Genesis Traffic

Traffic Impact Assessment

221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong

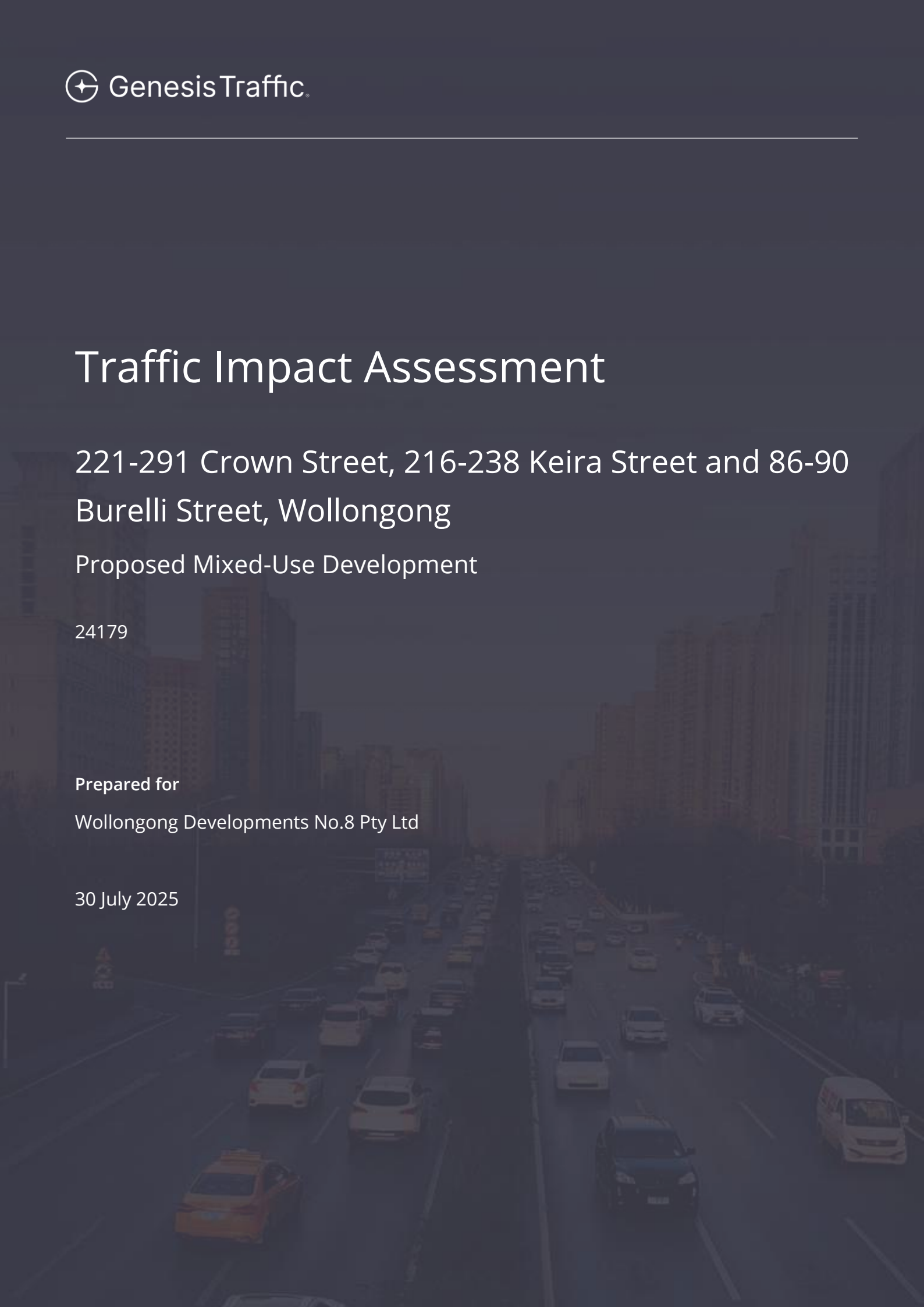
Proposed Mixed-Use Development

24179

Prepared for

Wollongong Developments No.8 Pty Ltd

30 July 2025



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Document Information

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1	4/04/2025	Draft	LN, AX	BL
2	17/04/2025	For Issue	LN	BL
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1 Introduction

1.1 Background

This Traffic Impact Assessment (TIA) prepared by Genesis Traffic on behalf of Wollongong Developments No.8 Pty Ltd ('the Applicant') supports a State Significant Development Application (SSDA) for an Infill Affordable Housing Development, SSD-76440958, for the site at 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong (the site) (Figure 1-1).

Figure 1-1 Site Context

Source: Mecone (Modified by Genesis Traffic)

Specifically, consent is sought for the following development in this SSDA:

- Demolition of existing structures on the site, retention of heritage facades, tree removal and site excavation for new basement.
- Construction of a new mixed-use development consisting of:
  - Four residential towers, ranging from 16 to 38 storeys and comprising 546 apartments including:
    - 414 market apartments.
    - 132 affordable apartments.

        - Residential lobbies and podium.
        - Communal open space.
    - A 10-storey commercial office building, an 8-storey hotel comprising 166 rooms, and numerous retail tenancies (including a supermarket) consisting of:
        - 10,009m^2 of commercial GFA.
        - 8,793m^2 of hotel GFA.
        - 3,781m^2 of retail GFA.
        - 1,510m^2 retail supermarket GFA.
- Car, motorcycle and bicycle parking for residents, workers and visitors across two basement levels, mezzanine, lower ground and levels 1 and 2 including 774 car parking spaces.
- Car, motorcycle and bicycle parking for residents, workers and visitors across two basement levels, mezzanine, lower ground and levels 1 and 2 including:
    - 774 car parking spaces, including:
        - 547 residential spaces (including accessible spaces).
        - 49 residential visitor spaces.
        - 63 commercial/retail/residential visitor spaces.
        - 25 commercial/retail (staff) spaces.
        - 10 hotel (staff only) spaces.
        - 80 retail (supermarket) spaces.
    - Five (5) loading bays.
    - 320 bicycle parking spaces.
    - 47 motorcycle parking spaces.
- New public open space including a new public plaza.
- Associated landscaping and public domain works.

1.2 Scope of Assessment

The assessment considers a range of traffic, transport, and parking-related matters in conjunction with the TfNSW Guide to Traffic Generating Development and the SEARs criteria. The report is structured in the following manner:

Section 1 Introduction

Section 2 SEARs & Summary of Response

Section 3 Proposal Description

Section 4	Existing Site & Traffic Circumstances
Section 5	Parking Assessment
Section 7	Access & Circulation Design Assessment
Section 6	Loading Dock Management Plan
Section 8	Traffic Assessment
Section 9	Preliminary Construction Traffic Management Planning
Section 10	Green Travel Plan
Section 11	TfNSW Consultation
Section 12	Conclusion

1.3 Reference Documents

Reference has been made to the following documents when preparing this report:

- Australian Standard Part 1: Off-street Car Parking (AS2890.1:2004)
- Australian Standard Part 2: Off-street Commercial Vehicle Facilities (AS2890.2:2018)
- Australian Standard Part 3: Bicycle Parking (AS2890.3:2015)
- Australian Standard Part 6: Off-street Parking for People with Disabilities (AS2890.6:2022)
- Development Control Plan (Wollongong City Council)
- Guide to Transport Impact Assessment, NSW Government, 2024
- State Environmental Planning Policy (Housing) 2021, NSW
- Win Grand, Transport Impact Assessment (Ref No: 300303630), Stantec, 27 June 2022

2 Response to Relevant Authorities

2.1 SEARs

The NSW Department of Planning and Environment issued site-specific assessment criteria known as the Secretary's Environmental Assessment Requirements (SEARs). The relevant traffic, transport, and accessibility criteria that the assessment need to consider are reproduced in Table 2-1. The corresponding assessment responses are identified in the adjoining column 'Response Reference'.

Table 2-1 Response to SEARs

10. Traffic, Transport and Accessibility	Response Reference
Provide a transport and accessibility impact assessment, which includes:	
○ an analysis of the existing transport network, including the road hierarchy and any pedestrian, bicycle or public transport infrastructure, current daily and peak hour vehicle movements, and existing performance levels of nearby intersections	Section 4
○ details of the proposed development, including pedestrian and vehicular access arrangements (including swept path analysis of the largest vehicle and height clearances), parking arrangements and rates (including bicycle and end-of-trip facilities), drop-off/pick-up-zone(s) and bus bays (if applicable), and provisions for servicing and loading/unloading.	Section 7
○ analysis of the impacts of the proposed development during construction and operation (including justification for the methodology used), including predicted modal split, a forecast of additional daily and peak hour multimodal network flows as a result of the development (using industry standard modelling), identification of potential traffic impacts on road capacity, intersection performance and road safety (including pedestrian and cyclist conflict) and any cumulative impact from surrounding approved developments.	Section 8
○ measures to mitigate any traffic impacts, including details of any new or upgraded infrastructure to achieve acceptable performance and safety, and the timing, viability and mechanisms of delivery (including proposed arrangements with local councils or government agencies) of any infrastructure improvements in accordance with relevant standards.	Section 8
○ proposals to promote sustainable travel choices for employees, residents, guests and visitors, such as connections into existing walking and cycling networks, minimising car parking provision, encouraging car share and public transport, providing adequate bicycle parking and high quality end-of-trip facilities, and implementing a Green Travel Plan.	Section 4.4, Section 10
Provide a Construction Traffic Management Plan detailing predicted construction vehicle routes, access and parking arrangements, coordination with other construction occurring in the area, and how impacts on existing traffic, pedestrian and bicycle networks would be managed and mitigated.	Section 9

2.2 Council Pre-DA Lodgement Notes

The assessment's response to the Council Pre-DA Lodgement Advice (PL-2024/101) are outlined in Table 2-2.

Table 2-2 Pre-DA Lodgement Advice

12 Car parking, access and servicing	Our Response
12.1 Consultation with Transport for NSW (TfNSW) • Given the size of the development, its proximity to signalised intersections, State Roads and public transport corridors, the applicant will need to seek advice from TfNSW to ensure that the relevant access, road network/capacity and public transport requirements are addressed.	Refer to Section 11.
12.2 Bus Stops • Bus stops on Crown Street and Burelli Street will need to be provided as per TfNSW's requirements. It should be noted that TfNSW agreed to the proposed bus stop location and configuration approved under DA-2021/957. • TfNSW required 55 metres minimum for the Crown Street bus bay approved under DA-2021/957. A minimum of 5.3 metres needs to be provided between the kerb and the building line from the front of the first bus.	Noted. This is retained.
12.3 Removal of the Slip Lane on Atchison Street • The previous application approved public domain works including removal of the left slip lane on Atchison Street. The removal of the slip lane on Atchison Street needs to be shown on the plans and appropriately modelled, including impacts on queuing and signalised intersections. Council expects this work to be undertaken at the developer's expense given the nexus between the increased pedestrian activity arising from the development and the need for improved pedestrian safety in this location.	Noted - reflected in the SIDRA model.
12.4 Vehicle Access	
• The design, location and number of vehicle entry points from Burell Street as shown in the presentation is not supported. The vehicle entry point design must promote pedestrian priority. Burelli Street is an important street for public transport and pedestrian movement which has not been adequately dealt with in the concept plans presented (i.e. Porte Coche's and multiple driveway entries).	Section 7.1 Access as per approved arrangement
• To maximise traffic efficiency on Burelli Street (a key TfNSW public transport corridor) and reduce delays, the previously approved development (DA-2021/957) provided a 4th leg at the existing Burelli Street/Kenny Street intersection. A separate service access was accepted based on the infrequent occurrence of site servicing, deliveries and waste collection from this dedicated service access.	Section 7.1 Access as per approved arrangement
• The provision of an offset intersection arrangement would not be supported by Council due to the additional friction, conflict (pedestrians, cyclists and vehicles) as well as inefficiencies in terms of delays for vehicles and in particular bus movement on this important public transport corridor.	Section 7.1

<table>
<tr><td></td><td>Access as per approved arrangement</td></tr>
<tr><td colspan="2">12.5 Car Parking/Traffic Impacts</td></tr>
<tr><td>• Council's strategic objective is to reduce overall non-residential/commercial/retail parking demands and continuing to encourage the use of public transport, walking, cycling. The car parking reductions and credits available to non-residential uses under clause 7.4 and 7.5 of Chapter E3 of WDCP 2009 are able to be drawn upon by the development and would support Council's objectives in relation to active transport.</td><td>Section 5</td></tr>
<tr><td>• The previous development utilised a number of car parking credits. Chapter E3 of the Wollongong City Council DCP allows for credits for "redevelopment which does not cause any net increase in the demand for car parking". In this case Clause 7.5 of Chapter E3 of the DCP provides the relevant controls which allows car parking credits to be applied if a development is operating lawfully in accordance with development consent. The credits are used where a lawful land use exists, and the car parking rates for that land use form the basis of any credit assessment applied.
<table>
<tr><td colspan="2">Available car parking credit under Clause 7.5 of Chapter E3</td></tr>
<tr><td>Existing business/retail gross floor area on site</td><td>25,740m2</td></tr>
<tr><td>Existing car parking</td><td>78 car parking spaces.</td></tr>
<tr><td>Car parking requirements based on existing GFA (1/60m2 GFA)</td><td>429 car parking spaces</td></tr>
<tr><td>Shortfall (credit)</td><td>351 car parking spaces</td></tr>
</table></td><td>Section 5</td></tr>
<tr><td>• The reduction in non-residential car parking within the site under the previous development application reduced the traffic generation potential and lessened future traffic signal delays.</td><td>Noted</td></tr>
<tr><td>• The applicant needs to consider the traffic generation from the additional car parking levels proposed, and their impact on the local road network and nearby intersections. All relevant affected intersections need to be modelled with SIDRA to show an acceptable level of service.

Note: The traffic data on page 27 appears to be incorrect (i.e. shows 6,000 vehicles a day, whereas the Traffic volume calculator indicates over 12,000 in 2022).</td><td>Section 8.8</td></tr>
<tr><td>• Where car parking reductions and credits are utilised for non-residential components, the provision of accessible car parking should still be provided to ensure equitable access to the site.</td><td>By others</td></tr>
<tr><td>• Hotel parking rates are calculated at 0.5 spaces per room + 1 space per 4 staff.</td><td>Section 5</td></tr>
<tr><td>• Council supports non-residential parking being limited to the parking in association with the hotel commercial/retail employees and public accessible parking only. General public parking for non-residential visitors/customers on the site is discouraged as it contributes to traffic generation and vehicles circling around the site looking for a parking space whereas there is available public parking in the vicinity of the site.</td><td>Noted. Section 5</td></tr>
<tr><td>• Council expects the provision of residential visitor parking to comply with the rate of 0.2 car parking spaces per dwelling</td><td>Section 5</td></tr>
</table>

12.5 Security of the Residential Basements • Residential parking areas are to be secured and separated from visitor and non-residential car parking areas which can be done through the provision of roller doors with security car access. • Where a shared vehicle driveway is proposed to access both residential and non-residential car parking areas, the management of security arrangements, hold points, provision for turning bays and exiting the site needs to be addressed, especially with regard to potential queuing impacts out of the site. Any vehicle control points (e.g. boom gates and roller doors) must comply with Table 3.3 of AS2890.1.	Residential parking will be separated from visitor and non-residential car parking areas with boom gates.
12.6 Site Servicing • The applicant will need to provide details relating to service, delivery and waste vehicle access, noting that supermarkets and large retail deliveries can require large articulated vehicles. The grades of the loading dock must not exceed 15.4% and allow for the simultaneous servicing of more than one use on the site, allowing turning in no more than 3 turning movements and forward egress. • All deliveries will need to be accommodated within the site. • A freight/delivery management plan is required for all proposed land uses, outlining the following details: o Time of day delivery plans. o Deliveries identified from all types of vehicles from the car/van (i.e. parcel deliveries) up to the largest vehicle intended to use the loading dock. o The types of deliveries required for the land uses and the times of these deliveries. o Consideration must be made to the limited opportunity for on-street deliveries to the site. o First and last mile design strategy, delivery hours and consolidation centres. o Supporting swept paths are required for the largest vehicle using the loading/unloading location. o Timing of all deliveries and loading	Refer to Section 6.

3 Site Context & Proposed Development

3.1 Site and Surrounding Context

The site (Figure 3-1) is situated at 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong, within the Wollongong Local Government Area (LGA).

The site forms part of the Wollongong City Centre Precinct, as identified in the Wollongong Local Environmental Plan 2009 (WLEP). It is well located, being approximately 280m from Wollongong Train Station which provides services within Wollongong and to the Sydney CBD. It is adjacent to Wollongong Central shopping centre, a major regional retail hub. The site has ample access to public open space being less than 50m from MacCabe Park.

The site comprises a significant landholding of approximately 13,088m^2 with frontages to Crown Street, Keira Street, Burelli Street and Atchison Street. The site area and legal description is recorded in Table 3-1.

Figure 3-1 Site Context

Source: Nearmap, edits by Ethos Urban

The site is currently occupied by a mix of retail and commercial uses and a pub (Grand Hotel) with associated two-storey car park. Existing vehicle access points are located at Findlay Place via Burelli Street.

Table 3-1 Site Description

Legal Description	Address	Legal Description	Address
Lot 1 in DP 112417	216-222 Keira Street	Lot 1 in DP 226374	253-259 Crown Street
Lot 100 in DP 774957	226-230 Keira Street	Lot 1 in DP 183348	
Lot 9 in DP 551157	232-234 Keira Street	Lot 2 in DP 226374	
Lot 8 in DP 546125	236-238 Keira Street	Lot 3 in DP 319452	261 Crown Street
Lot 1 in DP 88455	86 Burelli Street	Lot 2 in DP 319452	269-271 Crown Street
Lot 4 in DP 17979		Lot 1 in DP 319452	
Lot 5 in DP 17979		Lot 2 in DP 181570	273-279 Crown Street
Lot B in DP 395330	90 Burelli Street	Lot 1 in DP 1116034	
Lot 1 in DP 220513	221-229 Crown Street	Lot 1 in DP 82673	281-291 Crown Street
Lot 3 in DP 17979	231 Crown Street	Lot 1 in DP 117019	
Lot 2 in DP 17979	233-235 Crown Street	Lot 1 in DP 927806	281-291 Burelli Street
Lot 1 in DP 17979		Lot 1 in DP 1198873	
Lot 7 in DP 878243	237-241 Crown Street	Lot 1 in DP 1087986	
Lot 1 in DP 1135333	243-251 Crown Street		

3.2 Approved Development

An existing consent approved on 12 December 2022 (DA-2021/957) applies to the site. The consent was granted for the demolition of existing structures, retention of heritage facades, tree removal, excavation for basement car parking and construction of a mixed-use development at the street block bound by Crown, Keira, Burelli and Atchison Streets, comprising three (3) residential towers (shop top housing), one (1) commercial building, retail shops, entertainment facilities (cinema, exhibition/performance space) and a wellness centre (pool, gym, and health services).

The approved scheme is summarised below:

- A total of 390 apartments in the following composition:
  - 113 x one-bedroom apartments
  - 213 x two-bedroom apartments
  - 64 x three-bedroom apartments
- Non-residential land uses (retail, commercial, entertainment facilities, wellness centre) with a total floor space of 23,816m^2 GFA)
- 496 on-site car parking spaces, in the following composition:
  - 380 x residents
  - 41 x visitors
  - 58 x commercial / retail owner / tenant
  - 2 x car share
  - 15 x accessible spaces
- 7 loading bays in the following composition:
  - 2 bays for 12.5m Heavy Rigid Vehicle (HRV)
  - 2 bays for 8.8m Medium Rigid Vehicle (MRV)
  - 2 bays for 6.4m Small Rigid Vehicle (SRV)
  - 1 bay for B99/utility van

Vehicle access to the carpark will be provided via Burelli Street at the existing signalised intersection of Burelli Street, Kenny Street and Findlay Place.

Details of the approved scheme are indicated in the architectural plans prepared by BVN which accompany the submission and are provided in **Attachment 1**.

3.3 Proposed Development

The proposal seeks approval for a revised development outcome, involving additional residential apartments, a reduced commercial footprint, and the introduction of a new hotel building and supermarkets.

The revised development outcome is summarised in Table 3-2.

Table 3-2 Development Yield

Component	Details
Residential **(SEPP 2021 - Affordable Housing)**	132 x Affordable Units, in the following composition: o 57 x one-bed apartments o 72 x two-bed apartments o 3 x three-bed apartments 414 x Market Units, in the following composition: o 106 x one-bed apartments o 218 x two-bed apartments o 87 x three-bed apartments o 3 x four-bed apartments **Total: 546 x apartments**
Hotel	166 units (8,793m^2 GFA)
Retail, Commercial & Supermarket	Retail GFA: 3,781m^2 Commercial GFA: 10,009m^2 Supermarket GFA: 1,510 m^2
Car Parking	547 x Residents 49 x Residential Visitor 63 x Commercial / Retail & Residential Visitor 25 x Commercial / Retail (Staff) 10 x Hotel (Staff only) 80 x Supermarket (ALDI) **Total: 774 x spaces**

Loading Arrangement	**5 loading bays** o 1 bay for up to 17.5m Semi-Trailer o 2 bays for up to 12.5m Heavy Rigid Vehicle (HRV) o 2 bays for B99/utility van

Currently approved vehicle access points at Burelli Street will be retained under this proposal.

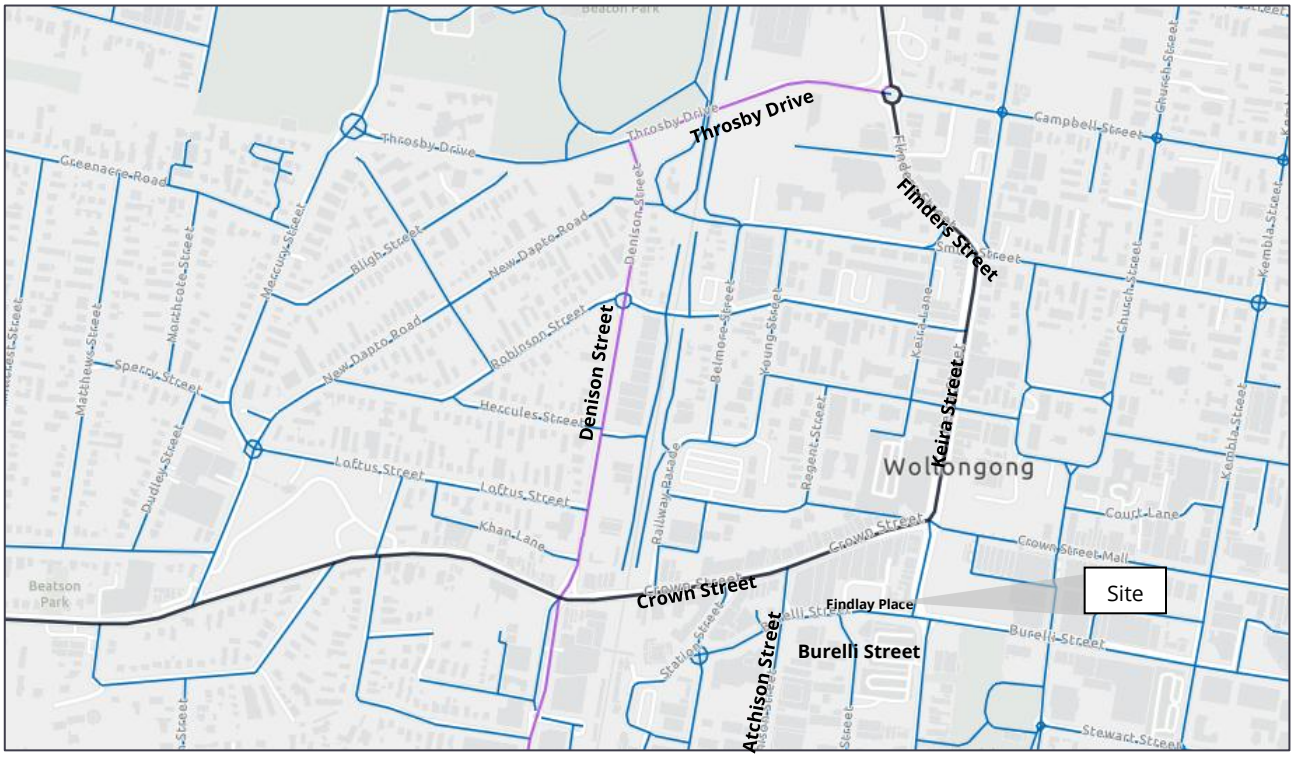
Details of the proposal are indicated in the architectural plans prepared by DKO Architecture which accompany the submission and are reproduced in part in **Attachment 2**.

4 Existing Traffic & Transport Context

4.1 Road Network

The road network in the site's vicinity (Figure 4-1) comprises:

Figure 4-1 Road Network



Source: TfNSW (modified by Genesis Traffic

Road Name	Description
Flinders Street	· State Road · Speed limit 50 km/h · 2 lanes in each direction · No Stopping restriction along both sides of the street
Keira Street	· State Road/Local Road · Speed limit 50 km/h · 2 lanes in each direction · No Stopping restriction and Time restricted (1P) on-street parking along both sides of the street
Crown Street	· State Road/Local Road · Speed limit 50 km/h

	· 2 lane(s) in each direction · Time restricted (1P) on-street parking and No Parking restriction along both sides of the street
Denison Street	· Regional Road · Speed limit 50 km/h · 1 lane in each direction · Unrestricted on-street parking along both sides of the street
Throsby Drive	· Regional Road · Speed limit 50 km/h · 2 lanes in each direction · No Stopping and No Parking restriction along both sides of the street
Atchison Street	· Local Road · 3 lanes between Crown Street and Burelli Street (one way from north to south); 1 lane in each direction beyond this section · Time restricted (2P) on-street parking and No Parking restriction along both sides of the street
Burelli Street	· Local Road · Speed limit 50 km/h · 2 lanes in each direction · Time restricted (1P) on-street parking and No Parking restriction along both sides of the street
Findlay Place	· Access Laneway · 1 lane (one way from south to north) · No Stopping restriction along the street

4.2 Traffic Controls

The traffic controls on the road system in the vicinity of the site comprise (Table 4-1).

Table 4-1 Surrounding Traffic Controls

Road Name	Description

Traffic Signal	· Intersections of:
	  o Flinders Street and Keira Street
	  o Crown Street and Keira Street
	  o Burelli Street and Keira Street
	  o Burelli Street and Atchison Street
	  o Crown Street and Atchison Street
	  o Crown Street and Denison Street
	· Throsby Drive and Denison Street

Roundabout	· Intersection of: · Throsby Drive and Flinders Street
No Right Turn	· From Crown Street to Keira Street · From Burelli Street to Atchison Street · From Burelli Street to Keira Street
Bus Lane	· Along parts of o Keira Street · Crown Street

4.3 Existing Public Transport Infrastructure

The NSW Guidelines to Walking & Cycling (2004) nominates a comfortable walking distance as being between 400m and 800m. Accordingly, the available public transport services within the 400m catchment are shown in Figure 4-2.

Figure 4-2 Local Public Transport

Source: Mecone Mosaic (Modified by Genesis Traffic)

4.3.1 Train Services

Wollongong Railway Station is located approximately 400m of the site (Figure 4-2) and provides access to the Sydney Central Business District (CBD) via the Sydney Trains rail network. Table 4 2 documents the available train service information.

Table 4-2 Train Service Provision

Train Line	Route	Peak Frequency (Trips per hour)	
		AM Peak	PM Peak
South Coast Line	Bondi Junction and Central to Bomaderry or Port Kembla	3	3-4

	Bomaderry or Port Kembla to Central and Bondi Junction	3-4	2-3

4.3.2 Bus Services

The subject site is conveniently situated within walking distance of high-frequency bus services operating in the locality. The nearest bus stop is located along the site frontage on Crown Street. The locations of local bus stops are identified in Figure 4-2 and Table 4-3 outlines these bus services.

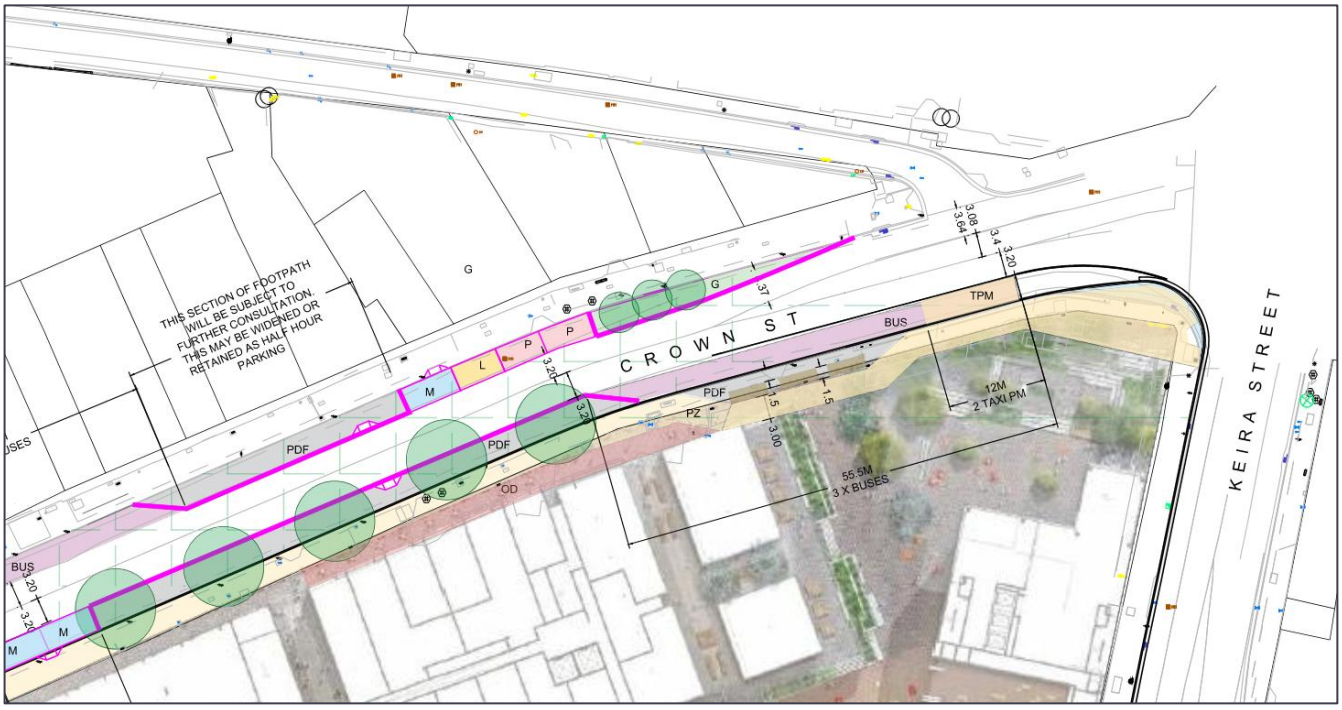
Table 4-3 Bus Services Provision

Bus Line	Bus Route
2	Stanwell Park to Wollongong via Thirroul
3	Wollongong to Bellambi via Towradgi (Loop Service)
6	Wollongong to Mount Pleasant (Loop Service)
7	Wollongong to Bellambi (Loop Service)
8	Wollongong to Bellambi via Balgownie (Loop Service)
10	Wollongong to West Wollongong (Loop Service)
11	Wollongong to Wollongong University (Loop Service)
24	Wollongong to Figtree via Mangerton (Loop Service)
31	Wollongong to Horsley via Unanderra (Loop Service)
33	Wollongong to Dapto via Unanderra (Loop Service)
34	Wollongong to Warrawong via Unanderra (Loop Service)
35	Unanderra to Wollongong via Farmborough Heights
36	Wollongong to Kembla Heights via Cordeaux Heights (Loop Service)
37	Wollongong to Shellharbour via Dapto (Loop Service)
39	Wollongong to Figtree via Mt Keira (Loop Service)
51	Oak Flats to Wollongong via Stockland Shellharbour
53	Shellharbour to Wollongong via Shell Cove & Warrawong
57	Wollongong to Shellharbour via Warrawong (Loop Service)
65	North Wollongong to Port Kembla (Loop Service)
90	Austinmer Station to Wollongong
92	Bulli to Wollongong
887	Campbelltown to Wollongong via Appin

Bus Stop Relocation

The assessment notes that in accordance with DA-2021/957, the existing bus stop on Crown Street is relocated further east, providing a 55m long bus bay. This approved configuration is illustrated in Figure 4-3.

Figure 4-3 Approved Bus Stop Location and Configuration



Source: WCC Land Use Planning

4.3.3 Car Share

Car share is a relatively established alternative mode of travel by which members join a car ownership club, choose a rate plan, and pay an annual fee. The fees cover fuel, insurance, maintenance, and cleaning. The vehicles are mostly comprised of sedans and hatchbacks but also include SUVs, station wagons, trays, and utility vans. Each vehicle has a home location, referred to as a "pod", either in a parking lot or on a street, typically in a highly populated urban neighbourhood. Members reserve a car via the internet or telephone and use a key card to access the vehicle.

Similar councils (e.g., City of Canada Bay Council) have reported that "each share car replaces between 8 and 23 private car parking spaces, depending on the location of the development".

GoGet, a pioneering car share company in Australia, has a substantial number of vehicles positioned in the city and also in close proximity to the site. GoGet' pods' location within the immediate vicinity of the site are shown in the extract below (Figure 4-4).

Figure 4-4 GoGet Locations

Source: GoGet (modified by Genesis Traffic)

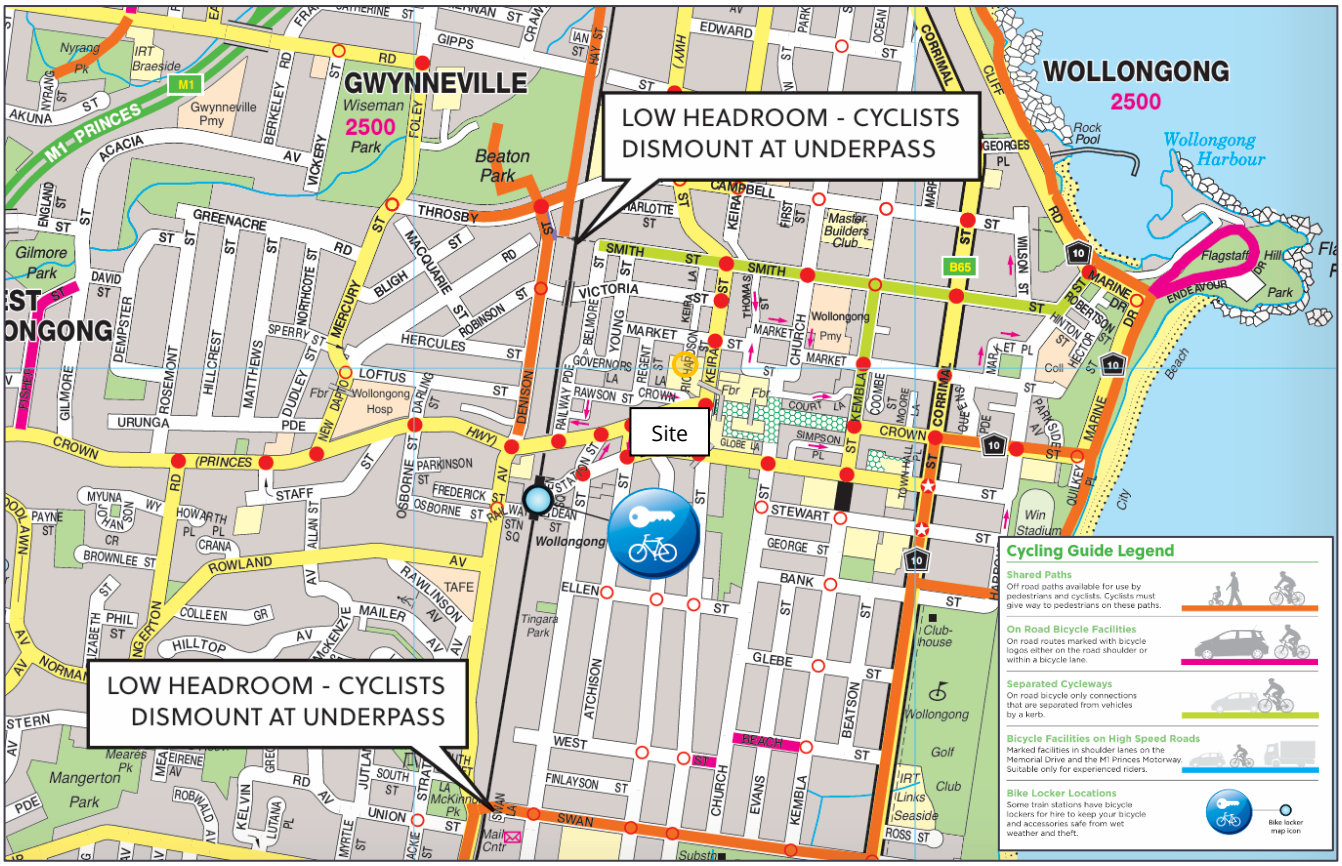
GoGet currently operates 1 GoGet pod within a catchment of approximately 400m from the site. The pod is located near the Wollongong Railway Station.

4.4 Existing Active Transport Infrastructure

4.4.1 Bicycle Routes

The local bicycle paths map published by the Wollongong City Council (Figure 4-5) identifies the existing cycling infrastructure near the site. The site has ample cycling infrastructures in the surrounding area.

Figure 4-5 Cycling Path



Source: Wollongong City Council

4.4.2 Pedestrians

Formal pedestrian footpaths are available near the site. These footpaths have adequate lighting/illumination. In addition, there are appropriate pedestrian crossings for occupants to use when approaching/departing the local public transport services.

4.5 Crash History

Transport for NSW (TfNSW) provides a history of recorded crash data between 2019 and 2023 (data for 2024 is not available at the time of this assessment). The data reveal the following number of crashes within 5 years near the site (Figure 4-6 and Table 4-4).

Figure 4-6 Locations of the Recorded Crashes

Source: TfNSW

Table 4-4 Crash Data Record

Location	Year of Crash	RUM Code	RUM Description	Number Killed	Number Injured	Degree of Cash
Burelli Street / Kenny Street / Findlay Place	2020	21	Right Through	-	-	Non-casualty (towaway)
	2021	30	Rear end	-	-	Non-casualty (towaway)
Burelli Street	2020	71	Off rd left => obj	-	1	Moderate Injury
Keira Street / Burelli Street	2021	21	Right Through	-	1	Minor/Other Injury
	2022	10	Cross Traffic	-	1	Serious Injury
	2023	10	Cross Traffic	-	1	Minor/Other Injury
	2023	10	Cross Traffic	-	-	Non-casualty (towaway)
Keira Street/ Crown Street	2019	30	Rear end	-	1	Minor/Other Injury
	2022	30	Rear end	-	1	Moderate Injury
Keira Street	2021	73	Off rd left => obj	-	-	Non-casualty (towaway)
Crown Street / Atchison Street	2019	30	Rear end	-	-	Non-casualty (towaway)
	2022	30	Rear end	-	1	Moderate Injury
	2023	0	Ped nearside	-	1	Serious Injury

Atchison Street	2020	46	Reversing into obj	-	-	Non-casualty (towaway)
	2020	49	Other Manoeuvring	-	1	Serious Injury
	2023	42	Leaving parking	-	-	Non-casualty (towaway)

The data recorded 16 crashes in the site's vicinity in the most recent 5-year period, 3 incidents involved a serious injury. Two (2) crashes occurred at the intersection of Burelli Street, Kenny Street and Findlay Place.

The record shows only 1 incident involved pedestrians, and no incidents involving cyclists were recorded over the 5-year period.

4.6 Existing Traffic Conditions

An indication of traffic conditions on the site's road system is provided by data published by the Roads and Maritime Services (RMS). The RMS data is expressed in Average Annual Daily Traffic (AADT), and the most recently recorded Crown Street traffic flows in the site's vicinity are shown in Table 4-5 below.

Table 4-5 AADT

Location	Eastbound	Westbound
Crown Street, 40m West of Railway Parade		
2020	8,835	7,473
2021	8,253	7,171
2022	**6,294**	**5,849**

It is noted that the traffic volume on Crown Street has gradually decreased over the past 3 years.

Traffic surveys were also commissioned as part of this assessment to record the AM peak and PM peak traffic flows at the following intersections:

- Keira Street and Crown Street
- Keira Street and Burelli Street
- Crown Street and Atchison Street
- Atchison Street and Burelli Street
- Burelli Street, Kenny Street and Findlay Place

The traffic data is reproduced in **Attachment 3**.

The intersections' existing operation has been assessed using SIDRA traffic modelling program. SIDRA is a micro-analytical tool for individual and network intersection modelling based on collected traffic survey data. SIDRA provides a few performance indicators, as follows:

Degree of Saturation – the total usage of the intersection expressed as a factor of 1, with 1 representing 100% use/saturation.

Average Delay – the average delay encountered by all vehicles passing through the intersection.

95% Queue Length (Q95) – is defined to be the queue length in metres that has only a 5% probability of being exceeded during the analysis period. It transforms the average delays into measurable distance units.

Level of Service (LOS) – this is a categorisation of average delay, intended for simple reference. The RMS adopts the following bands (Table 4-6)

Table 4-6 Intersection Performance – Levels of Service

Level of Service	Average Delay (s/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	< 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & Spare capacity
C	29 to 42	Satisfactory	Satisfactory but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity. At signals, incidents would cause excessive delays. Roundabouts require other control mode	At capacity and requires other mode of control
F	> 70	Extra capacity required	Extreme delay, major treatment required

An indication of the prevailing traffic operations at the following intersections is provided in the SIDRA assessment (Table 4-7).

Table 4-7 Existing Intersection Traffic Circumstance

Intersection	AM Peak			PM Peak		
	LOS	**AVD**	**DOS**	**LOS**	**AVD**	**DOS**
Crown Street / Atchison Street	0.524	13.4s	A	0.455	10.7s	A
Crown Street / Keira Street	0.645	23.9s	B	0.601	29.1s	C
Keira Street / Burelli Street	0.792	35.4s	C	0.638	37.6s	C

Burelli Street / Atchison Street	0.240	10.0s	A	0.251	11.5s	A
Burelli Street / Kenny Street / Findlay Place	0.275	16.8s	B	0.294	22.8s	B

Details of SIDRA results are reproduced in **Attachment 4**.

The assessment found the local road network operating with spare capacity under existing traffic demand (including the site's existing traffic movements).

5 Parking Assessment

5.1 Car Parking

5.1.1 Residential

Reference is made to the Housing SEPP and Wollongong DCP. Relevant car parking rates are provided below.

Table 5-1 Car Parking Rates from Housing SEPP

Land Use	Source	Element	Minimum Parking Rates
Affordable Units	Section 19 Chapter 2, Part 2 Housing SEPP 2021	One-Bed	0.4 space(s) per unit
		Two-Bed	0.5 space(s) per unit
		Three-Bed	1.0 space(s) per unit
Market Units		One-Bed	0.5 space(s) per unit
		Two-Bed	1.0 space(s) per unit
		Three-Bed	1.5 space(s) per unit
Visitor[1]	Part E Schedule 1 DCP		0.2 space(s) per dwelling

Applying the above criteria to the proposal would indicate the following requirement (Table 5-2).

