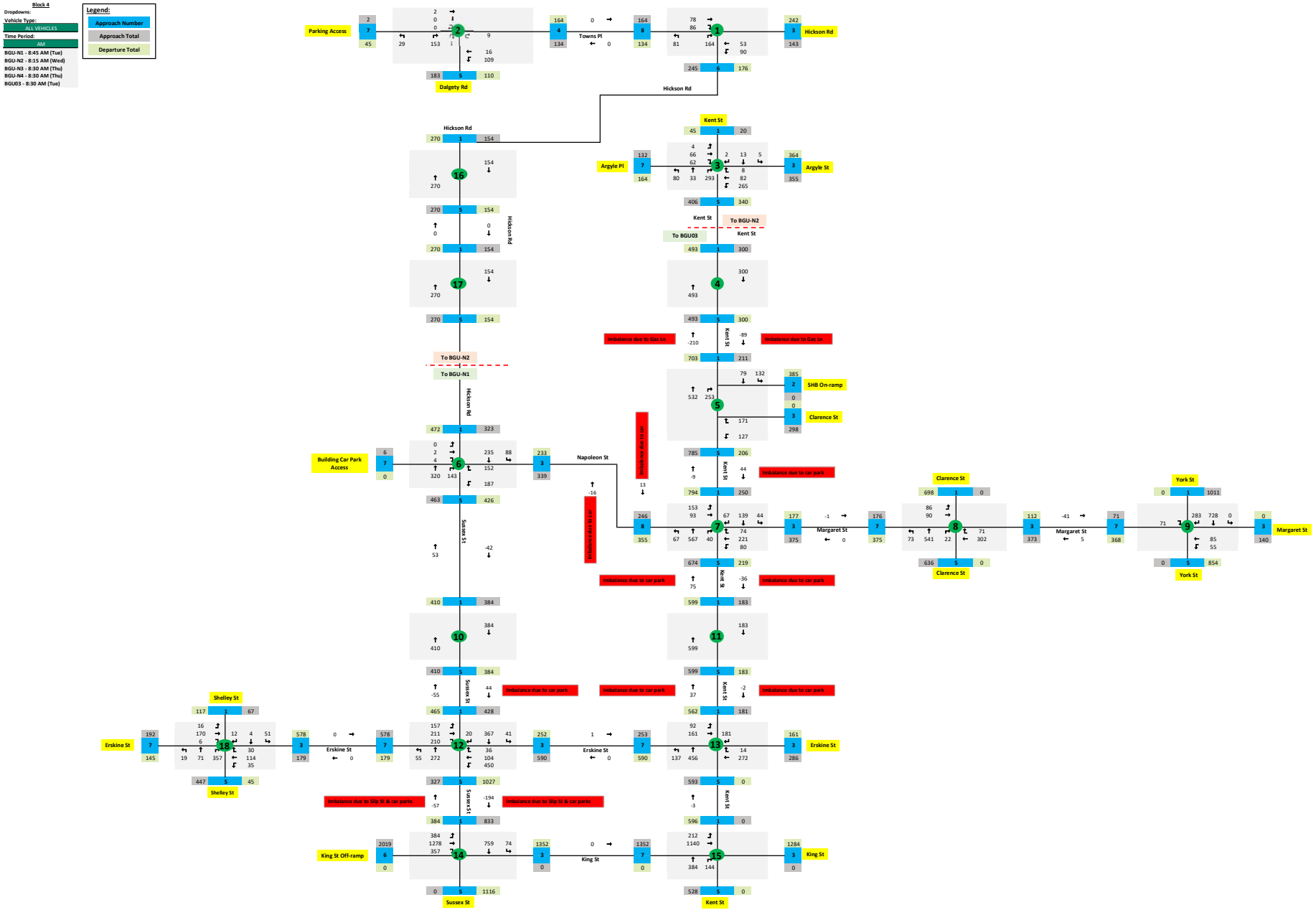
WEEKEND

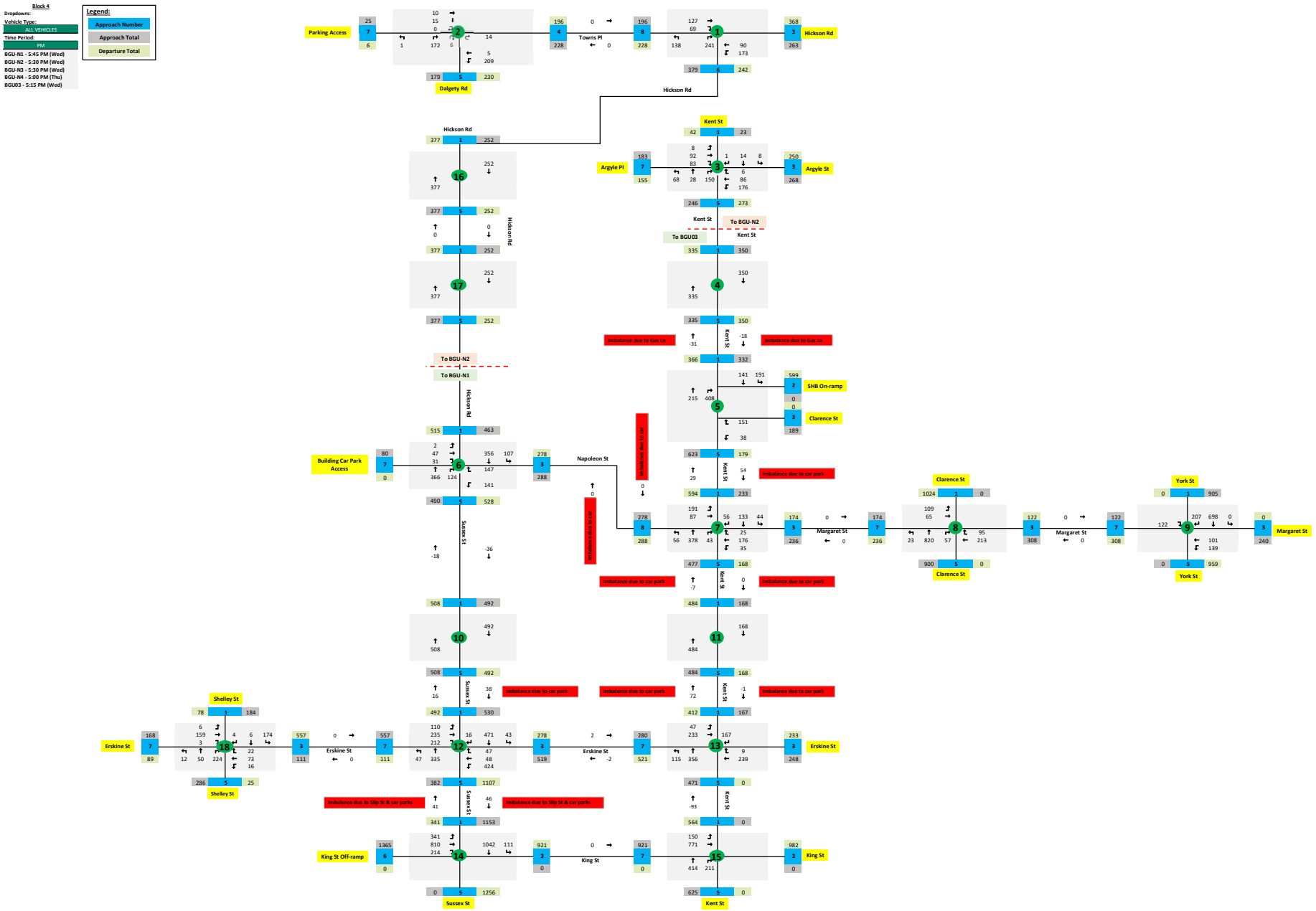
VIC-N1 - 12:00 PM (Sat)

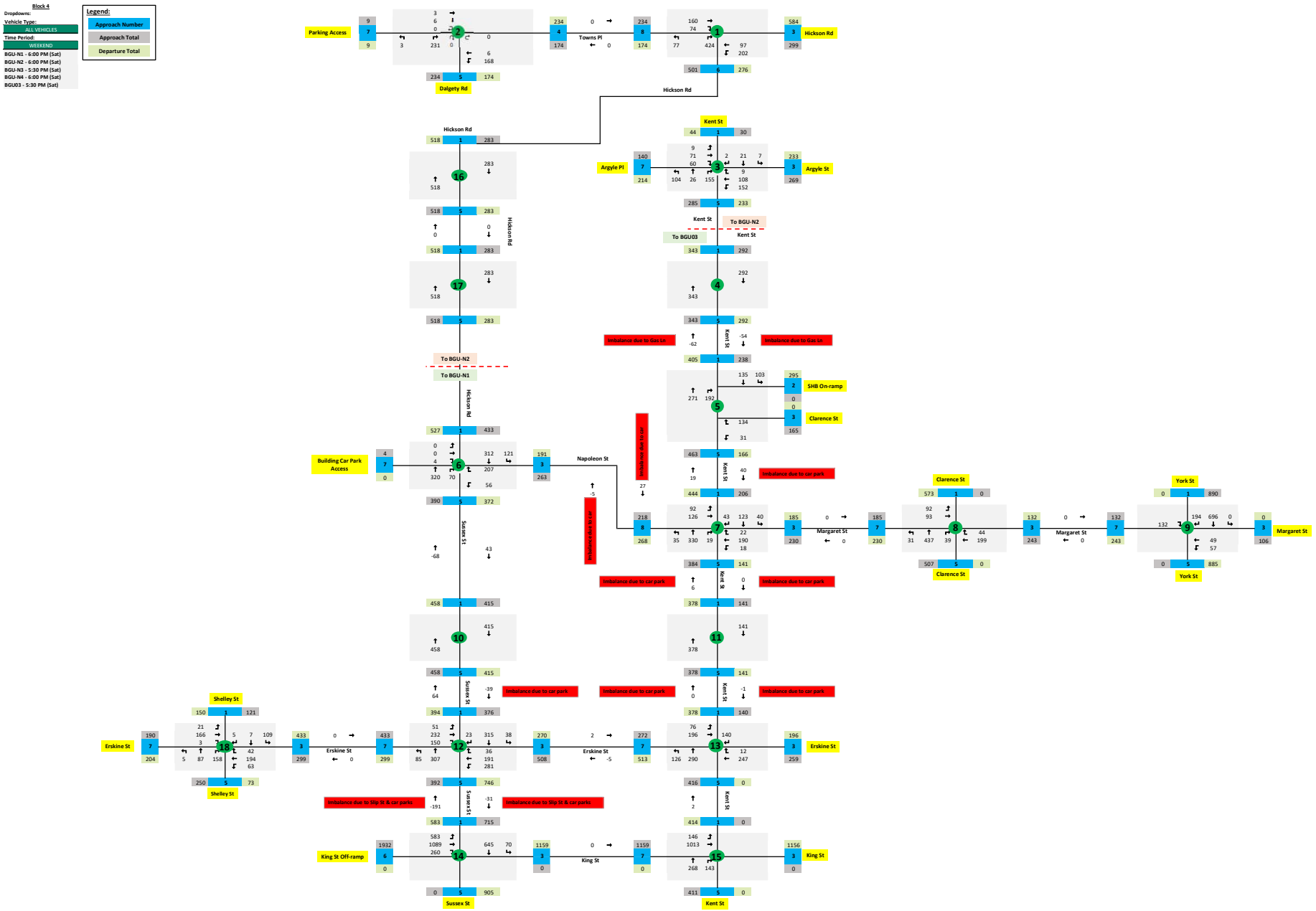
Legend:

- Approach Number
- Approach Total
- Departure Total




Block 4
Dropdowns:
Vehicle Type:
ALL VEHICLES
Time Period:
AM
BGU-N1 - 8:45 AM (Tue)
BGU-N2 - 8:15 AM (Wed)
BGU-N3 - 8:30 AM (Thu)
BGU-N4 - 8:30 AM (Thu)
BGU03 - 8:30 AM (Tue)
Legend:
Approach Number
Approach Total
Departure Total
Parking Access
Towns Pl
Hickson Rd
Dalgety Rd
Argyle Pl
Argyle St
Kent St
To BGU-N2
To BGU03
To BGU-N1
SHB On-ramp
Clarence St
Building Car Park Access
Napoleon St
Margaret St
York St
Shelley St
Erskine St
King St Off-ramp
King St
Sussex St
Imbalance due to Gas Ln
Imbalance due to car park
Imbalance due to Slip St & car parks


Block 4
Dropdowns:
Vehicle Type:
ALL VEHICLES
Time Period:
PM
BGU-N1 - 5:45 PM (Wed)
BGU-N2 - 5:30 PM (Wed)
BGU-N3 - 5:30 PM (Wed)
BGU-N4 - 5:00 PM (Thu)
BGU03 - 5:15 PM (Wed)
Legend:
Approach Number
Approach Total
Departure Total
Parking Access
Dalgety Rd
Towns Pl
Hickson Rd
Argyle Pl
Argyle St
Kent St
To BGU-N2
To BGU03
To BGU-N1
SHB On-ramp
Clarence St
Margaret St
York St
Building Car Park Access
Napoleon St
Sussex St
Shelley St
Erskine St
King St Off-ramp
King St
Imbalance due to Gas Ln
Imbalance due to car park
Imbalance due to Slip St & car parks
Imbalance due to car


Block 4
Dropdowns:
Vehicle Type:
ALL VEHICLES
Time Period:
WEEKEND
BGU-N1 - 6:00 PM (Sat)
BGU-N2 - 6:00 PM (Sat)
BGU-N3 - 5:30 PM (Sat)
BGU-N4 - 6:00 PM (Sat)
BGU03 - 5:30 PM (Sat)
Legend:
Approach Number
Approach Total
Departure Total
Parking Access
Dalgety Rd
Towns Pl
Hickson Rd
Argyle Pl
Argyle St
Kent St
To BGU-N2
To BGU03
To BGU-N1
SHB On-ramp
Clarence St
Building Car Park Access
Napoleon St
Margaret St
York St
Shelley St
Erskine St
Sussex St
King St Off-ramp
King St
Imbalance due to Gas Ln
Imbalance due to car park
Imbalance due to Slip St & car parks
Imbalance due to car
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18

Block 4

Dropdowns:

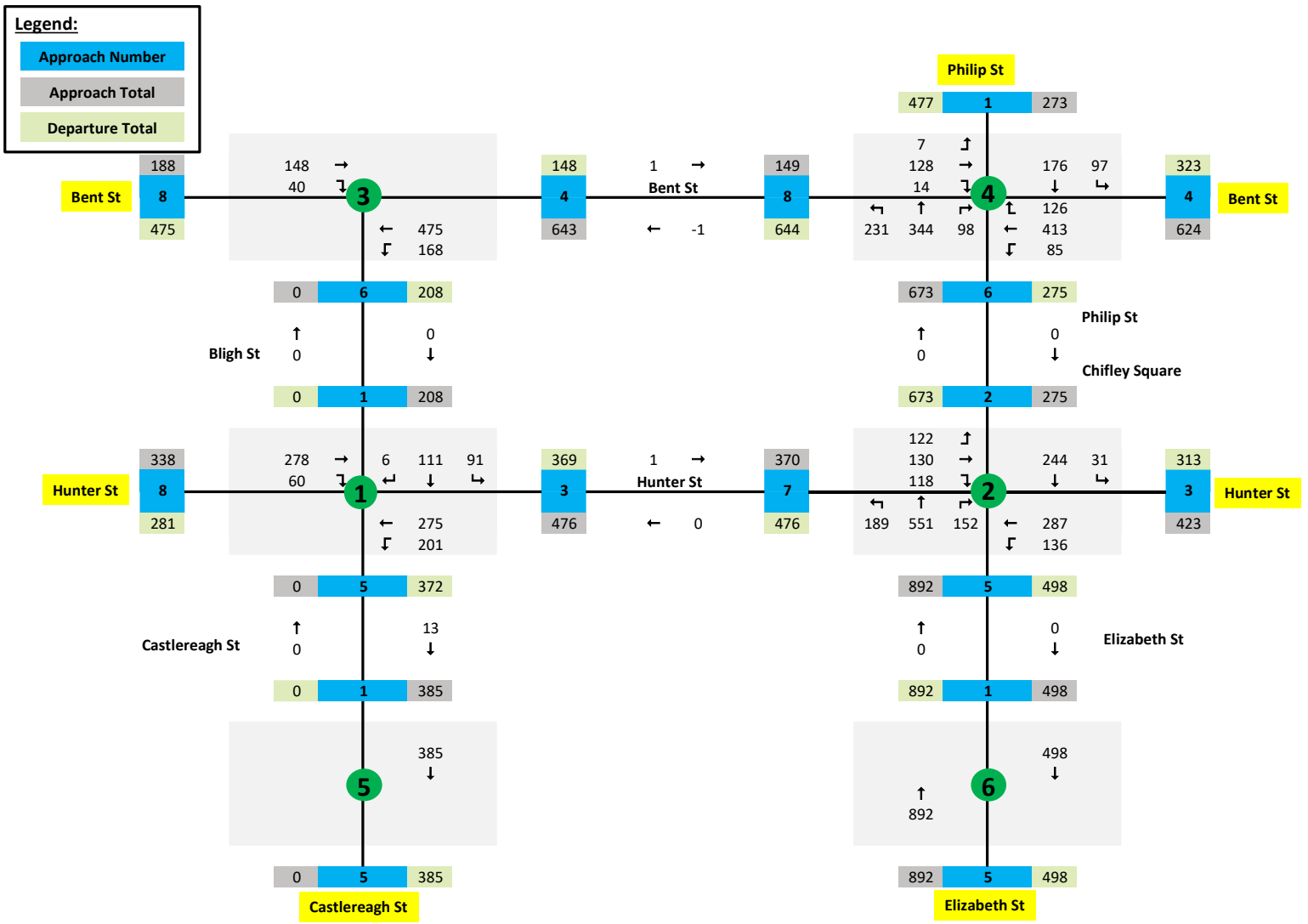
Vehicle Type:

ALL VEHICLES

Time Period:

AM

MPL-N1 - 8:30 AM (Wed)
MPL05 - 8:15 AM (Mon)
MPL06 - 8:30 AM (Wed)



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

Time Period:

PM

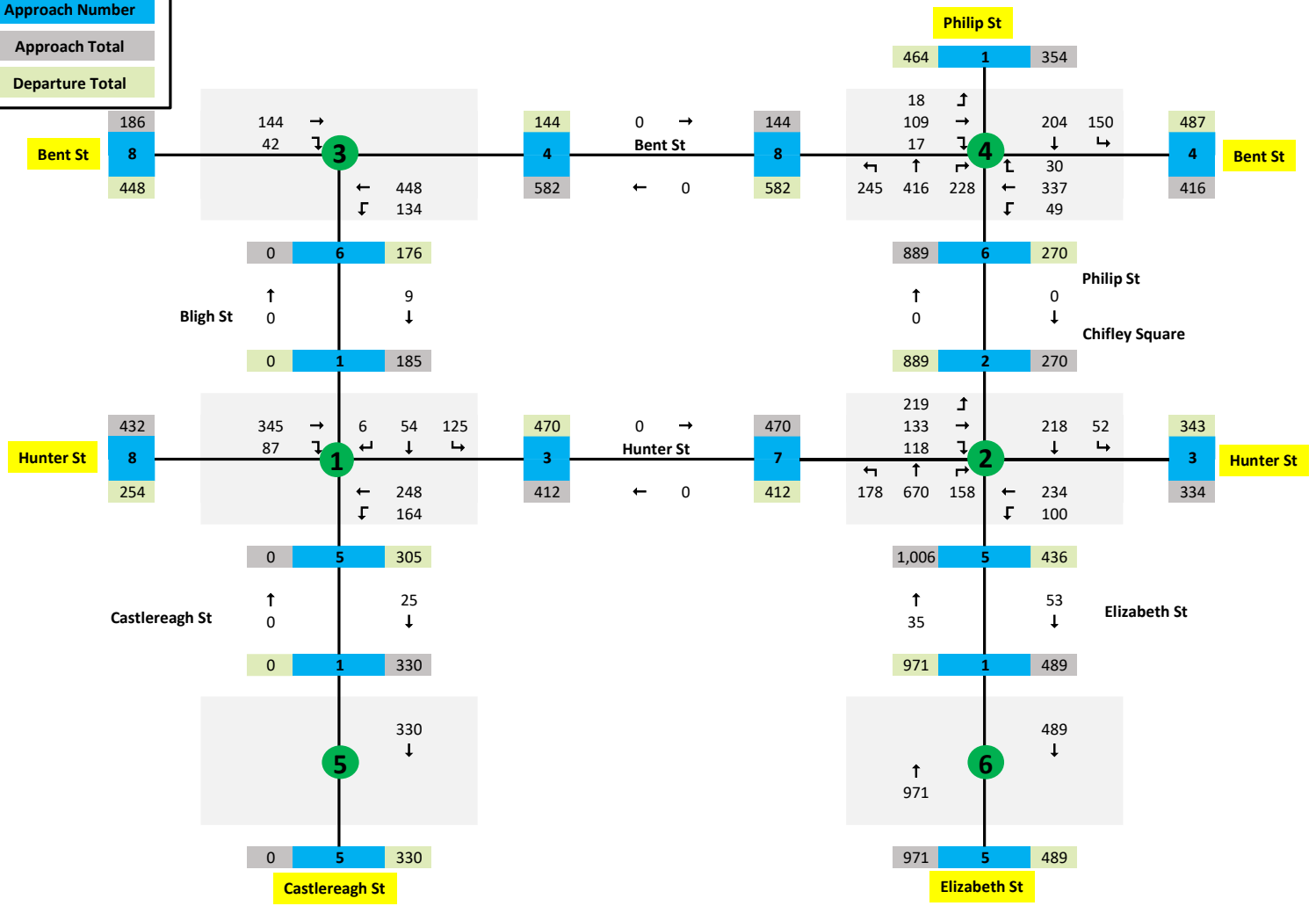
MPL-N1 - 5:45 PM (Wed)

MPL05 - 6:30 PM (Wed)

MPL06 - 5:15 PM (Wed)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

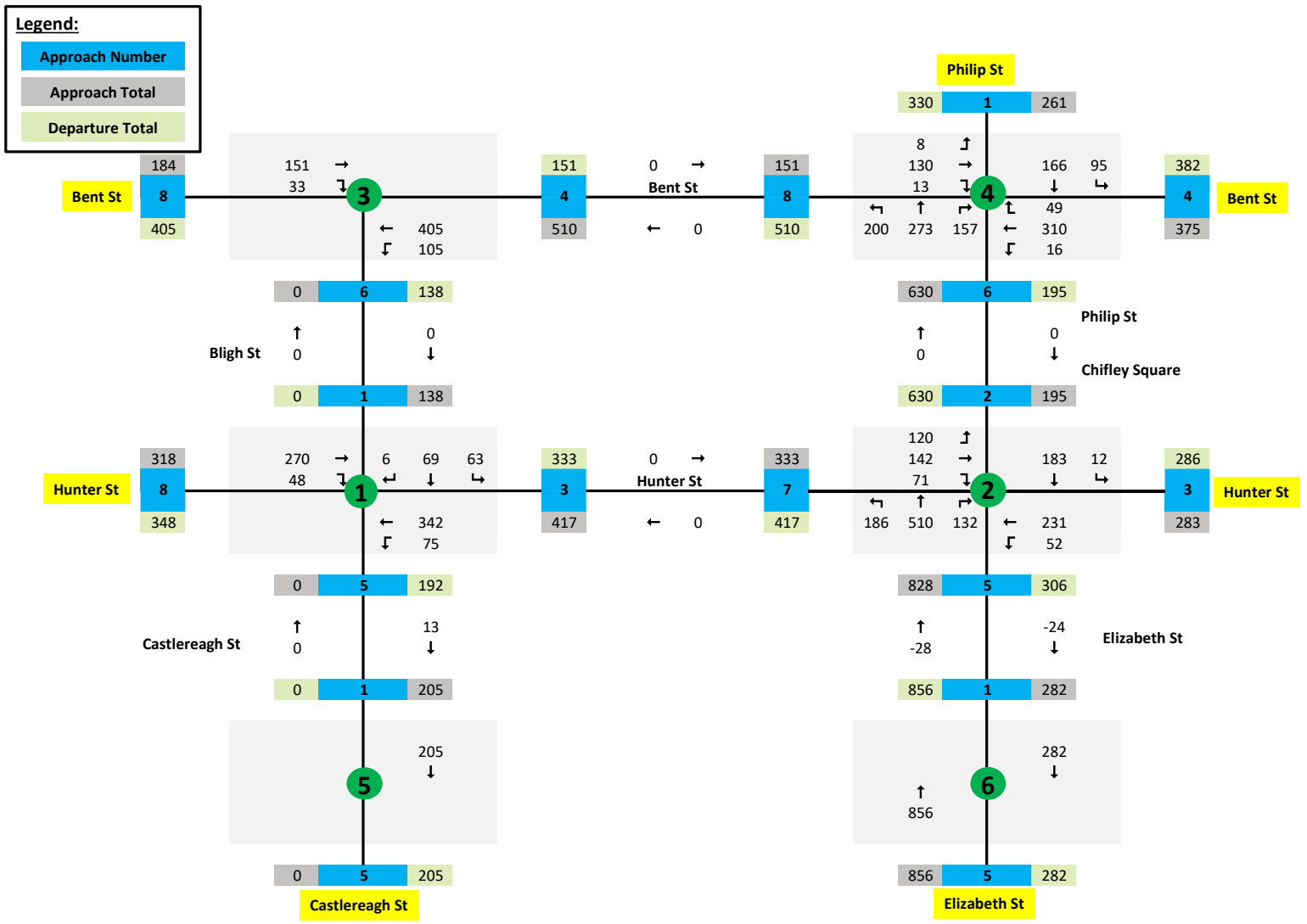
Time Period:

WEEKEND

MPL-N1 - 6:15 PM (Sat)

MPL05 - 5:30 PM (Sat)

MPL06 - 5:30 PM (Sat)



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

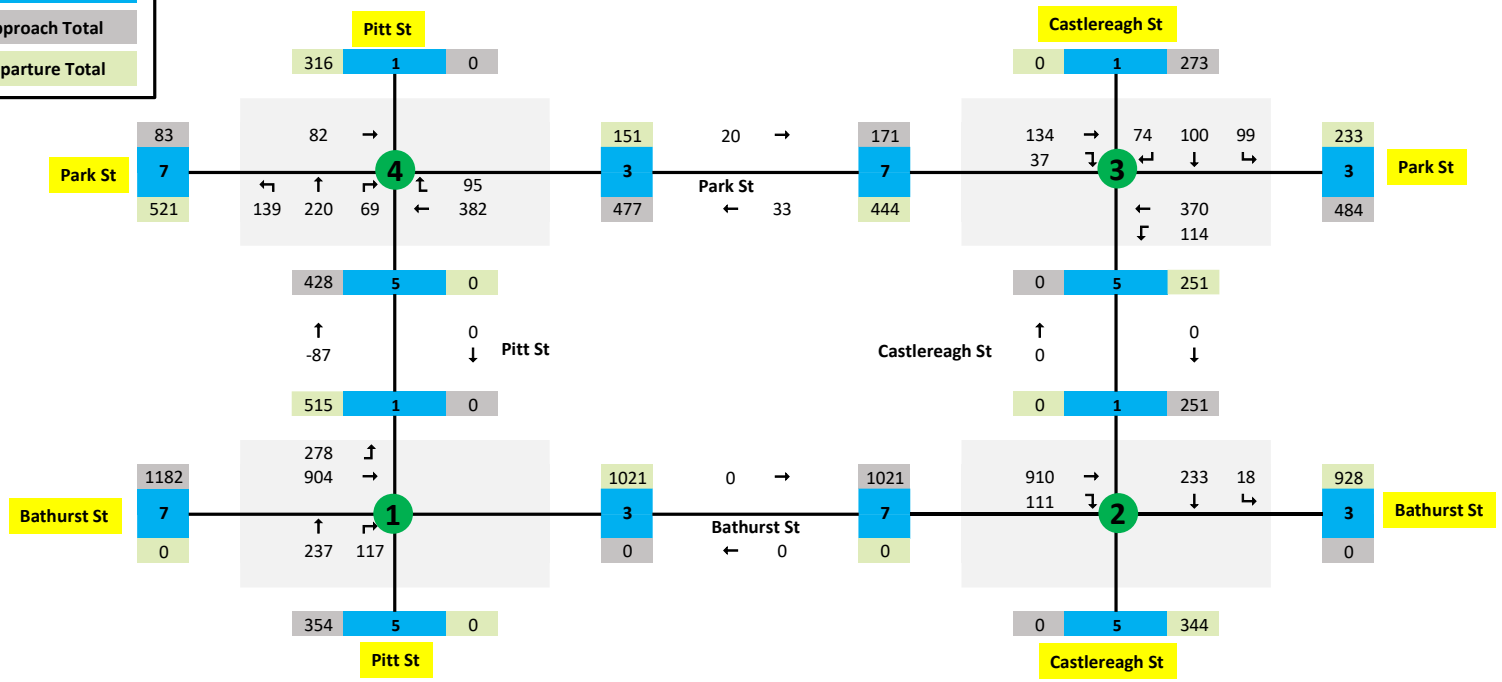
Time Period:

AM

PIT-N1 - 9:00 AM (Thu)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

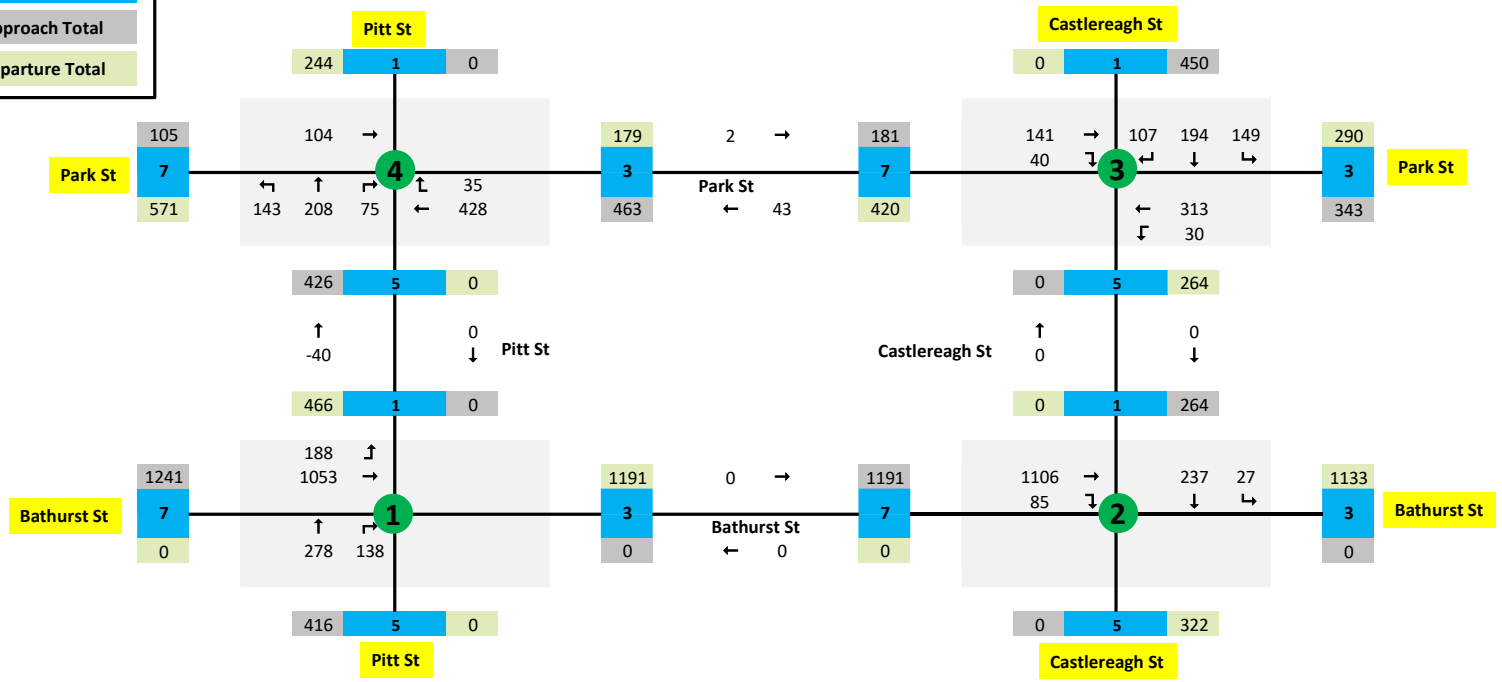
Time Period:

PM

PIT-N1 - 5:00 PM (Thu)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

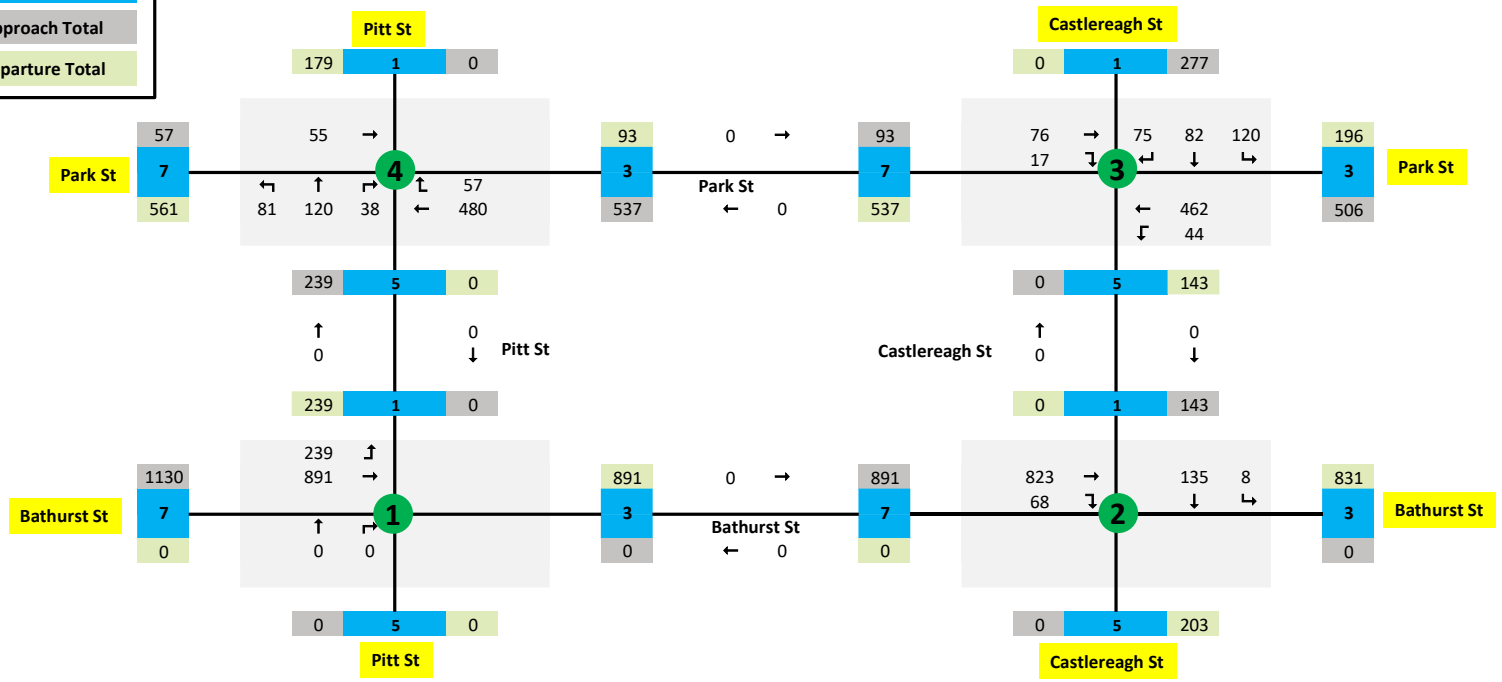
Time Period:

WEEKEND

PIT-N1 - 1:45 PM (Sat)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

Time Period:

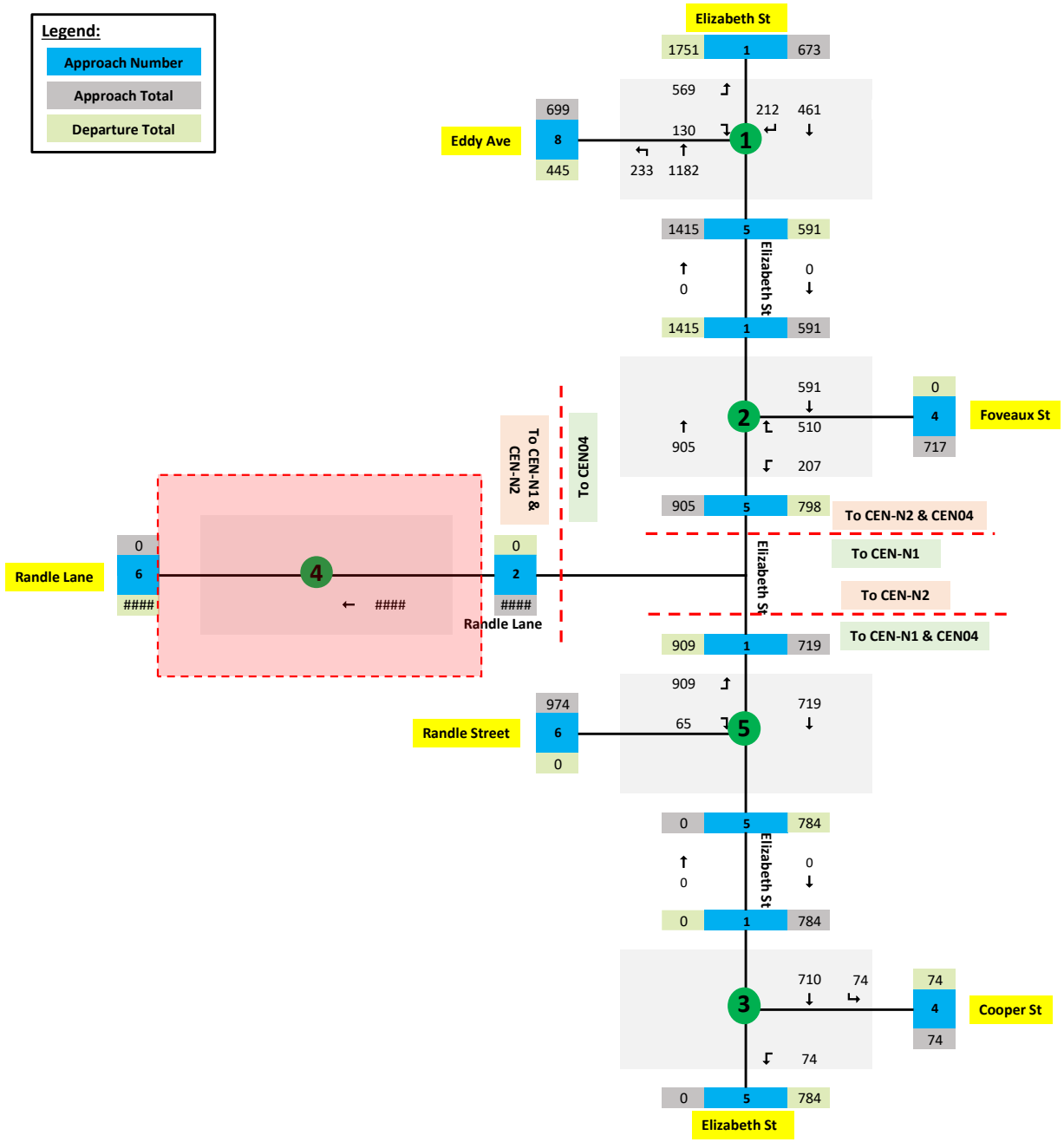
AM

CEN-N1 - 8:15 AM (Wed)

CEN-N2 - 8:15 AM (Wed)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

Time Period:

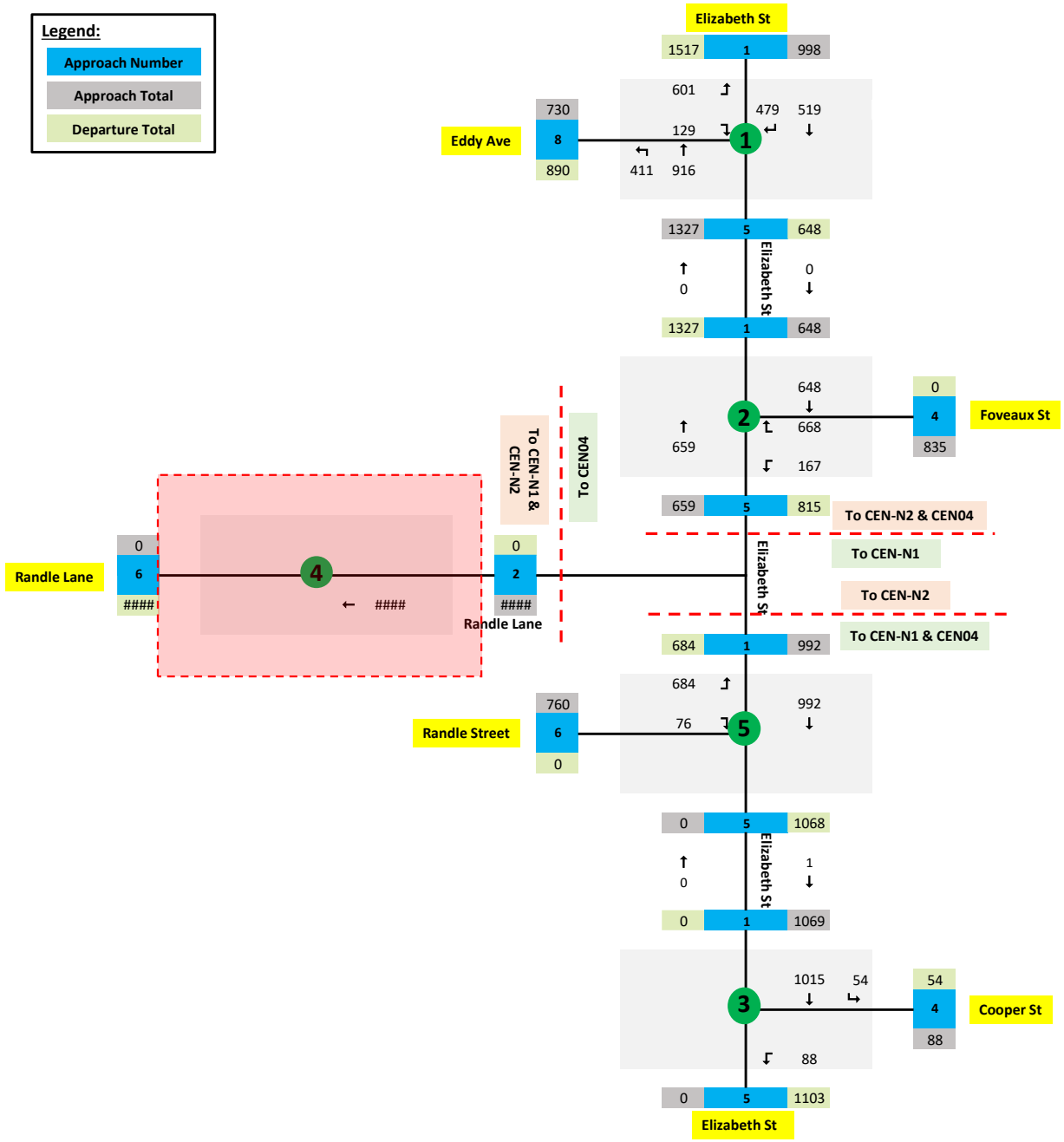
PM

CEN-N1 - 5:15 PM (Wed)

CEN-N2 - 5:30 PM (Thu)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

Time Period:

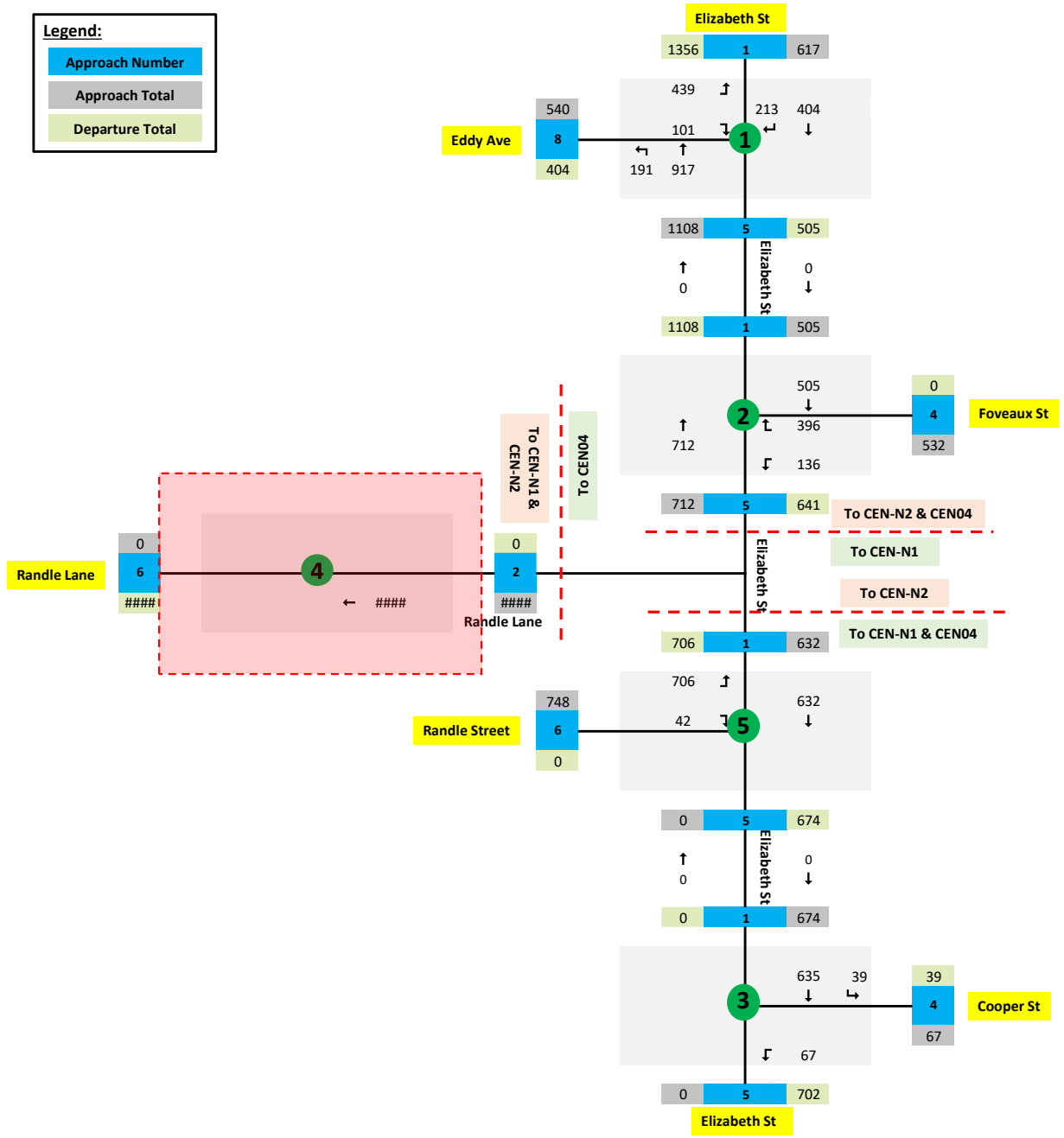
WEEKEND

CEN-N1 - 12:00 PM (Sat)

CEN-N2 - 12:00 PM (Sat)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

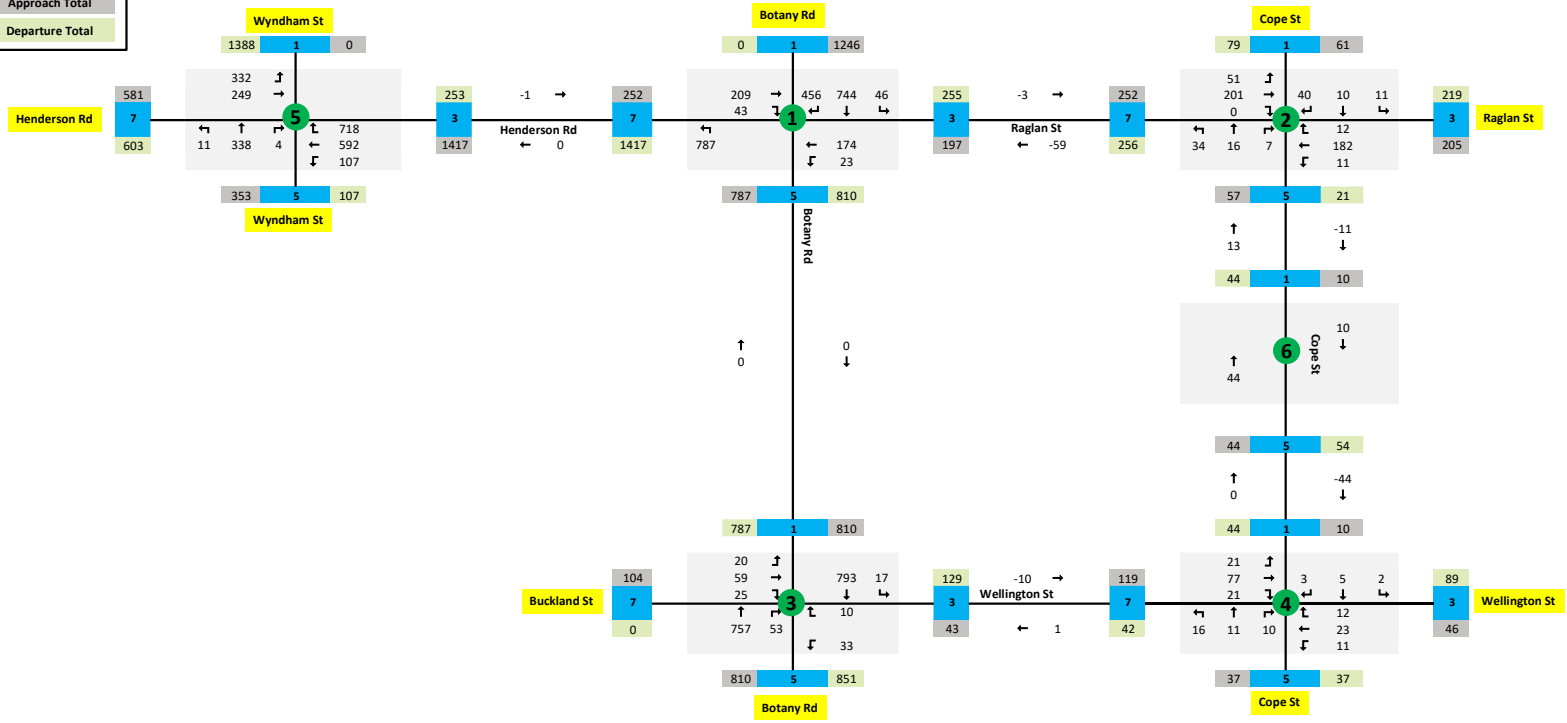
Time Period:

AM

WLO-N1 - 7:45 AM (Thu)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

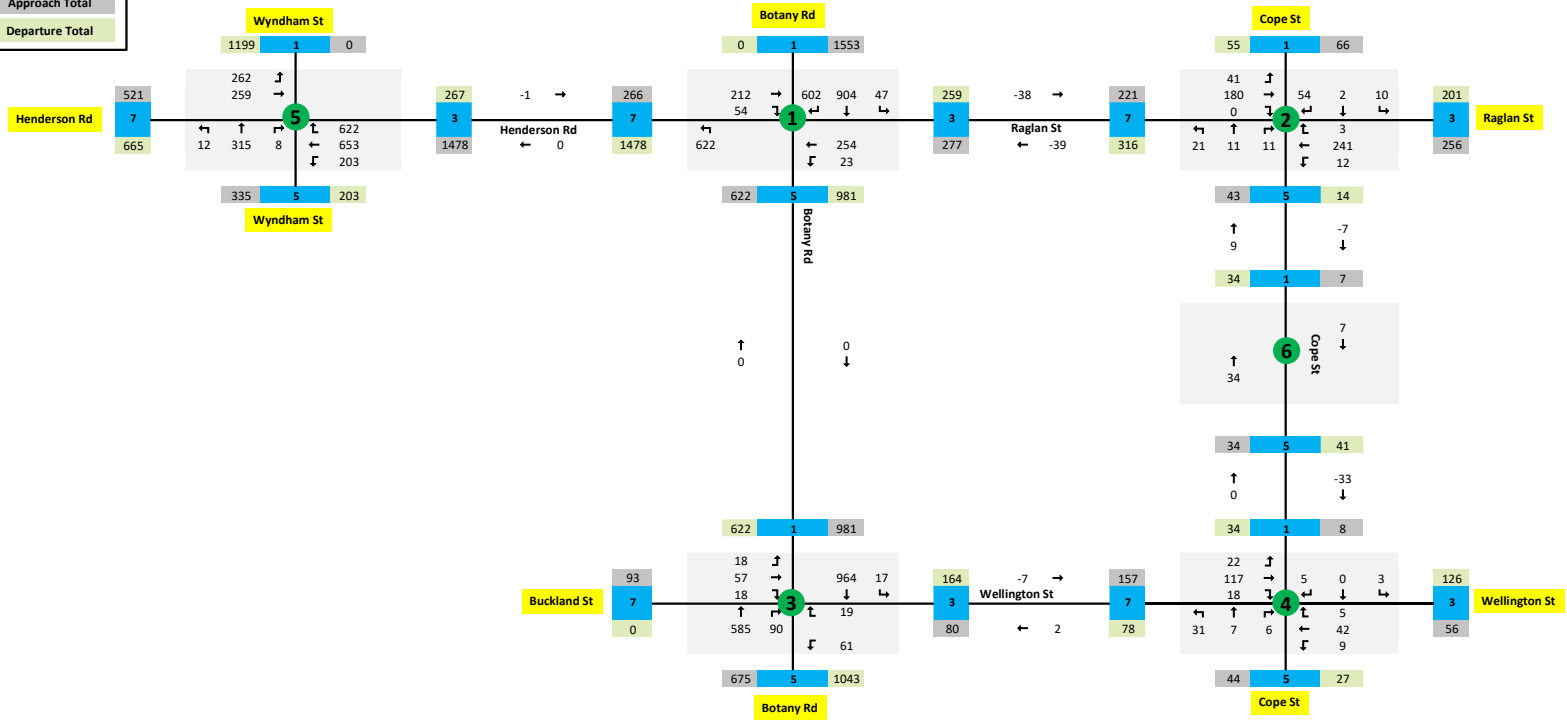
Time Period:

PM

WLO-N1 - 4:45 PM (Thu)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

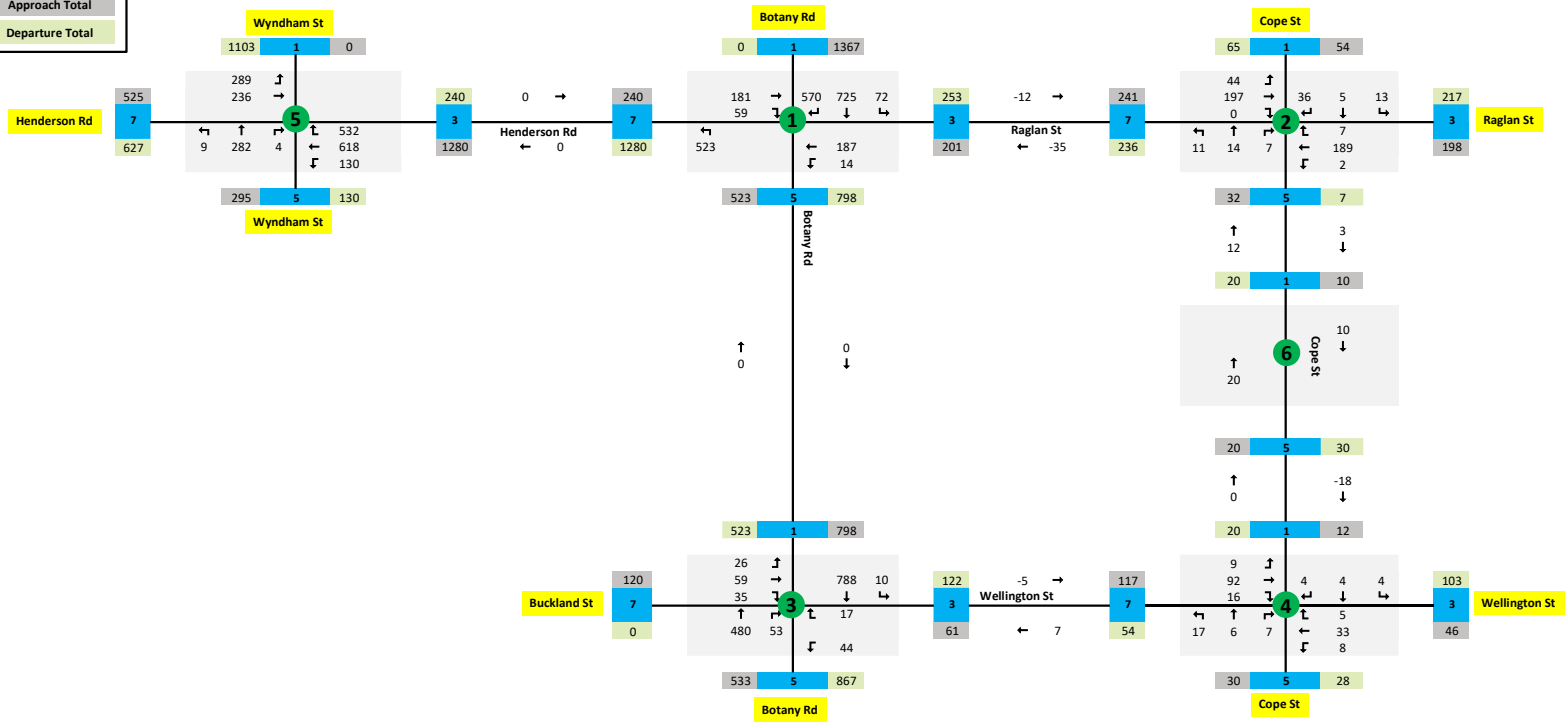
Time Period:

WEEKEND

WLO-N1 - 12:30 PM (Sat)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

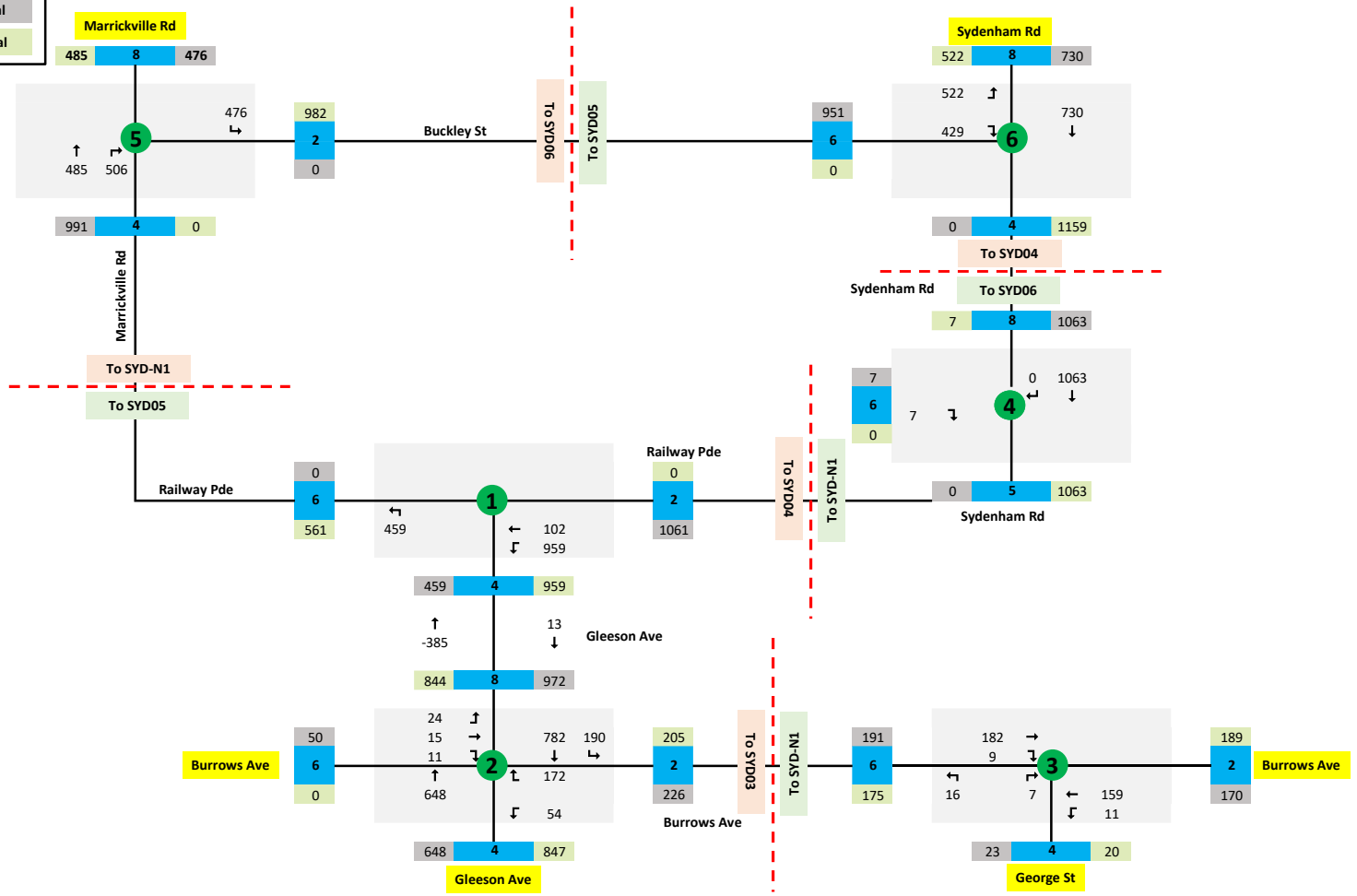
Time Period:

AM

SYD-N1 - 8:00 AM (Tue)
SYD03 - 8:00 AM (Tue)
SYD04 - 8:00 AM (Thu)
SYD05 - 8:00 AM (Tue)
SYD06 - 8:00 AM (Tue)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

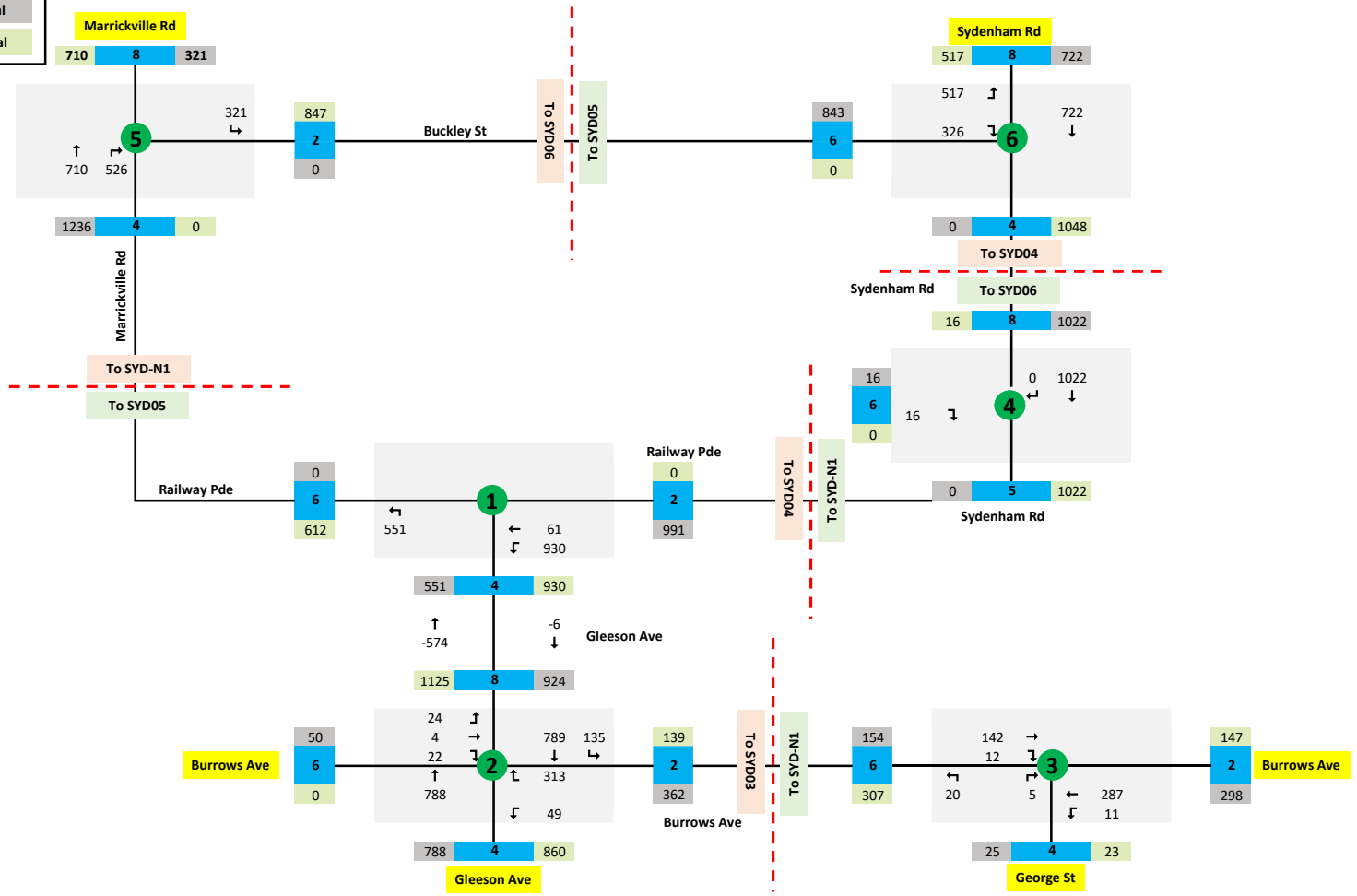
Time Period:

PM

SYD-N1 - 4:30 PM (Wed)
SYD03 - 5:00 PM (Wed)
SYD04 - 3:30 PM (Thu)
SYD05 - 4:45 PM (Fri)
SYD06 - 4:30 PM (Wed)

Legend:

- Approach Number
- Approach Total
- Departure Total



Block 4

Dropdowns:

Vehicle Type:

ALL VEHICLES

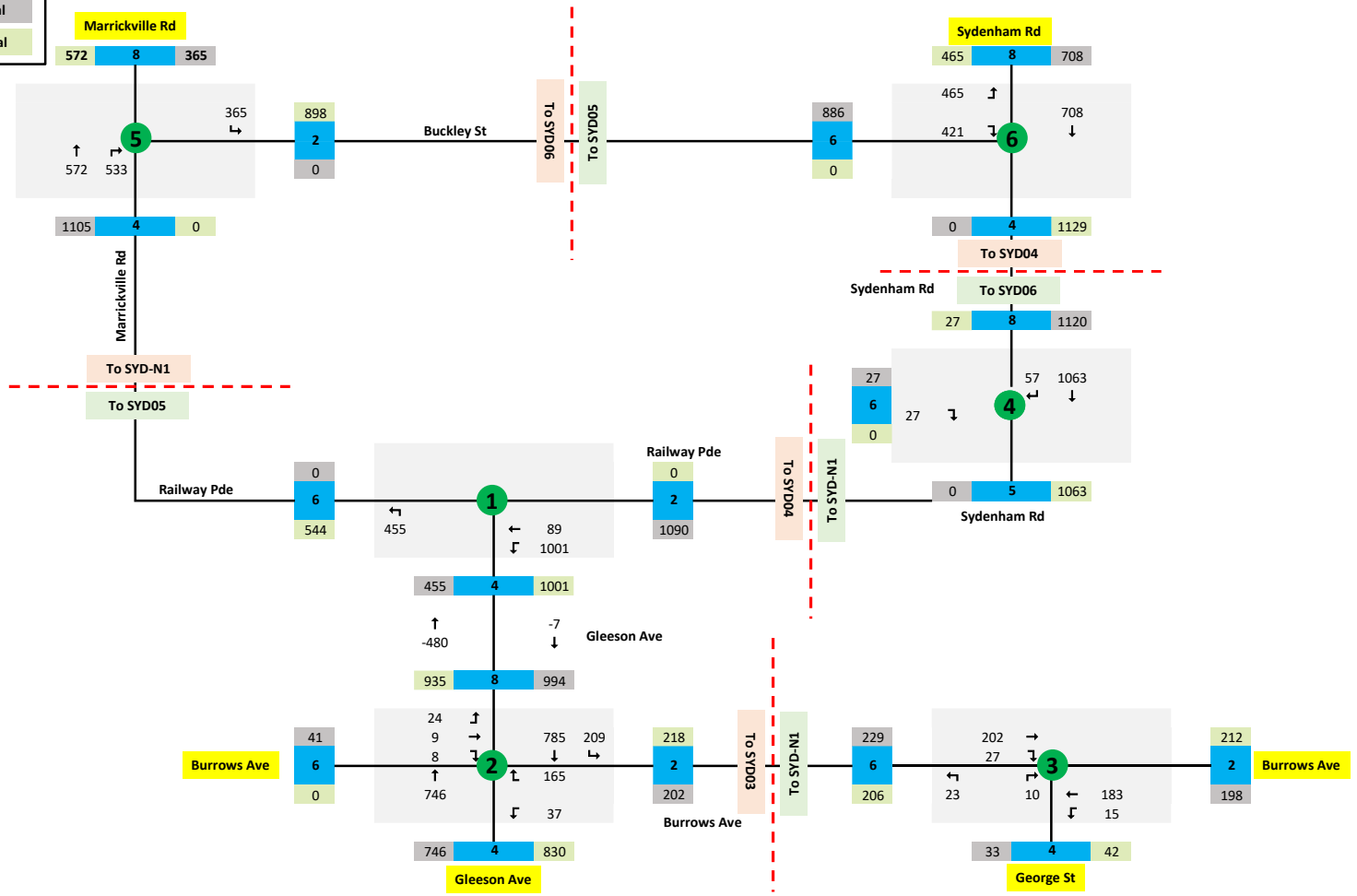
Time Period:

WEEKEND

SYD-N1 - 10:45 AM (Sat)
SYD03 - 12:15 PM (Sat)
SYD04 - 10:45 AM (Sat)
SYD05 - 1:30 PM (Sat)
SYD06 - 11:15 AM (Sat)

Legend:

Approach Number
Approach Total
Departure Total



Appendix D

Movement summary outputs

Appendix D Movement summary outputs

MOVEMENT SUMMARY

Site: CWD01 [CWD01 Mowbray Rd / Hampden Rd (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

TCS 3037
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 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: Hampden Rd (SE)															
21	L2	All MCs	215	3.9	215	3.9	0.516	58.6	LOS E	13.7	99.3	0.92	0.82	0.92	18.2
Approach			215	3.9	215	3.9	0.516	58.6	LOS E	13.7	99.3	0.92	0.82	0.92	18.2
NorthEast: Mowbray Rd (NE)															
24	L2	All MCs	93	0.0	93	0.0	0.459	22.0	LOS B	20.3	146.4	0.60	0.58	0.60	32.1
25	T1	All MCs	935	4.5	935	4.5	* 0.459	17.4	LOS B	20.3	147.5	0.60	0.55	0.60	25.9
Approach			1027	4.1	1027	4.1	0.459	17.8	LOS B	20.3	147.5	0.60	0.56	0.60	26.7
NorthWest: Dive Site Access (NW)															
27	L2	All MCs	1	0.0	1	0.0	0.001	3.5	LOS A	0.0	0.1	0.14	0.43	0.14	34.9
29	R2	All MCs	1	0.0	1	0.0	* 0.009	74.6	LOS F	0.1	0.5	0.96	0.59	0.96	6.3
Approach			2	0.0	2	0.0	0.009	39.0	LOS C	0.1	0.5	0.55	0.51	0.55	11.5
SouthWest: Mowbray Rd (SW)															
31	T1	All MCs	931	3.6	931	3.6	0.320	5.3	LOS A	10.0	71.8	0.33	0.29	0.33	39.1
32	R2	All MCs	389	2.7	389	2.7	* 0.478	19.1	LOS B	18.6	133.1	0.74	0.81	0.74	30.9
Approach			1320	3.3	1320	3.3	0.478	9.4	LOS A	18.6	133.1	0.45	0.45	0.45	35.1
All Vehicles			2564	3.7	2564	3.7	0.516	16.9	LOS B	20.3	147.5	0.55	0.52	0.55	28.6

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: Hampden Rd (SE)												
P5	Full	5	5	68.2	LOS F	0.0	0.0	0.95	0.95	234.8	200.0	0.85
NorthEast: Mowbray Rd (NE)												
P6	Full	28	29	68.2	LOS F	0.1	0.1	0.95	0.95	234.9	200.0	0.85
NorthWest: Dive Site Access (NW)												
P7	Full	1	1	70.1	LOS F	0.0	0.0	0.97	0.97	236.8	200.0	0.84
All Pedestrians		34	36	68.3	LOS F	0.1	0.1	0.95	0.95	235.0	200.0	0.85

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 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

TCS 3037
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 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: Hampden Rd (SE)															
21	L2	All MCs	201	0.5	201	0.5	0.419	54.0	LOS D	12.2	85.5	0.88	0.80	0.88	19.1
Approach			201	0.5	201	0.5	0.419	54.0	LOS D	12.2	85.5	0.88	0.80	0.88	19.1
NorthEast: Mowbray Rd (NE)															
24	L2	All MCs	9	0.0	9	0.0	0.506	24.8	LOS B	24.1	170.0	0.65	0.59	0.65	30.9
25	T1	All MCs	1111	1.0	1111	1.0	* 0.506	20.2	LOS B	24.1	170.1	0.65	0.59	0.65	24.2
Approach			1120	1.0	1120	1.0	0.506	20.3	LOS B	24.1	170.1	0.65	0.59	0.65	24.3
NorthWest: Dive Site Access (NW)															
27	L2	All MCs	1	0.0	1	0.0	0.001	3.2	LOS A	0.0	0.1	0.13	0.43	0.13	35.3
29	R2	All MCs	1	0.0	1	0.0	* 0.009	74.6	LOS F	0.1	0.5	0.96	0.59	0.96	6.3
Approach			2	0.0	2	0.0	0.009	38.9	LOS C	0.1	0.5	0.54	0.51	0.54	11.5
SouthWest: Mowbray Rd (SW)															
31	T1	All MCs	836	0.8	836	0.8	0.282	5.4	LOS A	8.8	62.2	0.32	0.29	0.32	38.9
32	R2	All MCs	314	0.7	314	0.7	* 0.447	22.2	LOS B	16.6	116.8	0.80	0.83	0.80	29.3
Approach			1149	0.7	1149	0.7	0.447	10.0	LOS A	16.6	116.8	0.45	0.43	0.45	34.4
All Vehicles			2473	0.9	2473	0.9	0.506	18.3	LOS B	24.1	170.1	0.58	0.53	0.58	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
SouthEast: Hampden Rd (SE)												
P5	Full	12	13	68.2	LOS F	0.1	0.1	0.95	0.95	234.9	200.0	0.85
NorthEast: Mowbray Rd (NE)												
P6	Full	49	52	68.3	LOS F	0.2	0.2	0.96	0.96	235.0	200.0	0.85
NorthWest: Dive Site Access (NW)												
P7	Full	1	1	70.1	LOS F	0.0	0.0	0.97	0.97	236.8	200.0	0.84
All Pedestrians		62	65	68.3	LOS F	0.2	0.2	0.96	0.96	235.0	200.0	0.85

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 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

TCS 3037
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 145 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: Hampden Rd (SE)															
21	L2	All MCs	289	1.1	289	1.1	0.532	50.2	LOS D	17.0	120.3	0.89	0.82	0.89	20.0
Approach			289	1.1	289	1.1	0.532	50.2	LOS D	17.0	120.3	0.89	0.82	0.89	20.0
NorthEast: Mowbray Rd (NE)															
24	L2	All MCs	31	0.0	31	0.0	0.548	27.1	LOS B	25.7	182.3	0.70	0.64	0.70	29.7
25	T1	All MCs	1112	1.8	1112	1.8	* 0.548	22.6	LOS B	25.7	182.7	0.70	0.64	0.70	22.8
Approach			1142	1.8	1142	1.8	0.548	22.7	LOS B	25.7	182.7	0.70	0.64	0.70	23.1
NorthWest: Dive Site Access (NW)															
27	L2	All MCs	1	0.0	1	0.0	0.001	3.5	LOS A	0.0	0.1	0.14	0.44	0.14	34.9
29	R2	All MCs	1	0.0	1	0.0	* 0.010	73.3	LOS F	0.1	0.5	0.96	0.59	0.96	6.4
Approach			2	0.0	2	0.0	0.010	38.4	LOS C	0.1	0.5	0.55	0.51	0.55	11.6
SouthWest: Mowbray Rd (SW)															
31	T1	All MCs	1096	0.5	1096	0.5	0.356	4.8	LOS A	10.8	76.2	0.31	0.28	0.31	40.4
32	R2	All MCs	372	0.8	372	0.8	* 0.501	27.6	LOS B	18.4	129.6	0.80	0.89	0.80	27.2
Approach			1467	0.6	1467	0.6	0.501	10.6	LOS A	18.4	129.6	0.44	0.44	0.44	33.7
All Vehicles			2901	1.1	2901	1.1	0.548	19.3	LOS B	25.7	182.7	0.59	0.55	0.59	26.7

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: Hampden Rd (SE)												
P5	Full	8	8	65.7	LOS F	0.0	0.0	0.95	0.95	232.4	200.0	0.86
NorthEast: Mowbray Rd (NE)												
P6	Full	18	19	65.7	LOS F	0.1	0.1	0.95	0.95	232.4	200.0	0.86
NorthWest: Dive Site Access (NW)												
P7	Full	1	1	67.6	LOS F	0.0	0.0	0.97	0.97	234.3	200.0	0.85
All Pedestrians		27	28	65.8	LOS F	0.1	0.1	0.95	0.95	232.4	200.0	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: CST01 [CST01 Pacific Hwy / Albany St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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	1296	5.0	1296	5.0	0.501	1.8	LOS A	5.6	40.9	0.15	0.13	0.15	54.6
23b	R3	All MCs	157	2.7	157	2.7	* 0.892	83.2	LOS F	11.3	81.2	1.00	0.93	1.21	6.1
Approach			1453	4.8	1453	4.8	0.892	10.6	LOS A	11.3	81.2	0.24	0.22	0.26	37.1
East: Albany St (E)															
4b	L3	All MCs	29	3.6	29	3.6	* 0.678	67.5	LOS E	6.8	49.0	0.98	0.84	0.99	2.7
6a	R1	All MCs	462	3.0	462	3.0	0.678	56.0	LOS D	6.8	49.0	0.98	0.84	0.98	10.1
Approach			492	3.0	492	3.0	0.678	56.6	LOS E	6.8	49.0	0.98	0.84	0.99	9.7
NorthWest: Pacific Hwy (NW)															
27a	L1	All MCs	323	1.3	323	1.3	0.557	23.7	LOS B	18.0	128.7	0.67	0.73	0.67	16.8
28	T1	All MCs	1229	5.7	1229	5.7	* 0.557	13.7	LOS A	18.0	128.7	0.52	0.48	0.52	25.8
Approach			1553	4.7	1553	4.7	0.557	15.8	LOS B	18.0	128.7	0.55	0.53	0.55	23.2
All Vehicles			3497	4.5	3497	4.5	0.892	19.4	LOS B	18.0	128.7	0.48	0.44	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: Pacific Hwy (SE)											
P5	Full	301	55.8	LOS E	1.1	1.1	0.92	0.92	222.5	200.0	0.90
East: Albany St (E)											
P2	Full	949	57.4	LOS E	3.4	3.4	0.94	0.94	74.1	20.0	0.27
All Pedestrians		1251	57.0	LOS E	3.4	3.4	0.93	0.93	109.8	63.3	0.58

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: CST02 [CST02 Pacific Hwy / Oxley St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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	124	3.4	124	3.4	* 0.579	17.6	LOS B	12.1	88.0	0.29	0.34	0.29	25.6
2	T1	All MCs	1298	5.0	1298	5.0	0.579	6.9	LOS A	12.6	91.7	0.29	0.30	0.29	37.3
Approach			1422	4.9	1422	4.9	0.579	7.9	LOS A	12.6	91.7	0.29	0.30	0.29	35.2
NorthEast: Oxley St (NE)															
4	L2	All MCs	97	4.3	97	4.3	0.246	49.1	LOS D	5.3	38.2	0.86	0.75	0.86	2.8
5	T1	All MCs	94	2.2	94	2.2	0.221	46.1	LOS D	5.0	35.9	0.86	0.68	0.86	7.9
Approach			191	3.3	191	3.3	0.246	47.6	LOS D	5.3	38.2	0.86	0.72	0.86	5.4
NorthWest: Pacific Hwy (NW)															
7	L2	All MCs	72	1.5	72	1.5	0.345	9.0	LOS A	3.2	23.4	0.13	0.21	0.13	43.7
8	T1	All MCs	1187	5.9	1187	5.9	0.345	0.9	LOS A	3.2	23.4	0.06	0.08	0.06	52.6
Approach			1259	5.6	1259	5.6	0.345	1.4	LOS A	3.2	23.4	0.06	0.09	0.06	52.0
SouthWest: Oxley St (SW)															
10	L2	All MCs	155	2.7	155	2.7	* 0.505	62.4	LOS E	9.3	66.8	0.95	0.80	0.95	5.0
11	T1	All MCs	102	1.0	102	1.0	0.238	50.9	LOS D	5.5	38.9	0.86	0.72	0.86	6.5
12	R2	All MCs	101	3.1	101	3.1	0.433	59.2	LOS E	6.1	43.7	0.94	0.79	0.94	5.1
Approach			358	2.4	358	2.4	0.505	58.2	LOS E	9.3	66.8	0.92	0.77	0.92	5.4
All Vehicles			3229	4.8	3229	4.8	0.579	13.3	LOS A	12.6	91.7	0.31	0.30	0.31	23.6

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	1	55.1	LOS E	0.0	0.0	0.90	0.90	71.8	20.0	0.28
NorthEast: Oxley St (NE)											

P2	Full	1001	57.5	LOS E	3.6	3.6	0.94	0.94	74.2	20.0	0.27
NorthWest: Pacific Hwy (NW)											
P3	Full	376	56.0	LOS E	1.3	1.3	0.92	0.92	72.7	20.0	0.28
SouthWest: Oxley St (SW)											
P4	Full	227	55.7	LOS E	0.8	0.8	0.91	0.91	72.3	20.0	0.28
All Pedestrians		1605	56.9	LOS E	3.6	3.6	0.93	0.93	73.6	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.

MOVEMENT SUMMARY

Site: CST03 [CST03 Pacific Hwy / Hume St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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	31	3.4	31	3.4	0.110	6.1	LOS A	0.2	1.6	0.03	0.14	0.03	36.4
2	T1	All MCs	1320	5.1	1320	5.1	* 0.433	0.5	LOS A	1.4	10.2	0.04	0.04	0.04	57.8
Approach			1351	5.1	1351	5.1	0.433	0.7	LOS A	1.4	10.2	0.04	0.05	0.04	56.8
NorthWest: Pacific Hwy (NW)															
8	T1	All MCs	1385	5.5	1385	5.5	0.334	3.2	LOS A	10.1	73.7	0.21	0.19	0.21	42.0
Approach			1385	5.5	1385	5.5	0.334	3.2	LOS A	10.1	73.7	0.21	0.19	0.21	42.0
SouthWest: Hume St (SW)															
10	L2	All MCs	101	2.1	101	2.1	* 0.501	67.2	LOS E	6.5	46.0	0.99	0.78	0.99	4.2
12	R2	All MCs	38	0.0	38	0.0	0.138	58.8	LOS E	2.2	15.3	0.90	0.73	0.90	4.8
Approach			139	1.5	139	1.5	0.501	64.9	LOS E	6.5	46.0	0.96	0.77	0.96	4.4
All Vehicles			2875	5.1	2875	5.1	0.501	5.0	LOS A	10.1	73.7	0.17	0.15	0.17	39.5

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	1	55.1	LOS E	0.0	0.0	0.90	0.90	71.8	20.0	0.28
NorthWest: Pacific Hwy (NW)											
P3	Full	213	55.6	LOS E	0.7	0.7	0.91	0.91	72.3	20.0	0.28
SouthWest: Hume St (SW)											
P4	Full	96	58.1	LOS E	0.3	0.3	0.93	0.93	74.8	20.0	0.27
All Pedestrians		309	56.4	LOS E	0.7	0.7	0.92	0.92	73.1	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.

MOVEMENT SUMMARY

Site: CST04 [CST04 Pacific Hwy / Falcon St / Shirley Rd (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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	298	4.9	298	4.9	0.256	15.4	LOS B	7.8	57.0	0.44	0.70	0.44	30.5
2	T1	All MCs	885	5.9	885	5.9	0.638	34.7	LOS C	23.6	173.9	0.86	0.76	0.86	11.5
Approach			1183	5.7	1183	5.7	0.638	29.9	LOS C	23.6	173.9	0.75	0.74	0.75	16.1
East: Falcon St (E)															
21b	L3	All MCs	7	0.0	7	0.0	0.921	33.3	LOS C	18.1	130.6	1.00	0.99	1.19	5.0
21a	L1	All MCs	243	3.9	243	3.9	* 0.921	67.9	LOS E	18.1	130.6	1.00	0.99	1.19	12.4
23a	R1	All MCs	440	3.3	440	3.3	0.921	58.5	LOS E	18.1	130.6	1.00	0.97	1.16	5.4
Approach			691	3.5	691	3.5	0.921	61.6	LOS E	18.1	130.6	1.00	0.98	1.17	8.4
North: Willoughby Rd (N)															
7	L2	All MCs	47	2.2	47	2.2	0.035	3.8	LOS A	0.2	1.6	0.08	0.48	0.08	37.0
Approach			47	2.2	47	2.2	0.035	3.8	LOS A	0.2	1.6	0.08	0.48	0.08	37.0
NorthWest: Pacific Hwy (NW)															
7a	L1	All MCs	398	6.6	398	6.6	0.501	20.3	LOS B	11.8	87.3	0.78	0.80	0.78	22.7
8	T1	All MCs	1025	4.9	1025	4.9	* 0.730	22.8	LOS B	23.8	173.8	0.75	0.67	0.75	21.5
Approach			1423	5.4	1423	5.4	0.730	22.1	LOS B	23.8	173.8	0.76	0.71	0.76	21.8
SouthWest: Shirley Rd (SW)															
10	L2	All MCs	25	4.2	25	4.2	0.928	85.2	LOS F	29.4	210.9	1.00	1.11	1.29	9.0
12a	R1	All MCs	440	2.6	440	2.6	* 0.928	76.4	LOS F	29.7	211.7	1.00	1.10	1.29	8.9
12	R2	All MCs	296	1.8	296	1.8	0.928	78.5	LOS F	29.7	211.7	1.00	1.07	1.28	8.7
Approach			761	2.4	761	2.4	0.928	77.5	LOS F	29.7	211.7	1.00	1.09	1.28	8.8
All Vehicles			4105	4.6	4105	4.6	0.928	41.0	LOS C	29.7	211.7	0.83	0.83	0.92	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	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
SouthEast: Pacific Hwy (SE)										
P1 Full	125	54.5	LOS E	0.4	0.4	0.90	0.90	71.2	20.0	0.28
East: Falcon St (E)										
P5 Full	295	58.6	LOS E	1.1	1.1	0.94	0.94	75.3	20.0	0.27
NorthWest: Pacific Hwy (NW)										
P3 Full	309	54.9	LOS E	1.1	1.1	0.91	0.91	71.6	20.0	0.28
SouthWest: Shirley Rd (SW)										
P4 Full	16	57.9	LOS E	0.1	0.1	0.93	0.93	74.6	20.0	0.27
All Pedestrians	745	56.4	LOS E	1.1	1.1	0.92	0.92	73.0	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.

MOVEMENT SUMMARY

Site: CST05 [CST05 Clarke St / Oxley St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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	23	4.5	23	4.5	0.085	5.2	LOS A	0.3	2.1	0.36	0.58	0.36	32.2
3a	R1	All MCs	59	3.6	59	3.6	0.085	5.9	LOS A	0.3	2.1	0.36	0.58	0.36	32.2
Approach			82	3.8	82	3.8	0.085	5.7	LOS A	0.3	2.1	0.36	0.58	0.36	32.2
North: Oxley St (N)															
24a	L1	All MCs	107	1.0	107	1.0	0.147	4.4	LOS A	0.0	0.0	0.00	0.53	0.00	29.6
26a	R1	All MCs	167	3.1	167	3.1	0.147	4.1	LOS A	0.0	0.0	0.00	0.53	0.00	29.6
Approach			275	2.3	275	2.3	0.147	4.2	NA	0.0	0.0	0.00	0.53	0.00	29.6
SouthWest: Oxley St (SW)															
10a	L1	All MCs	114	0.9	114	0.9	0.107	2.8	LOS A	0.4	3.0	0.28	0.54	0.28	22.4
12	R2	All MCs	65	0.0	65	0.0	0.107	4.8	LOS A	0.4	3.0	0.28	0.54	0.28	22.4
Approach			179	0.6	179	0.6	0.107	3.5	NA	0.4	3.0	0.28	0.54	0.28	22.4
All Vehicles			536	2.0	536	2.0	0.147	4.2	NA	0.4	3.0	0.15	0.54	0.15	28.7

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: CST06 [CST06 Clarke St / Hume St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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)															
21	L2	All MCs	1	100.0	1	100.0	0.054	4.0	LOS A	0.1	0.8	0.10	0.11	0.10	19.2
2	T1	All MCs	81	3.9	81	3.9	0.054	0.0	LOS A	0.1	0.8	0.10	0.11	0.10	36.8
23a	R1	All MCs	16	0.0	16	0.0	0.054	3.7	LOS A	0.1	0.8	0.10	0.11	0.10	37.5
Approach			98	4.3	98	4.3	0.054	0.6	NA	0.1	0.8	0.10	0.11	0.10	36.6
NorthWest: Clarke St (NW)															
27b	L3	All MCs	4	0.0	4	0.0	0.090	4.1	LOS A	0.0	0.2	0.01	0.02	0.01	38.3
8	T1	All MCs	165	0.6	165	0.6	0.090	0.0	LOS A	0.0	0.2	0.01	0.02	0.01	39.6
29	R2	All MCs	3	0.0	3	0.0	0.090	4.0	LOS A	0.0	0.2	0.01	0.02	0.01	20.4
Approach			173	0.6	173	0.6	0.090	0.2	NA	0.0	0.2	0.01	0.02	0.01	39.1
All Vehicles			271	1.9	271	1.9	0.090	0.3	NA	0.1	0.8	0.04	0.06	0.04	38.4

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: CST07 [CST07 Clarke St / Willoughby Rd (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	108	2.9	108	2.9	0.177	5.2	LOS A	0.8	6.1	0.43	0.47	0.43	29.3
2	T1	All MCs	55	28.8	55	28.8	0.177	1.8	LOS A	0.8	6.1	0.43	0.47	0.43	34.5
Approach			163	11.6	163	11.6	0.177	4.1	NA	0.8	6.1	0.43	0.47	0.43	31.6
North: Willoughby Rd (N)															
8	T1	All MCs	21	60.0	21	60.0	0.065	2.1	LOS A	0.2	2.1	0.42	0.44	0.42	32.7
9	R2	All MCs	23	9.1	23	9.1	0.065	8.1	LOS A	0.2	2.1	0.42	0.44	0.42	32.4
Approach			44	33.3	44	33.3	0.065	5.3	NA	0.2	2.1	0.42	0.44	0.42	32.5
West: Clarke St (W)															
10	L2	All MCs	33	0.0	33	0.0	0.154	6.3	LOS A	0.5	3.8	0.50	0.70	0.50	32.4
12	R2	All MCs	87	2.4	87	2.4	0.154	6.3	LOS A	0.5	3.8	0.50	0.70	0.50	26.2
Approach			120	1.8	120	1.8	0.154	6.3	LOS A	0.5	3.8	0.50	0.70	0.50	28.6
All Vehicles			327	10.9	327	10.9	0.177	5.0	NA	0.8	6.1	0.45	0.55	0.45	30.7

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 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

TCS 516
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: Willoughby Rd (S)															
1	L2	All MCs	7	100.0	7	100.0	0.038	26.7	LOS B	0.2	2.5	0.82	0.64	0.82	22.8
2	T1	All MCs	8	100.0	8	100.0	0.035	20.1	LOS B	0.2	2.8	0.75	0.54	0.75	27.5
3	R2	All MCs	1	0.0	1	0.0	0.035	24.8	LOS B	0.2	2.8	0.75	0.54	0.75	26.1
Approach			17	93.8	17	93.8	0.038	23.3	LOS B	0.2	2.8	0.78	0.59	0.78	25.2
East: Albany St (E)															
4	L2	All MCs	1	0.0	1	0.0	0.261	13.1	LOS A	4.6	32.5	0.57	0.48	0.57	29.3
5	T1	All MCs	368	1.4	368	1.4	0.521	9.4	LOS A	6.6	46.9	0.65	0.56	0.65	33.5
6	R2	All MCs	177	2.4	177	2.4	*0.521	21.8	LOS B	6.6	46.9	0.85	0.76	0.85	27.5
Approach			546	1.7	546	1.7	0.521	13.5	LOS A	6.6	46.9	0.71	0.63	0.71	31.2
North: Willoughby Rd (N)															
7	L2	All MCs	206	0.5	206	0.5	0.242	16.0	LOS B	4.0	28.0	0.64	0.72	0.64	28.7
8	T1	All MCs	7	100.0	7	100.0	*0.270	21.4	LOS B	2.4	18.0	0.86	0.75	0.86	24.2
9	R2	All MCs	80	1.3	80	1.3	0.270	28.0	LOS B	2.4	18.0	0.86	0.75	0.86	22.6
Approach			294	3.2	294	3.2	0.270	19.4	LOS B	4.0	28.0	0.71	0.73	0.71	26.6
West: Albany St (W)															
10	L2	All MCs	132	2.4	132	2.4	0.236	23.0	LOS B	3.2	22.7	0.79	0.75	0.79	24.6
11	T1	All MCs	309	3.1	309	3.1	*0.462	17.8	LOS B	7.7	55.5	0.82	0.70	0.82	28.1
Approach			441	2.9	441	2.9	0.462	19.3	LOS B	7.7	55.5	0.81	0.71	0.81	26.9
All Vehicles			1298	3.6	1298	3.6	0.521	16.9	LOS B	7.7	55.5	0.74	0.68	0.74	28.4

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: Willoughby Rd (S)												
P1	Full	133	140	26.0	LOS C	0.2	0.2	0.90	0.90	42.7	20.0	0.47

East: Albany St (E)											
P2	Full	151	159	26.0	LOS C	0.3	0.3	0.90	0.90	42.7	20.0	0.47
North: Willoughby Rd (N)											
P3	Full	78	82	26.0	LOS C	0.1	0.1	0.90	0.90	42.6	20.0	0.47
West: Albany St (W)											
P4	Full	157	165	26.1	LOS C	0.3	0.3	0.90	0.90	42.7	20.0	0.47
All Pedestrians		519	546	26.0	LOS C	0.3	0.3	0.90	0.90	42.7	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.

MOVEMENT SUMMARY

Site: CST09 [CST09 Albany St / Oxley St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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	44	7.1	44	7.1	0.236	8.0	LOS A	1.6	11.2	0.70	0.66	0.70	21.7
2	T1	All MCs	63	3.3	63	3.3	0.236	7.6	LOS A	1.6	11.2	0.70	0.66	0.70	32.7
3	R2	All MCs	67	0.0	67	0.0	0.236	10.4	LOS A	1.6	11.2	0.70	0.66	0.70	30.9
3u	U	All MCs	1	0.0	1	0.0	0.236	11.8	LOS A	1.6	11.2	0.70	0.66	0.70	21.7
Approach			176	3.0	176	3.0	0.236	8.8	LOS A	1.6	11.2	0.70	0.66	0.70	30.2
East: Albany St (E)															
4	L2	All MCs	52	2.0	52	2.0	0.528	7.9	LOS A	3.7	26.4	0.61	0.71	0.65	30.4
5	T1	All MCs	328	3.5	328	3.5	0.528	7.7	LOS A	3.7	26.4	0.61	0.71	0.65	30.4
6	R2	All MCs	38	2.8	38	2.8	0.528	10.6	LOS A	3.7	26.4	0.61	0.71	0.65	35.5
6u	U	All MCs	1	0.0	1	0.0	0.528	11.9	LOS A	3.7	26.4	0.61	0.71	0.65	34.9
Approach			419	3.3	419	3.3	0.528	8.0	LOS A	3.7	26.4	0.61	0.71	0.65	31.2
North: Oxley St (N)															
7	L2	All MCs	24	0.0	24	0.0	0.356	8.0	LOS A	2.4	17.2	0.74	0.68	0.74	35.1
8	T1	All MCs	157	1.3	157	1.3	0.356	7.9	LOS A	2.4	17.2	0.74	0.68	0.74	30.6
9	R2	All MCs	91	0.0	91	0.0	0.356	10.7	LOS A	2.4	17.2	0.74	0.68	0.74	30.6
9u	U	All MCs	1	0.0	1	0.0	0.356	12.1	LOS A	2.4	17.2	0.74	0.68	0.74	35.3
Approach			273	0.8	273	0.8	0.356	8.8	LOS A	2.4	17.2	0.74	0.68	0.74	31.3
West: Albany St (W)															
10	L2	All MCs	92	3.4	92	3.4	0.479	5.7	LOS A	3.9	27.6	0.59	0.53	0.59	35.2
11	T1	All MCs	313	1.0	313	1.0	0.479	5.5	LOS A	3.9	27.6	0.59	0.53	0.59	35.1
12	R2	All MCs	78	2.7	78	2.7	0.479	8.4	LOS A	3.9	27.6	0.59	0.53	0.59	27.2
12u	U	All MCs	1	0.0	1	0.0	0.479	9.7	LOS A	3.9	27.6	0.59	0.53	0.59	27.2
Approach			483	1.7	483	1.7	0.479	6.0	LOS A	3.9	27.6	0.59	0.53	0.59	34.4
All Vehicles			1351	2.2	1351	2.2	0.528	7.6	LOS A	3.9	27.6	0.64	0.63	0.65	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.

MOVEMENT SUMMARY

Site: CST10 [CST10 Albany St / Clarke Ln (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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	22	0.0	22	0.0	0.062	4.2	LOS A	3.9	27.5	0.22	0.50	0.22	29.5
23b	R3	All MCs	8	0.0	8	0.0	0.062	13.6	LOS A	3.9	27.5	0.22	0.50	0.22	29.5
Approach			31	0.0	31	0.0	0.062	6.8	LOS A	3.9	27.5	0.22	0.50	0.22	29.5
East: Albany St (E)															
5	T1	All MCs	469	3.1	469	3.1	0.226	0.0	LOS A	9.2	65.9	0.00	0.00	0.00	49.9
Approach			469	3.1	469	3.1	0.226	0.0	NA	9.2	65.9	0.00	0.00	0.00	49.9
West: Albany St (W)															
11	T1	All MCs	480	1.8	480	1.8	0.250	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			480	1.8	480	1.8	0.250	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
All Vehicles			980	2.4	980	2.4	0.250	0.2	NA	9.2	65.9	0.01	0.02	0.01	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: CST11 [CST11 Oxley St / Clarke Ln (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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)															
1	L2	All MCs	1	0.0	1	0.0	0.007	7.7	LOS A	0.0	0.2	0.36	0.84	0.36	26.5
2	T1	All MCs	1	0.0	1	0.0	0.007	8.9	LOS A	0.0	0.2	0.36	0.84	0.36	26.5
3	R2	All MCs	2	50.0	2	50.0	0.007	12.1	LOS A	0.0	0.2	0.36	0.84	0.36	26.5
Approach			4	25.0	4	25.0	0.007	10.2	LOS A	0.0	0.2	0.36	0.84	0.36	26.5
NorthEast: Oxley St (NE)															
5	T1	All MCs	184	3.4	184	3.4	0.170	0.0	LOS A	0.0	0.3	0.02	0.02	0.02	47.8
6	R2	All MCs	5	0.0	5	0.0	0.170	3.5	LOS A	0.0	0.3	0.02	0.02	0.02	47.8
Approach			189	3.3	189	3.3	0.170	0.1	NA	0.0	0.3	0.02	0.02	0.02	47.8
NorthWest: Clarke Ln (NW)															
7	L2	All MCs	17	0.0	17	0.0	0.023	5.0	LOS A	0.1	0.5	0.28	0.52	0.28	25.2
9	R2	All MCs	6	0.0	6	0.0	0.023	6.3	LOS A	0.1	0.5	0.28	0.52	0.28	25.2
Approach			23	0.0	23	0.0	0.023	5.3	LOS A	0.1	0.5	0.28	0.52	0.28	25.2
SouthWest: Oxley St (SW)															
10	L2	All MCs	11	0.0	11	0.0	0.088	2.8	LOS A	0.0	0.0	0.00	0.03	0.00	46.8
11	T1	All MCs	160	0.0	160	0.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	46.8
Approach			171	0.0	171	0.0	0.088	0.2	NA	0.0	0.0	0.00	0.03	0.00	46.8
All Vehicles			387	1.9	387	1.9	0.170	0.6	NA	0.1	0.5	0.03	0.07	0.03	41.9

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: CST13 [CST13 Pacific Hwy / Alexander St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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	1087	5.6	1087	5.6	0.462	6.9	LOS A	10.2	74.9	0.55	0.49	0.55	38.2
3a	R1	All MCs	303	6.6	303	6.6	0.545	19.7	LOS B	8.5	62.6	0.65	0.77	0.65	23.4
Approach			1391	5.8	1391	5.8	0.545	9.7	LOS A	10.2	74.9	0.57	0.55	0.57	33.4
North: Alexander St (N)															
24a	L1	All MCs	275	5.4	275	5.4	* 0.500	35.1	LOS C	12.0	88.1	1.00	0.81	1.00	18.5
26b	R3	All MCs	96	6.6	96	6.6	0.707	76.2	LOS F	6.6	48.9	1.00	0.85	1.09	4.6
Approach			371	5.7	371	5.7	0.707	45.7	LOS D	12.0	88.1	1.00	0.82	1.02	13.7
NorthWest: Pacific Hwy (NW)															
7b	L3	All MCs	7	0.0	7	0.0	0.089	13.8	LOS A	0.1	1.1	0.05	0.14	0.05	48.7
8	T1	All MCs	1319	4.2	1319	4.2	* 0.679	12.0	LOS A	17.8	126.1	0.50	0.50	0.50	41.2
Approach			1326	4.2	1326	4.2	0.679	12.0	LOS A	17.8	126.1	0.49	0.50	0.49	41.2
All Vehicles			3087	5.1	3087	5.1	0.707	15.0	LOS B	17.8	126.1	0.59	0.56	0.59	31.5

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
North: Alexander St (N)											
P6	Full	161	22.7	LOS C	0.3	0.3	0.81	0.81	39.4	20.0	0.51
NorthWest: Pacific Hwy (NW)											
P3	Full	61	55.3	LOS E	0.2	0.2	0.91	0.91	71.9	20.0	0.28
All Pedestrians		222	31.6	LOS D	0.3	0.3	0.84	0.84	48.3	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.

MOVEMENT SUMMARY

Site: CST14 [CST14 Falcon St / Alexander St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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	1	100.0	1	100.0	* 0.475	75.4	LOS F	13.4	98.9	1.00	0.86	1.00	5.3
2	T1	All MCs	242	6.1	242	6.1	0.528	61.0	LOS E	13.4	98.9	1.00	0.86	1.00	9.0
3	R2	All MCs	67	6.3	67	6.3	0.528	77.3	LOS F	7.2	52.7	1.00	0.84	1.00	17.2
Approach			311	6.4	311	6.4	0.528	64.6	LOS E	13.4	98.9	1.00	0.85	1.00	11.2
East: Falcon St (E)															
4	L2	All MCs	28	0.0	28	0.0	0.429	20.2	LOS B	12.5	90.1	0.51	0.47	0.51	37.4
5	T1	All MCs	712	3.8	712	3.8	0.429	14.6	LOS B	12.5	90.1	0.51	0.46	0.51	37.7
6	R2	All MCs	12	63.6	12	63.6	0.429	20.6	LOS B	10.6	77.6	0.50	0.45	0.50	37.6
Approach			752	4.6	752	4.6	0.429	14.9	LOS B	12.5	90.1	0.51	0.46	0.51	37.7
North: Alexander St (N)															
7	L2	All MCs	29	0.0	29	0.0	0.454	54.6	LOS D	10.3	74.9	0.91	0.76	0.91	22.0
8	T1	All MCs	349	6.0	349	6.0	0.454	47.4	LOS D	11.2	82.3	0.91	0.76	0.91	6.9
Approach			379	5.6	379	5.6	0.454	47.9	LOS D	11.2	82.3	0.91	0.76	0.91	8.6
West: Falcon St (W)															
10	L2	All MCs	143	3.7	143	3.7	* 0.364	10.1	LOS A	5.9	42.6	0.23	0.38	0.23	32.0
11	T1	All MCs	749	4.5	749	4.5	0.364	3.1	LOS A	5.9	42.6	0.19	0.24	0.19	52.6
Approach			893	4.4	893	4.4	0.364	4.2	LOS A	5.9	42.6	0.19	0.26	0.19	50.4
All Vehicles			2334	4.9	2334	4.9	0.528	22.8	LOS B	13.4	98.9	0.52	0.48	0.52	28.7

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	85	57.2	LOS E	0.3	0.3	0.92	0.92	73.8	20.0	0.27

East: Falcon St (E)										
P2	Full	45	57.1	LOS E	0.2	0.2	0.92	0.92	73.7	20.0	0.27
North: Alexander St (N)										
P3	Full	105	57.2	LOS E	0.4	0.4	0.92	0.92	73.9	20.0	0.27
West: Falcon St (W)										
P4	Full	226	57.5	LOS E	0.8	0.8	0.93	0.93	74.2	20.0	0.27
All Pedestrians		462	57.3	LOS E	0.8	0.8	0.92	0.92	74.0	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.

MOVEMENT SUMMARY

Site: CST01 [CST01 Pacific Hwy / Albany St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 PM Peak)]

TCS 768
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 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	1154	4.1	1154	4.1	0.447	12.0	LOS A	19.4	140.3	0.55	0.43	0.55	38.2
23b	R3	All MCs	135	0.0	135	0.0	* 0.864	80.5	LOS F	9.0	62.7	1.00	0.91	1.19	6.5
Approach			1288	3.7	1288	3.7	0.864	19.1	LOS B	19.4	140.3	0.60	0.48	0.62	29.9
East: Albany St (E)															
4b	L3	All MCs	26	4.0	26	4.0	* 0.738	67.7	LOS E	6.9	49.0	1.00	0.87	1.07	2.7
6a	R1	All MCs	472	2.2	472	2.2	0.738	55.8	LOS D	6.9	49.0	1.00	0.87	1.06	10.1
Approach			498	2.3	498	2.3	0.738	56.4	LOS D	6.9	49.0	1.00	0.87	1.06	9.8
NorthWest: Pacific Hwy (NW)															
27a	L1	All MCs	393	0.0	393	0.0	0.419	14.8	LOS B	10.3	72.2	0.44	0.68	0.44	24.1
28	T1	All MCs	912	3.6	912	3.6	* 0.419	9.0	LOS A	10.3	72.2	0.40	0.36	0.40	31.6
Approach			1304	2.5	1304	2.5	0.419	10.7	LOS A	10.3	72.2	0.41	0.46	0.41	28.9
All Vehicles			3091	3.0	3091	3.0	0.864	21.6	LOS B	19.4	140.3	0.58	0.53	0.60	23.0

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)											
P5	Full	278	50.8	LOS E	0.9	0.9	0.91	0.91	217.4	200.0	0.92
East: Albany St (E)											
P2	Full	443	51.1	LOS E	1.4	1.4	0.91	0.91	67.8	20.0	0.30
All Pedestrians		721	51.0	LOS E	1.4	1.4	0.91	0.91	125.5	89.4	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.

MOVEMENT SUMMARY

Site: CST02 [CST02 Pacific Hwy / Oxley St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 PM Peak)]

TCS 767
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 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	143	0.0	143	0.0	0.137	7.6	LOS A	0.9	6.0	0.10	0.56	0.10	24.1
2	T1	All MCs	1104	4.2	1104	4.2	* 0.447	3.3	LOS A	7.4	53.4	0.23	0.21	0.23	41.5
Approach			1247	3.7	1247	3.7	0.447	3.8	LOS A	7.4	53.4	0.21	0.25	0.21	37.0
NorthEast: Oxley St (NE)															
4	L2	All MCs	79	0.0	79	0.0	0.204	46.7	LOS D	4.0	28.0	0.87	0.74	0.87	2.9
5	T1	All MCs	97	0.0	97	0.0	0.239	44.5	LOS D	4.9	34.5	0.88	0.69	0.88	8.2
Approach			176	0.0	176	0.0	0.239	45.5	LOS D	4.9	34.5	0.87	0.71	0.87	5.9
NorthWest: Pacific Hwy (NW)															
7	L2	All MCs	69	0.0	69	0.0	0.252	25.0	LOS B	9.5	67.9	0.58	0.50	0.58	22.8
8	T1	All MCs	868	3.9	868	3.9	0.252	11.0	LOS A	9.5	69.0	0.55	0.41	0.55	26.1
Approach			938	3.6	938	3.6	0.252	12.0	LOS A	9.5	69.0	0.55	0.42	0.55	25.8
SouthWest: Oxley St (SW)															
10	L2	All MCs	183	0.6	183	0.6	* 0.754	70.8	LOS F	11.3	79.7	1.00	0.88	1.11	4.7
11	T1	All MCs	168	0.0	168	0.0	0.424	56.2	LOS D	9.0	62.9	0.92	0.77	0.92	6.5
12	R2	All MCs	139	0.0	139	0.0	0.602	58.1	LOS E	8.1	56.7	0.98	0.81	0.98	5.1
Approach			491	0.2	491	0.2	0.754	62.2	LOS E	11.3	79.7	0.96	0.82	1.01	5.4
All Vehicles			2852	2.8	2852	2.8	0.754	19.1	LOS B	11.3	79.7	0.49	0.43	0.50	17.5

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	1	50.2	LOS E	0.0	0.0	0.90	0.90	66.8	20.0	0.30
NorthEast: Oxley St (NE)											

P2	Full	883	52.1	LOS E	2.9	2.9	0.93	0.93	68.8	20.0	0.29
NorthWest: Pacific Hwy (NW)											
P3	Full	321	50.9	LOS E	1.0	1.0	0.91	0.91	67.5	20.0	0.30
SouthWest: Oxley St (SW)											
P4	Full	213	50.6	LOS E	0.7	0.7	0.90	0.90	67.3	20.0	0.30
All Pedestrians		1418	51.6	LOS E	2.9	2.9	0.92	0.92	68.3	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.

MOVEMENT SUMMARY

Site: CST03 [CST03 Pacific Hwy / Hume St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 PM Peak)]

TCS 766
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 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	51	0.0	51	0.0	0.294	11.7	LOS A	8.3	59.6	0.37	0.38	0.37	30.7
2	T1	All MCs	1153	4.0	1153	4.0	0.294	6.2	LOS A	8.3	59.6	0.37	0.35	0.37	39.9
Approach			1203	3.8	1203	3.8	0.294	6.4	LOS A	8.3	59.8	0.37	0.35	0.37	39.3
NorthEast: Hume St (NE)															
24	L2	All MCs	19	0.0	19	0.0	0.139	55.5	LOS D	2.0	13.9	0.91	0.70	0.91	2.9
25	T1	All MCs	19	0.0	19	0.0	* 0.139	48.7	LOS D	2.0	13.9	0.91	0.69	0.91	6.7
26	R2	All MCs	17	0.0	17	0.0	0.114	59.9	LOS E	1.0	6.8	0.94	0.69	0.94	2.4
Approach			55	0.0	55	0.0	0.139	54.5	LOS D	2.0	13.9	0.92	0.69	0.92	4.1
NorthWest: Pacific Hwy (NW)															
8	T1	All MCs	1086	3.1	1086	3.1	* 0.359	6.5	LOS A	10.8	77.8	0.39	0.35	0.39	32.6
Approach			1086	3.1	1086	3.1	0.359	6.5	LOS A	10.8	77.8	0.39	0.35	0.39	32.6
SouthWest: Hume St (SW)															
10	L2	All MCs	78	0.0	78	0.0	0.328	59.2	LOS E	4.4	31.0	0.95	0.76	0.95	4.7
31	T1	All MCs	1	0.0	1	0.0	0.011	66.0	LOS E	0.1	0.2	1.00	0.55	1.00	5.3
12	R2	All MCs	22	0.0	22	0.0	0.109	57.5	LOS E	1.2	8.5	0.92	0.71	0.92	5.0
Approach			101	0.0	101	0.0	0.328	58.9	LOS E	4.4	31.0	0.94	0.75	0.94	4.8
All Vehicles			2445	3.3	2445	3.3	0.359	9.7	LOS A	10.8	77.8	0.42	0.37	0.42	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.
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	1	50.2	LOS E	0.0	0.0	0.90	0.90	66.8	20.0	0.30
NorthEast: Hume St (NE)											

P6	Full	286	53.5	LOS E	0.9	0.9	0.93	0.93	70.2	20.0	0.28
NorthWest: Pacific Hwy (NW)											
P3	Full	189	50.6	LOS E	0.6	0.6	0.90	0.90	67.2	20.0	0.30
SouthWest: Hume St (SW)											
P4	Full	142	53.2	LOS E	0.5	0.5	0.93	0.93	69.9	20.0	0.29
All Pedestrians		619	52.6	LOS E	0.9	0.9	0.92	0.92	69.2	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.

MOVEMENT SUMMARY

Site: CST04 [CST04 Pacific Hwy / Falcon St / Shirley Rd (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 PM Peak)]

TCS 765
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 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	352	1.5	352	1.5	0.359	18.6	LOS B	9.8	69.3	0.50	0.72	0.50	28.3
2	T1	All MCs	793	4.2	793	4.2	0.779	40.0	LOS C	22.2	161.3	0.94	0.85	0.98	10.2
Approach			1144	3.4	1144	3.4	0.779	33.4	LOS C	22.2	161.3	0.80	0.81	0.83	15.4
East: Falcon St (E)															
21b	L3	All MCs	22	4.8	22	4.8	0.878	19.1	LOS B	18.4	130.6	0.94	0.93	1.04	7.4
21a	L1	All MCs	423	1.2	423	1.2	* 0.878	44.6	LOS D	18.4	130.6	0.94	0.93	1.04	17.0
23a	R1	All MCs	336	3.4	336	3.4	0.599	31.3	LOS C	14.5	104.5	0.76	0.77	0.76	9.4
Approach			781	2.3	781	2.3	0.878	38.1	LOS C	18.4	130.6	0.86	0.86	0.92	14.4
North: Willoughby Rd (N)															
7	L2	All MCs	76	0.0	76	0.0	0.050	3.8	LOS A	0.4	2.6	0.09	0.49	0.09	36.9
Approach			76	0.0	76	0.0	0.050	3.8	LOS A	0.4	2.6	0.09	0.49	0.09	36.9
NorthWest: Pacific Hwy (NW)															
7a	L1	All MCs	436	3.9	436	3.9	* 0.593	20.2	LOS B	12.4	89.3	0.81	0.81	0.81	22.8
8	T1	All MCs	692	2.4	692	2.4	0.668	57.8	LOS E	20.9	149.2	1.00	0.89	1.00	10.8
Approach			1127	3.0	1127	3.0	0.668	43.2	LOS D	20.9	149.2	0.93	0.86	0.93	13.5
SouthWest: Shirley Rd (SW)															
10	L2	All MCs	75	1.4	75	1.4	* 0.534	53.3	LOS D	17.6	124.2	0.93	0.81	0.93	13.0
12a	R1	All MCs	455	1.2	455	1.2	0.534	45.6	LOS D	18.4	131.2	0.92	0.81	0.92	13.1
12	R2	All MCs	156	3.4	156	3.4	0.534	47.4	LOS D	18.4	131.2	0.92	0.81	0.92	13.2
Approach			685	1.7	685	1.7	0.534	46.8	LOS D	18.4	131.2	0.92	0.81	0.92	13.1
All Vehicles			3814	2.7	3814	2.7	0.878	39.1	LOS C	22.2	161.3	0.86	0.83	0.88	14.5

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	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
SouthEast: Pacific Hwy (SE)										
P1 Full	96	49.5	LOS E	0.3	0.3	0.89	0.89	66.1	20.0	0.30
East: Falcon St (E)										
P5 Full	231	53.4	LOS E	0.8	0.8	0.93	0.93	70.1	20.0	0.29
NorthWest: Pacific Hwy (NW)										
P3 Full	379	50.1	LOS E	1.2	1.2	0.90	0.90	66.7	20.0	0.30
SouthWest: Shirley Rd (SW)										
P4 Full	149	53.2	LOS E	0.5	0.5	0.93	0.93	69.9	20.0	0.29
All Pedestrians	855	51.5	LOS E	1.2	1.2	0.91	0.91	68.1	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.