Table 5-2 Required Car Parking Spaces

Element		Unit	Requirement
Affordable Units	One-Bed	57	23
	Two-Bed	72	36
	Three-Bed	3	3
Market Units	One-Bed	106	53
	Two-Bed	218	218
	Three-Bed or more	90	135
Total Residential Spaces			**468 spaces**
Visitor		546 units	**109 spaces**
Total			**577 spaces**

[1] SEPP Housing Code does not require parking provision for visitors. Reference has been made to the DCP.

It is proposed to provide a total of **659 car spaces** in the following composition:

- 547 x residents
- 112 x visitors (including 63 to be shared with commercial visitor spaces)

The provision meets the SEPP requirements.

In relation to residential visitors' parking, it is proposed for 63 of the residential visitor spaces to be jointly used with the commercial offices' visitors (in the mezzanine level). This is a typical arrangement that is appropriate as there are generally minimal overlap between the 2 user groups: commercial office visitations generally occur during business hours while residential visitations after hours. Notwithstanding, should there be after hours commercial visitations, there remains 49 exclusively provided residential visitors parking available in the residents only car park to accommodate such occasional off-peak demand.

On this basis, the assessment deems the proposed parking provision for both residents and visitors to be adequate.

5.1.2 Hotel

The DCP provides the following car parking rates for hotels.

- 0.5 space per room for guest plus 1 car parking space per 4 staff for employees; or
- 1 space per 40m^2

Notwithstanding above requirement/criteria, the proposal accords with the Council's intent to restrain the provision of guests' car park. Instead, all car parking associated with the hotel component will be for staff only. On this basis, as the proposed hotel operation is anticipated to be supported by up to 40 full time equivalent staff member, the relevant criteria is 1 space per 4 staff members on duty. Therefore the proposal of 10 staff-only spaces is aligned to this requirement.

5.1.3 Commercial/Retail

The DCP provides a car parking rate of 1 space per 60 m^2 for retail/commercial premises.

Notwithstanding, the approved car parking rate for commercial/retail elements is 1 space per 330m^2. It is advised that this rate has been derived using the car parking credit under Clause 7.5 of Chapter E3 of the DCP, in keeping with Council's intent on restraining non-residential parking in the development to curb traffic generation in the town centre.

Using the approved car parking basis, the proposed commercial and retail floor area of 13,790m^2 would indicate a minimum requirement of 42 spaces.

It is proposed to provide a total of 88 car parking spaces for the commercial uses, with 25 spaces allocated for staff and the remaining 63 spaces designated for dual use by commercial and residential visitors.

5.1.4 Supermarket

The DCP does not provide a car parking rate for supermarkets, nor does the latest Guide to Transport Impact Assessment 2024. Instead, the assessment refers to the Guide to Traffic Generating Developments 2002 (GTGD), which provides a car parking rate of 42 spaces per 1,000m^2 for supermarkets.

Applying this rate to the proposed supermarket floor area of 1,510m^2 will result in a parking requirement of 63 car spaces.

It is proposed to provide 80 car spaces for the supermarket. The proposed provision meets the parking requirement set out in the GTGD.

5.2 Car Parking Allocation

In accordance with Council's requirements (and consent conditions), the various user groups arising from the mixed-use nature of the development have been categorised as follows, and their car parking allocation identified accordingly in the below recommended arrangement, which total **774 spaces**:

- 547 x Residents
- 49 x Residential Visitors
- 63 x Commercial / Retail & Residential Visitors2
- 25 x Commercial / Retail (Staff)
- 10 x Hotel (Staff only)
- 80 x Supermarket

[2] The shared commercial and residential visitor spaces should be delineated as 'Visitors'.

5.3 Bicycle Parking and End of Trip Facility Requirement

The applicable bicycle parking rates (Table 5-3) are provided in the DCP.

Table 5-3 Bicycle Parking Rates

Land Use	Element	Parking Rates
Residential Flat	Resident	1 space per 3 dwellings
	Visitor	1 space per 12 dwellings
Hotel		N/A
Business Premises	Staff	1 space per 200m^2 GFA
	Visitor	1 space per 750m^2 GFA
Retail Premises (Supermarket)	Staff	1 space per 750m^2 GFA
	Shopper	1 space per 1,000m^2 GFA

Application of the above DCP rates to the proposal indicates the following bicycle parking requirements (Table 5-4).

Table 5-4 Required Bicycle Storage/Parking Spaces

Land Use	Unit/GFA	Requirement	
		Resident/Employee	Visitor
Residential Flat	546 units	182	46
Business Premises	13,790m^2	69	19
Retail Premises (Supermarket)	1,510m^2	2	2
Total		**320 spaces**	

It is proposed to provide **320 bicycle spaces** to comply with the DCP requirement.

The DCP also provides the following requirement for end of trip facilities for non-residential components, as follows:

Table 5-5 End-of-Trips Facilities Requirement from DCP

Required Bicycle Parking Spaces	Shower & Change Cubicle	Personal Lockers
< 5 bicycle spaces	N/A	N/A
5 – 20 bicycle spaces	1 female shower and change room; and 1 male shower and change room	1 per bicycle space
> 20 bicycle spaces	2 female shower and change rooms; and	1 per bicycle space

	2 male shower and change rooms; plus 2 additional shower and change rooms for every additional 10 bicycles spaces, or part thereof

Accordingly, an appropriate quantum of end-of-trip facilities are provided in Basement 1 to satisfy the DCP criteria.

5.4 Motorcycle Parking Requirement

Table 5-6 outlines the applicable motorcycle parking rates from the DCP:

Table 5-6 Motorcycle Parking Rate

Land Use	Parking Rates
Residential Flat	1 space per 15 car parking spaces
Hotel	1 space per 25 car parking spaces
Business Premises / Retail Premises	1 space per 25 car parking spaces

Application of the above DCP rates to the proposal indicates the following motorcycle parking requirements (Table 5-7).

Table 5-7 Required Motorcycle Spaces

Land Use	No. of Car Spaces	Requirement
Residential Flat	596 spaces	40 spaces
Hotel	10 spaces	-
Business Premises / Retail Premises	168 spaces	7 spaces
Total		**47 spaces**

It is proposed to provide **47 motorcycle spaces** to comply with the DCP requirement.

5.5 Loading and Servicing Requirement & Arrangement

The proposal is subject to the following DCP requirement:

Table 5-8 Loading Bay Requirement

Business Premises	Requirement
< 1,000m² GFA	Small Rigid Vehicle (SRV)
> 1,000m² GFA	Articulated Vehicle

Accordingly, provision will be made in the dedicated and separated loading area for 5 loading bays accommodating:

- 1 x 17.5m semi-trailer bays, dedicated for the supermarket
- 2 x HRV bays (Heavy Rigid Vehicles) for the remaining commercial and residential uses
- 2 x Utility van bays for miscellaneous courier deliveries

6 Freight & Delivery Management Plan

A preliminary Freight & Delivery Management Plan (FDMP) has been developed to ensure the efficient and safe movement of goods and services for the proposed mixed-use development. This FDMP outlines the vehicle access strategy, delivery schedules, and operational guidelines to ensure the effective servicing of the site.

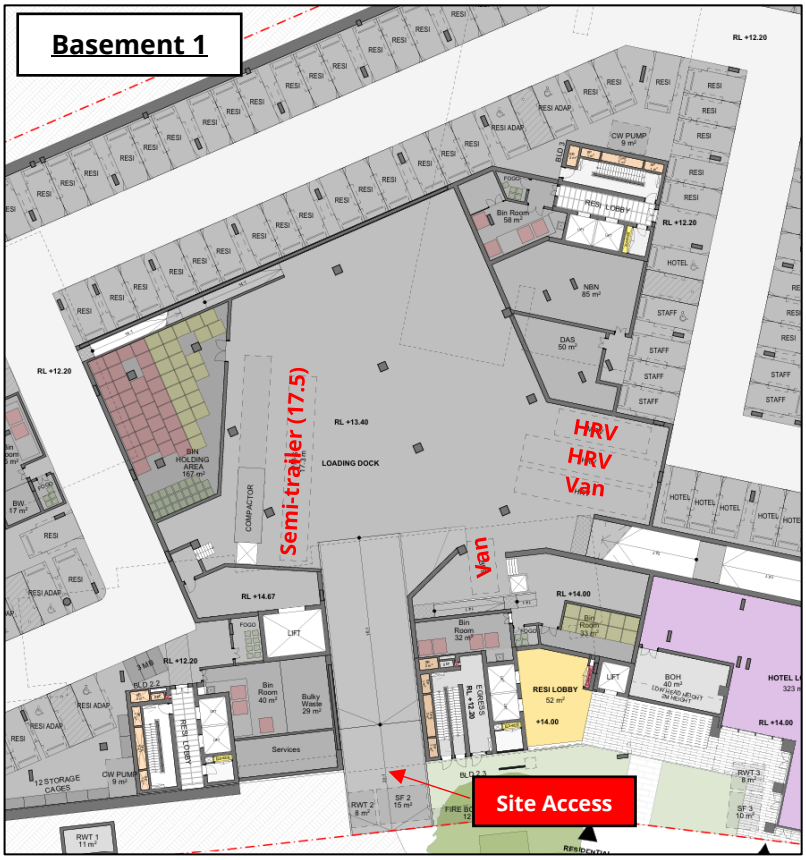
6.1 Access Location & Loading Facilities

A dedicated loading area is provided in Basement 1, with vehicle access located via Burelli Street, demonstrated in Figure 6-1. The location of the loading bays is also illustrated in Figure 6-1 and the loading area is equipped with the following loading facilities:

- 1 x 17.5m semi-trailer bays, dedicated for supermarket
- 2 x HRV bays (12.5m Heavy Rigid Vehicles)
- 2 x Utility van bays

A headroom of 4.5m is provided over the loading area.

Figure 6-1 Loading Site Access and Loading/Service Bay(s)



Source: DKO Architecture (modified by Genesis Traffic)

6.2 Loading and Servicing Circulation

The proposed loading arrangement complies with the geometrical requirements of AS2890.2:2018. Full design assessments are discussed in Section 7.2.

Swept path assessment has been undertaken to ensure the largest service vehicle (17.5m long semi-trailer) can enter and exit the site in a forward manner without undue difficulty.

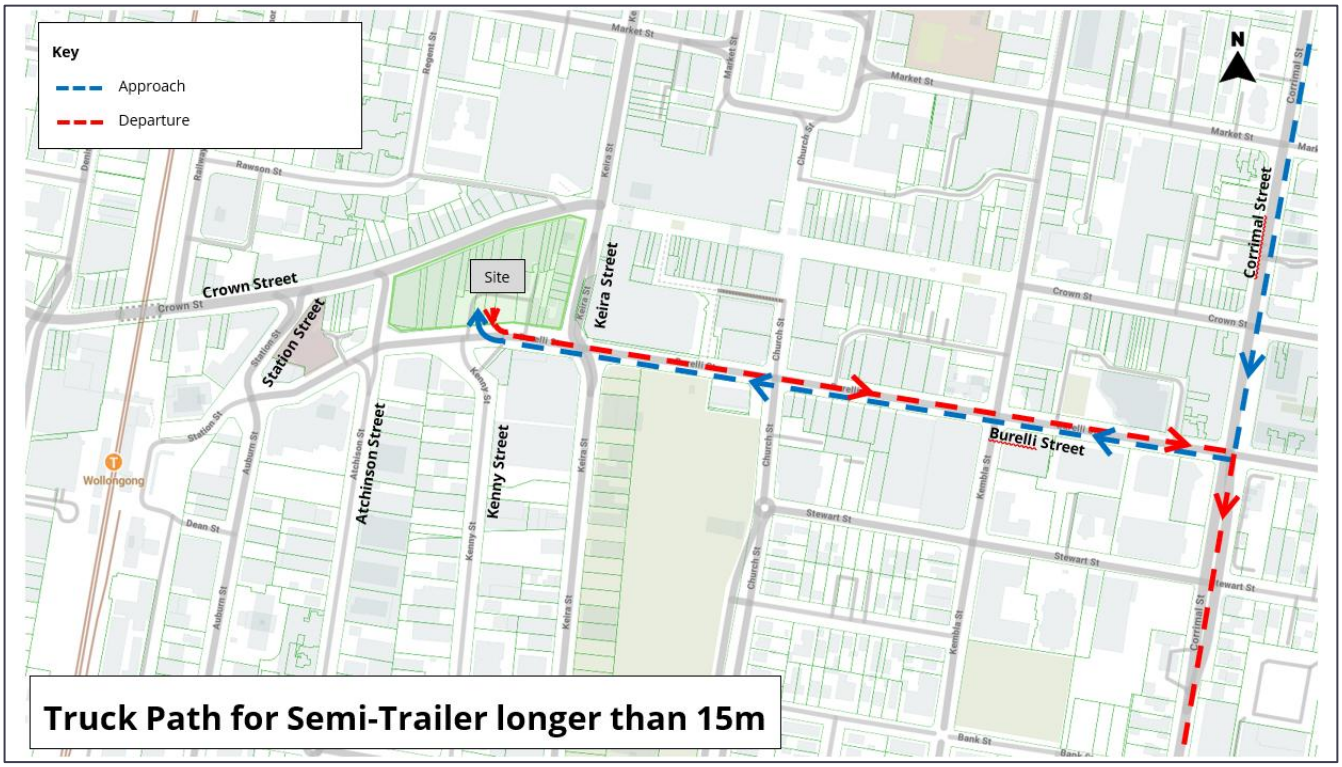
Details demonstrating vehicle access movements for the bays are shown on the swept path diagrams in **Attachment 5**.

6.3 Truck Route

Due to the surrounding local road restriction, the assessment recommends that that service vehicles exceeding 15m long approach and depart the site via Corrimal Street only. Truck movements will be restricted to a right-in/left-out only arrangement to and from Burelli Street.

All truck drivers must contact the Building Manager prior to any delivery and must adhere to the designated truck route. The planned route is illustrated in Figure 6-2.

Figure 6-2 Servicing Truck Route



6.4 Operating Hours

The designated waste collection service provider (Council) will have 24-hour access to the loading bay(s). Garbage collection generally occurs on weekdays between 5am – 11am.

Where access to the loading area(s) will be secured by roller shutter or similar, a unique access code or 'AirKey' will be provided to the Council's waste collection team before occupancy of the building.

Other service vehicles (removalists, deliveries, etc.) will be limited to take place between 7.00 am and 10.00 pm daily.

6.5 Types of Deliveries & Frequency

The assessment refers to Freight and Servicing Last Mile Toolkit by NSW Government, outlining the different delivery types required for each land use. Table 6-1 summarises the delivery needs, including typical vehicle types and expected dwell times from the guideline.

Table 6-1 Type of Deliveries for Each Land Use

Type of Delivery	Land Use	Typical Type of Vehicle	Dwell Time*
Parcel & Courier	Residential Commercial / Retail	Van to SRV	Short
Good Delivery	Supermarket	HRV to Semi Trailer	Long
Waste Collection	All Land Uses	HRV	Short
Removalist	Residential Commercial / Retail	MRV	Long
Trade & Service Vehicle	All Land Uses	SRV	Long

**Dwell Time:*
Short = Less than 15 minutes
Medium = Between 15 minutes to 30 minutes
Long = More than 30 minutes

6.6 Frequency of Delivery

The expected frequency of deliveries is summarised as follows:

- Parcel & Courier (Residential) ~ 3-5 deliveries per day
- Courier (Commercial / Retail) ~ 3-5 deliveries per day
- Supermarket Delivery ~ 1-2 delivery per day
- Removalist ~ 1 delivery per week

- Maintenance and Waste ~ 1-2 deliveries per day

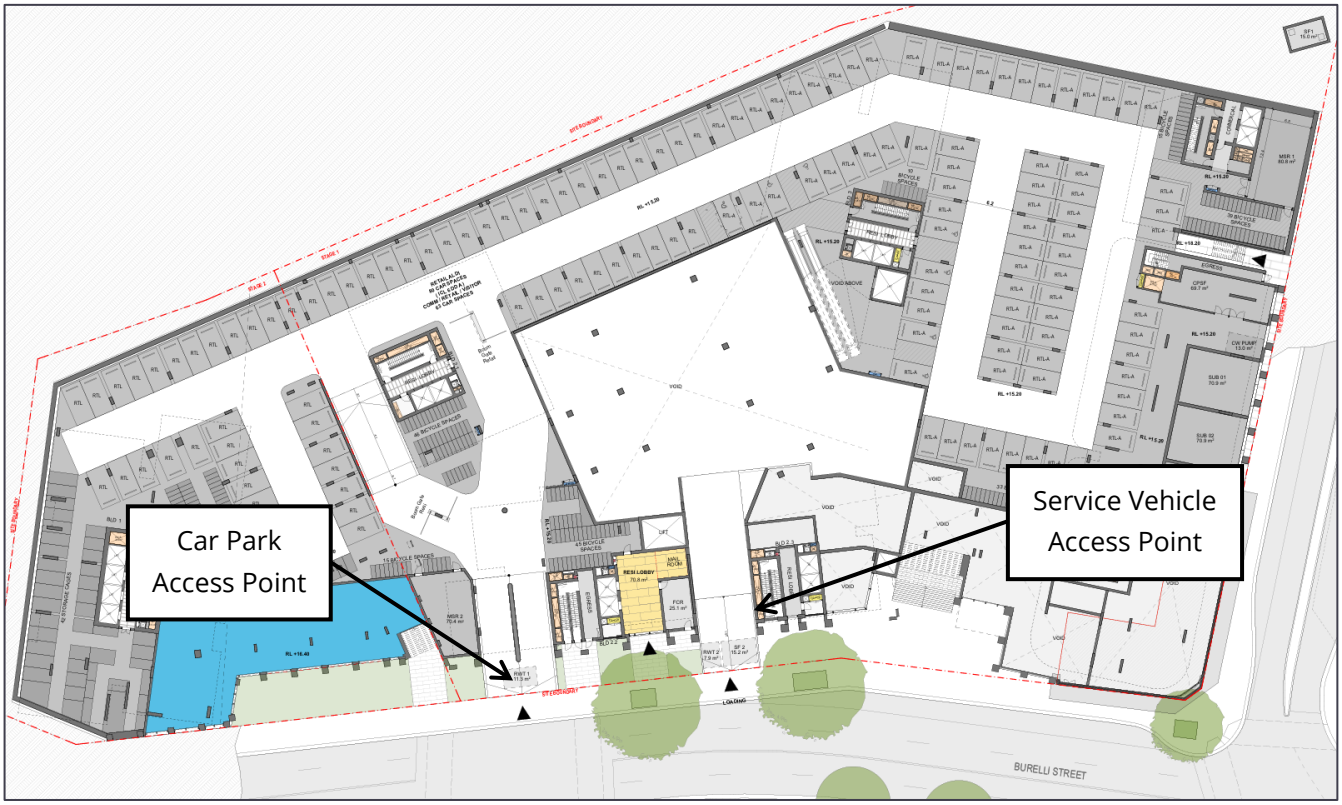
Major activities at the loading bay(s) will be supervised by the Building Manager. If required, an electronic booking system can be used to coordinate the scheduling of bay occupancy.

7 Access and Circulation Design

7.1 Access

Two (2) vehicular access points are located at Burelli Street providing separate access for cars and trucks/service vehicles. The proposal will retain the approved car park access via integration with the existing signal intersection of Burelli Street, Kenny Street and Findlay Place. A separate service vehicle access will be provided further east on Burelli Street.

Figure 7-1 Vehicle Access Location



Details of the access design and geometry are discussed in Section 7.2.

7.2 Design Assessment and Internal Circulation

A detailed review of the car park has been undertaken to assess its conformance with the relevant AS2890 design criteria. The assessment outcome is tabulated below for ease of reference.

Table 7-1 Off-street Car Parking (AS2890.1:2004) Criteria

Features	Requirement	Provision	Compliance	Notes
Access Driveways				
Sight Triangle (Pedestrian)	2.5m long x 2.0m wide	Provided	Yes	
Sight Distance (50km/h)	Min 45m	Provided	Yes	
First 6m Ramp Grade	Max 5% (1:20) down Max 12.5% (1:8) up	Level	Yes	
Vehicular Control Point	Max 5% (1:20)	Level	Yes	
Straight Ramp / Driveway				
Ramp Grade	Up to 20m Max 25% (1:4)	1:4	Yes	
Transitions	Min 2.0m	2.0m	Yes	
Grade Transitions	Max 12.5% (1:8)	1:8	Yes	
Roadways Width (One-way)	Min 3.0m	3.0m – 4.4m	Yes	
Roadways Width (Two-way)	Min 5.5m	5.8m – 8.8m	Yes	
Vertical Obstruction Clearance / Kerbs	300mm on both sides	Provided	Yes	
Headroom Clearance	Min 2.2m	Provided	Yes	
Parking Modules				
Car Space Dimension for Resident, Visitor and Staff	**User Class 1A** 5.4m long x 2.4m wide	5.4m long x 2.4m wide	Yes	
Aisle Width	**User Class 1A** 5.8m	>5.8m	Yes	
Car Space Dimension for Retail	**User Class 3A** 5.4m long x 2.7m wide	5.4m long x 2.7m wide	Yes	
Aisle Width	**User Class 3A** 6.2m	6.2m	Yes	
Door Clearance	300mm	Provided	Yes	
Blind Aisle	Min 1.0m	>1.0m	Yes	
Headroom Clearance	Min 2.2m	>2.2m	Yes	
Gradient	Max 5% (1:20)	Level	Yes	
Motorcycle Space Dimension	2.5m long x 1.2m wide	2.5m long x 1.2m wide	Yes	

Note: The assessment notes there are some recommendations, e.g. provision of convex mirrors to improve user amenity, which can be incorporated during the detailed design phase.

Table 7-2 Off-street Commercial Vehicle Facilities (AS2890.2:2018) Criteria

Features	Requirement	Provision	Compliance	Notes
Access Driveways				
Sight Triangle (Pedestrian)	2.5m long x 2.0m wide	Provided	Yes	
First 7m Ramp Grade	Max 5% (1:20) down Max 6.25% (1:16) up	1:20	Yes	
Ramp / Circulation Roadways				
Ramp Grade	Max 15.4% (1:6.5)	1:16	Yes	
Transitions	Min 10.0m	10.0m	Yes	
Grade Transitions	Max 6.25% (1:16)	1:16	Yes	
Straight Roadways Width (Two-way)	Min 6.5m	7.8m	Yes	
Vertical Obstruction Clearance / Kerbs	300mm on both sides	Provided	Yes	
Headroom Clearance	Min 4.5m	Provided	Yes	
Parking Modules				
Space Dimension (HRV)	12.5m long x 3.5m wide	12.5m long x 3.5m wide	Yes	
Headroom Clearance	Min 4.5m	Provided	Yes	
Gradient	Max 4% (1:25)	Level	Yes	

Table 7-3 Bicycle Parking (AS2890.3:2015) Criteria

Features	Requirement	Provision	Compliance	Notes
Horizontal Bicycle Parking				
Space Dimension	1.8m long x 0.5m wide	1.8m long x 0.6m wide	Yes	
Aisle	1.5m	>1.5m	Yes	
Gradient	Max 5% (1:20)	Level	Yes	
Height Clearance	Min 2.2m	>2.2m	Yes	

Table 7-4 Off-street Parking for People with Disabilities (AS2890.6:2022) Criteria

Features	Requirement	Provision	Compliance	Notes
Space Dimension	5.4m long x 2.4m wide	5.4m long x 2.4m wide	Yes	
Shared Zone + Bollard	5.4m long x 2.4m wide	5.4m long x 2.4m wide	Yes	

Height Clearance	Min 2.5m	Min 2.5m	Yes	
Gradient	Max 2.5% (1:40)	Level	Yes	

In summary, the assessment confirms that the design provisions in relation to the access, car parking circulation and arrangement in respect to the proposal generally comply with the AS2890 design criteria.

7.3 Swept Path Analysis

All critical vehicle movements in the proposed car parking facility have been assessed using Autoturn. Details of the assessment outcome, which demonstrate a satisfactory design provision, are provided in **Attachment 5**.

7.4 Queuing Analysis

A queue analysis has been undertaken to determine the adequacy of the available queuing storage at the vehicle entry point.

The following assumptions have been made in this analysis:

1) Average of 6 to 7 seconds for a vehicle to drive pass the boom gate (see Note 1)
2) Peak demand (inbound during PM peak): 260 vehicle trips per hour (see Note 2)

Note 1: based on a standard card reader machine service rate of 400 vehicles per hour per boom gate, as per the approved TIA

Note 2: based on the anticipated trip distribution outlined in Section 8.3

The available queue storage in front of the roller shutter is 8 vehicle space. The analysis outcome, reproduced in **Attachment 6**, found the likelihood/probability of more than 5 entry vehicle arriving onsite (thus exceeding the queue storage capacity) to be 1.7%. This is to say that the available queue storage satisfies the 98.3% percentile queue demand, exceeding the 98th percentile required under Part 3.5 of the AS2890.1. On this basis, the queue storage of 8 vehicle space is deemed adequate.

8 Traffic Assessment

8.1 Existing Traffic Generation

The approved basis documented in the approved TIA (by Stantec) noted that the existing site would generate 48 trips during AM peak and 26 trips during PM peak. Conservatively, this assessment will not discount these existing development traffic.

8.2 Development Traffic Generation

Residential & Commercial/Retail

The approved rates are as follows:

- Residential: 0.25 to 0.30 trips per apartment during peak periods
- Commercial/Retail: 50% of the commercial spaces during peak periods

Applying the same traffic generation rates to the proposal indicates the following outcome:

- Residential: 164 trips during peak periods
- Commercial/Retail: 26 trips during peak periods

Hotel

The Guide to Transport Impact Assessment (2024) does not specify a trip generation rate for hotels. However, because the hotel parking will be restricted to staff only, the assessment conservatively assumes that all parking spaces will be occupied and vacated during the AM and PM peak periods. On this basis, the provision of 10 hotel spaces results in 10 trips during peak hours.

Traffic movements associated with guests arrival and departure are predominantly outside AM and PM peak periods to align with hotel check in and check out times.

Supermarket

The Guide to Transport Impact Assessment (2024) provides regression formulae for supermarket during the PM peak period. The relevant formula is as follows:

- 0.017 (S) + 0.003 (F) + 0.137 (SM) + 0.032 (SS) + 0.164 (OM) – 0.011 (C)

  Where:

  - *(S): Slow Trade Gross Leasable Floor Area (GLFA) includes major department stores, furniture, electrical and whitegoods stores*
  - *(F): Faster Trade GLFA includes discount department stores and larger specialist stores.*

- *(SM): Supermarket GLFA includes both supermarket stores and large green grocery markets.*
- *(SS): Specialty shops, secondary retail, automobile services GLFA includes smaller retail outlets e.g. clothing and jewellery. These stores are grouped as they tend to not be primary attractors to the centre.*
- *(OM): Office, medical, child care GLFA includes medical centres and general business offices.*
- *(C): Cinemas.*

Application of the above trip rate to the proposed supermarket would generate 207 trips during PM peak.

Accordingly, Table 8-1 summarises the total development trips for all land uses.

Table 8-1 Peak Hour Traffic Generation

Land Use	Unit/GFA	AM Peak (vtph)	PM Peak (vtph)
Residential	546 units	164	164
Hotel	10 car spaces	10	10
Commercial/Retail	88 car spaces	44	44
Supermarket	1,510m^2	-	207
Total		**218**	**425**

On this basis, the proposed yield is expected to generate a total of 218 trips during the AM peak and 425 trips during the PM peak.

The approved scheme was projected to generate 225 trips during the AM Peak and 305 trips during the PM peak. Accordingly, by comparison, the proposed scheme reflects 7 less trips generated during the AM peak and 120 more trips generated during the PM peak. The differences are due to changes in the development mix and yield.

8.3 Overall Traffic Generation

Having regard to the above, the projected overall net traffic generation outcome is tabulated in Table 8-2.

Table 8-2 Net Peak Hour Traffic Generation

Land Use	AM Peak (vtph)		PM Peak (vtph)	
	In	Out	In	Out
Residential	32	132	132	32
Hotel	8	2	2	8
Commercial/Retail	22	22	22	22
Supermarket	-	-	104	104
Net Traffic	**62**	**156**	**260**	**166**

8.4 Cumulative Impact Assessment

In accordance with the SEARS requirement, the assessment also has regard to the following nearby major land use developments (Table 8-3).

Table 8-3 Upcoming Neighbouring Developments

Address	Application No.	Development Description	Status
131-135 Crown Street, Wollongong	SSD-76386708	Construction and operation of a new 18-storey mixed use residential development comprising: 97 residential apartments Commercial/retail floor space of 1,151 m^2 with 18 commercial car spaces Vehicle access located at Simpson Place	Documentation underway
21 Auburn Street, Wollongong	SSD-72686208	Construction of a mixed-use development comprising: 164 residential apartments, 488.11m^2 commercial offices GFA with 9 car commercial spaces Vehicle access located at Auburn Street	Documentation underway

To forecast the neighbouring development's traffic generation, the assessment adopts similar trip generation rates and distribution patterns to the subject development.

Based on the above, the projected traffic generation for both neighbouring developments is outlined below (Table 8-4).

Table 8-4 Net Peak Hour Traffic Generation (Neighbouring Development)

	AM Peak (vtph)		PM Peak (vtph)	
Period	In	Out	In	Out
131-135 Crown Street, Wollongong				
Residential	6	24	24	6
Commercial/Retail	9	9	9	9
21 Auburn Street, Wollongong				
Residential	10	40	40	10
Commercial/Retail	5	5	5	5
Net Traffic	**30**	**78**	**78**	**30**

8.5 Development Trip Distribution

The assessment adopts the approved trip distribution, outlined in Table 8-5.

Table 8-5 Proportion of Inbound and Outbound Traffic

	Residential
North	30%
South	30%
West	40%

The nominal route choices from/to each direction are illustrated in Figure 8-1 and Figure 8-2.

Figure 8-1 Approach Route Distribution

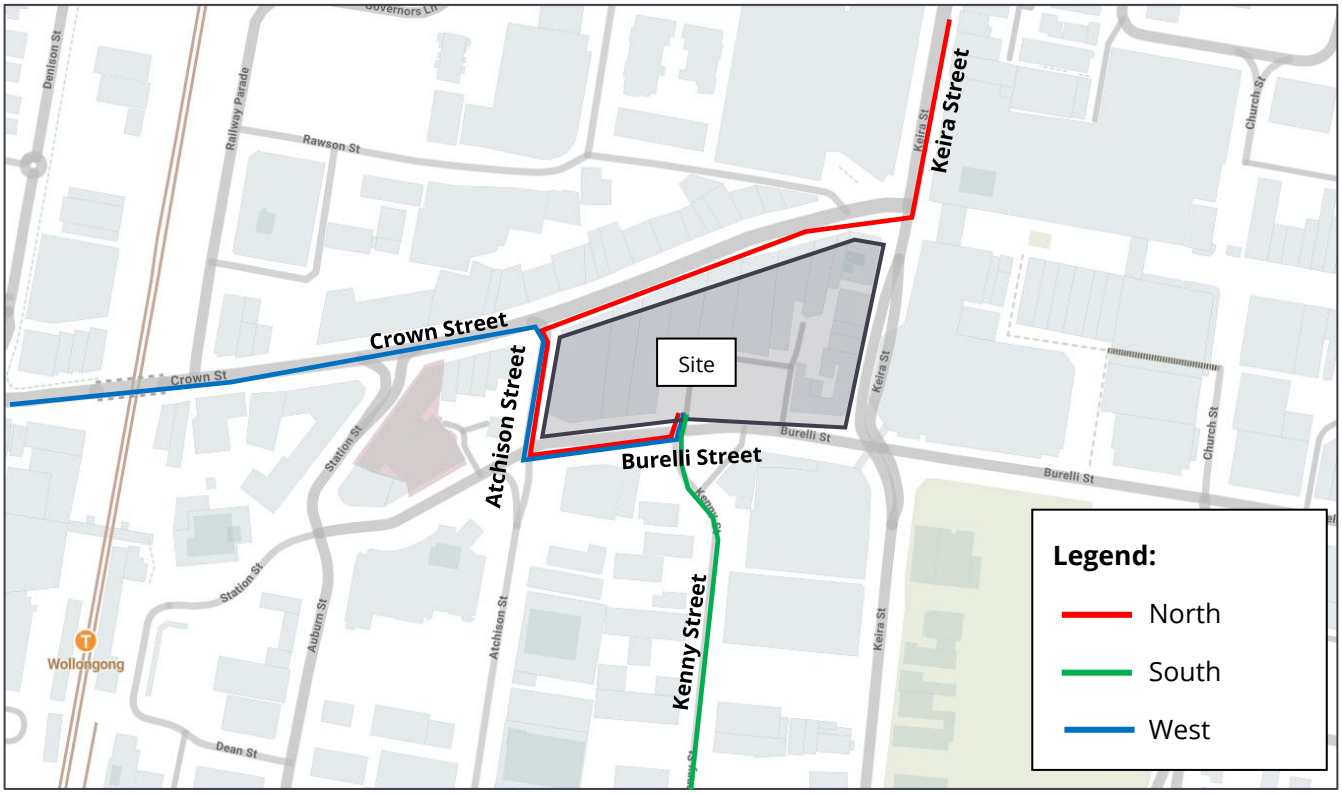
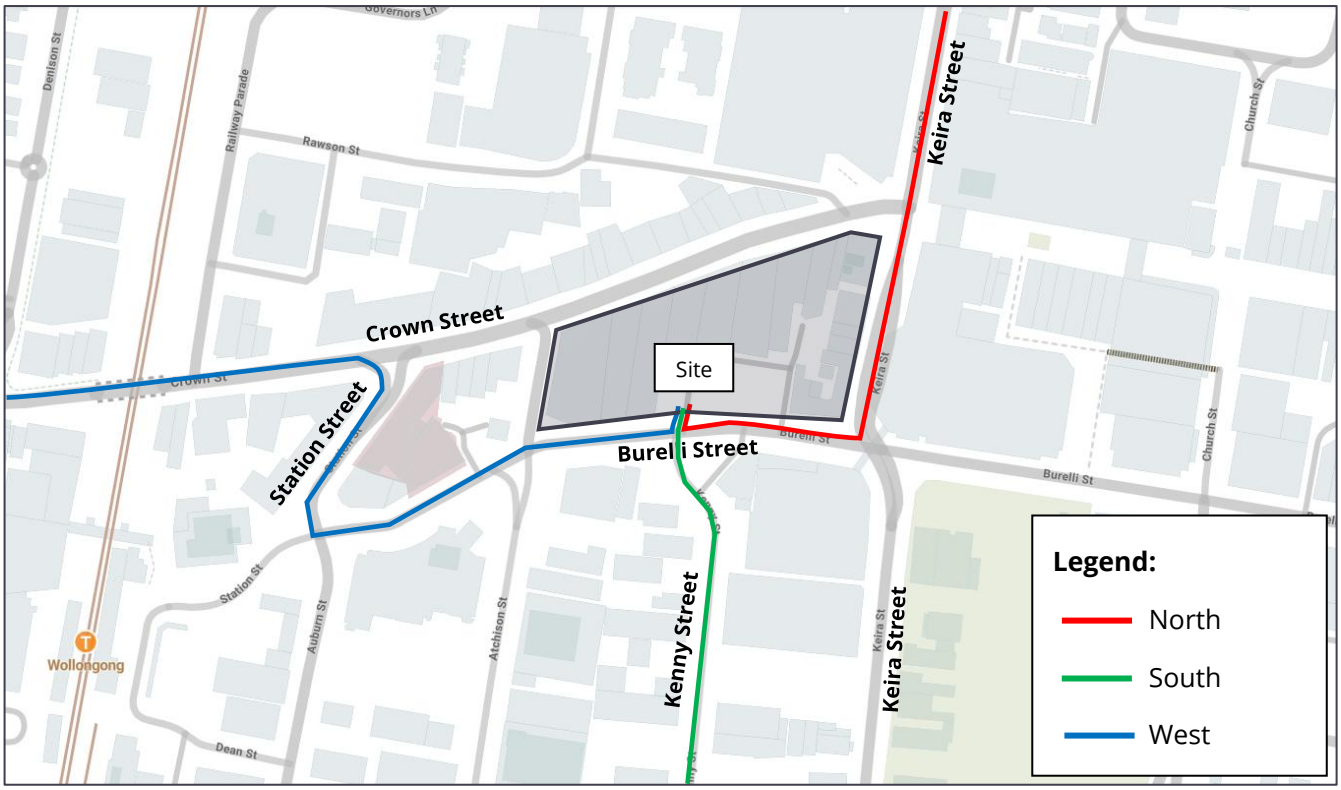


Figure 8-2 Depart Route Distribution



Source: Mecone (modified by Genesis Traffic)

Accordingly, the development traffic in each direction is illustrated in **Attachment 7**.

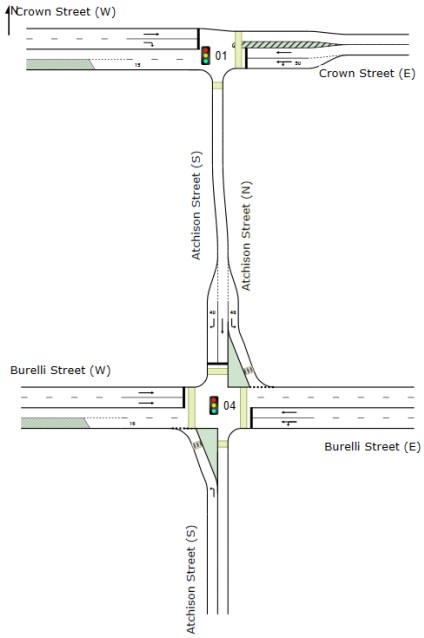
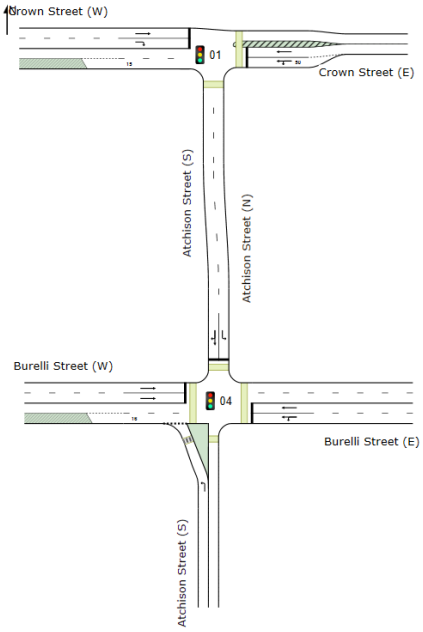
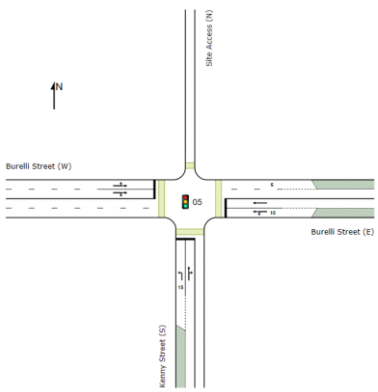
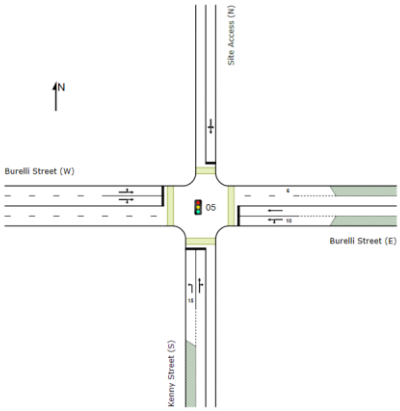
8.6 Background Traffic Growth

An annual background traffic growth rate of 1% will be adopted (as per the basis of the approved TIA) when projecting future year scenarios including all development traffic, as a conservative approach.

8.7 Future Intersection Upgrade

In reference to the outcome o DA 2021/957, upgrade works to the following 2 existing intersections will be essential to facilitate the proposal. Table 8-6 illustrates and compares the relevant existing and upgraded intersection layouts.

Table 8-6 Approved Intersections Upgrade

Intersection / Road	Existing Layout	Future Layout
Atchison Street / Burelli Street Upgrade: Remove slip lane on Atchison Street and upgrade to 2 full lanes		
Burelli Street / Kenny Street / Site Access Upgrade: Convert north leg to two-way to accommodate development trips		

8.8 SIDRA Modelling Assessment

The development and neighbouring traffic movements are added to the base traffic and reanalysed using SIDRA, to quantify the extent of the development impact on road intersections for the following scenarios:

1. Base Scenario (2024 Background Traffic)
2. Development Scenario with Atchison Street Existing Layout (2024 Background Traffic + Development Traffic)
3. Development Scenario with Atchison Street Upgraded Layout (2024 Background Traffic + Development Traffic)
4. Cumulative Impact Scenario with Atchison Street Upgraded Layout (2024 Background Traffic + Development Traffic + Future Neighbouring Development Traffic)
5. Future Scenario (2034 Background Traffic)
6. Future Cumulative Impact Scenario with Atchison Street Upgraded Layout (2034 Background Traffic + Development Traffic + Future Neighbouring Development Traffic)

Accordingly, the results of the SIDRA assessment are summarised in the following tables.

Table 8-7 Existing and Post-Development SIDRA Assessment Outcome (Year 2024)

Intersection	AM Peak			PM Peak		
	DOS	AVD	LOS	DOS	AVD	LOS
Existing Development						
Crown Street / Atchison Street	0.524	13.4s	A	0.455	10.7s	A
Crown Street / Keira Street	0.645	23.9s	B	0.601	29.1s	C
Keira Street / Burelli Street	0.792	35.4s	C	0.638	37.6s	C
Burelli Street / Atchison Street	0.240	10.0s	A	0.251	11.5s	A
Burelli Street / Kenny Street / Findlay Place	0.275	16.8s	B	0.294	22.8s	B
Post Development (Atchison Street Existing Layout – With Left Slip Lane)						
Crown Street / Atchison Street	0.559	12.0s	A	0.544	6.4s	A
Crown Street / Keira Street	0.686	25.9s	B	0.648	30.3s	C
Keira Street / Burelli Street	0.797	37.9s	C	0.648	38.2s	C
Burelli Street / Atchison Street	0.287	9.4s	A	0.317	9.2s	A
Burelli Street / Kenny Street / Findlay Place	0.494	18.9s	B	0.601	28.0s	B

Post Development (Atchison Street Upgraded Layout – Without Left Slip Lane)						
Crown Street / Atchison Street	0.559	12.0s	A	0.544	6.4s	A
Crown Street / Keira Street	0.686	25.9s	B	0.648	30.3s	C
Keira Street / Burelli Street	0.797	37.9s	C	0.648	38.2s	C
Burelli Street / Atchison Street	0.423	11.7s	A	0.521	12.5s	A
Burelli Street / Kenny Street / Findlay Place	0.494	17.2s	B	0.601	26.3s	B
Cumulative Impact (Atchison Street Upgraded Layout – Without Left Slip Lane)						
Crown Street / Atchison Street	0.575	11.8s	A	0.593	6.6s	A
Crown Street / Keira Street	0.691	26.1s	B	0.648	30.0s	C
Keira Street / Burelli Street	0.823	38.9s	C	0.677	38.9s	C
Burelli Street / Atchison Street	0.438	11.8s	A	0.534	12.6s	A
Burelli Street / Kenny Street / Findlay Place	0.494	16.8s	B	0.622	25.9s	B

Table 8-8 Existing and Post-Development SIDRA Assessment Outcome (Year 2034)

Intersection	AM Peak			PM Peak		
	DOS	AVD	LOS	DOS	AVD	LOS
Existing Development						
Crown Street / Atchison Street	0.576	12.8s	A	0.501	9.8s	A
Crown Street / Keira Street	0.751	25.4s	B	0.661	29.7s	C
Keira Street / Burelli Street	0.871	38.3s	C	0.725	43.0s	D
Burelli Street / Atchison Street	0.264	10.0s	A	0.277	11.4s	A
Burelli Street / Kenny Street / Findlay Place	0.334	17.3s	B	0.327	23.0s	B
Cumulative Impact (Atchison Street Upgraded Layout – Without Left Slip Lane)						
Crown Street / Atchison Street	0.633	11.3s	A	0.683	7.3s	A
Crown Street / Keira Street	0.814	28.4s	B	0.711	31.5s	C
Keira Street / Burelli Street	0.095	41.3s	C	0.819	41.8s	D
Burelli Street / Atchison Street	0.482	12.3s	A	0.588	13.0s	A
Burelli Street / Kenny Street / Findlay Place	0.548	16.8s	B	0.716	26.9s	B

The SIDRA output is reproduced in **Attachment 4**.