MOVEMENT SUMMARY

Site: CST05 [CST05 Clarke St / Oxley St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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	49	0.0	49	0.0	0.068	4.9	LOS A	0.2	1.7	0.27	0.53	0.27	32.7
3a	R1	All MCs	29	0.0	29	0.0	0.068	5.9	LOS A	0.2	1.7	0.27	0.53	0.27	32.7
Approach			79	0.0	79	0.0	0.068	5.3	LOS A	0.2	1.7	0.27	0.53	0.27	32.7
North: Oxley St (N)															
24a	L1	All MCs	137	0.0	137	0.0	0.136	4.4	LOS A	0.0	0.0	0.00	0.53	0.00	29.5
26a	R1	All MCs	123	0.0	123	0.0	0.136	4.1	LOS A	0.0	0.0	0.00	0.53	0.00	29.5
Approach			260	0.0	260	0.0	0.136	4.3	NA	0.0	0.0	0.00	0.53	0.00	29.5
SouthWest: Oxley St (SW)															
10a	L1	All MCs	176	0.0	176	0.0	0.139	2.8	LOS A	0.5	3.3	0.22	0.54	0.22	23.0
12	R2	All MCs	66	0.0	66	0.0	0.139	4.9	LOS A	0.5	3.3	0.22	0.54	0.22	23.0
Approach			242	0.0	242	0.0	0.139	3.3	NA	0.5	3.3	0.22	0.54	0.22	23.0
All Vehicles			581	0.0	581	0.0	0.139	4.0	NA	0.5	3.3	0.13	0.53	0.13	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 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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	29	0.0	29	0.0	0.201	5.5	LOS A	0.9	6.3	0.58	0.54	0.58	25.8
2	T1	All MCs	78	0.0	78	0.0	0.201	6.5	LOS A	0.9	6.3	0.58	0.54	0.58	25.8
23a	R1	All MCs	31	0.0	31	0.0	0.201	3.2	LOS A	0.9	6.3	0.58	0.54	0.58	32.3
Approach			138	0.0	138	0.0	0.201	5.5	NA	0.9	6.3	0.58	0.54	0.58	28.2
NorthWest: Clarke St (NW)															
27b	L3	All MCs	8	0.0	8	0.0	0.413	9.4	LOS A	2.4	16.7	0.73	0.85	1.00	29.1
8	T1	All MCs	177	0.0	177	0.0	0.413	8.7	LOS A	2.4	16.7	0.73	0.85	1.00	27.5
9	R2	All MCs	18	0.0	18	0.0	0.413	21.1	LOS B	2.4	16.7	0.73	0.85	1.00	22.5
Approach			203	0.0	203	0.0	0.413	9.9	NA	2.4	16.7	0.73	0.85	1.00	27.3
All Vehicles			341	0.0	341	0.0	0.413	8.1	NA	2.4	16.7	0.67	0.73	0.83	27.5

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: CST07 [CST07 Clarke St / Willoughby Rd (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	0.192	5.6	LOS A	0.9	6.7	0.37	0.37	0.37	30.6
2	T1	All MCs	91	12.8	91	12.8	0.192	1.0	LOS A	0.9	6.7	0.37	0.37	0.37	35.5
Approach			185	6.2	185	6.2	0.192	3.3	NA	0.9	6.7	0.37	0.37	0.37	33.5
North: Willoughby Rd (N)															
8	T1	All MCs	118	4.5	118	4.5	0.176	0.9	LOS A	0.7	5.4	0.31	0.27	0.31	36.0
9	R2	All MCs	43	2.4	43	2.4	0.176	8.5	LOS A	0.7	5.4	0.31	0.27	0.31	35.1
Approach			161	3.9	161	3.9	0.176	2.9	NA	0.7	5.4	0.31	0.27	0.31	35.8
West: Clarke St (W)															
10	L2	All MCs	85	0.0	85	0.0	0.233	6.8	LOS A	0.9	6.1	0.57	0.78	0.59	31.6
12	R2	All MCs	82	0.0	82	0.0	0.233	7.7	LOS A	0.9	6.1	0.57	0.78	0.59	25.2
Approach			167	0.0	167	0.0	0.233	7.2	LOS A	0.9	6.1	0.57	0.78	0.59	29.3
All Vehicles			514	3.5	514	3.5	0.233	4.5	NA	0.9	6.7	0.42	0.47	0.43	32.8

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: CST08 [CST08 Albany St / Willoughby Rd (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

TCS 516
Site Category: (None)
Signals - 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: Willoughby Rd (S)															
1	L2	All MCs	56	13.2	56	13.2	0.150	28.7	LOS C	1.6	12.2	0.83	0.71	0.83	22.8
2	T1	All MCs	94	6.7	94	6.7	0.207	21.5	LOS B	2.6	19.3	0.78	0.63	0.78	27.2
3	R2	All MCs	7	0.0	7	0.0	0.207	29.6	LOS C	2.6	19.3	0.78	0.63	0.78	25.7
Approach			157	8.7	157	8.7	0.207	24.4	LOS B	2.6	19.3	0.80	0.66	0.80	24.8
East: Albany St (E)															
4	L2	All MCs	18	0.0	18	0.0	0.223	16.2	LOS B	4.1	28.8	0.57	0.50	0.57	32.7
5	T1	All MCs	276	0.8	276	0.8	0.447	10.1	LOS A	5.6	39.6	0.63	0.56	0.63	32.4
6	R2	All MCs	153	0.0	153	0.0	* 0.447	23.6	LOS B	5.6	39.6	0.83	0.75	0.83	26.3
Approach			446	0.5	446	0.5	0.447	15.0	LOS B	5.6	39.6	0.70	0.62	0.70	30.0
North: Willoughby Rd (N)															
7	L2	All MCs	105	0.0	105	0.0	0.120	15.7	LOS B	2.0	14.1	0.59	0.69	0.59	29.0
8	T1	All MCs	118	6.3	118	6.3	0.437	23.6	LOS B	5.3	38.3	0.88	0.77	0.88	24.5
9	R2	All MCs	60	1.8	60	1.8	* 0.437	32.7	LOS C	5.3	38.3	0.88	0.77	0.88	22.9
Approach			283	3.0	283	3.0	0.437	22.6	LOS B	5.3	38.3	0.77	0.74	0.77	25.5
West: Albany St (W)															
10	L2	All MCs	97	0.0	97	0.0	0.174	24.3	LOS B	2.5	17.3	0.77	0.73	0.77	24.0
11	T1	All MCs	343	0.0	343	0.0	* 0.493	19.2	LOS B	9.3	64.9	0.83	0.71	0.83	27.2
Approach			440	0.0	440	0.0	0.493	20.3	LOS B	9.3	64.9	0.82	0.71	0.82	26.4
All Vehicles			1326	1.8	1326	1.8	0.493	19.5	LOS B	9.3	64.9	0.77	0.68	0.77	27.0

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: Willoughby Rd (S)												
P1	Full	158	166	28.5	LOS C	0.3	0.3	0.91	0.91	45.2	20.0	0.44
East: Albany St (E)												
P2	Full	394	415	28.8	LOS C	0.8	0.8	0.92	0.92	45.5	20.0	0.44

North: Willoughby Rd (N)											
P3	Full	153	161	28.5	LOS C	0.3	0.3	0.91	0.91	45.2	20.0	0.44
West: Albany St (W)											
P4	Full	292	307	28.7	LOS C	0.6	0.6	0.91	0.91	45.4	20.0	0.44
All Pedestrians		997	1049	28.7	LOS C	0.8	0.8	0.91	0.91	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.

MOVEMENT SUMMARY

Site: CST09 [CST09 Albany St / Oxley St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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	60	0.0	60	0.0	0.443	8.6	LOS A	3.0	21.5	0.81	0.70	0.84	21.0
2	T1	All MCs	155	2.0	155	2.0	0.443	8.5	LOS A	3.0	21.5	0.81	0.70	0.84	32.2
3	R2	All MCs	74	0.0	74	0.0	0.443	11.3	LOS A	3.0	21.5	0.81	0.70	0.84	30.4
3u	U	All MCs	1	0.0	1	0.0	0.443	12.7	LOS A	3.0	21.5	0.81	0.70	0.84	21.0
Approach			289	1.1	289	1.1	0.443	9.2	LOS A	3.0	21.5	0.81	0.70	0.84	30.3
East: Albany St (E)															
4	L2	All MCs	72	0.0	72	0.0	0.824	12.3	LOS A	6.8	48.6	0.86	0.93	1.12	24.9
5	T1	All MCs	308	3.4	308	3.4	0.824	12.3	LOS A	6.8	48.6	0.86	0.93	1.12	24.9
6	R2	All MCs	42	0.0	42	0.0	0.824	15.0	LOS B	6.8	48.6	0.86	0.93	1.12	31.4
6u	U	All MCs	1	0.0	1	0.0	0.824	16.4	LOS B	6.8	48.6	0.86	0.93	1.12	30.7
Approach			423	2.5	423	2.5	0.824	12.6	LOS A	6.8	48.6	0.86	0.93	1.12	25.9
North: Oxley St (N)															
7	L2	All MCs	42	2.5	42	2.5	0.369	8.5	LOS A	2.6	18.4	0.78	0.71	0.78	34.4
8	T1	All MCs	116	3.6	116	3.6	0.369	8.3	LOS A	2.6	18.4	0.78	0.71	0.78	29.8
9	R2	All MCs	103	1.0	103	1.0	0.369	11.1	LOS A	2.6	18.4	0.78	0.71	0.78	29.8
9u	U	All MCs	1	0.0	1	0.0	0.369	12.4	LOS A	2.6	18.4	0.78	0.71	0.78	34.7
Approach			262	2.4	262	2.4	0.369	9.5	LOS A	2.6	18.4	0.78	0.71	0.78	30.9
West: Albany St (W)															
10	L2	All MCs	104	0.0	104	0.0	0.579	7.4	LOS A	5.4	37.6	0.78	0.64	0.81	34.0
11	T1	All MCs	339	0.0	339	0.0	0.579	7.2	LOS A	5.4	37.6	0.78	0.64	0.81	33.8
12	R2	All MCs	82	0.0	82	0.0	0.579	10.1	LOS A	5.4	37.6	0.78	0.64	0.81	25.4
12u	U	All MCs	1	0.0	1	0.0	0.579	11.4	LOS A	5.4	37.6	0.78	0.64	0.81	25.4
Approach			526	0.0	526	0.0	0.579	7.7	LOS A	5.4	37.6	0.78	0.64	0.81	33.1
All Vehicles			1501	1.3	1501	1.3	0.824	9.7	LOS A	6.8	48.6	0.81	0.74	0.90	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.

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 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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	20	0.0	20	0.0	0.049	4.8	LOS A	0.9	6.0	0.42	0.57	0.42	30.0
23b	R3	All MCs	4	0.0	4	0.0	0.049	14.4	LOS A	0.9	6.0	0.42	0.57	0.42	30.0
Approach			24	0.0	24	0.0	0.049	6.5	LOS A	0.9	6.0	0.42	0.57	0.42	30.0
East: Albany St (E)															
5	T1	All MCs	477	2.4	477	2.4	0.125	0.0	LOS A	8.9	63.6	0.00	0.00	0.00	50.0
Approach			477	2.4	477	2.4	0.125	0.0	NA	8.9	63.6	0.00	0.00	0.00	50.0
West: Albany St (W)															
11	T1	All MCs	526	0.0	526	0.0	0.270	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			526	0.0	526	0.0	0.270	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
All Vehicles			1027	1.1	1027	1.1	0.270	0.2	NA	8.9	63.6	0.01	0.01	0.01	48.5

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: CST11 [CST11 Oxley St / Clarke Ln (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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)															
1	L2	All MCs	2	0.0	2	0.0	0.010	7.7	LOS A	0.0	0.2	0.32	0.84	0.32	27.3
2	T1	All MCs	1	0.0	1	0.0	0.010	9.0	LOS A	0.0	0.2	0.32	0.84	0.32	27.3
3	R2	All MCs	4	0.0	4	0.0	0.010	9.2	LOS A	0.0	0.2	0.32	0.84	0.32	27.3
Approach			7	0.0	7	0.0	0.010	8.8	LOS A	0.0	0.2	0.32	0.84	0.32	27.3
NorthEast: Oxley St (NE)															
5	T1	All MCs	165	0.0	165	0.0	0.120	0.0	LOS A	0.1	0.5	0.04	0.04	0.04	46.5
6	R2	All MCs	7	0.0	7	0.0	0.120	4.9	LOS A	0.1	0.5	0.04	0.04	0.04	46.5
Approach			173	0.0	173	0.0	0.120	0.2	NA	0.1	0.5	0.04	0.04	0.04	46.5
NorthWest: Clarke Ln (NW)															
7	L2	All MCs	12	0.0	12	0.0	0.020	5.2	LOS A	0.1	0.5	0.33	0.53	0.33	24.7
9	R2	All MCs	6	0.0	6	0.0	0.020	6.4	LOS A	0.1	0.5	0.33	0.53	0.33	24.7
Approach			18	0.0	18	0.0	0.020	5.6	LOS A	0.1	0.5	0.33	0.53	0.33	24.7
SouthWest: Oxley St (SW)															
10	L2	All MCs	8	0.0	8	0.0	0.121	2.8	LOS A	0.0	0.0	0.00	0.02	0.00	48.1
11	T1	All MCs	226	0.0	226	0.0	0.121	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	48.1
Approach			235	0.0	235	0.0	0.121	0.1	NA	0.0	0.0	0.00	0.02	0.00	48.1
All Vehicles			433	0.0	433	0.0	0.121	0.5	NA	0.1	0.5	0.04	0.06	0.04	42.4

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: CST12 [CST12 Hume St / Clarke Ln (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 PM Peak)]

New Site
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)															
1	L2	All MCs	7	0.0	7	0.0	0.006	6.7	LOS A	0.0	0.0	0.00	1.00	0.00	28.1
2	T1	All MCs	1	0.0	1	0.0	0.006	6.4	LOS A	0.0	0.0	0.00	1.00	0.00	28.1
Approach			8	0.0	8	0.0	0.006	6.6	LOS A	0.0	0.0	0.00	1.00	0.00	28.1
NorthEast: Hume St (NE)															
5	T1	All MCs	46	0.0	46	0.0	0.013	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	38.1
6	R2	All MCs	3	0.0	3	0.0	0.013	3.4	LOS A	0.0	0.0	0.00	0.07	0.00	36.1
Approach			49	0.0	49	0.0	0.013	0.2	NA	0.0	0.0	0.00	0.04	0.00	38.0
All Vehicles			58	0.0	58	0.0	0.013	1.2	NA	0.0	0.0	0.00	0.18	0.00	33.3

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: CST13 [CST13 Pacific Hwy / Alexander St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 PM Peak)]

TCS 763
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 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	1034	3.6	1034	3.6	* 0.464	8.2	LOS A	10.0	72.1	0.60	0.53	0.60	35.8
3a	R1	All MCs	225	3.3	225	3.3	0.317	11.7	LOS A	4.6	33.1	0.44	0.64	0.44	31.1
Approach			1259	3.5	1259	3.5	0.464	8.8	LOS A	10.0	72.1	0.57	0.55	0.57	34.9
North: Alexander St (N)															
24a	L1	All MCs	194	4.3	194	4.3	* 0.331	25.2	LOS B	6.7	48.5	0.81	0.76	0.81	22.7
26b	R3	All MCs	111	1.9	111	1.9	* 0.979	63.6	LOS E	8.0	57.1	1.00	0.99	1.34	5.4
Approach			304	3.5	304	3.5	0.979	39.1	LOS C	8.0	57.1	0.88	0.84	1.00	14.5
NorthWest: Pacific Hwy (NW)															
7b	L3	All MCs	18	0.0	18	0.0	0.077	11.5	LOS A	0.3	3.1	0.20	0.41	0.20	31.6
8	T1	All MCs	851	2.7	851	2.7	0.454	5.1	LOS A	7.5	53.0	0.32	0.30	0.32	47.5
Approach			868	2.7	868	2.7	0.454	5.2	LOS A	7.5	53.0	0.31	0.30	0.31	47.3
All Vehicles			2432	3.2	2432	3.2	0.979	11.3	LOS A	10.0	72.1	0.52	0.50	0.53	33.6

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
North: Alexander St (N)											
P6	Full	154	20.6	LOS C	0.3	0.3	0.80	0.80	37.3	20.0	0.54
NorthWest: Pacific Hwy (NW)											
P3	Full	126	50.4	LOS E	0.4	0.4	0.90	0.90	67.1	20.0	0.30
All Pedestrians		280	34.1	LOS D	0.4	0.4	0.84	0.84	50.7	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.

MOVEMENT SUMMARY

Site: CST14 [CST14 Falcon St / Alexander St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 PM Peak)]

TCS 764
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 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	11	0.0	11	0.0	0.421	68.3	LOS E	8.9	64.5	1.00	0.85	1.00	5.5
2	T1	All MCs	187	3.9	187	3.9	0.468	57.7	LOS E	8.9	64.5	1.00	0.84	1.00	9.3
3	R2	All MCs	45	0.0	45	0.0	0.468	73.6	LOS F	6.0	43.0	1.00	0.83	1.00	18.3
Approach			243	3.0	243	3.0	0.468	61.1	LOS E	8.9	64.5	1.00	0.84	1.00	11.3
East: Falcon St (E)															
4	L2	All MCs	38	0.0	38	0.0	0.515	28.4	LOS B	15.6	111.2	0.69	0.62	0.69	31.0
5	T1	All MCs	748	2.1	748	2.1	0.515	22.6	LOS B	15.6	111.2	0.69	0.61	0.69	31.3
6	R2	All MCs	8	75.0	8	75.0	0.515	28.6	LOS C	15.2	109.7	0.68	0.60	0.68	32.4
Approach			795	2.8	795	2.8	0.515	22.9	LOS B	15.6	111.2	0.69	0.61	0.69	31.3
North: Alexander St (N)															
7	L2	All MCs	34	0.0	34	0.0	* 0.439	56.9	LOS E	8.3	59.8	0.93	0.77	0.93	21.7
8	T1	All MCs	284	3.7	284	3.7	0.439	47.6	LOS D	8.9	64.3	0.93	0.76	0.93	6.8
Approach			318	3.3	318	3.3	0.439	48.6	LOS D	8.9	64.3	0.93	0.76	0.93	9.1
West: Falcon St (W)															
10	L2	All MCs	219	1.0	219	1.0	* 0.355	6.8	LOS A	2.7	19.4	0.10	0.36	0.10	36.3
11	T1	All MCs	768	2.2	768	2.2	0.355	0.6	LOS A	2.7	19.4	0.06	0.14	0.06	56.8
Approach			987	1.9	987	1.9	0.355	2.0	LOS A	2.7	19.4	0.07	0.19	0.07	53.9
All Vehicles			2343	2.5	2343	2.5	0.515	21.5	LOS B	15.6	111.2	0.49	0.48	0.49	29.8

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: Alexander St (S)											
P1	Full	169	52.4	LOS E	0.6	0.6	0.92	0.92	69.0	20.0	0.29
East: Falcon St (E)											

P2	Full	81	52.2	LOS E	0.3	0.3	0.92	0.92	68.8	20.0	0.29
North: Alexander St (N)											
P3	Full	163	52.3	LOS E	0.5	0.5	0.92	0.92	69.0	20.0	0.29
West: Falcon St (W)											
P4	Full	271	52.6	LOS E	0.9	0.9	0.92	0.92	69.2	20.0	0.29
All Pedestrians		684	52.4	LOS E	0.9	0.9	0.92	0.92	69.1	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.

MOVEMENT SUMMARY

Site: CST01 [CST01 Pacific Hwy / Albany St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 768
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 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	907	3.7	907	3.7	0.343	1.3	LOS A	2.5	17.7	0.10	0.09	0.10	56.0
23b	R3	All MCs	153	2.1	153	2.1	* 0.856	76.3	LOS F	10.1	71.9	1.00	0.91	1.17	6.6
Approach			1060	3.5	1060	3.5	0.856	12.1	LOS A	10.1	71.9	0.23	0.21	0.25	34.9
East: Albany St (E)															
4b	L3	All MCs	49	0.0	49	0.0	* 0.726	68.5	LOS E	7.0	49.0	1.00	0.87	1.07	2.7
6a	R1	All MCs	422	0.7	422	0.7	0.726	55.4	LOS D	7.0	49.0	1.00	0.86	1.05	10.1
Approach			472	0.7	472	0.7	0.726	56.8	LOS E	7.0	49.0	1.00	0.87	1.05	9.4
NorthWest: Pacific Hwy (NW)															
27a	L1	All MCs	284	0.4	284	0.4	0.242	9.5	LOS A	3.8	26.6	0.24	0.63	0.24	30.6
28	T1	All MCs	815	2.7	815	2.7	* 0.394	9.8	LOS A	9.4	67.3	0.41	0.36	0.41	30.3
Approach			1099	2.1	1099	2.1	0.394	9.7	LOS A	9.4	67.3	0.37	0.43	0.37	30.4
All Vehicles			2631	2.4	2631	2.4	0.856	19.1	LOS B	10.1	71.9	0.42	0.42	0.44	23.9

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	284	50.8	LOS E	0.9	0.9	0.91	0.91	217.4	200.0	0.92
East: Albany St (E)											
P2	Full	253	50.7	LOS E	0.8	0.8	0.91	0.91	67.4	20.0	0.30
All Pedestrians		537	50.7	LOS E	0.9	0.9	0.91	0.91	146.8	115.3	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.

MOVEMENT SUMMARY

Site: CST02 [CST02 Pacific Hwy / Oxley St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 767
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 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	118	1.8	118	1.8	0.107	9.9	LOS A	1.4	9.6	0.20	0.61	0.20	22.2
2	T1	All MCs	906	3.7	906	3.7	* 0.349	2.8	LOS A	5.1	36.6	0.19	0.17	0.19	43.7
Approach			1024	3.5	1024	3.5	0.349	3.6	LOS A	5.1	36.6	0.19	0.22	0.19	37.5
NorthEast: Oxley St (NE)															
4	L2	All MCs	116	1.8	116	1.8	0.318	48.9	LOS D	5.7	40.8	0.90	0.77	0.90	2.8
5	T1	All MCs	77	1.4	77	1.4	0.200	45.0	LOS D	3.9	27.7	0.87	0.68	0.87	8.1
Approach			193	1.6	193	1.6	0.318	47.3	LOS D	5.7	40.8	0.89	0.73	0.89	5.0
NorthWest: Pacific Hwy (NW)															
7	L2	All MCs	65	3.2	65	3.2	0.237	24.0	LOS B	7.8	56.2	0.54	0.50	0.54	24.1
8	T1	All MCs	799	2.5	799	2.5	0.237	10.6	LOS A	8.9	63.8	0.51	0.40	0.51	27.6
Approach			864	2.6	864	2.6	0.237	11.6	LOS A	8.9	63.8	0.51	0.41	0.51	27.3
SouthWest: Oxley St (SW)															
10	L2	All MCs	154	2.1	154	2.1	* 0.529	57.5	LOS E	8.8	62.5	0.97	0.80	0.97	5.1
11	T1	All MCs	102	0.0	102	0.0	0.262	47.0	LOS D	5.3	37.0	0.89	0.73	0.89	6.6
12	R2	All MCs	99	1.1	99	1.1	0.489	58.8	LOS E	5.7	40.5	0.96	0.79	0.96	5.1
Approach			355	1.2	355	1.2	0.529	54.8	LOS D	8.8	62.5	0.94	0.78	0.94	5.5
All Vehicles			2436	2.7	2436	2.7	0.529	17.4	LOS B	8.9	63.8	0.47	0.41	0.47	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
SouthEast: Pacific Hwy (SE)											
P1	Full	1	50.2	LOS E	0.0	0.0	0.90	0.90	66.8	20.0	0.30
NorthEast: Oxley St (NE)											

P2	Full	486	51.2	LOS E	1.6	1.6	0.91	0.91	67.9	20.0	0.29
NorthWest: Pacific Hwy (NW)											
P3	Full	259	50.7	LOS E	0.8	0.8	0.91	0.91	67.4	20.0	0.30
SouthWest: Oxley St (SW)											
P4	Full	201	50.6	LOS E	0.6	0.6	0.90	0.90	67.3	20.0	0.30
All Pedestrians		947	50.9	LOS E	1.6	1.6	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.

MOVEMENT SUMMARY

Site: CST03 [CST03 Pacific Hwy / Hume St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 766
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 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	31	0.0	31	0.0	0.084	14.2	LOS A	1.9	13.9	0.30	0.36	0.30	31.0
2	T1	All MCs	957	3.7	957	3.7	* 0.331	6.8	LOS A	9.2	66.4	0.35	0.32	0.35	41.8
Approach			987	3.6	987	3.6	0.331	7.0	LOS A	9.2	66.4	0.35	0.32	0.35	41.2
NorthWest: Pacific Hwy (NW)															
8	T1	All MCs	1014	2.3	1014	2.3	0.321	5.3	LOS A	9.0	63.9	0.35	0.31	0.35	35.2
Approach			1014	2.3	1014	2.3	0.321	5.3	LOS A	9.0	63.9	0.35	0.31	0.35	35.2
SouthWest: Hume St (SW)															
10	L2	All MCs	67	0.0	67	0.0	* 0.349	62.4	LOS E	3.9	27.6	0.97	0.76	0.97	4.5
12	R2	All MCs	18	5.9	18	5.9	0.075	55.9	LOS D	1.0	7.1	0.90	0.69	0.90	5.1
Approach			85	1.2	85	1.2	0.349	61.0	LOS E	3.9	27.6	0.96	0.75	0.96	4.6
All Vehicles			2086	2.9	2086	2.9	0.349	8.4	LOS A	9.2	66.4	0.37	0.33	0.37	33.4

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)											
P1	Full	1	50.2	LOS E	0.0	0.0	0.90	0.90	66.8	20.0	0.30
NorthWest: Pacific Hwy (NW)											
P3	Full	115	50.4	LOS E	0.4	0.4	0.90	0.90	67.1	20.0	0.30
SouthWest: Hume St (SW)											
P4	Full	81	53.1	LOS E	0.3	0.3	0.92	0.92	69.7	20.0	0.29
All Pedestrians		197	51.5	LOS E	0.4	0.4	0.91	0.91	68.2	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.

MOVEMENT SUMMARY

Site: CST04 [CST04 Pacific Hwy / Falcon St / Shirley Rd (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 765
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 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	306	1.0	306	1.0	0.302	17.8	LOS B	8.1	57.3	0.47	0.71	0.47	28.8
2	T1	All MCs	565	4.5	565	4.5	0.557	38.2	LOS C	14.5	105.3	0.87	0.74	0.87	10.6
Approach			872	3.3	872	3.3	0.557	31.1	LOS C	14.5	105.3	0.73	0.73	0.73	16.7
East: Falcon St (E)															
21b	L3	All MCs	12	9.1	12	9.1	0.915	25.0	LOS B	18.5	130.6	0.99	0.98	1.16	6.3
21a	L1	All MCs	355	0.6	355	0.6	*0.915	52.7	LOS D	18.5	130.6	0.99	0.98	1.16	15.0
23a	R1	All MCs	359	2.9	359	2.9	0.672	34.1	LOS C	16.8	120.9	0.82	0.80	0.82	8.7
Approach			725	1.9	725	1.9	0.915	43.1	LOS D	18.5	130.6	0.90	0.89	0.99	12.7
North: Willoughby Rd (N)															
7	L2	All MCs	92	0.0	92	0.0	0.060	3.8	LOS A	0.4	2.9	0.08	0.48	0.08	37.0
Approach			92	0.0	92	0.0	0.060	3.8	LOS A	0.4	2.9	0.08	0.48	0.08	37.0
NorthWest: Pacific Hwy (NW)															
7a	L1	All MCs	408	3.1	408	3.1	*0.575	18.6	LOS B	11.0	78.7	0.75	0.78	0.75	23.9
8	T1	All MCs	623	1.9	623	1.9	0.665	53.1	LOS D	20.3	144.4	1.00	0.87	1.00	11.6
Approach			1032	2.3	1032	2.3	0.665	39.4	LOS C	20.3	144.4	0.90	0.83	0.90	14.5
SouthWest: Shirley Rd (SW)															
10	L2	All MCs	63	0.0	63	0.0	*0.647	59.0	LOS E	16.6	116.1	0.96	0.83	0.96	12.7
12a	R1	All MCs	447	0.0	447	0.0	0.647	46.4	LOS D	18.7	131.8	0.95	0.83	0.95	12.9
12	R2	All MCs	137	1.5	137	1.5	0.647	47.9	LOS D	18.7	131.8	0.94	0.83	0.94	13.1
Approach			647	0.3	647	0.3	0.647	47.9	LOS D	18.7	131.8	0.95	0.83	0.95	12.9
All Vehicles			3367	2.0	3367	2.0	0.915	38.7	LOS C	20.3	144.4	0.84	0.81	0.86	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	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
SouthEast: Pacific Hwy (SE)										
P1 Full	79	49.4	LOS E	0.2	0.2	0.89	0.89	66.1	20.0	0.30
East: Falcon St (E)										
P5 Full	204	53.4	LOS E	0.7	0.7	0.93	0.93	70.0	20.0	0.29
NorthWest: Pacific Hwy (NW)										
P3 Full	341	50.0	LOS E	1.1	1.1	0.90	0.90	66.7	20.0	0.30
SouthWest: Shirley Rd (SW)										
P4 Full	81	53.1	LOS E	0.3	0.3	0.92	0.92	69.7	20.0	0.29
All Pedestrians	705	51.3	LOS E	1.1	1.1	0.91	0.91	67.9	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.

MOVEMENT SUMMARY

Site: CST05 [CST05 Clarke St / Oxley St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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	38	0.0	38	0.0	0.076	5.0	LOS A	0.3	1.8	0.32	0.55	0.32	32.5
3a	R1	All MCs	42	0.0	42	0.0	0.076	5.7	LOS A	0.3	1.8	0.32	0.55	0.32	32.5
Approach			80	0.0	80	0.0	0.076	5.4	LOS A	0.3	1.8	0.32	0.55	0.32	32.5
North: Oxley St (N)															
24a	L1	All MCs	127	0.0	127	0.0	0.154	4.4	LOS A	0.0	0.0	0.00	0.53	0.00	29.6
26a	R1	All MCs	156	1.4	156	1.4	0.154	4.1	LOS A	0.0	0.0	0.00	0.53	0.00	29.6
Approach			283	0.7	283	0.7	0.154	4.2	NA	0.0	0.0	0.00	0.53	0.00	29.6
SouthWest: Oxley St (SW)															
10a	L1	All MCs	123	1.7	123	1.7	0.106	2.8	LOS A	0.4	2.7	0.25	0.54	0.25	22.7
12	R2	All MCs	56	0.0	56	0.0	0.106	4.9	LOS A	0.4	2.7	0.25	0.54	0.25	22.7
Approach			179	1.2	179	1.2	0.106	3.4	NA	0.4	2.7	0.25	0.54	0.25	22.7
All Vehicles			542	0.8	542	0.8	0.154	4.1	NA	0.4	2.7	0.13	0.54	0.13	28.8

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.

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 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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)															
21	L2	All MCs	1	0.0	1	0.0	0.053	3.4	LOS A	0.1	0.8	0.12	0.13	0.12	19.5
2	T1	All MCs	80	0.0	80	0.0	0.053	0.0	LOS A	0.1	0.8	0.12	0.13	0.12	36.4
23a	R1	All MCs	18	0.0	18	0.0	0.053	3.8	LOS A	0.1	0.8	0.12	0.13	0.12	37.4
Approach			99	0.0	99	0.0	0.053	0.7	NA	0.1	0.8	0.12	0.13	0.12	36.4
NorthWest: Clarke St (NW)															
27b	L3	All MCs	9	0.0	9	0.0	0.095	4.1	LOS A	0.0	0.1	0.00	0.03	0.00	38.3
8	T1	All MCs	173	0.0	173	0.0	0.095	0.0	LOS A	0.0	0.1	0.00	0.03	0.00	39.5
29	R2	All MCs	1	0.0	1	0.0	0.095	3.9	LOS A	0.0	0.1	0.00	0.03	0.00	20.4
Approach			183	0.0	183	0.0	0.095	0.2	NA	0.0	0.1	0.00	0.03	0.00	39.3
All Vehicles			282	0.0	282	0.0	0.095	0.4	NA	0.1	0.8	0.05	0.06	0.05	38.6

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.

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 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	92	0.0	92	0.0	0.218	5.8	LOS A	1.1	7.7	0.38	0.36	0.38	31.1
2	T1	All MCs	119	6.2	119	6.2	0.218	1.0	LOS A	1.1	7.7	0.38	0.36	0.38	35.8
Approach			211	3.5	211	3.5	0.218	3.1	NA	1.1	7.7	0.38	0.36	0.38	34.2
North: Willoughby Rd (N)															
8	T1	All MCs	148	3.5	148	3.5	0.214	1.0	LOS A	0.9	6.7	0.33	0.27	0.33	36.0
9	R2	All MCs	46	0.0	46	0.0	0.214	9.1	LOS A	0.9	6.7	0.33	0.27	0.33	35.1
Approach			195	2.7	195	2.7	0.214	2.9	NA	0.9	6.7	0.33	0.27	0.33	35.8
West: Clarke St (W)															
10	L2	All MCs	61	0.0	61	0.0	0.212	7.2	LOS A	0.8	5.3	0.61	0.80	0.62	31.1
12	R2	All MCs	74	1.4	74	1.4	0.212	8.4	LOS A	0.8	5.3	0.61	0.80	0.62	24.5
Approach			135	0.8	135	0.8	0.212	7.9	LOS A	0.8	5.3	0.61	0.80	0.62	28.3
All Vehicles			540	2.5	540	2.5	0.218	4.2	NA	1.1	7.7	0.42	0.44	0.42	33.2

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.

MOVEMENT SUMMARY

Site: CST08 [CST08 Albany St / Willoughby Rd (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

TCS 516
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: Willoughby Rd (S)															
1	L2	All MCs	53	8.0	53	8.0	0.133	25.4	LOS B	1.4	10.2	0.83	0.71	0.83	23.5
2	T1	All MCs	85	3.7	85	3.7	0.166	18.2	LOS B	2.1	15.4	0.76	0.61	0.76	28.3
3	R2	All MCs	5	0.0	5	0.0	0.166	25.4	LOS B	2.1	15.4	0.76	0.61	0.76	26.7
Approach			143	5.1	143	5.1	0.166	21.1	LOS B	2.1	15.4	0.79	0.65	0.79	26.3
East: Albany St (E)															
4	L2	All MCs	14	0.0	14	0.0	0.113	14.9	LOS B	1.8	12.6	0.53	0.46	0.53	33.3
5	T1	All MCs	303	0.0	303	0.0	0.567	10.8	LOS A	8.7	60.8	0.74	0.65	0.74	31.0
6	R2	All MCs	163	0.0	163	0.0	* 0.567	21.8	LOS B	8.7	60.8	0.84	0.74	0.84	28.5
Approach			480	0.0	480	0.0	0.567	14.7	LOS B	8.7	60.8	0.77	0.68	0.77	30.1
North: Willoughby Rd (N)															
7	L2	All MCs	121	0.0	121	0.0	0.137	14.8	LOS B	2.1	15.0	0.59	0.69	0.59	29.6
8	T1	All MCs	136	3.1	136	3.1	* 0.391	21.1	LOS B	4.8	34.1	0.86	0.75	0.86	26.0
9	R2	All MCs	44	0.0	44	0.0	0.391	30.0	LOS C	4.8	34.1	0.86	0.75	0.86	24.5
Approach			301	1.4	301	1.4	0.391	19.9	LOS B	4.8	34.1	0.75	0.72	0.75	27.0
West: Albany St (W)															
10	L2	All MCs	94	0.0	94	0.0	0.182	24.2	LOS B	2.3	16.1	0.80	0.73	0.80	24.1
11	T1	All MCs	261	0.4	261	0.4	* 0.397	18.0	LOS B	6.4	45.2	0.81	0.68	0.81	27.9
Approach			355	0.3	355	0.3	0.397	19.6	LOS B	6.4	45.2	0.81	0.69	0.81	26.8
All Vehicles			1279	1.0	1279	1.0	0.567	18.0	LOS B	8.7	60.8	0.78	0.69	0.78	27.9

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: Willoughby Rd (S)												
P1	Full	162	171	26.1	LOS C	0.3	0.3	0.90	0.90	42.7	20.0	0.47
East: Albany St (E)												
P2	Full	311	327	26.2	LOS C	0.5	0.5	0.90	0.90	42.9	20.0	0.47

North: Willoughby Rd (N)											
P3	Full	144	152	26.0	LOS C	0.3	0.3	0.90	0.90	42.7	20.0	0.47
West: Albany St (W)											
P4	Full	353	372	26.3	LOS C	0.6	0.6	0.91	0.91	43.0	20.0	0.47
All Pedestrians		970	1021	26.2	LOS C	0.6	0.6	0.90	0.90	42.9	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.

MOVEMENT SUMMARY

Site: CST09 [CST09 Albany St / Oxley St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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	64	0.0	64	0.0	0.267	7.3	LOS A	1.7	12.2	0.68	0.63	0.68	22.7
2	T1	All MCs	86	0.0	86	0.0	0.267	7.1	LOS A	1.7	12.2	0.68	0.63	0.68	33.7
3	R2	All MCs	55	0.0	55	0.0	0.267	10.0	LOS A	1.7	12.2	0.68	0.63	0.68	31.8
3u	U	All MCs	1	0.0	1	0.0	0.267	11.4	LOS A	1.7	12.2	0.68	0.63	0.68	22.7
Approach			206	0.0	206	0.0	0.267	8.0	LOS A	1.7	12.2	0.68	0.63	0.68	31.0
East: Albany St (E)															
4	L2	All MCs	54	3.9	54	3.9	0.445	6.6	LOS A	2.8	19.9	0.52	0.62	0.52	32.5
5	T1	All MCs	301	1.0	301	1.0	0.445	6.3	LOS A	2.8	19.9	0.52	0.62	0.52	32.5
6	R2	All MCs	43	0.0	43	0.0	0.445	9.2	LOS A	2.8	19.9	0.52	0.62	0.52	36.8
6u	U	All MCs	1	0.0	1	0.0	0.445	10.6	LOS A	2.8	19.9	0.52	0.62	0.52	36.3
Approach			399	1.3	399	1.3	0.445	6.7	LOS A	2.8	19.9	0.52	0.62	0.52	33.3
North: Oxley St (N)															
7	L2	All MCs	34	0.0	34	0.0	0.275	7.1	LOS A	1.7	12.1	0.66	0.64	0.66	36.1
8	T1	All MCs	120	0.0	120	0.0	0.275	6.9	LOS A	1.7	12.1	0.66	0.64	0.66	32.1
9	R2	All MCs	66	0.0	66	0.0	0.275	9.8	LOS A	1.7	12.1	0.66	0.64	0.66	32.1
9u	U	All MCs	1	0.0	1	0.0	0.275	11.2	LOS A	1.7	12.1	0.66	0.64	0.66	36.3
Approach			221	0.0	221	0.0	0.275	7.8	LOS A	1.7	12.1	0.66	0.64	0.66	33.0
West: Albany St (W)															
10	L2	All MCs	99	1.1	99	1.1	0.402	5.7	LOS A	3.2	22.3	0.56	0.54	0.56	35.4
11	T1	All MCs	245	0.9	245	0.9	0.402	5.5	LOS A	3.2	22.3	0.56	0.54	0.56	35.3
12	R2	All MCs	78	1.4	78	1.4	0.402	8.4	LOS A	3.2	22.3	0.56	0.54	0.56	27.4
12u	U	All MCs	1	0.0	1	0.0	0.402	9.7	LOS A	3.2	22.3	0.56	0.54	0.56	27.4
Approach			423	1.0	423	1.0	0.402	6.0	LOS A	3.2	22.3	0.56	0.54	0.56	34.4
All Vehicles			1249	0.8	1249	0.8	0.445	6.9	LOS A	3.2	22.3	0.58	0.60	0.58	33.3

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.

MOVEMENT SUMMARY

Site: CST10 [CST10 Albany St / Clarke Ln (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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	21	0.0	21	0.0	0.043	4.2	LOS A	2.9	20.3	0.17	0.50	0.17	31.7
23b	R3	All MCs	4	0.0	4	0.0	0.043	12.8	LOS A	2.9	20.3	0.17	0.50	0.17	31.7
Approach			25	0.0	25	0.0	0.043	5.6	LOS A	2.9	20.3	0.17	0.50	0.17	31.7
East: Albany St (E)															
5	T1	All MCs	451	0.7	451	0.7	0.212	0.0	LOS A	8.7	61.1	0.00	0.00	0.00	49.9
Approach			451	0.7	451	0.7	0.212	0.0	NA	8.7	61.1	0.00	0.00	0.00	49.9
West: Albany St (W)															
11	T1	All MCs	437	1.0	437	1.0	0.226	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach			437	1.0	437	1.0	0.226	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
All Vehicles			913	0.8	913	0.8	0.226	0.2	NA	8.7	61.1	0.00	0.01	0.00	48.5

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: CST11 [CST11 Oxley St / Clarke Ln (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 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)															
1	L2	All MCs	1	0.0	1	0.0	0.005	7.7	LOS A	0.0	0.1	0.32	0.83	0.32	27.6
2	T1	All MCs	1	0.0	1	0.0	0.005	8.8	LOS A	0.0	0.1	0.32	0.83	0.32	27.6
3	R2	All MCs	2	0.0	2	0.0	0.005	9.0	LOS A	0.0	0.1	0.32	0.83	0.32	27.6
Approach			4	0.0	4	0.0	0.005	8.6	LOS A	0.0	0.1	0.32	0.83	0.32	27.6
NorthEast: Oxley St (NE)															
5	T1	All MCs	185	1.1	185	1.1	0.109	0.0	LOS A	0.5	3.7	0.02	0.03	0.02	47.5
6	R2	All MCs	6	0.0	6	0.0	0.109	3.6	LOS A	0.5	3.7	0.02	0.03	0.02	47.5
Approach			192	1.1	192	1.1	0.109	0.1	NA	0.5	3.7	0.02	0.03	0.02	47.5
NorthWest: Clarke Ln (NW)															
7	L2	All MCs	12	0.0	12	0.0	0.016	5.0	LOS A	0.1	0.5	0.29	0.51	0.29	25.1
9	R2	All MCs	5	20.0	5	20.0	0.016	6.7	LOS A	0.1	0.5	0.29	0.51	0.29	25.1
Approach			17	6.3	17	6.3	0.016	5.5	LOS A	0.1	0.5	0.29	0.51	0.29	25.1
SouthWest: Oxley St (SW)															
10	L2	All MCs	1	0.0	1	0.0	0.086	2.8	LOS A	0.0	0.0	0.00	0.00	0.00	49.6
11	T1	All MCs	164	1.3	164	1.3	0.086	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.6
Approach			165	1.3	165	1.3	0.086	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.6
All Vehicles			378	1.4	378	1.4	0.109	0.4	NA	0.5	3.7	0.03	0.05	0.03	43.6

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.

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 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 763
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 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	760	3.3	760	3.3	* 0.311	5.4	LOS A	5.8	41.7	0.47	0.40	0.47	41.4
3a	R1	All MCs	202	1.6	202	1.6	0.264	8.9	LOS A	3.4	24.3	0.35	0.59	0.35	35.3
Approach			962	3.0	962	3.0	0.311	6.1	LOS A	5.8	41.7	0.44	0.44	0.44	39.9
North: Alexander St (N)															
24a	L1	All MCs	192	2.7	192	2.7	* 0.358	30.8	LOS C	7.7	55.5	0.87	0.77	0.87	20.2
26b	R3	All MCs	112	2.8	112	2.8	* 0.883	64.2	LOS E	7.2	51.7	1.00	0.87	1.14	5.3
Approach			303	2.8	303	2.8	0.883	43.1	LOS D	7.7	55.5	0.92	0.81	0.97	13.5
NorthWest: Pacific Hwy (NW)															
7b	L3	All MCs	13	8.3	13	8.3	0.035	10.5	LOS A	0.1	1.4	0.18	0.47	0.18	32.0
8	T1	All MCs	752	1.8	752	1.8	* 0.359	3.3	LOS A	3.8	26.9	0.24	0.22	0.24	51.3
Approach			764	1.9	764	1.9	0.359	3.4	LOS A	3.8	26.9	0.24	0.22	0.24	51.1
All Vehicles			2029	2.5	2029	2.5	0.883	10.6	LOS A	7.7	55.5	0.44	0.41	0.44	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
North: Alexander St (N)											
P6	Full	122	22.2	LOS C	0.2	0.2	0.80	0.80	38.8	20.0	0.52
NorthWest: Pacific Hwy (NW)											
P3	Full	75	50.3	LOS E	0.2	0.2	0.90	0.90	67.0	20.0	0.30
All Pedestrians		197	32.9	LOS D	0.2	0.2	0.84	0.84	49.5	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: CST14 [CST14 Falcon St / Alexander St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: CST-N1 [CST Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 764
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 125 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	6	16.7	6	16.7	0.407	64.4	LOS E	9.9	71.0	1.00	0.84	1.00	5.8
2	T1	All MCs	160	2.0	160	2.0	0.407	55.4	LOS D	9.9	71.0	1.00	0.84	1.00	10.0
3	R2	All MCs	48	0.0	48	0.0	0.478	72.6	LOS F	3.1	21.9	1.00	0.77	1.00	16.9
Approach			215	2.0	215	2.0	0.478	59.5	LOS E	9.9	71.0	1.00	0.83	1.00	12.0
East: Falcon St (E)															
4	L2	All MCs	31	0.0	31	0.0	0.672	17.8	LOS B	17.9	127.1	0.55	0.50	0.55	40.2
5	T1	All MCs	859	2.0	859	2.0	0.672	11.8	LOS A	17.9	127.1	0.54	0.49	0.54	40.5
6	R2	All MCs	4	75.0	4	75.0	0.672	17.9	LOS B	9.4	67.5	0.53	0.47	0.53	39.9
Approach			894	2.2	894	2.2	0.672	12.1	LOS A	17.9	127.1	0.54	0.49	0.54	40.5
North: Alexander St (N)															
7	L2	All MCs	66	0.0	66	0.0	0.203	82.1	LOS F	3.5	24.4	0.89	0.75	0.89	21.0
8	T1	All MCs	283	3.0	283	3.0	* 0.767	79.7	LOS F	16.9	121.7	1.00	0.90	1.07	6.4
Approach			349	2.4	349	2.4	0.767	80.2	LOS F	16.9	121.7	0.98	0.87	1.04	10.1
West: Falcon St (W)															
10	L2	All MCs	220	0.5	220	0.5	0.184	17.3	LOS B	6.7	47.2	0.55	0.66	0.55	21.3
11	T1	All MCs	726	1.9	726	1.9	* 0.558	2.4	LOS A	8.2	58.4	0.21	0.19	0.21	55.5
Approach			946	1.6	946	1.6	0.558	5.9	LOS A	8.2	58.4	0.28	0.30	0.28	47.7
All Vehicles			2404	2.0	2404	2.0	0.767	23.8	LOS B	17.9	127.1	0.54	0.50	0.55	31.3

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: Alexander St (S)											
P1	Full	157	52.3	LOS E	0.5	0.5	0.92	0.92	69.0	20.0	0.29
East: Falcon St (E)											

P2	Full	133	52.3	LOS E	0.4	0.4	0.92	0.92	68.9	20.0	0.29
North: Alexander St (N)											
P3	Full	166	52.3	LOS E	0.5	0.5	0.92	0.92	69.0	20.0	0.29
West: Falcon St (W)											
P4	Full	229	52.5	LOS E	0.8	0.8	0.92	0.92	69.2	20.0	0.29
All Pedestrians		685	52.4	LOS E	0.8	0.8	0.92	0.92	69.0	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.

MOVEMENT SUMMARY

Site: VIC01 [VIC01 Pacific Hwy / Berry St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: VIC-N1 [VIC Network 1 (Network Folder: Block 4 Network - 2024 AM Peak)]

TCS 1206
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 115 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	61	1.7	61	1.7	0.243	10.0	LOS A	7.4	54.0	0.44	0.37	0.44	37.4
2	T1	All MCs	929	5.9	929	5.9	0.243	3.5	LOS A	7.4	54.0	0.25	0.21	0.25	51.5
23b	R3	All MCs	272	1.9	272	1.9	* 0.852	31.7	LOS C	8.5	60.8	0.98	0.87	1.10	19.3
Approach			1262	4.8	1262	4.8	0.852	9.9	LOS A	8.5	60.8	0.42	0.36	0.44	41.1
NorthWest: Pacific Hwy (NW)															
27a	L1	All MCs	838	5.0	838	5.0	0.413	8.7	LOS A	7.6	55.2	0.32	0.68	0.32	33.4
8	T1	All MCs	488	4.3	488	4.3	* 0.668	23.3	LOS B	15.0	108.7	0.88	0.84	0.88	19.0
Approach			1326	4.8	1326	4.8	0.668	14.1	LOS A	15.0	108.7	0.53	0.74	0.53	26.1
SouthWest: Berry St (SW)															
10	L2	All MCs	53	0.0	53	0.0	0.114	5.9	LOS A	0.6	4.4	0.22	0.54	0.22	36.0
Approach			53	0.0	53	0.0	0.114	5.9	LOS A	0.6	4.4	0.22	0.54	0.22	36.0
All Vehicles			2641	4.7	2641	4.7	0.852	11.9	LOS A	15.0	108.7	0.47	0.55	0.48	34.5

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	324	51.4	LOS E	1.0	1.0	0.95	0.95	68.1	20.0	0.29
East: Berry St (E)											
P2	Full	435	51.6	LOS E	1.4	1.4	0.96	0.96	218.3	200.0	0.92
NorthWest: Pacific Hwy (NW)											
P3B	Slip/ Bypass	1	50.7	LOS E	0.0	0.0	0.94	0.94	67.4	20.0	0.30
SouthWest: Berry St (SW)											
P4	Full	287	26.4	LOS C	0.6	0.6	0.91	0.91	43.0	20.0	0.46

All Pedestrians	1047	44.6	LOS E	1.4	1.4	0.94	0.94	123.6	94.7	0.77

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: VIC02 [VIC02 Miller St / Berry St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: VIC-N1 [VIC Network 1 (Network Folder: Block 4 Network - 2024 AM Peak)]

TCS 874
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 115 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	360	8.8	360	8.8	0.974	33.8	LOS C	25.0	186.2	0.80	0.76	0.92	13.1
3	R2	All MCs	264	7.2	264	7.2	* 0.974	87.7	LOS F	25.0	186.2	1.00	1.30	1.49	11.0
Approach			624	8.1	624	8.1	0.974	56.6	LOS E	25.0	186.2	0.88	0.98	1.16	11.8
North: Miller St (N)															
7	L2	All MCs	195	4.9	195	4.9	0.793	60.5	LOS E	11.5	83.8	1.00	0.93	1.16	14.2
8	T1	All MCs	307	15.1	307	15.1	0.773	47.8	LOS D	17.1	135.2	0.99	0.92	1.08	11.5
Approach			502	11.1	502	11.1	0.793	52.7	LOS D	17.1	135.2	1.00	0.92	1.11	12.8
West: Berry St (W)															
10	L2	All MCs	195	3.8	195	3.8	* 0.695	43.5	LOS D	16.5	118.5	0.86	0.78	0.86	10.3
11	T1	All MCs	982	1.6	982	1.6	0.695	31.8	LOS C	21.0	155.6	0.87	0.77	0.87	18.3
12	R2	All MCs	65	38.7	65	38.7	0.695	41.0	LOS C	21.0	155.6	0.88	0.78	0.88	10.8
Approach			1242	3.9	1242	3.9	0.695	34.1	LOS C	21.0	155.6	0.87	0.77	0.87	16.0
All Vehicles			2368	6.5	2368	6.5	0.974	44.0	LOS D	25.0	186.2	0.90	0.86	1.00	13.9

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: Miller St (S)											
P1	Full	417	51.6	LOS E	1.3	1.3	0.96	0.96	68.3	20.0	0.29
East: Berry St (E)											
P2	Full	267	51.3	LOS E	0.8	0.8	0.95	0.95	68.0	20.0	0.29
North: Miller St (N)											
P3	Full	273	51.3	LOS E	0.8	0.8	0.95	0.95	68.0	20.0	0.29
West: Berry St (W)											
P4	Full	516	51.8	LOS E	1.6	1.6	0.96	0.96	68.5	20.0	0.29

All Pedestrians	1473	51.6	LOS E	1.6	1.6	0.95	0.95	68.2	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.

MOVEMENT SUMMARY

Site: VIC03 [VIC03 Miller St / McLaren St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: VIC-N1 [VIC Network 1 (Network Folder: Block 4 Network - 2024 AM Peak)]

TCS 1156
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
South: Miller St (S)															
1	L2	All MCs	127	3.3	127	3.3	0.101	11.8	LOS A	2.2	15.5	0.34	0.58	0.34	34.3
2	T1	All MCs	397	8.5	397	8.5	0.437	13.1	LOS A	11.8	88.6	0.56	0.51	0.56	32.6
3	R2	All MCs	31	3.4	31	3.4	* 0.437	27.6	LOS B	11.8	88.6	0.56	0.51	0.56	26.9
Approach			555	7.0	555	7.0	0.437	13.6	LOS A	11.8	88.6	0.51	0.53	0.51	31.2
East: McLaren St (E)															
4	L2	All MCs	47	6.7	47	6.7	0.752	88.5	LOS F	2.9	21.2	1.00	0.86	1.29	7.7
5	T1	All MCs	122	4.3	122	4.3	* 0.649	71.6	LOS F	6.6	47.7	1.00	0.83	1.06	18.1
Approach			169	5.0	169	5.0	0.752	76.3	LOS F	6.6	47.7	1.00	0.84	1.12	12.3
North: Miller St (N)															
7	L2	All MCs	74	0.0	74	0.0	0.388	19.6	LOS B	11.4	84.4	0.53	0.60	0.53	19.4
8	T1	All MCs	388	7.9	388	7.9	0.388	11.1	LOS A	11.4	84.4	0.54	0.61	0.54	27.2
9	R2	All MCs	162	3.2	162	3.2	0.388	23.2	LOS B	6.1	43.9	0.64	0.73	0.64	29.0
Approach			624	5.7	624	5.7	0.388	15.2	LOS B	11.4	84.4	0.56	0.64	0.56	26.6
West: McLaren St (W)															
10	L2	All MCs	115	3.7	115	3.7	0.441	52.2	LOS D	5.8	41.5	0.95	0.79	0.95	18.9
11	T1	All MCs	103	3.1	103	3.1	0.783	49.4	LOS D	7.7	55.6	1.00	0.97	1.20	15.4
12	R2	All MCs	46	4.5	46	4.5	* 0.783	58.0	LOS E	7.7	55.6	1.00	0.97	1.20	12.9
Approach			264	3.6	264	3.6	0.783	52.1	LOS D	7.7	55.6	0.98	0.89	1.09	16.7
All Vehicles			1613	5.7	1613	5.7	0.783	27.1	LOS B	11.8	88.6	0.66	0.66	0.69	22.9

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: Miller St (S)											
P1	Full	441	49.1	LOS E	1.3	1.3	0.95	0.95	65.8	20.0	0.30

East: McLaren St (E)										
P2	Full	334	48.9	LOS E	1.0	1.0	0.95	0.95	65.6	20.0	0.31
North: Miller St (N)										
P3	Full	438	49.1	LOS E	1.3	1.3	0.95	0.95	65.8	20.0	0.30
West: McLaren St (W)										
P4	Full	141	48.5	LOS E	0.4	0.4	0.94	0.94	65.2	20.0	0.31
All Pedestrians		1354	49.0	LOS E	1.3	1.3	0.95	0.95	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.

MOVEMENT SUMMARY

Site: VIC04 [VIC04 Pacific Hwy / Miller St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: VIC-N1 [VIC Network 1 (Network Folder: Block 4 Network - 2024 AM Peak)]

TCS 630
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 115 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	3	66.7	3	66.7	0.398	25.1	LOS B	6.8	56.7	0.88	0.75	0.88	20.9
1a	L1	All MCs	95	25.6	95	25.6	0.398	29.0	LOS C	6.8	56.7	0.88	0.75	0.88	12.6
2	T1	All MCs	169	13.0	169	13.0	0.663	50.3	LOS D	10.1	77.3	0.95	0.81	0.97	11.7
3b	R3	All MCs	64	6.6	64	6.6	* 0.663	55.8	LOS D	10.1	77.3	0.97	0.84	1.00	18.5
Approach			332	15.9	332	15.9	0.663	45.0	LOS D	10.1	77.3	0.93	0.80	0.95	13.7
SouthEast: Pacific Hwy (SE)															
21b	L3	All MCs	173	4.3	173	4.3	0.823	40.2	LOS C	8.7	62.4	0.78	0.93	1.01	24.1
21a	L1	All MCs	61	0.0	61	0.0	* 0.823	61.7	LOS E	8.7	62.4	0.78	0.93	1.01	26.2
22	T1	All MCs	860	4.0	860	4.0	0.754	40.1	LOS C	22.3	161.5	0.97	0.86	0.99	15.4
23a	R1	All MCs	455	6.3	455	6.3	* 0.882	48.8	LOS D	23.3	171.8	1.00	1.04	1.20	13.6
Approach			1548	4.6	1548	4.6	0.882	43.5	LOS D	23.3	171.8	0.95	0.93	1.06	16.4
North: Miller St (N)															
7a	L1	All MCs	98	24.7	98	24.7	0.097	6.1	LOS A	1.1	9.1	0.21	0.44	0.21	38.1
8	T1	All MCs	245	18.5	245	18.5	0.405	17.1	LOS B	4.1	33.5	0.49	0.42	0.49	26.6
9	R2	All MCs	21	5.0	21	5.0	0.405	24.4	LOS B	3.1	24.6	0.48	0.45	0.48	27.7
9b	R3	All MCs	8	12.5	8	12.5	0.405	25.1	LOS B	3.1	24.6	0.48	0.45	0.48	19.8
Approach			373	19.2	373	19.2	0.405	14.8	LOS B	4.1	33.5	0.41	0.43	0.41	29.0
NorthWest: Pacific Hwy (NW)															
28	T1	All MCs	274	5.4	274	5.4	0.405	29.1	LOS C	5.1	37.7	0.69	0.56	0.69	29.2
29a	R1	All MCs	227	3.2	227	3.2	0.488	37.6	LOS C	9.9	71.5	0.82	0.77	0.82	22.8
Approach			501	4.4	501	4.4	0.488	33.0	LOS C	9.9	71.5	0.75	0.65	0.75	26.0
All Vehicles			2754	7.9	2754	7.9	0.882	37.9	LOS C	23.3	171.8	0.84	0.79	0.90	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: Miller St (S)										
P1 Full	544	51.9	LOS E	1.7	1.7	0.96	0.96	68.6	20.0	0.29
SouthEast: Pacific Hwy (SE)										
P5 Full	993	52.9	LOS E	3.2	3.2	0.98	0.98	69.6	20.0	0.29
North: Miller St (N)										
P3 Full	1648	54.5	LOS E	5.4	5.4	1.01	1.01	71.1	20.0	0.28
NorthWest: Pacific Hwy (NW)										
P7 Full	758	52.4	LOS E	2.4	2.4	0.97	0.97	69.0	20.0	0.29
All Pedestrians	3943	53.3	LOS E	5.4	5.4	0.99	0.99	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.

MOVEMENT SUMMARY

Site: VIC01 [VIC01 Pacific Hwy / Berry St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [VIC Network 1 (Network Folder: Block 4 Network - 2024 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	26	0.0	26	0.0	0.057	15.1	LOS B	2.4	17.5	0.74	0.37	0.74	31.6
2	T1	All MCs	767	5.5	767	5.5	0.283	3.4	LOS A	5.0	36.3	0.25	0.20	0.25	52.2
23b	R3	All MCs	200	4.2	200	4.2	* 0.855	48.8	LOS D	7.6	55.0	1.00	0.92	1.17	13.9
Approach			994	5.1	994	5.1	0.855	12.9	LOS A	7.6	55.0	0.41	0.35	0.45	37.9
NorthWest: Pacific Hwy (NW)															
27a	L1	All MCs	436	6.8	436	6.8	0.153	7.4	LOS A	2.4	17.5	0.24	0.64	0.24	35.7
8	T1	All MCs	365	3.5	365	3.5	* 0.461	17.9	LOS B	11.0	79.5	0.76	0.68	0.76	22.5
Approach			801	5.3	801	5.3	0.461	12.2	LOS A	11.0	79.5	0.48	0.66	0.48	28.2
SouthWest: Berry St (SW)															
10	L2	All MCs	38	2.8	38	2.8	0.066	4.0	LOS A	0.2	1.4	0.11	0.49	0.11	38.1
Approach			38	2.8	38	2.8	0.066	4.0	LOS A	0.2	1.4	0.11	0.49	0.11	38.1
All Vehicles			1833	5.1	1833	5.1	0.855	12.4	LOS A	11.0	79.5	0.43	0.49	0.45	34.7

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	228	43.7	LOS E	0.6	0.6	0.94	0.94	60.3	20.0	0.33
East: Berry St (E)											
P2	Full	171	43.6	LOS E	0.5	0.5	0.94	0.94	210.2	200.0	0.95
NorthWest: Pacific Hwy (NW)											
P3B	Slip/ Bypass	1	43.2	LOS E	0.0	0.0	0.93	0.93	59.9	20.0	0.33
SouthWest: Berry St (SW)											
P4	Full	217	22.1	LOS C	0.4	0.4	0.89	0.89	38.8	20.0	0.52

All Pedestrians	617	36.1	LOS D	0.6	0.6	0.92	0.92	94.2	69.8	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.

MOVEMENT SUMMARY

Site: VIC02 [VIC02 Miller St / Berry St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [VIC Network 1 (Network Folder: Block 4 Network - 2024 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	361	12.8	361	12.8	0.360	12.6	LOS A	9.7	75.3	0.60	0.52	0.60	23.5
3	R2	All MCs	248	5.1	248	5.1	*0.639	28.6	LOS C	7.1	51.7	0.88	0.89	0.88	20.7
Approach			609	9.7	609	9.7	0.639	19.1	LOS B	9.7	75.3	0.71	0.67	0.71	21.9
North: Miller St (N)															
7	L2	All MCs	192	3.8	192	3.8	*0.826	56.2	LOS D	10.2	73.8	1.00	0.98	1.25	14.9
8	T1	All MCs	175	9.6	175	9.6	0.409	35.0	LOS C	7.3	55.3	0.89	0.73	0.89	14.2
Approach			366	6.6	366	6.6	0.826	46.1	LOS D	10.2	73.8	0.95	0.86	1.08	14.6
West: Berry St (W)															
10	L2	All MCs	125	10.1	125	10.1	0.481	50.4	LOS D	9.3	69.2	1.00	0.84	1.00	8.0
11	T1	All MCs	565	2.4	565	2.4	0.481	38.0	LOS C	12.8	91.6	0.99	0.82	0.99	15.7
12	R2	All MCs	36	47.1	36	47.1	*0.481	53.8	LOS D	11.5	86.9	1.00	0.83	1.00	8.7
Approach			726	5.9	726	5.9	0.481	40.9	LOS C	12.8	91.6	0.99	0.82	0.99	14.3
All Vehicles			1702	7.4	1702	7.4	0.826	34.2	LOS C	12.8	91.6	0.88	0.78	0.91	16.4

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	398	44.0	LOS E	1.1	1.1	0.95	0.95	60.6	20.0	0.33
East: Berry St (E)											
P2	Full	274	43.7	LOS E	0.7	0.7	0.94	0.94	60.4	20.0	0.33
North: Miller St (N)											
P3	Full	252	43.7	LOS E	0.7	0.7	0.94	0.94	60.4	20.0	0.33
West: Berry St (W)											
P4	Full	677	44.5	LOS E	1.8	1.8	0.96	0.96	61.2	20.0	0.33

All Pedestrians	1600	44.1	LOS E	1.8	1.8	0.95	0.95	60.8	20.0	0.33

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: VIC03 [VIC03 Miller St / McLaren St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [VIC Network 1 (Network Folder: Block 4 Network - 2024 PM Peak)]

TCS 1156
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: Miller St (S)															
1	L2	All MCs	109	3.8	109	3.8	0.290	14.7	LOS B	5.3	40.5	0.60	0.59	0.60	32.0
2	T1	All MCs	339	14.9	339	14.9	0.290	10.2	LOS A	5.3	40.5	0.60	0.56	0.60	32.5
3	R2	All MCs	38	11.1	38	11.1	0.290	21.2	LOS B	4.8	37.5	0.60	0.54	0.60	27.1
Approach			486	12.1	486	12.1	0.290	12.1	LOS A	5.3	40.5	0.60	0.57	0.60	32.0
East: McLaren St (E)															
4	L2	All MCs	38	0.0	38	0.0	0.255	42.3	LOS C	1.4	9.8	0.97	0.72	0.97	11.6
5	T1	All MCs	98	0.0	98	0.0	* 0.269	28.9	LOS C	3.2	22.1	0.90	0.70	0.90	25.3
Approach			136	0.0	136	0.0	0.269	32.7	LOS C	3.2	22.1	0.92	0.71	0.92	21.7
North: Miller St (N)															
7	L2	All MCs	57	1.9	57	1.9	0.197	19.2	LOS B	3.4	26.2	0.58	0.62	0.58	19.1
8	T1	All MCs	317	16.6	317	16.6	0.476	12.5	LOS A	7.7	59.1	0.68	0.68	0.68	24.6
9	R2	All MCs	98	0.0	98	0.0	* 0.476	25.9	LOS B	7.7	59.1	0.73	0.72	0.73	31.3
Approach			472	11.4	472	11.4	0.476	16.1	LOS B	7.7	59.1	0.68	0.68	0.68	25.6
West: McLaren St (W)															
10	L2	All MCs	79	4.0	79	4.0	0.300	35.9	LOS C	2.7	19.3	0.92	0.76	0.92	23.1
11	T1	All MCs	64	1.6	64	1.6	0.440	30.0	LOS C	3.6	25.4	0.96	0.82	0.96	20.6
12	R2	All MCs	41	2.6	41	2.6	* 0.440	38.1	LOS C	3.6	25.4	0.96	0.82	0.96	17.7
Approach			184	2.9	184	2.9	0.440	34.3	LOS C	3.6	25.4	0.94	0.79	0.94	21.3
All Vehicles			1278	9.2	1278	9.2	0.476	19.0	LOS B	7.7	59.1	0.71	0.66	0.71	26.7

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: Miller St (S)											
P1	Full	273	31.2	LOS D	0.5	0.5	0.92	0.92	47.8	20.0	0.42
East: McLaren St (E)											

P2 Full	439	31.4	LOS D	0.9	0.9	0.92	0.92	48.1	20.0	0.42
North: Miller St (N)										
P3 Full	414	31.4	LOS D	0.8	0.8	0.92	0.92	48.0	20.0	0.42
West: McLaren St (W)										
P4 Full	404	31.4	LOS D	0.8	0.8	0.92	0.92	48.0	20.0	0.42
All Pedestrians	1529	31.3	LOS D	0.9	0.9	0.92	0.92	48.0	20.0	0.42

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: VIC04 [VIC04 Pacific Hwy / Miller St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [VIC Network 1 (Network Folder: Block 4 Network - 2024 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	5	0.0	5	0.0	0.467	27.3	LOS B	6.6	53.0	0.92	0.77	0.92	21.1
1a	L1	All MCs	97	17.4	97	17.4	0.467	32.0	LOS C	6.6	53.0	0.92	0.77	0.92	12.8
2	T1	All MCs	246	16.7	246	16.7	0.778	48.1	LOS D	11.3	89.8	0.98	0.92	1.11	11.7
3b	R3	All MCs	23	13.6	23	13.6	* 0.778	61.4	LOS E	11.3	89.8	1.00	0.96	1.16	18.7
Approach			372	16.4	372	16.4	0.778	44.4	LOS D	11.3	89.8	0.97	0.88	1.06	12.7
SouthEast: Pacific Hwy (SE)															
21b	L3	All MCs	146	7.2	146	7.2	0.607	17.5	LOS B	3.6	26.7	0.59	0.76	0.59	35.9
21a	L1	All MCs	57	1.9	57	1.9	* 0.607	28.5	LOS C	3.6	26.7	0.59	0.76	0.59	36.7
22	T1	All MCs	680	3.6	680	3.6	0.488	26.1	LOS B	12.8	92.0	0.82	0.71	0.82	20.8
23a	R1	All MCs	363	4.9	363	4.9	* 0.799	36.1	LOS C	12.7	93.0	0.99	0.97	1.11	17.1
Approach			1246	4.3	1246	4.3	0.799	28.1	LOS B	12.8	93.0	0.83	0.79	0.87	22.2
North: Miller St (N)															
7a	L1	All MCs	60	35.1	60	35.1	0.072	7.7	LOS A	0.7	6.8	0.27	0.47	0.27	36.6
8	T1	All MCs	120	7.9	120	7.9	0.294	12.0	LOS A	1.8	13.4	0.36	0.31	0.36	29.6
9	R2	All MCs	13	8.3	13	8.3	0.294	18.7	LOS B	0.8	6.0	0.36	0.49	0.36	28.7
9b	R3	All MCs	18	11.8	18	11.8	0.294	19.4	LOS B	0.8	6.0	0.36	0.49	0.36	21.0
Approach			211	16.0	211	16.0	0.294	11.8	LOS A	1.8	13.4	0.33	0.38	0.33	30.7
NorthWest: Pacific Hwy (NW)															
28	T1	All MCs	216	4.9	216	4.9	0.252	22.1	LOS B	3.1	22.4	0.61	0.48	0.61	33.3
29a	R1	All MCs	180	1.8	180	1.8	0.505	52.4	LOS D	8.9	63.2	1.00	0.86	1.00	18.8
Approach			396	3.5	396	3.5	0.505	35.9	LOS C	8.9	63.2	0.79	0.65	0.79	24.8
All Vehicles			2224	7.3	2224	7.3	0.799	30.7	LOS C	12.8	93.0	0.80	0.74	0.83	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: Miller St (S)											
P1	Full	587	44.3	LOS E	1.6	1.6	0.95	0.95	61.0	20.0	0.33
SouthEast: Pacific Hwy (SE)											
P5	Full	458	44.1	LOS E	1.2	1.2	0.95	0.95	60.8	20.0	0.33
North: Miller St (N)											
P3	Full	992	45.1	LOS E	2.7	2.7	0.97	0.97	61.8	20.0	0.32
NorthWest: Pacific Hwy (NW)											
P7	Full	708	44.6	LOS E	1.9	1.9	0.96	0.96	61.2	20.0	0.33
All Pedestrians		2745	44.6	LOS E	2.7	2.7	0.96	0.96	61.3	20.0	0.33

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: VIC01 [VIC01 Pacific Hwy / Berry St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [VIC Network 1 (Network Folder: Block 4 Network - 2024 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	18	0.0	18	0.0	0.049	4.7	LOS A	0.3	1.9	0.10	0.20	0.10	42.2
2	T1	All MCs	669	2.7	669	2.7	0.230	1.2	LOS A	1.6	11.4	0.10	0.10	0.10	56.9
23b	R3	All MCs	92	2.3	92	2.3	* 0.649	54.2	LOS D	4.3	30.5	1.00	0.82	1.09	12.8
Approach			779	2.6	779	2.6	0.649	7.5	LOS A	4.3	30.5	0.21	0.19	0.22	45.1
NorthWest: Pacific Hwy (NW)															
27a	L1	All MCs	457	3.2	457	3.2	0.161	8.0	LOS A	2.6	18.8	0.28	0.65	0.28	34.6
8	T1	All MCs	348	0.9	348	0.9	0.325	11.5	LOS A	8.2	57.9	0.58	0.50	0.58	29.0
Approach			805	2.2	805	2.2	0.325	9.5	LOS A	8.2	57.9	0.41	0.59	0.41	31.9
SouthWest: Berry St (SW)															
10	L2	All MCs	34	0.0	34	0.0	0.024	4.4	LOS A	0.1	0.7	0.14	0.50	0.14	38.1
Approach			34	0.0	34	0.0	0.024	4.4	LOS A	0.1	0.7	0.14	0.50	0.14	38.1
All Vehicles			1618	2.3	1618	2.3	0.649	8.4	LOS A	8.2	57.9	0.31	0.39	0.31	39.8

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
SouthEast: Pacific Hwy (SE)											
P1	Full	122	38.5	LOS D	0.3	0.3	0.93	0.93	55.1	20.0	0.36
East: Berry St (E)											
P2	Full	153	38.5	LOS D	0.4	0.4	0.93	0.93	205.2	200.0	0.97
NorthWest: Pacific Hwy (NW)											
P3B	Slip/ Bypass	1	38.3	LOS D	0.0	0.0	0.92	0.92	54.9	20.0	0.36
SouthWest: Berry St (SW)											
P4	Full	142	1.6	LOS A	0.0	0.0	0.27	0.27	18.3	20.0	1.09

All Pedestrians	418	26.0	LOS C	0.4	0.4	0.70	0.70	97.4	85.7	0.88

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: VIC02 [VIC02 Miller St / Berry St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [VIC Network 1 (Network Folder: Block 4 Network - 2024 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	293	5.0	293	5.0	0.682	17.2	LOS B	9.4	69.1	0.76	0.65	0.76	18.9
3	R2	All MCs	199	5.3	199	5.3	* 0.682	34.3	LOS C	9.4	69.1	0.88	0.93	0.91	20.2
Approach			492	5.1	492	5.1	0.682	24.1	LOS B	9.4	69.1	0.81	0.76	0.82	19.6
North: Miller St (N)															
7	L2	All MCs	119	1.8	119	1.8	0.839	60.6	LOS E	5.9	42.0	1.00	1.02	1.38	15.0
8	T1	All MCs	211	5.5	211	5.5	0.609	40.8	LOS C	8.7	63.4	0.96	0.80	0.96	13.8
Approach			329	4.2	329	4.2	0.839	48.0	LOS D	8.7	63.4	0.98	0.87	1.11	13.5
West: Berry St (W)															
10	L2	All MCs	82	1.3	82	1.3	0.192	37.8	LOS C	3.3	23.1	0.94	0.76	0.94	9.2
11	T1	All MCs	505	1.3	505	1.3	0.431	30.3	LOS C	10.5	74.6	0.93	0.78	0.93	18.2
12	R2	All MCs	25	37.5	25	37.5	* 0.431	44.1	LOS D	10.1	73.6	0.95	0.79	0.95	10.5
Approach			613	2.7	613	2.7	0.431	31.9	LOS C	10.5	74.6	0.93	0.78	0.93	16.9
All Vehicles			1434	3.9	1434	3.9	0.839	32.9	LOS C	10.5	74.6	0.90	0.79	0.94	16.7

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: Miller St (S)											
P1	Full	232	38.6	LOS D	0.6	0.6	0.93	0.93	55.3	20.0	0.36
East: Berry St (E)											
P2	Full	337	38.8	LOS D	0.8	0.8	0.94	0.94	55.5	20.0	0.36
North: Miller St (N)											
P3	Full	145	38.5	LOS D	0.3	0.3	0.93	0.93	55.2	20.0	0.36
West: Berry St (W)											
P4	Full	348	38.8	LOS D	0.8	0.8	0.94	0.94	55.5	20.0	0.36

All Pedestrians	1062	38.7	LOS D	0.8	0.8	0.93	0.93	55.4	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: VIC03 [VIC03 Miller St / McLaren St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [VIC Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 1156
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: Miller St (S)															
1	L2	All MCs	71	1.5	71	1.5	0.063	9.4	LOS A	1.2	8.2	0.38	0.57	0.38	34.3
2	T1	All MCs	256	5.3	256	5.3	0.317	9.5	LOS A	6.8	49.3	0.55	0.51	0.55	33.2
3	R2	All MCs	48	2.2	48	2.2	0.317	19.1	LOS B	6.8	49.3	0.55	0.51	0.55	27.5
Approach			375	4.2	375	4.2	0.317	10.7	LOS A	6.8	49.3	0.52	0.52	0.52	32.8
East: McLaren St (E)															
4	L2	All MCs	40	0.0	40	0.0	0.485	54.8	LOS D	1.9	13.3	1.00	0.74	1.02	9.4
5	T1	All MCs	78	1.4	78	1.4	* 0.331	40.5	LOS C	3.3	23.1	0.96	0.73	0.96	21.1
Approach			118	0.9	118	0.9	0.485	45.3	LOS D	3.3	23.1	0.97	0.74	0.98	17.3
North: Miller St (N)															
7	L2	All MCs	73	0.0	73	0.0	0.080	16.3	LOS B	1.6	11.6	0.52	0.66	0.52	18.3
8	T1	All MCs	267	5.5	267	5.5	0.402	11.7	LOS A	8.6	62.5	0.60	0.65	0.60	26.4
9	R2	All MCs	87	0.0	87	0.0	* 0.402	21.0	LOS B	8.6	62.5	0.60	0.65	0.60	33.7
Approach			427	3.4	427	3.4	0.402	14.4	LOS A	8.6	62.5	0.59	0.65	0.59	26.1
West: McLaren St (W)															
10	L2	All MCs	48	0.0	48	0.0	0.147	39.3	LOS C	1.8	12.8	0.88	0.73	0.88	22.2
11	T1	All MCs	66	1.6	66	1.6	0.330	30.6	LOS C	3.4	23.8	0.93	0.73	0.93	20.7
12	R2	All MCs	23	0.0	23	0.0	* 0.330	38.4	LOS C	3.4	23.8	0.93	0.73	0.93	17.8
Approach			138	0.8	138	0.8	0.330	34.9	LOS C	3.4	23.8	0.91	0.73	0.91	20.9
All Vehicles			1058	3.1	1058	3.1	0.485	19.2	LOS B	8.6	62.5	0.65	0.62	0.65	26.0

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: Miller St (S)											
P1	Full	75	38.4	LOS D	0.2	0.2	0.93	0.93	55.1	20.0	0.36
East: McLaren St (E)											

P2 Full	307	38.8	LOS D	0.7	0.7	0.93	0.93	55.4	20.0	0.36
North: Miller St (N)										
P3 Full	142	38.5	LOS D	0.3	0.3	0.93	0.93	55.2	20.0	0.36
West: McLaren St (W)										
P4 Full	161	38.5	LOS D	0.4	0.4	0.93	0.93	55.2	20.0	0.36
All Pedestrians	685	38.6	LOS D	0.7	0.7	0.93	0.93	55.3	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.

MOVEMENT SUMMARY

Site: VIC04 [VIC04 Pacific Hwy / Miller St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [VIC Network 1 (Network Folder: Block 4 Network - 2024 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	1	0.0	1	0.0	0.344	23.0	LOS B	4.9	37.5	0.88	0.74	0.88	22.8
1a	L1	All MCs	97	13.0	97	13.0	0.344	26.2	LOS B	4.9	37.5	0.88	0.74	0.88	14.4
2	T1	All MCs	202	6.8	202	6.8	* 0.573	39.8	LOS C	7.5	55.8	0.95	0.78	0.95	13.6
3b	R3	All MCs	13	8.3	13	8.3	0.573	46.9	LOS D	7.5	55.8	0.96	0.79	0.96	21.4
Approach			313	8.8	313	8.8	0.573	35.8	LOS C	7.5	55.8	0.93	0.77	0.93	14.3
SouthEast: Pacific Hwy (SE)															
21b	L3	All MCs	61	6.9	61	6.9	0.133	11.2	LOS A	1.8	12.9	0.64	0.68	0.64	32.4
21a	L1	All MCs	12	0.0	12	0.0	0.133	35.1	LOS C	1.8	12.9	0.64	0.68	0.64	33.8
22	T1	All MCs	579	1.6	579	1.6	* 0.507	29.1	LOS C	10.4	73.8	0.88	0.75	0.88	19.6
23a	R1	All MCs	289	4.0	289	4.0	* 0.676	39.2	LOS C	12.0	86.6	0.97	0.84	0.99	16.1
Approach			941	2.7	941	2.7	0.676	31.1	LOS C	12.0	86.6	0.89	0.77	0.89	19.4
North: Miller St (N)															
7a	L1	All MCs	64	18.0	64	18.0	0.086	6.1	LOS A	0.4	3.6	0.17	0.42	0.17	38.2
8	T1	All MCs	149	6.3	149	6.3	0.478	32.4	LOS C	5.0	36.5	0.87	0.69	0.87	20.6
9	R2	All MCs	4	0.0	4	0.0	0.478	44.9	LOS D	5.0	36.5	0.90	0.73	0.90	22.3
9b	R3	All MCs	18	0.0	18	0.0	0.478	44.5	LOS D	5.0	36.5	0.90	0.73	0.90	13.9
Approach			236	8.9	236	8.9	0.478	26.4	LOS B	5.0	36.5	0.68	0.62	0.68	23.3
NorthWest: Pacific Hwy (NW)															
28	T1	All MCs	176	1.8	176	1.8	0.159	13.7	LOS A	1.7	11.8	0.45	0.35	0.45	40.1
29a	R1	All MCs	183	0.6	183	0.6	0.413	45.1	LOS D	8.1	56.9	1.00	0.85	1.00	20.6
Approach			359	1.2	359	1.2	0.413	29.7	LOS C	8.1	56.9	0.73	0.61	0.73	27.2
All Vehicles			1848	4.2	1848	4.2	0.676	31.0	LOS C	12.0	86.6	0.84	0.72	0.84	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: Miller St (S)											
P1	Full	148	38.5	LOS D	0.4	0.4	0.93	0.93	55.2	20.0	0.36
SouthEast: Pacific Hwy (SE)											
P5	Full	216	38.6	LOS D	0.5	0.5	0.93	0.93	55.3	20.0	0.36
North: Miller St (N)											
P3	Full	459	39.0	LOS D	1.1	1.1	0.94	0.94	55.7	20.0	0.36
NorthWest: Pacific Hwy (NW)											
P7	Full	166	38.5	LOS D	0.4	0.4	0.93	0.93	55.2	20.0	0.36
All Pedestrians		989	38.8	LOS D	1.1	1.1	0.93	0.93	55.4	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.

MOVEMENT SUMMARY

Site: BGU01 [BGU01 Hickson Rd / Towns Pl (Site Folder: Block 4 - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 4 Network - 2024 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	95	13.3	95	13.3	0.147	4.3	LOS A	0.6	4.9	0.38	0.53	0.38	34.8
6a	R1	All MCs	56	13.2	56	13.2	0.147	6.3	LOS A	0.6	4.9	0.38	0.53	0.38	34.8
Approach			151	13.3	151	13.3	0.147	5.0	NA	0.6	4.9	0.38	0.53	0.38	34.8
NorthWest: Towns Pl (NW)															
27a	L1	All MCs	82	11.5	82	11.5	0.246	5.1	LOS A	0.9	7.0	0.56	0.74	0.59	33.8
29	R2	All MCs	91	7.0	91	7.0	0.246	8.5	LOS A	0.9	7.0	0.56	0.74	0.59	24.1
Approach			173	9.1	173	9.1	0.246	6.9	LOS A	0.9	7.0	0.56	0.74	0.59	31.2
SouthWest: Hickson Rd (SW)															
30	L2	All MCs	85	11.1	85	11.1	0.205	5.3	LOS A	1.0	7.6	0.35	0.47	0.35	33.1
32a	R1	All MCs	173	11.6	173	11.6	0.205	3.1	LOS A	1.0	7.6	0.35	0.47	0.35	36.6
Approach			258	11.4	258	11.4	0.205	3.8	NA	1.0	7.6	0.35	0.47	0.35	36.0
All Vehicles			581	11.2	581	11.2	0.246	5.0	NA	1.0	7.6	0.42	0.57	0.43	34.5

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: BGU02 [BGU02 Dalgety Rd / Towns Pl (Site Folder: Block 4 - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 4 Network - 2024 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	31	0.0	31	0.0	0.138	6.1	LOS A	0.8	6.0	0.14	0.57	0.14	24.4
3b	R3	All MCs	161	9.2	161	9.2	0.138	6.4	LOS A	0.8	6.0	0.14	0.57	0.14	32.0
32u	U	All MCs	1	0.0	1	0.0	0.138	7.0	LOS A	0.8	6.0	0.14	0.57	0.14	34.6
Approach			193	7.7	193	7.7	0.138	6.4	LOS A	0.8	6.0	0.14	0.57	0.14	30.3
SouthEast: Towns Pl (SE)															
21b	L3	All MCs	115	13.8	115	13.8	0.092	2.7	LOS A	0.5	4.2	0.04	0.49	0.04	35.1
21a	L1	All MCs	17	6.3	17	6.3	0.092	8.2	LOS A	0.5	4.2	0.04	0.49	0.04	18.8
23u	U	All MCs	9	0.0	9	0.0	0.092	6.9	LOS A	0.5	4.2	0.04	0.49	0.04	29.7
Approach			141	11.9	141	11.9	0.092	3.6	LOS A	0.5	4.2	0.04	0.49	0.04	33.3
West: Parking Access (W)															
12a	R1	All MCs	2	50.0	2	50.0	0.004	1.5	LOS A	0.0	0.2	0.38	0.16	0.38	9.6
29	R2	All MCs	1	0.0	1	0.0	0.004	1.0	LOS A	0.0	0.2	0.38	0.16	0.38	21.2
29u	U	All MCs	1	0.0	1	0.0	0.004	1.0	LOS A	0.0	0.2	0.38	0.16	0.38	9.8
Approach			4	25.0	4	25.0	0.004	1.2	LOS A	0.0	0.2	0.38	0.16	0.38	13.5
All Vehicles			338	9.7	338	9.7	0.138	5.1	LOS A	0.8	6.0	0.10	0.53	0.10	31.3

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.

MOVEMENT SUMMARY

Site: BGU03 [BGU03 Kent St / Argyle St (Site Folder: Block 4 - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	84	5.0	84	5.0	0.750	10.0	LOS A	7.5	55.6	0.81	1.32	1.84	31.5
2	T1	All MCs	35	6.1	35	6.1	0.750	12.3	LOS A	7.5	55.6	0.81	1.32	1.84	29.5
3	R2	All MCs	308	7.8	308	7.8	0.750	18.3	LOS B	7.5	55.6	0.81	1.32	1.84	30.0
Approach			427	7.1	427	7.1	0.750	16.2	LOS B	7.5	55.6	0.81	1.32	1.84	30.3
East: Argyle St (E)															
4	L2	All MCs	279	3.0	279	3.0	0.349	4.9	LOS A	1.9	13.6	0.42	0.48	0.42	36.3
5	T1	All MCs	86	11.0	86	11.0	0.349	1.5	LOS A	1.9	13.6	0.42	0.48	0.42	35.8
6	R2	All MCs	8	25.0	8	25.0	0.349	5.0	LOS A	1.9	13.6	0.42	0.48	0.42	29.9
Approach			374	5.4	374	5.4	0.349	4.1	NA	1.9	13.6	0.42	0.48	0.42	36.1
North: Kent St (N)															
7	L2	All MCs	5	0.0	5	0.0	0.034	7.5	LOS A	0.1	0.8	0.49	0.92	0.49	26.4
8	T1	All MCs	14	0.0	14	0.0	0.034	11.0	LOS A	0.1	0.8	0.49	0.92	0.49	33.0
9	R2	All MCs	2	50.0	2	50.0	0.034	11.9	LOS A	0.1	0.8	0.49	0.92	0.49	29.6
Approach			21	5.0	21	5.0	0.034	10.2	LOS A	0.1	0.8	0.49	0.92	0.49	31.7
West: Argyle Pl (W)															
10	L2	All MCs	4	0.0	4	0.0	0.143	5.2	LOS A	0.7	5.1	0.41	0.41	0.41	34.7
11	T1	All MCs	69	15.2	69	15.2	0.143	1.2	LOS A	0.7	5.1	0.41	0.41	0.41	36.4
12	R2	All MCs	65	8.1	65	8.1	0.143	6.0	LOS A	0.7	5.1	0.41	0.41	0.41	37.1
Approach			139	11.4	139	11.4	0.143	3.6	NA	0.7	5.1	0.41	0.41	0.41	36.8
All Vehicles			961	7.0	961	7.0	0.750	9.5	NA	7.5	55.6	0.59	0.85	1.05	33.1

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: 9.1.1.200

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 4 Network - 2024 AM Peak)]

EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 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	519	7.3	519	7.3	0.486	4.8	LOS A	7.1	52.6	0.38	0.33	0.38	36.2
Approach			519	7.3	519	7.3	0.486	4.8	LOS A	7.1	52.6	0.38	0.33	0.38	36.2
North: Kent St															
8	T1	All MCs	316	11.3	316	11.3	0.555	34.7	LOS C	5.9	45.5	0.97	0.78	0.97	21.5
Approach			316	11.3	316	11.3	0.555	34.7	LOS C	5.9	45.5	0.97	0.78	0.97	21.5
All Vehicles			835	8.8	835	8.8	0.555	16.1	LOS B	7.1	52.6	0.60	0.50	0.60	29.2
Site: BGU05 [BGU05 Kent St / Sydney Harbour Bridge (SHB) On-ramp]															
South: Kent St (S)															
2	T1	All MCs	560	4.1	560	4.1	0.563	8.1	LOS A	11.4	82.7	0.56	0.50	0.56	28.6
3a	R1	All MCs	285	9.2	285	9.2	* 0.456	28.7	LOS C	9.1	68.9	0.92	0.79	0.92	21.4
Approach			845	5.9	845	5.9	0.563	15.1	LOS B	11.4	82.7	0.68	0.60	0.68	24.9
East: Clarence St (E)															
4	L2	All MCs	134	6.3	134	6.3	0.324	31.2	LOS C	4.4	32.6	0.87	0.76	0.87	13.7
6	R2	All MCs	180	8.2	180	8.2	* 0.491	32.8	LOS C	6.3	47.0	0.91	0.79	0.91	13.2
Approach			314	7.4	314	7.4	0.491	32.1	LOS C	6.3	47.0	0.89	0.78	0.89	13.4
NorthEast: SHB On-ramp (NE)															
24a	L1	All MCs	38	0.0	38	0.0	0.037	30.5	LOS C	1.2	3.3	0.87	0.64	0.87	20.1
Approach			38	0.0	38	0.0	0.037	30.5	LOS C	1.2	3.3	0.87	0.64	0.87	20.1
North: Kent St (N)															
7b	L3	All MCs	139	5.3	139	5.3	0.379	40.4	LOS C	5.5	40.4	1.00	0.84	1.00	12.9
8	T1	All MCs	83	34.2	83	34.2	* 0.509	26.0	LOS B	2.6	23.9	0.79	0.61	0.79	7.5
Approach			222	16.1	222	16.1	0.509	35.0	LOS C	5.5	40.4	0.92	0.75	0.92	11.5
All Vehicles			1419	7.6	1419	7.6	0.563	22.4	LOS B	11.4	82.7	0.77	0.66	0.77	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).

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	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Que	Eff. Stop	Travel Time	Travel Dist.	Aver. Speed

	ped/h	sec		[Ped ped	Dist] m		Rate	sec	m	m/sec
Site: BGU04 [BGU04 Pedestrian Mid-block Crossing at Kent St near Gas Ln]										
South: Kent St										
P1 Full	299	33.7	LOS D	0.6	0.6	0.92	0.92	200.4	200.0	1.00
All Pedestrians	299	33.7	LOS D	0.6	0.6	0.92	0.92	200.4	200.0	1.00
Site: BGU05 [BGU05 Kent St / Sydney Harbour Bridge (SHB) On-ramp]										
South: Kent St (S)										
P1 Full	2	29.8	LOS C	0.0	0.0	0.86	0.86	46.4	20.0	0.43
All Pedestrians	2	29.8	LOS C	0.0	0.0	0.86	0.86	46.4	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.

MOVEMENT SUMMARY

Site: BGU06 [BGU06 Hickson Rd / Napoleon St / Sussex St (Site Folder: Block 4 - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 AM 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	337	6.3	337	6.3	0.336	10.1	LOS A	6.8	50.4	0.59	0.51	0.59	30.4
3	R2	All MCs	151	3.5	151	3.5	* 0.347	18.3	LOS B	3.6	26.0	0.79	0.74	0.79	22.3
Approach			487	5.4	487	5.4	0.347	12.7	LOS A	6.8	50.4	0.65	0.58	0.65	27.8
East: Napolean St (E)															
4	L2	All MCs	197	18.2	197	18.2	0.352	22.9	LOS B	5.4	43.5	0.78	0.75	0.78	15.0
6	R2	All MCs	160	9.9	160	9.9	* 0.420	30.9	LOS C	5.2	39.3	0.90	0.78	0.90	20.7
Approach			357	14.5	357	14.5	0.420	26.5	LOS B	5.4	43.5	0.83	0.76	0.83	18.4
North: Hickson Rd (N)															
7	L2	All MCs	93	8.0	93	8.0	0.156	21.9	LOS B	2.4	17.6	0.73	0.70	0.73	23.7
8	T1	All MCs	247	9.8	247	9.8	* 0.360	18.2	LOS B	6.5	49.4	0.76	0.64	0.76	21.9
Approach			340	9.3	340	9.3	0.360	19.2	LOS B	6.5	49.4	0.75	0.66	0.75	22.5
West: Car Park Access (W)															
10	L2	All MCs	1	0.0	1	0.0	0.051	46.3	LOS D	0.1	0.4	1.00	0.57	1.00	11.3
11	T1	All MCs	2	0.0	2	0.0	* 0.243	47.9	LOS D	0.3	1.9	1.00	0.63	1.00	8.2
12	R2	All MCs	4	0.0	4	0.0	0.243	48.0	LOS D	0.3	1.9	1.00	0.64	1.00	2.1
Approach			7	0.0	7	0.0	0.243	47.8	LOS D	0.3	1.9	1.00	0.63	1.00	5.6
All Vehicles			1192	9.2	1192	9.2	0.420	18.9	LOS B	6.8	50.4	0.74	0.66	0.74	23.0

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	86	30.9	LOS D	0.2	0.2	0.91	0.91	47.6	20.0	0.42
East: Napolean St (E)											
P2	Full	312	31.2	LOS D	0.6	0.6	0.92	0.92	47.9	20.0	0.42

North: Hickson Rd (N)										
P3	Full	40	30.9	LOS D	0.1	0.1	0.91	0.91	47.5	20.0	0.42
West: Car Park Access (W)										
P4	Full	161	31.0	LOS D	0.3	0.3	0.91	0.91	47.7	20.0	0.42
All Pedestrians		599	31.1	LOS D	0.6	0.6	0.92	0.92	47.8	20.0	0.42

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: BGU07 [BGU07 Margaret St / Kent St / Napoleon St (Site Folder: Block 4 - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 4 Network - 2024 AM Peak)]

TCS 308

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 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	71	22.4	71	22.4	* 0.674	34.2	LOS C	16.5	124.2	0.86	0.77	0.86	18.6
2	T1	All MCs	688	5.7	688	5.7	0.674	21.5	LOS B	16.5	124.2	0.89	0.78	0.91	7.8
3	R2	All MCs	42	2.5	42	2.5	0.674	67.0	LOS E	7.1	51.8	0.98	0.87	1.06	6.0
Approach			801	7.0	801	7.0	0.674	25.0	LOS B	16.5	124.2	0.89	0.78	0.91	8.9
East: Margaret St (E)															
4	L2	All MCs	84	3.8	84	3.8	0.290	38.3	LOS C	3.1	22.7	0.97	0.77	0.97	8.1
6a	R1	All MCs	233	14.9	233	14.9	0.744	29.1	LOS C	8.4	65.3	0.94	0.88	1.02	15.0
6	R2	All MCs	78	5.4	78	5.4	* 0.744	33.0	LOS C	8.4	65.3	0.94	0.88	1.02	6.6
Approach			395	10.7	395	10.7	0.744	31.8	LOS C	8.4	65.3	0.95	0.86	1.01	12.1
North: Kent St (N)															
7	L2	All MCs	46	13.6	46	13.6	0.432	40.5	LOS C	5.9	43.8	0.82	0.70	0.82	18.3
8	T1	All MCs	240	2.6	240	2.6	0.432	25.5	LOS B	5.9	43.8	0.88	0.71	0.88	17.6
9b	R3	All MCs	71	9.0	71	9.0	0.346	25.3	LOS B	1.9	14.5	0.69	0.71	0.69	22.1
Approach			357	5.3	357	5.3	0.432	27.4	LOS B	5.9	43.8	0.83	0.71	0.83	18.6
NorthWest: Napoleon St (NW)															
27b	L3	All MCs	161	3.9	161	3.9	0.665	18.0	LOS B	7.1	52.7	0.84	0.91	0.89	16.8
27a	L1	All MCs	98	14.0	98	14.0	0.665	34.6	LOS C	7.1	52.7	0.84	0.91	0.89	16.8
Approach			259	7.7	259	7.7	0.665	24.3	LOS B	7.1	52.7	0.84	0.91	0.89	16.8
All Vehicles			1812	7.6	1812	7.6	0.744	26.8	LOS B	16.5	124.2	0.89	0.80	0.91	13.3

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	1965	29.7	LOS C	4.0	4.0	0.90	0.90	46.3	20.0	0.43
East: Margaret St (E)											
P2	Full	152	31.7	LOS D	0.3	0.3	0.89	0.89	48.4	20.0	0.41
North: Kent St (N)											
P3	Full	338	26.8	LOS C	0.6	0.6	0.82	0.82	43.5	20.0	0.46
NorthWest: Napoleon St (NW)											
P7	Full	1361	28.0	LOS C	2.7	2.7	0.86	0.86	194.7	200.0	1.03
All Pedestrians		3816	28.9	LOS C	4.0	4.0	0.88	0.88	99.1	84.2	0.85

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: BGU08 [BGU08 Margaret St / Clarence St (Site Folder: Block 4 - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 4 Network - 2024 AM Peak)]

TCS 319
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 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	77	2.7	77	2.7	0.166	31.9	LOS C	3.0	24.1	0.84	0.72	0.84	13.4
2	T1	All MCs	569	35.7	569	35.7	* 0.706	21.4	LOS B	11.9	83.5	0.81	0.71	0.83	19.2
3	R2	All MCs	2	100.0	2	100.0	* 0.706	43.3	LOS D	11.9	83.5	0.85	0.77	0.89	15.7
Approach			648	32.0	648	32.0	0.706	22.7	LOS B	11.9	83.5	0.81	0.71	0.84	18.4
East: Margaret St (E)															
5	T1	All MCs	318	12.6	318	12.6	0.505	17.6	LOS B	6.3	48.6	0.75	0.64	0.75	9.3
6	R2	All MCs	75	78.9	75	78.9	0.505	37.3	LOS C	5.7	55.4	0.99	0.80	0.99	9.3
Approach			393	25.2	393	25.2	0.505	21.4	LOS B	6.3	55.4	0.80	0.67	0.80	9.3
West: Margaret St (W)															
10	L2	All MCs	91	11.6	91	11.6	* 0.862	55.2	LOS D	8.3	63.1	1.00	1.05	1.32	6.9
11	T1	All MCs	95	10.0	95	10.0	0.862	42.2	LOS C	8.3	63.1	1.00	1.05	1.32	3.8
Approach			185	10.8	185	10.8	0.862	48.5	LOS D	8.3	63.1	1.00	1.05	1.32	5.4
All Vehicles			1226	26.6	1247	26.2	0.862	25.8	LOS B	11.9	83.5	0.82	0.74	0.88	13.6

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: Clarence St (S)											
P1	Full	1717	34.9	LOS D	3.8	3.8	0.97	0.97	51.6	20.0	0.39
East: Margaret St (E)											
P2	Full	445	33.0	LOS D	0.9	0.9	0.92	0.92	49.7	20.0	0.40
North: Clarence St (N)											
P3	Full	508	31.3	LOS D	1.0	1.0	0.89	0.89	48.0	20.0	0.42
West: Margaret St (W)											

P4 Full	937	29.2	LOS C	1.9	1.9	0.87	0.87	45.9	20.0	0.44
All Pedestrians	3607	32.7	LOS D	3.8	3.8	0.93	0.93	49.3	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.

MOVEMENT SUMMARY

Site: BGU09 [BGU09 Margaret St / York St (Site Folder: Block 4 - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 4 Network - 2024 AM Peak)]

TCS 3042
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 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
East: Margaret St (E)															
4	L2	All MCs	58	16.4	58	16.4	0.194	24.8	LOS B	2.5	22.3	0.76	0.68	0.76	17.8
5	T1	All MCs	89	63.5	89	63.5	0.194	21.6	LOS B	2.5	22.3	0.76	0.62	0.76	9.4
Approach			147	45.0	147	45.0	0.194	22.8	LOS B	2.5	22.3	0.76	0.65	0.76	13.6
North: York St (N)															
8	T1	All MCs	766	31.5	766	31.5	0.336	12.4	LOS A	5.9	52.4	0.63	0.54	0.63	25.1
9	R2	All MCs	298	13.4	298	13.4	* 0.407	17.0	LOS B	7.2	56.4	0.66	0.75	0.66	11.9
Approach			1064	26.4	1064	26.4	0.407	13.7	LOS A	7.2	56.4	0.64	0.60	0.64	22.2
West: Margaret St (W)															
12	R2	All MCs	75	11.3	62	13.7	0.170	35.6	LOS C	2.4	18.9	1.00	0.75	1.00	13.1
Approach			75	11.3	62	13.7	0.170	35.6	LOS C	2.4	18.9	1.00	0.75	1.00	13.1
All Vehicles			1286	27.7	1273	27.9	0.407	15.8	LOS B	7.2	56.4	0.67	0.61	0.67	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: York St (S)											
P1	Full	1448	29.9	LOS C	2.9	2.9	0.89	0.89	46.5	20.0	0.43
East: Margaret St (E)											
P2	Full	1907	30.5	LOS D	3.9	3.9	0.91	0.91	47.1	20.0	0.42
North: York St (N)											
P3	Full	884	27.4	LOS C	1.7	1.7	0.84	0.84	44.1	20.0	0.45
West: Margaret St (W)											
P4	Full	606	31.4	LOS D	1.2	1.2	0.90	0.90	48.1	20.0	0.42
All Pedestrians		4846	29.9	LOS C	3.9	3.9	0.89	0.89	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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Project: C:\Users\WanJ2\OneDrive - AECOM\General - ANZ-NAC-Sydney Metro-Sydney Metro C&SW Operational Monitoring\400_Technical\432_Traffic Analysis\SIDRA Modelling\04 Block 4\02 SIDRA Models with volumes\04 SM C&SW_BGU (Block 4).sip9

MOVEMENT SUMMARY

Site: BGU10 [BGU10 Pedestrian Mid-block Crossing at Sussex St under Exchange Pl (Site Folder: Block 4 - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 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	432	3.7	432	3.7	0.191	6.8	LOS A	3.3	23.9	0.48	0.40	0.48	26.7
Approach			432	3.7	432	3.7	0.191	6.8	LOS A	3.3	23.9	0.48	0.40	0.48	26.7
North: Sussex St (N)															
8	T1	All MCs	404	16.7	404	16.7	* 0.202	6.8	LOS A	3.1	25.1	0.48	0.41	0.48	24.9
Approach			404	16.7	404	16.7	0.202	6.8	LOS A	3.1	25.1	0.48	0.41	0.48	24.9
All Vehicles			836	9.9	836	9.9	0.202	6.8	LOS A	3.3	25.1	0.48	0.40	0.48	25.8

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: Sussex St (S)											
P1	Full	499	29.0	LOS C	0.9	0.9	0.92	0.92	45.6	20.0	0.44
All Pedestrians		499	29.0	LOS C	0.9	0.9	0.92	0.92	45.6	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.

MOVEMENT SUMMARY

Site: BGU11 [BGU11 Pedestrian Mid-block Crossing at Kent St near Margaret St (Site Folder: Block 4 - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 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	719	8.8	719	8.8	* 0.445	10.7	LOS A	5.2	39.7	0.76	0.63	0.76	21.5
Approach			719	8.8	719	8.8	0.445	10.7	LOS A	5.2	39.7	0.76	0.63	0.76	21.5
North: Kent St (N)															
8	T1	All MCs	266	1.6	266	1.6	0.255	9.6	LOS A	2.9	20.7	0.68	0.55	0.68	14.7
Approach			266	1.6	266	1.6	0.255	9.6	LOS A	2.9	20.7	0.68	0.55	0.68	14.7
All Vehicles			985	6.8	985	6.8	0.445	10.4	LOS A	5.2	39.7	0.74	0.61	0.74	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	2375	16.0	LOS B	2.7	2.7	0.89	0.89	32.6	20.0	0.61
All Pedestrians		2375	16.0	LOS B	2.7	2.7	0.89	0.89	32.6	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.

MOVEMENT SUMMARY

Site: BGU12 [BGU12 Sussex St / Erskine St (Site Folder: Block 4 - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 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	58	7.3	58	7.3	0.360	36.4	LOS C	5.7	42.0	0.87	0.73	0.87	15.1
2	T1	All MCs	286	4.0	286	4.0	* 0.360	28.4	LOS B	6.7	48.4	0.85	0.71	0.85	15.7
Approach			344	4.6	344	4.6	0.360	29.7	LOS C	6.7	48.4	0.86	0.71	0.86	15.6
East: Erskine St (E)															
4	L2	All MCs	474	3.3	474	3.3	0.528	10.5	LOS A	8.3	60.1	0.43	0.64	0.43	27.3
5	T1	All MCs	109	4.8	109	4.8	0.225	2.1	LOS A	0.8	5.8	0.12	0.20	0.12	28.7
6	R2	All MCs	38	19.4	38	19.4	0.225	6.5	LOS A	0.8	5.8	0.12	0.20	0.12	28.7
Approach			621	4.6	621	4.6	0.528	8.8	LOS A	8.3	60.1	0.36	0.54	0.36	27.4
North: Sussex St (N)															
7	L2	All MCs	43	51.2	43	51.2	0.110	26.3	LOS B	1.3	13.4	0.72	0.68	0.72	14.0
8	T1	All MCs	386	8.7	386	8.7	0.294	21.8	LOS B	6.0	45.4	0.75	0.63	0.75	23.7
9	R2	All MCs	21	20.0	21	20.0	* 0.096	30.8	LOS C	0.7	5.8	0.84	0.69	0.84	12.5
Approach			451	13.3	451	13.3	0.294	22.7	LOS B	6.0	45.4	0.75	0.63	0.75	22.5
West: Erskine St (W)															
10	L2	All MCs	165	4.5	165	4.5	0.394	14.2	LOS A	9.6	70.7	0.61	0.61	0.61	12.0
11	T1	All MCs	222	7.1	222	7.1	0.394	13.2	LOS A	9.6	70.7	0.61	0.61	0.61	12.0
12	R2	All MCs	221	5.2	221	5.2	* 0.563	24.7	LOS B	7.5	54.9	0.80	0.79	0.80	18.7
Approach			608	5.7	608	5.7	0.563	17.6	LOS B	9.6	70.7	0.68	0.67	0.68	15.9
All Vehicles			2024	6.9	2024	6.9	0.563	18.1	LOS B	9.6	70.7	0.63	0.63	0.63	20.6

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	224	38.6	LOS D	0.5	0.5	0.93	0.93	55.3	20.0	0.36

East: Erskine St (E)										
P2 Full	192	38.6	LOS D	0.5	0.5	0.93	0.93	55.2	20.0	0.36
North: Sussex St (N)										
P3 Full	498	39.1	LOS D	1.2	1.2	0.94	0.94	55.7	20.0	0.36
West: Erskine St (W)										
P4 Full	198	38.6	LOS D	0.5	0.5	0.93	0.93	55.3	20.0	0.36
All Pedestrians	1112	38.8	LOS D	1.2	1.2	0.94	0.94	55.5	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.

MOVEMENT SUMMARY

Site: BGU13 [BGU13 Kent St / Erskine St (Site Folder: Block 4 - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 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	144	7.3	144	7.3	0.171	17.2	LOS B	3.5	26.1	0.59	0.67	0.59	21.3
2	T1	All MCs	592	8.4	592	8.4	* 0.278	12.7	LOS A	6.2	47.2	0.58	0.49	0.58	23.3
3	R2	All MCs	3	0.0	3	0.0	0.029	7.0	LOS A	1.6	4.3	0.35	0.28	0.35	25.5
Approach			739	8.1	739	8.1	0.278	13.6	LOS A	6.2	47.2	0.58	0.52	0.58	22.9
East: Erskine St (E)															
5	T1	All MCs	286	4.8	286	4.8	* 0.452	35.6	LOS C	6.4	46.3	0.93	0.76	0.93	5.2
6	R2	All MCs	15	7.1	15	7.1	0.452	43.6	LOS D	5.7	41.7	0.93	0.76	0.93	5.2
Approach			301	4.9	301	4.9	0.452	36.0	LOS C	6.4	46.3	0.93	0.76	0.93	5.2
North: Kent St (N)															
7	L2	All MCs	6	0.0	6	0.0	0.022	6.8	LOS A	1.3	3.6	0.34	0.28	0.34	22.6
8	T1	All MCs	92	0.0	92	0.0	0.022	4.9	LOS A	1.3	3.6	0.34	0.28	0.34	26.3
9	R2	All MCs	191	2.2	191	2.2	* 0.940	65.7	LOS E	10.8	76.7	1.00	1.22	1.61	4.8
Approach			288	1.5	288	1.5	0.940	45.1	LOS D	10.8	76.7	0.78	0.90	1.18	9.3
West: Erskine St (W)															
10	L2	All MCs	97	7.6	97	7.6	0.422	33.7	LOS C	4.9	37.2	0.84	0.73	0.84	7.3
11	T1	All MCs	169	18.6	169	18.6	0.422	32.1	LOS C	5.0	40.3	0.87	0.71	0.87	10.2
Approach			266	14.6	266	14.6	0.422	32.7	LOS C	5.0	40.3	0.86	0.72	0.86	9.2
All Vehicles			1595	7.4	1595	7.4	0.940	26.7	LOS B	10.8	76.7	0.73	0.67	0.80	13.6

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	398	38.9	LOS D	1.0	1.0	0.94	0.94	55.6	20.0	0.36
East: Erskine St (E)											

P2 Full	314	38.8	LOS D	0.7	0.7	0.93	0.93	55.4	20.0	0.36
North: Kent St (N)										
P3 Full	409	38.9	LOS D	1.0	1.0	0.94	0.94	55.6	20.0	0.36
West: Erskine St (W)										
P4 Full	524	39.1	LOS D	1.3	1.3	0.94	0.94	55.8	20.0	0.36
All Pedestrians	1645	39.0	LOS D	1.3	1.3	0.94	0.94	55.6	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.

MOVEMENT SUMMARY

Site: BGU14 [BGU14 Sussex St / King St (Site Folder: Block 4 - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 4 (Network Folder: Block 4 Network - 2024 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	27	0.0	27	0.0	0.064	44.8	LOS D	1.2	3.2	1.00	0.69	1.00	18.3
Approach			27	0.0	27	0.0	0.064	44.8	LOS D	1.2	3.2	1.00	0.69	1.00	18.3
North: Sussex St (N)															
7	L2	All MCs	78	14.9	78	14.9	0.658	31.6	LOS C	15.8	117.0	0.89	0.79	0.89	16.8
8	T1	All MCs	799	4.7	799	4.7	0.658	25.6	LOS B	16.6	120.7	0.89	0.78	0.89	24.1
Approach			877	5.6	877	5.6	0.658	26.1	LOS B	16.6	120.7	0.89	0.78	0.89	23.6
SouthWest: King St (SW)															
30a	L1	All MCs	404	4.2	404	4.2	* 0.462	17.3	LOS B	8.2	59.4	0.71	0.75	0.71	37.0
32a	R1	All MCs	1519	3.7	1519	3.7	* 0.802	31.1	LOS C	26.7	193.4	0.91	0.87	0.96	27.1
32b	R3	All MCs	376	8.4	376	8.4	0.501	23.1	LOS B	11.1	83.0	0.71	0.80	0.71	33.1
Approach			2299	4.5	2299	4.5	0.802	27.3	LOS B	26.7	193.4	0.85	0.84	0.88	28.8
All Vehicles			3203	4.8	3203	4.8	0.802	27.2	LOS B	26.7	193.4	0.86	0.82	0.88	27.4

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	164	40.4	LOS E	0.4	0.4	0.95	0.95	57.1	20.0	0.35
East: King St (E)											
P2	Full	245	38.7	LOS D	0.6	0.6	0.93	0.93	55.3	20.0	0.36
North: Sussex St (N)											
P3	Full	440	39.0	LOS D	1.1	1.1	0.94	0.94	55.7	20.0	0.36
SouthWest: King St (SW)											
P8	Full	288	38.7	LOS D	0.7	0.7	0.93	0.93	205.4	200.0	0.97

P8B	Slip/ Bypass	212	40.5	LOS E	0.5	0.5	0.95	0.95	207.2	200.0	0.97
All Pedestrians		1349	39.3	LOS D	1.1	1.1	0.94	0.94	111.5	86.7	0.78

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: BGU15 [BGU15 Kent St / King St (Site Folder: Block 4 - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 4 (Network Folder: Block 4 Network - 2024 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	3	0.0	3	0.0	0.219	46.4	LOS D	4.0	10.7	0.98	0.72	0.98	13.2
2	T1	All MCs	496	11.0	496	11.0	* 0.623	38.5	LOS C	8.5	66.1	0.97	0.79	0.98	20.2
3	R2	All MCs	171	7.4	171	7.4	* 0.616	44.9	LOS D	6.6	49.4	0.99	0.80	1.01	13.6
Approach			669	10.1	669	10.1	0.623	40.2	LOS C	8.5	66.1	0.98	0.80	0.99	18.6
East: King St (E)															
5	T1	All MCs	12	0.0	12	0.0	0.084	44.2	LOS D	0.8	2.1	0.99	0.66	0.99	4.4
6	R2	All MCs	6	0.0	6	0.0	0.084	50.4	LOS D	0.8	2.1	0.99	0.66	0.99	13.4
Approach			18	0.0	18	0.0	0.084	46.4	LOS D	0.8	2.1	0.99	0.66	0.99	8.2
North: Kent St (N)															
7	L2	All MCs	17	0.0	17	0.0	0.174	46.2	LOS D	3.1	8.4	0.98	0.71	0.98	10.7
8	T1	All MCs	58	0.0	58	0.0	0.174	42.8	LOS D	3.1	8.4	0.98	0.71	0.98	18.9
9	R2	All MCs	17	0.0	17	0.0	0.075	47.4	LOS D	0.7	1.9	0.97	0.66	0.97	11.9
Approach			92	0.0	92	0.0	0.174	44.2	LOS D	3.1	8.4	0.98	0.70	0.98	16.2
West: King St (W)															
10	L2	All MCs	276	2.3	276	2.3	* 0.553	15.2	LOS B	5.8	37.8	0.42	0.49	0.42	26.4
11	T1	All MCs	1304	4.7	1304	4.7	* 0.553	4.1	LOS A	5.8	37.8	0.20	0.19	0.20	28.7
Approach			1580	4.3	1580	4.3	0.553	6.0	LOS A	5.8	37.8	0.24	0.25	0.24	27.9
All Vehicles			2359	5.7	2359	5.7	0.623	17.5	LOS B	8.5	66.1	0.48	0.42	0.49	21.6

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	404	38.9	LOS D	1.0	1.0	0.94	0.94	55.6	20.0	0.36
East: King St (E)											

P2 Full	397	38.9	LOS D	1.0	1.0	0.94	0.94	55.6	20.0	0.36
North: Kent St (N)										
P3 Full	577	39.2	LOS D	1.4	1.4	0.94	0.94	55.9	20.0	0.36
West: King St (W)										
P4 Full	494	39.1	LOS D	1.2	1.2	0.94	0.94	55.7	20.0	0.36
All Pedestrians	1872	39.1	LOS D	1.4	1.4	0.94	0.94	55.7	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.