The traffic assessment found the following:

The existing road network currently operates with spare capacity and satisfactory levels of service.

This satisfactory performance is expected to be maintained in both 2024 and 2034 with the addition of the subject development, except for a minor downgrade at the Keira Street / Burelli Street intersection (from LOS C to LOS D) under 2034 background traffic demand.

The assessment also confirmed that, on a cumulative basis, the network can accommodate traffic from both the subject development and the neighbouring development with similarly satisfactory outcomes.

9 Preliminary Construction Traffic Management Plan

This Preliminary Construction Traffic Management Plan (CTMP) presents the proposed construction activities associated with the proposal. It is noted however that a detailed CTMP cannot be produced without the involvement of a builder and consideration of all final design selections. The preliminary CTMP is intended to provide a framework as basis for the subsequent detailed CTMP.

9.1 Scope of Works

The scope of this Preliminary CTMP includes the following:

- Provides details of construction programs detailing the anticipated construction duration, construction truck movement and number of workers
- Identify heavy vehicle routes to and from the site that have the minimal impact on the surrounding local road network.
- Identify heavy vehicle access points to and from the site
- Identify any major construction activities of other developments in the surrounding area
- Identity temporary on-street parking for construction workers
- Assess potential impacts on existing traffic, pedestrian, and bicycle networks.

9.2 Overview of Construction Works

9.2.1 Construction Program

Table 9-1 indicates a preliminary phasing outline of each construction stage, including estimated duration, volumes and the approximate number of workers per day. These estimations may be subject to change following the appointment of a contractor.

Table 9-1 Works Program

Phase	Program	Estimated Period (Weeks)	Estimated Trips per Day	Estimated No. of Workers per Day
1	Site Establishment	TBC	TBC	TBC
2	Demolition	TBC	TBC	TBC
3	Excavation / Earthworks	TBC	TBC	TBC
4	Construction / Concrete Pouring	TBC	TBC	TBC
5	Fitout	TBC	TBC	TBC

9.2.2 Construction Hours

The proposed work hours will accord with the consent details; however, it is expected that construction activities will be limited to the following period (Table 9-2):

Table 9-2 Permitted Work Hours

Day(s)	Permitted Work Hours
Mondays to Friday	7.00am to 6.00pm
Saturday	7.00am to 5.00pm
Sunday and Public Holidays	No Work

9.2.3 Construction Vehicle Route

Truck movements associated with the construction processes will approach and depart the site using the existing vehicular access via Findlay Place, as illustrated in Figure 9-1 and Figure 9-2. No queuing of heavy vehicles is to occur on the surrounding streets unless previously approved by the Council or TfNSW.

Figure 9-1 Truck Approach Route

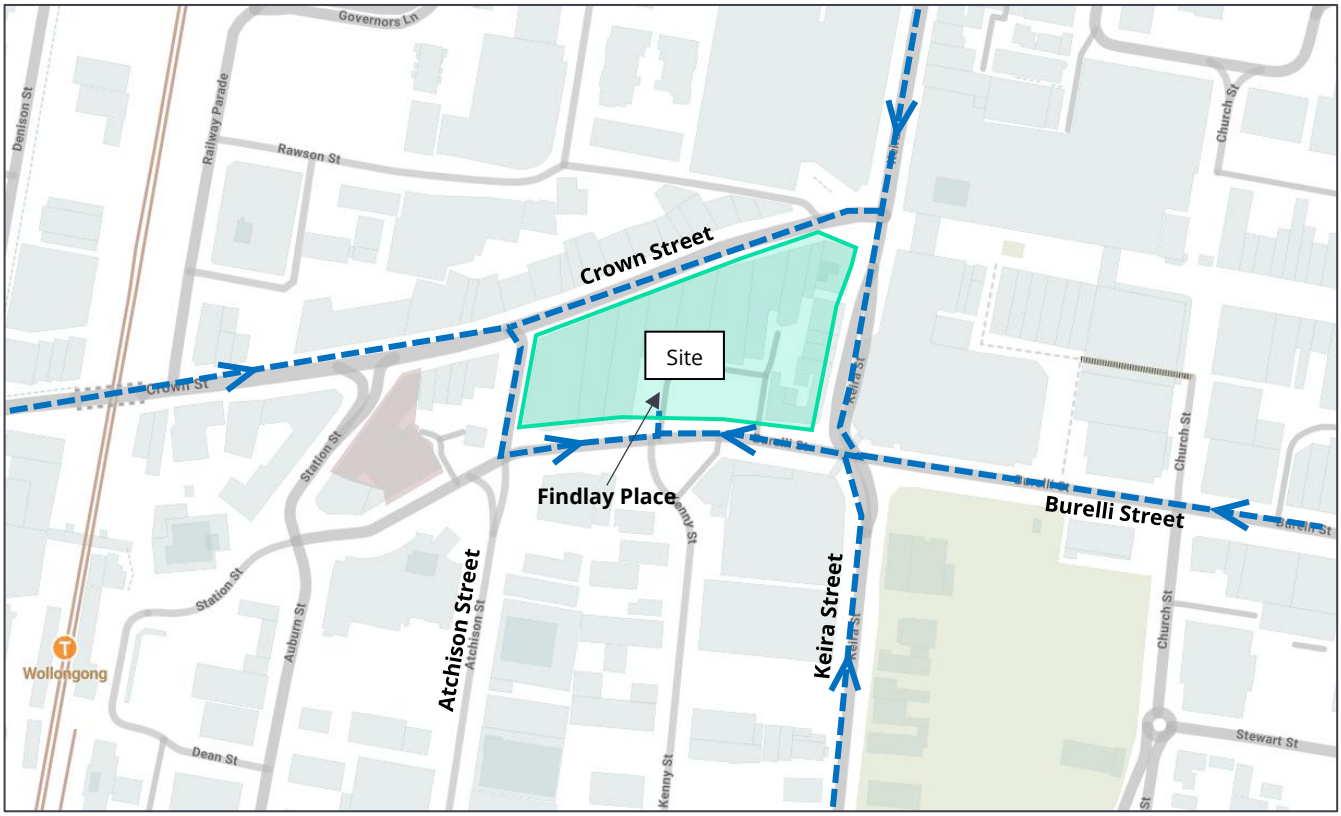
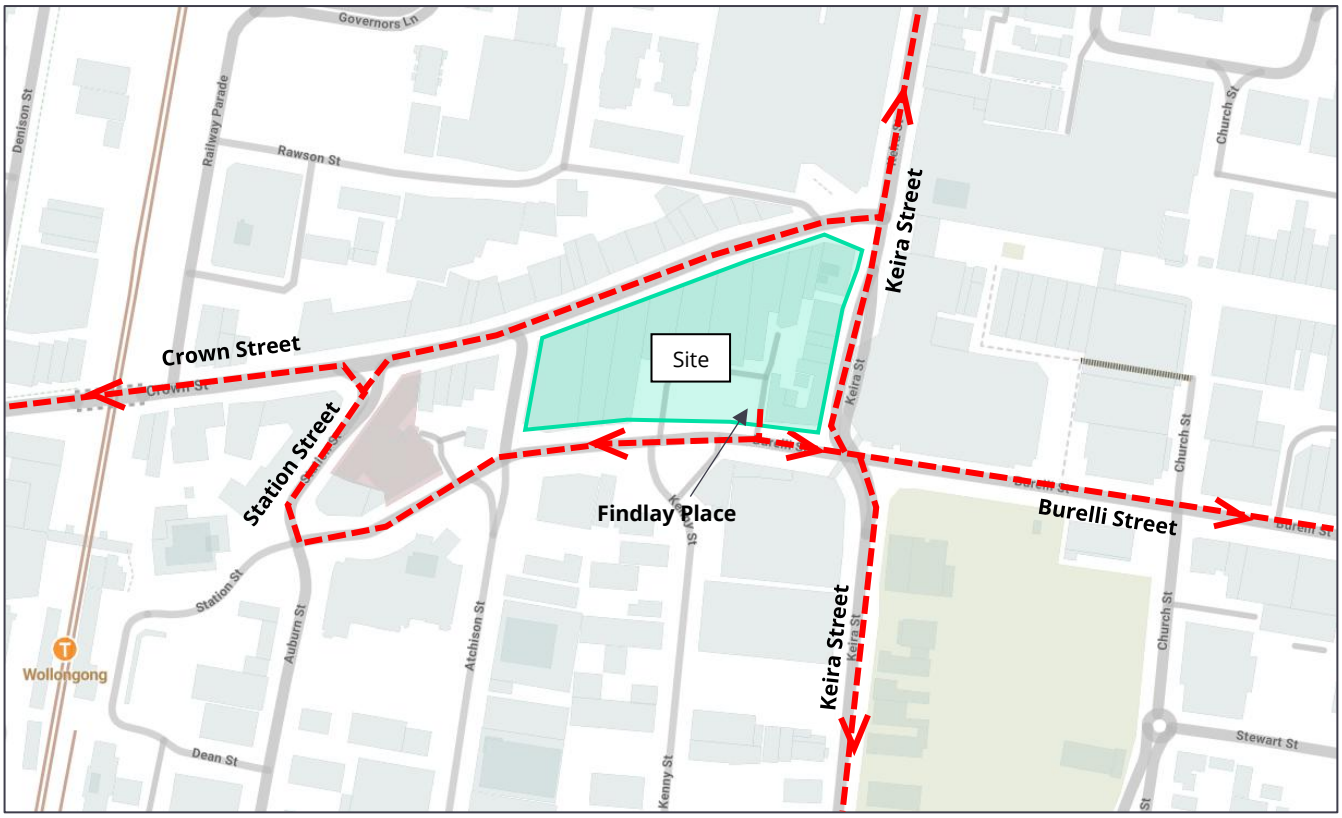


Figure 9-2 Truck Departure Route



Source: Mecone (modified by Genesis Traffic)

During the course of construction, all trucks will approach and depart the site in a forward direction. In the event where construction vehicles are unable to manoeuvre from/to the site, a Works Zone shall be applied and once approved be established along the site frontage on Burelli Street, Atchison Street and Keira Street. Vehicles will approach, stand within the Works Zone and depart forwards. All necessary oversized mobile crane/truck access will be subject to a separate permit issued by the Council before the planned event. If reversing is necessary, vehicle movements should be undertaken under the supervision of accredited traffic controllers. The details of any Works Zone (including their necessity) shall be the subject of the detailed CTMP.

9.2.4 Emergency Vehicle Access

All site access points will be gated and manned by traffic personnel during work hours. Emergency vehicles will be able to access the site via all construction access points. Contact details of the site-nominated supervisor must be displayed prominently adjacent to each site gate.

9.2.5 Materials Handling

All materials must be loaded/off-loaded and stored within the site boundary at all times. During the excavation of the site, the excavated materials will be loaded/unloaded on site. No materials are to be stored outside the site boundary at any time.

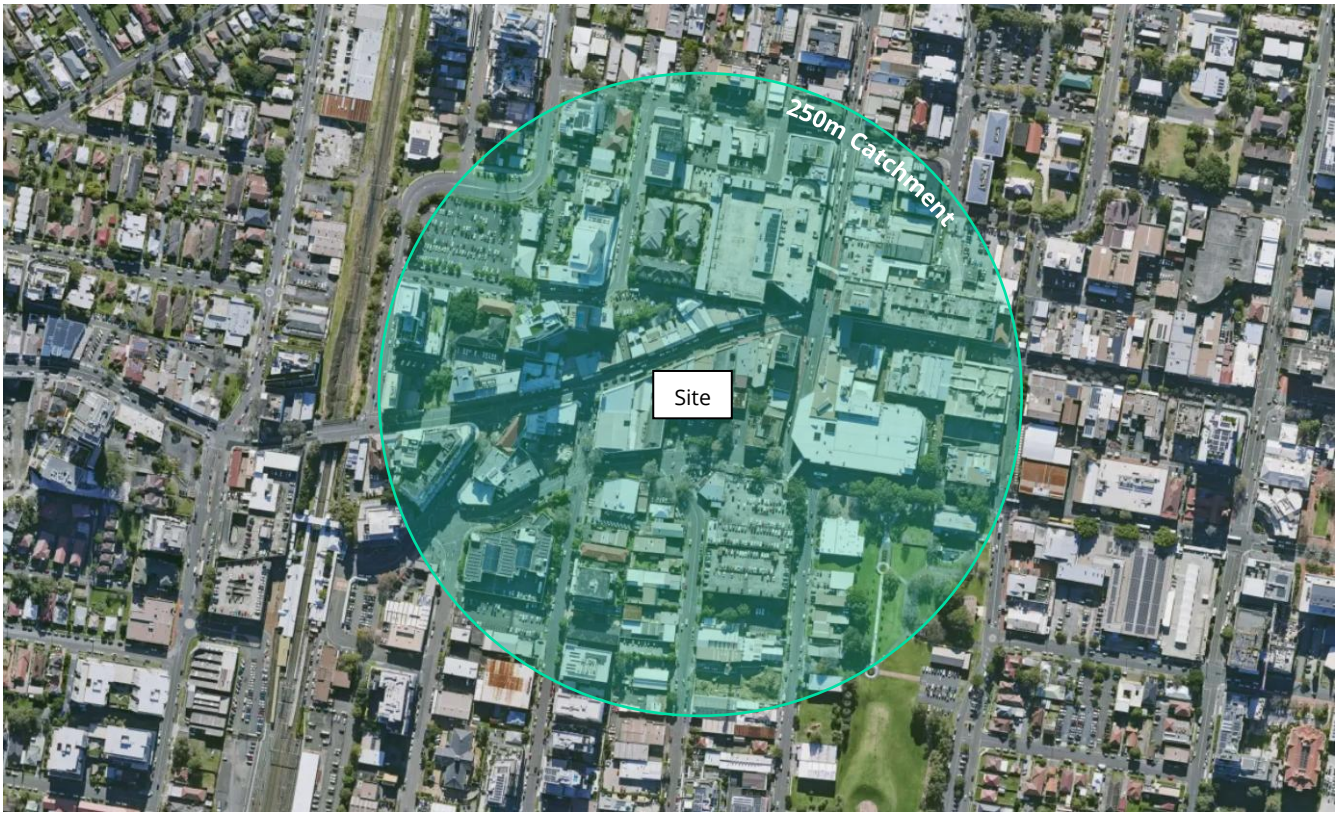
9.2.6 Traffic Guidance Scheme

The Traffic Guidance Scheme (TGS) will be developed in due course. TGSs shall be developed in accordance with the TfNSW Traffic Control at Work Sites Technical Manual. The control of traffic at work sites must be undertaken with reference to Workcover requirements and the contractor's Constructions Workplace Health and Safety Manuals.

9.2.7 Other Construction Activities

There is no major construction activity within 250m from the site (Figure 9-3).

Figure 9-3 Surrounding Construction Activities



Source: Metromap (modified by Genesis Traffic)

9.2.8 Construction Worker Parking

There will be no on-site car parking available for workers during the earlier construction stage. Once the internal driveway and basement car park are built (and when construction activity is most intensive), workers can park in the basement.

Given the proximity of the site to high-frequency public transport services, all workers will be encouraged at all times to utilise the highly accessible public transport system which exists in the vicinity of the site or to carpool wherever possible.

A tool drop-off and storage facility will be provided within the site. This would allow tradespeople to drop-off and store their tools and machinery, allowing them to use public transport to travel to/ from the site daily.

Workers will also be informed of appropriate tool/equipment drop-off and storage arrangements made within site sheds and amenities provided on-site. Bus and train schedules will be provided to all workers during site induction to demonstrate alternative modes of transport available.

9.2.9 Site Induction

All workers and visitors employed on the site by the appointed contractor (including sub-contractors) will be required to undergo a formal 'site induction' process and all inductions will be performed specifically to each trade according to SafeWork OH & S requirements.

The induction will include details of approved access routes to and from the construction site for site staff and delivery vehicles, parking arrangements, as well as standard environmental, WHS, driver protocols and emergency procedures. The agreed work hours must be included as part of this induction.

9.3 Construction Impact

9.3.1 Public Notification & Communication

The nominated contractor shall prepare notification letters to advise the following neighbouring properties of the proposed construction works and timing thereof. A minimum notice period of 14 days shall be applicable for all external communications.

The nominated contractor shall also engage with the surrounding building teams at the time of construction to establish the extent of truck delivery movements with an aim to minimise overlapping movements on the same routes.

The following addresses will be notified by letterbox drop prior to the start of works, providing information relating to the project schedule:

Opposite the site	1-5 Atchison Street, Wollongong 4 Kenny Street, Wollongong 91 Burelli Street, Wollongong 207-217 Crown Street, Wollongong 176-206 Keira Street, Wollongong 226 to 282 Crown Street, Wollongong

9.3.2 Road Serviceability

The nominated contractor will be responsible for ensuring that the road pavement, kerb, gutter and footpath along each road frontage shall remain in clean and serviceable states during the course of the construction at no cost to Council.

9.3.3 Impact on Public Transport Services

The nominated heavy vehicle haulage routes will largely be limited to State Roads and Regional Roads which are designed to accommodate heavy vehicle movements. As such, there will be no adverse impact on existing public transport services.

While the nominated truck routes will overlap with bus routes during the construction period, it is not expected that estimated truck movements would have no material effect on the existing bus services.

9.3.4 Impact on Emergency Vehicle Access

A site personnel will be on-site regularly with contact details prominently displayed and visible from the road frontage. Access to the site and neighbouring sites by emergency vehicles would not be affected by the construction activities. There will be no adverse impact on emergency vehicle access to the site or other neighbouring properties as a result of the proposed activities.

9.3.5 Impact on Road Network

The nominated heavy vehicle haulage routes will largely be limited to State Roads and Regional Roads which are designed to accommodate heavy vehicle movements to minimise the impact on immediate local road network. As such, it is not expected to have an adverse impact onto the surrounding road users including cyclists.

9.3.6 Impact on Pedestrians

To ensure the pedestrian's safety, temporary fencings will be established along the construction site perimeter to cordon off the site from pedestrian movements along the site frontages and neighbouring properties where applicable. All construction-related traffic movements along the frontages will occur under the supervision of on-site trained personnel, with trucks escorted between the site access and associated frontages to ensure pedestrian safety.

10 Green Travel Plan

This Green Travel Plan (GTP) is designed to reduce the impact of developments by maximising the use of sustainable travel modes. It highlights and promotes a range of actions and incentives to increase the uptake of walking, cycling, public transport, car-sharing and carpooling to reduce dependency on private vehicles.

The primary objectives of the GTP are to:

- reduce single-occupancy motor vehicles trips to and from the site
- set future travel mode share targets
- promote active transport such as walking and cycling
- promote public transport and car-sharing/pooling
- improve amenity, facilities, accessibility and safety of sustainable transport modes to/from the site

10.1 Scope of Works

The purpose of this GTP is outlined below.

- Identify the existing and future sustainable transportation on-site and surrounding the site
- Identify the current mode share of transportation
- Determine realistic and reasonable site-specific targets for future mode share
- Appoint a Travel Plan Coordinator (TPC) to implement this GTP
- Develop a guideline and strategy for TPC to manage the transport needs of occupants.
- Identify potential strategies that may encourage reduced use of private motor vehicles
- Promote currently available transport options, including sustainable travel infrastructures to future occupants
- Establish a monitoring strategy to track the performance of the policy and programs prepared as part of the GTP

10.2 Mode Share

10.2.1 Existing Travel Behaviour

2011 census data from Australia Bureau Statistics reveals the current travel mode in the Wollongong area (summarised in Figure 10-1).

Figure 10-1 Travel Mode in Wollongong

Method of travel to work

export reset

Wollongong City - Employed persons (Usual residence)	2021			2016			Change
Main method of travel	Number	%	Regional NSW %	Number	%	Regional NSW %	2016 to 2021
Train	1,132	1.2	0.2	4,813	5.5	0.9	-3,681
Bus	869	0.9	0.6	1,802	2.0	0.9	-933
Tram	6	0.0	0.0	5	0.0	0.0	+1
Ferry	9	0.0	0.0	12	0.0	0.0	-3
Taxi/ride-share	105	0.1	0.1	119	0.1	0.1	-14
Car - as driver	47,369	48.3	60.3	58,536	66.3	68.4	-11,167
Car - as passenger	2,900	3.0	4.2	4,299	4.9	5.0	-1,399
Truck	584	0.6	1.0	655	0.7	1.2	-71
Motorbike	325	0.3	0.4	430	0.5	0.6	-105
a Bicycle	416	0.4	0.4	577	0.7	0.6	-161
a Walked only	1,984	2.0	2.9	2,630	3.0	3.5	-646
Other	754	0.8	1.0	921	1.0	1.3	-167
a Worked at home	26,041	26.6	15.7	3,068	3.5	5.8	+22,973
Did not go to work	15,206	15.5	12.5	9,601	10.9	10.5	+5,605
Not stated	321	0.3	0.6	785	0.9	1.2	-464
Total employed persons aged 15+	98,021	100.0	100.0	88,253	100.0	100.0	+9,768

Source: Australian Bureau of Statistics, Census of Population and Housing 2016 and 2021. Compiled and presented by .id (informed decisions).
Please refer to specific data notes for more information

Source: Profile id

In 2021, due to the COVID-19 lockdown restrictions, the number of people working from home significantly increased, while public transport usage declined due to social distancing measures.

In 2016, prior to the COVID-19 lockdowns, private vehicles were the primary mode of travel, with data indicating a relatively lower uptake of public transport compared to private vehicles.

10.2.2 Recommended Future Target

When promoting green travel initiatives like public transport, it is imperative to inform occupants about various benefits associated with changes in travel behaviour. These benefits include, however, are not limited to:

the hands-free nature of public transport which can lead to other tasks being completed during travelling hours or having some down time i.e., watching movies, TV shows, etc.

the cost effectiveness of public/active transport compared to using a private vehicle.

the convenience of incorporating daily exercise into the commute to/from work

the provision of sustainable transport facilities within the site

On this basis, the preliminary proposed targets of travel mode for the development through this GTP is presented in Table 10-1.

Table 10-1 Proposed and Targeted Travel Mode

Travel Mode	Proportion
Public Transport	10%
Vehicle (Car, Motorcycle)	65%
Car (as Passenger)	5%
Active Transport (Walking, Cycling)	5%
Worked at home, Did not go to work	15%

The targets should be revisited and updated during the occupancy of the development as parts of the monitoring process.

10.3 Implementation

This Green Travel Plan is to be implemented by a Travel Plan Coordinator (TPC). The TPC will be appointed by the building's strata representatives upon occupation. The TPC will be the primary contact for any inquiries in relation to GTP and manage all principles set out in GTP. The main responsibilities of the TPC are provided in the following:

- Ensure information included in Information Packs are up to date by the time of delivery to prospective occupants.
- Ensure the information provided, such as links to websites and travel apps feature the most up to date travel planning tools. This pack shall include a copy of the final GTP as well as general information regarding the health and social benefits of active transport and advice on where to seek further information, such as links to Council's cycle route website, TfNSW, Bike Sydney, etc.

- Following reviews, consider additional actions which may assist in achieving mode share targets and improved environmental outcomes for transport such as the provision of Electric Vehicle charging infrastructure
- To regularly promote (through email circulars) up-to-date information on sustainable transport initiatives/programs.
- Conduct surveys/questionnaires to measure progress toward targeted mode split
- Monitor, review and update (if necessary) GTP to ensure the information is up-to-date for occupants
- Be the main liaison between stakeholders to promote the GTP and drive continuous improvement in the targeted mode split.

The TPC will review and analyse the progress towards the targeted mode share for public/active travel options and private vehicle usage annually.

10.4 Strategies

Strategies for implementing the GTP are divided into 2 categories: Promotion and Monitoring/Evaluation.

10.4.1 Promotion

Each new initiative within the plan should be actively promoted by the TPC through effective marketing. The GTP should include a range of actions that support strategies for promotion, facilities, and policies aimed at encouraging sustainable travel behaviour. Details of the proposed initiatives and actions are outlined in Section 10.5.

To raise awareness among occupants, a Transport Access Guide (**TAG**) will be developed, providing information on surrounding public transport options, walking distances, and available facilities. A copy of the site-specific TAG is provided in **Attachment 8**.

10.4.2 Monitoring and Evaluation

The GTP not only sets out actions and strategies but also ensures ongoing monitoring and evaluation of these initiatives. The GTP will be in place for the lifetime of the development's operation. The initial timeframe in which targets need to be monitored and reviewed for each of the buildings will be annual, for a minimum of 5 years after receiving the Occupation Certificate for the proposed building under this development application. The GTP review shall demonstrate progress towards the proposed travel targets and objectives and include the following information:

1) Basic information about the site, including the approximate number of occupants;
2) Details of mode-splits and progress towards targets (obtained from an annual survey);
3) Details of the initiatives implemented since the last review;

4) An assessment of whether initiatives have been successful in terms of meeting Travel Plan objectives and targets; and
5) Details of future initiatives to be undertaken or other changes required to meet targets and objectives

The TPC will prepare the travel mode surveys/questionnaires and then circulate them to occupants for feedback. This data will be subsequently reviewed to determine the mode split of all occupants and visitors of the building and the effectiveness of the action strategies implemented above.

A questionnaire sample is provided overleaf.

Sample Survey

1. Are you one of the following?

   - ☐ Residents
   - ☐ Visitors
   - ☐ Staff
   - ☐ Other (Please specify) _____

2. What is your local postcode? _____
3. How do you travel to/from the site?

   - ☐ Walk/run
   - ☐ Bicycle
   - ☐ Bus
   - ☐ Train
   - ☐ Combination of bicycle and train
   - ☐ Taxi
   - ☐ Car Share
   - ☐ Car (as passenger)
   - ☐ Car (as driver)
   - ☐ Other (Please specify) _____

4. If you drove to the site, where did you park?

   - ☐ On-site If so, where? _____
   - ☐ On-street If so, where? _____

5. If you drove, do you need to drive to work for another reason? (e.g. shopping on the way home, when raining, etc)
6. What time do you usually arrive at the site? _____
7. What time do you usually leave at the site? _____
8. To facilitate walk/cycle groups and/or carpooling may we share your contact details with a colleague that live/work near you?

   a) Yes – walking group (Email: _____)

   b) Yes – carpool driver (Email: _____)

   c) Yes – carpool passenger (Email: _____)

9. Have you heard of car share? Do you know where the nearby car share locations are? If yes, would you use it?
10. Any suggetions.recommedantions to encourage sustainanle tarnpsort?

10.5 Action Plan

A number of initiatives among occupants are outlined in Section 10.5.1 and 10.5.2.

10.5.1 Residents and Visitors

Action	Why	How	Who	When
Implementation				
Provide Transport Access Guide (TAG)	Promote the surrounding sustainable transport and ensure the information is available to all residents	Prepare information sheet and post it on the noticeboard in the common area (eg. lobby area) Issue information sheet via mail, email and move-in pack	Building Manager	During occupancy
Undertake annual survey	Monitor and evaluate the progress towards the targeted model split	Conduct questionnaires via mail and online Monitor the utilisation of parking spaces	TPC	During occupancy annually
Review and update GTP	Evaluate the success of GTP implementation and improve if necessary	Meetings with resident committee to suggest any necessary changes	TPC	During occupancy every year
Walking				
Advertise the walking route to surrounding facilities	Promote the accessibility of the development	Include walking time and distance to surrounding public transport stops in TAG	TPC	During occupancy
Review the condition of existing footpaths and surrounding lighting regularly	Ensure footpaths are safe for people to walk	Inspect the surrounding footpaths and lighting regularly and inform Council if maintenance is required	TPC, Building Manager	During occupancy regularly
Cycling				
Provide and advertise bicycle spaces	Promote available bicycle facilities on site	Include the location of bicycle parking in TAG Include bicycle parking signage in the development	TPC	During occupancy
Create/Promote a Bicycle Users Group (BUG)	Encourage residents to cycle to work or errand	Identify like-minded bike riders and encourage them to cycle to work together	TPC	During occupancy

Promote bicycle initiatives	Encourage residents to cycle to surrounding facilities	Promote events eg. NSW Bike Week, World Bicycle Day	TPC	During occupancy annually
Public Transport				
Place and update available public transport information on the intranet	Ensure information is available for residents at all times	Prepare useful links such as transportnsw.info and post it on intranets/apps	Building Manager	During occupancy
Illustrate the safe walking route to/from the public transport stops	Promote the surrounding public transport in the vicinity	Include walking time and distance to surrounding public transport stops in TAG	TPC	During occupancy
Car Sharing				
Approach third-party car sharing companies	Ensure car sharing services are available to public	Liaise with car sharing companies such as GoGet and Uber Carshare	TPC	Prior to occupancy
Promote car sharing company	Reduce private car ownerships	Include the information/ flyers in intranet and noticeboard in the common area	TPC, Car Sharing Company	During occupancy
Provide incentive	Promote car sharing	Car sharing company to provide discount for residents	Car Sharing Company	During occupancy

10.5.2 Staff for Retail/Commercial

Action	Why	How	Who	When
Implementation				
Provide TAG for new staff	Introduce the surrounding sustainable transport to new staff	Prepare information sheet and include in induction packs Issue information via email Place it in common areas	TPC	During occupancy
Undertake annual survey	Monitor and evaluate the progress towards the targeted model split	Conduct online questionnaires distributed by email Monitor the utilisation of parking spaces	TPC	During occupancy annually
Review and update GTP	Evaluate the success of GTP	Meetings with staff to suggest any changes	TPC	During occupancy every year

	implementation and improve if necessary			
Walking				
Provide and maintain End of Trip Facilities	Allow active transport commuters to shower and change at work	Include showers, change rooms and lockers as part of End of Trip Facilities Include the location of End of Trip Facilities in TAG	TPC, Building Manager	Prior to occupancy and during occupancy
Advertise the walking route to surrounding facilities	Promote the accessibility of the development	Include walking time and distance to surrounding public transport stops in TAG	TPC	During occupancy
Promote walking initiatives	Promote walking initiatives	Promote events eg.' Walk to Work Day'	TPC	During occupancy
Review the condition of the existing footpaths and surrounding lighting regularly	Ensure footpaths are safe for people to walk	Inspect surrounding footpaths and lighting regularly	TPC, Building Manager	During occupancy regularly
Cycling				
Provide and maintain End of Trip Facilities	Allow active transport commuters to shower and change at work	Include showers, change rooms and lockers	TPC, Building Manager	During occupancy
Advertise the location of bicycle spaces and End of Trip Facilities	Promote available bicycle facilities on site	Include the location of bicycle spaces and End of Trip Facilities in TAG	TPC	During occupancy
Promote bicycle initiatives	Encourage staff to cycle to work	Promote events eg. NSW Bike Week, World Bicycle Day, Ride2Work Day	TPC	During occupancy annually
Create/Promote a Bicycle Users Group (BUG)	Encourage staff to cycle to work	Identify like-minded bike riders and encourage them to cycle to work together	TPC, Tenant/ Business Owner	During occupancy
Public Transport				
Place and update available public transport information on the intranet	Ensure information is available for staff at all times	Prepare useful links such as transportnsw.info and post it on intranets/apps	Building Manager	During occupancy
Illustrate the safe walking route to/from the public transport stops	Promote the surrounding public transport in the vicinity	Include walking time and distance to surrounding public transport stops in TAG	TPC	During occupancy

Review the condition of surrounding bus stops regularly	Ensure the provision of bus stops are and adequate for commuters	Inspect surrounding bus stops regularly	TPC, Building Manager	During occupancy regularly
Car Pooling				
Introduce a formal carpooling scheme	Encourage staff to share rides	Prepare information sheet and include in induction packs	TPC, Tenant/ Business Owner	During occupancy
Set up a carpooling database that is updated regularly	Identify staff that reside near each other	Send out questionnaires to inquire about staff's area of residence and contact details	Tenant/ Business Owner	During occupancy
Organise carpools between staff that reside nearby each other and arrange carpool shifts accordingly	Motivate staff that reside near each other to carpool	Send out questionnaires to inquire about staff's area of residence and contact details	Tenant/ Business Owner	During occupancy
Organise postcode lunches to familiarise staff with each other	Encourage staff to share rides	Organise lunches regularly	Tenant/ Business Owner	During occupancy regularly

11 TfNSW Consultation

In satisfaction of the SEARs requirement, a package of the proposed development's information is issued to the TfNSW via its official development portal Development.Sydney@transport.nsw.gov.au on 17 April 2025.

Details of the consultation package and correspondence are provided in **Attachment 9**.

12 Conclusion

The proposal has been assessed in respect of the SEARs criteria. The following conclusions are drawn:

- The development site is located at 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong
- The site has existing consent for 390 apartments, retail and commercial (23,816m^2 GFA), 496 car parking space, and ancillary works.
- The proposal involves 546 apartments, retail/commercial space (13,790 m^2 GFA), hotel suites (166 rooms), supermarket space (1,510m^2 GFA), 774 car parking spaces, and ancillary works.
- The site location is well-served by local transport services and benefits convenient walking distances to train and bus services.
- Comprehensive cycle network is available in the site and surrounds affording further opportunities to encourage active travel.
- The proposed car parking provision meets the Council's DCP, planning advice, and is consistent with the basis that underpinned the approved development scheme.
- The proposed shared visitors parking (up to 63 spaces) is a suitable arrangement that complements both user groups with minimal overlapping peak usage. Appropriate provision has been made in the residential visitors car park to accommodate any occasional overlapping demand between the 2 user groups.
- The existing road network intersections operate with a satisfactory level of service.
- The SIDRA assessment found the intersections' levels of service retained post-development.
- A preliminary CTMP has been documented providing a basis for the detailed CTMP during the construction documentation phase.
- A GTP has been documented providing a basis for the building's travel management during the occupation phase.

Attachment 1

Approved Plans

End of Trip Facility Required. Refer to Condition 24A

Reconfiguration of Basement Parking required Refer to Condition 24

PARKING SCHEDULE RESIDENTIAL

Description	Level	Type	Use	Amount
DDA	BASEMENT	Class 4_2400x5400	R	3
Small Car	BASEMENT	Small car_2300x5000	R	3
Standard Car	BASEMENT	Class 1&1A_2400x5400	R	44
				50
DDA	LEVEL LOWER GROUND	Class 4_2400x5400	R	17
Small Car	LEVEL LOWER GROUND	Small car_2300x5000	R	10
Standard Car	LEVEL LOWER GROUND	Class 1&1A_2400x5400	R	112
				139
DDA	LEVEL GROUND	Class 4_2400x5400	R	20
Small Car	LEVEL GROUND	Small car_2300x5000	R	13
Standard Car	LEVEL GROUND	Class 1&1A_2400x5400	R	158
				191
TOTAL				380

PARKING SCHEDULE RESIDENTIAL VISITORS

Description	Level	Type	Use	Amount
Standard Car	BASEMENT	Class 1&1A_2400x5400	RV	32
Standard Car	BASEMENT	Class 1&1A_2400x5400 - EV	RV	2
Small Car	BASEMENT	Small car_2300x5000	RV	3
DDA	BASEMENT	Class 4_2400x5400	RV	6
				43
TOTAL				43

PARKING SCHEDULE COMMERCIAL

Description	Level	Type	Use	Amount
Standard Car	BASEMENT	Class 1&1A_2400x5400	C	55
Standard Car	BASEMENT	Class 1&1A_2400x5400 - EV	C	2
DDA	BASEMENT	Class 4_2400x5400	C	16
				73
TOTAL				73

MOTORCYCLE PARKING

Description	Level	Type	Use	Amount
Motorcycle	BASEMENT	Motorbike_2500x1200	R	8
Motorcycle	BASEMENT	Motorbike_2500x1200	C	2
Motorcycle	LEVEL LOWER GROUND	Motorbike_2500x1200	R	5
Motorcycle	LEVEL GROUND	Motorbike_2500x1200	R	13
TOTAL				28

BICYCLE PARKING

Type	Level	Use	Amount
Bicycle	BASEMENT	C	66
			66
Bicycle	BASEMENT	R	6
Bicycle	LEVEL LOWER GROUND	R	47
Bicycle	LEVEL GROUND	R	5
Bicycle	LEVEL 01	R	8
			66
TOTAL			132

ISSUE	DATE	DESCRIPTION
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9	02/12/20	FOR INFORMATION
10	09/12/20	FOR INFORMATION
11	10/12/20	FOR INFORMATION
12	15/12/20	ISSUE FOR DA
13	05/05/22	FOR INFORMATION
14	09/05/22	FOR INFORMATION
15	19/05/22	FOR INFORMATION
16	27/05/22	FOR INFORMATION
17	30/05/22	FOR INFORMATION
18	01/06/22	FOR INFORMATION
19	10/06/22	FOR INFORMATION
20	17/06/22	FOR INFORMATION
21	24/06/22	ISSUED FOR RTS

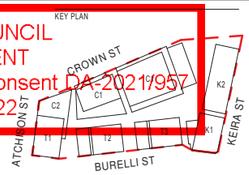
COLOUR LEGEND

- COMMERCIAL
- RETAIL
- RESIDENTIAL
- POOL & GYM
- CINEMA
- EXHIBITION SPACE
- SERVICES
- NON-RESIDENTIAL BALCONY & TERRACE
- RESIDENTIAL PARKING
- POOL & VISITOR PARKING
- NON-RESIDENTIAL PARKING

APARTMENT LEGEND

- (L) LIVABLE APARTMENT
- LIVABLE
- (A) ADAPTABLE BALCONY
- ADAPTABLE APARTMENT
- ADAPTABLE (LIVABLE APARTMENT)
- 1 BED
- 2 BED
- 3 BED
- RESIDENTIAL BALCONY

KEY PLAN



CONSULTANT
TOWN PLANNER
URBIS TEL 02 8233 9900
CONSULTANT
STRUCTURE
ENSTRUCT TEL 02 8904 1444
CONSULTANT
BUILDING SERVICES
STANTEC TEL 02 9493 9700
CONSULTANT
LANDSCAPE
OCULUS TEL 02 9557 5533

OWNER AND DEVELOPER
BIRKETU PTY. LTD.
TELEVISION AVENUE, MT ST THOMAS
WOLLONGONG NSW 2500
DEVELOPMENT MANAGER
COLONYSIX

PROJECT
WIN GRAND TOWERS
221 CROWN STREET WOLLONGONG NSW AUSTRALIA
BVN PROJECT NUMBER
2001006

TRUE NORTH / PROJECT NORTH
GRAPHIC SCALE 0 2000 5000
SCALE
1 : 250@A1
STATUS
FOR RTS

DRAWING
LEVEL - BASEMENT +12.00 RL
DRAWING NUMBER
AR-DA-B-10-01
ISSUE
21

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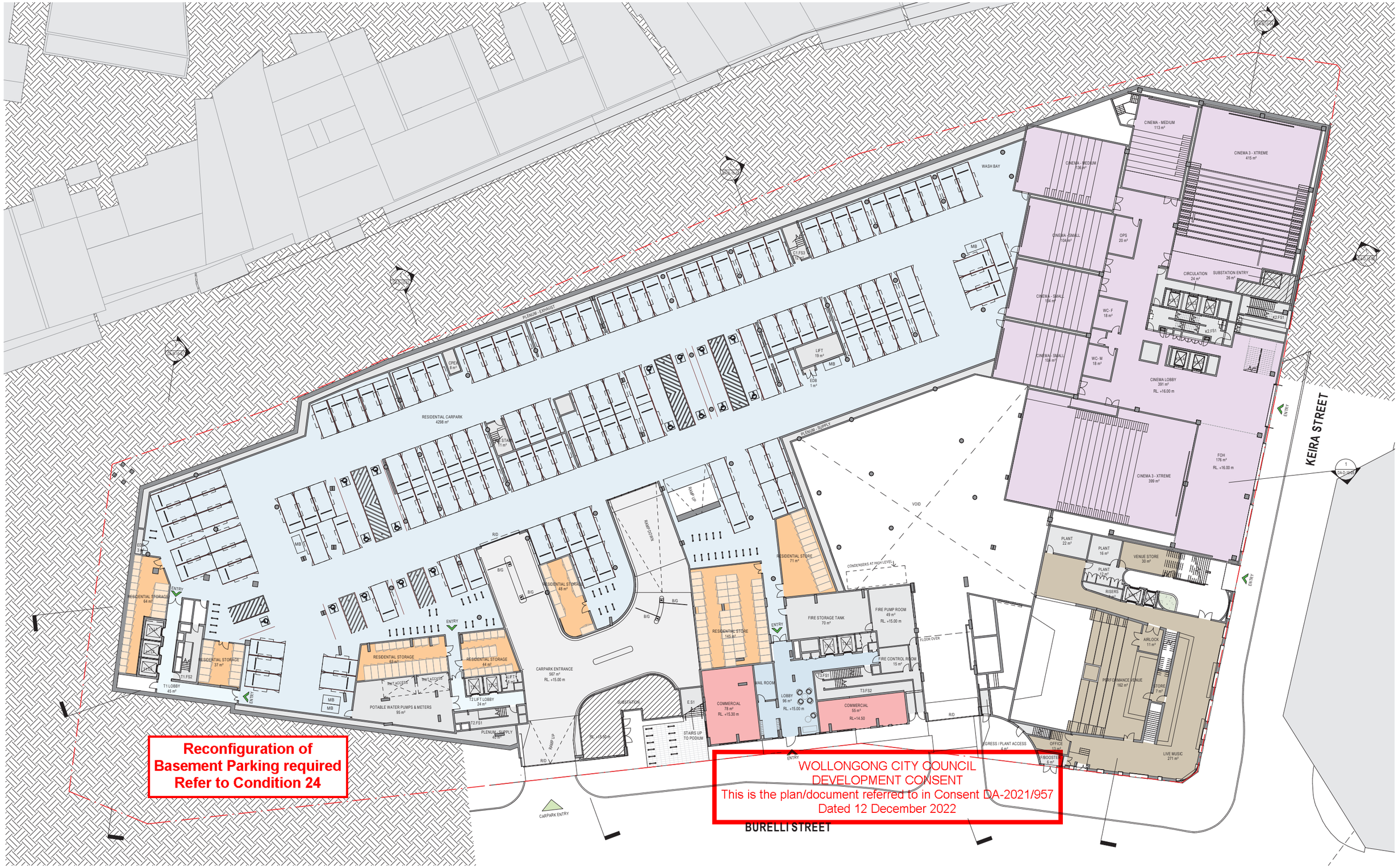

BVN

ARCHITECTS REGISTRATION BOARD / NOMINATED ARCHITECTS

NSW	QLD
5936 NINOTSCHKA TITCHKOSKY	5527 NEIL LOGAN
4937 JAMES GROSE	2709 BRIAN DONOVAN
7115 JULIAN ASHTON	1595 MARK GRIMMER
7053 MATTHEW BLAIR	5528 DAVID KELLY
7151 PHILLIP ROSSINGTON	5517 CATHERINE SKINNER
7439 PETER TITMUSS	3866 KEVIN OBRIEN
10447 ALISON BOUNDS	

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Facsimile +61 2 8297 7299
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NOTE

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16	27/05/22	FOR INFORMATION
17	30/05/22	FOR INFORMATION
18	01/06/22	FOR INFORMATION
19	10/06/22	FOR INFORMATION
20	17/06/22	FOR INFORMATION
21	24/06/22	ISSUED FOR RTS

COLOUR LEGEND

- COMMERCIAL
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- EXHIBITION SPACE
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- NON-RESIDENTIAL BALCONY & TERRACE
- RESIDENTIAL PARKING
- POOL & VISITOR PARKING
- NON-RESIDENTIAL PARKING

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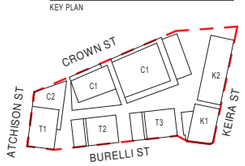
- (L) LIVABLE APARTMENT
- LIVABLE
- (A) ADAPTABLE BALCONY
- ADAPTABLE APARTMENT
- ADAPTABLE/LIVING APARTMENT
- 1 BED
- 2 BED
- 3 BED
- RESIDENTIAL BALCONY

KEY PLAN



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WOLLONGONG NSW 2500

DEVELOPMENT MANAGER
COLONYSIX

PROJECT
WIN GRAND TOWERS

221 CROWN STREET WOLLONGONG
NSW AUSTRALIA

BVN PROJECT NUMBER
2001006

TRUE NORTH | PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 250@A1

STATUS
FOR RTS

DRAWING
LEVEL - LOWER GROUND
+15.00 RL

DRAWING NUMBER
AR-DA-B-10-02

ISSUE
21

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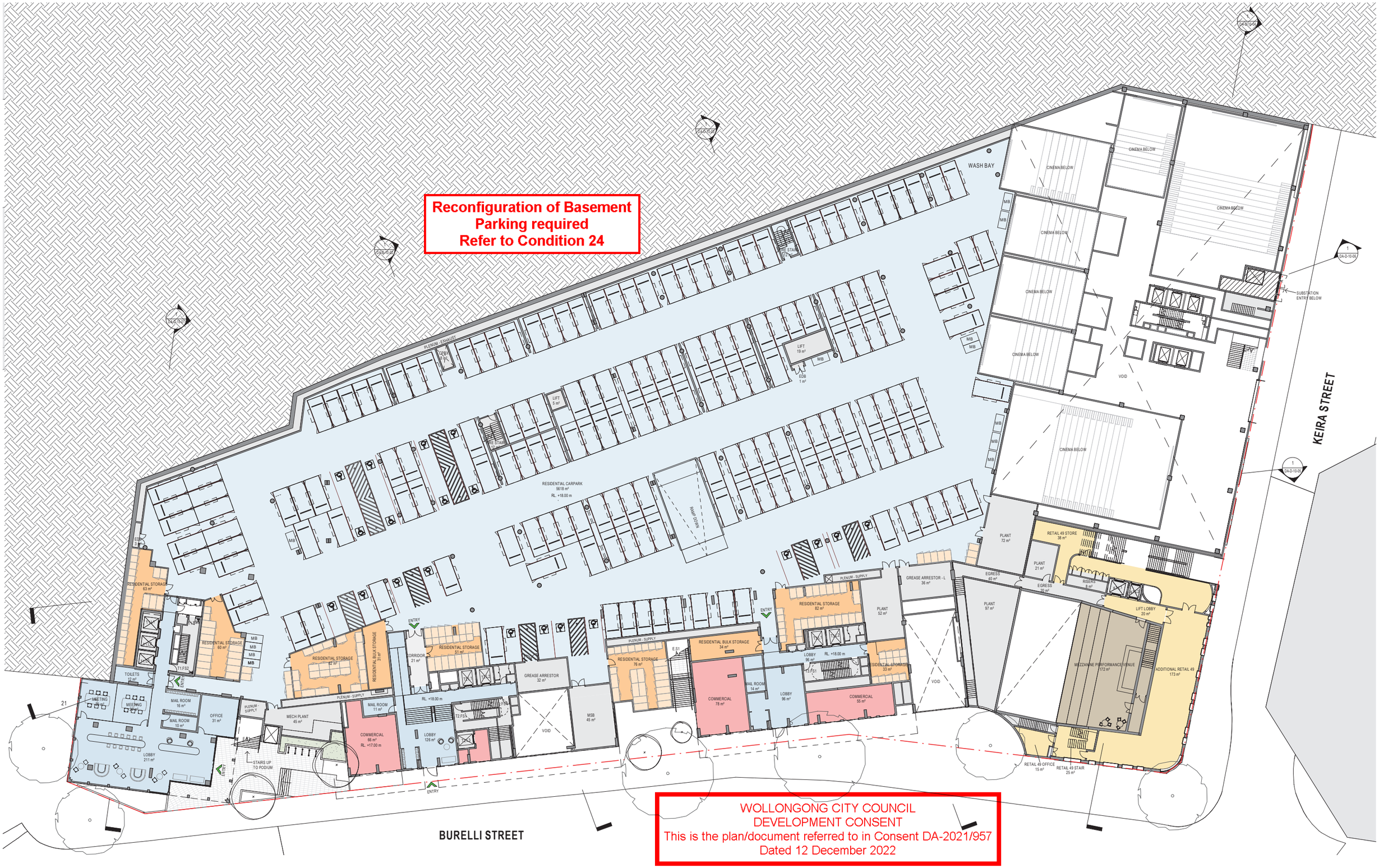
Reconfiguration of Basement Parking required Refer to Condition 24



WOLLONGONG CITY COUNCIL
DEVELOPMENT CONSENT
This is the plan/document referred to in Consent DA-2021/957
Dated 12 December 2022

BVN

ARCHITECTS REGISTRATION BOARD / NOMINATED ARCHITECTS

NSW
5598 NIKOTSCHKA TITCHKOSKY
4837 JAMES GROSE
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16	27/05/22	FOR INFORMATION
17	01/06/22	FOR INFORMATION
18	10/06/22	FOR INFORMATION
19	17/06/22	FOR INFORMATION
20	24/06/22	ISSUED FOR RTS

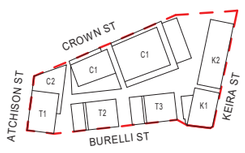
COLOUR LEGEND

- COMMERCIAL
- RETAIL
- RESIDENTIAL
- POOL & GYM
- CINEMA
- EXHIBITION SPACE
- SERVICES
- NON-RESIDENTIAL BALCONY & TERRACE
- RESIDENTIAL PARKING
- POOL & VISITOR PARKING
- NON-RESIDENTIAL PARKING

APARTMENT LEGEND

- (L) L/VABLE APARTMENT
- L/VABLE
- (A) ADAPTABLE BALCONY
- ADAPTABLE APARTMENT
- ADAPTABLE/LIVING APARTMENT
- 1 BED
- 2 BED
- 3 BED
- RESIDENTIAL BALCONY

KEY PLAN



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WOLLONGONG NSW 2500

DEVELOPMENT MANAGER
COLONYSIX

PROJECT
WIN GRAND TOWERS
221 CROWN STREET WOLLONGONG NSW AUSTRALIA

BVN PROJECT NUMBER
2001006

STATUS
FOR RTS

TRUE NORTH | PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 250@A1

DRAWING
LEVEL - GROUND +18.00 RL

DRAWING NUMBER
AR-DA-B-10-03

ISSUE
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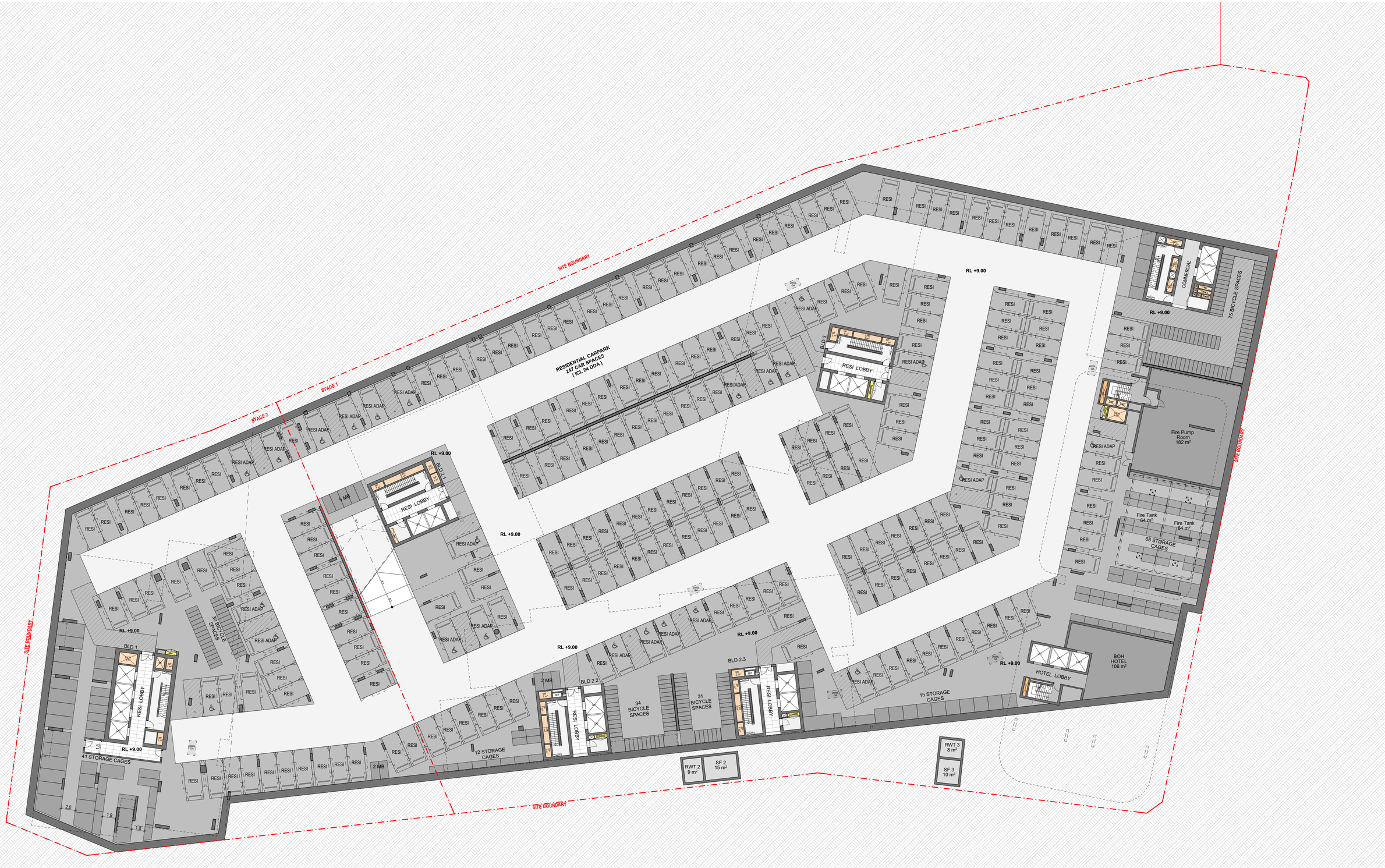
Attachment 2

Proposed Plans



DEVELOPMENT APPLICATION

Rev	Date	By	Chk	Description
A	11/04/2025	OS,AK,KL		For DA Submission

- All works to be in accordance with authority & statutory approvals.
- Refer to site survey for all information relating to existing site conditions.
- All Boundary information to be confirmed by registered surveyor before commening works on site.
- Refer to Arborist Report and Landscape Documentation for all information relating to trees and their retention/removal, and all landscape works.
- Drawings to be read in conjunction with all Specifications and Schedules; all consultant consultant documentation; BASIX, NatHERS, Section J Certificates.
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DKO

Project Name	Crown street, Wollongong
Project Number	00013631
Project Address	221- 291 Crown st, 216-238 Keira st and 86-90 Burelli st Wollongong NSW 2500
Country	DHARAWAL

Drawing Name
Basement 02

Drawing Scale 1:250 @ A1

Drawing No. DA2000

Revision A

SITE BOUNDARY
STAGE 1
STAGE 2
RESIDENTIAL CARPARK
132 CAR SPACES
(ICL 12.00A)
10 CAR SPACES
COMM / RETAIL STAFF
25 CAR SPACES
RESI
RESI ADAP
BLD 2.1
RESI LOBBY
Bin Room
33 m²
12 STORAGE CAGES
BW
10 m²
FOGO
RL +12.20
BIN HOLDING AREA
191 m²
Bin Tug
RL +13.40
LOADING DOCK
COMPACTOR
PM-S
17.3 m
Bin Lifter
RL +14.67
Boom Gate
RWT 1
11 m²
SITE BOUNDARY
BLD 1
LIFT
RESI LOBBY
28 STORAGE CAGES
Bin Room
103 m²
Bulky Waste
44 m²
FOGO
90 BICYCLE SPACES
3 MB
BLD 2.2
Bin Room
34 m²
Bulky Waste
28 m²
Services
12 STORAGE CAGES
CW PUMP
9 m²
RL +12.20
BLD 3
CW PUMP
9 m²
RESI LOBBY
BW
10 m²
Bin Room
32 m²
NBN
85 m²
DAS
50 m²
HOTEL
STAFF
MRV
HRV
RL +12.20
RL +13.40
RL +14.00
15 BICYCLE SPACES
COMMERCIAL
LIFT
Male
93 m²
Female
76 m²
EOT
170 m²
1:6
HOTEL
BOH / SERVICES
RL +12.20
CW PUMP
9 m²
Bin Room
26 m²
Bin Room
32 m²
Bin Room
10 m²
RESI LOBBY
41 m²
RL +14.00
+14.00
EGRESS
RL +12.20
BOH
40 m²
LOW HEAD HEIGHT
2M HEIGHT
HOTEL LOBBY
323 m²
HOTEL F&B
392 m²
Hotel Com
21 m²
RL +14.00
9.0
2.5
+12.76
9.0
BLD 2.3
RWT 2
8 m²
SF 2
15 m²
FIRE BOOSTER
12 m²
CW METER
4 m²
GAS METER
9 m²
RWT 3
8 m²
SF 3
10 m²
RESIDENTIAL
HOTEL
BURELLI STREET
BUILDING OVER STREET

Rev	Date	By	Chk	Description
A	11/04/2025	OS,AK,KL		For DA Submission

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Sydney

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DKO

Project Name	Crown street, Wollongong
Project Number	00013631
Project Address	221- 291 Crown st, 216-238 Keira st and 86-90 Burelli st Wollongong NSW 2500
Country	DHARAWAL

DEVELOPMENT APPLICATION

Drawing Name
Basement 01

Drawing Scale 1:250 @ A1

Drawing No. DA2001

Revision A

SITE BOUNDARY
STAGE 1
STAGE 2
RETAIL ALDI
80 CAR SPACES
(02 & 6 DDA)
COMM / RETAIL / VISITOR
63 CAR SPACES
Boom Gate Retail
RESI LOBBY
42 BICYCLE SPACES
Boom Gate Resi
30 BICYCLE SPACES
42 STORAGE CAGES
BLD 1
RL +15.20
SERVICES
4 MB
COMMERCIAL
431.1 m²
RL +16.40
LANDING ABOVE
MSR 2
70.3 m²
RWT 1
11.3 m²
45 BICYCLE SPACES
LIFT
RESI LOBBY
70.8 m²
MAIL ROOM
FCR
25.1 m²
EGRESS
BLD 2.2
RWT 2
7.9 m²
SF 2
15.2 m²
LOADING
VOID
VOID ABOVE
BLD 3
6.2
BLD 2.3
RESI LOBBY
VOID
SF1
15.0 m²
COMMERCIAL
6.5
12.4
MSR 1
80.8 m²
23 BICYCLE SPACES
RL +18.20
EGRESS
CPSF
69.7 m²
CW PUMP
13.0 m²
SUB 01
70.9 m²
SUB 02
70.9 m²
1.5
0.9
BURELLI STREET
BUILDING OVER STREET
RTL
RTL-A

Rev	Date	By	Chk	Description
A	11/04/2025	OS,AK,KL		For DA Submission

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DEVELOPMENT APPLICATION

Project Name	Crown street, Wollongong
Project Number	00013631
Project Address	221- 291 Crown st, 216-238 Keira st and 86-90 Burelli st Wollongong NSW 2500
Country	DHARAWAL

Drawing Name
Mezzanine level

Drawing Scale 1:250 @ A1

Drawing No. DA2002

Revision A

Rev	Date	By	Chk	Description
A	11/04/2025	OS,AK,KL		For DA Submission

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DEVELOPMENT APPLICATION

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DKO

Project Name: Crown street, Wollongong
Project Number: 00013631
Project Address: 221- 291 Crown st, 216-238 Keira st and 86-90 Burelli st Wollongong NSW 2500
Country: DHARAWAL

Drawing Name: Lower Ground Plan
Drawing Scale: 1:250 @ A1
Drawing No.: DA2003
Revision: A

CROWN STREET / PRINCESS HIGHWAY

BUS ZONE

EXISTING DOUBLE STOREY BUILDING

KEIRA STREET

SITE BOUNDARY

BUILDING ABOVE

BUILDING OVER STREET

ATCHISON STREET

BURELLI STREET

EXISTING ENTRY

HERITAGE BUILDING OUTLINE

RETAIL
373.8 m²

RETAIL
291.0 m²

RL +21.40

RESIDENTIAL
162.8 m²

BICYCLE HUB

VOID

1900 mm LOW CEILING AREA

1400 mm LOW CEILING AREA

RESI ADAP

RESI

RESIDENTIAL CARPARK
25 CAR SPACES
(ICL 10 DDA)

Boom Gate Remotely

RESI LOBBY

5 MB

CW PUMP
9.5 m²

RESIDENTIAL
181.3 m²

EWIS SEQ

COMMERCIAL
68.8 m²

COMMERCIAL
165.4 m²

COMMERCIAL
129.9 m²

RESIDENTIAL
190.5 m²
RL +21.40

BLD 1

EGRESS

RL +21.40

RL +18.75

DOUBLE HEIGHT

COMMERCIAL
264.4 m²

+21.40

1B
CG.01
79.9 m²

1B
DG.01
69.3 m²

28.1 m²

14.0 m²

COMMERCIAL
99.5 m²
RL +21.40

COMMERCIAL
81.1 m²

COMMERCIAL
76.0 m²

RtoP

SITE BOUNDARY

DEVELOPMENT APPLICATION

Rev	Date	By	Chk	Description
A	11/04/2025	OS,AK,KL		For DA Submission

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Project Name	Crown street, Wollongong
Project Number	00013631
Project Address	221- 291 Crown st, 216-238 Keira st and 86-90 Burelli st Wollongong NSW 2500
Country	DHARAWAL

Drawing Name
Ground Floor Plan

Drawing Scale 1:250 @ A1

Drawing No. DA2004

Revision A

CROWN STREET / PRINCESS HIGHWAY

BUS ZONE

EXISTING DOUBLE STOREY BUILDING

SITE BOUNDARY

KEIRA STREET

ATCHISON STREET

BURELLI STREET

BUILDING OVER STREET

HERITAGE BUILDING OUTLINE

RETAIL 133.6 m²

RETAIL 71.7 m²

RETAIL 52.6 m²

RETAIL 73.8 m² RL +24.00

RETAIL 80.3 m² RL +24.00

RETAIL 86.3 m² RL +24.60

RETAIL 66.8 m² RL +24.60

RETAIL 66.8 m² RL +24.60

RETAIL 62.2 m²

RETAIL 1,083.5 m²

RETAIL 65.2 m²

RETAIL 67.6 m²

RESI LOBBY 37.8 m²

RESI LOBBY 266.1 m² RL +24.60

RESIDENTIAL CARPARK 56 CAR SPACES (ICL 5 DDA)

RESI ADAPT

RESI

VOID

STR

RL +24.60

RL +23.80

RL +22.70

+23.50

+24.60

0.5

5.1

5.6

34

COMMERCIAL 716.2 m² RL +27.90

HOTEL - R1 30.6 m²

HOTEL - R2 45.7 m²

HOTEL - R2 30.6 m²

GYM

HOTEL 130.2 m²

OPERATIONS HOTEL 195.8 m²

2B E1.01 47.5 m²

2B E1.02 47.5 m²

2B E1.03 47.5 m²

2B D1.03 47.5 m²

2B D1.02 100.6 m²

1B C1.01 79.9 m²

1B D1.01 68.3 m²

SMOKE DOOR

14.0 m²

18.5 m²

44.0 m²

DEVELOPMENT APPLICATION

Rev	Date	By	Chk	Description
A	11/04/2025	OS,AK,KL		For DA Submission

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Project Name	Crown street, Wollongong
Project Number	00013631
Project Address	221- 291 Crown st, 216-238 Keira st and 86-90 Burelli st Wollongong NSW 2500
Country	DHARAWAL

Drawing Name
Level 1 Plan

Drawing Scale 1:250 @ A1

Drawing No. DA2005

Revision A

CROWN STREET / PRINCESS HIGHWAY

BUS ZONE

EXISTING DOUBLE STOREY BUILDING

SITE BOUNDARY

ATCHISON STREET

KEIRA STREET

BURELLI STREET

BUILDING OVER STREET

HERITAGE BUILDING OUTLINE

RL 26.2

VOID

RESI

RESI ADAPT

RESI LOBBY

RESIDENTIAL CARPARK 62 CAR SPACES (ICL 5 DDA)

CAR PARKING

5 MB

E2.01 1B 60.0 m²

E2.02 3B 121.5 m²

E2.03 1B 67.6 m²

2B 48.5 m²

C2.03 2B 82.4 m²

C2.02 2B 87.0 m²

C2.01 1B 79.9 m²

D2.01 1B 68.3 m²

D2.02 2B 100.6 m²

21.6

COMMERCIAL 745 m²

RL +31.90

AWNING

2.5

HOTEL - R1 30.6 m²

HOTEL - R2 45.7 m²

HOTEL - R2 37.3 m²

RL +25.80

DEVELOPMENT APPLICATION

Rev	Date	By	Chk	Description
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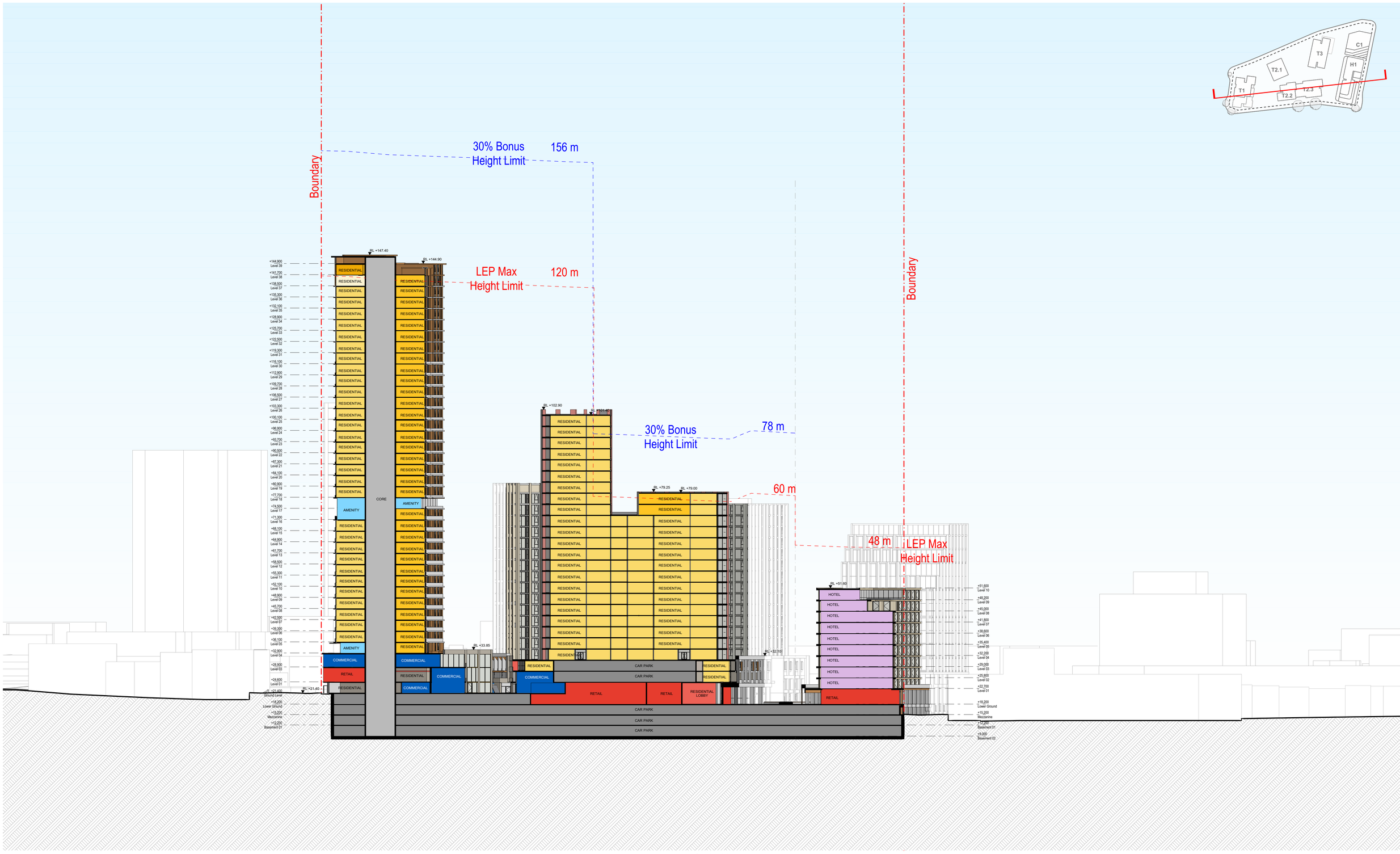
Project Name	Crown street, Wollongong
Project Number	00013631
Project Address	221- 291 Crown st, 216-238 Keira st and 86-90 Burelli st Wollongong NSW 2500
Country	DHARAWAL

Drawing Name
Level 2 Plan

Drawing Scale 1:250 @ A1

Drawing No. DA2006

Revision A



Section 01

Rev	Date	By	Chk	Description
A	11/04/2025	OS,AK,KL		For DA Submission

- All works to be in accordance with authority & statutory approvals.
- Refer to site survey for all information relating to existing site conditions.
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DEVELOPMENT APPLICATION

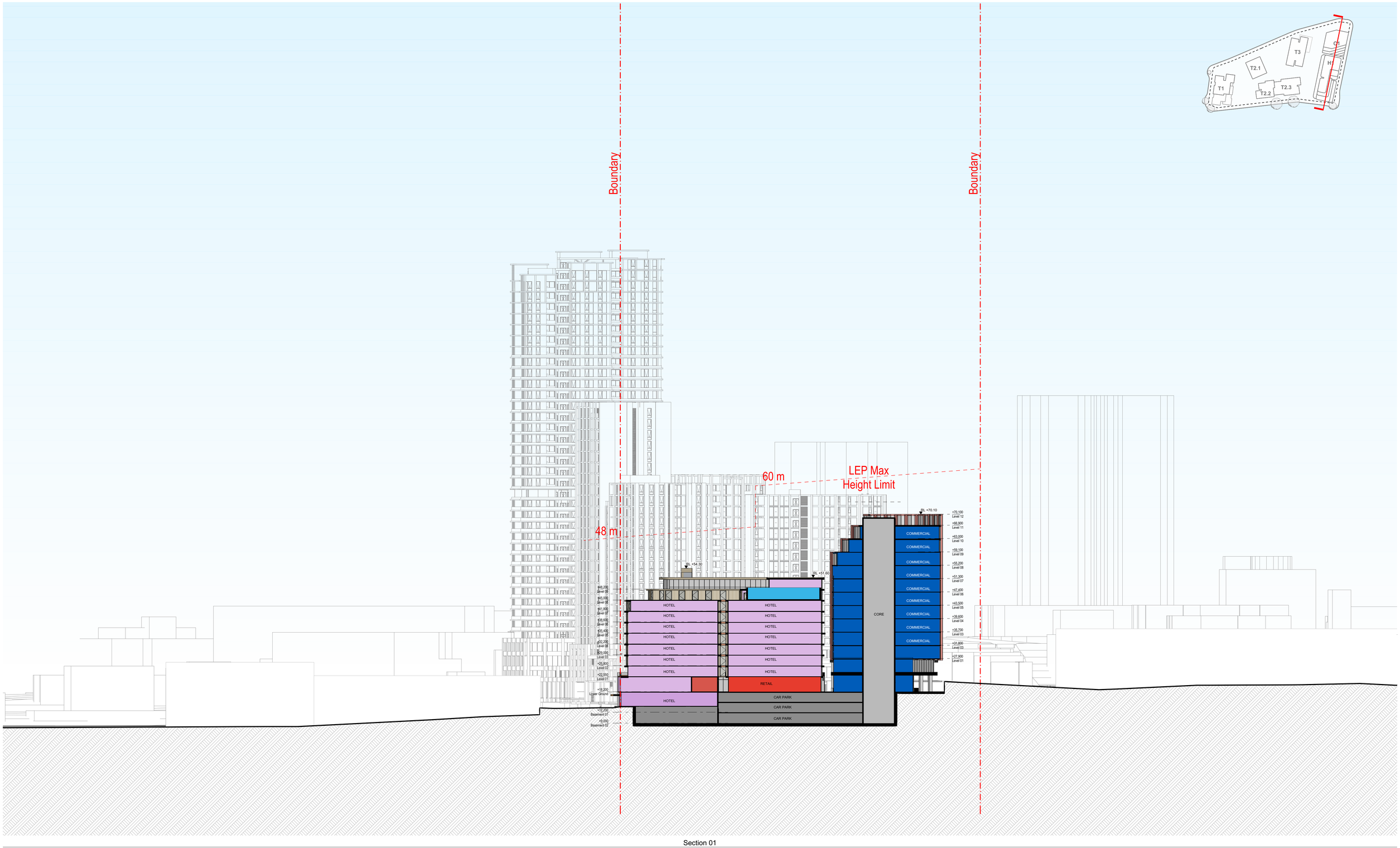
Project Name	Crown street, Wollongong
Project Number	00013631
Project Address	221- 291 Crown st, 216-238 Keira st and 86-90 Burelli st Wollongong NSW 2500
Country	DHARAWAL

Drawing Name
Section 01

Drawing Scale 1:500 @ A1

Drawing No. DA3015

Revision A



Section 01

Rev	Date	By	Chk	Description
A	11/04/2025	OS,AK,KL		For DA Submission

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DEVELOPMENT APPLICATION

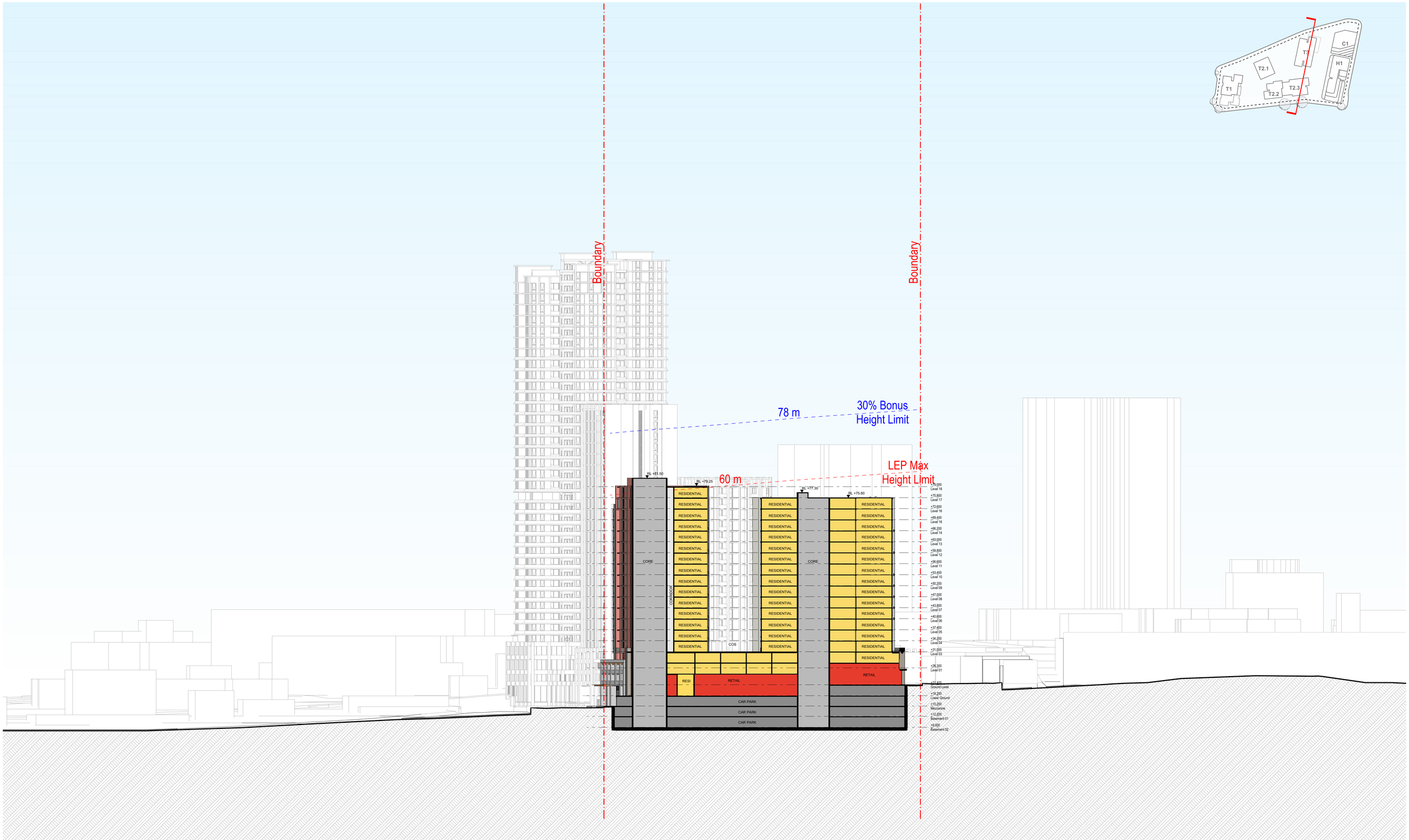
Project Name	Crown street, Wollongong
Project Number	00013631
Project Address	221- 291 Crown st, 216-238 Keira st and 86-90 Burelli st Wollongong NSW 2500
Country	DHARAWAL

Drawing Name
Section 02

Drawing Scale 1:500 @ A1

Drawing No. DA3016

Revision A



Section 01

Rev	Date	By	Chk	Description
A	11/04/2025	OS,AK,KL		For DA Submission

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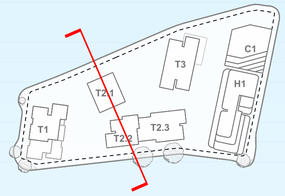
Project Name	Crown street, Wollongong
Project Number	00013631
Project Address	221- 291 Crown st, 216-238 Keira st and 86-90 Burelli st Wollongong NSW 2500
Country	DHARAWAL

Drawing Name
Section 03

Drawing Scale 1:500 @ A1

Drawing No. DA3017

Revision A



30% Bonus
Height Limit

156 m

120m

LEP Max
Height Limit

Boundary

Boundary

RL +102.90

RL +101.70

RL +101.00

+101,400
Level 25

+98,200
Level 24

+95,000
Level 23

+91,800
Level 22

+88,600
Level 21

+85,400
Level 20

+82,200
Level 19

+79,000
Level 18

+75,800
Level 17

+72,600
Level 16

+69,400
Level 15

+66,200
Level 14

+63,000
Level 13

+59,800
Level 12

+56,600
Level 11

+53,400
Level 10

+50,200
Level 09

+47,000
Level 08

+43,800
Level 07

+40,600
Level 06

+37,400
Level 05

+34,200
Level 04

+31,000
Level 03

+27,800
Level 02

+24,600
Level 01

+21,400
Ground Level

+18,200
Lower Ground

+15,200
Mezzanine

+12,200
Basement 01

+9,000
Basement 02

RESIDENTIAL

CORRIDOR

CORE

COMMERCIAL

RETAIL

CAR PARK

Section 01

Rev	Date	By	Chk	Description
A	11/04/2025	OS,AK,KL		For DA Submission

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DEVELOPMENT APPLICATION

Project Name	Crown street, Wollongong
Project Number	00013631
Project Address	221- 291 Crown st, 216-238 Keira st and 86-90 Burelli st Wollongong NSW 2500
Country	DHARAWAL

Drawing Name
Section 04

Drawing Scale 1:500 @ A1

Drawing No. DA3018

Revision A

Attachment 3

Traffic Data

Location	**Atchison Street**	**Duration**	**7:00**	**-**	**09:00**
	Burelli Street			**-**	
	Atchison Street		**16:00**	**-**	**18:00**
	Burelli Street	**Date**	**Tuesday 17 September 2024**		
Suburb	**WOOLLONGONG**	**Weather**	**-**		

All Vehicles Time Per 15 Mins			**NORTH** *Atchison Street*									**EAST** *Burelli Street*											
			L			**T**			**R**				**L**			**T**			**R**				**TOTAL**	
			LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00	-	**7:15**	29	2	**31**	16	1	**17**	20	1	**21**	**69**	1	0	**1**	25	8	**33**				**34**	103	13	**116**
7:15	-	**7:30**	48	1	**49**	26	0	**26**	18	2	**20**	**95**	3	0	**3**	15	4	**19**				**22**	122	7	**129**
7:30	-	**7:45**	69	4	**73**	17	1	**18**	24	2	**26**	**117**	5	1	**6**	26	2	**28**				**34**	159	13	**172**
7:45	-	**8:00**	58	0	**58**	31	0	**31**	35	0	**35**	**124**	5	0	**5**	27	4	**31**				**36**	187	9	**196**
8:00	-	**8:15**	71	1	**72**	25	0	**25**	33	0	**33**	**130**	5	0	**5**	36	1	**37**				**42**	192	4	**196**
8:15	-	**8:30**	84	0	**84**	43	1	**44**	45	4	**49**	**177**	16	0	**16**	31	2	**33**				**49**	246	11	**257**
8:30	-	**8:45**	73	1	**74**	38	0	**38**	31	2	**33**	**145**	7	0	**7**	25	4	**29**				**36**	212	9	**221**
8:45	-	**9:00**	104	0	**104**	44	1	**45**	40	2	**42**	**191**	6	0	**6**	39	2	**41**				**47**	263	7	**270**
Period End			**536**	**9**	**545**	**240**	**4**	**244**	**246**	**13**	**259**	**1048**	**48**	**1**	**49**	**224**	**27**	**251**				**300**	**1484**	**73**	**1557**
16:00	-	**16:15**	69	0	**69**	26	0	**26**	21	0	**21**	**116**	7	0	**7**	60	0	**60**				**67**	215	2	**217**
16:15	-	**16:30**	62	0	**62**	29	0	**29**	17	0	**17**	**108**	7	0	**7**	47	3	**50**				**57**	201	4	**205**
16:30	-	**16:45**	60	2	**62**	39	0	**39**	22	1	**23**	**124**	5	0	**5**	57	4	**61**				**66**	218	9	**227**
16:45	-	**17:00**	65	0	**65**	40	0	**40**	28	1	**29**	**134**	1	0	**1**	53	2	**55**				**56**	215	4	**219**
17:00	-	**17:15**	78	0	**78**	36	0	**36**	23	0	**23**	**137**	2	0	**2**	68	0	**68**				**70**	249	3	**252**
17:15	-	**17:30**	59	0	**59**	32	0	**32**	23	0	**23**	**114**	2	0	**2**	51	0	**51**				**53**	187	0	**187**
17:30	-	**17:45**	55	1	**56**	23	0	**23**	22	1	**23**	**102**	2	0	**2**	64	3	**67**				**69**	179	7	**186**
17:45	-	**18:00**	59	0	**59**	28	0	**28**	16	1	**17**	**104**	3	0	**3**	52	1	**53**				**56**	177	3	**180**
Period End			**507**	**3**	**510**	**253**	**0**	**253**	**172**	**4**	**176**		**29**	**0**	**29**	**452**	**13**	**465**				**494**	**1641**	**32**	**1673**

All Vehicles Time Per 15 Mins			**SOUTH** *Atchison Street*									**WEST** *Burelli Street*											
			L			**T**			**R**				**L**			**T**			**R**				**TOTAL**	
			LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00	-	**7:15**	10	0	**10**							**10**				2	1	**3**	0	0	**0**	**3**	103	13	**116**
7:15	-	**7:30**	8	0	**8**							**8**				4	0	**4**	0	0	**0**	**4**	122	7	**129**
7:30	-	**7:45**	14	0	**14**							**14**				4	3	**7**	0	0	**0**	**7**	159	13	**172**
7:45	-	**8:00**	19	0	**19**							**19**				12	5	**17**	0	0	**0**	**17**	187	9	**196**
8:00	-	**8:15**	12	0	**12**							**12**				10	2	**12**	0	0	**0**	**12**	192	4	**196**
8:15	-	**8:30**	18	1	**19**							**19**				9	3	**12**	0	0	**0**	**12**	246	11	**257**
8:30	-	**8:45**	27	0	**27**							**27**				11	2	**13**	0	0	**0**	**13**	212	9	**221**
8:45	-	**9:00**	17	1	**18**							**18**				13	1	**14**	0	0	**0**	**14**	263	7	**270**
Period End			**125**	**2**	**127**											**65**	**17**	**82**	**0**	**0**	**0**	**82**	**1484**	**73**	**1557**
16:00	-	**16:15**	22	0	**22**							**22**				10	2	**12**	0	0	**0**	**12**	215	2	**217**
16:15	-	**16:30**	28	0	**28**							**28**				11	1	**12**	0	0	**0**	**12**	201	4	**205**
16:30	-	**16:45**	25	0	**25**							**25**				10	2	**12**	0	0	**0**	**12**	218	9	**227**
16:45	-	**17:00**	15	0	**15**							**15**				13	1	**14**	0	0	**0**	**14**	215	4	**219**
17:00	-	**17:15**	31	1	**32**							**32**				11	2	**13**	0	0	**0**	**13**	249	3	**252**
17:15	-	**17:30**	19	0	**19**							**19**				1	0	**1**	0	0	**0**	**1**	187	0	**187**
17:30	-	**17:45**	8	0	**8**							**8**				5	2	**7**	0	0	**0**	**7**	179	7	**186**
17:45	-	**18:00**	11	0	**11**							**11**				8	1	**9**	0	0	**0**	**9**	177	3	**180**
Period End			**159**	**1**	**160**							**160**				**69**	**11**	**80**	**0**	**0**	**0**	**80**	**1641**	**32**	**1673**