MOVEMENT SUMMARY

Site: BGU16 [BGU16 Pedestrian Mid-block Crossing at Hickson Rd (North of Metro) (Site Folder: Block 4 - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 4 Network - 2024 AM Peak)]

NA
Site Category: (None)
Pedestrian Crossing (Unsignalised)

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: Hickson Rd (S)															
2	T1	All MCs	284	9.6	284	9.6	0.178	2.1	LOS A	0.8	5.7	0.01	0.36	0.01	37.6
Approach			284	9.6	284	9.6	0.178	2.1	LOS A	0.8	5.7	0.01	0.36	0.01	37.6
North: Hickson Rd (N)															
8	T1	All MCs	162	11.0	162	11.0	0.102	2.1	LOS A	0.4	3.0	0.01	0.36	0.01	36.1
Approach			162	11.0	162	11.0	0.102	2.1	LOS A	0.4	3.0	0.01	0.36	0.01	36.1
All Vehicles			446	10.1	446	10.1	0.178	2.1	NA	0.8	5.7	0.01	0.36	0.01	37.2

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.
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: Akçelik M1.
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: BGU17 [BGU17 Pedestrian Mid-block Crossing at Hickson Rd (South of Metro) (Site Folder: Block 4 - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 4 Network - 2024 AM Peak)]

New Site
Site Category: (None)
Pedestrian Crossing (Unsignalised)

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: Hickson Rd (S)															
2	T1	All MCs	284	9.6	284	9.6	0.183	2.2	LOS A	0.8	5.9	0.12	0.35	0.12	35.7
Approach			284	9.6	284	9.6	0.183	2.2	LOS A	0.8	5.9	0.12	0.35	0.12	35.7
North: Hickson Rd (N)															
8	T1	All MCs	162	11.0	162	11.0	0.105	2.2	LOS A	0.4	3.1	0.11	0.35	0.11	37.8
Approach			162	11.0	162	11.0	0.105	2.2	LOS A	0.4	3.1	0.11	0.35	0.11	37.8
All Vehicles			446	10.1	446	10.1	0.183	2.2	NA	0.8	5.9	0.11	0.35	0.11	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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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: Akçelik M1.
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: BGU18 [BGU18 Shelley St / Erskine St (Site Folder: Block 4 - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 AM Peak)]

TCS 305
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: Shelley St (S)															
1	L2	All MCs	20	15.8	20	15.8	0.082	10.7	LOS A	1.5	11.2	0.38	0.37	0.38	20.3
2	T1	All MCs	75	7.0	75	7.0	0.082	5.6	LOS A	1.5	11.2	0.38	0.37	0.38	28.9
3	R2	All MCs	376	2.0	376	2.0	* 0.554	13.6	LOS A	9.4	67.0	0.61	0.73	0.61	17.1
Approach			471	3.4	471	3.4	0.554	12.2	LOS A	9.4	67.0	0.56	0.66	0.56	19.1
East: Erskine St (E)															
4	L2	All MCs	37	2.9	37	2.9	0.131	40.6	LOS C	1.4	10.2	0.90	0.71	0.90	10.5
5	T1	All MCs	120	8.8	120	8.8	* 0.547	37.3	LOS C	6.3	47.3	0.96	0.78	0.96	8.3
6	R2	All MCs	32	6.7	32	6.7	0.547	48.1	LOS D	6.3	47.3	0.96	0.78	0.96	9.4
Approach			188	7.3	188	7.3	0.547	39.8	LOS C	6.3	47.3	0.95	0.77	0.95	8.7
North: Shelley St (N)															
7	L2	All MCs	54	5.9	54	5.9	0.091	10.4	LOS A	0.9	6.8	0.41	0.60	0.41	17.7
8	T1	All MCs	4	0.0	4	0.0	0.021	6.2	LOS A	0.3	2.2	0.39	0.49	0.39	26.4
9	R2	All MCs	13	25.0	13	25.0	0.021	10.1	LOS A	0.3	2.2	0.39	0.49	0.39	16.0
Approach			71	9.0	71	9.0	0.091	10.1	LOS A	0.9	6.8	0.40	0.57	0.40	17.8
West: Erskine St (W)															
10	L2	All MCs	17	12.5	17	12.5	0.457	43.8	LOS D	3.6	27.9	0.93	0.75	0.93	9.9
11	T1	All MCs	179	13.5	179	13.5	0.457	35.7	LOS C	4.7	37.1	0.93	0.75	0.93	5.6
12	R2	All MCs	6	50.0	6	50.0	0.457	44.0	LOS D	4.7	37.1	0.93	0.75	0.93	11.5
Approach			202	14.6	202	14.6	0.457	36.7	LOS C	4.7	37.1	0.93	0.75	0.93	6.3
All Vehicles			932	7.0	932	7.0	0.554	22.9	LOS B	9.4	67.0	0.71	0.69	0.71	12.2

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	102	38.4	LOS D	0.2	0.2	0.93	0.93	205.1	200.0	0.98

East: Erskine St (E)										
P2 Full	75	38.4	LOS D	0.2	0.2	0.93	0.93	205.1	200.0	0.98
North: Shelley St (N)										
P3 Full	161	38.5	LOS D	0.4	0.4	0.93	0.93	205.2	200.0	0.97
West: Erskine St (W)										
P4 Full	140	38.5	LOS D	0.3	0.3	0.93	0.93	205.2	200.0	0.97
All Pedestrians	478	38.5	LOS D	0.4	0.4	0.93	0.93	205.1	200.0	0.97

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: BUG01 [BGU01 Hickson Rd / Towns Pl (Site Folder: Block 4 - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 4 Network - 2024 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	182	4.6	182	4.6	0.289	4.4	LOS A	1.4	9.7	0.48	0.57	0.48	34.1
6a	R1	All MCs	95	0.0	95	0.0	0.289	8.4	LOS A	1.4	9.7	0.48	0.57	0.48	34.1
Approach			277	3.0	277	3.0	0.289	5.8	NA	1.4	9.7	0.48	0.57	0.48	34.1
NorthWest: Towns Pl (NW)															
27a	L1	All MCs	134	1.6	134	1.6	0.351	6.8	LOS A	1.5	10.9	0.67	0.90	0.86	32.5
29	R2	All MCs	73	7.2	73	7.2	0.351	13.3	LOS A	1.5	10.9	0.67	0.90	0.86	21.4
Approach			206	3.6	206	3.6	0.351	9.1	LOS A	1.5	10.9	0.67	0.90	0.86	30.6
SouthWest: Hickson Rd (SW)															
30	L2	All MCs	145	5.1	145	5.1	0.319	5.7	LOS A	1.7	12.2	0.42	0.50	0.42	32.7
32a	R1	All MCs	254	2.9	254	2.9	0.319	3.2	LOS A	1.7	12.2	0.42	0.50	0.42	36.4
Approach			399	3.7	399	3.7	0.319	4.1	NA	1.7	12.2	0.42	0.50	0.42	35.7
All Vehicles			882	3.5	882	3.5	0.351	5.8	NA	1.7	12.2	0.49	0.61	0.54	34.1

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.

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 4 - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 4 Network - 2024 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	1	0.0	1	0.0	0.130	6.1	LOS A	0.8	5.6	0.12	0.56	0.12	24.5
3b	R3	All MCs	181	4.1	181	4.1	0.130	6.3	LOS A	0.8	5.6	0.12	0.56	0.12	32.2
32u	U	All MCs	6	0.0	6	0.0	0.130	7.0	LOS A	0.8	5.6	0.12	0.56	0.12	34.7
Approach			188	3.9	188	3.9	0.130	6.3	LOS A	0.8	5.6	0.12	0.56	0.12	32.3
SouthEast: Towns Pl (SE)															
21b	L3	All MCs	220	3.3	220	3.3	0.165	2.7	LOS A	1.1	7.6	0.14	0.42	0.14	35.4
21a	L1	All MCs	5	0.0	5	0.0	0.165	8.3	LOS A	1.1	7.6	0.14	0.42	0.14	18.8
23u	U	All MCs	15	0.0	15	0.0	0.165	7.0	LOS A	1.1	7.6	0.14	0.42	0.14	30.1
Approach			240	3.1	240	3.1	0.165	3.1	LOS A	1.1	7.6	0.14	0.42	0.14	35.0
West: Parking Access (W)															
12a	R1	All MCs	11	0.0	11	0.0	0.025	1.2	LOS A	0.1	0.9	0.39	0.20	0.39	9.6
29	R2	All MCs	16	0.0	16	0.0	0.025	1.2	LOS A	0.1	0.9	0.39	0.20	0.39	21.6
29u	U	All MCs	1	0.0	1	0.0	0.025	1.2	LOS A	0.1	0.9	0.39	0.20	0.39	9.8
Approach			27	0.0	27	0.0	0.025	1.2	LOS A	0.1	0.9	0.39	0.20	0.39	18.0
All Vehicles			456	3.2	456	3.2	0.165	4.3	LOS A	1.1	7.6	0.14	0.46	0.14	32.6

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: BGU03 [BGU03 Kent St / Argyle St (Site Folder: Block 4 - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	72	7.4	72	7.4	0.454	6.4	LOS A	2.4	17.5	0.66	0.93	0.96	33.9
2	T1	All MCs	29	14.3	29	14.3	0.454	8.8	LOS A	2.4	17.5	0.66	0.93	0.96	32.4
3	R2	All MCs	158	0.0	158	0.0	0.454	12.6	LOS A	2.4	17.5	0.66	0.93	0.96	32.7
Approach			259	3.7	259	3.7	0.454	10.4	LOS A	2.4	17.5	0.66	0.93	0.96	33.0
East: Argyle St (E)															
4	L2	All MCs	185	1.1	185	1.1	0.280	5.4	LOS A	1.4	9.8	0.44	0.47	0.44	36.5
5	T1	All MCs	91	0.0	91	0.0	0.280	1.2	LOS A	1.4	9.8	0.44	0.47	0.44	36.0
6	R2	All MCs	6	33.3	6	33.3	0.280	5.3	LOS A	1.4	9.8	0.44	0.47	0.44	30.0
Approach			282	1.5	282	1.5	0.280	4.0	NA	1.4	9.8	0.44	0.47	0.44	36.3
North: Kent St (N)															
7	L2	All MCs	8	12.5	8	12.5	0.039	8.2	LOS A	0.1	1.0	0.50	0.91	0.50	26.3
8	T1	All MCs	15	0.0	15	0.0	0.039	11.6	LOS A	0.1	1.0	0.50	0.91	0.50	32.9
9	R2	All MCs	1	0.0	1	0.0	0.039	8.8	LOS A	0.1	1.0	0.50	0.91	0.50	29.9
Approach			24	4.3	24	4.3	0.039	10.3	LOS A	0.1	1.0	0.50	0.91	0.50	31.4
West: Argyle Pl (W)															
10	L2	All MCs	8	0.0	8	0.0	0.186	5.1	LOS A	0.9	6.5	0.42	0.41	0.42	34.8
11	T1	All MCs	97	4.3	97	4.3	0.186	1.2	LOS A	0.9	6.5	0.42	0.41	0.42	36.5
12	R2	All MCs	87	0.0	87	0.0	0.186	5.9	LOS A	0.9	6.5	0.42	0.41	0.42	37.2
Approach			193	2.2	193	2.2	0.186	3.5	NA	0.9	6.5	0.42	0.41	0.42	36.8
All Vehicles			758	2.5	758	2.5	0.454	6.3	NA	2.4	17.5	0.51	0.62	0.61	35.0

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.

CCG MOVEMENT SUMMARY

Common Control Group: CCG1 [TCS 4272]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 4 Network - 2024 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	353	3.0	353	3.0	0.275	1.6	LOS A	2.0	14.1	0.14	0.12	0.14	38.6
Approach			353	3.0	353	3.0	0.275	1.6	LOS A	2.0	14.1	0.14	0.12	0.14	38.6
North: Kent St															
8	T1	All MCs	368	2.0	368	2.0	0.413	32.0	LOS C	7.0	49.7	0.90	0.74	0.90	22.3
Approach			368	2.0	368	2.0	0.413	32.0	LOS C	7.0	49.7	0.90	0.74	0.90	22.3
All Vehicles			721	2.5	721	2.5	0.413	17.2	LOS B	7.0	49.7	0.52	0.43	0.52	28.5
Site: BGU05 [BGU05 Kent St / Sydney Harbour Bridge (SHB) On-ramp]															
South: Kent St (S)															
2	T1	All MCs	560	4.1	560	4.1	0.441	4.9	LOS A	8.7	63.4	0.39	0.35	0.39	32.2
3a	R1	All MCs	285	9.2	285	9.2	* 0.420	18.9	LOS B	6.9	52.1	0.65	0.63	0.65	25.7
Approach			845	5.9	845	5.9	0.441	9.6	LOS A	8.7	63.4	0.48	0.44	0.48	28.9
East: Clarence St (E)															
4	L2	All MCs	134	6.3	134	6.3	0.494	42.3	LOS C	5.6	41.2	0.96	0.79	0.96	11.1
6	R2	All MCs	180	8.2	180	8.2	* 0.633	42.9	LOS D	7.7	57.8	0.98	0.83	1.01	11.0
Approach			314	7.4	314	7.4	0.633	42.7	LOS D	7.7	57.8	0.97	0.81	0.99	11.0
NorthEast: SHB On-ramp (NE)															
24a	L1	All MCs	38	0.0	38	0.0	0.025	28.5	LOS B	1.2	3.3	0.80	0.60	0.80	20.5
Approach			38	0.0	38	0.0	0.025	28.5	LOS B	1.2	3.3	0.80	0.60	0.80	20.5
North: Kent St (N)															
7b	L3	All MCs	139	5.3	139	5.3	0.540	49.3	LOS D	6.3	46.2	1.00	0.84	1.00	11.1
8	T1	All MCs	83	34.2	83	34.2	* 0.303	13.8	LOS A	1.6	14.1	0.43	0.34	0.43	12.1
Approach			222	16.1	222	16.1	0.540	36.0	LOS C	6.3	46.2	0.79	0.65	0.79	11.3
All Vehicles			1419	7.6	1419	7.6	0.633	21.6	LOS B	8.7	63.4	0.64	0.56	0.65	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).

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	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Que	Eff. Stop	Travel Time	Travel Dist.	Aver. Speed

	ped/h	sec		[Ped ped	Dist] m		Rate	sec	m	m/sec
Site: BGU04 [BGU04 Pedestrian Mid-block Crossing at Kent St near Gas Ln]										
South: Kent St										
P1 Full	212	38.6	LOS D	0.5	0.5	0.93	0.93	205.3	200.0	0.97
All Pedestrians	212	38.6	LOS D	0.5	0.5	0.93	0.93	205.3	200.0	0.97
Site: BGU05 [BGU05 Kent St / Sydney Harbour Bridge (SHB) On-ramp]										
South: Kent St (S)										
P1 Full	18	34.7	LOS D	0.0	0.0	0.88	0.88	51.4	20.0	0.39
All Pedestrians	18	34.7	LOS D	0.0	0.0	0.88	0.88	51.4	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: BGU06 [BGU06 Hickson Rd / Napoleon St / Sussex St (Site Folder: Block 4 - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 PM Peak)]

TCS 4625
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: Sussex St (S)															
2	T1	All MCs	385	0.8	385	0.8	0.409	14.1	LOS A	9.6	67.7	0.68	0.59	0.68	27.7
3	R2	All MCs	131	1.6	131	1.6	* 0.492	28.2	LOS B	4.2	29.8	0.93	0.78	0.93	18.2
Approach			516	1.0	516	1.0	0.492	17.7	LOS B	9.6	67.7	0.75	0.64	0.75	25.0
East: Napolean St (E)															
4	L2	All MCs	148	12.1	148	12.1	0.314	28.0	LOS B	4.6	35.7	0.83	0.75	0.83	13.1
6	R2	All MCs	155	4.1	155	4.1	* 0.464	35.5	LOS C	5.6	40.3	0.94	0.78	0.94	19.3
Approach			303	8.0	303	8.0	0.464	31.8	LOS C	5.6	40.3	0.88	0.77	0.88	17.1
North: Hickson Rd (N)															
7	L2	All MCs	113	0.0	113	0.0	0.180	29.3	LOS C	3.1	21.8	0.74	0.71	0.74	23.0
8	T1	All MCs	375	3.7	375	3.7	* 0.597	28.1	LOS B	12.0	86.8	0.87	0.75	0.87	19.5
Approach			487	2.8	487	2.8	0.597	28.4	LOS B	12.0	86.8	0.84	0.74	0.84	18.4
West: Car Park Access (W)															
10	L2	All MCs	2	0.0	2	0.0	0.122	40.7	LOS C	0.6	4.1	0.97	0.67	0.97	12.1
11	T1	All MCs	49	0.0	49	0.0	* 0.583	42.7	LOS D	2.9	20.3	0.99	0.79	1.05	8.8
12	R2	All MCs	33	0.0	33	0.0	0.583	43.2	LOS D	2.9	20.3	1.00	0.83	1.08	2.3
Approach			84	0.0	84	0.0	0.583	42.9	LOS D	2.9	20.3	1.00	0.80	1.06	6.7
All Vehicles			1391	3.1	1391	3.1	0.597	26.0	LOS B	12.0	86.8	0.82	0.71	0.83	19.4

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	56	33.4	LOS D	0.1	0.1	0.91	0.91	50.1	20.0	0.40
East: Napolean St (E)											
P2	Full	102	33.4	LOS D	0.2	0.2	0.92	0.92	50.1	20.0	0.40

North: Hickson Rd (N)										
P3	Full	57	33.4	LOS D	0.1	0.1	0.91	0.91	50.1	20.0	0.40
West: Car Park Access (W)										
P4	Full	171	33.5	LOS D	0.4	0.4	0.92	0.92	50.2	20.0	0.40
All Pedestrians		385	33.5	LOS D	0.4	0.4	0.92	0.92	50.1	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: BGU07 [BGU07 Margaret St / Kent St / Napoleon St (Site Folder: Block 4 - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 4 Network - 2024 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	59	17.9	59	17.9	* 0.400	25.8	LOS B	9.7	72.1	0.68	0.61	0.68	20.5
2	T1	All MCs	469	4.3	469	4.3	0.400	19.5	LOS B	9.7	72.1	0.76	0.65	0.76	8.4
3	R2	All MCs	45	2.3	45	2.3	0.400	52.3	LOS D	5.5	40.2	0.86	0.73	0.86	6.9
Approach			574	5.5	574	5.5	0.400	22.7	LOS B	9.7	72.1	0.76	0.65	0.76	9.7
East: Margaret St (E)															
4	L2	All MCs	37	2.9	37	2.9	0.108	24.6	LOS B	0.9	6.6	0.58	0.62	0.58	11.2
6a	R1	All MCs	185	6.3	185	6.3	0.435	16.2	LOS B	5.0	37.0	0.57	0.57	0.57	20.9
6	R2	All MCs	26	0.0	26	0.0	* 0.435	18.7	LOS B	5.0	37.0	0.57	0.57	0.57	10.8
Approach			248	5.1	248	5.1	0.435	17.7	LOS B	5.0	37.0	0.57	0.57	0.57	18.7
North: Kent St (N)															
7	L2	All MCs	46	4.5	46	4.5	0.313	38.4	LOS C	5.9	42.0	0.76	0.66	0.76	18.5
8	T1	All MCs	218	0.5	218	0.5	0.313	26.6	LOS B	5.9	42.0	0.84	0.68	0.84	17.3
9b	R3	All MCs	59	3.6	59	3.6	0.177	8.8	LOS A	0.4	3.1	0.17	0.56	0.17	30.6
Approach			323	1.6	323	1.6	0.313	25.0	LOS B	5.9	42.0	0.71	0.66	0.71	19.4
NorthWest: Napoleon St (NW)															
27b	L3	All MCs	201	1.0	201	1.0	0.455	9.0	LOS A	5.5	38.6	0.67	0.71	0.67	23.0
27a	L1	All MCs	92	0.0	92	0.0	0.455	21.8	LOS B	5.5	38.6	0.67	0.71	0.67	23.0
Approach			293	0.7	293	0.7	0.455	13.0	LOS A	5.5	38.6	0.67	0.71	0.67	23.0
All Vehicles			1438	3.6	1438	3.6	0.455	20.4	LOS B	9.7	72.1	0.70	0.65	0.70	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: Kent St (S)											

P1	Full	635	33.0	LOS D	1.4	1.4	0.87	0.87	49.6	20.0	0.40
East: Margaret St (E)											
P2	Full	146	36.7	LOS D	0.3	0.3	0.91	0.91	53.3	20.0	0.37
North: Kent St (N)											
P3	Full	283	31.6	LOS D	0.6	0.6	0.84	0.84	48.3	20.0	0.41
NorthWest: Napoleon St (NW)											
P7	Full	503	31.9	LOS D	1.1	1.1	0.85	0.85	198.6	200.0	1.01
All Pedestrians		1567	32.7	LOS D	1.4	1.4	0.86	0.86	97.6	77.8	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.

MOVEMENT SUMMARY

Site: BGU08 [BGU08 Margaret St / Clarence St (Site Folder: Block 4 - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 4 Network - 2024 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	0	0.0	0	0.0	0.000	0.0	NA	0.0	0.0	0.00	0.00	0.00	0.0
2	T1	All MCs	863	18.5	863	18.5	* 0.532	22.0	LOS B	13.5	95.0	0.79	0.68	0.79	19.0
3	R2	All MCs	60	1.8	60	1.8	* 0.190	30.0	LOS C	3.4	33.3	0.76	0.69	0.76	14.5
Approach			923	17.4	923	17.4	0.532	22.5	LOS B	13.5	95.0	0.79	0.68	0.79	18.7
East: Margaret St (E)															
5	T1	All MCs	224	5.6	224	5.6	0.254	8.8	LOS A	3.8	27.9	0.41	0.35	0.41	15.4
6	R2	All MCs	100	63.2	100	63.2	0.278	21.2	LOS B	2.7	29.6	0.82	0.75	0.82	12.0
Approach			324	23.4	324	23.4	0.278	12.6	LOS A	3.8	29.6	0.54	0.47	0.54	13.6
West: Margaret St (W)															
10	L2	All MCs	115	0.0	115	0.0	* 0.627	45.6	LOS D	7.8	55.3	0.98	0.82	1.00	8.0
11	T1	All MCs	68	4.6	68	4.6	0.627	33.1	LOS C	7.8	55.3	0.98	0.82	1.00	4.4
Approach			183	1.7	183	1.7	0.627	40.9	LOS C	7.8	55.3	0.98	0.82	1.00	6.7
All Vehicles			1431	16.8	1455	16.5	0.627	22.3	LOS B	13.5	95.0	0.74	0.64	0.74	16.1

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	1108	39.2	LOS D	2.7	2.7	0.96	0.96	55.8	20.0	0.36
East: Margaret St (E)											
P2	Full	511	38.2	LOS D	1.2	1.2	0.93	0.93	54.8	20.0	0.36
North: Clarence St (N)											
P3	Full	581	36.4	LOS D	1.4	1.4	0.91	0.91	53.1	20.0	0.38
West: Margaret St (W)											
P4	Full	609	33.8	LOS D	1.4	1.4	0.88	0.88	50.5	20.0	0.40

All Pedestrians	2809	37.3	LOS D	2.7	2.7	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.

MOVEMENT SUMMARY

Site: BGU09 [BGU09 Margaret St / York St (Site Folder: Block 4 - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 4 Network - 2024 PM Peak)]

TCS 3042
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
East: Margaret St (E)															
4	L2	All MCs	146	1.4	146	1.4	0.186	19.6	LOS B	4.0	28.3	0.64	0.69	0.64	19.8
5	T1	All MCs	106	56.4	106	56.4	0.186	16.4	LOS B	4.0	28.3	0.64	0.53	0.64	11.8
Approach			253	24.6	253	24.6	0.186	18.3	LOS B	4.0	28.7	0.64	0.62	0.64	17.5
North: York St (N)															
8	T1	All MCs	735	22.8	735	22.8	* 0.375	20.0	LOS B	7.5	63.0	0.74	0.63	0.74	20.5
9	R2	All MCs	218	7.2	218	7.2	0.308	23.2	LOS B	6.5	48.0	0.72	0.76	0.72	9.5
Approach			953	19.2	953	19.2	0.375	20.7	LOS B	7.5	63.0	0.73	0.66	0.73	18.5
West: Margaret St (W)															
12	R2	All MCs	128	3.3	128	3.3	0.268	31.8	LOS C	5.1	37.0	0.95	0.70	0.95	14.1
Approach			128	3.3	128	3.3	0.268	31.8	LOS C	5.1	37.0	0.95	0.70	0.95	14.1
All Vehicles			1334	18.7	1334	18.7	0.375	21.3	LOS B	7.5	63.0	0.74	0.66	0.74	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: York St (S)											
P1	Full	1498	35.1	LOS D	3.5	3.5	0.91	0.91	51.8	20.0	0.39
East: Margaret St (E)											
P2	Full	1457	35.1	LOS D	3.4	3.4	0.91	0.91	51.7	20.0	0.39
North: York St (N)											
P3	Full	851	32.4	LOS D	1.9	1.9	0.86	0.86	49.1	20.0	0.41
West: Margaret St (W)											
P4	Full	809	36.8	LOS D	1.9	1.9	0.92	0.92	53.5	20.0	0.37
All Pedestrians		4615	34.9	LOS D	3.5	3.5	0.90	0.90	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: BGU10 [BGU10 Pedestrian Mid-block Crossing at Sussex St under Exchange Pl (Site Folder: Block 4 - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 PM Peak)]

TCS 3939 (?)
Site Category: (None)
Pedestrian Crossing (Signalised) - 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: Sussex St (S)															
2	T1	All MCs	535	0.6	535	0.6	0.249	8.1	LOS A	4.4	30.8	0.55	0.47	0.55	25.0
Approach			535	0.6	535	0.6	0.249	8.1	LOS A	4.4	30.8	0.55	0.47	0.55	25.0
North: Sussex St (N)															
8	T1	All MCs	518	6.1	518	6.1	* 0.254	8.1	LOS A	4.3	31.4	0.55	0.47	0.55	23.2
Approach			518	6.1	518	6.1	0.254	8.1	LOS A	4.3	31.4	0.55	0.47	0.55	23.2
All Vehicles			1053	3.3	1053	3.3	0.254	8.1	LOS A	4.4	31.4	0.55	0.47	0.55	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
South: Sussex St (S)											
P1	Full	306	26.2	LOS C	0.5	0.5	0.90	0.90	42.9	20.0	0.47
All Pedestrians		306	26.2	LOS C	0.5	0.5	0.90	0.90	42.9	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.

MOVEMENT SUMMARY

Site: BGU11 [BGU11 Pedestrian Mid-block Crossing at Kent St near Margaret St (Site Folder: Block 4 - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 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	586	6.6	586	6.6	* 0.352	10.2	LOS A	4.0	30.0	0.73	0.60	0.73	21.9
Approach			586	6.6	586	6.6	0.352	10.2	LOS A	4.0	30.0	0.73	0.60	0.73	21.9
North: Kent St (N)															
8	T1	All MCs	283	0.7	283	0.7	0.229	9.4	LOS A	2.6	18.6	0.67	0.54	0.67	14.7
Approach			283	0.7	283	0.7	0.229	9.4	LOS A	2.6	18.6	0.67	0.54	0.67	14.7
All Vehicles			869	4.7	869	4.7	0.352	9.9	LOS A	4.0	30.0	0.71	0.58	0.71	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	1607	15.4	LOS B	1.8	1.8	0.86	0.86	32.1	20.0	0.62
All Pedestrians		1607	15.4	LOS B	1.8	1.8	0.86	0.86	32.1	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.

MOVEMENT SUMMARY

Site: BGU12 [BGU12 Sussex St / Erskine St (Site Folder: Block 4 - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 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	49	4.3	49	4.3	0.424	37.6	LOS C	7.2	51.5	0.89	0.75	0.89	14.8
2	T1	All MCs	353	0.9	353	0.9	* 0.424	30.5	LOS C	7.8	55.0	0.89	0.74	0.89	15.1
Approach			402	1.3	402	1.3	0.424	31.4	LOS C	7.8	55.0	0.89	0.74	0.89	15.1
East: Erskine St (E)															
4	L2	All MCs	446	1.4	446	1.4	0.457	11.5	LOS A	8.4	59.8	0.46	0.65	0.46	26.6
5	T1	All MCs	51	2.1	51	2.1	0.149	2.6	LOS A	0.6	4.5	0.15	0.30	0.15	24.9
6	R2	All MCs	49	0.0	49	0.0	0.149	6.9	LOS A	0.6	4.5	0.15	0.30	0.15	24.9
Approach			546	1.3	546	1.3	0.457	10.2	LOS A	8.4	59.8	0.41	0.59	0.41	26.4
North: Sussex St (N)															
7	L2	All MCs	45	25.6	45	25.6	0.097	26.6	LOS B	1.4	11.9	0.73	0.68	0.73	13.8
8	T1	All MCs	496	3.8	496	3.8	0.383	24.1	LOS B	8.3	59.7	0.80	0.68	0.80	22.7
9	R2	All MCs	17	6.3	17	6.3	* 0.072	32.0	LOS C	0.6	4.3	0.85	0.68	0.85	12.2
Approach			558	5.7	558	5.7	0.383	24.5	LOS B	8.3	59.7	0.80	0.68	0.80	21.9
West: Erskine St (W)															
10	L2	All MCs	116	1.8	116	1.8	0.338	12.9	LOS A	8.3	59.3	0.56	0.55	0.56	13.4
11	T1	All MCs	247	3.0	247	3.0	0.338	11.1	LOS A	8.3	59.3	0.56	0.55	0.56	13.4
12	R2	All MCs	223	4.7	223	4.7	* 0.493	21.8	LOS B	7.0	50.7	0.74	0.76	0.74	19.9
Approach			586	3.4	586	3.4	0.493	15.5	LOS B	8.3	59.3	0.63	0.63	0.63	17.4
All Vehicles			2093	3.1	2093	3.1	0.493	19.6	LOS B	8.4	59.8	0.67	0.65	0.67	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	194	38.6	LOS D	0.5	0.5	0.93	0.93	55.3	20.0	0.36

East: Erskine St (E)										
P2 Full	137	38.5	LOS D	0.3	0.3	0.93	0.93	55.2	20.0	0.36
North: Sussex St (N)										
P3 Full	265	38.7	LOS D	0.6	0.6	0.93	0.93	55.4	20.0	0.36
West: Erskine St (W)										
P4 Full	144	38.5	LOS D	0.3	0.3	0.93	0.93	55.2	20.0	0.36
All Pedestrians	740	38.6	LOS D	0.6	0.6	0.93	0.93	55.3	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.

MOVEMENT SUMMARY

Site: BGU13 [BGU13 Kent St / Erskine St (Site Folder: Block 4 - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 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	121	1.7	121	1.7	0.230	29.8	LOS C	4.1	29.0	0.80	0.74	0.80	15.8
2	T1	All MCs	472	6.9	472	6.9	* 0.362	24.0	LOS B	6.6	49.7	0.77	0.63	0.77	17.4
3	R2	All MCs	2	0.0	2	0.0	0.030	11.9	LOS A	1.9	5.2	0.49	0.38	0.49	22.5
Approach			595	5.8	595	5.8	0.362	25.1	LOS B	6.6	49.7	0.77	0.65	0.77	17.1
East: Erskine St (E)															
5	T1	All MCs	252	2.1	252	2.1	0.220	23.9	LOS B	4.3	31.0	0.77	0.63	0.77	7.3
6	R2	All MCs	9	0.0	9	0.0	0.220	31.0	LOS C	4.0	28.8	0.77	0.63	0.77	7.3
Approach			261	2.0	261	2.0	0.220	24.1	LOS B	4.3	31.0	0.77	0.63	0.77	7.3
North: Kent St (N)															
7	L2	All MCs	1	0.0	1	0.0	0.034	11.7	LOS A	2.3	6.3	0.49	0.38	0.49	18.5
8	T1	All MCs	119	0.0	119	0.0	0.034	9.8	LOS A	2.3	6.3	0.49	0.38	0.49	23.5
9	R2	All MCs	176	1.2	176	1.2	* 0.601	40.8	LOS C	7.4	52.0	0.97	0.81	0.97	7.2
Approach			296	0.7	296	0.7	0.601	28.2	LOS B	7.4	52.0	0.77	0.64	0.77	13.4
West: Erskine St (W)															
10	L2	All MCs	49	2.1	49	2.1	0.253	28.9	LOS C	5.0	36.7	0.81	0.69	0.81	8.8
11	T1	All MCs	245	8.2	245	8.2	* 0.253	26.3	LOS B	5.2	38.8	0.83	0.69	0.83	11.8
Approach			295	7.1	295	7.1	0.253	26.7	LOS B	5.2	38.8	0.82	0.69	0.82	11.4
All Vehicles			1446	4.4	1446	4.4	0.601	25.9	LOS B	7.4	52.0	0.78	0.65	0.78	13.9

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: Kent St (S)											
P1	Full	281	38.7	LOS D	0.7	0.7	0.93	0.93	55.4	20.0	0.36
East: Erskine St (E)											

P2 Full	288	38.7	LOS D	0.7	0.7	0.93	0.93	55.4	20.0	0.36
North: Kent St (N)										
P3 Full	399	38.9	LOS D	1.0	1.0	0.94	0.94	55.6	20.0	0.36
West: Erskine St (W)										
P4 Full	289	38.7	LOS D	0.7	0.7	0.93	0.93	55.4	20.0	0.36
All Pedestrians	1258	38.8	LOS D	1.0	1.0	0.93	0.93	55.5	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.

MOVEMENT SUMMARY

Site: BGU14 [BGU14 Sussex St / King St (Site Folder: Block 4 - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 4 (Network Folder: Block 4 Network - 2024 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	182	0.0	182	0.0	0.429	46.5	LOS D	8.0	21.5	1.00	0.79	1.00	18.1
Approach			182	0.0	182	0.0	0.429	46.5	LOS D	8.0	21.5	1.00	0.79	1.00	18.1
North: Sussex St (N)															
7	L2	All MCs	117	12.6	117	12.6	* 0.653	24.7	LOS B	19.4	140.7	0.81	0.74	0.81	20.0
8	T1	All MCs	1097	2.0	1097	2.0	0.653	17.9	LOS B	20.3	144.4	0.80	0.73	0.80	27.2
Approach			1214	3.0	1214	3.0	0.653	18.6	LOS B	20.3	144.4	0.80	0.73	0.80	26.7
SouthWest: King St (SW)															
30a	L1	All MCs	359	0.9	359	0.9	0.437	14.4	LOS A	7.4	51.9	0.74	0.76	0.74	36.5
32a	R1	All MCs	912	1.8	912	1.8	* 0.621	29.6	LOS C	15.5	110.0	0.88	0.81	0.88	27.2
32b	R3	All MCs	225	10.3	225	10.3	0.417	28.5	LOS B	7.5	57.1	0.79	0.80	0.79	30.4
Approach			1496	2.9	1496	2.9	0.621	25.8	LOS B	15.5	110.0	0.84	0.80	0.84	29.9
All Vehicles			2892	2.8	2892	2.8	0.653	24.1	LOS B	20.3	144.4	0.83	0.77	0.83	27.5

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	222	40.5	LOS E	0.5	0.5	0.95	0.95	57.2	20.0	0.35
East: King St (E)											
P2	Full	759	39.5	LOS D	1.8	1.8	0.95	0.95	56.2	20.0	0.36
North: Sussex St (N)											
P3	Full	222	38.6	LOS D	0.5	0.5	0.93	0.93	55.3	20.0	0.36
SouthWest: King St (SW)											
P8	Full	424	39.0	LOS D	1.0	1.0	0.94	0.94	205.6	200.0	0.97

P8B	Slip/ Bypass	360	40.8	LOS E	0.9	0.9	0.96	0.96	207.4	200.0	0.96
All Pedestrians		1987	39.6	LOS D	1.8	1.8	0.95	0.95	115.5	91.0	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.

MOVEMENT SUMMARY

Site: BGU15 [BGU15 Kent St / King St (Site Folder: Block 4 - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 4 (Network Folder: Block 4 Network - 2024 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	21	0.0	21	0.0	0.197	46.3	LOS D	3.5	9.5	0.98	0.72	0.98	13.0
2	T1	All MCs	499	6.3	499	6.3	0.442	29.6	LOS C	8.6	64.2	0.87	0.72	0.87	22.6
3	R2	All MCs	244	0.9	244	0.9	* 0.442	37.0	LOS C	8.2	60.9	0.90	0.77	0.90	15.7
Approach			764	4.4	764	4.4	0.442	32.4	LOS C	8.6	64.2	0.89	0.74	0.89	20.3
East: King St (E)															
5	T1	All MCs	57	0.0	57	0.0	0.175	42.9	LOS D	2.6	6.9	0.98	0.70	0.98	4.6
6	R2	All MCs	4	0.0	4	0.0	0.175	49.0	LOS D	2.6	6.9	0.98	0.70	0.98	14.0
Approach			61	0.0	61	0.0	0.175	43.3	LOS D	2.6	6.9	0.98	0.70	0.98	5.5
North: Kent St (N)															
7	L2	All MCs	9	0.0	9	0.0	0.176	46.2	LOS D	3.1	8.5	0.98	0.71	0.98	10.7
8	T1	All MCs	66	0.0	66	0.0	0.176	42.8	LOS D	3.1	8.5	0.98	0.71	0.98	19.0
9	R2	All MCs	84	0.0	84	0.0	* 0.369	48.8	LOS D	3.7	10.0	1.00	0.74	1.00	11.7
Approach			160	0.0	160	0.0	0.369	46.1	LOS D	3.7	10.0	0.99	0.72	0.99	14.9
West: King St (W)															
10	L2	All MCs	179	1.2	179	1.2	* 0.427	13.9	LOS A	4.6	32.8	0.39	0.49	0.39	27.2
11	T1	All MCs	848	3.5	848	3.5	* 0.427	3.9	LOS A	4.6	32.8	0.23	0.22	0.23	29.1
Approach			1027	3.1	1027	3.1	0.427	5.6	LOS A	4.6	32.8	0.26	0.27	0.26	28.5
All Vehicles			2013	3.2	2013	3.2	0.442	20.2	LOS B	8.6	64.2	0.58	0.50	0.58	21.0

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: Kent St (S)											
P1	Full	480	39.1	LOS D	1.2	1.2	0.94	0.94	55.7	20.0	0.36
East: King St (E)											

P2 Full	360	38.9	LOS D	0.9	0.9	0.94	0.94	55.5	20.0	0.36
North: Kent St (N)										
P3 Full	686	39.4	LOS D	1.7	1.7	0.95	0.95	56.1	20.0	0.36
West: King St (W)										
P4 Full	504	39.1	LOS D	1.2	1.2	0.94	0.94	55.8	20.0	0.36
All Pedestrians	2031	39.1	LOS D	1.7	1.7	0.94	0.94	55.8	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.

MOVEMENT SUMMARY

Site: BGU16 [BGU16 Pedestrian Mid-block Crossing at Hickson Rd (North of Metro) (Site Folder: Block 4 - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 4 Network - 2024 PM Peak)]

NA
Site Category: (None)
Pedestrian Crossing (Unsignalised)

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: Hickson Rd (S)															
2	T1	All MCs	397	2.9	397	2.9	0.241	2.1	LOS A	1.1	7.9	0.01	0.36	0.01	37.6
Approach			397	2.9	397	2.9	0.241	2.1	LOS A	1.1	7.9	0.01	0.36	0.01	37.6
North: Hickson Rd (N)															
8	T1	All MCs	265	4.8	265	4.8	0.162	2.1	LOS A	0.7	4.9	0.01	0.36	0.01	36.1
Approach			265	4.8	265	4.8	0.162	2.1	LOS A	0.7	4.9	0.01	0.36	0.01	36.1
All Vehicles			662	3.7	662	3.7	0.241	2.1	NA	1.1	7.9	0.01	0.36	0.01	37.2

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.
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: Akçelik M1.
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: BGU17 [BGU17 Pedestrian Mid-block Crossing at Hickson Rd (South of Metro) (Site Folder: Block 4 - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 4 Network - 2024 PM Peak)]

New Site
Site Category: (None)
Pedestrian Crossing (Unsignalised)

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: Hickson Rd (S)															
2	T1	All MCs	397	2.9	397	2.9	0.249	2.2	LOS A	1.1	8.2	0.14	0.36	0.14	35.6
Approach			397	2.9	397	2.9	0.249	2.2	LOS A	1.1	8.2	0.14	0.36	0.14	35.6
North: Hickson Rd (N)															
8	T1	All MCs	265	4.8	265	4.8	0.168	2.2	LOS A	0.7	5.1	0.13	0.36	0.13	37.7
Approach			265	4.8	265	4.8	0.168	2.2	LOS A	0.7	5.1	0.13	0.36	0.13	37.7
All Vehicles			662	3.7	662	3.7	0.249	2.2	NA	1.1	8.2	0.14	0.36	0.14	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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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: Akçelik M1.
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: BGU18 [BGU18 Shelley St / Erskine St (Site Folder: Block 4 - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 PM Peak)]

TCS 305
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: Shelley St (S)															
1	L2	All MCs	13	0.0	13	0.0	0.053	10.9	LOS A	1.0	7.2	0.39	0.36	0.39	20.3
2	T1	All MCs	53	0.0	53	0.0	0.053	5.9	LOS A	1.0	7.2	0.39	0.36	0.39	28.6
3	R2	All MCs	236	0.4	236	0.4	* 0.382	14.1	LOS A	5.5	39.0	0.57	0.70	0.57	16.8
Approach			301	0.3	301	0.3	0.382	12.6	LOS A	5.5	39.0	0.53	0.62	0.53	19.0
East: Erskine St (E)															
4	L2	All MCs	17	6.3	17	6.3	0.067	40.0	LOS C	0.7	4.8	0.89	0.68	0.89	10.4
5	T1	All MCs	77	4.1	77	4.1	* 0.316	33.7	LOS C	3.9	28.0	0.90	0.73	0.90	8.8
6	R2	All MCs	23	0.0	23	0.0	0.316	42.0	LOS C	3.9	28.0	0.90	0.73	0.90	10.0
Approach			117	3.6	117	3.6	0.316	36.3	LOS C	3.9	28.0	0.90	0.72	0.90	9.3
North: Shelley St (N)															
7	L2	All MCs	183	0.6	183	0.6	0.231	11.5	LOS A	3.5	24.9	0.47	0.64	0.47	16.6
8	T1	All MCs	6	0.0	6	0.0	0.010	6.2	LOS A	0.2	1.2	0.38	0.39	0.38	27.6
9	R2	All MCs	4	0.0	4	0.0	0.010	10.0	LOS A	0.2	1.2	0.38	0.39	0.38	16.7
Approach			194	0.5	194	0.5	0.231	11.3	LOS A	3.5	24.9	0.46	0.63	0.46	17.1
West: Erskine St (W)															
10	L2	All MCs	6	0.0	6	0.0	0.316	42.4	LOS C	3.1	23.6	0.89	0.71	0.89	10.7
11	T1	All MCs	167	10.7	167	10.7	0.316	33.2	LOS C	3.7	28.3	0.89	0.71	0.89	6.0
12	R2	All MCs	3	33.3	3	33.3	0.316	40.5	LOS C	3.7	28.3	0.89	0.71	0.89	12.1
Approach			177	10.7	177	10.7	0.316	33.7	LOS C	3.7	28.3	0.89	0.71	0.89	6.4
All Vehicles			788	3.2	788	3.2	0.382	20.5	LOS B	5.5	39.0	0.65	0.66	0.65	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: Shelley St (S)											
P1	Full	334	38.8	LOS D	0.8	0.8	0.94	0.94	205.5	200.0	0.97

East: Erskine St (E)										
P2 Full	57	38.4	LOS D	0.1	0.1	0.92	0.92	205.0	200.0	0.98
North: Shelley St (N)										
P3 Full	339	38.8	LOS D	0.8	0.8	0.94	0.94	205.5	200.0	0.97
West: Erskine St (W)										
P4 Full	137	38.5	LOS D	0.3	0.3	0.93	0.93	205.2	200.0	0.97
All Pedestrians	866	38.7	LOS D	0.8	0.8	0.93	0.93	205.4	200.0	0.97

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: BUG01 [BGU01 Hickson Rd / Towns Pl (Site Folder: Block 4 - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 4 Network - 2024 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	213	3.0	213	3.0	0.305	4.1	LOS A	1.5	10.8	0.41	0.52	0.41	34.4
6a	R1	All MCs	102	2.1	102	2.1	0.305	8.2	LOS A	1.5	10.8	0.41	0.52	0.41	34.4
Approach			315	2.7	315	2.7	0.305	5.4	NA	1.5	10.8	0.41	0.52	0.41	34.4
NorthWest: Towns Pl (NW)															
27a	L1	All MCs	168	1.3	168	1.3	0.413	7.3	LOS A	1.9	13.8	0.69	0.94	0.96	32.2
29	R2	All MCs	78	4.1	78	4.1	0.413	14.2	LOS A	1.9	13.8	0.69	0.94	0.96	20.9
Approach			246	2.1	246	2.1	0.413	9.5	LOS A	1.9	13.8	0.69	0.94	0.96	30.5
SouthWest: Hickson Rd (SW)															
30	L2	All MCs	81	3.9	81	3.9	0.351	4.7	LOS A	2.1	14.7	0.33	0.43	0.33	33.4
32a	R1	All MCs	446	1.7	446	1.7	0.351	3.0	LOS A	2.1	14.7	0.33	0.43	0.33	36.8
Approach			527	2.0	527	2.0	0.351	3.2	NA	2.1	14.7	0.33	0.43	0.33	36.5
All Vehicles			1088	2.2	1088	2.2	0.413	5.3	NA	2.1	14.7	0.43	0.57	0.49	34.7

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: BGU02 [BGU02 Dalgety Rd / Towns Pl (Site Folder: Block 4 - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 4 Network - 2024 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	3	0.0	3	0.0	0.156	6.0	LOS A	0.9	6.6	0.07	0.58	0.07	24.6
3b	R3	All MCs	243	2.2	243	2.2	0.156	6.2	LOS A	0.9	6.6	0.07	0.58	0.07	32.4
32u	U	All MCs	1	0.0	1	0.0	0.156	6.9	LOS A	0.9	6.6	0.07	0.58	0.07	34.8
Approach			247	2.1	247	2.1	0.156	6.2	LOS A	0.9	6.6	0.07	0.58	0.07	32.3
SouthEast: Towns Pl (SE)															
21b	L3	All MCs	177	3.0	177	3.0	0.119	2.6	LOS A	0.8	5.4	0.07	0.42	0.07	35.8
21a	L1	All MCs	6	0.0	6	0.0	0.119	8.2	LOS A	0.8	5.4	0.07	0.42	0.07	18.9
23u	U	All MCs	1	0.0	1	0.0	0.119	6.9	LOS A	0.8	5.4	0.07	0.42	0.07	30.9
Approach			184	2.9	184	2.9	0.119	2.8	LOS A	0.8	5.4	0.07	0.42	0.07	35.3
West: Parking Access (W)															
12a	R1	All MCs	3	0.0	3	0.0	0.010	1.4	LOS A	0.1	0.4	0.42	0.21	0.42	9.6
29	R2	All MCs	6	0.0	6	0.0	0.010	1.4	LOS A	0.1	0.4	0.42	0.21	0.42	21.4
29u	U	All MCs	1	0.0	1	0.0	0.010	1.4	LOS A	0.1	0.4	0.42	0.21	0.42	9.7
Approach			11	0.0	11	0.0	0.010	1.4	LOS A	0.1	0.4	0.42	0.21	0.42	17.9
All Vehicles			442	2.4	442	2.4	0.156	4.7	LOS A	0.9	6.6	0.08	0.50	0.08	33.1

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: BGU03 [BGU03 Kent St / Argyle St (Site Folder: Block 4 - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	109	1.9	109	1.9	0.586	8.8	LOS A	3.5	24.9	0.76	1.12	1.31	32.6
2	T1	All MCs	27	11.5	27	11.5	0.586	11.8	LOS A	3.5	24.9	0.76	1.12	1.31	30.8
3	R2	All MCs	163	0.0	163	0.0	0.586	16.7	LOS B	3.5	24.9	0.76	1.12	1.31	31.3
Approach			300	1.8	300	1.8	0.586	13.4	LOS A	3.5	24.9	0.76	1.12	1.31	31.8
East: Argyle St (E)															
4	L2	All MCs	160	0.0	160	0.0	0.304	6.3	LOS A	1.5	10.9	0.48	0.47	0.48	36.3
5	T1	All MCs	114	0.9	114	0.9	0.304	1.3	LOS A	1.5	10.9	0.48	0.47	0.48	35.8
6	R2	All MCs	9	44.4	9	44.4	0.304	5.4	LOS A	1.5	10.9	0.48	0.47	0.48	30.8
Approach			283	1.9	283	1.9	0.304	4.3	NA	1.5	10.9	0.48	0.47	0.48	36.1
North: Kent St (N)															
7	L2	All MCs	7	0.0	7	0.0	0.060	7.6	LOS A	0.2	1.4	0.56	0.94	0.56	25.4
8	T1	All MCs	22	0.0	22	0.0	0.060	13.0	LOS A	0.2	1.4	0.56	0.94	0.56	32.3
9	R2	All MCs	2	0.0	2	0.0	0.060	9.0	LOS A	0.2	1.4	0.56	0.94	0.56	29.1
Approach			32	0.0	32	0.0	0.060	11.5	LOS A	0.2	1.4	0.56	0.94	0.56	31.1
West: Argyle Pl (W)															
10	L2	All MCs	9	0.0	9	0.0	0.153	5.5	LOS A	0.7	5.2	0.44	0.42	0.44	34.4
11	T1	All MCs	75	4.2	75	4.2	0.153	1.2	LOS A	0.7	5.2	0.44	0.42	0.44	36.1
12	R2	All MCs	63	0.0	63	0.0	0.153	6.8	LOS A	0.7	5.2	0.44	0.42	0.44	36.9
Approach			147	2.1	147	2.1	0.153	3.9	NA	0.7	5.2	0.44	0.42	0.44	36.5
All Vehicles			762	1.8	762	1.8	0.586	8.1	NA	3.5	24.9	0.58	0.74	0.80	33.9

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.
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: 9.1.1.200

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 70 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	361	2.9	361	2.9	0.342	4.9	LOS A	4.2	30.5	0.37	0.32	0.37	36.1
Approach			361	2.9	361	2.9	0.342	4.9	LOS A	4.2	30.5	0.37	0.32	0.37	36.1
North: Kent St															
8	T1	All MCs	307	4.8	307	4.8	0.482	29.5	LOS C	5.0	36.1	0.95	0.76	0.95	23.2
Approach			307	4.8	307	4.8	0.482	29.5	LOS C	5.0	36.1	0.95	0.76	0.95	23.2
All Vehicles			668	3.8	668	3.8	0.482	16.2	LOS B	5.0	36.1	0.64	0.52	0.64	29.0
Site: BGU05 [BGU05 Kent St / Sydney Harbour Bridge (SHB) On-ramp]															
South: Kent St (S)															
2	T1	All MCs	285	2.2	285	2.2	0.268	9.4	LOS A	5.4	38.7	0.59	0.51	0.59	27.4
3a	R1	All MCs	207	1.5	207	1.5	* 0.376	26.7	LOS B	6.1	43.4	0.92	0.78	0.92	22.4
Approach			493	1.9	493	1.9	0.376	16.7	LOS B	6.1	43.4	0.73	0.62	0.73	24.5
East: Clarence St (E)															
4	L2	All MCs	33	0.0	33	0.0	0.072	25.7	LOS B	0.9	6.1	0.80	0.68	0.80	15.5
6	R2	All MCs	141	3.0	141	3.0	* 0.323	27.5	LOS B	4.1	29.2	0.86	0.76	0.86	14.8
Approach			174	2.4	174	2.4	0.323	27.2	LOS B	4.1	29.2	0.85	0.74	0.85	14.9
NorthEast: SHB On-ramp (NE)															
24a	L1	All MCs	4	0.0	4	0.0	0.004	25.9	LOS B	0.1	0.3	0.85	0.55	0.85	21.1
Approach			4	0.0	4	0.0	0.004	25.9	LOS B	0.1	0.3	0.85	0.55	0.85	21.1
North: Kent St (N)															
7b	L3	All MCs	108	7.8	108	7.8	0.296	35.1	LOS C	3.8	28.2	1.00	0.82	1.00	14.2
8	T1	All MCs	142	4.4	142	4.4	* 0.666	26.9	LOS B	4.6	33.1	0.91	0.74	0.94	7.3
Approach			251	5.9	251	5.9	0.666	30.5	LOS C	4.6	33.1	0.95	0.77	0.97	11.0
All Vehicles			921	3.1	921	3.1	0.666	22.5	LOS B	6.1	43.4	0.81	0.69	0.82	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).

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	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE	Prop. Que	Eff. Stop	Travel Time	Travel Dist.	Aver. Speed

	ped/h	sec		[Ped ped	Dist] m		Rate	sec	m	m/sec
Site: BGU04 [BGU04 Pedestrian Mid-block Crossing at Kent St near Gas Ln]										
South: Kent St										
P1 Full	95	28.5	LOS C	0.2	0.2	0.90	0.90	195.1	200.0	1.02
All Pedestrians	95	28.5	LOS C	0.2	0.2	0.90	0.90	195.1	200.0	1.02
Site: BGU05 [BGU05 Kent St / Sydney Harbour Bridge (SHB) On-ramp]										
South: Kent St (S)										
P1 Full	1	24.9	LOS C	0.0	0.0	0.84	0.84	41.5	20.0	0.48
All Pedestrians	1	24.9	LOS C	0.0	0.0	0.84	0.84	41.5	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.

MOVEMENT SUMMARY

Site: BGU06 [BGU06 Hickson Rd / Napoleon St / Sussex St (Site Folder: Block 4 - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 4625
Site Category: (None)
Signals - 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	337	0.6	337	0.6	0.320	9.5	LOS A	6.4	44.7	0.59	0.51	0.59	30.8
3	R2	All MCs	74	1.4	74	1.4	* 0.212	17.7	LOS B	1.6	11.4	0.77	0.70	0.77	22.6
Approach			411	0.8	411	0.8	0.320	11.0	LOS A	6.4	44.7	0.62	0.54	0.62	29.3
East: Napolean St (E)															
4	L2	All MCs	59	16.1	59	16.1	0.118	22.2	LOS B	1.5	11.6	0.74	0.69	0.74	15.2
6	R2	All MCs	218	2.9	218	2.9	* 0.471	27.6	LOS B	6.5	46.4	0.89	0.78	0.89	21.8
Approach			277	5.7	277	5.7	0.471	26.4	LOS B	6.5	46.4	0.86	0.76	0.86	20.9
North: Hickson Rd (N)															
7	L2	All MCs	127	0.0	127	0.0	0.171	18.1	LOS B	2.8	19.7	0.68	0.69	0.68	25.4
8	T1	All MCs	328	4.2	328	4.2	* 0.423	15.9	LOS B	8.0	58.3	0.76	0.65	0.76	23.1
Approach			456	3.0	456	3.0	0.423	16.5	LOS B	8.0	58.3	0.73	0.66	0.73	23.9
West: Car Park Access (W)															
10	L2	All MCs	1	0.0	1	0.0	0.041	43.0	LOS D	0.0	0.3	1.00	0.57	1.00	11.8
11	T1	All MCs	1	0.0	1	0.0	* 0.195	44.6	LOS D	0.2	1.5	1.00	0.63	1.00	8.4
12	R2	All MCs	4	0.0	4	0.0	0.195	44.6	LOS D	0.2	1.5	1.00	0.63	1.00	2.2
Approach			6	0.0	6	0.0	0.195	44.3	LOS D	0.2	1.5	1.00	0.62	1.00	5.4
All Vehicles			1149	2.8	1149	2.8	0.471	17.1	LOS B	8.0	58.3	0.73	0.64	0.73	24.6

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	57	28.4	LOS C	0.1	0.1	0.90	0.90	45.1	20.0	0.44
East: Napolean St (E)											
P2	Full	38	28.4	LOS C	0.1	0.1	0.90	0.90	45.1	20.0	0.44

North: Hickson Rd (N)										
P3	Full	23	28.4	LOS C	0.0	0.0	0.90	0.90	45.0	20.0	0.44
West: Car Park Access (W)										
P4	Full	75	28.4	LOS C	0.1	0.1	0.90	0.90	45.1	20.0	0.44
All Pedestrians		193	28.4	LOS C	0.1	0.1	0.90	0.90	45.1	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.