Location	**Atchison Street**	**Duration**	**7:00**	**-**	**09:00**
	Burelli Street			**-**	
	Atchison Street		**16:00**	**-**	**18:00**
	Burelli Street	**Date**	**Tuesday 17 September 2024**		
Suburb	**WOOLLONGONG**	**Weather**	**-**		

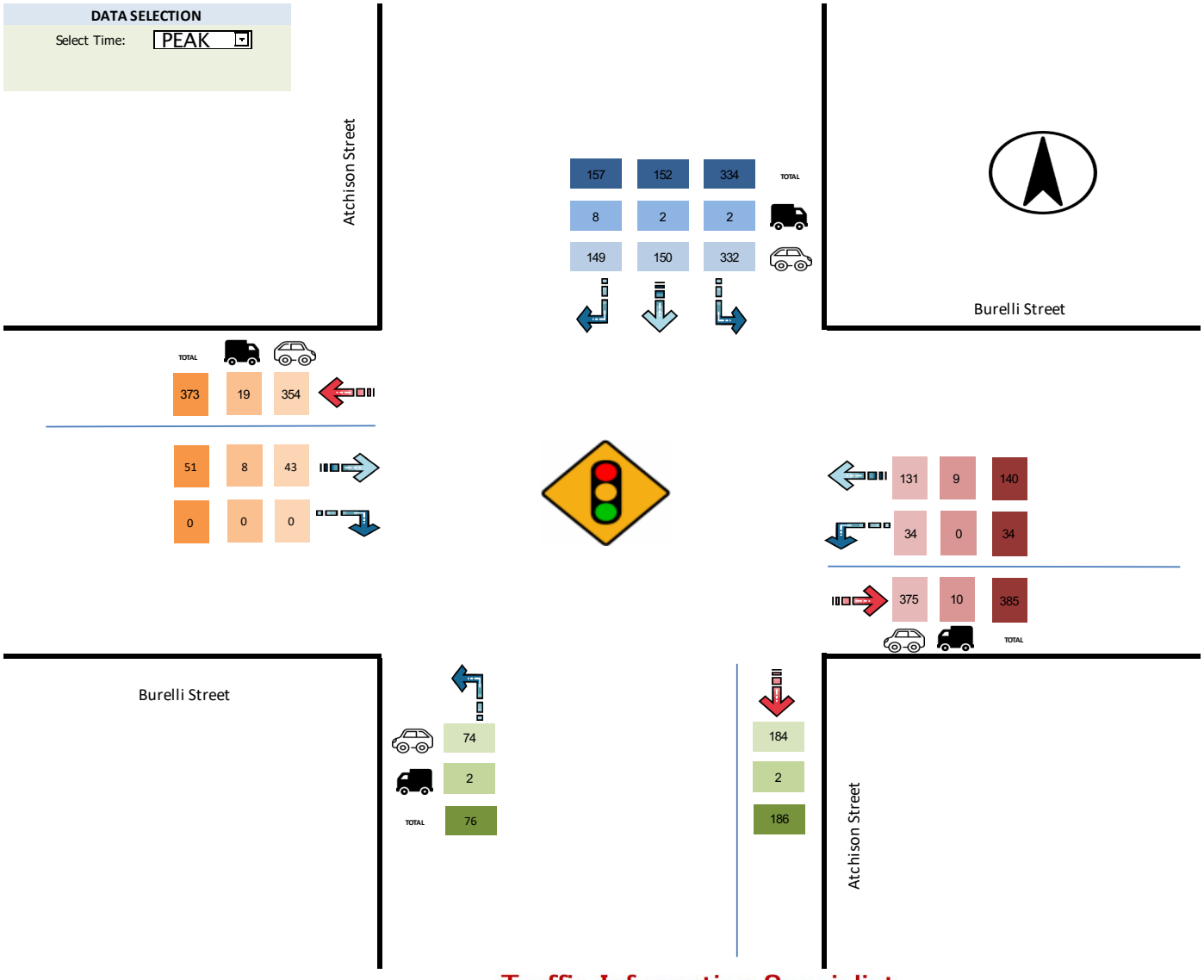
All Vehicles Time Per Hour	**NORTH** *Atchison Street*										**EAST** *Burelli Street*											
	L			T			R				L			T			R				TOTAL	
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00 - 8:00	204	7	**211**	90	2	**92**	97	5	**102**	**405**	14	1	**15**	93	18	**111**				**126**	571	42	**613**
7:15 - 8:15	246	6	**252**	99	1	**100**	110	4	**114**	**466**	18	1	**19**	104	11	**115**				**134**	660	33	**693**
7:30 - 8:30	282	5	**287**	116	2	**118**	137	6	**143**	**548**	31	1	**32**	120	9	**129**				**161**	784	37	**821**
7:45 - 8:45	286	2	**288**	137	1	**138**	144	6	**150**	**576**	33	0	**33**	119	11	**130**				**163**	837	33	**870**
8:00 - 9:00	332	2	**334**	150	2	**152**	149	8	**157**	**643**	34	0	**34**	131	9	**140**				**174**	913	31	**944**
Period End																							
16:00 - 17:00	256	2	**258**	134	0	**134**	88	2	**90**	**482**	20	0	**20**	217	9	**226**				**246**	849	19	**868**
16:15 - 17:15	265	2	**267**	144	0	**144**	90	2	**92**	**503**	15	0	**15**	225	9	**234**				**249**	883	20	**903**
16:30 - 17:30	262	2	**264**	147	0	**147**	96	2	**98**	**509**	10	0	**10**	229	6	**235**				**245**	869	16	**885**
16:45 - 17:45	257	1	**258**	131	0	**131**	96	2	**98**	**487**	7	0	**7**	236	5	**241**				**248**	830	14	**844**
17:00 - 18:00	251	1	**252**	119	0	**119**	84	2	**86**	**457**	9	0	**9**	235	4	**239**				**248**	792	13	**805**
Period End																							

All Vehicles Time Per Hour	**SOUTH** *Atchison Street*										**WEST** *Burelli Street*											
	L			T			R				L			T			R				TOTAL	
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00 - 8:00	51	0	**51**							**51**				22	9	**31**	0	0	**0**	**31**	571	42	**613**
7:15 - 8:15	53	0	**53**							**53**				30	10	**40**	0	0	**0**	**40**	660	33	**693**
7:30 - 8:30	63	1	**64**							**64**				35	13	**48**	0	0	**0**	**48**	784	37	**821**
7:45 - 8:45	76	1	**77**							**77**				42	12	**54**	0	0	**0**	**54**	837	33	**870**
8:00 - 9:00	74	2	**76**							**76**				43	8	**51**	0	0	**0**	**51**	913	31	**944**
Period End																							
16:00 - 17:00	90	0	**90**							**90**				44	6	**50**	0	0	**0**	**50**	849	19	**868**
16:15 - 17:15	99	1	**100**							**100**				45	6	**51**	0	0	**0**	**51**	883	20	**903**
16:30 - 17:30	90	1	**91**							**91**				35	5	**40**	0	0	**0**	**40**	869	16	**885**
16:45 - 17:45	73	1	**74**							**74**				30	5	**35**	0	0	**0**	**35**	830	14	**844**
17:00 - 18:00	69	1	**70**							**70**				25	5	**30**	0	0	**0**	**30**	792	13	**805**
Period End																							

Location	**Atchison Street**		**Duration**	**7:00**	**-**	**09:00**
	Burelli Street				**-**	
	Atchison Street			**16:00**	**-**	**18:00**
	Burelli Street		**Date**	**Tuesday 17 September 2024**		
Suburb	**WOOLLONGONG**		**Weather**	**-**		

DATA SELECTION	
Select Time:	PEAK

TIME RANGE		
PEAK	**-**	**AM**
PEAK		
8:00	**-**	**9:00**



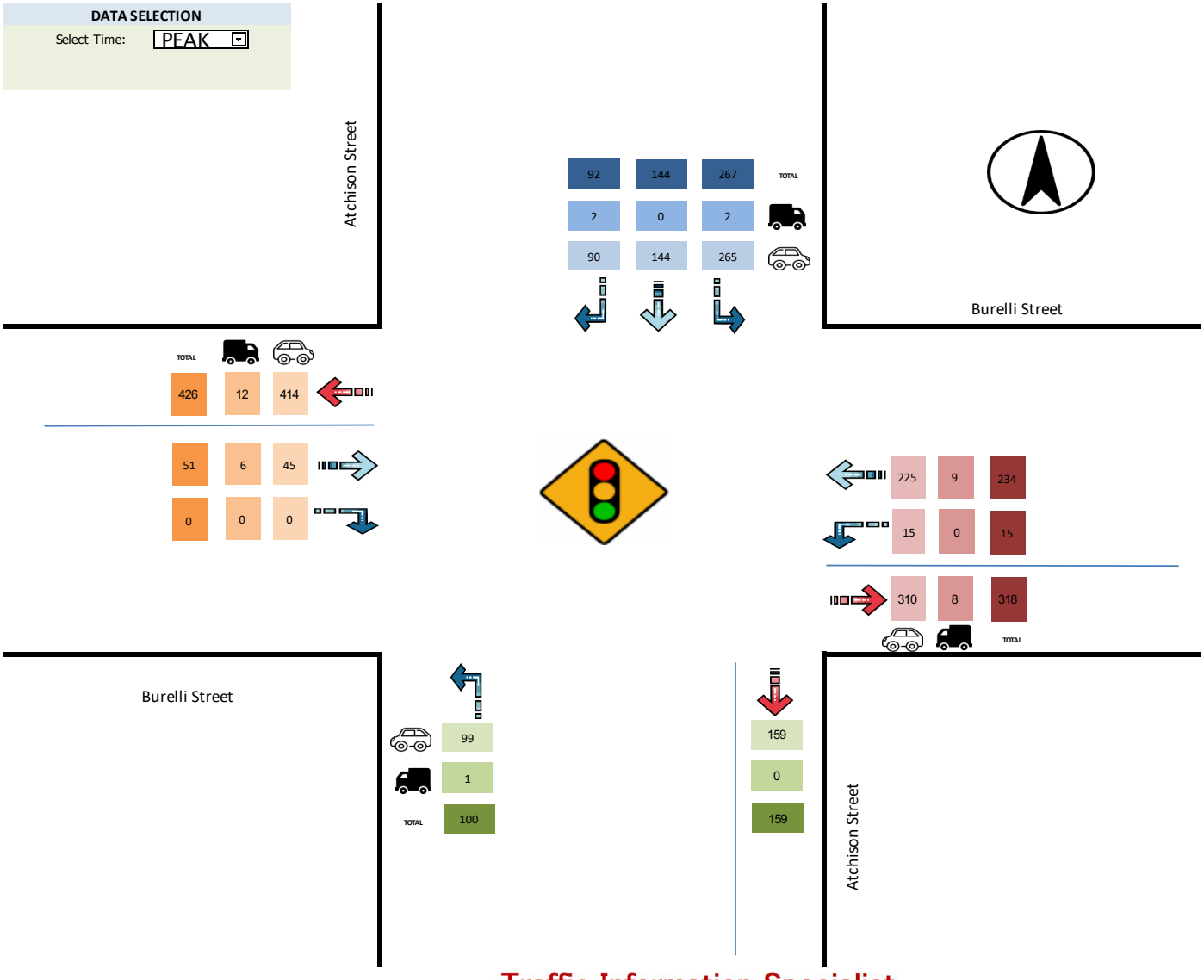
Traffic Information Specialist
ABN: 42 613 389 923
Email info@tistraffic.com.au

Location	**Atchison Street**		**Duration**	**7:00**	**-**	**09:00**
	Burelli Street				**-**	
	Atchison Street			**16:00**	**-**	**18:00**
	Burelli Street		**Date**	**Tuesday 17 September 2024**		
Suburb	**WOOLLONGONG**		**Weather**	**-**		

DATA SELECTION

Select Time: PEAK

TIME RANGE		
PEAK	**-**	**PM**
PEAK		
16:15	**-**	**17:15**



Traffic Information Specialist

ABN: 42 613 389 923

Email info@tistraffic.com.au

Location	**Keira Street**	**Duration**	**7:00**	**-**	**09:00**
	Burelli Street			**-**	
	Keira Street		**16:00**	**-**	**18:00**
	Burelli Street	**Date**	**Tuesday 17 September 2024**		
Suburb	**WOOLLONGONG**	**Weather**	**-**		

All Vehicles Time Per 15 Mins	**NORTH** *Keira Street*										**EAST** *Burelli Street*												
	L			**T**			**R**				**L**			**T**			**R**				**TOTAL**	
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00 - 7:15	17	4	**21**	37	5	**42**	0	0	**0**	**63**	6	0	**6**	19	4	**23**	6	4	**10**	**39**	139	25	**164**
7:15 - 7:30	7	5	**12**	42	3	**45**	0	0	**0**	**57**	7	0	**7**	17	3	**20**	7	6	**13**	**40**	128	20	**148**
7:30 - 7:45	11	6	**17**	43	0	**43**	0	0	**0**	**60**	9	0	**9**	24	5	**29**	8	4	**12**	**50**	194	23	**217**
7:45 - 8:00	19	10	**29**	60	4	**64**	0	0	**0**	**93**	11	2	**13**	31	4	**35**	9	9	**18**	**66**	219	37	**256**
8:00 - 8:15	9	8	**17**	72	1	**73**	0	0	**0**	**90**	12	0	**12**	34	1	**35**	8	9	**17**	**64**	234	27	**261**
8:15 - 8:30	17	12	**29**	75	3	**78**	0	0	**0**	**107**	15	0	**15**	39	1	**40**	5	9	**14**	**69**	252	29	**281**
8:30 - 8:45	23	6	**29**	91	4	**95**	0	0	**0**	**124**	17	0	**17**	29	3	**32**	7	8	**15**	**64**	257	29	**286**
8:45 - 9:00	17	13	**30**	73	1	**74**	0	0	**0**	**104**	21	1	**22**	43	2	**45**	2	5	**7**	**74**	270	29	**299**
Period End	**120**	**64**	**184**	**493**	**21**	**514**	**0**	**0**	**0**	**698**	**98**	**3**	**101**	**236**	**23**	**259**	**52**	**54**	**106**	**466**	**1693**	**219**	**1912**
16:00 - 16:15	14	7	**21**	59	1	**60**	0	0	**0**	**81**	4	0	**4**	51	0	**51**	7	5	**12**	**67**	267	15	**282**
16:15 - 16:30	18	7	**25**	48	1	**49**	0	0	**0**	**74**	8	1	**9**	37	2	**39**	13	5	**18**	**66**	263	17	**280**
16:30 - 16:45	13	6	**19**	57	1	**58**	0	0	**0**	**77**	5	0	**5**	44	4	**48**	19	9	**28**	**81**	254	23	**277**
16:45 - 17:00	12	8	**20**	38	0	**38**	0	0	**0**	**58**	11	0	**11**	34	2	**36**	14	8	**22**	**69**	242	20	**262**
17:00 - 17:15	10	7	**17**	53	0	**53**	0	0	**0**	**70**	10	0	**10**	47	0	**47**	16	8	**24**	**81**	272	17	**289**
17:15 - 17:30	18	10	**28**	53	0	**53**	0	0	**0**	**81**	4	0	**4**	33	0	**33**	9	8	**17**	**54**	262	18	**280**
17:30 - 17:45	21	6	**27**	30	0	**30**	0	0	**0**	**57**	7	0	**7**	44	3	**47**	13	11	**24**	**78**	229	22	**251**
17:45 - 18:00	29	7	**36**	40	1	**41**	0	0	**0**	**77**	7	0	**7**	47	2	**49**	17	9	**26**	**82**	264	20	**284**
Period End	**135**	**58**	**193**	**378**	**4**	**382**	**0**	**0**	**0**		**56**	**1**	**57**	**337**	**13**	**350**	**108**	**63**	**171**	**578**	**2053**	**152**	**2205**

All Vehicles Time Per 15 Mins	**SOUTH** *Keira Street*										**WEST** *Burelli Street*												
	L			**T**			**R**				**L**			**T**			**R**				**TOTAL**	
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00 - 7:15	2	5	**7**	23	2	**25**				**32**	6	0	**6**	23	1	**24**				**30**	139	25	**164**
7:15 - 7:30	0	1	**1**	23	0	**23**				**24**	4	0	**4**	21	2	**23**				**27**	128	20	**148**
7:30 - 7:45	2	1	**3**	50	3	**53**				**56**	9	1	**10**	38	3	**41**				**51**	194	23	**217**
7:45 - 8:00	6	2	**8**	46	0	**46**				**54**	6	0	**6**	31	6	**37**				**43**	219	37	**256**
8:00 - 8:15	3	2	**5**	43	3	**46**				**51**	9	1	**10**	44	2	**46**				**56**	234	27	**261**
8:15 - 8:30	5	1	**6**	49	0	**49**				**55**	5	1	**6**	42	2	**44**				**50**	252	29	**281**
8:30 - 8:45	2	1	**3**	42	4	**46**				**49**	7	0	**7**	39	3	**42**				**49**	257	29	**286**
8:45 - 9:00	8	2	**10**	52	3	**55**				**65**	7	1	**8**	47	1	**48**				**56**	270	29	**299**
Period End	**28**	**15**	**43**	**328**	**15**	**343**					**53**	**4**	**57**	**285**	**20**	**305**				**362**	**1693**	**219**	**1912**
16:00 - 16:15	9	0	**9**	45	0	**45**				**54**	15	0	**15**	63	2	**65**				**80**	267	15	**282**
16:15 - 16:30	6	0	**6**	55	1	**56**				**62**	24	0	**24**	54	0	**54**				**78**	263	17	**280**
16:30 - 16:45	7	0	**7**	55	0	**55**				**62**	9	0	**9**	45	3	**48**				**57**	254	23	**277**
16:45 - 17:00	5	0	**5**	53	0	**53**				**58**	18	0	**18**	57	2	**59**				**77**	242	20	**262**
17:00 - 17:15	6	0	**6**	70	0	**70**				**76**	15	0	**15**	45	2	**47**				**62**	272	17	**289**
17:15 - 17:30	4	0	**4**	64	0	**64**				**68**	20	0	**20**	57	0	**57**				**77**	262	18	**280**
17:30 - 17:45	8	0	**8**	50	0	**50**				**58**	9	1	**10**	47	1	**48**				**58**	229	22	**251**
17:45 - 18:00	5	0	**5**	51	0	**51**				**56**	20	0	**20**	48	1	**49**				**69**	264	20	**284**
Period End	**50**	**0**	**50**	**443**	**1**	**444**				**494**	**130**	**1**	**131**	**416**	**11**	**427**				**558**	**2053**	**152**	**2205**

Location	**Keira Street**	**Duration**	**7:00**	-	**09:00**
	Burelli Street			-	
	Keira Street		**16:00**	-	**18:00**
	Burelli Street	**Date**	**Tuesday 17 September 2024**		
Suburb	**WOOLLONGONG**	**Weather**	-		

All Vehicles Time Per Hour	**NORTH** *Keira Street*										**EAST** *Burelli Street*												
	L			T			R				L			T			R				TOTAL		
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00 - 8:00	54	25	**79**	182	12	**194**	0	0	**0**	**273**	33	2	**35**	91	16	**107**	30	23	**53**	**195**	680	105	**785**
7:15 - 8:15	46	29	**75**	217	8	**225**	0	0	**0**	**300**	39	2	**41**	106	13	**119**	32	28	**60**	**220**	775	107	**882**
7:30 - 8:30	56	36	**92**	250	8	**258**	0	0	**0**	**350**	47	2	**49**	128	11	**139**	30	31	**61**	**249**	899	116	**1015**
7:45 - 8:45	68	36	**104**	298	12	**310**	0	0	**0**	**414**	55	2	**57**	133	9	**142**	29	35	**64**	**263**	962	122	**1084**
8:00 - 9:00	66	39	**105**	311	9	**320**	0	0	**0**	**425**	65	1	**66**	145	7	**152**	22	31	**53**	**271**	1013	114	**1127**
Period End																							
16:00 - 17:00	57	28	**85**	202	3	**205**	0	0	**0**	**290**	28	1	**29**	166	8	**174**	53	27	**80**	**283**	1026	75	**1101**
16:15 - 17:15	53	28	**81**	196	2	**198**	0	0	**0**	**279**	34	1	**35**	162	8	**170**	62	30	**92**	**297**	1031	77	**1108**
16:30 - 17:30	53	31	**84**	201	1	**202**	0	0	**0**	**286**	30	0	**30**	158	6	**164**	58	33	**91**	**285**	1030	78	**1108**
16:45 - 17:45	61	31	**92**	174	0	**174**	0	0	**0**	**266**	32	0	**32**	158	5	**163**	52	35	**87**	**282**	1005	77	**1082**
17:00 - 18:00	78	30	**108**	176	1	**177**	0	0	**0**	**285**	28	0	**28**	171	5	**176**	55	36	**91**	**295**	1027	77	**1104**
Period End																							

All Vehicles Time Per Hour	**SOUTH** *Keira Street*										**WEST** *Burelli Street*												
	L			T			R				L			T			R				TOTAL		
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00 - 8:00	10	9	**19**	142	5	**147**				**166**	25	1	**26**	113	12	**125**				**151**	680	105	**785**
7:15 - 8:15	11	6	**17**	162	6	**168**				**185**	28	2	**30**	134	13	**147**				**177**	775	107	**882**
7:30 - 8:30	16	6	**22**	188	6	**194**				**216**	29	3	**32**	155	13	**168**				**200**	899	116	**1015**
7:45 - 8:45	16	6	**22**	180	7	**187**				**209**	27	2	**29**	156	13	**169**				**198**	962	122	**1084**
8:00 - 9:00	18	6	**24**	186	10	**196**				**220**	28	3	**31**	172	8	**180**				**211**	1013	114	**1127**
Period End																							
16:00 - 17:00	27	0	**27**	208	1	**209**				**236**	66	0	**66**	219	7	**226**				**292**	1026	75	**1101**
16:15 - 17:15	24	0	**24**	233	1	**234**				**258**	66	0	**66**	201	7	**208**				**274**	1031	77	**1108**
16:30 - 17:30	22	0	**22**	242	0	**242**				**264**	62	0	**62**	204	7	**211**				**273**	1030	78	**1108**
16:45 - 17:45	23	0	**23**	237	0	**237**				**260**	62	1	**63**	206	5	**211**				**274**	1005	77	**1082**
17:00 - 18:00	23	0	**23**	235	0	**235**				**258**	64	1	**65**	197	4	**201**				**266**	1027	77	**1104**
Period End																							

Location	**Keira Street**		**Duration**	**7:00**	**-**	**09:00**
	Burelli Street				**-**	
	Keira Street			**16:00**	**-**	**18:00**
	Burelli Street		**Date**	**Tuesday 17 September 2024**		
Suburb	**WOOLLONGONG**		**Weather**	**-**		

DATA SELECTION

Select Time: PEAK

TIME RANGE		
PEAK	-	AM
PEAK		
8:00	-	9:00

Traffic Information Specialist

ABN: 42 613 389 923

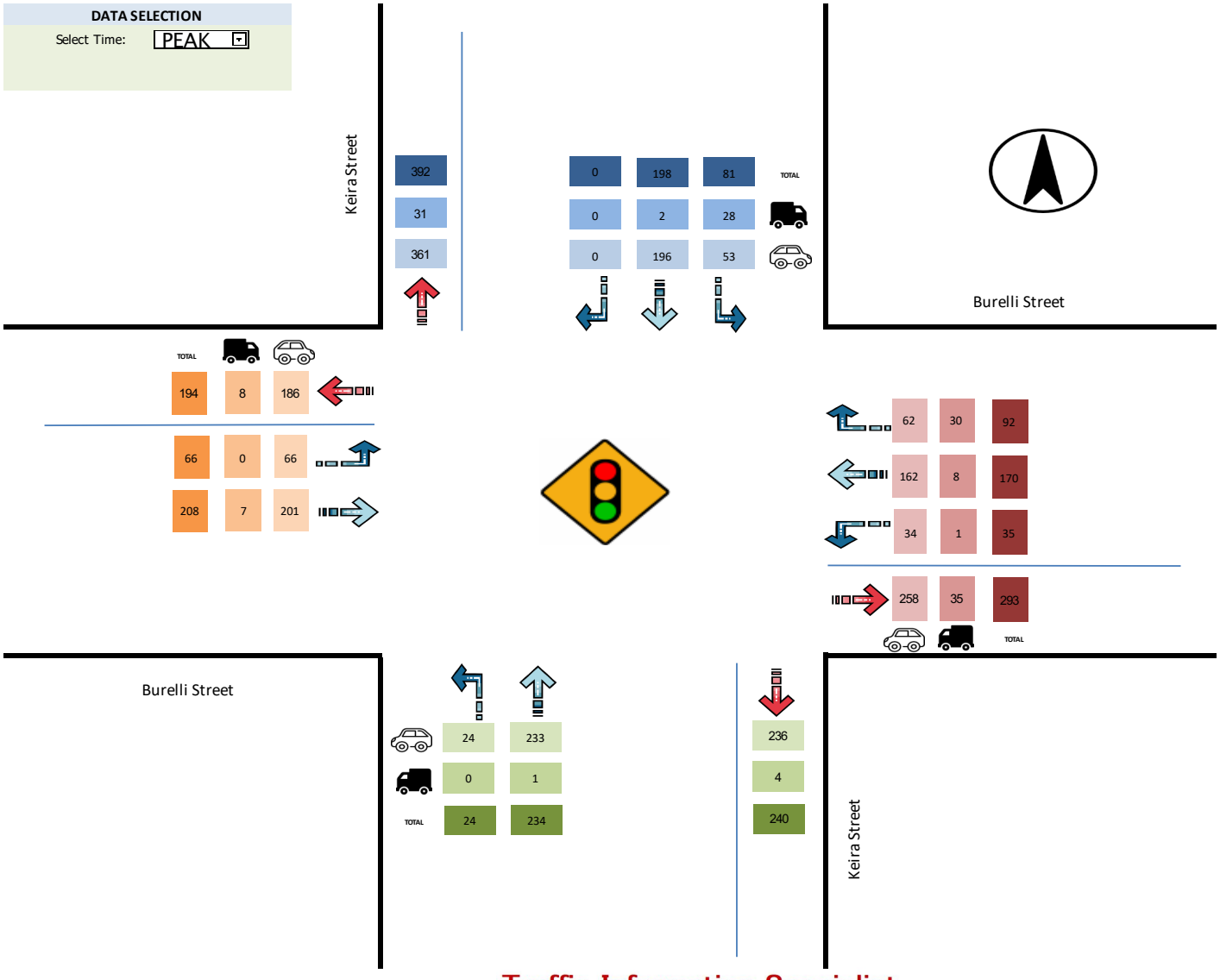
Email info@tistraffic.com.au

Location	**Keira Street**		**Duration**	**7:00**	**-**	**09:00**
	Burelli Street				**-**	
	Keira Street			**16:00**	**-**	**18:00**
	Burelli Street		**Date**	**Tuesday 17 September 2024**		
Suburb	**WOOLLONGONG**		**Weather**	**-**		

DATA SELECTION

Select Time: PEAK

TIME RANGE		
PEAK	**-**	**PM**
PEAK		
16:15	**-**	**17:15**



Traffic Information Specialist

ABN: 42 613 389 923

Email info@tistraffic.com.au

Location	**Findlay Place**	**Duration**	**7:00**	**-**	**09:00**
	Burelli Street			**-**	
	Kenny Street		**16:00**	**-**	**18:00**
	Burelli Street	**Date**	**Tuesday 17 September 2024**		
Suburb	**WOOLLONGONG**	**Weather**	**-**		

All Vehicles Time Per 15 Mins		**NORTH** *Findlay Place*										**EAST** *Burelli Street*											
		L			**T**			**R**				**L**			**T**			**R**				**TOTAL**	
		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00	**7:15**											2	0	**2**	23	8	**31**				**33**	67	11	**78**
7:15	**7:30**											0	0	**0**	16	3	**19**				**19**	71	4	**75**
7:30	**7:45**											3	1	**4**	24	2	**26**				**30**	113	10	**123**
7:45	**8:00**											5	2	**7**	34	5	**39**				**46**	109	12	**121**
8:00	**8:15**											0	2	**2**	39	1	**40**				**42**	137	5	**142**
8:15	**8:30**											3	1	**4**	38	1	**39**				**43**	157	5	**162**
8:30	**8:45**											7	0	**7**	26	4	**30**				**37**	116	8	**124**
8:45	**9:00**											5	2	**7**	38	2	**40**				**47**	170	6	**176**
Period End												**25**	**8**	**33**	**238**	**26**	**264**				**297**	**940**	**61**	**1001**
16:00	**16:15**											7	0	**7**	52	0	**52**				**59**	170	2	**172**
16:15	**16:30**											5	0	**5**	41	2	**43**				**48**	157	2	**159**
16:30	**16:45**											7	0	**7**	49	5	**54**				**61**	160	9	**169**
16:45	**17:00**											3	0	**3**	37	2	**39**				**42**	156	3	**159**
17:00	**17:15**											2	0	**2**	48	0	**48**				**50**	174	2	**176**
17:15	**17:30**											3	0	**3**	42	0	**42**				**45**	146	0	**146**
17:30	**17:45**											5	0	**5**	51	3	**54**				**59**	146	6	**152**
17:45	**18:00**											8	0	**8**	48	1	**49**				**57**	144	3	**147**
Period End												**40**	**0**	**40**	**368**	**13**	**381**				**421**	**1253**	**27**	**1280**

All Vehicles Time Per 15 Mins		**SOUTH** *Kenny Street*										**WEST** *Burelli Street*											
		L			**T**			**R**				**L**			**T**			**R**				**TOTAL**	
		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00	**7:15**	3	0	**3**	0	0	**0**	7	0	**7**	**10**	0	0	**0**	22	1	**23**	10	2	**12**	**35**	67	11	**78**
7:15	**7:30**	2	0	**2**	0	0	**0**	4	0	**4**	**6**	0	0	**0**	21	1	**22**	28	0	**28**	**50**	71	4	**75**
7:30	**7:45**	4	0	**4**	1	0	**1**	8	0	**8**	**13**	4	0	**4**	38	6	**44**	31	1	**32**	**80**	113	10	**123**
7:45	**8:00**	1	0	**1**	2	0	**2**	5	0	**5**	**8**	5	0	**5**	30	5	**35**	27	0	**27**	**67**	109	12	**121**
8:00	**8:15**	2	0	**2**	2	0	**2**	7	0	**7**	**11**	8	0	**8**	45	2	**47**	34	0	**34**	**89**	137	5	**142**
8:15	**8:30**	6	0	**6**	4	0	**4**	9	0	**9**	**19**	6	0	**6**	49	3	**52**	42	0	**42**	**100**	157	5	**162**
8:30	**8:45**	3	1	**4**	1	0	**1**	2	0	**2**	**7**	6	0	**6**	36	3	**39**	35	0	**35**	**80**	116	8	**124**
8:45	**9:00**	4	0	**4**	1	0	**1**	6	0	**6**	**11**	9	0	**9**	56	2	**58**	51	0	**51**	**118**	170	6	**176**
Period End		**25**	**1**	**26**	**11**	**0**	**11**	**48**	**0**	**48**		**38**	**0**	**38**	**297**	**23**	**320**	**258**	**3**	**261**	**619**	**940**	**61**	**1001**
16:00	**16:15**	12	0	**12**	0	0	**0**	17	0	**17**	**29**	0	0	**0**	63	2	**65**	19	0	**19**	**84**	170	2	**172**
16:15	**16:30**	13	0	**13**	0	0	**0**	27	0	**27**	**40**	1	0	**1**	43	0	**43**	27	0	**27**	**71**	157	2	**159**
16:30	**16:45**	13	0	**13**	1	0	**1**	14	0	**14**	**28**	1	0	**1**	53	4	**57**	22	0	**22**	**80**	160	9	**169**
16:45	**17:00**	20	0	**20**	1	0	**1**	21	0	**21**	**42**	1	0	**1**	57	1	**58**	16	0	**16**	**75**	156	3	**159**
17:00	**17:15**	23	0	**23**	0	0	**0**	18	0	**18**	**41**	1	0	**1**	49	2	**51**	33	0	**33**	**85**	174	2	**176**
17:15	**17:30**	11	0	**11**	1	0	**1**	17	0	**17**	**29**	2	0	**2**	48	0	**48**	22	0	**22**	**72**	146	0	**146**
17:30	**17:45**	19	0	**19**	0	0	**0**	15	0	**15**	**34**	0	0	**0**	44	2	**46**	12	1	**13**	**59**	146	6	**152**
17:45	**18:00**	9	0	**9**	0	0	**0**	17	0	**17**	**26**	2	0	**2**	49	1	**50**	11	1	**12**	**64**	144	3	**147**
Period End		**120**	**0**	**120**	**3**	**0**	**3**	**146**	**0**	**146**	**269**	**8**	**0**	**8**	**406**	**12**	**418**	**162**	**2**	**164**	**590**	**1253**	**27**	**1280**

Location	**Findlay Place**	**Duration**	**7:00**	-	**09:00**
	Burelli Street			-	
	Kenny Street		**16:00**	-	**18:00**
	Burelli Street	**Date**	**Tuesday 17 September 2024**		
Suburb	**WOOLLONGONG**	**Weather**	-		

All Vehicles Time Per Hour	**NORTH** *Findlay Place*										**EAST** *Burelli Street*											
	L			T			R				L			T			R				TOTAL	
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00 - 8:00											10	3	**13**	97	18	**115**				**128**	360	37	**397**
7:15 - 8:15											8	5	**13**	113	11	**124**				**137**	430	31	**461**
7:30 - 8:30											11	6	**17**	135	9	**144**				**161**	516	32	**548**
7:45 - 8:45											15	5	**20**	137	11	**148**				**168**	519	30	**549**
8:00 - 9:00											15	5	**20**	141	8	**149**				**169**	580	24	**604**
Period End																							
16:00 - 17:00											22	0	**22**	179	9	**188**				**210**	643	16	**659**
16:15 - 17:15											17	0	**17**	175	9	**184**				**201**	647	16	**663**
16:30 - 17:30											15	0	**15**	176	7	**183**				**198**	636	14	**650**
16:45 - 17:45											13	0	**13**	178	5	**183**				**196**	622	11	**633**
17:00 - 18:00											18	0	**18**	189	4	**193**				**211**	610	11	**621**
Period End																							

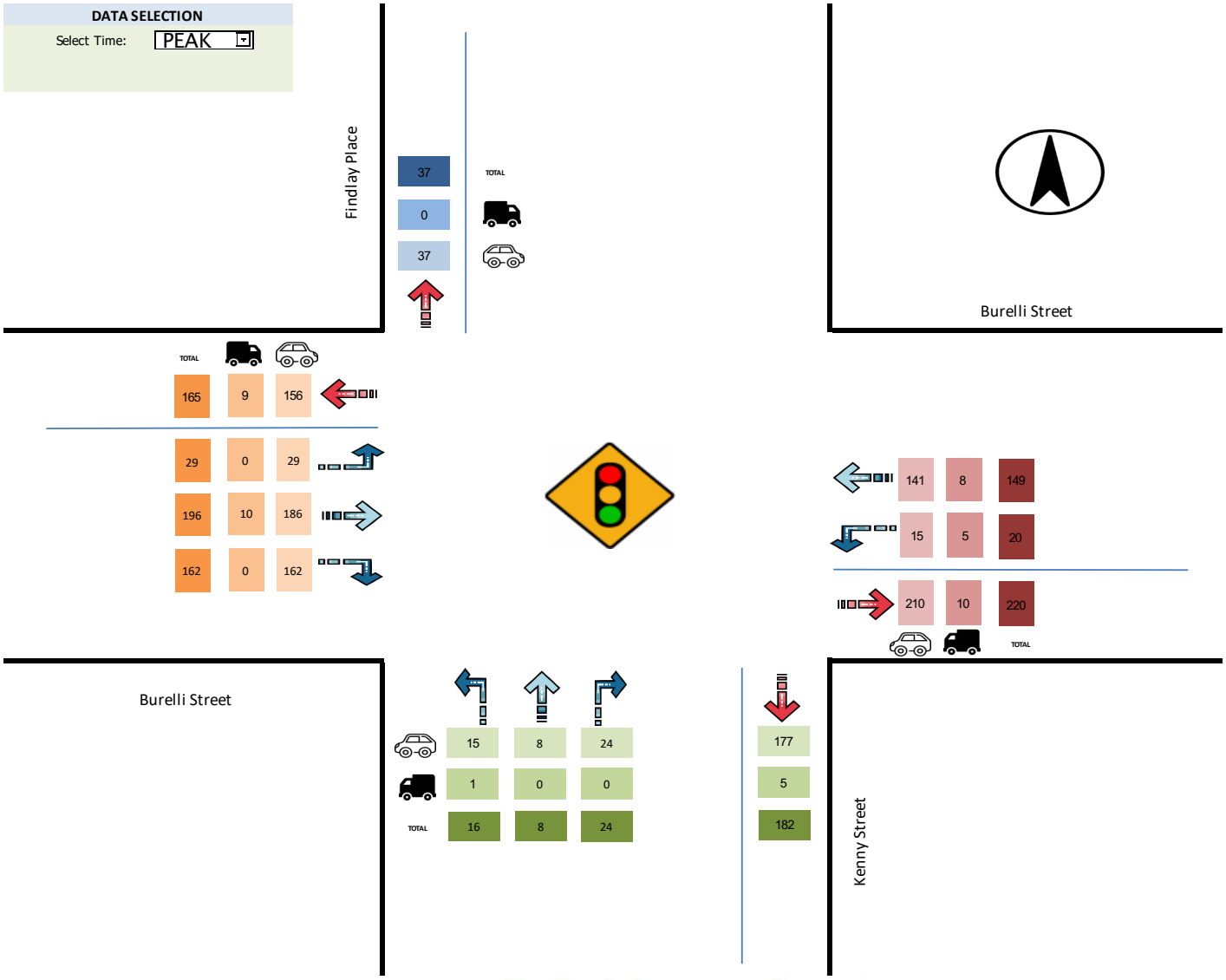
All Vehicles Time Per Hour	**SOUTH** *Kenny Street*										**WEST** *Burelli Street*											
	L			T			R				L			T			R				TOTAL	
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00 - 8:00	10	0	**10**	3	0	**3**	24	0	**24**	**37**	9	0	**9**	111	13	**124**	96	3	**99**	**232**	360	37	**397**
7:15 - 8:15	9	0	**9**	5	0	**5**	24	0	**24**	**38**	17	0	**17**	134	14	**148**	120	1	**121**	**286**	430	31	**461**
7:30 - 8:30	13	0	**13**	9	0	**9**	29	0	**29**	**51**	23	0	**23**	162	16	**178**	134	1	**135**	**336**	516	32	**548**
7:45 - 8:45	12	1	**13**	9	0	**9**	23	0	**23**	**45**	25	0	**25**	160	13	**173**	138	0	**138**	**336**	519	30	**549**
8:00 - 9:00	15	1	**16**	8	0	**8**	24	0	**24**	**48**	29	0	**29**	186	10	**196**	162	0	**162**	**387**	580	24	**604**
Period End																							
16:00 - 17:00	58	0	**58**	2	0	**2**	79	0	**79**	**139**	3	0	**3**	216	7	**223**	84	0	**84**	**310**	643	16	**659**
16:15 - 17:15	69	0	**69**	2	0	**2**	80	0	**80**	**151**	4	0	**4**	202	7	**209**	98	0	**98**	**311**	647	16	**663**
16:30 - 17:30	67	0	**67**	3	0	**3**	70	0	**70**	**140**	5	0	**5**	207	7	**214**	93	0	**93**	**312**	636	14	**650**
16:45 - 17:45	73	0	**73**	2	0	**2**	71	0	**71**	**146**	4	0	**4**	198	5	**203**	83	1	**84**	**291**	622	11	**633**
17:00 - 18:00	62	0	**62**	1	0	**1**	67	0	**67**	**130**	5	0	**5**	190	5	**195**	78	2	**80**	**280**	610	11	**621**
Period End																							

Location	**Findlay Place**	**Duration**	**7:00**	**-**	**09:00**
	Burelli Street			**-**	
	Kenny Street		**16:00**	**-**	**18:00**
	Burelli Street	**Date**	**Tuesday 17 September 2024**		
Suburb	**WOOLLONGONG**	**Weather**	**-**		

DATA SELECTION

Select Time: PEAK

TIME RANGE		
PEAK	**-**	**AM**
PEAK		
8:00	**-**	**9:00**



Traffic Information Specialist

ABN: 42 613 389 923

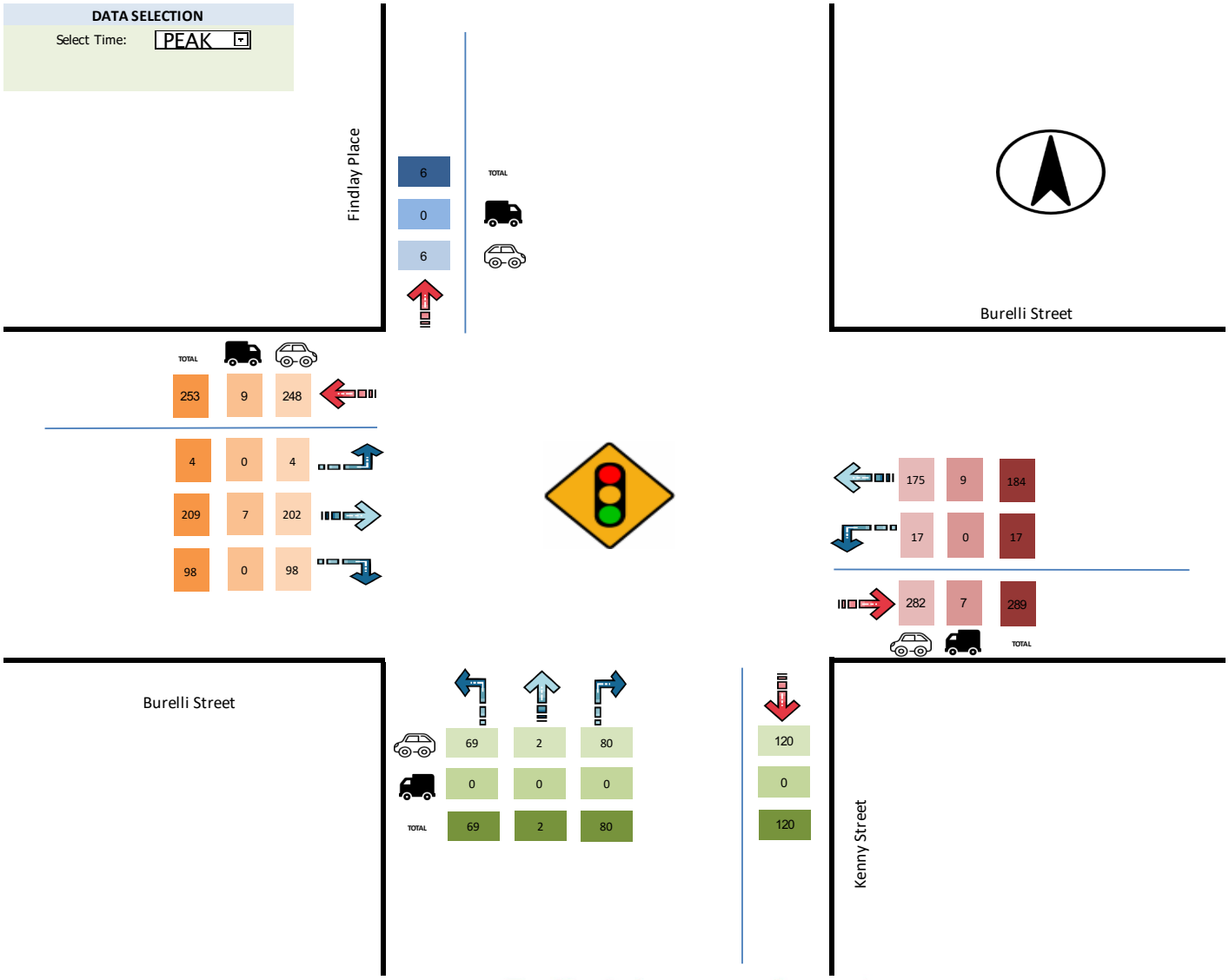
Email info@tistraffic.com.au

Location	**Findlay Place**	**Duration**	**7:00**	**-**	**09:00**
	Burelli Street			**-**	
	Kenny Street		**16:00**	**-**	**18:00**
	Burelli Street	**Date**	**Tuesday 17 September 2024**		
Suburb	**WOOLLONGONG**	**Weather**	**-**		