MOVEMENT SUMMARY

Site: BGU07 [BGU07 Margaret St / Kent St / Napoleon St (Site Folder: Block 4 - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 308

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 70 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	37	8.6	37	8.6	0.329	17.3	LOS B	6.2	44.5	0.65	0.58	0.65	23.0
2	T1	All MCs	360	2.6	360	2.6	0.329	14.6	LOS B	6.2	44.5	0.72	0.61	0.72	10.7
3	R2	All MCs	20	0.0	20	0.0	0.329	54.6	LOS D	3.3	23.7	0.90	0.72	0.90	7.4
Approach			417	3.0	417	3.0	0.329	16.7	LOS B	6.2	44.5	0.72	0.61	0.72	12.0
East: Margaret St (E)															
4	L2	All MCs	19	0.0	19	0.0	0.051	18.0	LOS B	0.3	2.3	0.51	0.58	0.51	13.7
6a	R1	All MCs	200	5.3	200	5.3	0.416	17.5	LOS B	5.3	38.4	0.72	0.66	0.72	20.2
6	R2	All MCs	23	0.0	23	0.0	0.416	20.2	LOS B	5.3	38.4	0.72	0.66	0.72	10.2
Approach			242	4.3	242	4.3	0.416	17.8	LOS B	5.3	38.4	0.70	0.65	0.70	19.1
North: Kent St (N)															
7	L2	All MCs	42	2.5	42	2.5	* 0.347	40.7	LOS C	4.9	34.9	0.86	0.72	0.86	18.3
8	T1	All MCs	160	1.3	160	1.3	* 0.347	20.7	LOS B	4.9	34.9	0.88	0.71	0.88	19.4
9b	R3	All MCs	45	4.7	45	4.7	0.196	12.7	LOS A	0.5	3.6	0.32	0.59	0.32	28.1
Approach			247	2.1	247	2.1	0.347	22.7	LOS B	4.9	34.9	0.77	0.69	0.77	20.7
NorthWest: Napoleon St (NW)															
27b	L3	All MCs	97	0.0	97	0.0	0.415	10.0	LOS A	4.6	32.7	0.77	0.74	0.77	20.8
27a	L1	All MCs	133	1.6	133	1.6	* 0.415	17.8	LOS B	4.6	32.7	0.77	0.74	0.77	20.8
Approach			229	0.9	229	0.9	0.415	14.5	LOS A	4.6	32.7	0.77	0.74	0.77	20.8
All Vehicles			1136	2.7	1136	2.7	0.416	17.8	LOS B	6.2	44.5	0.74	0.66	0.74	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: Kent St (S)											

P1	Full	325	22.7	LOS C	0.5	0.5	0.81	0.81	39.4	20.0	0.51
East: Margaret St (E)											
P2	Full	44	26.6	LOS C	0.1	0.1	0.87	0.87	43.3	20.0	0.46
North: Kent St (N)											
P3	Full	84	21.7	LOS C	0.1	0.1	0.79	0.79	38.3	20.0	0.52
NorthWest: Napoleon St (NW)											
P7	Full	122	21.7	LOS C	0.2	0.2	0.79	0.79	188.4	200.0	1.06
All Pedestrians		576	22.6	LOS C	0.5	0.5	0.81	0.81	71.1	58.2	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.

MOVEMENT SUMMARY

Site: BGU08 [BGU08 Margaret St / Clarence St (Site Folder: Block 4 - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 319
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 70 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	33	0.0	33	0.0	0.226	22.2	LOS B	3.8	26.6	0.72	0.62	0.72	18.5
2	T1	All MCs	460	9.6	460	9.6	* 0.226	15.6	LOS B	3.9	27.5	0.71	0.60	0.71	22.0
3	R2	All MCs	41	0.0	41	0.0	0.226	22.1	LOS B	3.7	26.2	0.72	0.63	0.72	18.3
Approach			534	8.3	534	8.3	0.226	16.5	LOS B	3.9	27.5	0.72	0.60	0.72	21.6
East: Margaret St (E)															
5	T1	All MCs	209	5.0	209	5.0	0.191	8.2	LOS A	2.1	15.0	0.46	0.40	0.46	15.4
6	R2	All MCs	46	18.2	46	18.2	* 0.191	15.4	LOS B	1.8	13.6	0.63	0.59	0.63	16.8
Approach			256	7.4	256	7.4	0.191	9.5	LOS A	2.1	15.0	0.49	0.43	0.49	15.8
West: Margaret St (W)															
10	L2	All MCs	97	1.1	97	1.1	* 0.572	34.1	LOS C	6.2	44.0	0.94	0.78	0.94	10.2
11	T1	All MCs	98	2.2	98	2.2	0.572	25.0	LOS B	6.2	44.0	0.94	0.78	0.94	5.8
Approach			195	1.6	195	1.6	0.572	29.5	LOS C	6.2	44.0	0.94	0.78	0.94	8.2
All Vehicles			984	6.7	984	6.7	0.572	17.3	LOS B	6.2	44.0	0.70	0.59	0.70	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: Clarence St (S)											
P1	Full	268	27.8	LOS C	0.5	0.5	0.90	0.90	44.4	20.0	0.45
East: Margaret St (E)											
P2	Full	136	27.6	LOS C	0.2	0.2	0.89	0.89	44.3	20.0	0.45
North: Clarence St (N)											
P3	Full	332	26.1	LOS C	0.6	0.6	0.87	0.87	42.7	20.0	0.47
West: Margaret St (W)											
P4	Full	104	23.3	LOS C	0.2	0.2	0.82	0.82	40.0	20.0	0.50

All Pedestrians	840	26.5	LOS C	0.6	0.6	0.87	0.87	43.2	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.

MOVEMENT SUMMARY

Site: BGU09 [BGU09 Margaret St / York St (Site Folder: Block 4 - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Network: BGU-N2 [BGU Network 2 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 3042
Site Category: NA
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 70 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
East: Margaret St (E)															
4	L2	All MCs	60	1.8	60	1.8	0.092	19.6	LOS B	1.4	9.7	0.70	0.67	0.70	19.8
5	T1	All MCs	52	16.3	52	16.3	0.086	16.2	LOS B	1.2	9.4	0.69	0.53	0.69	12.0
Approach			112	8.5	112	8.5	0.092	18.0	LOS B	1.4	9.7	0.69	0.61	0.69	17.3
North: York St (N)															
8	T1	All MCs	733	6.9	733	6.9	* 0.293	12.9	LOS A	5.3	38.9	0.67	0.56	0.67	24.8
9	R2	All MCs	204	5.2	204	5.2	0.254	16.5	LOS B	4.3	31.5	0.65	0.73	0.65	12.1
Approach			937	6.5	937	6.5	0.293	13.7	LOS A	5.3	38.9	0.66	0.60	0.66	22.7
West: Margaret St (W)															
12	R2	All MCs	139	1.5	139	1.5	* 0.289	29.4	LOS C	4.6	32.7	1.00	0.73	1.00	14.8
Approach			139	1.5	139	1.5	0.289	29.4	LOS C	4.6	32.7	1.00	0.73	1.00	14.8
All Vehicles			1187	6.1	1187	6.1	0.293	15.9	LOS B	5.3	38.9	0.70	0.61	0.70	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: York St (S)											
P1	Full	363	23.6	LOS C	0.6	0.6	0.83	0.83	40.2	20.0	0.50
East: Margaret St (E)											
P2	Full	462	23.7	LOS C	0.8	0.8	0.83	0.83	40.3	20.0	0.50
North: York St (N)											
P3	Full	238	21.8	LOS C	0.4	0.4	0.79	0.79	38.5	20.0	0.52
West: Margaret St (W)											
P4	Full	246	26.0	LOS C	0.4	0.4	0.87	0.87	42.6	20.0	0.47
All Pedestrians		1309	23.7	LOS C	0.8	0.8	0.83	0.83	40.4	20.0	0.50

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\WanJ2\OneDrive - AECOM\General - ANZ-NAC-Sydney Metro-Sydney Metro C&SW Operational Monitoring\400_Technical\432_Traffic Analysis\SIDRA Modelling\04 Block 4\02 SIDRA Models with volumes\04 SM C&SW_BGU (Block 4).sip9

MOVEMENT SUMMARY

Site: BGU10 [BGU10 Pedestrian Mid-block Crossing at Sussex St under Exchange Pl (Site Folder: Block 4 - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 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	482	0.4	482	0.4	* 0.217	7.9	LOS A	4.0	28.1	0.52	0.44	0.52	25.3
Approach			482	0.4	482	0.4	0.217	7.9	LOS A	4.0	28.1	0.52	0.44	0.52	25.3
North: Sussex St (N)															
8	T1	All MCs	437	5.1	437	5.1	0.206	7.8	LOS A	3.6	26.3	0.52	0.43	0.52	23.6
Approach			437	5.1	437	5.1	0.206	7.8	LOS A	3.6	26.3	0.52	0.43	0.52	23.6
All Vehicles			919	2.6	919	2.6	0.217	7.8	LOS A	4.0	28.1	0.52	0.44	0.52	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.
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	141	28.5	LOS C	0.3	0.3	0.91	0.91	45.2	20.0	0.44
All Pedestrians		141	28.5	LOS C	0.3	0.3	0.91	0.91	45.2	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.

MOVEMENT SUMMARY

Site: BGU11 [BGU11 Pedestrian Mid-block Crossing at Kent St near Margaret St (Site Folder: Block 4 - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 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	408	3.9	408	3.9	* 0.265	10.0	LOS A	3.0	21.8	0.71	0.58	0.71	22.6
Approach			408	3.9	408	3.9	0.265	10.0	LOS A	3.0	21.8	0.71	0.58	0.71	22.6
North: Kent St (N)															
8	T1	All MCs	176	0.6	176	0.6	0.192	9.5	LOS A	2.2	15.2	0.67	0.53	0.67	15.0
Approach			176	0.6	176	0.6	0.192	9.5	LOS A	2.2	15.2	0.67	0.53	0.67	15.0
All Vehicles			584	2.9	584	2.9	0.265	9.8	LOS A	3.0	21.8	0.70	0.56	0.70	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: Kent St (S)											
P1	Full	13	14.4	LOS B	0.0	0.0	0.80	0.80	31.1	20.0	0.64
All Pedestrians		13	14.4	LOS B	0.0	0.0	0.80	0.80	31.1	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.

MOVEMENT SUMMARY

Site: BGU12 [BGU12 Sussex St / Erskine St (Site Folder: Block 4 - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 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	89	2.4	89	2.4	* 0.494	36.8	LOS C	5.7	40.8	0.90	0.77	0.90	14.3
2	T1	All MCs	323	1.0	323	1.0	0.494	29.6	LOS C	9.9	69.6	0.89	0.75	0.89	15.4
Approach			413	1.3	413	1.3	0.494	31.2	LOS C	9.9	69.6	0.89	0.76	0.89	15.2
East: Erskine St (E)															
4	L2	All MCs	296	1.1	296	1.1	0.330	13.8	LOS A	6.0	42.3	0.49	0.65	0.49	25.0
5	T1	All MCs	201	0.0	201	0.0	0.481	3.3	LOS A	2.4	16.7	0.24	0.26	0.24	26.4
6	R2	All MCs	38	0.0	38	0.0	0.481	8.1	LOS A	2.4	16.7	0.24	0.26	0.24	26.4
Approach			535	0.6	535	0.6	0.481	9.4	LOS A	6.0	42.3	0.38	0.48	0.38	25.3
North: Sussex St (N)															
7	L2	All MCs	40	18.4	40	18.4	0.075	25.1	LOS B	1.2	9.6	0.70	0.67	0.70	14.5
8	T1	All MCs	332	4.4	332	4.4	0.242	21.3	LOS B	5.1	36.8	0.73	0.61	0.73	23.9
9	R2	All MCs	24	4.3	24	4.3	* 0.199	35.3	LOS C	0.9	6.7	0.89	0.72	0.89	11.4
Approach			396	5.9	396	5.9	0.242	22.5	LOS B	5.1	36.8	0.74	0.62	0.74	22.4
West: Erskine St (W)															
10	L2	All MCs	54	0.0	54	0.0	0.110	12.4	LOS A	2.3	16.4	0.50	0.52	0.50	13.3
11	T1	All MCs	244	2.6	244	2.6	0.531	14.2	LOS A	10.2	73.4	0.68	0.66	0.68	10.1
12	R2	All MCs	158	3.3	158	3.3	* 0.531	23.2	LOS B	10.2	73.4	0.74	0.70	0.74	21.5
Approach			456	2.5	456	2.5	0.531	17.1	LOS B	10.2	73.4	0.68	0.66	0.68	16.2
All Vehicles			1799	2.4	1799	2.4	0.531	19.3	LOS B	10.2	73.4	0.65	0.62	0.65	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: Sussex St (S)											
P1	Full	389	38.9	LOS D	0.9	0.9	0.94	0.94	55.6	20.0	0.36

East: Erskine St (E)										
P2	Full	136	38.5	LOS D	0.3	0.3	0.93	0.93	55.2	20.0	0.36
North: Sussex St (N)										
P3	Full	548	39.2	LOS D	1.3	1.3	0.94	0.94	55.8	20.0	0.36
West: Erskine St (W)										
P4	Full	84	38.4	LOS D	0.2	0.2	0.93	0.93	55.1	20.0	0.36
All Pedestrians		1158	38.9	LOS D	1.3	1.3	0.94	0.94	55.6	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.

MOVEMENT SUMMARY

Site: BGU13 [BGU13 Kent St / Erskine St (Site Folder: Block 4 - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 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	133	1.6	133	1.6	0.163	19.4	LOS B	3.5	24.6	0.63	0.68	0.63	20.0
2	T1	All MCs	340	4.0	340	4.0	* 0.184	15.2	LOS B	4.0	29.3	0.61	0.50	0.61	22.1
3	R2	All MCs	1	0.0	1	0.0	0.010	9.0	LOS A	0.6	1.5	0.40	0.29	0.40	24.3
Approach			474	3.3	474	3.3	0.184	16.4	LOS B	4.0	29.3	0.62	0.55	0.62	21.4
East: Erskine St (E)															
5	T1	All MCs	260	2.0	260	2.0	0.479	47.8	LOS D	5.7	40.5	0.91	0.73	0.91	5.7
6	R2	All MCs	13	0.0	13	0.0	* 0.479	60.6	LOS E	4.8	34.1	0.92	0.74	0.92	5.5
Approach			273	1.9	273	1.9	0.479	48.4	LOS D	5.7	40.5	0.91	0.73	0.91	4.0
North: Kent St (N)															
7	L2	All MCs	1	0.0	1	0.0	0.007	8.9	LOS A	0.5	1.3	0.39	0.29	0.39	21.0
8	T1	All MCs	28	0.0	28	0.0	0.007	6.6	LOS A	0.5	1.3	0.39	0.29	0.39	25.3
9	R2	All MCs	147	0.7	147	0.7	* 0.762	50.2	LOS D	6.9	48.9	1.00	0.94	1.20	6.0
Approach			177	0.6	177	0.6	0.762	42.9	LOS D	6.9	48.9	0.90	0.83	1.07	8.4
West: Erskine St (W)															
10	L2	All MCs	80	2.6	80	2.6	0.181	43.2	LOS D	2.5	17.9	0.74	0.70	0.74	8.1
11	T1	All MCs	206	6.6	206	6.6	0.556	43.0	LOS D	7.5	55.3	0.86	0.71	0.86	11.3
Approach			286	5.5	286	5.5	0.556	43.1	LOS D	7.5	55.3	0.82	0.71	0.82	7.6
All Vehicles			1209	3.1	1209	3.1	0.762	33.8	LOS C	7.5	55.3	0.77	0.67	0.80	11.0

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: Kent St (S)											
P1	Full	293	38.7	LOS D	0.7	0.7	0.93	0.93	55.4	20.0	0.36
East: Erskine St (E)											

P2 Full	42	38.3	LOS D	0.1	0.1	0.92	0.92	55.0	20.0	0.36
North: Kent St (N)										
P3 Full	238	38.7	LOS D	0.6	0.6	0.93	0.93	55.3	20.0	0.36
West: Erskine St (W)										
P4 Full	72	38.4	LOS D	0.2	0.2	0.92	0.92	55.1	20.0	0.36
All Pedestrians	644	38.6	LOS D	0.7	0.7	0.93	0.93	55.3	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.

MOVEMENT SUMMARY

Site: BGU14 [BGU14 Sussex St / King St (Site Folder: Block 4 - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 4 (Network Folder: Block 4 Network - 2024 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	31	0.0	31	0.0	0.072	44.9	LOS D	1.3	3.5	1.00	0.69	1.00	18.3
Approach			31	0.0	31	0.0	0.072	44.9	LOS D	1.3	3.5	1.00	0.69	1.00	18.3
North: Sussex St (N)															
7	L2	All MCs	74	11.4	74	11.4	0.442	23.2	LOS B	11.0	79.5	0.73	0.66	0.73	20.3
8	T1	All MCs	679	2.0	679	2.0	0.442	17.7	LOS B	11.5	81.9	0.73	0.64	0.73	27.3
Approach			753	2.9	753	2.9	0.442	18.3	LOS B	11.5	81.9	0.73	0.65	0.73	26.9
SouthWest: King St (SW)															
30a	L1	All MCs	614	0.3	614	0.3	* 0.674	16.2	LOS B	13.8	96.7	0.82	0.84	0.82	36.4
32a	R1	All MCs	1180	0.7	1180	0.7	* 0.761	30.3	LOS C	23.0	162.1	0.92	0.87	0.95	27.6
32b	R3	All MCs	274	2.3	274	2.3	0.419	25.6	LOS B	8.6	61.4	0.76	0.80	0.76	31.5
Approach			2067	0.8	2067	0.8	0.761	25.5	LOS B	23.0	162.1	0.87	0.85	0.89	30.4
All Vehicles			2851	1.4	2851	1.4	0.761	23.8	LOS B	23.0	162.1	0.84	0.80	0.85	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: Sussex St (S)											
P1	Full	188	40.5	LOS E	0.5	0.5	0.95	0.95	57.1	20.0	0.35
East: King St (E)											
P2	Full	172	38.5	LOS D	0.4	0.4	0.93	0.93	55.2	20.0	0.36
North: Sussex St (N)											
P3	Full	386	38.9	LOS D	0.9	0.9	0.94	0.94	55.6	20.0	0.36
SouthWest: King St (SW)											
P8	Full	355	38.8	LOS D	0.8	0.8	0.94	0.94	205.5	200.0	0.97

P8B	Slip/ Bypass	311	40.7	LOS E	0.8	0.8	0.96	0.96	207.3	200.0	0.96
All Pedestrians		1412	39.4	LOS D	0.9	0.9	0.94	0.94	126.8	104.8	0.83

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: BGU15 [BGU15 Kent St / King St (Site Folder: Block 4 - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 4 (Network Folder: Block 4 Network - 2024 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	13	0.0	13	0.0	0.079	45.7	LOS D	1.4	3.7	0.97	0.67	0.97	13.0
2	T1	All MCs	303	3.1	303	3.1	* 0.424	35.3	LOS C	6.3	45.3	0.93	0.75	0.93	20.8
3	R2	All MCs	178	0.0	178	0.0	* 0.424	42.7	LOS D	6.0	42.7	0.95	0.76	0.95	14.3
Approach			494	1.9	494	1.9	0.424	38.2	LOS C	6.3	45.3	0.94	0.75	0.94	18.5
East: King St (E)															
5	T1	All MCs	7	0.0	7	0.0	0.076	43.9	LOS D	0.6	1.7	0.98	0.65	0.98	4.3
6	R2	All MCs	7	0.0	7	0.0	0.076	50.1	LOS D	0.6	1.7	0.98	0.65	0.98	13.2
Approach			15	0.0	15	0.0	0.076	47.0	LOS D	0.6	1.7	0.98	0.65	0.98	9.4
North: Kent St (N)															
7	L2	All MCs	3	0.0	3	0.0	0.100	45.8	LOS D	1.8	4.8	0.97	0.68	0.97	10.8
8	T1	All MCs	40	0.0	40	0.0	0.100	42.4	LOS C	1.8	4.8	0.97	0.68	0.97	19.1
9	R2	All MCs	13	0.0	13	0.0	0.051	46.1	LOS D	0.5	1.4	0.96	0.66	0.96	12.2
Approach			56	0.0	56	0.0	0.100	43.4	LOS D	1.8	4.8	0.97	0.67	0.97	17.3
West: King St (W)															
10	L2	All MCs	160	1.3	160	1.3	* 0.418	23.2	LOS B	8.8	62.6	0.64	0.62	0.64	23.5
11	T1	All MCs	1088	1.4	1088	1.4	* 0.418	6.0	LOS A	8.8	62.6	0.34	0.31	0.34	25.4
Approach			1248	1.3	1248	1.3	0.418	8.2	LOS A	8.8	62.6	0.38	0.35	0.38	24.9
All Vehicles			1813	1.5	1813	1.5	0.424	17.8	LOS B	8.8	62.6	0.55	0.47	0.55	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: Kent St (S)											
P1	Full	204	38.6	LOS D	0.5	0.5	0.93	0.93	55.3	20.0	0.36
East: King St (E)											

P2 Full	85	38.4	LOS D	0.2	0.2	0.93	0.93	55.1	20.0	0.36
North: Kent St (N)										
P3 Full	187	38.6	LOS D	0.4	0.4	0.93	0.93	55.2	20.0	0.36
West: King St (W)										
P4 Full	83	38.4	LOS D	0.2	0.2	0.93	0.93	55.1	20.0	0.36
All Pedestrians	560	38.5	LOS D	0.5	0.5	0.93	0.93	55.2	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.

MOVEMENT SUMMARY

Site: BGU16 [BGU16 Pedestrian Mid-block Crossing at Hickson Rd (North of Metro) (Site Folder: Block 4 - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

NA
Site Category: (None)
Pedestrian Crossing (Unsignalised)

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: Hickson Rd (S)															
2	T1	All MCs	545	1.5	545	1.5	0.328	2.1	LOS A	1.7	12.1	0.02	0.36	0.02	37.6
Approach			545	1.5	545	1.5	0.328	2.1	LOS A	1.7	12.1	0.02	0.36	0.02	37.6
North: Hickson Rd (N)															
8	T1	All MCs	298	3.2	298	3.2	0.181	2.1	LOS A	0.8	5.5	0.01	0.36	0.01	36.1
Approach			298	3.2	298	3.2	0.181	2.1	LOS A	0.8	5.5	0.01	0.36	0.01	36.1
All Vehicles			843	2.1	843	2.1	0.328	2.1	NA	1.7	12.1	0.01	0.36	0.01	37.2

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.
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: Akçelik M1.
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: BGU17 [BGU17 Pedestrian Mid-block Crossing at Hickson Rd (South of Metro) (Site Folder: Block 4 - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N1 [BGU Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

New Site
Site Category: (None)
Pedestrian Crossing (Unsignalised)

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: Hickson Rd (S)															
2	T1	All MCs	545	1.5	545	1.5	0.343	2.3	LOS A	1.8	12.6	0.18	0.36	0.18	35.3
Approach			545	1.5	545	1.5	0.343	2.3	LOS A	1.8	12.6	0.18	0.36	0.18	35.3
North: Hickson Rd (N)															
8	T1	All MCs	298	3.2	298	3.2	0.189	2.3	LOS A	0.8	5.8	0.15	0.36	0.15	37.7
Approach			298	3.2	298	3.2	0.189	2.3	LOS A	0.8	5.8	0.15	0.36	0.15	37.7
All Vehicles			843	2.1	843	2.1	0.343	2.3	NA	1.8	12.6	0.17	0.36	0.17	36.7

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.
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: Akçelik M1.
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: BGU18 [BGU18 Shelley St / Erskine St (Site Folder: Block 4 - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: BGU-N2 [BGU Network 3 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 305
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: Shelley St (S)															
1	L2	All MCs	5	0.0	5	0.0	0.082	12.2	LOS A	1.7	11.9	0.43	0.36	0.43	19.7
2	T1	All MCs	92	0.0	92	0.0	0.082	7.5	LOS A	1.7	11.9	0.43	0.36	0.43	27.6
3	R2	All MCs	166	0.0	166	0.0	* 0.437	15.4	LOS B	4.3	29.9	0.60	0.71	0.60	15.9
Approach			263	0.0	263	0.0	0.437	12.6	LOS A	4.3	29.9	0.54	0.58	0.54	20.0
East: Erskine St (E)															
4	L2	All MCs	66	3.2	66	3.2	0.185	46.8	LOS D	2.5	17.7	0.87	0.73	0.87	11.2
5	T1	All MCs	204	0.5	204	0.5	0.637	43.3	LOS D	10.0	70.3	0.95	0.80	0.95	9.1
6	R2	All MCs	44	0.0	44	0.0	* 0.637	51.8	LOS D	10.0	70.3	0.95	0.80	0.95	10.3
Approach			315	1.0	315	1.0	0.637	45.2	LOS D	10.0	70.3	0.93	0.79	0.94	7.9
North: Shelley St (N)															
7	L2	All MCs	115	0.9	115	0.9	0.106	12.0	LOS A	2.2	15.3	0.46	0.62	0.46	16.2
8	T1	All MCs	7	0.0	7	0.0	0.013	7.4	LOS A	0.2	1.5	0.42	0.41	0.42	26.2
9	R2	All MCs	5	0.0	5	0.0	0.013	11.3	LOS A	0.2	1.5	0.42	0.41	0.42	16.0
Approach			127	0.8	127	0.8	0.106	11.7	LOS A	2.2	15.3	0.46	0.60	0.46	16.9
West: Erskine St (W)															
10	L2	All MCs	22	0.0	22	0.0	0.300	37.5	LOS C	4.8	35.3	0.86	0.70	0.86	11.4
11	T1	All MCs	175	6.0	175	6.0	0.300	30.0	LOS C	4.8	35.3	0.86	0.70	0.86	6.4
12	R2	All MCs	3	33.3	3	33.3	0.300	43.3	LOS D	2.5	18.7	0.86	0.68	0.86	12.6
Approach			200	5.8	200	5.8	0.300	31.1	LOS C	4.8	35.3	0.86	0.70	0.86	7.2
All Vehicles			905	1.7	905	1.7	0.637	27.9	LOS B	10.0	70.3	0.73	0.68	0.74	10.8

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: Shelley St (S)											
P1	Full	293	38.7	LOS D	0.7	0.7	0.93	0.93	205.4	200.0	0.97

East: Erskine St (E)										
P2	Full	42	38.3	LOS D	0.1	0.1	0.92	0.92	205.0	200.0	0.98
North: Shelley St (N)										
P3	Full	238	38.7	LOS D	0.6	0.6	0.93	0.93	205.3	200.0	0.97
West: Erskine St (W)										
P4	Full	72	38.4	LOS D	0.2	0.2	0.92	0.92	205.1	200.0	0.98
All Pedestrians		644	38.6	LOS D	0.7	0.7	0.93	0.93	205.3	200.0	0.97

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: MPL01 [MPL01 Hunter St / Castlereagh St / Bligh St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 4 Network - 2024 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	212	11.4	212	11.4	* 0.293	15.9	LOS B	5.0	38.6	0.55	0.66	0.55	20.2
6a	R1	All MCs	289	4.4	289	4.4	0.293	8.1	LOS A	5.0	38.6	0.34	0.48	0.34	25.2
Approach			501	7.4	501	7.4	0.293	11.4	LOS A	5.0	38.6	0.43	0.56	0.43	22.7
North: Bligh St (N)															
7	L2	All MCs	96	33.0	96	33.0	* 0.638	66.0	LOS E	4.5	33.4	1.00	0.86	1.08	10.0
8	T1	All MCs	117	5.4	117	5.4	0.177	45.5	LOS D	2.7	14.3	0.96	0.74	0.96	17.5
9b	R3	All MCs	6	50.0	6	50.0	0.177	47.7	LOS D	2.4	14.0	0.96	0.74	0.96	15.9
Approach			219	18.8	219	18.8	0.638	54.5	LOS D	4.5	33.4	0.98	0.79	1.01	12.1
NorthWest: Hunter St (NW)															
27a	L1	All MCs	293	18.3	293	18.3	0.271	10.8	LOS A	4.3	34.3	0.49	0.60	0.49	20.6
29a	R1	All MCs	63	10.0	63	10.0	* 0.271	12.7	LOS A	4.3	34.3	0.53	0.62	0.53	26.4
Approach			356	16.9	356	16.9	0.271	11.1	LOS A	4.3	34.3	0.50	0.60	0.50	21.2
All Vehicles			1076	12.8	1076	12.8	0.638	20.1	LOS B	5.0	38.6	0.56	0.62	0.57	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	1346	40.5	LOS E	3.4	3.4	0.98	0.98	207.2	200.0	0.97
East: Hunter St (E)											
P2	Full	1075	40.1	LOS E	2.7	2.7	0.97	0.97	206.7	200.0	0.97
North: Bligh St (N)											
P3	Full	1045	40.0	LOS E	2.6	2.6	0.96	0.96	206.7	200.0	0.97
NorthWest: Hunter St (NW)											
P7	Full	817	39.6	LOS D	2.0	2.0	0.95	0.95	206.3	200.0	0.97

All Pedestrians	4283	40.1	LOS E	3.4	3.4	0.97	0.97	206.8	200.0	0.97

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: MPL02 [MPL02 Hunter St / Elizabeth St / Chifley Square (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 4 Network - 2024 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	199	12.7	199	12.7	0.199	19.3	LOS B	3.8	22.5	0.47	0.64	0.47	21.2
3a	R1	All MCs	580	21.2	580	21.2	* 0.850	21.2	LOS B	15.3	126.5	0.56	0.67	0.64	20.1
3	R2	All MCs	160	3.9	160	3.9	0.375	24.0	LOS B	5.0	26.1	0.81	0.76	0.81	19.7
Approach			939	16.5	939	16.5	0.850	21.2	LOS B	15.3	126.5	0.58	0.68	0.63	16.7
East: Hunter St (E)															
4	L2	All MCs	143	3.7	143	3.7	0.484	28.6	LOS C	8.7	45.4	0.88	0.77	0.88	16.9
5	T1	All MCs	302	3.8	302	3.8	0.484	34.0	LOS C	8.7	45.4	0.91	0.76	0.91	11.3
Approach			445	3.8	445	3.8	0.484	32.2	LOS C	8.7	45.4	0.90	0.77	0.90	13.4
NorthEast: Chifley Square (NE)															
24b	L3	All MCs	33	9.7	33	9.7	0.253	27.7	LOS B	2.4	25.7	0.67	0.67	0.67	19.8
24a	L1	All MCs	257	32.0	257	32.0	0.381	13.3	LOS A	3.4	26.9	0.44	0.54	0.44	25.7
Approach			289	29.5	289	29.5	0.381	14.9	LOS B	3.4	26.9	0.47	0.55	0.47	24.9
West: Hunter St (W)															
10a	L1	All MCs	128	15.6	128	15.6	0.466	34.8	LOS C	9.7	65.3	0.91	0.79	0.91	5.8
11	T1	All MCs	137	9.2	137	9.2	0.466	26.5	LOS B	9.7	65.3	0.91	0.79	0.91	13.7
12	R2	All MCs	124	43.2	124	43.2	* 0.537	35.2	LOS C	4.9	40.9	0.96	0.80	0.96	12.7
Approach			389	22.2	389	22.2	0.537	32.0	LOS C	9.7	65.3	0.93	0.79	0.93	11.3
All Vehicles			2063	16.6	2063	16.6	0.850	24.8	LOS B	15.3	126.5	0.70	0.70	0.72	15.9

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: Elizabeth St (S)											
P1	Full	1887	41.5	LOS E	4.8	4.8	1.00	1.00	208.2	200.0	0.96
East: Hunter St (E)											

P2	Full	1840	41.5	LOS E	4.7	4.7	1.00	1.00	208.1	200.0	0.96
NorthEast: Chifley Square (NE)											
P6	Full	1083	40.1	LOS E	2.7	2.7	0.97	0.97	206.7	200.0	0.97
West: Hunter St (W)											
P4	Full	1220	40.3	LOS E	3.0	3.0	0.97	0.97	207.0	200.0	0.97
All Pedestrians		6031	41.0	LOS E	4.8	4.8	0.99	0.99	207.7	200.0	0.96

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: MPL03 [MPL03 Bent St / Bligh St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 4 Network - 2024 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	177	20.2	177	20.2	0.285	7.9	LOS A	4.9	39.1	0.37	0.48	0.37	16.0
22	T1	All MCs	500	10.3	500	10.3	* 0.285	2.7	LOS A	4.9	39.1	0.23	0.24	0.23	28.8
Approach			677	12.9	677	12.9	0.285	4.1	LOS A	4.9	39.1	0.27	0.31	0.27	25.6
NorthWest: Bent St (NW)															
28	T1	All MCs	156	4.1	156	4.1	0.101	2.5	LOS A	1.5	11.0	0.26	0.23	0.26	25.6
29	R2	All MCs	42	12.5	42	12.5	* 0.101	8.1	LOS A	0.7	5.1	0.37	0.55	0.37	16.6
Approach			198	5.9	198	5.9	0.101	3.7	LOS A	1.5	11.0	0.29	0.30	0.29	22.9
All Vehicles			875	11.3	875	11.3	0.285	4.0	LOS A	4.9	39.1	0.27	0.30	0.27	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
SouthEast: Bent St (SE)											
P5	Full	465	39.0	LOS D	1.1	1.1	0.94	0.94	205.7	200.0	0.97
NorthWest: Bent St (NW)											
P7	Full	783	39.6	LOS D	1.9	1.9	0.95	0.95	206.2	200.0	0.97
SouthWest: Bligh St (SW)											
P8	Full	699	39.4	LOS D	1.7	1.7	0.95	0.95	206.1	200.0	0.97
All Pedestrians		1947	39.4	LOS D	1.9	1.9	0.95	0.95	206.1	200.0	0.97

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\WanJ2\OneDrive - AECOM\General - ANZ-NAC-Sydney Metro-Sydney Metro C&SW Operational Monitoring\400_Technical\432_Traffic Analysis\SIDRA Modelling\04 Block 4\02 SIDRA Models with volumes\05 SM C&SW_MPL (Block 4).sip9

MOVEMENT SUMMARY

Site: MPL04 [MPL04 Bent St / Phillip St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 4 Network - 2024 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	89	54.1	89	54.1	0.596	35.5	LOS C	1.1	10.9	0.05	0.45	0.12	25.3
22	T1	All MCs	435	5.1	435	5.1	0.429	19.8	LOS B	11.7	85.4	0.72	0.62	0.72	12.7
23a	R1	All MCs	133	3.2	133	3.2	* 0.429	27.3	LOS B	5.6	40.5	0.78	0.70	0.78	18.8
Approach			657	11.4	657	11.4	0.596	23.5	LOS B	11.7	85.4	0.64	0.61	0.65	15.5
North: Phillip St (N)															
7a	L1	All MCs	102	10.3	102	10.3	* 0.212	23.0	LOS B	3.6	30.6	0.70	0.68	0.70	20.1
9a	R1	All MCs	185	18.8	185	18.8	0.212	18.4	LOS B	4.4	33.3	0.66	0.64	0.66	18.4
Approach			287	15.8	287	15.8	0.212	20.0	LOS B	4.4	33.3	0.67	0.66	0.67	19.1
NorthWest: Bent St (NW)															
27b	L3	All MCs	7	14.3	7	14.3	0.142	26.0	LOS B	2.3	16.8	0.63	0.52	0.63	19.6
28	T1	All MCs	135	2.3	135	2.3	0.142	18.5	LOS B	2.3	16.8	0.63	0.52	0.63	15.6
29	R2	All MCs	15	14.3	15	14.3	0.142	27.0	LOS B	1.8	13.4	0.63	0.53	0.63	7.8
Approach			157	4.0	157	4.0	0.142	19.7	LOS B	2.3	16.8	0.63	0.52	0.63	15.3
SouthWest: Phillip St (SW)															
30	L2	All MCs	243	26.8	243	26.8	0.416	21.1	LOS B	7.3	63.0	0.72	0.75	0.72	15.7
30a	L1	All MCs	362	20.3	362	20.3	0.337	14.9	LOS B	7.4	60.7	0.64	0.66	0.64	25.4
32	R2	All MCs	103	4.1	103	4.1	* 0.337	22.6	LOS B	4.9	37.6	0.72	0.71	0.72	20.5
Approach			708	20.2	708	20.2	0.416	18.2	LOS B	7.4	63.0	0.68	0.70	0.68	21.8
All Vehicles			1809	14.9	1809	14.9	0.596	20.5	LOS B	11.7	85.4	0.66	0.65	0.67	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: Bent St (SE)											
P5	Full	1233	40.3	LOS E	3.1	3.1	0.97	0.97	207.0	200.0	0.97

North: Phillip St (N)										
P3	Full	868	39.7	LOS D	2.1	2.1	0.96	0.96	206.4	200.0	0.97
NorthWest: Bent St (NW)										
P7	Full	1183	40.3	LOS E	2.9	2.9	0.97	0.97	206.9	200.0	0.97
SouthWest: Phillip St (SW)										
P8	Full	1024	40.0	LOS D	2.5	2.5	0.96	0.96	206.6	200.0	0.97
All Pedestrians		4308	40.1	LOS E	3.1	3.1	0.97	0.97	206.8	200.0	0.97

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: MPL05 [MPL05 Pedestrian Mid-block Crossing at Castlereagh St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

TCS 245
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
North: Castlereagh St (N)															
8	T1	All MCs	405	10.1	405	10.1	* 0.429	15.5	LOS B	3.9	29.5	0.87	0.71	0.87	24.4
Approach			405	10.1	405	10.1	0.429	15.5	LOS B	3.9	29.5	0.87	0.71	0.87	24.4
All Vehicles			405	10.1	405	10.1	0.429	15.5	LOS B	3.9	29.5	0.87	0.71	0.87	24.4

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: Castlereagh St (S)												
P1	Full	6966	7333	23.1	LOS C	11.4	11.4	1.22	1.22	189.8	200.0	1.05
All Pedestrians		6966	7333	23.1	LOS C	11.4	11.4	1.22	1.22	189.8	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.

MOVEMENT SUMMARY

Site: MPL06 [MPL06 Pedestrian Mid-block Crossing at Elizabeth St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

TCS 287
Site Category: (None)
Pedestrian Crossing (Signalised) - 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: Elizabeth St (S)															
2	T1	All MCs	939	16.5	939	16.5	* 0.424	10.9	LOS A	9.7	77.9	0.51	0.45	0.51	29.9
Approach			939	16.5	939	16.5	0.424	8.8	LOS A	9.7	77.9	0.51	0.45	0.51	27.7
North: Elizabeth St (N)															
8	T1	All MCs	524	26.9	524	26.9	0.338	7.6	LOS A	8.0	58.3	0.47	0.41	0.47	30.5
Approach			524	26.9	524	26.9	0.338	7.6	LOS A	8.0	58.3	0.47	0.41	0.47	30.5
All Vehicles			1463	20.2	1463	20.2	0.424	9.7	LOS A	9.7	77.9	0.50	0.44	0.50	28.6

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: Elizabeth St (S)												
P1	Full	5118	5387	49.3	LOS E	16.4	16.4	1.19	1.19	216.0	200.0	0.93
All Pedestrians		5118	5387	49.3	LOS E	16.4	16.4	1.19	1.19	216.0	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.

MOVEMENT SUMMARY

Site: MPL01 [MPL01 Hunter St / Castlereagh St / Bligh St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 4 Network - 2024 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	173	14.0	173	14.0	* 0.256	15.7	LOS B	4.0	31.5	0.53	0.65	0.53	20.4
6a	R1	All MCs	261	0.8	261	0.8	0.256	9.8	LOS A	4.0	31.5	0.41	0.51	0.41	23.5
Approach			434	6.1	434	6.1	0.256	12.1	LOS A	4.0	31.5	0.45	0.57	0.45	22.1
North: Bligh St (N)															
7	L2	All MCs	132	18.4	132	18.4	* 0.704	62.1	LOS E	5.8	37.2	0.98	0.84	1.05	11.1
8	T1	All MCs	57	3.7	57	3.7	0.091	42.5	LOS D	1.2	6.5	0.84	0.63	0.84	18.9
9b	R3	All MCs	6	0.0	6	0.0	0.091	41.2	LOS C	1.1	6.0	0.84	0.64	0.84	17.1
Approach			195	13.5	195	13.5	0.704	55.7	LOS D	5.8	37.2	0.93	0.77	0.98	10.8
NorthWest: Hunter St (NW)															
27a	L1	All MCs	363	6.1	363	6.1	0.330	9.9	LOS A	5.2	37.9	0.51	0.61	0.51	20.4
29a	R1	All MCs	92	2.3	92	2.3	* 0.330	11.5	LOS A	5.2	37.9	0.55	0.63	0.55	26.4
Approach			455	5.3	455	5.3	0.330	10.2	LOS A	5.2	37.9	0.52	0.62	0.52	22.2
All Vehicles			1083	7.1	1083	7.1	0.704	19.2	LOS B	5.8	37.9	0.57	0.62	0.57	17.7

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	1129	40.2	LOS E	2.8	2.8	0.97	0.97	206.8	200.0	0.97
East: Hunter St (E)											
P2	Full	1295	40.5	LOS E	3.2	3.2	0.97	0.97	207.1	200.0	0.97
North: Bligh St (N)											
P3	Full	809	39.6	LOS D	2.0	2.0	0.95	0.95	206.3	200.0	0.97
NorthWest: Hunter St (NW)											
P7	Full	774	39.5	LOS D	1.9	1.9	0.95	0.95	206.2	200.0	0.97

All Pedestrians	4007	40.0	LOS E	3.2	3.2	0.96	0.96	206.7	200.0	0.97

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\WanJ2\OneDrive - AECOM\General - ANZ-NAC-Sydney Metro-Sydney Metro C&SW Operational Monitoring\400_Technical\432_Traffic Analysis\SIDRA Modelling\04 Block 4\02 SIDRA Models with volumes\05 SM C&SW_MPL (Block 4).sip9

MOVEMENT SUMMARY

Site: MPL02 [MPL02 Hunter St / Elizabeth St / Chifley Square (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 4 Network - 2024 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	187	1.1	187	1.1	0.164	23.7	LOS B	3.4	17.3	0.45	0.63	0.45	21.8
3a	R1	All MCs	705	12.8	705	12.8	* 0.947	38.6	LOS C	27.0	209.6	0.68	0.88	0.91	13.9
3	R2	All MCs	166	0.0	166	0.0	0.395	25.5	LOS B	5.4	26.9	0.84	0.76	0.84	19.1
Approach			1059	8.7	1059	8.7	0.947	33.9	LOS C	27.0	209.6	0.66	0.81	0.82	12.4
East: Hunter St (E)															
4	L2	All MCs	105	4.0	105	4.0	0.419	29.0	LOS C	6.9	38.1	0.88	0.76	0.88	16.7
5	T1	All MCs	246	9.8	246	9.8	0.419	34.4	LOS C	6.9	38.1	0.90	0.75	0.90	11.2
Approach			352	8.1	352	8.1	0.419	32.8	LOS C	6.9	38.1	0.89	0.75	0.89	13.1
NorthEast: Chifley Square (NE)															
24b	L3	All MCs	55	0.0	55	0.0	0.233	32.8	LOS C	2.9	26.3	0.80	0.73	0.80	17.7
24a	L1	All MCs	229	22.5	229	22.5	0.351	27.5	LOS B	6.9	52.9	0.82	0.74	0.82	18.9
Approach			284	18.1	284	18.1	0.351	28.5	LOS B	6.9	52.9	0.82	0.74	0.82	18.6
West: Hunter St (W)															
10a	L1	All MCs	231	0.5	231	0.5	0.531	35.5	LOS C	10.1	65.3	0.94	0.82	0.94	5.1
11	T1	All MCs	140	1.5	140	1.5	0.531	26.3	LOS B	10.1	65.3	0.94	0.81	0.94	13.0
12	R2	All MCs	124	34.7	124	34.7	* 0.531	35.0	LOS C	6.6	46.0	0.94	0.79	0.94	13.6
Approach			495	9.4	495	9.4	0.531	32.8	LOS C	10.1	65.3	0.94	0.81	0.94	10.0
All Vehicles			2189	10.0	2189	10.0	0.947	32.8	LOS C	27.0	209.6	0.78	0.79	0.86	12.9

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: Elizabeth St (S)											
P1	Full	1193	40.3	LOS E	3.0	3.0	0.97	0.97	206.9	200.0	0.97
East: Hunter St (E)											

P2	Full	1332	40.5	LOS E	3.3	3.3	0.98	0.98	207.2	200.0	0.97
NorthEast: Chifley Square (NE)											
P6	Full	656	39.3	LOS D	1.6	1.6	0.95	0.95	206.0	200.0	0.97
West: Hunter St (W)											
P4	Full	764	39.5	LOS D	1.9	1.9	0.95	0.95	206.2	200.0	0.97
All Pedestrians		3944	40.1	LOS E	3.3	3.3	0.97	0.97	206.7	200.0	0.97

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: MPL03 [MPL03 Bent St / Bligh St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 4 Network - 2024 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	141	17.2	141	17.2	0.246	6.3	LOS A	3.2	24.3	0.27	0.39	0.27	19.3
22	T1	All MCs	472	5.1	472	5.1	* 0.246	2.7	LOS A	3.2	24.3	0.23	0.25	0.23	28.8
Approach			613	7.9	613	7.9	0.246	3.6	LOS A	3.2	24.3	0.24	0.28	0.24	27.0
NorthWest: Bent St (NW)															
28	T1	All MCs	152	0.0	152	0.0	0.092	2.5	LOS A	1.4	10.0	0.26	0.24	0.26	25.5
29	R2	All MCs	44	4.8	44	4.8	* 0.092	7.0	LOS A	0.7	4.7	0.34	0.52	0.34	18.3
Approach			196	1.1	196	1.1	0.092	3.5	LOS A	1.4	10.0	0.28	0.30	0.28	23.4
All Vehicles			808	6.3	808	6.3	0.246	3.6	LOS A	3.2	24.3	0.25	0.29	0.25	26.3

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: Bent St (SE)											
P5	Full	298	38.8	LOS D	0.7	0.7	0.93	0.93	205.4	200.0	0.97
NorthWest: Bent St (NW)											
P7	Full	589	39.2	LOS D	1.4	1.4	0.95	0.95	205.9	200.0	0.97
SouthWest: Bligh St (SW)											
P8	Full	367	38.9	LOS D	0.9	0.9	0.94	0.94	205.5	200.0	0.97
All Pedestrians		1255	39.0	LOS D	1.4	1.4	0.94	0.94	205.7	200.0	0.97

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: MPL04 [MPL04 Bent St / Phillip St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 4 Network - 2024 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	52	8.2	52	8.2	0.060	6.7	LOS A	0.3	2.4	0.18	0.47	0.18	27.9
22	T1	All MCs	355	1.8	355	1.8	0.667	40.2	LOS C	9.2	65.4	0.99	0.85	1.04	7.5
23a	R1	All MCs	32	10.0	32	10.0	* 0.667	47.5	LOS D	7.6	55.0	1.00	0.86	1.06	14.3
Approach			438	3.1	438	3.1	0.667	36.8	LOS C	9.2	65.4	0.90	0.81	0.94	8.9
North: Phillip St (N)															
7a	L1	All MCs	158	2.7	158	2.7	* 0.189	12.8	LOS A	3.7	29.2	0.52	0.61	0.52	25.4
9a	R1	All MCs	215	22.1	215	22.1	0.189	9.7	LOS A	3.7	29.2	0.46	0.55	0.46	24.7
Approach			373	13.8	373	13.8	0.189	11.0	LOS A	3.7	29.2	0.48	0.57	0.48	25.1
NorthWest: Bent St (NW)															
27b	L3	All MCs	19	0.0	19	0.0	0.329	41.2	LOS C	3.2	22.6	0.85	0.68	0.85	14.2
28	T1	All MCs	115	0.0	115	0.0	0.329	32.8	LOS C	3.2	22.6	0.86	0.68	0.86	10.5
29	R2	All MCs	18	0.0	18	0.0	0.329	45.0	LOS D	2.5	17.2	0.87	0.68	0.87	4.7
Approach			152	0.0	152	0.0	0.329	35.3	LOS C	3.2	22.6	0.86	0.68	0.86	10.5
SouthWest: Phillip St (SW)															
30	L2	All MCs	258	16.3	258	16.3	0.237	9.5	LOS A	4.5	35.8	0.43	0.63	0.43	23.6
30a	L1	All MCs	438	10.3	438	10.3	0.352	7.8	LOS A	8.1	61.8	0.46	0.53	0.46	31.0
32	R2	All MCs	240	1.8	240	1.8	* 0.400	17.5	LOS B	7.0	49.6	0.82	0.65	0.82	21.5
Approach			936	9.8	936	9.8	0.400	10.7	LOS A	8.1	61.8	0.54	0.59	0.54	26.7
All Vehicles			1898	8.3	1898	8.3	0.667	18.8	LOS B	9.2	65.4	0.64	0.64	0.65	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
SouthEast: Bent St (SE)											
P5	Full	684	39.4	LOS D	1.7	1.7	0.95	0.95	206.1	200.0	0.97

North: Phillip St (N)										
P3 Full	619	39.3	LOS D	1.5	1.5	0.95	0.95	206.0	200.0	0.97
NorthWest: Bent St (NW)										
P7 Full	238	38.7	LOS D	0.6	0.6	0.93	0.93	205.3	200.0	0.97
SouthWest: Phillip St (SW)										
P8 Full	398	38.9	LOS D	1.0	1.0	0.94	0.94	205.6	200.0	0.97
All Pedestrians	1939	39.2	LOS D	1.7	1.7	0.94	0.94	205.8	200.0	0.97

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: MPL05 [MPL05 Pedestrian Mid-block Crossing at Castlereagh St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

TCS 245
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
North: Castlereagh St (N)															
8	T1	All MCs	347	5.2	347	5.2	* 0.281	12.3	LOS A	2.9	21.2	0.77	0.63	0.77	26.6
Approach			347	5.2	347	5.2	0.281	12.3	LOS A	2.9	21.2	0.77	0.63	0.77	26.6
All Vehicles			347	5.2	347	5.2	0.281	12.3	LOS A	2.9	21.2	0.77	0.63	0.77	26.6

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: Castlereagh St (S)												
P1	Full	2018	2124	17.6	LOS B	2.5	2.5	0.93	0.93	184.3	200.0	1.09
All Pedestrians		2018	2124	17.6	LOS B	2.5	2.5	0.93	0.93	184.3	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.

MOVEMENT SUMMARY

Site: MPL06 [MPL06 Pedestrian Mid-block Crossing at Elizabeth St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

TCS 287
Site Category: (None)
Pedestrian Crossing (Signalised) - 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: Elizabeth St (S)															
2	T1	All MCs	1022	8.8	1022	8.8	* 0.431	11.0	LOS A	10.7	80.3	0.52	0.46	0.52	29.9
Approach			1022	8.8	1022	8.8	0.431	8.9	LOS A	10.7	80.3	0.52	0.46	0.52	27.6
North: Elizabeth St (N)															
8	T1	All MCs	515	23.5	515	23.5	0.323	7.5	LOS A	7.8	55.2	0.47	0.41	0.47	30.6
Approach			515	23.5	515	23.5	0.323	7.5	LOS A	7.8	55.2	0.47	0.41	0.47	30.6
All Vehicles			1537	13.7	1537	13.7	0.431	9.9	LOS A	10.7	80.3	0.50	0.44	0.50	28.5

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. 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	5891	6201	51.6	LOS E	19.7	19.7	1.24	1.24	218.3	200.0	0.92
All Pedestrians		5891	6201	51.6	LOS E	19.7	19.7	1.24	1.24	218.3	200.0	0.92

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: MPL01 [MPL01 Hunter St / Castlereagh St / Bligh St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 244
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 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	79	0.0	79	0.0	0.100	22.1	LOS B	1.4	9.9	0.48	0.61	0.48	21.2
6a	R1	All MCs	360	0.3	360	0.3	* 0.447	20.8	LOS B	7.7	53.9	0.58	0.62	0.58	21.1
Approach			439	0.2	439	0.2	0.447	21.0	LOS B	7.7	53.9	0.57	0.62	0.57	16.6
North: Bligh St (N)															
7	L2	All MCs	66	25.4	66	25.4	* 0.599	47.9	LOS D	2.8	20.0	1.00	0.84	1.08	10.4
8	T1	All MCs	73	2.9	73	2.9	0.125	33.5	LOS C	1.5	7.9	0.96	0.71	0.96	18.4
9b	R3	All MCs	6	0.0	6	0.0	0.125	41.5	LOS C	1.4	7.7	0.96	0.71	0.96	16.8
Approach			145	13.0	145	13.0	0.599	40.4	LOS C	2.8	20.0	0.98	0.77	1.01	14.6
NorthWest: Hunter St (NW)															
27a	L1	All MCs	284	3.0	284	3.0	0.173	8.1	LOS A	2.7	19.1	0.44	0.57	0.44	22.6
29a	R1	All MCs	51	2.1	51	2.1	* 0.173	9.3	LOS A	2.7	19.1	0.49	0.59	0.49	28.0
Approach			335	2.8	335	2.8	0.173	8.3	LOS A	2.7	19.1	0.45	0.57	0.45	23.8
All Vehicles			919	3.2	919	3.2	0.599	19.4	LOS B	7.7	53.9	0.59	0.63	0.59	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: Castlereagh St (S)											
P1	Full	332	33.8	LOS D	0.7	0.7	0.93	0.93	200.4	200.0	1.00
East: Hunter St (E)											
P2	Full	342	33.8	LOS D	0.7	0.7	0.93	0.93	200.5	200.0	1.00
North: Bligh St (N)											
P3	Full	233	33.6	LOS D	0.5	0.5	0.92	0.92	200.3	200.0	1.00
NorthWest: Hunter St (NW)											
P7	Full	129	33.5	LOS D	0.3	0.3	0.92	0.92	200.2	200.0	1.00

All Pedestrians	1036	33.7	LOS D	0.7	0.7	0.92	0.92	200.4	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.

MOVEMENT SUMMARY

Site: MPL02 [MPL02 Hunter St / Elizabeth St / Chifley Square (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 302
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 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	196	0.5	196	0.5	0.291	25.4	LOS B	4.2	21.3	0.58	0.69	0.58	19.1
3a	R1	All MCs	537	11.8	537	11.8	* 0.903	51.9	LOS D	25.9	199.9	0.99	1.15	1.32	10.0
3	R2	All MCs	139	1.5	139	1.5	0.304	21.1	LOS B	3.7	19.0	0.79	0.74	0.79	20.9
Approach			872	7.6	872	7.6	0.903	41.0	LOS C	25.9	199.9	0.87	0.98	1.07	10.8
East: Hunter St (E)															
4	L2	All MCs	55	1.9	55	1.9	0.130	32.0	LOS C	2.2	11.2	0.73	0.66	0.73	20.4
5	T1	All MCs	243	0.0	243	0.0	* 0.652	40.5	LOS C	7.9	39.3	0.91	0.80	0.95	12.6
Approach			298	0.4	298	0.4	0.652	38.9	LOS C	7.9	39.3	0.87	0.77	0.91	11.1
NorthEast: Chifley Square (NE)															
24b	L3	All MCs	13	0.0	13	0.0	0.137	20.2	LOS B	0.8	9.0	0.51	0.57	0.51	22.8
24a	L1	All MCs	193	15.3	193	15.3	0.288	17.3	LOS B	3.6	25.6	0.58	0.60	0.58	23.4
Approach			205	14.4	205	14.4	0.288	17.5	LOS B	3.6	25.6	0.58	0.60	0.58	23.4
West: Hunter St (W)															
10a	L1	All MCs	126	0.0	126	0.0	0.354	24.2	LOS B	8.4	50.1	0.84	0.72	0.84	7.6
11	T1	All MCs	149	0.7	149	0.7	0.354	20.1	LOS B	8.4	50.1	0.84	0.72	0.84	16.7
12	R2	All MCs	75	32.4	75	32.4	* 0.354	33.4	LOS C	2.7	20.5	0.97	0.77	0.97	13.3
Approach			351	7.2	351	7.2	0.354	24.4	LOS B	8.4	50.1	0.87	0.73	0.87	13.3
All Vehicles			1725	7.1	1725	7.1	0.903	34.5	LOS C	25.9	199.9	0.83	0.85	0.94	12.5

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: Elizabeth St (S)											
P1	Full	104	33.5	LOS D	0.2	0.2	0.92	0.92	200.1	200.0	1.00
East: Hunter St (E)											

P2	Full	114	33.5	LOS D	0.2	0.2	0.92	0.92	200.1	200.0	1.00
NorthEast: Chifley Square (NE)											
P6	Full	61	33.4	LOS D	0.1	0.1	0.91	0.91	200.1	200.0	1.00
West: Hunter St (W)											
P4	Full	246	33.7	LOS D	0.5	0.5	0.92	0.92	200.3	200.0	1.00
All Pedestrians		525	33.5	LOS D	0.5	0.5	0.92	0.92	200.2	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.

MOVEMENT SUMMARY

Site: MPL03 [MPL03 Bent St / Bligh St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 1412
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 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	111	17.1	111	17.1	0.106	7.9	LOS A	1.0	7.9	0.24	0.53	0.24	17.0
22	T1	All MCs	426	2.2	426	2.2	* 0.386	4.9	LOS A	4.4	31.4	0.29	0.25	0.29	28.5
Approach			537	5.3	537	5.3	0.386	5.5	LOS A	4.4	31.4	0.28	0.31	0.28	22.9
NorthWest: Bent St (NW)															
28	T1	All MCs	159	0.0	159	0.0	0.086	2.8	LOS A	1.3	9.0	0.30	0.28	0.30	23.6
29	R2	All MCs	35	0.0	35	0.0	* 0.086	8.3	LOS A	0.8	5.7	0.38	0.45	0.38	18.6
Approach			194	0.0	194	0.0	0.086	3.8	LOS A	1.3	9.0	0.32	0.31	0.32	22.5
All Vehicles			731	3.9	731	3.9	0.386	5.1	LOS A	4.4	31.4	0.29	0.31	0.29	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
SouthEast: Bent St (SE)											
P5	Full	83	33.4	LOS D	0.2	0.2	0.92	0.92	200.1	200.0	1.00
NorthWest: Bent St (NW)											
P7	Full	173	33.5	LOS D	0.4	0.4	0.92	0.92	200.2	200.0	1.00
SouthWest: Bligh St (SW)											
P8	Full	92	33.4	LOS D	0.2	0.2	0.92	0.92	200.1	200.0	1.00
All Pedestrians		347	33.5	LOS D	0.4	0.4	0.92	0.92	200.2	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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Project: C:\Users\WanJ2\OneDrive - AECOM\General - ANZ-NAC-Sydney Metro-Sydney Metro C&SW Operational Monitoring\400_Technical\432_Traffic Analysis\SIDRA Modelling\04 Block 4\02 SIDRA Models with volumes\05 SM C&SW_MPL (Block 4).sip9

MOVEMENT SUMMARY

Site: MPL04 [MPL04 Bent St / Phillip St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: MPL-N1 [MPL Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 242
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 80 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	17	12.5	17	12.5	0.015	5.6	LOS A	0.1	0.7	0.14	0.45	0.14	28.4
22	T1	All MCs	326	0.6	326	0.6	* 0.390	26.7	LOS B	6.6	46.8	0.86	0.72	0.86	10.5
23a	R1	All MCs	52	0.0	52	0.0	0.390	30.7	LOS C	5.6	39.6	0.87	0.73	0.87	18.4
Approach			395	1.1	395	1.1	0.390	26.3	LOS B	6.6	46.8	0.83	0.71	0.83	12.0
North: Phillip St (N)															
7a	L1	All MCs	100	1.1	100	1.1	0.158	15.3	LOS B	3.0	21.8	0.59	0.63	0.59	24.2
9a	R1	All MCs	175	15.7	175	15.7	* 0.158	12.5	LOS A	3.0	21.8	0.56	0.59	0.56	22.1
Approach			275	10.3	275	10.3	0.158	13.5	LOS A	3.0	21.8	0.57	0.60	0.57	23.0
NorthWest: Bent St (NW)															
27b	L3	All MCs	8	0.0	8	0.0	0.167	26.1	LOS B	2.3	15.9	0.70	0.57	0.70	18.7
28	T1	All MCs	137	0.0	137	0.0	0.167	20.4	LOS B	2.3	15.9	0.70	0.57	0.70	14.9
29	R2	All MCs	14	0.0	14	0.0	0.167	27.8	LOS B	1.9	13.4	0.70	0.57	0.70	7.3
Approach			159	0.0	159	0.0	0.167	21.3	LOS B	2.3	15.9	0.70	0.57	0.70	14.6
SouthWest: Phillip St (SW)															
30	L2	All MCs	211	12.5	211	12.5	0.219	14.1	LOS A	4.7	36.3	0.61	0.65	0.61	19.8
30a	L1	All MCs	287	12.1	287	12.1	0.271	10.7	LOS A	5.9	45.6	0.57	0.58	0.57	28.8
32	R2	All MCs	165	1.3	165	1.3	* 0.293	17.9	LOS B	4.3	30.8	0.83	0.69	0.83	21.3
Approach			663	9.5	663	9.5	0.293	13.6	LOS A	5.9	45.6	0.65	0.63	0.65	24.5
All Vehicles			1492	6.4	1492	6.4	0.390	17.7	LOS B	6.6	46.8	0.69	0.64	0.69	19.8

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
SouthEast: Bent St (SE)											
P5	Full	175	33.6	LOS D	0.4	0.4	0.92	0.92	200.2	200.0	1.00

North: Phillip St (N)										
P3 Full	68	33.4	LOS D	0.1	0.1	0.92	0.92	200.1	200.0	1.00
NorthWest: Bent St (NW)										
P7 Full	64	33.4	LOS D	0.1	0.1	0.91	0.91	200.1	200.0	1.00
SouthWest: Phillip St (SW)										
P8 Full	144	33.5	LOS D	0.3	0.3	0.92	0.92	200.2	200.0	1.00
All Pedestrians	452	33.5	LOS D	0.4	0.4	0.92	0.92	200.2	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.

MOVEMENT SUMMARY

Site: MPL05 [MPL05 Pedestrian Mid-block Crossing at Castlereagh St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

TCS 245
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
North: Castlereagh St (N)															
8	T1	All MCs	216	1.5	216	1.5	* 0.180	12.6	LOS A	1.8	12.6	0.76	0.60	0.76	26.4
Approach			216	1.5	216	1.5	0.180	12.6	LOS A	1.8	12.6	0.76	0.60	0.76	26.4
All Vehicles			216	1.5	216	1.5	0.180	12.6	LOS A	1.8	12.6	0.76	0.60	0.76	26.4

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: Castlereagh St (S)												
P1	Full	907	955	16.7	LOS B	1.1	1.1	0.88	0.88	183.4	200.0	1.09
All Pedestrians		907	955	16.7	LOS B	1.1	1.1	0.88	0.88	183.4	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.

MOVEMENT SUMMARY

Site: MPL06 [MPL06 Pedestrian Mid-block Crossing at Elizabeth St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

TCS 287
Site Category: (None)
Pedestrian Crossing (Signalised) - 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: Elizabeth St (S)															
2	T1	All MCs	901	7.5	901	7.5	* 0.374	10.4	LOS A	8.9	66.2	0.49	0.43	0.49	30.3
Approach			901	7.5	901	7.5	0.374	8.4	LOS A	8.9	66.2	0.49	0.43	0.49	28.1
North: Elizabeth St (N)															
8	T1	All MCs	297	20.6	297	20.6	0.191	6.8	LOS A	4.2	29.4	0.43	0.36	0.43	31.3
Approach			297	20.6	297	20.6	0.191	6.8	LOS A	4.2	29.4	0.43	0.36	0.43	31.3
All Vehicles			1198	10.7	1198	10.7	0.374	9.5	LOS A	8.9	66.2	0.48	0.41	0.48	28.8

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: Elizabeth St (S)												
P1	Full	798	840	39.7	LOS D	2.1	2.1	0.96	0.96	206.3	200.0	0.97
All Pedestrians		798	840	39.7	LOS D	2.1	2.1	0.96	0.96	206.3	200.0	0.97

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: PIT01 [PIT01 Pitt St / Bathurst St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 4 Network - 2024 AM Peak)]

TCS 2312
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 60 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	249	10.5	249	10.5	0.334	25.2	LOS B	3.7	27.9	0.86	0.69	0.86	20.4
3	R2	All MCs	123	9.4	123	9.4	* 0.618	42.8	LOS D	3.6	27.5	0.97	0.83	1.08	16.0
Approach			373	10.2	373	10.2	0.618	31.0	LOS C	3.7	27.9	0.90	0.74	0.93	16.2
West: Bathurst St (W)															
10	L2	All MCs	293	5.4	293	5.4	* 0.437	16.8	LOS B	5.5	40.6	0.68	0.73	0.68	15.3
11	T1	All MCs	952	5.5	952	5.5	0.332	8.9	LOS A	5.5	40.1	0.59	0.50	0.59	20.4
Approach			1244	5.5	1244	5.5	0.437	10.7	LOS A	5.5	40.6	0.61	0.56	0.61	17.6
All Vehicles			1617	6.6	1617	6.6	0.618	15.4	LOS B	5.5	40.6	0.68	0.60	0.68	17.0

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: Pitt St (S)											
P1	Full	1554	26.0	LOS C	2.5	2.5	0.96	0.96	42.6	20.0	0.47
East: Bathurst St (E)											
P2	Full	526	24.8	LOS C	0.8	0.8	0.92	0.92	41.5	20.0	0.48
North: Pitt St (N)											
P3	Full	765	25.1	LOS C	1.2	1.2	0.93	0.93	41.8	20.0	0.48
West: Bathurst St (W)											
P4	Full	980	24.4	LOS C	1.5	1.5	0.92	0.92	41.1	20.0	0.49
All Pedestrians		3825	25.2	LOS C	2.5	2.5	0.94	0.94	41.9	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: PIT02 [PIT02 Castlereagh St / Bathurst St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 4 Network - 2024 AM Peak)]

TCS 2281
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 60 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	19	22.2	19	22.2	0.072	21.1	LOS B	0.6	5.5	0.74	0.63	0.74	11.5
8	T1	All MCs	246	9.0	246	9.0	* 0.389	16.8	LOS B	5.5	40.3	0.81	0.67	0.81	26.4
Approach			265	9.9	265	9.9	0.389	17.1	LOS B	5.5	40.3	0.80	0.67	0.80	25.2
West: Bathurst St (W)															
11	T1	All MCs	958	5.9	958	5.9	0.324	4.0	LOS A	3.5	25.9	0.29	0.27	0.29	28.7
12	R2	All MCs	117	6.3	117	6.3	* 0.324	12.2	LOS A	3.1	22.8	0.46	0.53	0.46	28.8
Approach			1075	6.0	1075	6.0	0.324	4.9	LOS A	3.5	25.9	0.31	0.30	0.31	28.8
All Vehicles			1340	6.8	1340	6.8	0.389	7.3	LOS A	5.5	40.3	0.41	0.37	0.41	27.3

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	417	23.8	LOS C	0.6	0.6	0.90	0.90	40.5	20.0	0.49
East: Bathurst St (E)											
P2	Full	273	23.7	LOS C	0.4	0.4	0.89	0.89	40.3	20.0	0.50
North: Castlereagh St (N)											
P3	Full	763	24.2	LOS C	1.2	1.2	0.91	0.91	40.8	20.0	0.49
West: Bathurst St (W)											
P4	Full	367	23.8	LOS C	0.6	0.6	0.90	0.90	40.4	20.0	0.49
All Pedestrians		1820	23.9	LOS C	1.2	1.2	0.90	0.90	40.6	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: PIT03 [PIT03 Park St / Castlereagh St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 4 Network - 2024 AM 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	120	4.4	120	4.4	0.169	21.9	LOS B	3.4	24.5	0.68	0.69	0.68	7.0
5	T1	All MCs	389	18.1	389	18.1	* 0.491	17.6	LOS B	10.5	77.4	0.72	0.62	0.72	8.3
Approach			509	14.9	509	14.9	0.491	18.6	LOS B	10.5	77.4	0.71	0.64	0.71	8.0
North: Castlereagh St (N)															
7	L2	All MCs	104	3.0	104	3.0	0.201	29.6	LOS C	3.5	25.0	0.79	0.73	0.79	18.8
8	T1	All MCs	106	9.9	106	9.9	* 0.644	58.3	LOS E	7.8	59.7	0.97	0.83	1.01	15.1
9	R2	All MCs	78	13.5	78	13.5	0.644	68.5	LOS E	7.8	59.7	0.98	0.84	1.01	15.1
Approach			288	8.4	288	8.4	0.644	50.7	LOS D	7.8	59.7	0.91	0.79	0.93	13.2
West: Park St (W)															
11	T1	All MCs	142	37.8	142	37.8	0.307	14.1	LOS A	4.8	43.6	0.65	0.57	0.65	16.5
12	R2	All MCs	39	27.0	39	27.0	* 0.307	20.0	LOS B	4.8	43.6	0.65	0.57	0.65	13.3
Approach			181	35.5	181	35.5	0.307	15.4	LOS B	4.8	43.6	0.65	0.57	0.65	15.9
All Vehicles			979	16.8	979	16.8	0.644	27.4	LOS B	10.5	77.4	0.76	0.67	0.77	11.9

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	372	38.9	LOS D	0.9	0.9	0.94	0.94	55.5	20.0	0.36
East: Park St (E)											
P2	Full	354	38.8	LOS D	0.8	0.8	0.94	0.94	55.5	20.0	0.36
North: Castlereagh St (N)											
P3	Full	1217	40.3	LOS E	3.0	3.0	0.97	0.97	57.0	20.0	0.35
West: Park St (W)											
P4	Full	482	39.1	LOS D	1.2	1.2	0.94	0.94	55.7	20.0	0.36

All Pedestrians	2424	39.6	LOS D	3.0	3.0	0.95	0.95	56.3	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: PIT04 [PIT04 Park St / Pitt St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 4 Network - 2024 AM 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	146	15.1	146	15.1	0.458	21.8	LOS B	3.0	24.1	0.92	0.78	0.92	18.1
2	T1	All MCs	232	12.3	232	12.3	* 0.458	18.2	LOS B	4.2	32.2	0.83	0.69	0.83	28.7
3	R2	All MCs	73	13.0	73	13.0	0.223	25.7	LOS B	1.4	11.1	0.87	0.73	0.87	15.1
Approach			451	13.3	451	13.3	0.458	20.6	LOS B	4.2	32.2	0.87	0.72	0.87	22.0
East: Park St (E)															
5	T1	All MCs	403	16.2	403	16.2	0.796	17.2	LOS B	11.0	81.1	0.93	0.87	1.02	17.2
6	R2	All MCs	100	6.3	100	6.3	* 0.796	23.7	LOS B	11.0	81.1	0.96	0.91	1.06	23.1
Approach			503	14.2	503	14.2	0.796	18.5	LOS B	11.0	81.1	0.93	0.88	1.03	18.8
West: Park St (W)															
10	L2	All MCs	1	100.0	1	100.0	0.194	18.6	LOS B	1.4	14.5	0.70	0.56	0.70	27.9
11	T1	All MCs	86	62.2	86	62.2	0.194	10.6	LOS A	1.4	14.5	0.70	0.56	0.70	16.4
Approach			87	62.7	87	62.7	0.194	10.7	LOS A	1.4	14.5	0.70	0.56	0.70	16.7
All Vehicles			1041	17.9	1041	17.9	0.796	18.8	LOS B	11.0	81.1	0.89	0.78	0.93	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: Pitt St (S)											
P1	Full	957	16.7	LOS B	1.1	1.1	0.88	0.88	33.4	20.0	0.60
East: Park St (E)											
P2	Full	529	16.4	LOS B	0.6	0.6	0.86	0.86	33.1	20.0	0.60
North: Pitt St (N)											
P3	Full	1292	18.8	LOS B	1.6	1.6	0.94	0.94	35.5	20.0	0.56
West: Park St (W)											
P4	Full	786	16.6	LOS B	0.9	0.9	0.87	0.87	33.3	20.0	0.60

All Pedestrians	3564	17.4	LOS B	1.6	1.6	0.90	0.90	34.1	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: PIT01 [PIT01 Pitt St / Bathurst St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 4 Network - 2024 PM Peak)]

TCS 2312
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: Pitt St (S)															
2	T1	All MCs	293	0.4	293	0.4	0.305	28.4	LOS B	5.0	35.2	0.86	0.69	0.86	17.1
3	R2	All MCs	145	2.2	145	2.2	* 0.427	37.7	LOS C	5.5	39.1	0.93	0.79	0.93	14.2
Approach			438	1.0	438	1.0	0.427	31.5	LOS C	5.5	39.1	0.88	0.72	0.88	16.0
West: Bathurst St (W)															
10	L2	All MCs	198	2.1	198	2.1	0.206	15.7	LOS B	3.9	27.8	0.51	0.65	0.51	16.2
11	T1	All MCs	1108	1.8	1108	1.8	* 0.341	9.5	LOS A	8.0	57.1	0.52	0.46	0.52	19.7
Approach			1306	1.9	1306	1.9	0.341	10.4	LOS A	8.0	57.1	0.52	0.49	0.52	17.9
All Vehicles			1744	1.6	1744	1.6	0.427	15.7	LOS B	8.0	57.1	0.61	0.55	0.61	17.0

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: Pitt St (S)											
P1	Full	1935	39.9	LOS D	4.7	4.7	1.01	1.01	56.6	20.0	0.35
East: Bathurst St (E)											
P2	Full	625	37.7	LOS D	1.4	1.4	0.95	0.95	54.4	20.0	0.37
North: Pitt St (N)											
P3	Full	1015	38.3	LOS D	2.4	2.4	0.97	0.97	55.0	20.0	0.36
West: Bathurst St (W)											
P4	Full	1293	37.8	LOS D	3.0	3.0	0.97	0.97	54.5	20.0	0.37
All Pedestrians		4867	38.8	LOS D	4.7	4.7	0.98	0.98	55.4	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.

MOVEMENT SUMMARY

Site: PIT02 [PIT02 Castlereagh St / Bathurst St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 4 Network - 2024 PM Peak)]

TCS 2281
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
North: Castlereagh St (N)															
7	L2	All MCs	28	0.0	28	0.0	0.150	23.6	LOS B	1.9	19.7	0.67	0.60	0.67	11.5
8	T1	All MCs	251	18.9	251	18.9	* 0.260	16.9	LOS B	5.6	40.1	0.68	0.58	0.68	26.2
Approach			279	17.0	279	17.0	0.260	17.6	LOS B	5.6	40.1	0.68	0.58	0.68	24.5
West: Bathurst St (W)															
11	T1	All MCs	1164	1.9	1164	1.9	0.397	18.3	LOS B	9.3	66.5	0.74	0.64	0.74	15.1
12	R2	All MCs	89	1.2	89	1.2	* 0.397	32.0	LOS C	9.3	65.7	0.85	0.75	0.85	20.7
Approach			1254	1.8	1254	1.8	0.397	19.3	LOS B	9.3	66.5	0.74	0.64	0.74	15.5
All Vehicles			1533	4.6	1533	4.6	0.397	19.0	LOS B	9.3	66.5	0.73	0.63	0.73	17.9

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	1377	38.0	LOS D	3.2	3.2	0.97	0.97	54.6	20.0	0.37
East: Bathurst St (E)											
P2	Full	320	36.3	LOS D	0.7	0.7	0.93	0.93	52.9	20.0	0.38
North: Castlereagh St (N)											
P3	Full	934	37.2	LOS D	2.2	2.2	0.95	0.95	53.9	20.0	0.37
West: Bathurst St (W)											
P4	Full	555	36.6	LOS D	1.3	1.3	0.94	0.94	53.3	20.0	0.38
All Pedestrians		3185	37.4	LOS D	3.2	3.2	0.96	0.96	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.

MOVEMENT SUMMARY

Site: PIT03 [PIT03 Park St / Castlereagh St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 4 Network - 2024 PM 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	32	3.3	32	3.3	0.095	22.0	LOS B	1.4	13.2	0.64	0.60	0.64	7.7
5	T1	All MCs	329	20.8	329	20.8	* 0.308	16.3	LOS B	7.4	52.8	0.66	0.56	0.66	8.7
Approach			361	19.2	361	19.2	0.308	16.8	LOS B	7.4	52.8	0.66	0.56	0.66	8.6
North: Castlereagh St (N)															
7	L2	All MCs	157	0.0	157	0.0	0.262	27.8	LOS B	5.1	35.8	0.78	0.74	0.78	19.3
8	T1	All MCs	205	21.5	205	21.5	0.753	56.8	LOS E	12.4	90.3	0.96	0.86	1.05	15.4
9	R2	All MCs	113	6.5	113	6.5	* 0.753	72.9	LOS F	12.4	90.3	0.99	0.91	1.10	14.9
Approach			475	10.9	475	10.9	0.753	51.1	LOS D	12.4	90.3	0.91	0.83	0.97	13.1
West: Park St (W)															
11	T1	All MCs	149	33.1	149	33.1	0.213	15.8	LOS B	3.8	27.1	0.65	0.55	0.65	15.9
12	R2	All MCs	42	5.0	42	5.0	* 0.213	19.8	LOS B	3.8	27.1	0.67	0.58	0.67	12.4
Approach			192	26.9	192	26.9	0.213	16.6	LOS B	3.8	27.1	0.65	0.55	0.65	15.2
All Vehicles			1027	16.8	1027	16.8	0.753	32.6	LOS C	12.4	90.3	0.77	0.69	0.80	12.6

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: Castlereagh St (S)											
P1	Full	304	38.8	LOS D	0.7	0.7	0.93	0.93	55.4	20.0	0.36
East: Park St (E)											
P2	Full	641	39.3	LOS D	1.6	1.6	0.95	0.95	56.0	20.0	0.36
North: Castlereagh St (N)											
P3	Full	2415	42.6	LOS E	6.3	6.3	1.03	1.03	59.2	20.0	0.34
West: Park St (W)											
P4	Full	857	39.7	LOS D	2.1	2.1	0.96	0.96	56.4	20.0	0.35

All Pedestrians	4217	41.2	LOS E	6.3	6.3	0.99	0.99	57.9	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: PIT04 [PIT04 Park St / Pitt St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 4 Network - 2024 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	2.8	151	2.8	0.417	21.5	LOS B	3.2	22.6	0.92	0.77	0.92	18.2
2	T1	All MCs	219	0.5	219	0.5	0.379	16.7	LOS B	3.9	27.6	0.81	0.66	0.81	29.0
3	R2	All MCs	79	1.3	79	1.3	0.216	24.5	LOS B	1.6	11.1	0.87	0.73	0.87	15.2
Approach			448	1.4	448	1.4	0.417	19.7	LOS B	3.9	27.6	0.85	0.71	0.85	22.2
East: Park St (E)															
5	T1	All MCs	452	16.3	452	16.3	0.657	12.5	LOS A	8.2	59.0	0.86	0.74	0.86	20.6
6	R2	All MCs	37	0.0	37	0.0	* 0.657	18.2	LOS B	8.2	59.0	0.88	0.77	0.88	26.3
Approach			488	15.1	488	15.1	0.657	13.0	LOS A	8.2	59.0	0.86	0.74	0.86	21.3
West: Park St (W)															
10	L2	All MCs	1	100.0	1	100.0	0.238	18.9	LOS B	1.7	18.3	0.72	0.58	0.72	27.8
11	T1	All MCs	109	57.7	109	57.7	0.238	10.8	LOS A	1.7	18.3	0.72	0.58	0.72	16.3
Approach			111	58.1	111	58.1	0.238	10.9	LOS A	1.7	18.3	0.72	0.58	0.72	16.5
All Vehicles			1047	13.8	1047	13.8	0.657	15.6	LOS B	8.2	59.0	0.84	0.71	0.84	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: Pitt St (S)											
P1	Full	1979	17.5	LOS B	2.4	2.4	0.92	0.92	34.2	20.0	0.59
East: Park St (E)											
P2	Full	1314	17.0	LOS B	1.5	1.5	0.89	0.89	33.7	20.0	0.59
North: Pitt St (N)											
P3	Full	2243	19.6	LOS B	2.9	2.9	0.98	0.98	36.3	20.0	0.55
West: Park St (W)											
P4	Full	1768	17.3	LOS B	2.1	2.1	0.91	0.91	34.0	20.0	0.59

All Pedestrians	7304	18.0	LOS B	2.9	2.9	0.93	0.93	34.7	20.0	0.58

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 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 4 Network - 2024 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	1	0.0	1	0.0	0.001	13.0	LOS A	0.0	0.0	0.75	0.43	0.75	20.6
3	R2	All MCs	1	0.0	1	0.0	0.001	18.6	LOS B	0.0	0.0	0.84	0.54	0.84	17.9
Approach			2	0.0	2	0.0	0.001	15.8	LOS B	0.0	0.0	0.79	0.49	0.79	19.2
West: Bathurst St (W)															
10	L2	All MCs	252	1.7	252	1.7	* 0.360	14.6	LOS B	4.0	28.3	0.74	0.74	0.74	15.3
11	T1	All MCs	938	2.1	938	2.1	0.361	8.7	LOS A	4.6	33.0	0.68	0.58	0.68	19.9
Approach			1189	2.0	1189	2.0	0.361	9.9	LOS A	4.6	33.0	0.69	0.61	0.69	18.4
All Vehicles			1192	2.0	1192	2.0	0.361	10.0	LOS A	4.6	33.0	0.69	0.61	0.69	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: Pitt St (S)											
P1	Full	1213	17.8	LOS B	1.4	1.4	0.91	0.91	34.5	20.0	0.58
East: Bathurst St (E)											
P2	Full	265	17.1	LOS B	0.3	0.3	0.88	0.88	33.8	20.0	0.59
North: Pitt St (N)											
P3	Full	481	17.2	LOS B	0.5	0.5	0.88	0.88	33.9	20.0	0.59
West: Bathurst St (W)											
P4	Full	918	16.7	LOS B	1.0	1.0	0.88	0.88	33.3	20.0	0.60
All Pedestrians		2877	17.3	LOS B	1.4	1.4	0.89	0.89	34.0	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.

MOVEMENT SUMMARY

Site: PIT02 [PIT02 Castlereagh St / Bathurst St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 4 Network - 2024 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	8	12.5	8	12.5	0.027	16.5	LOS B	0.2	1.5	0.74	0.61	0.74	12.3
8	T1	All MCs	143	2.2	143	2.2	* 0.233	12.8	LOS A	2.4	16.6	0.78	0.62	0.78	28.8
Approach			152	2.8	152	2.8	0.233	13.0	LOS A	2.4	16.6	0.78	0.62	0.78	27.7
West: Bathurst St (W)															
11	T1	All MCs	866	1.6	866	1.6	* 0.306	2.7	LOS A	1.3	9.4	0.25	0.23	0.25	31.7
12	R2	All MCs	72	8.8	72	8.8	0.306	7.8	LOS A	1.0	7.6	0.25	0.36	0.25	32.8
Approach			938	2.1	938	2.1	0.306	3.0	LOS A	1.3	9.4	0.25	0.24	0.25	31.9
All Vehicles			1089	2.2	1089	2.2	0.306	4.4	LOS A	2.4	16.6	0.32	0.29	0.32	30.5

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	623	16.5	LOS B	0.7	0.7	0.87	0.87	33.1	20.0	0.60
East: Bathurst St (E)											
P2	Full	99	16.1	LOS B	0.1	0.1	0.85	0.85	32.8	20.0	0.61
North: Castlereagh St (N)											
P3	Full	225	16.2	LOS B	0.2	0.2	0.85	0.85	32.9	20.0	0.61
West: Bathurst St (W)											
P4	Full	235	16.2	LOS B	0.3	0.3	0.85	0.85	32.9	20.0	0.61
All Pedestrians		1182	16.3	LOS B	0.7	0.7	0.86	0.86	33.0	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.

MOVEMENT SUMMARY

Site: PIT03 [PIT03 Park St / Castlereagh St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 4 Network - 2024 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	46	2.3	46	2.3	0.045	12.1	LOS A	0.9	6.3	0.47	0.60	0.47	11.0
5	T1	All MCs	486	7.1	486	7.1	* 0.448	9.4	LOS A	10.5	75.0	0.55	0.49	0.55	13.2
Approach			533	6.7	533	6.7	0.448	9.6	LOS A	10.5	75.0	0.55	0.50	0.55	13.0
North: Castlereagh St (N)															
7	L2	All MCs	126	1.7	126	1.7	0.249	30.8	LOS C	4.3	30.8	0.82	0.74	0.82	18.4
8	T1	All MCs	88	3.6	88	3.6	* 0.560	56.6	LOS E	6.9	49.7	0.96	0.79	0.96	15.2
9	R2	All MCs	79	5.3	79	5.3	0.560	64.6	LOS E	6.9	49.7	0.96	0.79	0.96	15.2
Approach			294	3.2	294	3.2	0.560	47.7	LOS D	6.9	49.7	0.90	0.77	0.90	13.8
West: Park St (W)															
11	T1	All MCs	80	36.8	80	36.8	0.090	9.4	LOS A	1.4	10.2	0.50	0.42	0.50	20.8
12	R2	All MCs	18	5.9	18	5.9	* 0.090	13.3	LOS A	1.4	10.2	0.51	0.45	0.51	17.0
Approach			98	31.2	98	31.2	0.090	10.1	LOS A	1.4	10.2	0.50	0.43	0.50	20.1
All Vehicles			924	8.2	924	8.2	0.560	21.8	LOS B	10.5	75.0	0.65	0.58	0.65	14.0

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: Castlereagh St (S)											
P1	Full	258	38.7	LOS D	0.6	0.6	0.93	0.93	55.4	20.0	0.36
East: Park St (E)											
P2	Full	327	38.8	LOS D	0.8	0.8	0.93	0.93	55.5	20.0	0.36
North: Castlereagh St (N)											
P3	Full	961	39.9	LOS D	2.4	2.4	0.96	0.96	56.5	20.0	0.35
West: Park St (W)											
P4	Full	81	38.4	LOS D	0.2	0.2	0.93	0.93	55.1	20.0	0.36

All Pedestrians	1627	39.4	LOS D	2.4	2.4	0.95	0.95	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: PIT04 [PIT04 Park St / Pitt St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: PIT-N1 [PIT Network 1 (Network Folder: Block 4 Network - 2024 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	85	1.2	85	1.2	0.262	21.9	LOS B	1.9	13.5	0.90	0.74	0.90	18.1
2	T1	All MCs	126	2.5	126	2.5	0.213	12.9	LOS A	2.4	17.1	0.77	0.62	0.77	28.9
3	R2	All MCs	40	0.0	40	0.0	0.121	21.3	LOS B	0.9	6.0	0.87	0.70	0.87	14.9
Approach			252	1.7	252	1.7	0.262	17.3	LOS B	2.4	17.1	0.83	0.67	0.83	23.6
East: Park St (E)															
5	T1	All MCs	505	7.3	505	7.3	0.732	12.3	LOS A	10.7	76.8	0.88	0.78	0.89	20.8
6	R2	All MCs	60	3.5	60	3.5	* 0.732	17.0	LOS B	10.7	76.8	0.90	0.80	0.91	26.5
Approach			565	6.9	565	6.9	0.732	12.8	LOS A	10.7	76.8	0.88	0.78	0.89	21.7
West: Park St (W)															
10	L2	All MCs	1	100.0	1	100.0	0.111	15.9	LOS B	0.8	8.4	0.63	0.50	0.63	29.2
11	T1	All MCs	58	52.7	58	52.7	0.111	8.7	LOS A	0.8	8.4	0.63	0.50	0.63	18.2
Approach			59	53.6	59	53.6	0.111	8.9	LOS A	0.8	8.4	0.63	0.50	0.63	18.7
All Vehicles			876	8.5	876	8.5	0.732	13.8	LOS A	10.7	76.8	0.85	0.73	0.86	22.3

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	865	16.8	LOS B	1.1	1.1	0.88	0.88	33.5	20.0	0.60
East: Park St (E)											
P2	Full	582	16.6	LOS B	0.7	0.7	0.87	0.87	33.3	20.0	0.60
North: Pitt St (N)											
P3	Full	1477	19.1	LOS B	2.0	2.0	0.95	0.95	35.8	20.0	0.56
West: Park St (W)											
P4	Full	1898	17.6	LOS B	2.5	2.5	0.92	0.92	34.3	20.0	0.58

All Pedestrians	4822	17.8	LOS B	2.5	2.5	0.91	0.91	34.5	20.0	0.58

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\WanJ2\OneDrive - AECOM\General - ANZ-NAC-Sydney Metro-Sydney Metro C&SW Operational Monitoring\400_Technical \432_Traffic Analysis\SIDRA Modelling\04 Block 4\02 SIDRA Models with volumes\06 SM C&SW_PIT (Block 4).sip9

CCG MOVEMENT SUMMARY

Common Control Group: CCG1 [CEN-N1]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: CEN-N1 [CEN Network 1 (Network Folder: Block 4 Network - 2024 AM 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	245	6.0	245	6.0	0.229	5.5	LOS A	1.0	7.8	0.10	0.36	0.10	30.2
2	T1	All MCs	1244	5.3	1244	5.3	* 0.728	13.6	LOS A	8.0	57.1	0.69	0.70	0.69	21.5
Approach			1489	5.4	1489	5.4	0.728	12.3	LOS A	8.0	57.1	0.59	0.64	0.59	20.7
North: Elizabeth St (N)															
8	T1	All MCs	485	6.1	485	6.1	* 0.733	29.6	LOS C	21.5	155.1	0.90	0.80	0.90	10.9
9b	R3	All MCs	223	15.6	223	15.6	0.485	50.8	LOS D	5.6	44.8	0.96	0.79	0.96	9.9
Approach			708	9.1	708	9.1	0.733	36.3	LOS C	21.5	155.1	0.92	0.80	0.92	10.5
NorthWest: Eddy Ave (NW)															
27b	L3	All MCs	599	7.2	599	7.2	* 0.749	24.0	LOS B	10.5	78.1	0.89	0.83	0.92	16.6
29a	R1	All MCs	137	15.4	137	15.4	* 0.832	56.2	LOS D	7.8	61.6	1.00	0.92	1.16	4.0
Approach			736	8.7	736	8.7	0.832	30.0	LOS C	10.5	78.1	0.91	0.84	0.97	13.4
All Vehicles			2934	7.1	2934	7.1	0.832	22.5	LOS B	21.5	155.1	0.75	0.73	0.77	15.1
Site: CEN02 [CEN02 Elizabeth St / Foveaux St]															
South: Elizabeth St (S)															
2	T1	All MCs	953	6.5	953	6.5	0.636	27.9	LOS B	20.4	150.5	0.86	0.76	0.86	13.1
Approach			953	6.5	953	6.5	0.636	27.9	LOS B	20.4	150.5	0.86	0.76	0.86	13.1
SouthEast: Foveaux St (SE)															
21b	L3	All MCs	218	7.7	218	7.7	0.370	29.8	LOS C	8.3	62.2	0.76	0.76	0.76	18.1
23a	R1	All MCs	537	3.5	537	3.5	0.628	26.9	LOS B	11.1	80.2	0.81	0.78	0.81	12.3
Approach			755	4.7	755	4.7	0.628	27.8	LOS B	11.1	80.2	0.79	0.78	0.79	14.4
North: Elizabeth St (N)															
8	T1	All MCs	622	8.1	622	8.1	0.385	10.4	LOS A	7.9	57.1	0.36	0.30	0.36	24.7
Approach			622	8.1	622	8.1	0.385	10.4	LOS A	7.9	57.1	0.36	0.30	0.36	24.7
All Vehicles			2329	6.4	2329	6.4	0.636	23.2	LOS B	20.4	150.5	0.70	0.64	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).

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 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: CEN-N2 [CEN Network 2 (Network Folder: Block 4 Network - 2024 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	78	4.1	78	4.1	0.091	6.9	LOS A	0.4	2.6	0.54	0.70	0.54	33.2
Approach			78	4.1	78	4.1	0.091	6.9	LOS A	0.4	2.6	0.54	0.70	0.54	33.2
North: Elizabeth St (N)															
7a	L1	All MCs	78	4.1	78	4.1	0.224	3.6	LOS A	0.7	5.3	0.22	0.23	0.22	36.7
8	T1	All MCs	747	9.4	747	9.4	0.224	0.2	LOS A	0.7	5.3	0.08	0.08	0.08	38.4
Approach			825	8.9	825	8.9	0.224	0.5	NA	0.7	5.3	0.09	0.10	0.09	38.1
All Vehicles			903	8.5	903	8.5	0.224	1.1	NA	0.7	5.3	0.13	0.15	0.13	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: CEN05 [CEN05 Elizabeth St / Randle St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: CEN-N2 [CEN Network 2 (Network Folder: Block 4 Network - 2024 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	757	8.8	757	8.8	0.258	2.4	LOS A	4.6	34.4	0.25	0.22	0.25	33.9
Approach			757	8.8	757	8.8	0.258	2.4	LOS A	4.6	34.4	0.25	0.22	0.25	33.9
SouthWest: Randle St (SW)															
30a	L1	All MCs	958	6.5	958	6.5	* 0.404	7.3	LOS A	7.0	51.8	0.24	0.54	0.24	29.5
32b	R3	All MCs	68	10.8	68	10.8	0.404	4.2	LOS A	0.0	0.0	0.00	0.43	0.00	31.9
Approach			1026	6.8	1026	6.8	0.404	7.1	LOS A	7.0	51.8	0.22	0.53	0.22	29.5
All Vehicles			1783	7.6	1783	7.6	0.404	5.1	LOS A	7.0	51.8	0.23	0.40	0.23	30.8

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: Elizabeth St (S)											
P1	Full	217	48.7	LOS E	0.6	0.6	0.94	0.94	215.3	200.0	0.93
SouthWest: Randle St (SW)											
P8	Full	248	22.4	LOS C	0.5	0.5	0.85	0.85	189.1	200.0	1.06
All Pedestrians		465	34.6	LOS D	0.6	0.6	0.89	0.89	201.3	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.

CCG MOVEMENT SUMMARY

Common Control Group: CCG1 [CCGName]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: CEN-N1 [CEN Network 1 (Network Folder: Block 4 Network - 2024 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	433	2.4	433	2.4	0.409	4.3	LOS A	5.4	41.1	0.29	0.49	0.29	25.6
2	T1	All MCs	964	4.1	964	4.1	* 0.618	13.1	LOS A	8.1	57.1	0.69	0.67	0.69	20.9
Approach			1397	3.6	1397	3.6	0.618	10.4	LOS A	8.1	57.1	0.57	0.61	0.57	21.8
North: Elizabeth St (N)															
8	T1	All MCs	546	4.0	546	4.0	* 0.822	39.7	LOS C	28.0	198.2	0.98	0.92	1.05	8.7
9b	R3	All MCs	504	6.7	504	6.7	* 0.864	63.7	LOS E	15.2	112.5	1.00	1.03	1.27	8.7
Approach			1051	5.3	1051	5.3	0.864	51.2	LOS D	28.0	198.2	0.99	0.97	1.16	8.5
NorthWest: Eddy Ave (NW)															
27b	L3	All MCs	633	5.0	633	5.0	0.624	16.9	LOS B	8.3	60.6	0.73	0.75	0.73	20.0
29a	R1	All MCs	136	14.0	136	14.0	* 0.627	49.4	LOS D	7.0	54.6	0.96	0.79	0.98	4.5
Approach			768	6.6	768	6.6	0.627	22.6	LOS B	8.3	60.6	0.77	0.76	0.78	16.1
All Vehicles			3216	4.9	3216	4.9	0.864	26.6	LOS B	28.0	198.2	0.75	0.76	0.81	13.5
Site: CEN02 [CEN02 Elizabeth St / Foveaux St]															
South: Elizabeth St (S)															
2	T1	All MCs	694	4.9	694	4.9	0.554	32.1	LOS C	15.2	110.8	0.87	0.75	0.87	11.8
Approach			694	4.9	694	4.9	0.554	32.1	LOS C	15.2	110.8	0.87	0.75	0.87	11.8
SouthEast: Foveaux St (SE)															
21b	L3	All MCs	176	2.4	176	2.4	0.239	23.1	LOS B	5.6	40.3	0.64	0.72	0.64	20.5
23a	R1	All MCs	703	2.4	703	2.4	0.890	50.5	LOS D	22.5	160.7	0.95	1.07	1.25	7.6
Approach			879	2.4	879	2.4	0.890	45.0	LOS D	22.5	160.7	0.89	1.00	1.13	9.8
North: Elizabeth St (N)															
8	T1	All MCs	682	6.0	682	6.0	0.500	10.8	LOS A	8.1	57.1	0.37	0.32	0.37	24.4
Approach			682	6.0	682	6.0	0.500	10.8	LOS A	8.1	57.1	0.37	0.32	0.37	24.4
All Vehicles			2255	4.2	2255	4.2	0.890	30.7	LOS C	22.5	160.7	0.73	0.72	0.82	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).

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 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: CEN-N2 [CEN Network 2 (Network Folder: Block 4 Network - 2024 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	93	2.3	93	2.3	0.135	8.4	LOS A	0.5	3.7	0.61	0.80	0.61	32.2
Approach			93	2.3	93	2.3	0.135	8.4	LOS A	0.5	3.7	0.61	0.80	0.61	32.2
North: Elizabeth St (N)															
7a	L1	All MCs	57	0.0	57	0.0	0.298	3.5	LOS A	0.6	4.0	0.12	0.12	0.12	37.5
8	T1	All MCs	1068	4.7	1068	4.7	0.298	0.1	LOS A	0.6	4.0	0.05	0.05	0.05	39.0
Approach			1125	4.5	1125	4.5	0.298	0.3	NA	0.6	4.0	0.05	0.06	0.05	38.8
All Vehicles			1218	4.3	1218	4.3	0.298	0.9	NA	0.6	4.0	0.10	0.11	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 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: CEN-N2 [CEN Network 2 (Network Folder: Block 4 Network - 2024 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	1044	4.6	1044	4.6	0.346	2.9	LOS A	7.3	52.9	0.29	0.26	0.29	32.9
Approach			1044	4.6	1044	4.6	0.346	2.9	LOS A	7.3	52.9	0.29	0.26	0.29	32.9
SouthWest: Randle St (SW)															
30a	L1	All MCs	721	5.7	721	5.7	* 0.313	6.4	LOS A	4.8	35.5	0.23	0.53	0.23	30.3
32b	R3	All MCs	80	2.6	80	2.6	0.313	4.2	LOS A	0.0	0.0	0.00	0.44	0.00	31.7
Approach			801	5.4	801	5.4	0.313	6.2	LOS A	4.8	35.5	0.21	0.52	0.21	30.4
All Vehicles			1845	5.0	1845	5.0	0.346	4.3	LOS A	7.3	52.9	0.25	0.37	0.25	31.4

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: Elizabeth St (S)											
P1	Full	348	48.9	LOS E	1.0	1.0	0.95	0.95	215.6	200.0	0.93
SouthWest: Randle St (SW)											
P8	Full	366	22.9	LOS C	0.7	0.7	0.85	0.85	189.5	200.0	1.06
All Pedestrians		715	35.6	LOS D	1.0	1.0	0.90	0.90	202.2	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.

CCG MOVEMENT SUMMARY

Common Control Group: CCG1 [CCGName]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: CEN-N1 [CEN Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 105 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	201	1.6	201	1.6	0.405	3.1	LOS A	6.2	44.4	0.46	0.49	0.46	24.3
2	T1	All MCs	965	3.7	965	3.7	* 0.405	6.9	LOS A	6.2	44.4	0.51	0.46	0.51	27.5
Approach			1166	3.3	1166	3.3	0.405	6.2	LOS A	6.2	44.4	0.50	0.46	0.50	27.1
North: Elizabeth St (N)															
8	T1	All MCs	425	5.7	425	5.7	0.288	22.8	LOS B	7.3	53.9	0.72	0.61	0.72	13.0
9b	R3	All MCs	224	7.5	224	7.5	0.458	48.5	LOS D	5.4	40.1	0.95	0.78	0.95	10.3
Approach			649	6.3	649	6.3	0.458	31.7	LOS C	7.3	53.9	0.80	0.67	0.80	11.6
NorthWest: Eddy Ave (NW)															
27b	L3	All MCs	462	3.6	462	3.6	* 0.573	21.1	LOS B	6.7	48.4	0.80	0.76	0.80	17.8
29a	R1	All MCs	106	5.0	106	5.0	* 0.615	50.4	LOS D	5.4	39.2	0.98	0.79	1.00	4.5
Approach			568	3.9	568	3.9	0.615	26.6	LOS B	6.7	48.4	0.83	0.76	0.84	14.5
All Vehicles			2384	4.3	2384	4.3	0.615	18.0	LOS B	7.3	53.9	0.66	0.59	0.66	17.2
Site: CEN02 [CEN02 Elizabeth St / Foveaux St]															
South: Elizabeth St (S)															
2	T1	All MCs	749	3.7	749	3.7	* 0.498	25.3	LOS B	14.3	103.5	0.80	0.70	0.80	13.9
Approach			749	3.7	749	3.7	0.498	25.3	LOS B	14.3	103.5	0.80	0.70	0.80	13.9
SouthEast: Foveaux St (SE)															
21b	L3	All MCs	143	2.9	143	2.9	0.232	27.2	LOS B	4.9	35.2	0.71	0.73	0.71	19.0
23a	R1	All MCs	417	2.8	417	2.8	0.310	21.1	LOS B	7.0	50.2	0.66	0.69	0.66	14.4
Approach			560	2.8	560	2.8	0.310	22.7	LOS B	7.0	50.2	0.68	0.70	0.68	16.1
North: Elizabeth St (N)															
8	T1	All MCs	532	5.5	532	5.5	0.307	9.2	LOS A	6.6	47.3	0.32	0.27	0.32	25.9
Approach			532	5.5	532	5.5	0.307	9.2	LOS A	6.6	47.3	0.32	0.27	0.32	25.9
All Vehicles			1841	3.9	1841	3.9	0.498	19.9	LOS B	14.3	103.5	0.62	0.57	0.62	17.2

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)

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MOVEMENT SUMMARY

Site: CEN03 [CEN03 Elizabeth St / Cooper St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: CEN-N2 [CEN Network 2 (Network Folder: Block 4 Network - 2024 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	71	0.0	71	0.0	0.068	5.9	LOS A	0.3	1.9	0.47	0.62	0.47	33.9
Approach			71	0.0	71	0.0	0.068	5.9	LOS A	0.3	1.9	0.47	0.62	0.47	33.9
North: Elizabeth St (N)															
7a	L1	All MCs	41	2.6	41	2.6	0.180	2.8	LOS A	0.3	2.5	0.10	0.11	0.10	37.6
8	T1	All MCs	668	5.7	668	5.7	0.180	0.1	LOS A	0.3	2.5	0.04	0.04	0.04	39.2
Approach			709	5.5	709	5.5	0.180	0.2	NA	0.3	2.5	0.04	0.05	0.04	39.0
All Vehicles			780	5.0	780	5.0	0.180	0.7	NA	0.3	2.5	0.08	0.10	0.08	37.7

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: CEN05 [CEN05 Elizabeth St / Randle St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: CEN-N2 [CEN Network 2 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 2916
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 105 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	665	5.5	665	5.5	0.220	2.2	LOS A	3.7	26.9	0.24	0.21	0.24	34.4
Approach			665	5.5	665	5.5	0.220	2.2	LOS A	3.7	26.9	0.24	0.21	0.24	34.4
SouthWest: Randle St (SW)															
30a	L1	All MCs	744	5.0	744	5.0	* 0.310	6.2	LOS A	4.5	32.7	0.22	0.51	0.22	30.6
32b	R3	All MCs	44	4.8	44	4.8	0.310	4.2	LOS A	0.0	0.0	0.00	0.43	0.00	31.9
Approach			788	4.9	788	4.9	0.310	6.1	LOS A	4.5	32.7	0.21	0.51	0.21	30.6
All Vehicles			1454	5.2	1454	5.2	0.310	4.3	LOS A	4.5	32.7	0.22	0.37	0.22	31.8

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: Elizabeth St (S)											
P1	Full	93	45.9	LOS E	0.3	0.3	0.94	0.94	212.6	200.0	0.94
SouthWest: Randle St (SW)											
P8	Full	85	20.4	LOS C	0.1	0.1	0.83	0.83	187.0	200.0	1.07
All Pedestrians		178	33.7	LOS D	0.3	0.3	0.89	0.89	200.3	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.

MOVEMENT SUMMARY

Site: WLO01 [WLO01 Botany Rd / Raglan St / Henderson Rd (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 AM Peak)]

TCS 47
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 115 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	828	6.9	828	6.9	* 0.689	30.9	LOS C	18.0	133.5	0.82	0.81	0.82	17.8
Approach			828	6.9	828	6.9	0.689	30.9	LOS C	18.0	133.5	0.82	0.81	0.82	17.8
East: Raglan St (E)															
4	L2	All MCs	24	8.7	24	8.7	0.432	58.6	LOS E	5.3	39.2	0.97	0.77	0.97	4.8
5	T1	All MCs	183	7.5	183	7.5	0.432	50.2	LOS D	5.8	42.9	0.96	0.76	0.96	4.9
Approach			207	7.6	207	7.6	0.432	51.2	LOS D	5.8	42.9	0.96	0.76	0.96	4.9
North: Botany Rd (N)															
7	L2	All MCs	48	17.4	48	17.4	0.320	11.4	LOS A	7.7	58.8	0.37	0.37	0.37	35.6
8	T1	All MCs	783	9.5	783	9.5	0.320	5.3	LOS A	7.9	59.8	0.37	0.35	0.37	36.1
9	R2	All MCs	480	5.0	480	5.0	* 0.681	51.8	LOS D	12.8	93.7	0.98	0.84	1.00	10.8
Approach			1312	8.2	1312	8.2	0.681	22.6	LOS B	12.8	93.7	0.59	0.53	0.60	19.5
West: Henderson Rd (W)															
11	T1	All MCs	220	2.4	220	2.4	* 0.622	13.0	LOS A	3.8	28.0	0.44	0.38	0.45	15.0
12	R2	All MCs	45	11.6	45	11.6	0.622	30.5	LOS C	3.8	28.0	0.67	0.61	0.68	9.2
Approach			265	4.0	265	4.0	0.622	16.0	LOS B	3.8	28.0	0.48	0.42	0.49	13.5
All Vehicles			2613	7.3	2613	7.3	0.689	26.8	LOS B	18.0	133.5	0.68	0.63	0.69	16.9

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: Botany Rd (S)											
P1	Full	454	51.7	LOS E	1.4	1.4	0.96	0.96	68.4	20.0	0.29
East: Raglan St (E)											
P2	Full	99	50.9	LOS E	0.3	0.3	0.94	0.94	67.6	20.0	0.30

North: Botany Rd (N)										
P3 Full	154	51.0	LOS E	0.5	0.5	0.95	0.95	67.7	20.0	0.30
West: Henderson Rd (W)										
P4 Full	55	50.8	LOS E	0.2	0.2	0.94	0.94	67.5	20.0	0.30
All Pedestrians	761	51.4	LOS E	1.4	1.4	0.95	0.95	68.1	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.

MOVEMENT SUMMARY

Site: WLO02 [WLO02 Raglan St / Cope St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 AM Peak)]

TCS 5057
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 35 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: Cope St (S)															
1	L2	All MCs	36	2.9	36	2.9	0.141	15.7	LOS B	0.8	6.0	0.80	0.68	0.80	16.3
2	T1	All MCs	17	0.0	17	0.0	0.141	10.4	LOS A	0.8	6.0	0.80	0.68	0.80	30.9
3	R2	All MCs	7	0.0	7	0.0	0.141	13.8	LOS A	0.8	6.0	0.80	0.68	0.80	30.8
Approach			60	1.8	60	1.8	0.141	14.0	LOS A	0.8	6.0	0.80	0.68	0.80	24.4
East: Raglan St (E)															
4	L2	All MCs	12	0.0	12	0.0	0.185	15.8	LOS B	1.4	10.3	0.74	0.60	0.74	34.8
5	T1	All MCs	192	7.7	192	7.7	0.185	8.9	LOS A	1.4	10.3	0.74	0.60	0.74	34.8
6	R2	All MCs	13	8.3	13	8.3	0.185	15.2	LOS B	1.3	9.8	0.74	0.60	0.74	38.9
Approach			216	7.3	216	7.3	0.185	9.6	LOS A	1.4	10.3	0.74	0.60	0.74	35.2
North: Cope St (N)															
7	L2	All MCs	12	9.1	12	9.1	0.042	14.4	LOS A	0.3	2.1	0.72	0.62	0.72	36.9
8	T1	All MCs	11	10.0	11	10.0	0.042	10.2	LOS A	0.3	2.1	0.72	0.62	0.72	30.7
9	R2	All MCs	42	2.5	42	2.5	* 0.302	23.2	LOS B	0.8	5.6	0.97	0.72	0.97	23.0
Approach			64	4.9	64	4.9	0.302	19.5	LOS B	0.8	5.6	0.88	0.69	0.88	27.1
West: Raglan St (W)															
10	L2	All MCs	54	5.9	54	5.9	0.108	14.7	LOS B	0.7	5.2	0.77	0.70	0.77	29.4
11	T1	All MCs	212	5.5	212	5.5	* 0.334	9.6	LOS A	2.8	20.6	0.78	0.64	0.78	36.6
Approach			265	5.6	265	5.6	0.334	10.7	LOS A	2.8	20.6	0.78	0.65	0.78	35.0
All Vehicles			605	5.7	605	5.7	0.334	11.5	LOS A	2.8	20.6	0.78	0.64	0.78	33.1

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: Cope St (S)											
P1	Full	198	12.1	LOS B	0.2	0.2	0.84	0.84	178.8	200.0	1.12

East: Raglan St (E)										
P2 Full	41	12.0	LOS B	0.0	0.0	0.83	0.83	28.7	20.0	0.70
North: Cope St (N)										
P3 Full	86	12.1	LOS B	0.1	0.1	0.83	0.83	28.7	20.0	0.70
West: Raglan St (W)										
P4 Full	103	12.1	LOS B	0.1	0.1	0.83	0.83	28.7	20.0	0.70
All Pedestrians	428	12.1	LOS B	0.2	0.2	0.83	0.83	98.0	103.1	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.

MOVEMENT SUMMARY

Site: WLO03 [WLO03 Botany Rd / Wellington St / Buckland St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 AM Peak)]

TCS 137
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 115 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	797	7.1	797	7.1	0.361	4.7	LOS A	8.9	66.4	0.36	0.34	0.36	40.6
3	R2	All MCs	56	9.4	56	9.4	* 0.361	12.4	LOS A	6.7	49.9	0.37	0.39	0.37	39.3
Approach			853	7.3	853	7.3	0.361	5.2	LOS A	8.9	66.4	0.36	0.34	0.36	40.5
East: Wellington St (E)															
4	L2	All MCs	35	3.0	35	3.0	0.222	59.3	LOS E	1.9	13.6	0.97	0.73	0.97	15.3
6	R2	All MCs	11	0.0	11	0.0	0.069	57.1	LOS E	0.6	3.9	0.94	0.68	0.94	4.5
Approach			45	2.3	45	2.3	0.222	58.8	LOS E	1.9	13.6	0.96	0.72	0.96	13.4
North: Botany Rd (N)															
7	L2	All MCs	18	29.4	18	29.4	0.314	8.7	LOS A	6.2	46.9	0.29	0.27	0.29	40.9
8	T1	All MCs	835	9.2	835	9.2	0.314	3.6	LOS A	6.3	47.6	0.29	0.26	0.29	45.6
Approach			853	9.6	853	9.6	0.314	3.7	LOS A	6.3	47.6	0.29	0.26	0.29	45.5
West: Buckland St (W)															
10	L2	All MCs	21	0.0	21	0.0	0.340	54.4	LOS D	4.4	30.8	0.95	0.75	0.95	5.3
11	T1	All MCs	62	1.7	62	1.7	* 0.340	50.0	LOS D	4.4	30.8	0.95	0.75	0.95	5.3
12	R2	All MCs	26	4.0	26	4.0	0.173	58.0	LOS E	1.4	10.3	0.96	0.71	0.96	15.3
Approach			109	1.9	109	1.9	0.340	52.8	LOS D	4.4	30.8	0.95	0.74	0.95	8.5
All Vehicles			1860	7.9	1860	7.9	0.361	8.6	LOS A	8.9	66.4	0.38	0.34	0.38	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.
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	184	51.1	LOS E	0.6	0.6	0.95	0.95	67.8	20.0	0.30
East: Wellington St (E)											

P2 Full	23	50.8	LOS E	0.1	0.1	0.94	0.94	67.4	20.0	0.30
North: Botany Rd (N)										
P3 Full	29	50.8	LOS E	0.1	0.1	0.94	0.94	67.4	20.0	0.30
West: Buckland St (W)										
P4 Full	60	50.8	LOS E	0.2	0.2	0.94	0.94	67.5	20.0	0.30
All Pedestrians	297	51.0	LOS E	0.6	0.6	0.94	0.94	67.7	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.

MOVEMENT SUMMARY

Site: WLO04 [WLO04 Cope St / Wellington St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 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
South: Cope St (S)															
1	L2	All MCs	17	6.3	17	6.3	0.038	7.8	LOS A	0.1	1.0	0.15	0.93	0.15	29.8
2	T1	All MCs	12	0.0	12	0.0	0.038	8.3	LOS A	0.1	1.0	0.15	0.93	0.15	29.8
3	R2	All MCs	11	0.0	11	0.0	0.038	8.5	LOS A	0.1	1.0	0.15	0.93	0.15	33.4
Approach			39	2.7	39	2.7	0.038	8.1	LOS A	0.1	1.0	0.15	0.93	0.15	31.1
East: Wellington St (E)															
4	L2	All MCs	12	9.1	12	9.1	0.043	5.1	LOS A	0.2	1.4	0.29	0.34	0.29	38.5
5	T1	All MCs	24	0.0	24	0.0	0.043	0.8	LOS A	0.2	1.4	0.29	0.34	0.29	37.0
6	R2	All MCs	13	8.3	13	8.3	0.043	5.8	LOS A	0.2	1.4	0.29	0.34	0.29	37.0
Approach			48	4.3	48	4.3	0.043	3.1	NA	0.2	1.4	0.29	0.34	0.29	37.6
North: Cope St (N)															
7	L2	All MCs	2	0.0	2	0.0	0.011	7.8	LOS A	0.0	0.3	0.33	0.88	0.33	30.5
8	T1	All MCs	5	0.0	5	0.0	0.011	7.6	LOS A	0.0	0.3	0.33	0.88	0.33	31.7
9	R2	All MCs	3	0.0	3	0.0	0.011	7.7	LOS A	0.0	0.3	0.33	0.88	0.33	24.1
Approach			11	0.0	11	0.0	0.011	7.6	LOS A	0.0	0.3	0.33	0.88	0.33	29.9
West: Wellington St (W)															
10	L2	All MCs	22	0.0	22	0.0	0.074	4.8	LOS A	0.2	1.5	0.08	0.20	0.08	36.6
11	T1	All MCs	81	7.8	81	7.8	0.074	0.1	LOS A	0.2	1.5	0.08	0.20	0.08	43.8
12	R2	All MCs	22	0.0	22	0.0	0.074	4.7	LOS A	0.2	1.5	0.08	0.20	0.08	39.6
Approach			125	5.0	125	5.0	0.074	1.7	NA	0.2	1.5	0.08	0.20	0.08	42.2
All Vehicles			223	4.2	223	4.2	0.074	3.4	NA	0.2	1.5	0.15	0.39	0.15	37.9

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: WLO05 [WLO05 Wyndham St / Henderson Rd (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 AM Peak)]

TCS 55
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 115 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	12	9.1	12	9.1	0.633	61.4	LOS E	9.8	73.6	0.97	0.81	0.98	12.3
2	T1	All MCs	356	8.6	356	8.6	* 0.633	52.7	LOS D	9.8	74.1	0.97	0.81	0.98	19.8
3	R2	All MCs	4	50.0	4	50.0	0.633	60.8	LOS E	9.8	74.1	0.97	0.80	0.98	13.2
Approach			372	9.1	372	9.1	0.633	53.1	LOS D	9.8	74.1	0.97	0.81	0.98	18.1
East: Henderson Rd (E)															
4	L2	All MCs	113	2.8	113	2.8	0.289	6.4	LOS A	2.0	14.2	0.11	0.24	0.11	40.6
5	T1	All MCs	623	5.4	623	5.4	0.289	1.3	LOS A	2.0	14.2	0.10	0.15	0.10	41.7
6	R2	All MCs	756	7.7	756	7.7	* 0.618	13.5	LOS A	6.9	51.5	0.63	0.74	0.63	27.8
Approach			1492	6.4	1492	6.4	0.618	7.9	LOS A	6.9	51.5	0.37	0.46	0.37	31.6
West: Henderson Rd (W)															
10	L2	All MCs	349	6.0	349	6.0	* 0.742	74.0	LOS F	9.8	72.2	0.99	0.88	1.11	12.7
11	T1	All MCs	262	3.6	262	3.6	0.572	41.5	LOS C	13.0	94.1	0.93	0.79	0.93	5.5
Approach			612	5.0	612	5.0	0.742	60.1	LOS E	13.0	94.1	0.97	0.84	1.04	8.8
All Vehicles			2475	6.4	2475	6.4	0.742	27.6	LOS B	13.0	94.1	0.61	0.60	0.63	18.8

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: Wyndham St (S)											
P1	Full	247	51.2	LOS E	0.8	0.8	0.95	0.95	67.9	20.0	0.29
East: Henderson Rd (E)											
P2	Full	127	51.0	LOS E	0.4	0.4	0.94	0.94	67.7	20.0	0.30
North: Wyndham St (N)											
P3	Full	194	51.1	LOS E	0.6	0.6	0.95	0.95	67.8	20.0	0.30
West: Henderson Rd (W)											

P4 Full	143	51.0	LOS E	0.4	0.4	0.94	0.94	67.7	20.0	0.30
All Pedestrians	712	51.1	LOS E	0.8	0.8	0.95	0.95	67.8	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.