DATA SELECTION

Select Time: PEAK

TIME RANGE		
PEAK	**-**	**PM**
PEAK		
16:15	**-**	**17:15**



Traffic Information Specialist

ABN: 42 613 389 923

Email info@tistraffic.com.au

Location	-		Duration	7:00 - 09:00	
	Crown Street			-	
	Atchison Street			16:00 - 18:00	
	Crown Street		Date	Tuesday 17 September 2024	
Suburb	Woollongong		Weather	-	

All Vehicles Time Per 15 Mins	NORTH -										EAST *Crown Street*										TOTAL		
	L			I			R				L			I			R						
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00 - 7:15											11	2	**13**	4	5	**9**				**22**	93	12	**105**
7:15 - 7:30											9	1	**10**	5	3	**8**				**18**	118	13	**131**
7:30 - 7:45											19	2	**21**	7	8	**15**				**36**	141	21	**162**
7:45 - 8:00											26	0	**26**	8	6	**14**				**40**	158	14	**172**
8:00 - 8:15											31	0	**31**	13	8	**21**				**52**	165	17	**182**
8:15 - 8:30											52	2	**54**	10	7	**17**				**71**	216	18	**234**
8:30 - 8:45											24	1	**25**	11	5	**16**				**41**	203	16	**219**
8:45 - 9:00											38	0	**38**	16	3	**19**				**57**	241	11	**252**
Period End											**210**	**8**	**218**	**74**	**45**	**119**				**337**	**1335**	**122**	**1457**
16:00 - 16:15											14	0	**14**	9	3	**12**				**26**	177	8	**185**
16:15 - 16:30											14	0	**14**	16	5	**21**				**35**	186	11	**197**
16:30 - 16:45											22	1	**23**	19	5	**24**				**47**	206	15	**221**
16:45 - 17:00											24	0	**24**	24	5	**29**				**53**	207	8	**215**
17:00 - 17:15											19	0	**19**	14	6	**20**				**39**	212	13	**225**
17:15 - 17:30											19	0	**19**	19	4	**23**				**42**	190	10	**200**
17:30 - 17:45											14	1	**15**	17	6	**23**				**38**	172	12	**184**
17:45 - 18:00											12	0	**12**	18	7	**25**				**37**	157	15	**172**
Period End											**138**	**2**	**140**	**136**	**41**	**177**				**317**	**1507**	**92**	**1599**

All Vehicles Time Per 15 Mins	SOUTH *Atchison Street*										WEST *Crown Street*										TOTAL		
	L			I			R				L			I			R						
	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00 - 7:15														19	3	**22**	59	2	**61**	**83**	93	12	**105**
7:15 - 7:30														23	6	**29**	81	3	**84**	**113**	118	13	**131**
7:30 - 7:45														23	7	**30**	92	4	**96**	**126**	141	21	**162**
7:45 - 8:00														26	8	**34**	98	0	**98**	**132**	158	14	**172**
8:00 - 8:15														23	8	**31**	98	1	**99**	**130**	165	17	**182**
8:15 - 8:30														29	6	**35**	125	3	**128**	**163**	216	18	**234**
8:30 - 8:45														49	8	**57**	119	2	**121**	**178**	203	16	**219**
8:45 - 9:00														35	5	**40**	152	3	**155**	**195**	241	11	**252**
Period End														**227**	**51**	**278**	**824**	**18**	**842**	**1120**	**1335**	**122**	**1457**
16:00 - 16:15														57	5	**62**	97	0	**97**	**159**	177	8	**185**
16:15 - 16:30														58	6	**64**	98	0	**98**	**162**	186	11	**197**
16:30 - 16:45														65	7	**72**	100	2	**102**	**174**	206	15	**221**
16:45 - 17:00														50	2	**52**	109	1	**110**	**162**	207	8	**215**
17:00 - 17:15														61	7	**68**	118	0	**118**	**186**	212	13	**225**

17:15	-	17:30										59	5	64	93	1	94	158	190	10	200
17:30	-	17:45										55	4	59	86	1	87	146	172	12	184
17:45	-	18:00										41	6	47	86	2	88	135	157	15	172
Period End												446	42	488	787	7	794	1282	1507	92	1599

Locati - Durati 7:00 - 09:00

Crown Street -

Atchison Street 16:00 - 18:00

Crown Street Dat Tuesday 17

Subur Woollongong Weatl -

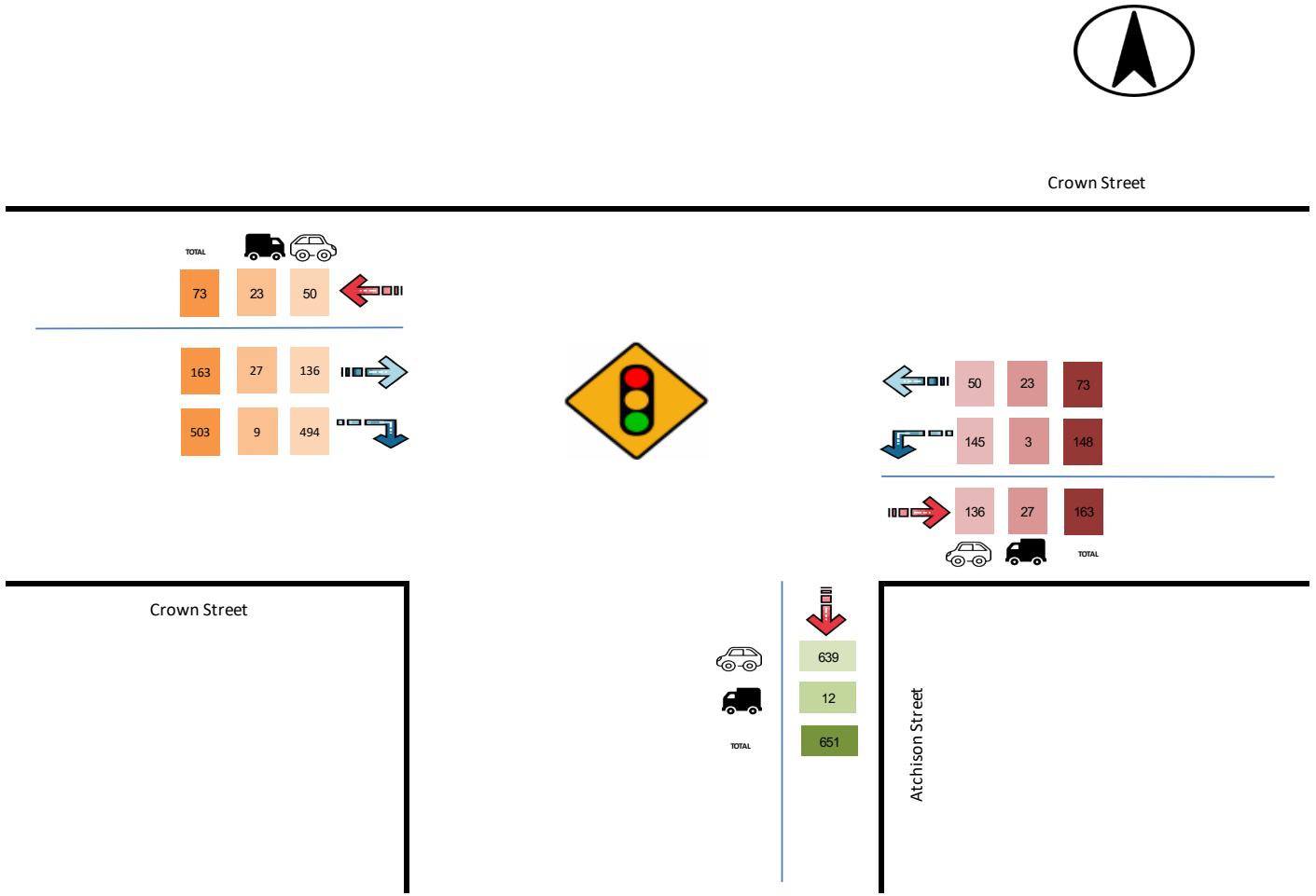
All Vehicles Time Per Hour			NORTH -										EAST Crown Street											
			L			I			R				L			I			R				TOTAL	
			LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00	-	8:00											65	5	70	24	22	46				116	510	60	570
7:15	-	8:15											85	3	88	33	25	58				146	582	65	647
7:30	-	8:30											128	4	132	38	29	67				199	680	70	750
7:45	-	8:45											133	3	136	42	26	68				204	742	65	807
8:00	-	9:00											145	3	148	50	23	73				221	825	62	887
Period End																									
16:00	-	17:00											74	1	75	68	18	86				161	776	42	818
16:15	-	17:15											79	1	80	73	21	94				174	811	47	858
16:30	-	17:30											84	1	85	76	20	96				181	815	46	861
16:45	-	17:45											76	1	77	74	21	95				172	781	43	824
17:00	-	18:00											64	1	65	68	23	91				156	731	50	781
Period End																									

All Vehicles Time Per Hour			SOUTH Atchison Street										WEST Crown Street											
			L			I			R				L			I			R				TOTAL	
			LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00	-	8:00														91	24	115	330	9	339	454	510	60	570
7:15	-	8:15														95	29	124	369	8	377	501	582	65	647
7:30	-	8:30														101	29	130	413	8	421	551	680	70	750
7:45	-	8:45														127	30	157	440	6	446	603	742	65	807
8:00	-	9:00														136	27	163	494	9	503	666	825	62	887
Period End																									
16:00	-	17:00														230	20	250	404	3	407	657	776	42	818
16:15	-	17:15														234	22	256	425	3	428	684	811	47	858
16:30	-	17:30														235	21	256	420	4	424	680	815	46	861
16:45	-	17:45														225	18	243	406	3	409	652	781	43	824
17:00	-	18:00														216	22	238	383	4	387	625	731	50	781
Period End																									

Location	-		**Duration**	**7:00**	-	**09:00**
	Crown Street				-	
	Atchison Street			**16:00**	-	**18:00**
	Crown Street		**Date**	**Tuesday 17 September 2024**		
Suburb	**Woollongong**		**Weather**	-		

DATA SELECTION	
Select Time:	PEAK

TIME RANGE		
PEAK	-	AM
PEAK		
8:00	-	9:00

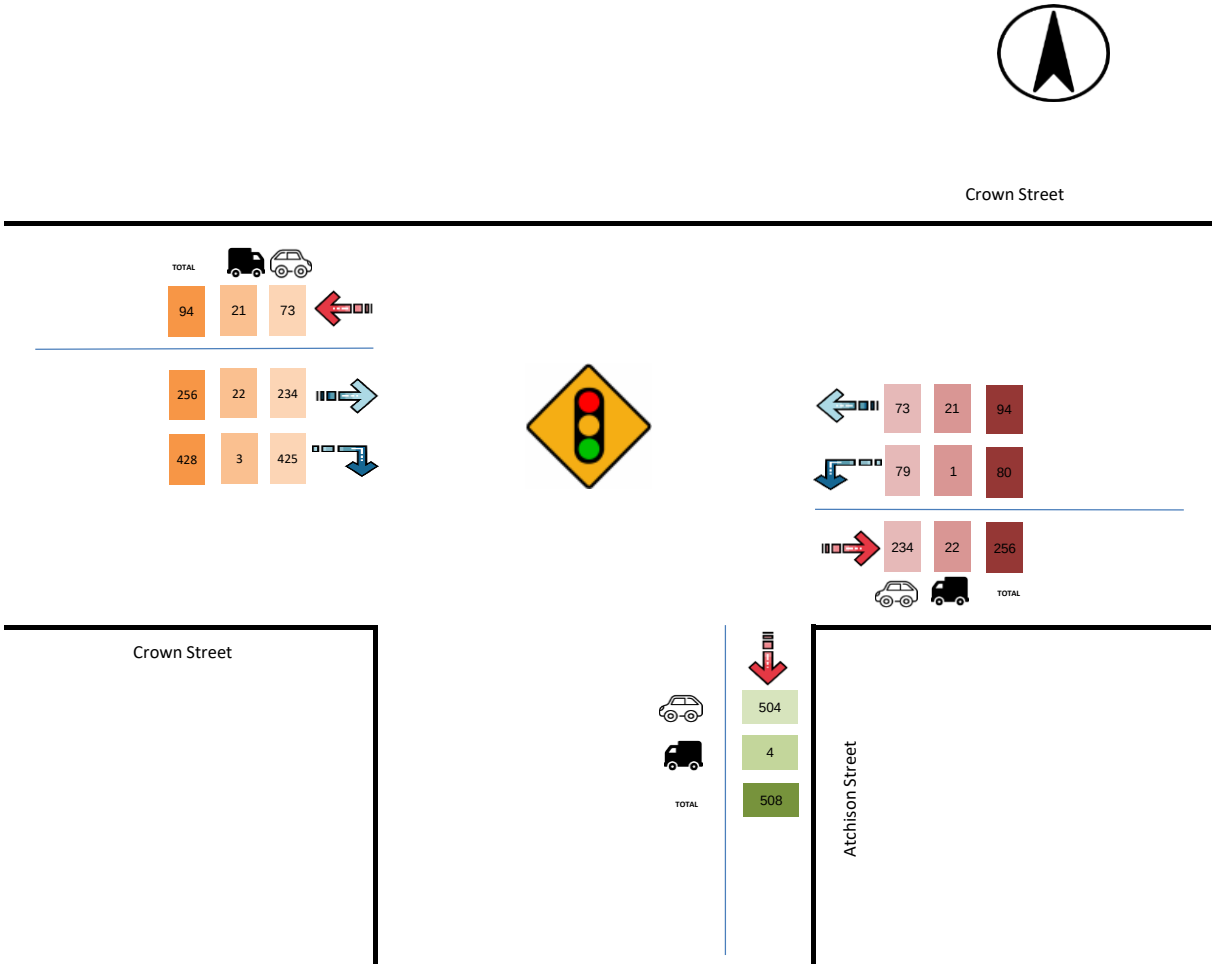


Traffic Information Specialist
ABN: 42 613 389 923
Email info@tistraffic.com.au

Location	-	**Duration**	**7:00**	-	**09:00**
	Crown Street			-	
	Atchison Street		**16:00**	-	**18:00**
	Crown Street	**Date**	**Tuesday, 17 September 2024**		
Suburb	**Woollongong**	**Weather**	-		

DATA SELECTION
Select Time: 16:15

TIME RANGE		
16:15	-	**16:30**
PEAK		
16:30	-	**17:30**



Traffic Information Specialist
ABN: 42 613 389 923
Email info@tistraffic.com.au

Location	Keira Street		Duration	7:00 -	09:00
	-			-	
	Keira Street			16:00 -	18:00
	Crown Street		Date	Tuesday 17 September 2024	
Suburb	WOOLLONGONG		Weather	-	

All Vehicles Time Per 15 Mins		NORTH *Keira Street*									EAST -												
		L			T			R				L			T			R				TOTAL	
		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00	7:15				54	7	**61**	15	4	**19**	**80**											121	20	**141**
7:15	7:30				49	5	**54**	14	1	**15**	**69**											115	18	**133**
7:30	7:45				55	3	**58**	27	5	**32**	**90**											168	24	**192**
7:45	8:00				91	8	**99**	34	1	**35**	**134**											216	26	**242**
8:00	8:15				71	4	**75**	41	2	**43**	**118**											194	28	**222**
8:15	8:30				104	8	**112**	63	2	**65**	**177**											250	27	**277**
8:30	8:45				111	5	**116**	37	1	**38**	**154**											249	24	**273**
8:45	9:00				87	7	**94**	50	0	**50**	**144**											234	21	**255**
Period End					**622**	**47**	**669**	**281**	**16**	**297**	**966**											**1547**	**188**	**1735**
16:00	16:15				81	3	**84**	19	0	**19**	**103**											220	15	**235**
16:15	16:30				67	6	**73**	28	0	**28**	**101**											250	15	**265**
16:30	16:45				64	2	**66**	48	1	**49**	**115**											268	18	**286**
16:45	17:00				55	4	**59**	37	0	**37**	**96**											233	17	**250**
17:00	17:15				69	2	**71**	31	0	**31**	**102**											253	17	**270**
17:15	17:30				60	4	**64**	34	0	**34**	**98**											250	14	**264**
17:30	17:45				61	3	**64**	28	1	**29**	**93**											214	17	**231**
17:45	18:00				67	1	**68**	26	0	**26**	**94**											228	19	**247**
Period End					**524**	**25**	**549**	**251**	**2**	**253**	**802**											**1916**	**132**	**2048**

All Vehicles Time Per 15 Mins		SOUTH *Keira Street*									WEST *Crown Street*												
		L			T			R				L			T			R				TOTAL	
		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	TOTAL
7:00	7:15	0	2	**2**	36	5	**41**				**43**	16	0	**16**				0	2	**2**	**18**	121	20	**141**
7:15	7:30	0	4	**4**	35	2	**37**				**41**	17	3	**20**				0	3	**3**	**23**	115	18	**133**
7:30	7:45	1	6	**7**	61	3	**64**				**71**	24	4	**28**				0	3	**3**	**31**	168	24	**192**
7:45	8:00	0	3	**3**	64	7	**71**				**74**	27	1	**28**				0	6	**6**	**34**	216	26	**242**
8:00	8:15	1	7	**8**	58	7	**65**				**73**	23	0	**23**				0	8	**8**	**31**	194	28	**222**
8:15	8:30	0	7	**7**	56	4	**60**				**67**	27	2	**29**				0	4	**4**	**33**	250	27	**277**
8:30	8:45	1	5	**6**	61	6	**67**				**73**	38	2	**40**				1	5	**6**	**46**	249	24	**273**
8:45	9:00	0	3	**3**	60	5	**65**				**68**	37	0	**37**				0	6	**6**	**43**	234	21	**255**
Period End		**3**	**37**	**40**	**431**	**39**	**470**				**510**	**209**	**12**	**221**				**1**	**37**	**38**	**259**	**1547**	**188**	**1735**
16:00	16:15	0	4	**4**	67	2	**69**				**73**	53	2	**55**				0	4	**4**	**59**	220	15	**235**
16:15	16:30	0	4	**4**	103	2	**105**				**109**	52	0	**52**				0	3	**3**	**55**	250	15	**265**
16:30	16:45	0	6	**6**	89	4	**93**				**99**	67	1	**68**				0	4	**4**	**72**	268	18	**286**
16:45	17:00	0	4	**4**	92	3	**95**				**99**	49	2	**51**				0	4	**4**	**55**	233	17	**250**
17:00	17:15	5	6	**11**	97	2	**99**				**110**	51	0	**51**				0	7	**7**	**58**	253	17	**270**
17:15	17:30	1	4	**5**	95	2	**97**				**102**	60	0	**60**				0	4	**4**	**64**	250	14	**264**
17:30	17:45	0	6	**6**	78	3	**81**				**87**	47	0	**47**				0	4	**4**	**51**	214	17	**231**
17:45	18:00	1	7	**8**	91	6	**97**				**105**	43	0	**43**				0	5	**5**	**48**	228	19	**247**
Period End		**7**	**41**	**48**	**712**	**24**	**736**				**784**	**422**	**5**	**427**				**0**	**35**	**35**	**462**	**1916**	**132**	**2048**

Location	**Keira Street**	**Duration**	**7:00**	**-**	**09:00**
	-			**-**	
	Keira Street		**16:00**	**-**	**18:00**
	Crown Street	**Date**	**Tuesday 17 September 2024**		
Suburb	**WOOLLONGONG**	**Weather**	**-**		

All Vehicles Time Per Hour			**NORTH** *Keira Street*								**EAST** -											
			L			T			R				L			T			R				
			LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	TOTAL LIGHT	TOTAL HEAVY	TOTAL
7:00	**-**	**8:00**				249	23	**272**	90	11	**101**	**373**											620	88	**708**
7:15	**-**	**8:15**				266	20	**286**	116	9	**125**	**411**											693	96	**789**
7:30	**-**	**8:30**				321	23	**344**	165	10	**175**	**519**											828	105	**933**
7:45	**-**	**8:45**				377	25	**402**	175	6	**181**	**583**											909	105	**1014**
8:00	**-**	**9:00**				373	24	**397**	191	5	**196**	**593**											927	100	**1027**
Period End																									
16:00	**-**	**17:00**				267	15	**282**	132	1	**133**	**415**											971	65	**1036**
16:15	**-**	**17:15**				255	14	**269**	144	1	**145**	**414**											1004	67	**1071**
16:30	**-**	**17:30**				248	12	**260**	150	1	**151**	**411**											1004	66	**1070**
16:45	**-**	**17:45**				245	13	**258**	130	1	**131**	**389**											950	65	**1015**
17:00	**-**	**18:00**				257	10	**267**	119	1	**120**	**387**											945	67	**1012**
Period End																									

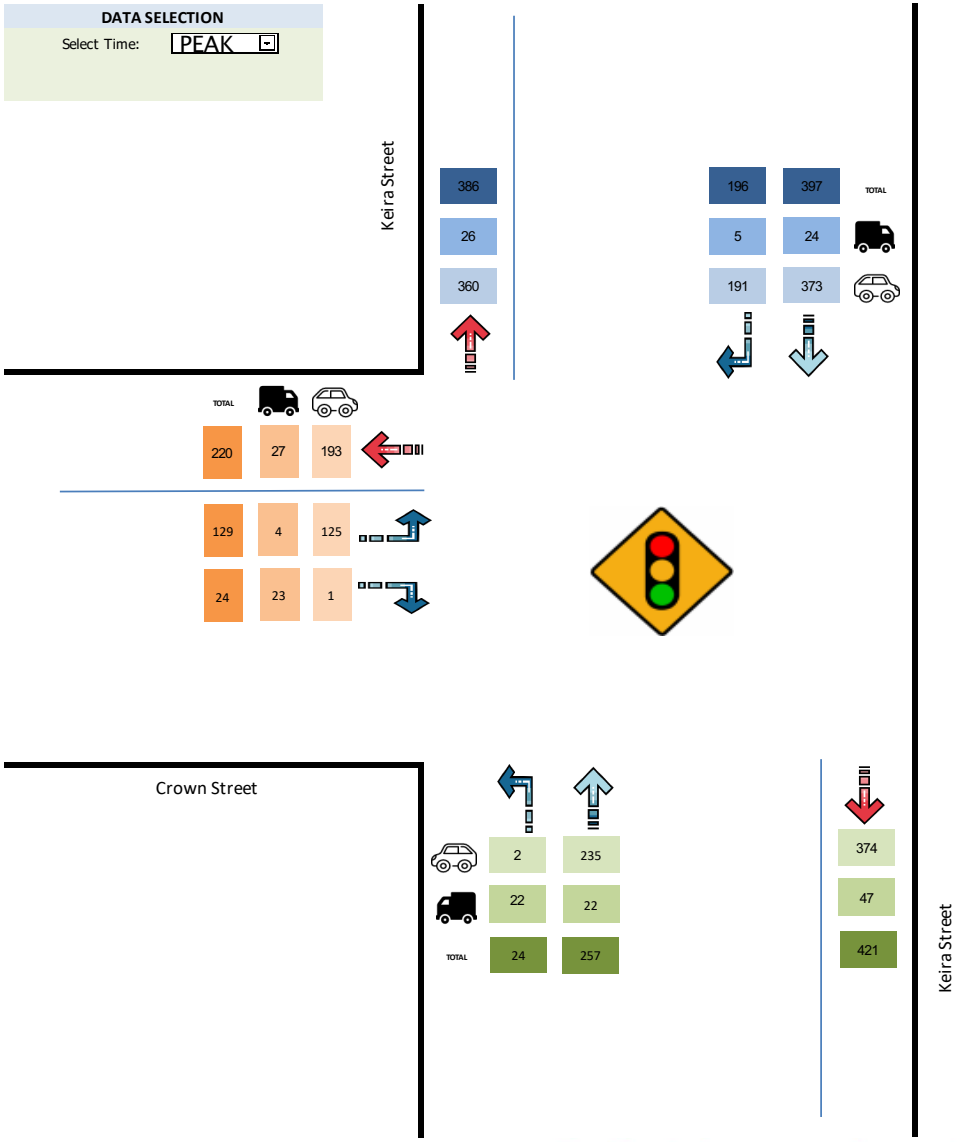
All Vehicles Time Per Hour			**SOUTH** *Keira Street*									**WEST** *Crown Street*										
			L			T			R				L			T			R				
			LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	TOTAL LIGHT	TOTAL HEAVY	TOTAL
7:00	**-**	**8:00**	1	15	**16**	196	17	**213**				**229**	84	8	**92**				0	14	**14**	**106**	620	88	**708**
7:15	**-**	**8:15**	2	20	**22**	218	19	**237**				**259**	91	8	**99**				0	20	**20**	**119**	693	96	**789**
7:30	**-**	**8:30**	2	23	**25**	239	21	**260**				**285**	101	7	**108**				0	21	**21**	**129**	828	105	**933**
7:45	**-**	**8:45**	2	22	**24**	239	24	**263**				**287**	115	5	**120**				1	23	**24**	**144**	909	105	**1014**
8:00	**-**	**9:00**	2	22	**24**	235	22	**257**				**281**	125	4	**129**				1	23	**24**	**153**	927	100	**1027**
Period End																									
16:00	**-**	**17:00**	0	18	**18**	351	11	**362**				**380**	221	5	**226**				0	15	**15**	**241**	971	65	**1036**
16:15	**-**	**17:15**	5	20	**25**	381	11	**392**				**417**	219	3	**222**				0	18	**18**	**240**	1004	67	**1071**
16:30	**-**	**17:30**	6	20	**26**	373	11	**384**				**410**	227	3	**230**				0	19	**19**	**249**	1004	66	**1070**
16:45	**-**	**17:45**	6	20	**26**	362	10	**372**				**398**	207	2	**209**				0	19	**19**	**228**	950	65	**1015**
17:00	**-**	**18:00**	7	23	**30**	361	13	**374**				**404**	201	0	**201**				0	20	**20**	**221**	945	67	**1012**
Period End																									

Location	**Keira Street**		**Duration**	**7:00**	**09:00**
	-			-	
	Keira Street			**16:00**	**18:00**
	Crown Street		**Date**	**Tuesday 17 September 2024**	
Suburb	**WOOLLONGONG**		**Weather**	-	

DATA SELECTION

Select Time: PEAK

TIME RANGE		
PEAK	-	AM
PEAK		
8:00	-	9:00



Traffic Information Specialist

ABN: 42 613 389 923

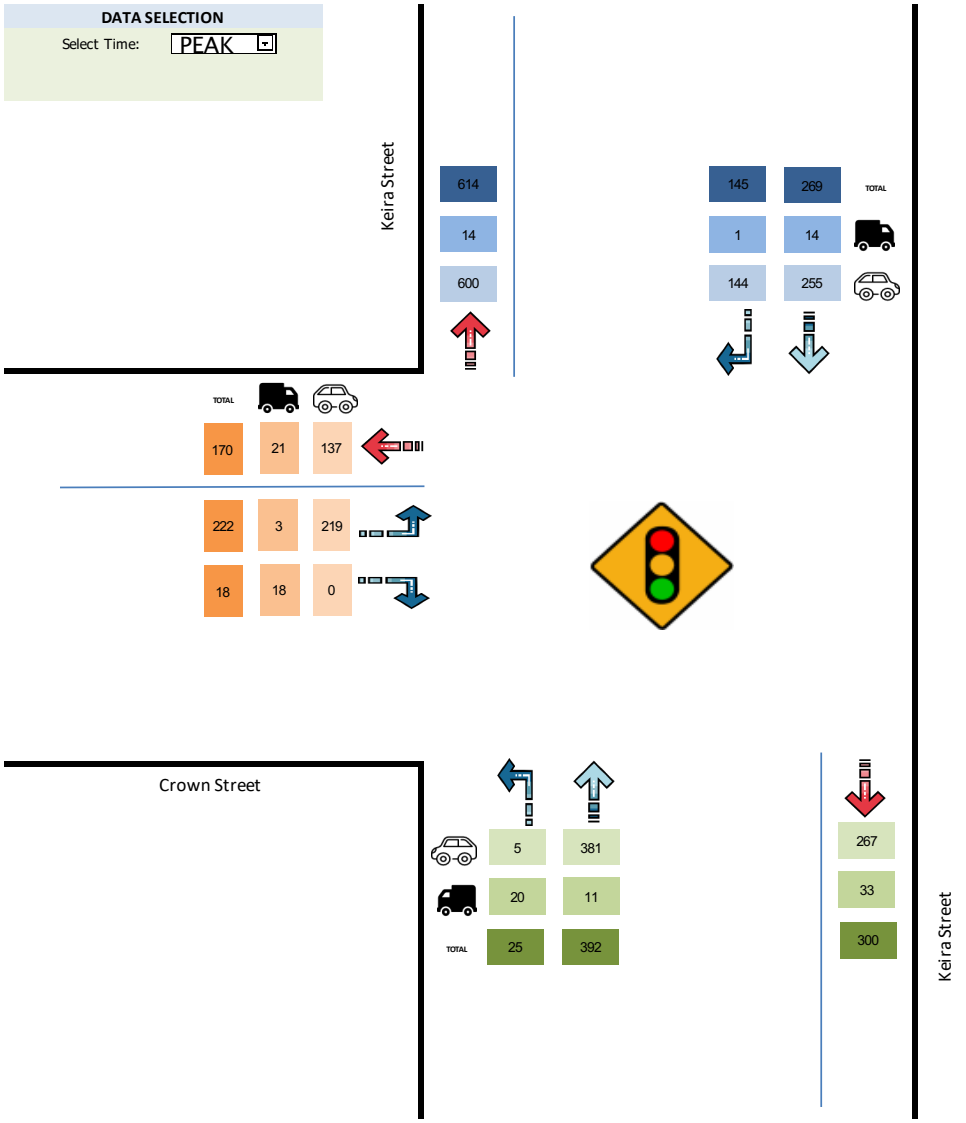
Email info@tistraffic.com.au

Location	**Keira Street**		**Duration**	**7:00**	**-**	**09:00**
	-				**-**	
	Keira Street			**16:00**	**-**	**18:00**
	Crown Street		**Date**	**Tuesday 17 September 2024**		
Suburb	**WOOLLONGONG**		**Weather**	**-**		

DATA SELECTION

Select Time: PEAK

TIME RANGE		
PEAK	-	PM
PEAK		
16:15	-	17:15



Traffic Information Specialist

ABN: 42 613 389 923

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Attachment 4

SIDRA Result

MOVEMENT SUMMARY

Site: 01 [Crown Street | Atchison Street (Site Folder: Existing Development- AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Existing Development - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Base Year (2024)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Crown Street (E)															
4	L2	All MCs	156	2.0	156	2.0	* 0.524	38.5	LOS C	4.1	28.9	0.81	0.76	0.81	14.4
5	T1	All MCs	77	31.5	77	31.5	0.271	31.9	LOS C	1.8	16.0	0.73	0.57	0.73	30.8
Approach			233	11.8	233	11.8	0.524	36.3	LOS C	4.1	28.9	0.79	0.70	0.79	21.5
West: Crown Street (W)															
11	T1	All MCs	172	16.6	172	16.6	0.130	2.8	LOS A	1.3	10.3	0.25	0.21	0.25	46.4
12	R2	All MCs	529	1.8	529	1.8	* 0.389	6.8	LOS A	4.2	29.9	0.32	0.66	0.32	42.1
Approach			701	5.4	701	5.4	0.389	5.9	LOS A	4.2	29.9	0.30	0.55	0.30	43.1
All Vehicles			934	7.0	934	7.0	0.524	13.4	LOS A	4.2	29.9	0.42	0.58	0.42	35.9

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: Atchison Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Crown Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians		105	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 02 [Crown Street | Keira Street (Site Folder: Existing Development- AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Existing Development - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	25	100.0	25	100.0	* 0.233	17.3	LOS B	0.9	9.1	0.63	0.61	0.63	13.1
2	T1	All MCs	271	8.6	271	8.6	* 0.645	26.2	LOS B	5.6	42.3	0.75	0.64	0.75	31.7
Approach			296	16.4	296	16.4	0.645	25.5	LOS B	5.6	42.3	0.74	0.63	0.74	30.9
North: Keira Street (N)															
8	T1	All MCs	418	6.0	418	6.0	0.638	8.9	LOS A	8.9	64.3	0.48	0.43	0.48	36.3
9	R2	All MCs	206	2.6	206	2.6	* 0.638	40.0	LOS C	8.9	64.3	0.82	0.77	0.82	28.0
Approach			624	4.9	624	4.9	0.638	19.2	LOS B	8.9	64.3	0.59	0.54	0.59	33.0
West: Crown Street (W)															
10	L2	All MCs	136	3.1	136	3.1	0.231	34.0	LOS C	3.2	23.3	0.77	0.75	0.77	29.6
12	R2	All MCs	25	100.0	25	100.0	0.578	68.6	LOS E	0.9	12.3	1.00	0.80	1.12	9.2
Approach			161	18.3	161	18.3	0.578	39.4	LOS C	3.2	23.3	0.80	0.76	0.82	26.5
All Vehicles			1081	10.0	1081	10.0	0.645	23.9	LOS B	8.9	64.3	0.66	0.60	0.66	31.1

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: Keira Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Keira Street (N)											
P3	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Crown Street (W)											
P4	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
Pedestrian Movements (Diagonal)											
PD	Diagonal	53	49.3	LOS E	0.1	0.1	0.95	0.95	215.9	200.0	0.93
All Pedestrians		211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 03 [Keira Street | Burelli Street (Site Folder: Existing Development- AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Existing Development - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	25	25.0	25	25.0	0.314	28.5	LOS B	5.1	38.1	0.72	0.63	0.72	30.4
2	T1	All MCs	206	5.1	206	5.1	0.314	23.5	LOS B	5.1	38.1	0.72	0.63	0.72	30.4
Approach			232	7.3	232	7.3	0.314	24.1	LOS B	5.1	38.1	0.72	0.63	0.72	30.4
East: Burelli Street (E)															
4	L2	All MCs	69	1.5	69	1.5	0.257	20.4	LOS B	2.4	17.4	0.77	0.72	0.77	36.8
5	T1	All MCs	160	4.6	160	4.6	0.513	54.4	LOS D	4.3	37.1	0.87	0.80	0.87	25.3
6	R2	All MCs	56	58.5	56	58.5	0.513	70.0	LOS E	4.3	37.1	0.94	0.86	0.94	22.3
Approach			285	14.4	285	14.4	0.513	49.2	LOS D	4.3	37.1	0.86	0.79	0.86	24.2
North: Keira Street (N)															
7	L2	All MCs	111	37.1	111	37.1	* 0.628	13.5	LOS A	9.8	74.9	0.73	0.72	0.73	32.3
8	T1	All MCs	337	2.8	337	2.8	* 0.628	24.8	LOS B	9.8	74.9	0.73	0.72	0.73	33.6
Approach			447	11.3	447	11.3	0.628	22.0	LOS B	9.8	74.9	0.73	0.72	0.73	33.3
West: Burelli Street (W)															
10	L2	All MCs	33	9.7	33	9.7	0.158	53.4	LOS D	1.1	8.0	0.95	0.73	0.95	5.7
11	T1	All MCs	189	4.4	189	4.4	* 0.792	56.8	LOS E	6.6	47.7	1.00	0.95	1.17	21.4
Approach			222	5.2	222	5.2	0.792	56.3	LOS D	6.6	47.7	0.99	0.91	1.14	19.9
All Vehicles			1186	10.1	1186	10.1	0.792	35.4	LOS C	9.8	74.9	0.81	0.75	0.84	27.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Keira Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Burelli Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Keira Street (N)											

P3 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Burelli Street (W)										
P4 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 04 [Burelli Street | Atchison Street (Site Folder: Existing Development- AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Existing Development - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Atchison Street (S)															
1	L2	All MCs	80	2.6	80	2.6	0.069	6.9	LOS A	0.4	2.9	0.24	0.57	0.24	45.3
Approach			80	2.6	80	2.6	0.069	6.9	LOS A	0.4	2.9	0.24	0.57	0.24	45.3
East: Burelli Street (E)															
4	L2	All MCs	36	0.0	36	0.0	0.068	24.2	LOS B	0.5	3.8	0.94	0.73	0.94	30.7
5	T1	All MCs	147	6.4	147	6.4	* 0.239	19.5	LOS B	2.3	17.0	0.96	0.72	0.96	34.0
Approach			183	5.2	183	5.2	0.239	20.4	LOS B	2.3	17.0	0.96	0.72	0.96	33.3
North: Atchison Street (N)															
7	L2	All MCs	352	0.6	352	0.6	0.225	4.5	LOS A	0.9	6.5	0.16	0.55	0.16	27.1
8	T1	All MCs	160	1.3	160	1.3	0.187	7.8	LOS A	1.3	9.4	0.52	0.42	0.52	42.0
9	R2	All MCs	165	5.1	165	5.1	* 0.240	13.0	LOS A	1.5	10.8	0.56	0.69	0.56	36.3
Approach			677	1.9	677	1.9	0.240	7.3	LOS A	1.5	10.8	0.34	0.55	0.34	36.9
West: Burelli Street (W)															
11	T1	All MCs	54	0.0	54	0.0	0.041	13.3	LOS A	0.3	2.1	0.70	0.51	0.70	36.8
Approach			54	0.0	54	0.0	0.041	13.3	LOS A	0.3	2.1	0.70	0.51	0.70	36.8
All Vehicles			994	2.4	994	2.4	0.240	10.0	LOS A	2.3	17.0	0.47	0.58	0.47	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.
Delay Model: SIDRA 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: Atchison Street (S)											
P1	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
East: Burelli Street (E)											
P2	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06
North: Atchison Street (N)											
P3	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
West: Burelli Street (W)											

P4 Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06
All Pedestrians	211	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06

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

MOVEMENT SUMMARY

Site: 05 [Burelli Street | Kenny Street | Site Access (Site Folder: Existing Development- AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Existing Development - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kenny Street (S)															
1	L2	All MCs	17	6.3	17	6.3	0.015	11.2	LOS A	0.2	1.3	0.35	0.60	0.35	38.5
2	T1	All MCs	8	0.0	8	0.0	* 0.148	44.9	LOS D	1.0	7.1	0.92	0.71	0.92	29.6
3	R2	All MCs	25	0.0	25	0.0	0.148	52.3	LOS D	1.0	7.1	0.92	0.71	0.92	21.2
Approach			51	2.1	51	2.1	0.148	37.4	LOS C	1.0	7.1	0.73	0.67	0.73	26.8
East: Burelli Street (E)															
4	L2	All MCs	21	25.0	21	25.0	0.275	40.9	LOS C	1.8	14.0	0.68	0.58	0.68	28.7
5	T1	All MCs	157	5.4	157	5.4	* 0.275	34.2	LOS C	1.9	14.2	0.67	0.55	0.67	9.6
Approach			178	7.7	178	7.7	0.275	35.0	LOS C	1.9	14.2	0.67	0.55	0.67	11.9
West: Burelli Street (W)															
10	L2	All MCs	31	0.0	31	0.0	0.111	8.2	LOS A	1.1	8.2	0.25	0.29	0.25	43.6
11	T1	All MCs	206	5.1	206	5.1	0.222	3.6	LOS A	2.4	17.3	0.29	0.38	0.29	24.2
12	R2	All MCs	171	0.0	171	0.0	* 0.222	9.5	LOS A	2.4	17.3	0.34	0.52	0.34	40.6
Approach			407	2.6	407	2.6	0.222	6.4	LOS A	2.4	17.3	0.31	0.43	0.31	38.0
All Vehicles			636	4.0	636	4.0	0.275	16.8	LOS B	2.4	17.3	0.44	0.49	0.44	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: Kenny Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Burelli Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Site Access (N)											
P3	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Burelli Street (W)											
P4	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93