MOVEMENT SUMMARY

Site: WLO06 [WLO06 Pedestrian Mid-block Crossing at Cope St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 AM Peak)]

NA
Site Category: (None)
Pedestrian Crossing (Unsignalised)

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)															
2	T1	All MCs	46	2.3	46	2.3	0.030	2.2	LOS A	0.1	0.8	0.14	0.36	0.14	32.0
Approach			46	2.3	46	2.3	0.030	2.2	LOS A	0.1	0.8	0.14	0.36	0.14	32.0
North: Cope St (N)															
8	T1	All MCs	11	0.0	11	0.0	0.007	2.2	LOS A	0.0	0.2	0.13	0.35	0.13	31.1
Approach			11	0.0	11	0.0	0.007	2.2	LOS A	0.0	0.2	0.13	0.35	0.13	31.1
All Vehicles			57	1.9	57	1.9	0.030	2.2	NA	0.1	0.8	0.14	0.35	0.14	31.9

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.
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: Akçelik M1.
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: WLO01 [WLO01 Botany Rd / Raglan St / Henderson Rd (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 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	655	5.5	655	5.5	* 0.916	72.7	LOS F	23.2	169.9	1.00	1.04	1.27	9.5
Approach			655	5.5	655	5.5	0.916	72.7	LOS F	23.2	169.9	1.00	1.04	1.27	9.5
East: Raglan St (E)															
4	L2	All MCs	24	0.0	24	0.0	0.803	70.2	LOS E	9.3	67.0	1.00	0.96	1.21	4.1
5	T1	All MCs	267	3.9	267	3.9	0.803	62.0	LOS E	9.3	67.0	1.00	0.96	1.22	4.1
Approach			292	3.6	292	3.6	0.803	62.7	LOS E	9.3	67.0	1.00	0.96	1.22	4.1
North: Botany Rd (N)															
7	L2	All MCs	49	10.6	49	10.6	0.358	11.3	LOS A	9.4	68.8	0.36	0.36	0.36	36.3
8	T1	All MCs	952	4.6	952	4.6	0.358	5.0	LOS A	9.6	69.8	0.36	0.34	0.36	36.7
9	R2	All MCs	634	1.3	634	1.3	* 0.849	59.5	LOS E	20.5	145.3	1.00	0.96	1.18	9.6
Approach			1635	3.5	1635	3.5	0.849	26.3	LOS B	20.5	145.3	0.61	0.58	0.68	17.7
West: Henderson Rd (W)															
11	T1	All MCs	223	0.9	223	0.9	* 0.904	15.2	LOS B	9.6	68.1	0.74	0.68	0.86	13.9
12	R2	All MCs	57	0.0	57	0.0	0.904	57.1	LOS E	3.9	27.4	1.00	0.83	1.21	4.7
Approach			280	0.8	280	0.8	0.904	23.7	LOS B	9.6	68.1	0.79	0.71	0.93	10.0
All Vehicles			2861	3.7	2861	3.7	0.916	40.4	LOS C	23.2	169.9	0.75	0.73	0.89	12.4

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: Botany Rd (S)											
P1	Full	451	54.2	LOS E	1.5	1.5	0.96	0.96	70.9	20.0	0.28
East: Raglan St (E)											
P2	Full	157	53.6	LOS E	0.5	0.5	0.95	0.95	70.2	20.0	0.28

North: Botany Rd (N)										
P3	Full	148	53.5	LOS E	0.5	0.5	0.95	0.95	70.2	20.0	0.28
West: Henderson Rd (W)										
P4	Full	137	53.5	LOS E	0.4	0.4	0.95	0.95	70.2	20.0	0.28
All Pedestrians		893	53.9	LOS E	1.5	1.5	0.95	0.95	70.5	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.

MOVEMENT SUMMARY

Site: WLO02 [WLO02 Raglan St / Cope St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 PM Peak)]

TCS 5057
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: Cope St (S)															
1	L2	All MCs	22	0.0	22	0.0	0.114	19.7	LOS B	0.8	5.7	0.81	0.67	0.81	14.1
2	T1	All MCs	12	0.0	12	0.0	0.114	13.5	LOS A	0.8	5.7	0.81	0.67	0.81	28.5
3	R2	All MCs	12	0.0	12	0.0	0.114	17.0	LOS B	0.8	5.7	0.81	0.67	0.81	28.6
Approach			45	0.0	45	0.0	0.114	17.4	LOS B	0.8	5.7	0.81	0.67	0.81	23.5
East: Raglan St (E)															
4	L2	All MCs	13	0.0	13	0.0	0.218	17.2	LOS B	2.1	15.2	0.71	0.59	0.71	33.4
5	T1	All MCs	254	4.6	254	4.6	0.218	10.4	LOS A	2.1	15.2	0.71	0.58	0.71	33.6
6	R2	All MCs	3	33.3	3	33.3	0.218	17.7	LOS B	2.1	15.0	0.71	0.58	0.71	38.1
Approach			269	4.7	269	4.7	0.218	10.8	LOS A	2.1	15.2	0.71	0.58	0.71	33.6
North: Cope St (N)															
7	L2	All MCs	11	10.0	11	10.0	0.023	15.9	LOS B	0.2	1.4	0.69	0.63	0.69	35.1
8	T1	All MCs	2	0.0	2	0.0	0.023	11.7	LOS A	0.2	1.4	0.69	0.63	0.69	28.3
9	R2	All MCs	57	1.9	57	1.9	* 0.252	24.1	LOS B	1.2	8.5	0.91	0.74	0.91	22.4
Approach			69	3.0	69	3.0	0.252	22.5	LOS B	1.2	8.5	0.87	0.72	0.87	25.0
West: Raglan St (W)															
10	L2	All MCs	43	0.0	43	0.0	0.070	15.5	LOS B	0.7	4.6	0.71	0.68	0.71	28.9
11	T1	All MCs	189	4.4	189	4.4	* 0.269	10.7	LOS A	3.0	21.5	0.73	0.60	0.73	35.5
Approach			233	3.6	233	3.6	0.269	11.6	LOS A	3.0	21.5	0.73	0.61	0.73	34.2
All Vehicles			617	3.8	617	3.8	0.269	12.9	LOS A	3.0	21.5	0.74	0.62	0.74	31.9

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: Cope St (S)											
P1	Full	124	17.0	LOS B	0.1	0.1	0.87	0.87	183.7	200.0	1.09

East: Raglan St (E)										
P2	Full	44	16.9	LOS B	0.0	0.0	0.87	0.87	33.6	20.0	0.60
North: Cope St (N)										
P3	Full	107	17.0	LOS B	0.1	0.1	0.87	0.87	33.6	20.0	0.59
West: Raglan St (W)										
P4	Full	156	17.0	LOS B	0.2	0.2	0.87	0.87	33.7	20.0	0.59
All Pedestrians		432	17.0	LOS B	0.2	0.2	0.87	0.87	76.8	71.8	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.

MOVEMENT SUMMARY

Site: WLO03 [WLO03 Botany Rd / Wellington St / Buckland St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 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	616	5.8	616	5.8	0.363	5.2	LOS A	9.7	71.0	0.37	0.36	0.37	39.7
3	R2	All MCs	95	0.0	95	0.0	* 0.363	12.6	LOS A	4.5	32.1	0.40	0.50	0.40	35.8
Approach			711	5.0	711	5.0	0.363	6.1	LOS A	9.7	71.0	0.37	0.38	0.37	39.1
East: Wellington St (E)															
4	L2	All MCs	64	0.0	64	0.0	0.319	59.4	LOS E	3.6	25.1	0.96	0.76	0.96	15.3
6	R2	All MCs	20	0.0	20	0.0	0.120	58.2	LOS E	1.1	7.6	0.93	0.71	0.93	4.4
Approach			84	0.0	84	0.0	0.319	59.1	LOS E	3.6	25.1	0.96	0.74	0.96	13.3
North: Botany Rd (N)															
7	L2	All MCs	18	0.0	18	0.0	0.365	7.6	LOS A	5.8	41.7	0.21	0.20	0.21	43.2
8	T1	All MCs	1015	4.4	1015	4.4	0.365	2.4	LOS A	5.8	41.7	0.21	0.19	0.21	46.9
Approach			1033	4.3	1033	4.3	0.365	2.5	LOS A	5.8	41.7	0.21	0.19	0.21	46.9
West: Buckland St (W)															
10	L2	All MCs	19	0.0	19	0.0	0.306	55.7	LOS D	4.2	30.3	0.94	0.74	0.94	5.2
11	T1	All MCs	60	3.5	60	3.5	* 0.306	50.3	LOS D	4.2	30.3	0.94	0.74	0.94	5.2
12	R2	All MCs	19	0.0	19	0.0	0.107	56.9	LOS E	1.0	7.2	0.93	0.70	0.93	15.5
Approach			98	2.2	98	2.2	0.306	52.6	LOS D	4.2	30.3	0.94	0.73	0.94	7.9
All Vehicles			1925	4.3	1925	4.3	0.365	8.9	LOS A	9.7	71.0	0.34	0.31	0.34	38.4

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: Botany Rd (S)											
P1	Full	87	53.4	LOS E	0.3	0.3	0.95	0.95	70.1	20.0	0.29
East: Wellington St (E)											

P2	Full	46	53.3	LOS E	0.1	0.1	0.94	0.94	70.0	20.0	0.29
North: Botany Rd (N)											
P3	Full	71	53.4	LOS E	0.2	0.2	0.94	0.94	70.0	20.0	0.29
West: Buckland St (W)											
P4	Full	73	53.4	LOS E	0.2	0.2	0.94	0.94	70.0	20.0	0.29
All Pedestrians		277	53.4	LOS E	0.3	0.3	0.94	0.94	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.

MOVEMENT SUMMARY

Site: WLO04 [WLO04 Cope St / Wellington St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 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
South: Cope St (S)															
1	L2	All MCs	33	0.0	33	0.0	0.040	7.6	LOS A	0.2	1.1	0.16	0.91	0.16	30.2
2	T1	All MCs	7	0.0	7	0.0	0.040	8.5	LOS A	0.2	1.1	0.16	0.91	0.16	30.2
3	R2	All MCs	6	0.0	6	0.0	0.040	8.6	LOS A	0.2	1.1	0.16	0.91	0.16	33.7
Approach			46	0.0	46	0.0	0.040	7.9	LOS A	0.2	1.1	0.16	0.91	0.16	30.9
East: Wellington St (E)															
4	L2	All MCs	9	0.0	9	0.0	0.052	4.9	LOS A	0.2	1.6	0.23	0.20	0.23	41.8
5	T1	All MCs	44	0.0	44	0.0	0.052	0.5	LOS A	0.2	1.6	0.23	0.20	0.23	41.0
6	R2	All MCs	5	0.0	5	0.0	0.052	5.5	LOS A	0.2	1.6	0.23	0.20	0.23	41.0
Approach			59	0.0	59	0.0	0.052	1.7	NA	0.2	1.6	0.23	0.20	0.23	41.2
North: Cope St (N)															
7	L2	All MCs	3	0.0	3	0.0	0.011	7.7	LOS A	0.0	0.3	0.35	0.85	0.35	30.3
8	T1	All MCs	1	0.0	1	0.0	0.011	7.7	LOS A	0.0	0.3	0.35	0.85	0.35	31.5
9	R2	All MCs	5	0.0	5	0.0	0.011	7.9	LOS A	0.0	0.3	0.35	0.85	0.35	23.9
Approach			9	0.0	9	0.0	0.011	7.8	LOS A	0.0	0.3	0.35	0.85	0.35	27.7
West: Wellington St (W)															
10	L2	All MCs	23	0.0	23	0.0	0.094	4.7	LOS A	0.2	1.6	0.07	0.15	0.07	39.4
11	T1	All MCs	123	3.4	123	3.4	0.094	0.1	LOS A	0.2	1.6	0.07	0.15	0.07	45.3
12	R2	All MCs	19	0.0	19	0.0	0.094	4.7	LOS A	0.2	1.6	0.07	0.15	0.07	40.7
Approach			165	2.5	165	2.5	0.094	1.3	NA	0.2	1.6	0.07	0.15	0.07	44.2
All Vehicles			280	1.5	280	1.5	0.094	2.7	NA	0.2	1.6	0.13	0.31	0.13	40.0

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: WLO05 [WLO05 Wyndham St / Henderson Rd (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 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	13	0.0	13	0.0	0.677	68.2	LOS E	10.1	72.1	0.99	0.84	1.04	11.5
2	T1	All MCs	332	2.9	332	2.9	* 0.677	58.5	LOS E	10.1	73.0	0.99	0.84	1.04	18.3
3	R2	All MCs	8	25.0	8	25.0	0.677	65.4	LOS E	10.1	73.0	0.99	0.84	1.04	12.0
Approach			353	3.3	353	3.3	0.677	59.0	LOS E	10.1	73.0	0.99	0.84	1.04	16.8
East: Henderson Rd (E)															
4	L2	All MCs	214	2.5	214	2.5	0.329	14.0	LOS A	10.6	75.7	0.46	0.52	0.46	31.7
5	T1	All MCs	687	1.5	687	1.5	0.329	6.9	LOS A	11.2	79.7	0.46	0.40	0.46	27.4
6	R2	All MCs	655	5.9	655	5.9	* 0.402	23.0	LOS B	9.8	72.4	0.69	0.81	0.69	21.9
Approach			1556	3.5	1556	3.5	0.402	14.6	LOS B	11.2	79.7	0.56	0.59	0.56	24.7
West: Henderson Rd (W)															
10	L2	All MCs	276	3.4	276	3.4	* 0.651	72.6	LOS F	8.2	58.8	0.98	0.82	1.02	12.5
11	T1	All MCs	273	0.4	273	0.4	0.651	47.9	LOS D	14.3	100.4	0.97	0.82	0.97	4.9
Approach			548	1.9	548	1.9	0.651	60.3	LOS E	14.3	100.4	0.98	0.82	1.00	8.3
All Vehicles			2457	3.1	2457	3.1	0.677	31.2	LOS C	14.3	100.4	0.71	0.68	0.72	17.2

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	297	53.9	LOS E	1.0	1.0	0.95	0.95	70.5	20.0	0.28
East: Henderson Rd (E)											
P2	Full	71	53.4	LOS E	0.2	0.2	0.94	0.94	70.0	20.0	0.29
North: Wyndham St (N)											
P3	Full	181	53.6	LOS E	0.6	0.6	0.95	0.95	70.3	20.0	0.28
West: Henderson Rd (W)											

P4 Full	164	53.6	LOS E	0.5	0.5	0.95	0.95	70.2	20.0	0.28
All Pedestrians	713	53.7	LOS E	1.0	1.0	0.95	0.95	70.4	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.

MOVEMENT SUMMARY

Site: WLO06 [WLO06 Pedestrian Mid-block Crossing at Cope St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 PM Peak)]

NA
Site Category: (None)
Pedestrian Crossing (Unsignalised)

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)															
2	T1	All MCs	36	0.0	36	0.0	0.022	2.1	LOS A	0.1	0.5	0.09	0.35	0.09	32.5
Approach			36	0.0	36	0.0	0.022	2.1	LOS A	0.1	0.5	0.09	0.35	0.09	32.5
North: Cope St (N)															
8	T1	All MCs	7	0.0	7	0.0	0.005	2.1	LOS A	0.0	0.1	0.09	0.35	0.09	31.6
Approach			7	0.0	7	0.0	0.005	2.1	LOS A	0.0	0.1	0.09	0.35	0.09	31.6
All Vehicles			43	0.0	43	0.0	0.022	2.1	NA	0.1	0.5	0.09	0.35	0.09	32.4

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.
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: Akçelik M1.
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: WLO01 [WLO01 Botany Rd / Raglan St / Henderson Rd (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 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	551	3.8	551	3.8	* 0.556	45.6	LOS D	14.3	103.5	0.93	0.83	0.93	13.6
Approach			551	3.8	551	3.8	0.556	45.6	LOS D	14.3	103.5	0.93	0.83	0.93	13.6
East: Raglan St (E)															
4	L2	All MCs	15	0.0	15	0.0	0.508	62.7	LOS E	6.0	44.2	0.98	0.78	0.98	4.6
5	T1	All MCs	197	7.0	197	7.0	0.508	54.5	LOS D	6.0	44.4	0.98	0.78	0.98	4.6
Approach			212	6.5	212	6.5	0.508	55.1	LOS D	6.0	44.4	0.98	0.78	0.98	4.6
North: Botany Rd (N)															
7	L2	All MCs	76	9.7	76	9.7	0.103	10.7	LOS A	2.1	15.8	0.30	0.46	0.30	33.6
8	T1	All MCs	763	4.3	763	4.3	0.516	7.0	LOS A	16.0	116.4	0.42	0.40	0.42	35.2
9	R2	All MCs	600	2.8	600	2.8	* 0.792	56.8	LOS E	17.7	126.5	0.99	0.90	1.10	10.5
Approach			1439	4.0	1439	4.0	0.792	28.0	LOS B	17.7	126.5	0.65	0.61	0.70	17.0
West: Henderson Rd (W)															
11	T1	All MCs	191	2.2	191	2.2	* 0.708	12.2	LOS A	4.1	29.4	0.46	0.39	0.48	15.8
12	R2	All MCs	62	0.0	62	0.0	0.708	37.1	LOS C	3.9	27.5	0.77	0.71	0.81	7.4
Approach			253	1.7	253	1.7	0.708	18.3	LOS B	4.1	29.4	0.54	0.47	0.56	12.3
All Vehicles			2454	3.9	2454	3.9	0.792	33.3	LOS C	17.7	126.5	0.73	0.66	0.76	14.3

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: Botany Rd (S)											
P1	Full	181	53.6	LOS E	0.6	0.6	0.95	0.95	70.3	20.0	0.28
East: Raglan St (E)											
P2	Full	95	53.4	LOS E	0.3	0.3	0.95	0.95	70.1	20.0	0.29

North: Botany Rd (N)										
P3 Full	85	53.4	LOS E	0.3	0.3	0.95	0.95	70.1	20.0	0.29
West: Henderson Rd (W)										
P4 Full	87	53.4	LOS E	0.3	0.3	0.95	0.95	70.1	20.0	0.29
All Pedestrians	448	53.5	LOS E	0.6	0.6	0.95	0.95	70.2	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.

MOVEMENT SUMMARY

Site: WLO02 [WLO02 Raglan St / Cope St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 5057
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 35 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: Cope St (S)															
1	L2	All MCs	12	0.0	12	0.0	0.077	15.8	LOS B	0.5	3.3	0.79	0.63	0.79	16.8
2	T1	All MCs	15	7.1	15	7.1	0.077	10.5	LOS A	0.5	3.3	0.79	0.63	0.79	31.5
3	R2	All MCs	7	0.0	7	0.0	0.077	14.0	LOS A	0.5	3.3	0.79	0.63	0.79	31.3
Approach			34	3.1	34	3.1	0.077	13.1	LOS A	0.5	3.3	0.79	0.63	0.79	28.2
East: Raglan St (E)															
4	L2	All MCs	2	0.0	2	0.0	0.168	16.0	LOS B	1.3	9.6	0.73	0.58	0.73	35.4
5	T1	All MCs	199	4.8	199	4.8	0.168	8.9	LOS A	1.3	9.6	0.73	0.58	0.73	35.3
6	R2	All MCs	7	0.0	7	0.0	0.168	15.1	LOS B	1.3	9.2	0.73	0.58	0.73	39.2
Approach			208	4.5	208	4.5	0.168	9.2	LOS A	1.3	9.6	0.73	0.58	0.73	35.5
North: Cope St (N)															
7	L2	All MCs	14	0.0	14	0.0	0.031	13.2	LOS A	0.2	1.5	0.69	0.63	0.69	37.2
8	T1	All MCs	5	0.0	5	0.0	0.031	9.2	LOS A	0.2	1.5	0.69	0.63	0.69	30.9
9	R2	All MCs	38	2.8	38	2.8	* 0.195	21.4	LOS B	0.7	4.7	0.94	0.71	0.94	23.9
Approach			57	1.9	57	1.9	0.195	18.3	LOS B	0.7	4.7	0.85	0.68	0.85	28.4
West: Raglan St (W)															
10	L2	All MCs	46	2.3	46	2.3	0.089	14.6	LOS B	0.6	4.3	0.76	0.69	0.76	29.5
11	T1	All MCs	207	4.6	207	4.6	* 0.324	9.6	LOS A	2.7	20.0	0.78	0.64	0.78	36.7
Approach			254	4.1	254	4.1	0.324	10.5	LOS A	2.7	20.0	0.78	0.65	0.78	35.2
All Vehicles			553	4.0	553	4.0	0.324	11.0	LOS A	2.7	20.0	0.77	0.63	0.77	34.0

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: Cope St (S)											
P1	Full	151	12.1	LOS B	0.1	0.1	0.83	0.83	178.8	200.0	1.12

East: Raglan St (E)										
P2 Full	45	12.0	LOS B	0.0	0.0	0.83	0.83	28.7	20.0	0.70
North: Cope St (N)										
P3 Full	122	12.1	LOS B	0.1	0.1	0.83	0.83	28.7	20.0	0.70
West: Raglan St (W)										
P4 Full	125	12.1	LOS B	0.1	0.1	0.83	0.83	28.7	20.0	0.70
All Pedestrians	443	12.1	LOS B	0.1	0.1	0.83	0.83	79.7	81.1	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.

MOVEMENT SUMMARY

Site: WLO03 [WLO03 Botany Rd / Wellington St / Buckland St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 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	505	4.2	505	4.2	0.428	6.0	LOS A	10.3	74.7	0.40	0.38	0.40	38.0
3	R2	All MCs	56	0.0	56	0.0	0.428	18.6	LOS B	10.3	74.7	0.44	0.43	0.44	36.8
Approach			561	3.8	561	3.8	0.428	7.3	LOS A	10.3	74.7	0.40	0.39	0.40	37.9
East: Wellington St (E)															
4	L2	All MCs	46	0.0	46	0.0	0.214	59.6	LOS E	2.5	17.6	0.94	0.74	0.94	15.7
6	R2	All MCs	18	0.0	18	0.0	0.112	59.1	LOS E	1.0	6.9	0.94	0.70	0.94	4.3
Approach			64	0.0	64	0.0	0.214	59.4	LOS E	2.5	17.6	0.94	0.73	0.94	13.1
North: Botany Rd (N)															
7	L2	All MCs	11	0.0	11	0.0	0.112	12.0	LOS A	1.4	10.2	0.18	0.18	0.18	42.9
8	T1	All MCs	829	3.9	829	3.9	* 0.561	8.2	LOS A	11.3	82.0	0.29	0.27	0.29	45.8
Approach			840	3.9	840	3.9	0.561	8.3	LOS A	11.3	82.0	0.29	0.27	0.29	41.3
West: Buckland St (W)															
10	L2	All MCs	27	0.0	27	0.0	0.341	56.3	LOS D	4.8	33.8	0.94	0.75	0.94	5.2
11	T1	All MCs	62	0.0	62	0.0	* 0.341	50.5	LOS D	4.8	33.8	0.94	0.75	0.94	5.2
12	R2	All MCs	37	0.0	37	0.0	0.196	56.7	LOS E	2.0	14.1	0.94	0.73	0.94	15.5
Approach			126	0.0	126	0.0	0.341	53.6	LOS D	4.8	33.8	0.94	0.74	0.94	9.1
All Vehicles			1592	3.4	1592	3.4	0.561	13.6	LOS A	11.3	82.0	0.41	0.37	0.41	34.3

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: Botany Rd (S)											
P1	Full	58	53.3	LOS E	0.2	0.2	0.94	0.94	70.0	20.0	0.29
East: Wellington St (E)											

P2	Full	48	53.3	LOS E	0.2	0.2	0.94	0.94	70.0	20.0	0.29
North: Botany Rd (N)											
P3	Full	48	53.3	LOS E	0.2	0.2	0.94	0.94	70.0	20.0	0.29
West: Buckland St (W)											
P4	Full	69	53.4	LOS E	0.2	0.2	0.94	0.94	70.0	20.0	0.29
All Pedestrians		224	53.3	LOS E	0.2	0.2	0.94	0.94	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.

MOVEMENT SUMMARY

Site: WLO04 [WLO04 Cope St / Wellington St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 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
South: Cope St (S)															
1	L2	All MCs	18	0.0	18	0.0	0.028	7.6	LOS A	0.1	0.7	0.15	0.92	0.15	30.2
2	T1	All MCs	6	0.0	6	0.0	0.028	8.1	LOS A	0.1	0.7	0.15	0.92	0.15	30.2
3	R2	All MCs	7	0.0	7	0.0	0.028	8.0	LOS A	0.1	0.7	0.15	0.92	0.15	33.8
Approach			32	0.0	32	0.0	0.028	7.8	LOS A	0.1	0.7	0.15	0.92	0.15	31.4
East: Wellington St (E)															
4	L2	All MCs	8	0.0	8	0.0	0.040	4.7	LOS A	0.2	1.3	0.16	0.18	0.16	42.0
5	T1	All MCs	35	0.0	35	0.0	0.040	0.3	LOS A	0.2	1.3	0.16	0.18	0.16	41.5
6	R2	All MCs	5	0.0	5	0.0	0.040	5.2	LOS A	0.2	1.3	0.16	0.18	0.16	41.5
Approach			48	0.0	48	0.0	0.040	1.6	NA	0.2	1.3	0.16	0.18	0.16	41.6
North: Cope St (N)															
7	L2	All MCs	4	0.0	4	0.0	0.013	7.3	LOS A	0.0	0.3	0.29	0.88	0.29	30.7
8	T1	All MCs	4	0.0	4	0.0	0.013	7.4	LOS A	0.0	0.3	0.29	0.88	0.29	31.9
9	R2	All MCs	4	0.0	4	0.0	0.013	7.4	LOS A	0.0	0.3	0.29	0.88	0.29	24.4
Approach			13	0.0	13	0.0	0.013	7.4	LOS A	0.0	0.3	0.29	0.88	0.29	29.7
West: Wellington St (W)															
10	L2	All MCs	9	0.0	9	0.0	0.102	4.7	LOS A	0.4	2.9	0.12	0.15	0.12	39.3
11	T1	All MCs	97	0.0	97	0.0	0.102	0.3	LOS A	0.4	2.9	0.12	0.15	0.12	45.2
12	R2	All MCs	17	0.0	17	0.0	0.102	4.7	LOS A	0.4	2.9	0.12	0.15	0.12	40.6
Approach			123	0.0	123	0.0	0.102	1.2	NA	0.4	2.9	0.12	0.15	0.12	44.2
All Vehicles			216	0.0	216	0.0	0.102	2.6	NA	0.4	2.9	0.15	0.31	0.15	40.0

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: WLO05 [WLO05 Wyndham St / Henderson Rd (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 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	9	0.0	9	0.0	0.584	61.7	LOS E	8.7	61.8	0.99	0.80	0.99	11.5
2	T1	All MCs	297	1.8	297	1.8	* 0.584	53.1	LOS D	8.8	62.9	0.99	0.80	0.99	18.3
3	R2	All MCs	4	50.0	4	50.0	0.584	60.1	LOS E	8.8	62.9	0.99	0.80	0.99	12.0
Approach			311	2.4	311	2.4	0.584	53.4	LOS D	8.8	62.9	0.99	0.80	0.99	18.0
East: Henderson Rd (E)															
4	L2	All MCs	137	3.1	137	3.1	0.278	12.5	LOS A	9.2	65.8	0.45	0.42	0.45	33.5
5	T1	All MCs	651	2.3	651	2.3	0.278	6.4	LOS A	9.5	67.7	0.45	0.35	0.45	28.8
6	R2	All MCs	560	5.8	560	5.8	* 0.331	21.0	LOS B	7.7	56.9	0.68	0.79	0.68	22.9
Approach			1347	3.8	1347	3.8	0.331	13.1	LOS A	9.5	67.7	0.54	0.54	0.54	25.7
West: Henderson Rd (W)															
10	L2	All MCs	304	1.4	304	1.4	* 0.667	73.2	LOS F	8.6	60.9	0.98	0.83	1.03	12.5
11	T1	All MCs	248	0.8	248	0.8	0.617	47.0	LOS D	13.4	94.2	0.96	0.81	0.96	4.9
Approach			553	1.1	553	1.1	0.667	61.4	LOS E	13.4	94.2	0.97	0.82	1.00	8.5
All Vehicles			2211	3.0	2211	3.0	0.667	30.8	LOS C	13.4	94.2	0.71	0.65	0.72	17.2

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	109	53.4	LOS E	0.4	0.4	0.95	0.95	70.1	20.0	0.29
East: Henderson Rd (E)											
P2	Full	48	53.3	LOS E	0.2	0.2	0.94	0.94	70.0	20.0	0.29
North: Wyndham St (N)											
P3	Full	68	53.4	LOS E	0.2	0.2	0.94	0.94	70.0	20.0	0.29
West: Henderson Rd (W)											

P4 Full	59	53.3	LOS E	0.2	0.2	0.94	0.94	70.0	20.0	0.29
All Pedestrians	285	53.4	LOS E	0.4	0.4	0.94	0.94	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.

MOVEMENT SUMMARY

Site: WLO06 [WLO06 Pedestrian Mid-block Crossing at Cope St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: WLO-N1 [WLO Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

NA
Site Category: (None)
Pedestrian Crossing (Unsignalised)

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)															
2	T1	All MCs	21	0.0	21	0.0	0.013	2.1	LOS A	0.0	0.3	0.09	0.35	0.09	32.5
Approach			21	0.0	21	0.0	0.013	2.1	LOS A	0.0	0.3	0.09	0.35	0.09	32.5
North: Cope St (N)															
8	T1	All MCs	11	0.0	11	0.0	0.006	2.1	LOS A	0.0	0.2	0.09	0.35	0.09	31.6
Approach			11	0.0	11	0.0	0.006	2.1	LOS A	0.0	0.2	0.09	0.35	0.09	31.6
All Vehicles			32	0.0	32	0.0	0.013	2.1	NA	0.0	0.3	0.09	0.35	0.09	32.2

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.
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: Akçelik M1.
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 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: SYD-N1 [SYD Network 1 (Network Folder: Block 4 Network - 2024 AM Peak)]

TCS 3320
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
SouthEast: Gleeson Ave (SE)															
1	L2	All MCs	483	7.2	483	7.2	0.211	4.5	LOS A	0.0	0.0	0.00	0.51	0.00	42.3
Approach			483	7.2	483	7.2	0.211	4.5	LOS A	0.0	0.0	0.00	0.51	0.00	42.3
NorthEast: Railway Pde (NE)															
4	L2	All MCs	1009	5.6	1009	5.6	* 0.505	14.4	LOS A	7.4	54.6	0.57	0.75	0.57	31.9
5	T1	All MCs	107	12.7	107	12.7	0.082	9.5	LOS A	1.0	7.7	0.27	0.22	0.27	54.4
Approach			1117	6.3	1117	6.3	0.505	14.0	LOS A	7.4	54.6	0.54	0.70	0.54	30.5
All Vehicles			1600	6.6	1600	6.6	0.505	11.1	LOS A	7.4	54.6	0.38	0.64	0.38	33.7

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
NorthEast: Railway Pde (NE)											
P2	Full	144	31.0	LOS D	0.3	0.3	0.91	0.91	47.7	20.0	0.42
P2S	Slip/ Bypass	257	18.2	LOS B	0.4	0.4	0.82	0.82	34.9	20.0	0.57
All Pedestrians		401	22.8	LOS C	0.4	0.4	0.85	0.85	39.5	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.

MOVEMENT SUMMARY

Site: SYD02 [SYD02 Burrows Ave / Gleeson Ave (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: SYD-N1 [SYD Network 1 (Network Folder: Block 4 Network - 2024 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	682	4.5	682	4.5	0.341	15.3	LOS B	10.2	74.4	0.61	0.53	0.61	20.9
Approach			682	4.5	682	4.5	0.341	15.3	LOS B	10.2	74.4	0.61	0.53	0.61	20.9
NorthEast: Burrows Ave (NE)															
4	L2	All MCs	57	3.7	57	3.7	0.292	54.9	LOS D	2.9	21.0	0.96	0.75	0.96	13.7
6	R2	All MCs	181	3.5	181	3.5	* 0.371	52.5	LOS D	4.6	32.8	0.95	0.77	0.95	9.6
Approach			238	3.5	238	3.5	0.371	53.1	LOS D	4.6	32.8	0.95	0.77	0.95	10.7
NorthWest: Gleeson Ave (NW)															
7	L2	All MCs	200	7.4	200	7.4	0.533	7.1	LOS A	7.4	54.6	0.30	0.43	0.30	34.2
8	T1	All MCs	823	6.3	823	6.3	* 0.533	5.4	LOS A	7.8	57.5	0.30	0.33	0.30	40.5
Approach			1023	6.5	1023	6.5	0.533	5.7	LOS A	7.8	57.5	0.30	0.35	0.30	38.9
SouthWest: Burrows Ave (SW)															
10	L2	All MCs	25	45.8	25	45.8	0.148	59.2	LOS E	1.3	10.6	0.95	0.70	0.95	10.8
11	T1	All MCs	16	0.0	16	0.0	0.148	45.7	LOS D	1.3	10.6	0.94	0.69	0.94	17.3
12	R2	All MCs	12	18.2	12	18.2	0.046	46.9	LOS D	0.5	4.3	0.87	0.68	0.87	16.2
Approach			53	26.0	53	26.0	0.148	52.5	LOS D	1.3	10.6	0.93	0.69	0.93	14.0
All Vehicles			1996	6.0	1996	6.0	0.533	15.9	LOS B	10.2	74.4	0.50	0.47	0.50	23.6

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: Gleeson Ave (SE)											
P1	Full	46	46.5	LOS E	0.1	0.1	0.92	0.92	63.1	20.0	0.32
NorthEast: Burrows Ave (NE)											
P2	Full	186	48.6	LOS E	0.5	0.5	0.94	0.94	65.3	20.0	0.31
NorthWest: Gleeson Ave (NW)											

P3 Full	398	45.3	LOS E	1.1	1.1	0.92	0.92	62.0	20.0	0.32
SouthWest: Burrows Ave (SW)										
P4 Full	262	48.8	LOS E	0.8	0.8	0.95	0.95	65.4	20.0	0.31
All Pedestrians	893	47.1	LOS E	1.1	1.1	0.93	0.93	63.7	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.

MOVEMENT SUMMARY

Site: SYD03 [SYD03 Burrows Ave / George St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	17	0.0	17	0.0	0.024	8.1	LOS A	0.1	0.5	0.25	0.88	0.25	30.6
6	R2	All MCs	7	0.0	7	0.0	0.024	9.4	LOS A	0.1	0.5	0.25	0.88	0.25	26.6
Approach			24	0.0	24	0.0	0.024	8.5	LOS A	0.1	0.5	0.25	0.88	0.25	29.5
NorthEast: Burrows Ave (NE)															
7	L2	All MCs	12	0.0	12	0.0	0.176	4.1	LOS A	0.9	6.4	0.31	0.19	0.31	39.2
8	T1	All MCs	167	4.4	167	4.4	0.176	1.0	LOS A	0.9	6.4	0.31	0.19	0.31	45.0
Approach			179	4.1	179	4.1	0.176	1.2	NA	0.9	6.4	0.31	0.19	0.31	44.6
SouthWest: Burrows Ave (SW)															
2	T1	All MCs	192	7.1	192	7.1	0.200	1.0	LOS A	0.9	6.5	0.26	0.16	0.26	44.7
3	R2	All MCs	9	0.0	9	0.0	0.200	5.2	LOS A	0.9	6.5	0.26	0.16	0.26	40.6
Approach			201	6.8	201	6.8	0.200	1.2	NA	0.9	6.5	0.26	0.16	0.26	44.4
All Vehicles			404	5.2	404	5.2	0.200	1.6	NA	0.9	6.5	0.28	0.22	0.28	42.9

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.

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: SYD04 [SYD04 Railway Pde / Sydenham Rd (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

TCS 4946
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 101 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)															
28	T1	All MCs	1119	6.4	1119	6.4	* 0.450	6.4	LOS A	9.1	68.0	0.51	0.48	0.51	44.6
29	R2	All MCs	1	0.0	1	0.0	0.450	12.1	LOS A	8.9	65.3	0.51	0.48	0.51	39.6
Approach			1120	6.4	1120	6.4	0.450	6.4	LOS A	9.1	68.0	0.51	0.48	0.51	44.6
SouthWest: Railway Pde (SW)															
32	R2	All MCs	7	0.0	7	0.0	0.022	30.0	LOS C	0.2	1.7	0.85	0.66	0.85	26.5
Approach			7	0.0	7	0.0	0.022	30.0	LOS C	0.2	1.7	0.85	0.66	0.85	26.5
All Vehicles			1127	6.3	1127	6.3	0.450	6.6	LOS A	9.1	68.0	0.52	0.48	0.52	44.3

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
NorthWest: Sydenham Rd (NW)												
P7	Full	71	75	25.2	LOS C	0.1	0.1	0.82	0.82	191.8	200.0	1.04
All Pedestrians		71	75	25.2	LOS C	0.1	0.1	0.82	0.82	191.8	200.0	1.04

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: SYD05 [SYD05 Marrickville Rd / Buckley St (Site Folder: Block 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	511	6.8	511	6.8	0.280	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
3	R2	All MCs	533	5.3	533	5.3	0.739	8.7	LOS A	4.9	35.6	0.58	0.72	0.76	42.3
Approach			1043	6.1	1043	6.1	0.739	4.4	NA	4.9	35.6	0.29	0.37	0.39	50.4
NorthWest: Marrickville Rd (NW)															
7	L2	All MCs	501	5.9	501	5.9	0.887	12.4	LOS A	8.9	65.6	0.91	0.95	1.47	44.3
Approach			501	5.9	501	5.9	0.887	12.4	NA	8.9	65.6	0.91	0.95	1.47	44.3
All Vehicles			1544	6.0	1544	6.0	0.887	7.0	NA	8.9	65.6	0.49	0.56	0.74	47.9

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.

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 4 Model - 2024 AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	769	6.2	769	6.2	0.418	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach			769	6.2	769	6.2	0.418	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.7
SouthWest: Buckley St (SW)															
4	L2	All MCs	549	5.2	549	5.2	0.312	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	51.0
6	R2	All MCs	452	7.0	452	7.0	0.261	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	43.4
Approach			1001	6.0	1001	6.0	0.312	5.8	NA	0.0	0.0	0.00	0.57	0.00	48.4
All Vehicles			1771	6.1	1771	6.1	0.418	3.3	NA	0.0	0.0	0.00	0.32	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 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: SYD-N1 [SYD Network 1 (Network Folder: Block 4 Network - 2024 PM Peak)]

TCS 3320
Site Category: (None)
Signals - 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
SouthEast: Gleeson Ave (SE)															
1	L2	All MCs	580	3.8	580	3.8	0.245	4.6	LOS A	0.0	0.0	0.00	0.52	0.00	42.9
Approach			580	3.8	580	3.8	0.245	4.6	LOS A	0.0	0.0	0.00	0.52	0.00	42.9
NorthEast: Railway Pde (NE)															
4	L2	All MCs	979	3.1	979	3.1	* 0.442	13.2	LOS A	6.5	47.0	0.55	0.73	0.55	33.4
5	T1	All MCs	64	0.0	64	0.0	0.044	9.0	LOS A	0.6	4.0	0.28	0.22	0.28	54.3
Approach			1043	2.9	1043	2.9	0.442	12.9	LOS A	6.5	47.0	0.53	0.69	0.53	31.3
All Vehicles			1623	3.2	1623	3.2	0.442	9.9	LOS A	6.5	47.0	0.34	0.63	0.34	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.
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	176	28.6	LOS C	0.3	0.3	0.91	0.91	45.2	20.0	0.44
P2S	Slip/ Bypass	240	16.0	LOS B	0.3	0.3	0.81	0.81	32.7	20.0	0.61
All Pedestrians		416	21.3	LOS C	0.3	0.3	0.85	0.85	38.0	20.0	0.53

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: SYD02 [SYD02 Burrows Ave / Gleeson Ave (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: SYD-N1 [SYD Network 1 (Network Folder: Block 4 Network - 2024 PM Peak)]

TCS 1152
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 105 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	829	2.0	829	2.0	0.430	17.5	LOS B	13.3	94.7	0.68	0.60	0.68	19.1
Approach			829	2.0	829	2.0	0.430	17.5	LOS B	13.3	94.7	0.68	0.60	0.68	19.1
NorthEast: Burrows Ave (NE)															
4	L2	All MCs	52	0.0	52	0.0	0.208	63.4	LOS E	2.4	16.9	0.93	0.74	0.93	14.8
6	R2	All MCs	329	2.6	329	2.6	* 0.629	57.9	LOS E	8.6	61.8	0.99	0.82	1.01	9.8
Approach			381	2.2	381	2.2	0.629	58.6	LOS E	8.6	61.8	0.98	0.81	1.00	9.4
NorthWest: Gleeson Ave (NW)															
7	L2	All MCs	142	0.7	142	0.7	0.520	6.8	LOS A	6.6	47.6	0.29	0.38	0.29	34.9
8	T1	All MCs	831	3.5	831	3.5	* 0.520	5.4	LOS A	6.9	49.8	0.29	0.31	0.29	40.6
Approach			973	3.1	973	3.1	0.520	5.6	LOS A	6.9	49.8	0.29	0.32	0.29	39.5
SouthWest: Burrows Ave (SW)															
10	L2	All MCs	25	41.7	25	41.7	0.100	53.1	LOS D	0.8	6.8	0.93	0.69	0.93	11.5
11	T1	All MCs	4	0.0	4	0.0	0.100	41.5	LOS C	0.8	6.8	0.93	0.69	0.93	17.5
12	R2	All MCs	23	18.2	23	18.2	0.087	44.8	LOS D	1.0	8.2	0.87	0.71	0.87	16.7
Approach			53	28.0	53	28.0	0.100	48.5	LOS D	1.0	8.2	0.90	0.70	0.90	14.4
All Vehicles			2236	3.2	2236	3.2	0.629	20.1	LOS B	13.3	94.7	0.57	0.51	0.57	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
SouthEast: Gleeson Ave (SE)											
P1	Full	37	44.0	LOS E	0.1	0.1	0.92	0.92	60.6	20.0	0.33
NorthEast: Burrows Ave (NE)											
P2	Full	240	46.2	LOS E	0.7	0.7	0.94	0.94	62.9	20.0	0.32
NorthWest: Gleeson Ave (NW)											

P3 Full	238	42.5	LOS E	0.6	0.6	0.90	0.90	59.2	20.0	0.34
SouthWest: Burrows Ave (SW)										
P4 Full	149	46.0	LOS E	0.4	0.4	0.94	0.94	62.7	20.0	0.32
All Pedestrians	664	44.7	LOS E	0.7	0.7	0.93	0.93	61.4	20.0	0.33

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: SYD03 [SYD03 Burrows Ave / George St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	21	0.0	21	0.0	0.028	8.7	LOS A	0.1	0.6	0.32	0.89	0.32	30.1
6	R2	All MCs	5	0.0	5	0.0	0.028	10.3	LOS A	0.1	0.6	0.32	0.89	0.32	26.2
Approach			26	0.0	26	0.0	0.028	9.0	LOS A	0.1	0.6	0.32	0.89	0.32	29.4
NorthEast: Burrows Ave (NE)															
7	L2	All MCs	12	0.0	12	0.0	0.306	4.3	LOS A	1.8	12.4	0.36	0.21	0.36	39.0
8	T1	All MCs	302	0.7	302	0.7	0.306	1.2	LOS A	1.8	12.4	0.36	0.21	0.36	44.8
Approach			314	0.7	314	0.7	0.306	1.3	NA	1.8	12.4	0.36	0.21	0.36	44.6
SouthWest: Burrows Ave (SW)															
2	T1	All MCs	149	1.4	149	1.4	0.157	1.0	LOS A	0.7	4.7	0.26	0.18	0.26	44.3
3	R2	All MCs	13	0.0	13	0.0	0.157	5.8	LOS A	0.7	4.7	0.26	0.18	0.26	40.3
Approach			162	1.3	162	1.3	0.157	1.3	NA	0.7	4.7	0.26	0.18	0.26	43.8
All Vehicles			502	0.8	502	0.8	0.306	1.7	NA	1.8	12.4	0.33	0.24	0.33	42.9

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.

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: SYD04 [SYD04 Railway Pde / Sydenham Rd (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

TCS 4946
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 106 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)															
28	T1	All MCs	1076	3.2	1076	3.2	* 0.420	5.6	LOS A	8.9	65.2	0.50	0.45	0.50	46.1
29	R2	All MCs	1	0.0	1	0.0	0.420	11.3	LOS A	8.8	62.1	0.50	0.45	0.50	40.5
Approach			1077	3.2	1077	3.2	0.420	5.6	LOS A	8.9	65.2	0.50	0.45	0.50	46.1
SouthWest: Railway Pde (SW)															
32	R2	All MCs	17	12.5	17	12.5	* 0.057	31.8	LOS C	0.6	4.6	0.86	0.69	0.86	25.3
Approach			17	12.5	17	12.5	0.057	31.8	LOS C	0.6	4.6	0.86	0.69	0.86	25.3
All Vehicles			1094	3.4	1094	3.4	0.420	6.0	LOS A	8.9	65.2	0.51	0.45	0.51	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.
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
NorthWest: Sydenham Rd (NW)												
P7	Full	72	76	26.3	LOS C	0.2	0.2	0.83	0.83	192.9	200.0	1.04
All Pedestrians		72	76	26.3	LOS C	0.2	0.2	0.83	0.83	192.9	200.0	1.04

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: SYD05 [SYD05 Marrickville Rd / Buckley St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	747	2.1	747	2.1	0.391	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
3	R2	All MCs	554	1.9	554	1.9	0.706	7.7	LOS A	4.7	33.4	0.47	0.64	0.57	43.6
Approach			1301	2.0	1301	2.0	0.706	3.3	NA	4.7	33.4	0.20	0.27	0.24	52.5
NorthWest: Marrickville Rd (NW)															
7	L2	All MCs	338	4.7	338	4.7	0.692	7.8	LOS A	3.0	22.1	0.53	0.64	0.63	48.2
Approach			338	4.7	338	4.7	0.692	7.8	NA	3.0	22.1	0.53	0.64	0.63	48.2
All Vehicles			1639	2.6	1639	2.6	0.706	4.2	NA	4.7	33.4	0.27	0.35	0.32	51.4

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.

MOVEMENT SUMMARY

Site: SYD06 [SYD06 Sydenham Rd / Buckley St (Site Folder: Block 4 Model - 2024 PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	761	1.5	761	1.5	0.396	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach			761	1.5	761	1.5	0.396	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.7
SouthWest: Buckley St (SW)															
4	L2	All MCs	544	2.1	544	2.1	0.300	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	51.1
6	R2	All MCs	343	5.5	343	5.5	0.196	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	43.6
Approach			887	3.4	887	3.4	0.300	5.7	NA	0.0	0.0	0.00	0.57	0.00	49.0
All Vehicles			1648	2.6	1648	2.6	0.396	3.1	NA	0.0	0.0	0.00	0.31	0.00	53.1

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.

MOVEMENT SUMMARY

Site: SYD01 [SYD01 Railway Pde / Gleeson Ave (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: SYD-N1 [SYD Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 3320
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 95 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	479	3.3	479	3.3	0.201	4.5	LOS A	0.0	0.0	0.00	0.52	0.00	43.0
Approach			479	3.3	479	3.3	0.201	4.5	LOS A	0.0	0.0	0.00	0.52	0.00	43.0
NorthEast: Railway Pde (NE)															
4	L2	All MCs	1054	2.6	1054	2.6	* 0.434	10.2	LOS A	9.3	66.5	0.36	0.66	0.36	35.2
5	T1	All MCs	94	1.1	94	1.1	* 0.066	5.0	LOS A	0.8	5.4	0.29	0.23	0.29	55.3
Approach			1147	2.5	1147	2.5	0.434	9.8	LOS A	9.3	66.5	0.35	0.63	0.35	35.6
All Vehicles			1626	2.7	1626	2.7	0.434	8.2	LOS A	9.3	66.5	0.25	0.59	0.25	37.7

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
NorthEast: Railway Pde (NE)											
P2	Full	147	25.4	LOS C	0.3	0.3	0.86	0.86	42.0	20.0	0.48
P2S	Slip/ Bypass	155	41.0	LOS E	0.4	0.4	0.93	0.93	57.7	20.0	0.35
All Pedestrians		302	33.4	LOS D	0.4	0.4	0.90	0.90	50.1	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: SYD02 [SYD02 Burrows Ave / Gleeson Ave (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: SYD-N1 [SYD Network 1 (Network Folder: Block 4 Network - 2024 Weekend Peak)]

TCS 1152
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated 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
SouthEast: Gleeson Ave (SE)															
2	T1	All MCs	785	2.0	785	2.0	0.347	12.8	LOS A	11.1	79.2	0.55	0.49	0.55	23.4
Approach			785	2.0	785	2.0	0.347	12.8	LOS A	11.1	79.2	0.55	0.49	0.55	23.4
NorthEast: Burrows Ave (NE)															
4	L2	All MCs	39	0.0	39	0.0	0.186	57.3	LOS E	2.0	14.2	0.94	0.73	0.94	13.6
6	R2	All MCs	174	2.4	174	2.4	* 0.464	56.5	LOS D	5.5	39.4	0.97	0.77	0.97	9.0
Approach			213	2.0	213	2.0	0.464	56.6	LOS E	5.5	39.4	0.96	0.76	0.96	10.0
NorthWest: Gleeson Ave (NW)															
7	L2	All MCs	220	2.4	220	2.4	0.424	6.9	LOS A	5.9	42.4	0.25	0.43	0.25	34.6
8	T1	All MCs	826	3.3	826	3.3	* 0.531	5.4	LOS A	9.0	64.8	0.28	0.31	0.28	41.6
Approach			1046	3.1	1046	3.1	0.531	5.7	LOS A	9.0	64.8	0.28	0.34	0.28	39.6
SouthWest: Burrows Ave (SW)															
10	L2	All MCs	25	29.2	25	29.2	* 0.181	58.7	LOS E	1.3	11.6	0.95	0.71	0.95	10.3
11	T1	All MCs	9	11.1	9	11.1	0.042	45.2	LOS D	0.5	3.8	0.88	0.62	0.88	18.4
12	R2	All MCs	8	0.0	8	0.0	0.031	49.8	LOS D	0.4	2.8	0.88	0.66	0.88	15.7
Approach			43	19.5	43	19.5	0.181	54.0	LOS D	1.3	11.6	0.92	0.68	0.92	13.2
All Vehicles			2087	2.9	2087	2.9	0.531	14.6	LOS B	11.1	79.2	0.46	0.44	0.46	24.8

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
SouthEast: Gleeson Ave (SE)											
P1	Full	14	48.9	LOS E	0.0	0.0	0.92	0.92	65.5	20.0	0.31
NorthEast: Burrows Ave (NE)											
P2	Full	213	51.2	LOS E	0.7	0.7	0.95	0.95	67.8	20.0	0.29
NorthWest: Gleeson Ave (NW)											

P3 Full	144	47.3	LOS E	0.4	0.4	0.91	0.91	64.0	20.0	0.31
SouthWest: Burrows Ave (SW)										
P4 Full	101	50.9	LOS E	0.3	0.3	0.94	0.94	67.6	20.0	0.30
All Pedestrians	472	49.9	LOS E	0.7	0.7	0.93	0.93	66.5	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.

MOVEMENT SUMMARY

Site: SYD03 [SYD03 Burrows Ave / George St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	24	0.0	24	0.0	0.036	8.2	LOS A	0.1	0.8	0.28	0.89	0.28	30.3
6	R2	All MCs	11	0.0	11	0.0	0.036	10.0	LOS A	0.1	0.8	0.28	0.89	0.28	26.4
Approach			35	0.0	35	0.0	0.036	8.7	LOS A	0.1	0.8	0.28	0.89	0.28	29.2
NorthEast: Burrows Ave (NE)															
7	L2	All MCs	16	0.0	16	0.0	0.205	4.2	LOS A	1.1	7.5	0.33	0.21	0.33	38.9
8	T1	All MCs	193	2.2	193	2.2	0.205	1.1	LOS A	1.1	7.5	0.33	0.21	0.33	44.6
Approach			208	2.0	208	2.0	0.205	1.3	NA	1.1	7.5	0.33	0.21	0.33	44.1
SouthWest: Burrows Ave (SW)															
2	T1	All MCs	213	2.5	213	2.5	0.232	1.1	LOS A	1.0	7.5	0.28	0.21	0.28	43.4
3	R2	All MCs	28	0.0	28	0.0	0.232	5.4	LOS A	1.0	7.5	0.28	0.21	0.28	39.7
Approach			241	2.2	241	2.2	0.232	1.6	NA	1.0	7.5	0.28	0.21	0.28	42.8
All Vehicles			484	2.0	484	2.0	0.232	2.0	NA	1.1	7.5	0.30	0.26	0.30	41.6

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: SYD04 [SYD04 Railway Pde / Sydenham Rd (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

TCS 4946
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 116 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)															
28	T1	All MCs	1119	2.5	1119	2.5	* 0.446	5.4	LOS A	10.0	71.7	0.48	0.45	0.48	45.9
29	R2	All MCs	60	0.0	60	0.0	0.446	11.1	LOS A	9.9	70.3	0.48	0.47	0.48	40.1
Approach			1179	2.4	1179	2.4	0.446	5.7	LOS A	10.0	71.7	0.48	0.45	0.48	45.5
SouthWest: Railway Pde (SW)															
32	R2	All MCs	28	0.0	28	0.0	* 0.093	36.0	LOS C	1.1	7.9	0.88	0.71	0.88	24.3
Approach			28	0.0	28	0.0	0.093	36.0	LOS C	1.1	7.9	0.88	0.71	0.88	24.3
All Vehicles			1207	2.4	1207	2.4	0.446	6.4	LOS A	10.0	71.7	0.49	0.46	0.49	44.1

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
NorthWest: Sydenham Rd (NW)												
P7	Full	82	86	30.2	LOS D	0.2	0.2	0.85	0.85	196.9	200.0	1.02
All Pedestrians		82	86	30.2	LOS D	0.2	0.2	0.85	0.85	196.9	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.

MOVEMENT SUMMARY

Site: SYD05 [SYD05 Marrickville Rd / Buckley St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	602	2.3	602	2.3	0.316	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
3	R2	All MCs	561	0.9	561	0.9	0.341	6.2	LOS A	1.8	12.9	0.21	0.60	0.21	44.9
Approach			1163	1.6	1163	1.6	0.341	3.0	NA	1.8	12.9	0.10	0.29	0.10	52.4
NorthWest: Marrickville Rd (NW)															
7	L2	All MCs	384	3.6	384	3.6	0.298	6.1	LOS A	1.4	10.0	0.23	0.56	0.23	49.3
Approach			384	3.6	384	3.6	0.298	6.1	NA	1.4	10.0	0.23	0.56	0.23	49.3
All Vehicles			1547	2.1	1547	2.1	0.341	3.8	NA	1.8	12.9	0.13	0.36	0.13	51.4

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.

MOVEMENT SUMMARY

Site: SYD06 [SYD06 Sydenham Rd / Buckley St (Site Folder: Block 4 Model - 2024 Weekend Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

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	746	1.6	746	1.6	0.388	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach			746	1.6	746	1.6	0.388	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.7
SouthWest: Buckley St (SW)															
4	L2	All MCs	489	2.2	489	2.2	0.270	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	51.1
6	R2	All MCs	443	2.4	443	2.4	0.245	5.8	LOS A	0.0	0.0	0.00	0.63	0.00	43.7
Approach			933	2.3	933	2.3	0.270	5.7	NA	0.0	0.0	0.00	0.58	0.00	48.4
All Vehicles			1679	1.9	1679	1.9	0.388	3.2	NA	0.0	0.0	0.00	0.32	0.00	52.7

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.