All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 01 [Crown Street | Atchison Street (Site Folder: Existing Development- PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Existing Development - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Base Year (2024)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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: Crown Street (E)															
4	L2	All MCs	84	1.3	84	1.3	* 0.421	39.9	LOS C	3.5	24.6	0.77	0.72	0.77	14.0
5	T1	All MCs	99	22.3	99	22.3	0.455	29.4	LOS C	3.7	31.0	0.71	0.56	0.71	31.7
Approach			183	12.6	183	12.6	0.455	34.3	LOS C	3.7	31.0	0.74	0.63	0.74	25.2
West: Crown Street (W)															
11	T1	All MCs	269	8.6	269	8.6	0.190	3.0	LOS A	3.5	26.1	0.26	0.23	0.26	46.3
12	R2	All MCs	451	0.7	451	0.7	* 0.310	5.8	LOS A	4.0	28.1	0.24	0.63	0.24	43.1
Approach			720	3.7	720	3.7	0.310	4.7	LOS A	4.0	28.1	0.25	0.48	0.25	44.2
All Vehicles			903	5.5	903	5.5	0.455	10.7	LOS A	4.0	31.0	0.35	0.51	0.35	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.
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: Atchison Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Crown Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians		105	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 02 [Crown Street | Keira Street (Site Folder: Existing Development- PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Existing Development - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	26	100.0	26	100.0	*0.217	16.6	LOS B	2.8	24.2	0.66	0.62	0.66	12.5
2	T1	All MCs	413	2.8	413	2.8	*0.601	24.4	LOS B	12.9	92.3	0.73	0.64	0.73	32.5
Approach			439	8.6	439	8.6	0.601	24.0	LOS B	12.9	92.3	0.73	0.64	0.73	31.9
North: Keira Street (N)															
8	T1	All MCs	283	5.2	283	5.2	0.518	8.1	LOS A	9.7	69.1	0.43	0.37	0.43	36.5
9	R2	All MCs	153	0.7	153	0.7	0.518	50.3	LOS D	9.7	69.1	0.88	0.78	0.88	24.2
Approach			436	3.6	436	3.6	0.518	22.9	LOS B	9.7	69.1	0.58	0.51	0.58	31.0
West: Crown Street (W)															
10	L2	All MCs	234	1.4	234	1.4	*0.585	47.5	LOS D	11.4	80.8	0.95	0.82	0.95	25.7
12	R2	All MCs	19	100.0	19	100.0	0.291	63.1	LOS E	1.1	13.9	0.98	0.72	0.98	9.8
Approach			253	8.8	253	8.8	0.585	48.7	LOS D	11.4	80.8	0.95	0.81	0.95	24.8
All Vehicles			1127	6.7	1127	6.7	0.601	29.1	LOS C	12.9	92.3	0.72	0.63	0.72	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: Keira Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Keira Street (N)											
P3	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Crown Street (W)											
P4	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
Pedestrian Movements (Diagonal)											
PD	Diagonal	53	49.3	LOS E	0.1	0.1	0.95	0.95	215.9	200.0	0.93
All Pedestrians		211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 03 [Keira Street | Burelli Street (Site Folder: Existing Development- PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Existing Development - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	25	0.0	25	0.0	0.386	32.4	LOS C	10.7	75.4	0.79	0.68	0.79	28.4
2	T1	All MCs	246	0.4	246	0.4	0.386	27.8	LOS B	10.7	75.4	0.79	0.68	0.79	28.4
Approach			272	0.4	272	0.4	0.386	28.2	LOS B	10.7	75.4	0.79	0.68	0.79	28.4
East: Burelli Street (E)															
4	L2	All MCs	37	2.9	37	2.9	0.303	20.5	LOS B	5.6	40.6	0.77	0.71	0.77	35.1
5	T1	All MCs	179	4.7	179	4.7	0.606	51.3	LOS D	7.7	64.1	0.83	0.77	0.83	25.7
6	R2	All MCs	97	32.6	97	32.6	* 0.606	68.0	LOS E	7.7	64.1	0.97	0.90	0.97	22.1
Approach			313	13.1	313	13.1	0.606	52.9	LOS D	7.7	64.1	0.87	0.80	0.87	21.9
North: Keira Street (N)															
7	L2	All MCs	85	34.6	85	34.6	0.460	16.4	LOS B	10.4	79.8	0.75	0.73	0.75	30.1
8	T1	All MCs	208	1.0	208	1.0	* 0.460	31.4	LOS C	10.4	79.8	0.75	0.73	0.75	31.3
Approach			294	10.8	294	10.8	0.460	27.0	LOS B	10.4	79.8	0.75	0.73	0.75	30.9
West: Burelli Street (W)															
10	L2	All MCs	69	0.0	69	0.0	0.206	40.9	LOS C	2.9	20.1	0.80	0.72	0.80	7.2
11	T1	All MCs	219	3.4	219	3.4	* 0.638	40.4	LOS C	10.6	76.1	0.93	0.77	0.93	25.7
Approach			288	2.6	288	2.6	0.638	40.5	LOS C	10.6	76.1	0.90	0.76	0.90	22.8
All Vehicles			1166	6.9	1166	6.9	0.638	37.6	LOS C	10.7	79.8	0.83	0.75	0.83	25.5

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: Keira Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Burelli Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Keira Street (N)											

P3 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Burelli Street (W)										
P4 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 04 [Burelli Street | Atchison Street (Site Folder: Existing Development- PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Existing Development - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Atchison Street (S)															
1	L2	All MCs	105	1.0	105	1.0	0.091	7.3	LOS A	1.0	6.9	0.27	0.58	0.27	45.1
Approach			105	1.0	105	1.0	0.091	7.3	LOS A	1.0	6.9	0.27	0.58	0.27	45.1
East: Burelli Street (E)															
4	L2	All MCs	16	0.0	16	0.0	0.050	18.5	LOS B	0.9	6.2	0.81	0.60	0.81	35.9
5	T1	All MCs	246	3.8	246	3.8	* 0.248	13.3	LOS A	4.8	34.7	0.85	0.60	0.85	37.6
Approach			262	3.6	262	3.6	0.248	13.7	LOS A	4.8	34.7	0.84	0.60	0.84	37.5
North: Atchison Street (N)															
7	L2	All MCs	281	0.7	281	0.7	0.187	4.4	LOS A	1.1	7.7	0.15	0.54	0.15	27.2
8	T1	All MCs	152	0.0	152	0.0	* 0.251	17.4	LOS B	3.4	23.7	0.86	0.69	0.86	35.1
9	R2	All MCs	97	2.2	97	2.2	0.210	23.4	LOS B	2.3	16.2	0.89	0.76	0.89	30.6
Approach			529	0.8	529	0.8	0.251	11.6	LOS A	3.4	23.7	0.49	0.62	0.49	32.3
West: Burelli Street (W)															
11	T1	All MCs	54	11.8	54	11.8	0.033	8.3	LOS A	0.4	3.0	0.56	0.41	0.56	40.8
Approach			54	11.8	54	11.8	0.033	8.3	LOS A	0.4	3.0	0.56	0.41	0.56	40.8
All Vehicles			951	2.2	951	2.2	0.251	11.5	LOS A	4.8	34.7	0.57	0.60	0.57	37.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
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: Atchison Street (S)											
P1	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06
East: Burelli Street (E)											
P2	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06
North: Atchison Street (N)											
P3	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06
West: Burelli Street (W)											

P4 Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06
All Pedestrians	211	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06

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

MOVEMENT SUMMARY

Site: 05 [Burelli Street | Kenny Street | Site Access (Site Folder: Existing Development- PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Existing Development - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kenny Street (S)															
1	L2	All MCs	73	0.0	73	0.0	0.063	15.5	LOS B	1.5	10.6	0.42	0.64	0.42	36.8
2	T1	All MCs	2	0.0	2	0.0	* 0.294	42.0	LOS C	4.1	28.5	0.91	0.76	0.91	30.4
3	R2	All MCs	84	0.0	84	0.0	0.294	49.4	LOS D	4.1	28.5	0.91	0.76	0.91	22.0
Approach			159	0.0	159	0.0	0.294	33.8	LOS C	4.1	28.5	0.68	0.71	0.68	26.3
East: Burelli Street (E)															
4	L2	All MCs	18	0.0	18	0.0	0.287	42.6	LOS D	3.7	26.9	0.69	0.58	0.69	29.5
5	T1	All MCs	194	4.9	194	4.9	* 0.287	36.2	LOS C	3.7	27.3	0.69	0.57	0.69	9.8
Approach			212	4.5	212	4.5	0.287	36.7	LOS C	3.7	27.3	0.69	0.57	0.69	10.5
West: Burelli Street (W)															
10	L2	All MCs	4	0.0	4	0.0	0.096	11.5	LOS A	2.2	16.1	0.37	0.31	0.37	41.7
11	T1	All MCs	220	3.3	220	3.3	0.191	6.5	LOS A	4.2	29.9	0.40	0.40	0.40	20.0
12	R2	All MCs	103	0.0	103	0.0	* 0.191	13.1	LOS A	4.2	29.9	0.44	0.52	0.44	38.8
Approach			327	2.3	327	2.3	0.191	8.7	LOS A	4.2	29.9	0.41	0.44	0.41	32.5
All Vehicles			698	2.4	698	2.4	0.294	22.9	LOS B	4.2	29.9	0.56	0.54	0.56	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: Kenny Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Burelli Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Site Access (N)											
P3	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Burelli Street (W)											
P4	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93

All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 01 [Crown Street | Atchison Street (Site Folder: Post Development - AM Peak (With Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Post Development (With Slip Lane) - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Base Year (2024)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Crown Street (E)															
4	L2	All MCs	176	1.8	176	1.8	* 0.559	31.0	LOS C	4.0	28.7	0.72	0.74	0.72	16.7
5	T1	All MCs	77	31.5	77	31.5	0.259	26.3	LOS B	1.5	13.7	0.63	0.49	0.63	33.0
Approach			253	10.8	253	10.8	0.559	29.5	LOS C	4.0	28.7	0.69	0.66	0.69	23.6
West: Crown Street (W)															
11	T1	All MCs	172	16.6	172	16.6	0.130	2.8	LOS A	1.3	10.3	0.25	0.21	0.25	46.4
12	R2	All MCs	555	1.7	555	1.7	* 0.410	6.9	LOS A	4.6	32.5	0.33	0.66	0.33	42.0
Approach			726	5.2	726	5.2	0.410	5.9	LOS A	4.6	32.5	0.31	0.55	0.31	43.0
All Vehicles			979	6.7	979	6.7	0.559	12.0	LOS A	4.6	32.5	0.41	0.58	0.41	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.
Delay Model: SIDRA 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: Atchison Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Crown Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians		105	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 02 [Crown Street | Keira Street (Site Folder: Post Development - AM Peak (With Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Post Development (With Slip Lane) - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	25	100.0	25	100.0	*0.245	19.0	LOS B	1.3	11.8	0.68	0.64	0.68	11.6
2	T1	All MCs	320	7.2	320	7.2	*0.679	30.2	LOS C	7.2	53.2	0.82	0.70	0.82	30.0
Approach			345	14.0	345	14.0	0.679	29.4	LOS C	7.2	53.2	0.81	0.70	0.81	29.3
North: Keira Street (N)															
8	T1	All MCs	418	6.0	418	6.0	0.686	8.5	LOS A	9.4	67.7	0.47	0.42	0.47	36.5
9	R2	All MCs	226	2.3	226	2.3	*0.686	41.7	LOS C	9.4	67.7	0.86	0.80	0.86	27.0
Approach			644	4.7	644	4.7	0.686	20.2	LOS B	9.4	67.7	0.61	0.55	0.61	32.5
West: Crown Street (W)															
10	L2	All MCs	136	3.1	136	3.1	0.244	35.7	LOS C	3.3	24.0	0.79	0.75	0.79	29.1
12	R2	All MCs	25	100.0	25	100.0	0.613	69.4	LOS E	1.0	12.4	1.00	0.81	1.16	9.1
Approach			161	18.3	161	18.3	0.613	41.0	LOS C	3.3	24.0	0.82	0.76	0.85	26.1
All Vehicles			1151	9.4	1151	9.4	0.686	25.9	LOS B	9.4	67.7	0.70	0.63	0.70	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
South: Keira Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Keira Street (N)											
P3	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Crown Street (W)											
P4	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
Pedestrian Movements (Diagonal)											
PD	Diagonal	53	49.3	LOS E	0.1	0.1	0.95	0.95	215.9	200.0	0.93

All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 03 [Keira Street | Burelli Street (Site Folder: Post Development - AM Peak (With Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Post Development (With Slip Lane) - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	25	25.0	25	25.0	0.314	28.5	LOS B	5.1	38.1	0.72	0.63	0.72	30.4
2	T1	All MCs	206	5.1	206	5.1	0.314	23.5	LOS B	5.1	38.1	0.72	0.63	0.72	30.4
Approach			232	7.3	232	7.3	0.314	24.1	LOS B	5.1	38.1	0.72	0.63	0.72	30.4
East: Burelli Street (E)															
4	L2	All MCs	69	1.5	69	1.5	0.259	20.8	LOS B	2.5	17.7	0.77	0.73	0.77	36.6
5	T1	All MCs	160	4.6	160	4.6	0.518	55.0	LOS D	4.3	37.1	0.87	0.80	0.87	25.1
6	R2	All MCs	56	58.5	56	58.5	0.518	71.7	LOS F	4.3	37.1	0.94	0.86	0.94	22.1
Approach			285	14.4	285	14.4	0.518	49.9	LOS D	4.3	37.1	0.86	0.79	0.86	24.0
North: Keira Street (N)															
7	L2	All MCs	111	37.1	111	37.1	* 0.628	14.3	LOS A	10.2	78.6	0.77	0.75	0.77	31.3
8	T1	All MCs	337	2.8	337	2.8	* 0.628	27.3	LOS B	10.2	78.6	0.77	0.75	0.77	32.6
Approach			447	11.3	447	11.3	0.628	24.1	LOS B	10.2	78.6	0.77	0.75	0.77	32.3
West: Burelli Street (W)															
10	L2	All MCs	82	3.8	82	3.8	0.362	59.0	LOS E	2.7	19.8	1.00	0.80	1.00	5.2
11	T1	All MCs	189	4.4	189	4.4	* 0.797	60.0	LOS E	6.6	48.0	1.00	0.92	1.10	20.8
Approach			272	4.3	272	4.3	0.797	59.7	LOS E	6.6	48.0	1.00	0.88	1.07	17.4
All Vehicles			1236	9.7	1236	9.7	0.797	37.9	LOS C	10.2	78.6	0.83	0.76	0.85	25.9

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: Keira Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Burelli Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93

North: Keira Street (N)										
P3 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Burelli Street (W)										
P4 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 04 [Burelli Street | Atchison Street (Site Folder: Post Development - AM Peak (With Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Post Development (With Slip Lane) - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Atchison Street (S)															
1	L2	All MCs	80	2.6	80	2.6	0.070	7.3	LOS A	0.4	3.0	0.26	0.57	0.26	45.1
Approach			80	2.6	80	2.6	0.070	7.3	LOS A	0.4	3.0	0.26	0.57	0.26	45.1
East: Burelli Street (E)															
4	L2	All MCs	36	0.0	36	0.0	0.057	19.9	LOS B	0.5	3.4	0.84	0.71	0.84	32.8
5	T1	All MCs	213	4.5	213	4.5	* 0.284	11.2	LOS A	2.3	16.4	0.67	0.56	0.67	39.3
Approach			248	3.8	248	3.8	0.284	12.5	LOS A	2.3	16.4	0.70	0.58	0.70	38.2
North: Atchison Street (N)															
7	L2	All MCs	398	0.5	398	0.5	0.259	4.4	LOS A	0.9	6.6	0.15	0.54	0.15	27.2
8	T1	All MCs	160	1.3	160	1.3	0.218	10.6	LOS A	1.6	11.2	0.62	0.51	0.62	39.7
9	R2	All MCs	165	5.1	165	5.1	* 0.287	16.1	LOS B	1.8	12.9	0.67	0.72	0.67	34.4
Approach			723	1.7	723	1.7	0.287	8.5	LOS A	1.8	12.9	0.37	0.58	0.37	35.1
West: Burelli Street (W)															
11	T1	All MCs	54	0.0	54	0.0	0.034	10.8	LOS A	0.3	1.9	0.63	0.46	0.63	38.7
Approach			54	0.0	54	0.0	0.034	10.8	LOS A	0.3	1.9	0.63	0.46	0.63	38.7
All Vehicles			1105	2.2	1105	2.2	0.287	9.4	LOS A	2.3	16.4	0.45	0.57	0.45	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
South: Atchison Street (S)											
P1	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06
East: Burelli Street (E)											
P2	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06
North: Atchison Street (N)											
P3	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06

West: Burelli Street (W)										
P4 Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06
All Pedestrians	211	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06

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

MOVEMENT SUMMARY

Site: 05 [Burelli Street | Kenny Street | Site Access (Site Folder: Post Development - AM Peak (With Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Post Development (With Slip Lane) - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kenny Street (S)															
1	L2	All MCs	17	6.3	17	6.3	0.017	14.8	LOS B	0.2	1.7	0.44	0.62	0.44	35.8
2	T1	All MCs	28	0.0	28	0.0	0.173	38.5	LOS C	1.5	10.5	0.87	0.70	0.87	31.5
3	R2	All MCs	25	0.0	25	0.0	0.173	47.7	LOS D	1.5	10.5	0.87	0.70	0.87	23.2
Approach			71	1.5	71	1.5	0.173	36.1	LOS C	1.5	10.5	0.77	0.68	0.77	29.4
East: Burelli Street (E)															
4	L2	All MCs	21	25.0	21	25.0	0.160	16.0	LOS B	0.9	6.6	0.32	0.35	0.32	37.2
5	T1	All MCs	157	5.4	157	5.4	* 0.160	11.0	LOS A	0.9	6.6	0.31	0.29	0.31	18.6
Approach			178	7.7	178	7.7	0.160	11.6	LOS A	0.9	6.6	0.32	0.29	0.32	24.2
North: Site Access (N)															
7	L2	All MCs	49	0.0	49	0.0	0.494	47.2	LOS D	4.9	34.3	0.94	0.79	0.94	23.9
8	T1	All MCs	49	0.0	49	0.0	* 0.494	41.4	LOS C	4.9	34.3	0.94	0.79	0.94	33.9
9	R2	All MCs	65	0.0	65	0.0	0.494	50.8	LOS D	4.9	34.3	0.94	0.79	0.94	23.9
Approach			164	0.0	164	0.0	0.494	46.9	LOS D	4.9	34.3	0.94	0.79	0.94	27.6
West: Burelli Street (W)															
10	L2	All MCs	77	0.0	77	0.0	0.139	9.9	LOS A	1.7	12.1	0.32	0.43	0.32	40.7
11	T1	All MCs	206	5.1	206	5.1	0.277	6.4	LOS A	3.5	24.8	0.38	0.50	0.38	18.9
12	R2	All MCs	171	0.0	171	0.0	* 0.277	11.7	LOS A	3.5	24.8	0.44	0.55	0.44	38.9
Approach			454	2.3	454	2.3	0.277	9.0	LOS A	3.5	24.8	0.39	0.51	0.39	35.7
All Vehicles			866	2.9	866	2.9	0.494	18.9	LOS B	4.9	34.3	0.51	0.53	0.51	30.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Kenny Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93

East: Burelli Street (E)										
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Site Access (N)										
P3	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Burelli Street (W)										
P4	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians		211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 01 [Crown Street | Atchison Street (Site Folder: Post Development - PM Peak (With Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Post Development (With Slip Lane) - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Base Year (2024)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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: Crown Street (E)															
4	L2	All MCs	164	0.6	164	0.6	* 0.544	9.7	LOS A	1.7	12.3	0.20	0.59	0.20	30.8
5	T1	All MCs	99	22.3	99	22.3	0.325	14.4	LOS A	2.0	16.9	0.39	0.31	0.39	39.0
Approach			263	8.8	263	8.8	0.544	11.5	LOS A	2.0	16.9	0.27	0.48	0.27	35.8
West: Crown Street (W)															
11	T1	All MCs	269	8.6	269	8.6	0.190	3.0	LOS A	3.5	26.1	0.26	0.23	0.26	46.3
12	R2	All MCs	560	0.6	560	0.6	* 0.393	5.6	LOS A	4.9	34.2	0.24	0.63	0.24	43.3
Approach			829	3.2	829	3.2	0.393	4.8	LOS A	4.9	34.2	0.25	0.50	0.25	44.2
All Vehicles			1093	4.5	1093	4.5	0.544	6.4	LOS A	4.9	34.2	0.25	0.50	0.25	42.2

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: Atchison Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Crown Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians		105	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 02 [Crown Street | Keira Street (Site Folder: Post Development - PM Peak (With Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Post Development (With Slip Lane) - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	26	100.0	26	100.0	*0.234	17.5	LOS B	3.5	29.7	0.70	0.64	0.70	11.7
2	T1	All MCs	465	2.5	465	2.5	*0.648	27.5	LOS B	15.7	112.2	0.79	0.70	0.79	31.1
Approach			492	7.7	492	7.7	0.648	27.0	LOS B	15.7	112.2	0.79	0.69	0.79	30.6
North: Keira Street (N)															
8	T1	All MCs	283	5.2	283	5.2	0.637	6.8	LOS A	11.8	82.8	0.34	0.29	0.34	41.0
9	R2	All MCs	235	0.4	235	0.4	*0.637	44.6	LOS D	11.8	82.8	0.92	0.81	0.92	23.2
Approach			518	3.0	518	3.0	0.637	23.9	LOS B	11.8	82.8	0.60	0.53	0.60	30.4
West: Crown Street (W)															
10	L2	All MCs	234	1.4	234	1.4	0.611	48.7	LOS D	11.6	81.9	0.96	0.82	0.96	25.5
12	R2	All MCs	19	100.0	19	100.0	0.291	63.1	LOS E	1.1	13.9	0.98	0.72	0.98	9.8
Approach			253	8.8	253	8.8	0.611	49.8	LOS D	11.6	81.9	0.96	0.82	0.96	24.5
All Vehicles			1262	6.0	1262	6.0	0.648	30.3	LOS C	15.7	112.2	0.75	0.65	0.75	28.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
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: Keira Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Keira Street (N)											
P3	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Crown Street (W)											
P4	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
Pedestrian Movements (Diagonal)											
PD	Diagonal	53	49.3	LOS E	0.1	0.1	0.95	0.95	215.9	200.0	0.93

All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 03 [Keira Street | Burelli Street (Site Folder: Post Development - PM Peak (With Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Post Development (With Slip Lane) - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	25	0.0	25	0.0	0.450	33.4	LOS C	11.1	78.0	0.81	0.70	0.81	28.0
2	T1	All MCs	246	0.4	246	0.4	0.450	28.7	LOS C	11.1	78.0	0.81	0.70	0.81	28.0
Approach			272	0.4	272	0.4	0.450	29.1	LOS C	11.1	78.0	0.81	0.70	0.81	28.0
East: Burelli Street (E)															
4	L2	All MCs	37	2.9	37	2.9	0.324	20.1	LOS B	5.9	42.6	0.77	0.72	0.77	35.0
5	T1	All MCs	179	4.7	179	4.7	0.648	51.6	LOS D	7.7	64.0	0.84	0.79	0.85	25.6
6	R2	All MCs	97	32.6	97	32.6	* 0.648	69.6	LOS E	7.7	64.0	0.98	0.94	1.02	21.5
Approach			313	13.1	313	13.1	0.648	53.5	LOS D	7.7	64.0	0.87	0.83	0.89	21.8
North: Keira Street (N)															
7	L2	All MCs	85	34.6	85	34.6	0.460	14.1	LOS A	9.0	69.1	0.65	0.66	0.65	32.4
8	T1	All MCs	208	1.0	208	1.0	* 0.460	25.0	LOS B	9.0	69.1	0.65	0.66	0.65	33.7
Approach			294	10.8	294	10.8	0.460	21.8	LOS B	9.0	69.1	0.65	0.66	0.65	33.3
West: Burelli Street (W)															
10	L2	All MCs	122	0.0	122	0.0	0.428	47.0	LOS D	5.8	40.8	0.91	0.78	0.91	6.4
11	T1	All MCs	219	3.4	219	3.4	* 0.638	44.5	LOS D	11.0	79.1	0.97	0.80	0.97	24.5
Approach			341	2.2	341	2.2	0.638	45.4	LOS D	11.0	79.1	0.95	0.79	0.95	19.8
All Vehicles			1219	6.6	1219	6.6	0.648	38.2	LOS C	11.1	79.1	0.83	0.75	0.83	24.9

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: Keira Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Burelli Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93

North: Keira Street (N)										
P3 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Burelli Street (W)										
P4 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 04 [Burelli Street | Atchison Street (Site Folder: Post Development - PM Peak (With Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Post Development (With Slip Lane) - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Atchison Street (S)															
1	L2	All MCs	105	1.0	105	1.0	0.092	7.4	LOS A	1.0	6.9	0.27	0.58	0.27	45.1
Approach			105	1.0	105	1.0	0.092	7.4	LOS A	1.0	6.9	0.27	0.58	0.27	45.1
East: Burelli Street (E)															
4	L2	All MCs	16	0.0	16	0.0	0.057	17.4	LOS B	1.1	7.8	0.79	0.55	0.79	37.0
5	T1	All MCs	316	3.0	316	3.0	* 0.284	9.9	LOS A	5.0	36.2	0.71	0.56	0.71	40.2
Approach			332	2.9	332	2.9	0.284	10.3	LOS A	5.0	36.2	0.71	0.56	0.71	40.0
North: Atchison Street (N)															
7	L2	All MCs	473	0.4	473	0.4	0.317	4.5	LOS A	2.0	14.0	0.16	0.55	0.16	27.1
8	T1	All MCs	152	0.0	152	0.0	* 0.295	16.0	LOS B	3.3	22.8	0.77	0.62	0.77	35.9
9	R2	All MCs	97	2.2	97	2.2	0.255	21.3	LOS B	2.1	15.1	0.77	0.73	0.77	31.6
Approach			721	0.6	721	0.6	0.317	9.2	LOS A	3.3	22.8	0.37	0.59	0.37	32.4
West: Burelli Street (W)															
11	T1	All MCs	54	11.8	54	11.8	0.030	6.9	LOS A	0.4	2.8	0.51	0.38	0.51	42.1
Approach			54	11.8	54	11.8	0.030	6.9	LOS A	0.4	2.8	0.51	0.38	0.51	42.1
All Vehicles			1212	1.7	1212	1.7	0.317	9.2	LOS A	5.0	36.2	0.46	0.57	0.46	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.
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: Atchison Street (S)											
P1	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
East: Burelli Street (E)											
P2	Full	53	22.0	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
North: Atchison Street (N)											
P3	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06

West: Burelli Street (W)										
P4 Full	53	22.0	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
All Pedestrians	211	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06

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

MOVEMENT SUMMARY

Site: 05 [Burelli Street | Kenny Street | Site Access (Site Folder: Post Development - PM Peak (With Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Post Development (With Slip Lane) - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kenny Street (S)															
1	L2	All MCs	73	0.0	73	0.0	0.067	35.8	LOS C	1.7	11.6	0.46	0.65	0.46	35.6
2	T1	All MCs	84	0.0	84	0.0	0.601	61.5	LOS E	8.4	58.5	0.96	0.80	0.96	30.8
3	R2	All MCs	84	0.0	84	0.0	0.601	71.1	LOS F	8.4	58.5	0.96	0.80	0.96	22.4
Approach			241	0.0	241	0.0	0.601	57.1	LOS E	8.4	58.5	0.81	0.75	0.81	23.3
East: Burelli Street (E)															
4	L2	All MCs	18	0.0	18	0.0	0.212	26.1	LOS B	2.8	20.4	0.52	0.46	0.52	33.2
5	T1	All MCs	194	4.9	194	4.9	* 0.212	21.6	LOS B	2.8	20.5	0.52	0.44	0.52	12.9
Approach			212	4.5	212	4.5	0.212	21.9	LOS B	2.8	20.5	0.52	0.44	0.52	15.3
North: Site Access (N)															
7	L2	All MCs	53	0.0	53	0.0	0.575	47.5	LOS D	8.8	61.3	0.96	0.81	0.96	23.3
8	T1	All MCs	53	0.0	53	0.0	0.575	41.4	LOS C	8.8	61.3	0.96	0.81	0.96	33.4
9	R2	All MCs	69	0.0	69	0.0	* 0.575	55.2	LOS D	8.8	61.3	0.96	0.81	0.96	23.3
Approach			175	0.0	175	0.0	0.575	48.7	LOS D	8.8	61.3	0.96	0.81	0.96	27.1
West: Burelli Street (W)															
10	L2	All MCs	196	0.0	196	0.0	0.161	10.6	LOS A	3.3	23.3	0.34	0.63	0.34	38.5
11	T1	All MCs	220	3.3	220	3.3	0.312	7.8	LOS A	7.1	50.4	0.46	0.48	0.46	17.7
12	R2	All MCs	103	0.0	103	0.0	* 0.312	13.6	LOS A	7.1	50.4	0.46	0.48	0.46	39.0
Approach			519	1.4	519	1.4	0.312	10.0	LOS A	7.1	50.4	0.42	0.54	0.42	35.1
All Vehicles			1146	1.5	1146	1.5	0.601	28.0	LOS B	8.8	61.3	0.60	0.61	0.60	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: Kenny Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93

East: Burelli Street (E)										
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Site Access (N)										
P3	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Burelli Street (W)										
P4	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians		211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 01 [Crown Street | Atchison Street (Site Folder: Post Development - AM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Post Development (Without Slip Lane) - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Base Year (2024)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Crown Street (E)															
4	L2	All MCs	176	1.8	176	1.8	*0.559	31.0	LOS C	4.0	28.7	0.72	0.74	0.72	16.7
5	T1	All MCs	77	31.5	77	31.5	0.259	26.3	LOS B	1.5	13.7	0.63	0.49	0.63	33.0
Approach			253	10.8	253	10.8	0.559	29.5	LOS C	4.0	28.7	0.69	0.66	0.69	23.6
West: Crown Street (W)															
11	T1	All MCs	172	16.6	172	16.6	0.130	2.8	LOS A	1.3	10.3	0.25	0.21	0.25	46.4
12	R2	All MCs	555	1.7	555	1.7	*0.410	6.9	LOS A	4.6	32.5	0.33	0.66	0.33	42.0
Approach			726	5.2	726	5.2	0.410	5.9	LOS A	4.6	32.5	0.31	0.55	0.31	43.0
All Vehicles			979	6.7	979	6.7	0.559	12.0	LOS A	4.6	32.5	0.41	0.58	0.41	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.
Delay Model: SIDRA 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: Atchison Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Crown Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians		105	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 02 [Crown Street | Keira Street (Site Folder: Post Development - AM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Post Development (Without Slip Lane) - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	25	100.0	25	100.0	*0.245	19.0	LOS B	1.3	11.8	0.68	0.64	0.68	11.6
2	T1	All MCs	320	7.2	320	7.2	*0.679	30.2	LOS C	7.2	53.2	0.82	0.70	0.82	30.0
Approach			345	14.0	345	14.0	0.679	29.4	LOS C	7.2	53.2	0.81	0.70	0.81	29.3
North: Keira Street (N)															
8	T1	All MCs	418	6.0	418	6.0	0.686	8.5	LOS A	9.4	67.7	0.47	0.42	0.47	36.5
9	R2	All MCs	226	2.3	226	2.3	*0.686	41.7	LOS C	9.4	67.7	0.86	0.80	0.86	27.0
Approach			644	4.7	644	4.7	0.686	20.2	LOS B	9.4	67.7	0.61	0.55	0.61	32.5
West: Crown Street (W)															
10	L2	All MCs	136	3.1	136	3.1	0.244	35.7	LOS C	3.3	24.0	0.79	0.75	0.79	29.1
12	R2	All MCs	25	100.0	25	100.0	0.613	69.4	LOS E	1.0	12.4	1.00	0.81	1.16	9.1
Approach			161	18.3	161	18.3	0.613	41.0	LOS C	3.3	24.0	0.82	0.76	0.85	26.1
All Vehicles			1151	9.4	1151	9.4	0.686	25.9	LOS B	9.4	67.7	0.70	0.63	0.70	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
South: Keira Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Keira Street (N)											
P3	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Crown Street (W)											
P4	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
Pedestrian Movements (Diagonal)											
PD	Diagonal	53	49.3	LOS E	0.1	0.1	0.95	0.95	215.9	200.0	0.93

All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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.

Organisation: GENESIS TRAFFIC | Licence: NETWORK / 1PC | Processed: Tuesday, 29 July 2025 10:51:47 AM
Project: G:\2024\24179 - 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong\Model\24179-V1.1-SIDRA\Crown Street, Wollongong.sip9

MOVEMENT SUMMARY

Site: 03 [Keira Street | Burelli Street (Site Folder: Post Development - AM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Post Development (Without Slip Lane) - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	25	25.0	25	25.0	0.314	28.5	LOS B	5.1	38.1	0.72	0.63	0.72	30.4
2	T1	All MCs	206	5.1	206	5.1	0.314	23.5	LOS B	5.1	38.1	0.72	0.63	0.72	30.4
Approach			232	7.3	232	7.3	0.314	24.1	LOS B	5.1	38.1	0.72	0.63	0.72	30.4
East: Burelli Street (E)															
4	L2	All MCs	69	1.5	69	1.5	0.259	20.8	LOS B	2.5	17.7	0.77	0.73	0.77	36.6
5	T1	All MCs	160	4.6	160	4.6	0.518	55.0	LOS D	4.3	37.1	0.87	0.80	0.87	25.1
6	R2	All MCs	56	58.5	56	58.5	0.518	71.7	LOS F	4.3	37.1	0.94	0.86	0.94	22.1
Approach			285	14.4	285	14.4	0.518	49.9	LOS D	4.3	37.1	0.86	0.79	0.86	24.0
North: Keira Street (N)															
7	L2	All MCs	111	37.1	111	37.1	* 0.628	14.3	LOS A	10.2	78.6	0.77	0.75	0.77	31.3
8	T1	All MCs	337	2.8	337	2.8	* 0.628	27.3	LOS B	10.2	78.6	0.77	0.75	0.77	32.6
Approach			447	11.3	447	11.3	0.628	24.1	LOS B	10.2	78.6	0.77	0.75	0.77	32.3
West: Burelli Street (W)															
10	L2	All MCs	82	3.8	82	3.8	0.362	59.0	LOS E	2.7	19.8	1.00	0.80	1.00	5.2
11	T1	All MCs	189	4.4	189	4.4	* 0.797	60.0	LOS E	6.6	48.0	1.00	0.92	1.10	20.8
Approach			272	4.3	272	4.3	0.797	59.7	LOS E	6.6	48.0	1.00	0.88	1.07	17.4
All Vehicles			1236	9.7	1236	9.7	0.797	37.9	LOS C	10.2	78.6	0.83	0.76	0.85	25.9

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: Keira Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Burelli Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93

North: Keira Street (N)										
P3 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Burelli Street (W)										
P4 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 04 [Burelli Street | Atchison Street (Site Folder: Post Development - AM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Post Development (Without Slip Lane) - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Atchison Street (S)															
1	L2	All MCs	80	2.6	80	2.6	0.074	7.5	LOS A	0.5	3.2	0.27	0.58	0.27	45.0
Approach			80	2.6	80	2.6	0.074	7.5	LOS A	0.5	3.2	0.27	0.58	0.27	45.0
East: Burelli Street (E)															
4	L2	All MCs	36	0.0	36	0.0	0.088	26.8	LOS B	0.6	4.1	0.97	0.73	0.97	29.6
5	T1	All MCs	213	4.5	213	4.5	* 0.418	16.5	LOS B	2.9	20.9	0.81	0.67	0.81	35.6
Approach			248	3.8	248	3.8	0.418	18.0	LOS B	2.9	20.9	0.84	0.68	0.84	34.6
North: Atchison Street (N)															
7	L2	All MCs	398	0.5	398	0.5	* 0.423	8.6	LOS A	2.7	19.0	0.42	0.66	0.42	17.8
8	T1	All MCs	160	1.3	160	1.3	0.370	8.1	LOS A	3.4	24.4	0.64	0.65	0.64	39.3
9	R2	All MCs	165	5.1	165	5.1	0.370	13.9	LOS A	3.4	24.4	0.64	0.65	0.64	37.7
Approach			723	1.7	723	1.7	0.423	9.7	LOS A	3.4	24.4	0.52	0.66	0.52	33.6
West: Burelli Street (W)															
11	T1	All MCs	54	0.0	54	0.0	0.050	16.1	LOS B	0.3	2.4	0.76	0.55	0.76	34.8
Approach			54	0.0	54	0.0	0.050	16.1	LOS B	0.3	2.4	0.76	0.55	0.76	34.8
All Vehicles			1105	2.2	1105	2.2	0.423	11.7	LOS A	3.4	24.4	0.58	0.65	0.58	35.6

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: Atchison Street (S)											
P1	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06
East: Burelli Street (E)											
P2	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
North: Atchison Street (N)											
P3	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06

West: Burelli Street (W)										
P4 Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
All Pedestrians	211	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06

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

MOVEMENT SUMMARY

Site: 05 [Burelli Street | Kenny Street | Site Access (Site Folder: Post Development - AM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Post Development (Without Slip Lane) - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kenny Street (S)															
1	L2	All MCs	17	6.3	17	6.3	0.017	14.8	LOS B	0.2	1.7	0.44	0.62	0.44	35.8
2	T1	All MCs	28	0.0	28	0.0	0.173	38.5	LOS C	1.5	10.5	0.87	0.70	0.87	31.5
3	R2	All MCs	25	0.0	25	0.0	0.173	47.7	LOS D	1.5	10.5	0.87	0.70	0.87	23.2
Approach			71	1.5	71	1.5	0.173	36.1	LOS C	1.5	10.5	0.77	0.68	0.77	29.4
East: Burelli Street (E)															
4	L2	All MCs	21	25.0	21	25.0	0.160	16.0	LOS B	0.9	6.6	0.32	0.35	0.32	37.2
5	T1	All MCs	157	5.4	157	5.4	* 0.160	11.0	LOS A	0.9	6.6	0.31	0.29	0.31	18.6
Approach			178	7.7	178	7.7	0.160	11.6	LOS A	0.9	6.6	0.32	0.29	0.32	24.2
North: Site Access (N)															
7	L2	All MCs	49	0.0	49	0.0	0.494	47.2	LOS D	4.9	34.3	0.94	0.79	0.94	23.9
8	T1	All MCs	49	0.0	49	0.0	* 0.494	41.4	LOS C	4.9	34.3	0.94	0.79	0.94	33.9
9	R2	All MCs	65	0.0	65	0.0	0.494	50.8	LOS D	4.9	34.3	0.94	0.79	0.94	23.9
Approach			164	0.0	164	0.0	0.494	46.9	LOS D	4.9	34.3	0.94	0.79	0.94	27.6
West: Burelli Street (W)															
10	L2	All MCs	77	0.0	77	0.0	0.139	6.4	LOS A	0.7	4.8	0.13	0.32	0.13	43.8
11	T1	All MCs	206	5.1	206	5.1	0.277	3.2	LOS A	2.3	16.1	0.21	0.40	0.21	24.5
12	R2	All MCs	171	0.0	171	0.0	* 0.277	8.6	LOS A	2.3	16.1	0.28	0.47	0.28	41.3
Approach			454	2.3	454	2.3	0.277	5.8	LOS A	2.3	16.1	0.22	0.41	0.22	39.3
All Vehicles			866	2.9	866	2.9	0.494	17.2	LOS B	4.9	34.3	0.42	0.48	0.42	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: Kenny Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93

East: Burelli Street (E)										
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Site Access (N)										
P3	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Burelli Street (W)										
P4	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians		211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 01 [Crown Street | Atchison Street (Site Folder: Post Development - PM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Post Development (Without Slip Lane) - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Base Year (2024)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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: Crown Street (E)															
4	L2	All MCs	164	0.6	164	0.6	* 0.544	9.7	LOS A	1.7	12.3	0.20	0.59	0.20	30.8
5	T1	All MCs	99	22.3	99	22.3	0.325	14.4	LOS A	2.0	16.9	0.39	0.31	0.39	39.0
Approach			263	8.8	263	8.8	0.544	11.5	LOS A	2.0	16.9	0.27	0.48	0.27	35.8
West: Crown Street (W)															
11	T1	All MCs	269	8.6	269	8.6	0.190	3.0	LOS A	3.5	26.1	0.26	0.23	0.26	46.3
12	R2	All MCs	560	0.6	560	0.6	* 0.393	5.6	LOS A	4.9	34.2	0.24	0.63	0.24	43.3
Approach			829	3.2	829	3.2	0.393	4.8	LOS A	4.9	34.2	0.25	0.50	0.25	44.2
All Vehicles			1093	4.5	1093	4.5	0.544	6.4	LOS A	4.9	34.2	0.25	0.50	0.25	42.2

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: Atchison Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Crown Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians		105	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 02 [Crown Street | Keira Street (Site Folder: Post Development - PM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Post Development (Without Slip Lane) - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	26	100.0	26	100.0	*0.234	17.5	LOS B	3.5	29.7	0.70	0.64	0.70	11.7
2	T1	All MCs	465	2.5	465	2.5	*0.648	27.5	LOS B	15.7	112.2	0.79	0.70	0.79	31.1
Approach			492	7.7	492	7.7	0.648	27.0	LOS B	15.7	112.2	0.79	0.69	0.79	30.6
North: Keira Street (N)															
8	T1	All MCs	283	5.2	283	5.2	0.637	6.8	LOS A	11.8	82.8	0.34	0.29	0.34	41.0
9	R2	All MCs	235	0.4	235	0.4	*0.637	44.6	LOS D	11.8	82.8	0.92	0.81	0.92	23.2
Approach			518	3.0	518	3.0	0.637	23.9	LOS B	11.8	82.8	0.60	0.53	0.60	30.4
West: Crown Street (W)															
10	L2	All MCs	234	1.4	234	1.4	0.611	48.7	LOS D	11.6	81.9	0.96	0.82	0.96	25.5
12	R2	All MCs	19	100.0	19	100.0	0.291	63.1	LOS E	1.1	13.9	0.98	0.72	0.98	9.8
Approach			253	8.8	253	8.8	0.611	49.8	LOS D	11.6	81.9	0.96	0.82	0.96	24.5
All Vehicles			1262	6.0	1262	6.0	0.648	30.3	LOS C	15.7	112.2	0.75	0.65	0.75	28.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
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: Keira Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Keira Street (N)											
P3	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Crown Street (W)											
P4	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
Pedestrian Movements (Diagonal)											
PD	Diagonal	53	49.3	LOS E	0.1	0.1	0.95	0.95	215.9	200.0	0.93

All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 03 [Keira Street | Burelli Street (Site Folder: Post Development - PM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Post Development (Without Slip Lane) - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	25	0.0	25	0.0	0.450	33.4	LOS C	11.1	78.0	0.81	0.70	0.81	28.0
2	T1	All MCs	246	0.4	246	0.4	0.450	28.7	LOS C	11.1	78.0	0.81	0.70	0.81	28.0
Approach			272	0.4	272	0.4	0.450	29.1	LOS C	11.1	78.0	0.81	0.70	0.81	28.0
East: Burelli Street (E)															
4	L2	All MCs	37	2.9	37	2.9	0.324	20.1	LOS B	5.9	42.6	0.77	0.72	0.77	35.0
5	T1	All MCs	179	4.7	179	4.7	0.648	51.6	LOS D	7.7	64.0	0.84	0.79	0.85	25.6
6	R2	All MCs	97	32.6	97	32.6	* 0.648	69.6	LOS E	7.7	64.0	0.98	0.94	1.02	21.5
Approach			313	13.1	313	13.1	0.648	53.5	LOS D	7.7	64.0	0.87	0.83	0.89	21.8
North: Keira Street (N)															
7	L2	All MCs	85	34.6	85	34.6	0.460	14.1	LOS A	9.0	69.1	0.65	0.66	0.65	32.4
8	T1	All MCs	208	1.0	208	1.0	* 0.460	25.0	LOS B	9.0	69.1	0.65	0.66	0.65	33.7
Approach			294	10.8	294	10.8	0.460	21.8	LOS B	9.0	69.1	0.65	0.66	0.65	33.3
West: Burelli Street (W)															
10	L2	All MCs	122	0.0	122	0.0	0.428	47.0	LOS D	5.8	40.8	0.91	0.78	0.91	6.4
11	T1	All MCs	219	3.4	219	3.4	* 0.638	44.5	LOS D	11.0	79.1	0.97	0.80	0.97	24.5
Approach			341	2.2	341	2.2	0.638	45.4	LOS D	11.0	79.1	0.95	0.79	0.95	19.8
All Vehicles			1219	6.6	1219	6.6	0.648	38.2	LOS C	11.1	79.1	0.83	0.75	0.83	24.9

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: Keira Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Burelli Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93

North: Keira Street (N)										
P3 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Burelli Street (W)										
P4 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 04 [Burelli Street | Atchison Street (Site Folder: Post Development - PM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Post Development (Without Slip Lane) - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Atchison Street (S)															
1	L2	All MCs	105	1.0	105	1.0	0.097	8.0	LOS A	1.2	8.2	0.29	0.59	0.29	44.7
Approach			105	1.0	105	1.0	0.097	8.0	LOS A	1.2	8.2	0.29	0.59	0.29	44.7
East: Burelli Street (E)															
4	L2	All MCs	16	0.0	16	0.0	0.102	26.8	LOS B	1.4	9.6	0.94	0.72	0.94	31.8
5	T1	All MCs	316	3.0	316	3.0	* 0.508	18.0	LOS B	6.7	48.2	0.88	0.73	0.88	34.7
Approach			332	2.9	332	2.9	0.508	18.4	LOS B	6.7	48.2	0.88	0.73	0.88	34.5
North: Atchison Street (N)															
7	L2	All MCs	473	0.4	473	0.4	* 0.521	10.0	LOS A	6.4	45.1	0.53	0.71	0.53	16.1
8	T1	All MCs	152	0.0	152	0.0	0.281	8.3	LOS A	3.9	27.8	0.62	0.60	0.62	39.7
9	R2	All MCs	97	2.2	97	2.2	0.281	14.1	LOS A	3.9	27.8	0.62	0.60	0.62	38.1
Approach			721	0.6	721	0.6	0.521	10.2	LOS A	6.4	45.1	0.56	0.67	0.56	31.0
West: Burelli Street (W)															
11	T1	All MCs	54	11.8	54	11.8	0.053	15.4	LOS B	0.6	4.3	0.75	0.55	0.75	35.2
Approach			54	11.8	54	11.8	0.053	15.4	LOS B	0.6	4.3	0.75	0.55	0.75	35.2
All Vehicles			1212	1.7	1212	1.7	0.521	12.5	LOS A	6.7	48.2	0.63	0.67	0.63	34.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA 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: Atchison Street (S)											
P1	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
East: Burelli Street (E)											
P2	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
North: Atchison Street (N)											
P3	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06

West: Burelli Street (W)										
P4 Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
All Pedestrians	211	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06

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

MOVEMENT SUMMARY

Site: 05 [Burelli Street | Kenny Street | Site Access (Site Folder: Post Development - PM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Post Development (Without Slip Lane) - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kenny Street (S)															
1	L2	All MCs	73	0.0	73	0.0	0.067	35.8	LOS C	1.7	11.6	0.46	0.65	0.46	35.6
2	T1	All MCs	84	0.0	84	0.0	0.601	61.5	LOS E	8.4	58.5	0.96	0.80	0.96	30.8
3	R2	All MCs	84	0.0	84	0.0	0.601	71.1	LOS F	8.4	58.5	0.96	0.80	0.96	22.4
Approach			241	0.0	241	0.0	0.601	57.1	LOS E	8.4	58.5	0.81	0.75	0.81	23.3
East: Burelli Street (E)															
4	L2	All MCs	18	0.0	18	0.0	0.212	26.1	LOS B	2.8	20.4	0.52	0.46	0.52	33.2
5	T1	All MCs	194	4.9	194	4.9	* 0.212	21.6	LOS B	2.8	20.5	0.52	0.44	0.52	12.9
Approach			212	4.5	212	4.5	0.212	21.9	LOS B	2.8	20.5	0.52	0.44	0.52	15.3
North: Site Access (N)															
7	L2	All MCs	53	0.0	53	0.0	0.575	47.5	LOS D	8.8	61.3	0.96	0.81	0.96	23.3
8	T1	All MCs	53	0.0	53	0.0	0.575	41.4	LOS C	8.8	61.3	0.96	0.81	0.96	33.4
9	R2	All MCs	69	0.0	69	0.0	* 0.575	55.2	LOS D	8.8	61.3	0.96	0.81	0.96	23.3
Approach			175	0.0	175	0.0	0.575	48.7	LOS D	8.8	61.3	0.96	0.81	0.96	27.1
West: Burelli Street (W)															
10	L2	All MCs	196	0.0	196	0.0	0.161	6.7	LOS A	1.4	9.6	0.14	0.57	0.14	41.5
11	T1	All MCs	220	3.3	220	3.3	0.312	4.3	LOS A	4.4	31.4	0.29	0.36	0.29	23.5
12	R2	All MCs	103	0.0	103	0.0	* 0.312	9.4	LOS A	4.4	31.4	0.29	0.36	0.29	42.0
Approach			519	1.4	519	1.4	0.312	6.2	LOS A	4.4	31.4	0.23	0.44	0.23	39.1
All Vehicles			1146	1.5	1146	1.5	0.601	26.3	LOS B	8.8	61.3	0.52	0.56	0.52	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: Kenny Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93

East: Burelli Street (E)										
P2 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Site Access (N)										
P3 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Burelli Street (W)										
P4 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 01 [Crown Street | Atchison Street (Site Folder: Cumulative Impact - AM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Base Year (2024)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Crown Street (E)															
4	L2	All MCs	181	1.7	181	1.7	* 0.575	30.3	LOS C	4.1	29.4	0.72	0.74	0.72	17.0
5	T1	All MCs	77	31.5	77	31.5	0.259	26.0	LOS B	1.5	13.6	0.62	0.49	0.62	33.2
Approach			258	10.6	258	10.6	0.575	29.0	LOS C	4.1	29.4	0.69	0.66	0.69	23.7
West: Crown Street (W)															
11	T1	All MCs	186	15.3	186	15.3	0.139	2.8	LOS A	1.4	11.1	0.25	0.21	0.25	46.4
12	R2	All MCs	567	1.7	567	1.7	* 0.420	7.0	LOS A	4.8	33.9	0.34	0.66	0.34	42.0
Approach			754	5.0	754	5.0	0.420	5.9	LOS A	4.8	33.9	0.32	0.55	0.32	43.0
All Vehicles			1012	6.5	1012	6.5	0.575	11.8	LOS A	4.8	33.9	0.41	0.58	0.41	37.1

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: Atchison Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Crown Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians		105	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 02 [Crown Street | Keira Street (Site Folder: Cumulative Impact - AM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	25	100.0	25	100.0	*0.245	19.3	LOS B	1.3	12.0	0.69	0.65	0.69	11.5
2	T1	All MCs	320	7.2	320	7.2	*0.679	30.3	LOS C	7.2	53.2	0.82	0.70	0.82	30.0
Approach			345	14.0	345	14.0	0.679	29.5	LOS C	7.2	53.2	0.81	0.70	0.81	29.3
North: Keira Street (N)															
8	T1	All MCs	418	6.0	418	6.0	0.691	8.5	LOS A	9.5	68.4	0.47	0.42	0.47	36.6
9	R2	All MCs	232	2.3	232	2.3	*0.691	41.5	LOS C	9.5	68.4	0.86	0.80	0.86	26.9
Approach			649	4.7	649	4.7	0.691	20.3	LOS B	9.5	68.4	0.61	0.55	0.61	32.4
West: Crown Street (W)															
10	L2	All MCs	151	2.8	151	2.8	0.270	36.0	LOS C	3.7	26.7	0.80	0.76	0.80	29.0
12	R2	All MCs	25	100.0	25	100.0	0.615	69.5	LOS E	1.0	12.4	1.00	0.81	1.16	9.1
Approach			176	16.8	176	16.8	0.615	40.8	LOS C	3.7	26.7	0.83	0.77	0.85	26.3
All Vehicles			1171	9.3	1171	9.3	0.691	26.1	LOS B	9.5	68.4	0.70	0.63	0.70	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
South: Keira Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Keira Street (N)											
P3	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Crown Street (W)											
P4	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
Pedestrian Movements (Diagonal)											
PD	Diagonal	53	49.3	LOS E	0.1	0.1	0.95	0.95	215.9	200.0	0.93

All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 03 [Keira Street | Burelli Street (Site Folder: Cumulative Impact - AM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	25	25.0	25	25.0	0.314	28.5	LOS C	5.1	38.1	0.72	0.63	0.72	30.4
2	T1	All MCs	206	5.1	206	5.1	0.314	23.5	LOS B	5.1	38.1	0.72	0.63	0.72	30.4
Approach			232	7.3	232	7.3	0.314	24.1	LOS B	5.1	38.1	0.72	0.63	0.72	30.4
East: Burelli Street (E)															
4	L2	All MCs	69	1.5	69	1.5	0.269	22.4	LOS B	2.7	19.4	0.79	0.74	0.79	36.0
5	T1	All MCs	174	4.2	174	4.2	0.538	57.6	LOS E	4.6	39.0	0.88	0.82	0.88	24.8
6	R2	All MCs	56	58.5	56	58.5	0.538	73.4	LOS F	4.6	39.0	0.95	0.88	0.95	22.1
Approach			299	13.7	299	13.7	0.538	52.4	LOS D	4.6	39.0	0.87	0.81	0.87	23.3
North: Keira Street (N)															
7	L2	All MCs	111	37.1	111	37.1	* 0.628	14.4	LOS A	10.3	78.7	0.77	0.75	0.77	31.3
8	T1	All MCs	337	2.8	337	2.8	* 0.628	27.4	LOS B	10.3	78.7	0.77	0.75	0.77	32.5
Approach			447	11.3	447	11.3	0.628	24.2	LOS B	10.3	78.7	0.77	0.75	0.77	32.2
West: Burelli Street (W)															
10	L2	All MCs	82	3.8	82	3.8	0.362	59.0	LOS E	2.7	19.8	1.00	0.80	1.00	5.2
11	T1	All MCs	196	4.3	196	4.3	* 0.823	60.8	LOS E	6.9	49.9	1.00	0.93	1.12	20.6
Approach			278	4.2	278	4.2	0.823	60.3	LOS E	6.9	49.9	1.00	0.89	1.08	17.4
All Vehicles			1256	9.6	1256	9.6	0.823	38.9	LOS C	10.3	78.7	0.84	0.77	0.85	25.5

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: Keira Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Burelli Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93

North: Keira Street (N)										
P3 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Burelli Street (W)										
P4 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 04 [Burelli Street | Atchison Street (Site Folder: Cumulative Impact - AM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Atchison Street (S)															
1	L2	All MCs	80	2.6	80	2.6	0.076	7.7	LOS A	0.5	3.4	0.28	0.58	0.28	44.9
Approach			80	2.6	80	2.6	0.076	7.7	LOS A	0.5	3.4	0.28	0.58	0.28	44.9
East: Burelli Street (E)															
4	L2	All MCs	36	0.0	36	0.0	0.086	26.0	LOS B	0.6	4.1	0.96	0.73	0.96	29.9
5	T1	All MCs	226	4.2	226	4.2	* 0.428	16.9	LOS B	3.1	22.7	0.83	0.69	0.83	35.4
Approach			262	3.6	262	3.6	0.428	18.1	LOS B	3.1	22.7	0.85	0.69	0.85	34.5
North: Atchison Street (N)															
7	L2	All MCs	404	0.5	404	0.5	* 0.438	8.5	LOS A	2.7	18.9	0.42	0.66	0.42	17.9
8	T1	All MCs	160	1.3	160	1.3	0.392	8.1	LOS A	3.5	24.9	0.64	0.65	0.64	39.2
9	R2	All MCs	177	4.8	177	4.8	0.392	13.9	LOS A	3.5	24.9	0.64	0.65	0.64	37.6
Approach			741	1.7	741	1.7	0.438	9.7	LOS A	3.5	24.9	0.52	0.66	0.52	33.6
West: Burelli Street (W)															
11	T1	All MCs	54	0.0	54	0.0	0.049	15.7	LOS B	0.3	2.4	0.75	0.55	0.75	35.0
Approach			54	0.0	54	0.0	0.049	15.7	LOS B	0.3	2.4	0.75	0.55	0.75	35.0
All Vehicles			1137	2.1	1137	2.1	0.438	11.8	LOS A	3.5	24.9	0.59	0.66	0.59	35.6

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: Atchison Street (S)											
P1	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
East: Burelli Street (E)											
P2	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
North: Atchison Street (N)											
P3	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06

West: Burelli Street (W)										
P4 Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
All Pedestrians	211	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06

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

MOVEMENT SUMMARY

Site: 05 [Burelli Street | Kenny Street | Site Access (Site Folder: Cumulative Impact - AM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2024)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kenny Street (S)															
1	L2	All MCs	17	6.3	17	6.3	0.017	14.8	LOS B	0.2	1.7	0.44	0.62	0.44	35.8
2	T1	All MCs	28	0.0	28	0.0	0.176	38.6	LOS C	1.5	10.5	0.87	0.70	0.87	31.5
3	R2	All MCs	25	0.0	25	0.0	0.176	47.7	LOS D	1.5	10.5	0.87	0.70	0.87	23.2
Approach			71	1.5	71	1.5	0.176	36.2	LOS C	1.5	10.5	0.77	0.68	0.77	29.4
East: Burelli Street (E)															
4	L2	All MCs	21	25.0	21	25.0	0.172	15.1	LOS B	0.9	6.6	0.30	0.32	0.30	37.9
5	T1	All MCs	171	4.9	171	4.9	* 0.172	10.0	LOS A	0.9	6.6	0.29	0.27	0.29	19.6
Approach			192	7.1	192	7.1	0.172	10.6	LOS A	0.9	6.6	0.29	0.27	0.29	24.9
North: Site Access (N)															
7	L2	All MCs	49	0.0	49	0.0	0.494	47.2	LOS D	4.9	34.3	0.94	0.79	0.94	23.9
8	T1	All MCs	49	0.0	49	0.0	* 0.494	41.4	LOS C	4.9	34.3	0.94	0.79	0.94	33.9
9	R2	All MCs	65	0.0	65	0.0	0.494	50.8	LOS D	4.9	34.3	0.94	0.79	0.94	23.9
Approach			164	0.0	164	0.0	0.494	46.9	LOS D	4.9	34.3	0.94	0.79	0.94	27.6
West: Burelli Street (W)															
10	L2	All MCs	77	0.0	77	0.0	0.142	6.4	LOS A	0.7	5.0	0.13	0.31	0.13	43.8
11	T1	All MCs	213	5.0	213	5.0	0.284	3.2	LOS A	2.3	16.2	0.21	0.40	0.21	24.6
12	R2	All MCs	171	0.0	171	0.0	* 0.284	8.6	LOS A	2.3	16.2	0.28	0.47	0.28	41.3
Approach			460	2.3	460	2.3	0.284	5.7	LOS A	2.3	16.2	0.22	0.41	0.22	39.2
All Vehicles			886	2.9	886	2.9	0.494	16.8	LOS B	4.9	34.3	0.41	0.47	0.41	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: Kenny Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93

East: Burelli Street (E)										
P2 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Site Access (N)										
P3 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Burelli Street (W)										
P4 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 01 [Crown Street | Atchison Street (Site Folder: Cumulative Impact - PM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Base Year (2024)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 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: Crown Street (E)															
4	L2	All MCs	179	0.6	179	0.6	* 0.593	10.2	LOS A	2.3	15.9	0.24	0.60	0.24	30.2
5	T1	All MCs	99	22.3	99	22.3	0.325	14.9	LOS B	2.1	17.3	0.40	0.32	0.40	38.7
Approach			278	8.3	278	8.3	0.593	11.9	LOS A	2.3	17.3	0.30	0.50	0.30	35.2
West: Crown Street (W)															
11	T1	All MCs	275	8.4	275	8.4	0.193	3.0	LOS A	3.6	26.7	0.26	0.23	0.26	46.2
12	R2	All MCs	593	0.5	593	0.5	* 0.418	5.8	LOS A	5.9	41.3	0.27	0.64	0.27	43.1
Approach			867	3.0	867	3.0	0.418	4.9	LOS A	5.9	41.3	0.27	0.51	0.27	44.0
All Vehicles			1145	4.3	1145	4.3	0.593	6.6	LOS A	5.9	41.3	0.27	0.51	0.27	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.
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: Atchison Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Crown Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians		105	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 02 [Crown Street | Keira Street (Site Folder: Cumulative Impact - PM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	26	100.0	26	100.0	*0.234	17.9	LOS B	3.5	29.7	0.70	0.64	0.70	11.6
2	T1	All MCs	465	2.5	465	2.5	*0.648	27.6	LOS B	15.7	112.2	0.79	0.70	0.79	31.1
Approach			492	7.7	492	7.7	0.648	27.1	LOS B	15.7	112.2	0.79	0.69	0.79	30.6
North: Keira Street (N)															
8	T1	All MCs	283	5.2	283	5.2	0.637	6.2	LOS A	12.1	85.4	0.32	0.27	0.32	42.0
9	R2	All MCs	249	0.4	249	0.4	*0.637	43.1	LOS D	12.1	85.4	0.92	0.81	0.92	23.5
Approach			533	3.0	533	3.0	0.637	23.5	LOS B	12.1	85.4	0.60	0.53	0.60	30.6
West: Crown Street (W)															
10	L2	All MCs	239	1.3	239	1.3	0.598	47.8	LOS D	11.7	82.9	0.95	0.82	0.95	25.7
12	R2	All MCs	19	100.0	19	100.0	0.333	64.9	LOS E	1.1	14.2	0.99	0.72	0.99	9.6
Approach			258	8.6	258	8.6	0.598	49.0	LOS D	11.7	82.9	0.96	0.82	0.96	24.7
All Vehicles			1282	5.9	1282	5.9	0.648	30.0	LOS C	15.7	112.2	0.74	0.65	0.74	29.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Keira Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Keira Street (N)											
P3	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Crown Street (W)											
P4	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
Pedestrian Movements (Diagonal)											
PD	Diagonal	53	49.3	LOS E	0.1	0.1	0.95	0.95	215.9	200.0	0.93

All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 03 [Keira Street | Burelli Street (Site Folder: Cumulative Impact - PM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	25	0.0	25	0.0	0.450	33.4	LOS C	11.1	78.0	0.81	0.70	0.81	28.0
2	T1	All MCs	246	0.4	246	0.4	0.450	28.7	LOS C	11.1	78.0	0.81	0.70	0.81	28.0
Approach			272	0.4	272	0.4	0.450	29.1	LOS C	11.1	78.0	0.81	0.70	0.81	28.0
East: Burelli Street (E)															
4	L2	All MCs	37	2.9	37	2.9	0.333	21.3	LOS B	6.0	43.3	0.78	0.72	0.78	35.0
5	T1	All MCs	185	4.5	185	4.5	0.666	53.0	LOS D	8.0	66.3	0.84	0.79	0.86	25.3
6	R2	All MCs	97	32.6	97	32.6	* 0.666	72.5	LOS F	8.0	66.3	0.98	0.96	1.04	21.3
Approach			319	12.9	319	12.9	0.666	55.3	LOS D	8.0	66.3	0.88	0.83	0.90	21.4
North: Keira Street (N)															
7	L2	All MCs	85	34.6	85	34.6	0.460	13.9	LOS A	8.9	68.1	0.64	0.65	0.64	32.6
8	T1	All MCs	208	1.0	208	1.0	* 0.460	24.4	LOS B	8.9	68.1	0.64	0.65	0.64	34.0
Approach			294	10.8	294	10.8	0.460	21.4	LOS B	8.9	68.1	0.64	0.65	0.64	33.6
West: Burelli Street (W)															
10	L2	All MCs	122	0.0	122	0.0	0.428	47.5	LOS D	5.9	41.1	0.92	0.78	0.92	6.3
11	T1	All MCs	233	3.2	233	3.2	* 0.677	45.6	LOS D	11.9	85.6	0.98	0.83	1.00	24.1
Approach			355	2.1	355	2.1	0.677	46.3	LOS D	11.9	85.6	0.96	0.81	0.97	19.8
All Vehicles			1239	6.5	1239	6.5	0.677	38.9	LOS C	11.9	85.6	0.83	0.76	0.84	24.7

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: Keira Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
East: Burelli Street (E)											
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93

North: Keira Street (N)										
P3 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Burelli Street (W)										
P4 Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians	211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 04 [Burelli Street | Atchison Street (Site Folder: Cumulative Impact - PM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Atchison Street (S)															
1	L2	All MCs	105	1.0	105	1.0	0.101	8.4	LOS A	1.2	8.6	0.31	0.59	0.31	44.6
Approach			105	1.0	105	1.0	0.101	8.4	LOS A	1.2	8.6	0.31	0.59	0.31	44.6
East: Burelli Street (E)															
4	L2	All MCs	16	0.0	16	0.0	0.107	27.2	LOS B	1.3	9.5	0.95	0.73	0.95	31.6
5	T1	All MCs	322	2.9	322	2.9	* 0.534	19.0	LOS B	6.8	48.8	0.90	0.75	0.90	34.1
Approach			338	2.8	338	2.8	0.534	19.4	LOS B	6.8	48.8	0.91	0.75	0.91	34.0
North: Atchison Street (N)															
7	L2	All MCs	486	0.4	486	0.4	* 0.526	9.6	LOS A	6.5	45.7	0.51	0.70	0.51	16.5
8	T1	All MCs	152	0.0	152	0.0	0.317	8.1	LOS A	4.6	32.2	0.62	0.62	0.62	39.6
9	R2	All MCs	131	1.6	131	1.6	0.317	13.8	LOS A	4.6	32.2	0.62	0.62	0.62	38.0
Approach			768	0.5	768	0.5	0.526	10.0	LOS A	6.5	45.7	0.55	0.67	0.55	31.7
West: Burelli Street (W)															
11	T1	All MCs	54	11.8	54	11.8	0.055	15.8	LOS B	0.5	4.2	0.76	0.55	0.76	35.0
Approach			54	11.8	54	11.8	0.055	15.8	LOS B	0.5	4.2	0.76	0.55	0.76	35.0
All Vehicles			1265	1.7	1265	1.7	0.534	12.6	LOS A	6.8	48.8	0.64	0.68	0.64	34.8

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: Atchison Street (S)											
P1	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
East: Burelli Street (E)											
P2	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06
North: Atchison Street (N)											
P3	Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06

West: Burelli Street (W)										
P4 Full	53	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06
All Pedestrians	211	21.9	LOS C	0.1	0.1	0.89	0.89	188.5	200.0	1.06

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

MOVEMENT SUMMARY

Site: 05 [Burelli Street | Kenny Street | Site Access (Site Folder: Cumulative Impact - PM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2024)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kenny Street (S)															
1	L2	All MCs	73	0.0	73	0.0	0.067	35.9	LOS C	1.7	11.6	0.46	0.65	0.46	35.6
2	T1	All MCs	84	0.0	84	0.0	0.622	62.0	LOS E	8.4	59.1	0.96	0.81	0.97	30.7
3	R2	All MCs	84	0.0	84	0.0	0.622	71.6	LOS F	8.4	59.1	0.96	0.81	0.97	22.3
Approach			241	0.0	241	0.0	0.622	57.5	LOS E	8.4	59.1	0.81	0.76	0.81	23.2
East: Burelli Street (E)															
4	L2	All MCs	18	0.0	18	0.0	0.220	26.0	LOS B	2.9	20.7	0.52	0.46	0.52	33.4
5	T1	All MCs	200	4.7	200	4.7	* 0.220	21.4	LOS B	2.9	20.8	0.52	0.43	0.52	13.1
Approach			218	4.3	218	4.3	0.220	21.8	LOS B	2.9	20.8	0.52	0.44	0.52	15.3
North: Site Access (N)															
7	L2	All MCs	53	0.0	53	0.0	0.578	47.6	LOS D	8.8	61.3	0.96	0.81	0.96	23.3
8	T1	All MCs	53	0.0	53	0.0	0.578	41.5	LOS C	8.8	61.3	0.96	0.81	0.96	33.4
9	R2	All MCs	69	0.0	69	0.0	* 0.578	55.2	LOS D	8.8	61.3	0.96	0.81	0.96	23.3
Approach			175	0.0	175	0.0	0.578	48.8	LOS D	8.8	61.3	0.96	0.81	0.96	27.1
West: Burelli Street (W)															
10	L2	All MCs	196	0.0	196	0.0	0.167	6.5	LOS A	1.3	9.2	0.13	0.55	0.13	41.8
11	T1	All MCs	234	3.2	234	3.2	0.335	3.7	LOS A	4.1	28.9	0.25	0.35	0.25	24.8
12	R2	All MCs	103	0.0	103	0.0	* 0.335	8.7	LOS A	4.1	28.9	0.26	0.34	0.26	42.5
Approach			533	1.4	533	1.4	0.335	5.7	LOS A	4.1	28.9	0.21	0.42	0.21	39.5
All Vehicles			1166	1.4	1166	1.4	0.622	25.9	LOS B	8.8	61.3	0.50	0.55	0.50	27.6

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: Kenny Street (S)											
P1	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93

East: Burelli Street (E)										
P2	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
North: Site Access (N)										
P3	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
West: Burelli Street (W)										
P4	Full	53	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	200.0	0.93
All Pedestrians		211	49.3	LOS E	0.2	0.2	0.95	0.95	215.9	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: 01 [Crown Street | Atchison Street (Site Folder: Existing Development- AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Existing Development - Year 2034)]

AM Peak 8:00am-9:00am
Site Category: Base Year (2024)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Crown Street (E)															
4	L2	All MCs	171	2.0	171	2.0	*0.576	34.9	LOS C	4.3	30.6	0.78	0.75	0.78	15.4
5	T1	All MCs	85	31.5	85	31.5	0.299	29.9	LOS C	1.9	16.8	0.70	0.55	0.70	31.6
Approach			256	11.8	256	11.8	0.576	33.2	LOS C	4.3	30.6	0.75	0.69	0.75	22.5
West: Crown Street (W)															
11	T1	All MCs	189	16.6	189	16.6	0.144	3.1	LOS A	1.5	11.9	0.26	0.22	0.26	46.1
12	R2	All MCs	582	1.8	582	1.8	*0.431	7.0	LOS A	5.0	35.6	0.34	0.67	0.34	41.9
Approach			771	5.4	771	5.4	0.431	6.1	LOS A	5.0	35.6	0.32	0.56	0.32	42.9
All Vehicles			1027	7.0	1027	7.0	0.576	12.8	LOS A	5.0	35.6	0.43	0.59	0.43	36.4

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: Atchison Street (S)											
P1	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
East: Crown Street (E)											
P2	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
All Pedestrians		126	49.3	LOS E[12]	0.2	0.2	0.95	0.95	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.

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

MOVEMENT SUMMARY

Site: 02 [Crown Street | Keira Street (Site Folder: Existing Development- AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Existing Development - Year 2034)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	28	100.0	28	100.0	0.268	18.1	LOS B	1.1	10.4	0.66	0.63	0.66	12.4
2	T1	All MCs	298	8.6	298	8.6	* 0.743	28.1	LOS B	6.8	51.2	0.81	0.70	0.83	30.9
Approach			325	16.4	325	16.4	0.743	27.2	LOS B	6.8	51.2	0.80	0.70	0.81	30.1
North: Keira Street (N)															
8	T1	All MCs	460	6.0	460	6.0	0.751	9.9	LOS A	10.5	75.7	0.50	0.46	0.51	35.8
9	R2	All MCs	227	2.6	227	2.6	* 0.751	42.6	LOS D [11]	10.5	75.7	0.88	0.83	0.92	26.7
Approach			687	4.9	687	4.9	0.751	20.7	LOS B	10.5	75.7	0.63	0.58	0.65	32.2
West: Crown Street (W)															
10	L2	All MCs	149	3.1	149	3.1	0.254	34.3	LOS C	3.6	25.8	0.78	0.76	0.78	29.6
12	R2	All MCs	28	100.0	28	100.0	* 0.703	70.9	LOS F [11]	1.1	14.0	1.00	0.87	1.27	8.9
Approach			177	18.3	177	18.3	0.703	40.0	LOS C	3.6	25.8	0.81	0.77	0.85	26.4
All Vehicles			1189	10.0	1189	10.0	0.751	25.4	LOS B	10.5	75.7	0.70	0.64	0.72	30.4

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.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* 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: Keira Street (S)											
P1	Full	63	49.3	LOS E [12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
North: Keira Street (N)											
P3	Full	63	49.3	LOS E [12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
West: Crown Street (W)											
P4	Full	63	49.3	LOS E [12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
Pedestrian Movements (Diagonal)											
PD	Diagonal	63	49.3	LOS E [12]	0.1	0.1	0.95	0.95	216.0	200.0	0.93

All Pedestrians	253	49.3	LOS E[12]	0.2	0.2	0.95	0.95	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.

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

MOVEMENT SUMMARY

Site: 03 [Keira Street | Burelli Street (Site Folder: Existing Development- AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Existing Development - Year 2034)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	28	25.0	28	25.0	0.345	28.9	LOS C	5.7	42.6	0.73	0.64	0.73	30.2
2	T1	All MCs	227	5.1	227	5.1	0.345	23.9	LOS B	5.7	42.6	0.73	0.64	0.73	30.2
Approach			255	7.3	255	7.3	0.345	24.5	LOS B	5.7	42.6	0.73	0.64	0.73	30.2
East: Burelli Street (E)															
4	L2	All MCs	76	1.5	76	1.5	0.289	24.7	LOS B	2.9	21.0	0.78	0.75	0.78	35.9
5	T1	All MCs	176	4.6	176	4.6	0.578	60.0	LOS E[11]	4.8	40.8	0.88	0.83	0.88	24.5
6	R2	All MCs	61	58.5	61	58.5	0.578	77.6	LOS F[11]	4.8	40.8	0.96	0.91	0.96	21.6
Approach			314	14.4	314	14.4	0.578	54.9	LOS D[11]	4.8	40.8	0.87	0.83	0.87	22.8
North: Keira Street (N)															
7	L2	All MCs	122	37.1	122	37.1	* 0.691	14.2	LOS A	11.6	89.1	0.79	0.77	0.79	31.4
8	T1	All MCs	371	2.8	371	2.8	* 0.691	27.0	LOS B	11.6	89.1	0.79	0.77	0.79	32.7
Approach			492	11.3	492	11.3	0.691	23.8	LOS B	11.6	89.1	0.79	0.77	0.79	32.4
West: Burelli Street (W)															
10	L2	All MCs	36	9.7	36	9.7	0.174	53.6	LOS D[11]	1.2	8.8	0.95	0.73	0.95	5.7
11	T1	All MCs	208	4.4	208	4.4	* 0.871	61.9	LOS E[11]	7.7	55.6	1.00	1.04	1.30	20.4
Approach			244	5.2	244	5.2	0.871	60.7	LOS E[11]	7.7	55.6	0.99	0.99	1.25	19.0
All Vehicles			1305	10.1	1305	10.1	0.871	38.3	LOS C	11.6	89.1	0.84	0.80	0.88	26.1

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.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* 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: Keira Street (S)											
P1	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
East: Burelli Street (E)											
P2	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93

North: Keira Street (N)										
P3 Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
West: Burelli Street (W)										
P4 Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
All Pedestrians	253	49.3	LOS E[12]	0.2	0.2	0.95	0.95	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.

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

MOVEMENT SUMMARY

Site: 04 [Burelli Street | Atchison Street (Site Folder: Existing Development- AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Existing Development - Year 2034)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Atchison Street (S)															
1	L2	All MCs	88	2.6	88	2.6	0.077	7.2	LOS A	0.5	3.4	0.25	0.57	0.25	45.2
Approach			88	2.6	88	2.6	0.077	7.2	LOS A	0.5	3.4	0.25	0.57	0.25	45.2
East: Burelli Street (E)															
4	L2	All MCs	39	0.0	39	0.0	0.075	24.2	LOS B	0.6	4.2	0.94	0.73	0.94	30.7
5	T1	All MCs	162	6.4	162	6.4	* 0.263	18.9	LOS B	2.5	18.1	0.94	0.73	0.94	34.3
Approach			201	5.2	201	5.2	0.263	19.9	LOS B	2.5	18.1	0.94	0.73	0.94	33.5
North: Atchison Street (N)															
7	L2	All MCs	387	0.6	387	0.6	0.248	4.5	LOS A	1.0	7.3	0.16	0.55	0.16	27.1
8	T1	All MCs	176	1.3	176	1.3	0.205	7.8	LOS A	1.5	10.4	0.52	0.43	0.52	42.0
9	R2	All MCs	182	5.1	182	5.1	* 0.264	13.0	LOS A	1.7	12.1	0.56	0.70	0.56	36.3
Approach			745	1.9	745	1.9	0.264	7.4	LOS A	1.7	12.1	0.34	0.56	0.34	36.9
West: Burelli Street (W)															
11	T1	All MCs	59	0.0	59	0.0	0.045	13.3	LOS A	0.3	2.3	0.70	0.51	0.70	36.8
Approach			59	0.0	59	0.0	0.045	13.3	LOS A	0.3	2.3	0.70	0.51	0.70	36.8
All Vehicles			1093	2.4	1093	2.4	0.264	10.0	LOS A	2.5	18.1	0.47	0.59	0.47	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.
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: Atchison Street (S)											
P1	Full	63	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
East: Burelli Street (E)											
P2	Full	63	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
North: Atchison Street (N)											
P3	Full	63	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06

West: Burelli Street (W)										
P4 Full	63	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
All Pedestrians	253	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06

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

MOVEMENT SUMMARY

Site: 05 [Burelli Street | Kenny Street | Site Access (Site Folder: Existing Development- AM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Existing Development - Year 2034)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kenny Street (S)															
1	L2	All MCs	19	6.3	19	6.3	0.016	10.8	LOS A	0.2	1.4	0.34	0.60	0.34	38.8
2	T1	All MCs	9	0.0	9	0.0	* 0.183	45.4	LOS D [11]	1.1	7.9	0.93	0.72	0.93	29.4
3	R2	All MCs	28	0.0	28	0.0	0.183	52.9	LOS D [11]	1.1	7.9	0.93	0.72	0.93	21.0
Approach			56	2.1	56	2.1	0.183	37.6	LOS C	1.1	7.9	0.73	0.68	0.73	26.7
East: Burelli Street (E)															
4	L2	All MCs	23	25.0	23	25.0	0.334	42.5	LOS D [11]	2.0	15.4	0.68	0.58	0.68	28.8
5	T1	All MCs	173	5.4	173	5.4	* 0.334	35.8	LOS C	2.1	15.6	0.67	0.55	0.67	9.7
Approach			196	7.7	196	7.7	0.334	36.6	LOS C	2.1	15.6	0.67	0.55	0.67	11.5
West: Burelli Street (W)															
10	L2	All MCs	34	0.0	34	0.0	0.126	7.6	LOS A	1.1	7.9	0.21	0.26	0.21	44.1
11	T1	All MCs	227	5.1	227	5.1	0.253	3.3	LOS A	2.7	19.4	0.26	0.36	0.26	25.0
12	R2	All MCs	188	0.0	188	0.0	* 0.253	9.9	LOS A	2.7	19.4	0.35	0.53	0.35	40.3
Approach			448	2.6	448	2.6	0.253	6.3	LOS A	2.7	19.4	0.30	0.43	0.30	38.0
All Vehicles			699	4.0	699	4.0	0.334	17.3	LOS B	2.7	19.4	0.44	0.48	0.44	27.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* 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: Kenny Street (S)											
P1	Full	63	49.3	LOS E [12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
East: Burelli Street (E)											
P2	Full	63	49.3	LOS E [12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
North: Site Access (N)											
P3	Full	63	49.3	LOS E [12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
West: Burelli Street (W)											

P4 Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
All Pedestrians	253	49.3	LOS E[12]	0.2	0.2	0.95	0.95	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.

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

MOVEMENT SUMMARY

Site: 01 [Crown Street | Atchison Street (Site Folder: Existing Development- PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Existing Development - Year 2034)]

PM Peak 4:15pm-5:15pm
Site Category: Base Year (2024)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	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: Crown Street (E)															
4	L2	All MCs	93	1.3	93	1.3	* 0.463	33.4	LOS C	3.4	24.1	0.69	0.70	0.69	15.9
5	T1	All MCs	109	22.3	109	22.3	0.501	25.7	LOS B	3.8	31.9	0.66	0.53	0.66	33.3
Approach			201	12.6	201	12.6	0.501	29.2	LOS C	3.8	31.9	0.67	0.61	0.67	27.2
West: Crown Street (W)															
11	T1	All MCs	296	8.6	296	8.6	0.211	3.3	LOS A	4.1	30.5	0.28	0.24	0.28	45.9
12	R2	All MCs	496	0.7	496	0.7	* 0.342	5.9	LOS A	4.6	32.4	0.25	0.63	0.25	43.1
Approach			792	3.7	792	3.7	0.342	4.9	LOS A	4.6	32.4	0.26	0.49	0.26	44.1
All Vehicles			993	5.5	993	5.5	0.501	9.8	LOS A	4.6	32.4	0.34	0.51	0.34	39.3

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: Atchison Street (S)											
P1	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
East: Crown Street (E)											
P2	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
All Pedestrians		126	49.3	LOS E[12]	0.2	0.2	0.95	0.95	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.

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

MOVEMENT SUMMARY

Site: 02 [Crown Street | Keira Street (Site Folder: Existing Development- PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Existing Development - Year 2034)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	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: Keira Street (S)															
1	L2	All MCs	29	100.0	29	100.0	* 0.238	16.9	LOS B	3.1	27.3	0.67	0.63	0.67	12.3
2	T1	All MCs	454	2.8	454	2.8	* 0.661	25.0	LOS B	14.8	106.4	0.76	0.67	0.76	32.3
Approach			483	8.6	483	8.6	0.661	24.5	LOS B	14.8	106.4	0.76	0.66	0.76	31.7
North: Keira Street (N)															
8	T1	All MCs	311	5.2	311	5.2	0.570	8.2	LOS A	10.9	77.5	0.44	0.38	0.44	36.4
9	R2	All MCs	168	0.7	168	0.7	0.570	51.0	LOS D[11]	10.9	77.5	0.89	0.79	0.89	24.0
Approach			479	3.6	479	3.6	0.570	23.2	LOS B	10.9	77.5	0.60	0.52	0.60	30.8
West: Crown Street (W)															
10	L2	All MCs	257	1.4	257	1.4	* 0.645	48.7	LOS D[11]	12.8	90.4	0.97	0.83	0.97	25.6
12	R2	All MCs	21	100.0	21	100.0	0.320	63.8	LOS E[11]	1.2	15.3	0.98	0.72	0.98	9.8
Approach			278	8.8	278	8.8	0.645	49.9	LOS D[11]	12.8	90.4	0.97	0.82	0.97	24.5
All Vehicles			1240	6.7	1240	6.7	0.661	29.7	LOS C	14.8	106.4	0.74	0.64	0.74	29.2

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.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* 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: Keira Street (S)											
P1	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
North: Keira Street (N)											
P3	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
West: Crown Street (W)											
P4	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
Pedestrian Movements (Diagonal)											
PD	Diagonal	63	49.3	LOS E[12]	0.1	0.1	0.95	0.95	216.0	200.0	0.93

All Pedestrians	253	49.3	LOS E[12]	0.2	0.2	0.95	0.95	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.

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

MOVEMENT SUMMARY

Site: 03 [Keira Street | Burelli Street (Site Folder: Existing Development- PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Existing Development - Year 2034)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	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: Keira Street (S)															
1	L2	All MCs	28	0.0	28	0.0	0.471	33.6	LOS C	12.3	86.4	0.82	0.71	0.82	27.9
2	T1	All MCs	271	0.4	271	0.4	0.471	28.9	LOS C	12.3	86.4	0.82	0.71	0.82	27.9
Approach			299	0.4	299	0.4	0.471	29.4	LOS C	12.3	86.4	0.82	0.71	0.82	27.9
East: Burelli Street (E)															
4	L2	All MCs	41	2.9	41	2.9	0.363	25.0	LOS B	6.3	45.8	0.79	0.73	0.79	34.7
5	T1	All MCs	197	4.7	197	4.7	0.725	57.9	LOS E[11]	9.1	75.4	0.86	0.82	0.89	24.7
6	R2	All MCs	107	32.6	107	32.6	*0.725	79.4	LOS F[11]	9.1	75.4	0.99	1.02	1.10	20.6
Approach			344	13.1	344	13.1	0.725	60.7	LOS E[11]	9.1	75.4	0.89	0.87	0.94	20.3
North: Keira Street (N)															
7	L2	All MCs	94	34.6	94	34.6	0.506	16.8	LOS B	11.9	90.7	0.77	0.75	0.77	29.8
8	T1	All MCs	229	1.0	229	1.0	*0.506	32.2	LOS C	11.9	90.7	0.77	0.75	0.77	31.0
Approach			323	10.8	323	10.8	0.506	27.7	LOS B	11.9	90.7	0.77	0.75	0.77	30.6
West: Burelli Street (W)															
10	L2	All MCs	76	0.0	76	0.0	0.253	51.5	LOS D[11]	3.8	26.7	0.96	0.77	0.96	6.0
11	T1	All MCs	241	3.4	241	3.4	*0.708	52.5	LOS D[11]	12.9	93.1	1.00	0.88	1.04	22.7
Approach			317	2.6	317	2.6	0.708	52.3	LOS D[11]	12.9	93.1	0.99	0.85	1.02	19.7
All Vehicles			1283	6.9	1283	6.9	0.725	43.0	LOS D[11]	12.9	93.1	0.87	0.80	0.89	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.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* 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: Keira Street (S)											
P1	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
East: Burelli Street (E)											
P2	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93

North: Keira Street (N)										
P3 Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
West: Burelli Street (W)										
P4 Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
All Pedestrians	253	49.3	LOS E[12]	0.2	0.2	0.95	0.95	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.

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

MOVEMENT SUMMARY

Site: 04 [Burelli Street | Atchison Street (Site Folder: Existing Development- PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Existing Development - Year 2034)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	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: Atchison Street (S)															
1	L2	All MCs	116	1.0	116	1.0	0.103	7.6	LOS A	1.1	8.1	0.28	0.59	0.28	45.0
Approach			116	1.0	116	1.0	0.103	7.6	LOS A	1.1	8.1	0.28	0.59	0.28	45.0
East: Burelli Street (E)															
4	L2	All MCs	17	0.0	17	0.0	0.055	18.2	LOS B	0.9	6.6	0.79	0.60	0.79	36.1
5	T1	All MCs	271	3.8	271	3.8	* 0.273	13.1	LOS A	5.2	37.4	0.83	0.61	0.83	37.8
Approach			288	3.6	288	3.6	0.273	13.4	LOS A	5.2	37.4	0.83	0.60	0.83	37.7
North: Atchison Street (N)															
7	L2	All MCs	309	0.7	309	0.7	0.206	4.5	LOS A	1.2	8.7	0.16	0.54	0.16	27.2
8	T1	All MCs	167	0.0	167	0.0	* 0.277	17.3	LOS B	3.7	26.0	0.85	0.69	0.85	35.1
9	R2	All MCs	107	2.2	107	2.2	0.231	23.2	LOS B	2.5	17.7	0.88	0.76	0.88	30.7
Approach			582	0.8	582	0.8	0.277	11.6	LOS A	3.7	26.0	0.49	0.63	0.49	32.3
West: Burelli Street (W)															
11	T1	All MCs	59	11.8	59	11.8	0.036	8.4	LOS A	0.4	3.3	0.56	0.41	0.56	40.8
Approach			59	11.8	59	11.8	0.036	8.4	LOS A	0.4	3.3	0.56	0.41	0.56	40.8
All Vehicles			1046	2.2	1046	2.2	0.277	11.4	LOS A	5.2	37.4	0.56	0.60	0.56	37.1

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: Atchison Street (S)											
P1	Full	63	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
East: Burelli Street (E)											
P2	Full	63	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
North: Atchison Street (N)											
P3	Full	63	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06

West: Burelli Street (W)										
P4 Full	63	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
All Pedestrians	253	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06

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

MOVEMENT SUMMARY

Site: 05 [Burelli Street | Kenny Street | Site Access (Site Folder: Existing Development- PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Existing Development - Year 2034)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	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: Kenny Street (S)															
1	L2	All MCs	80	0.0	80	0.0	0.070	13.4	LOS A	1.7	11.7	0.42	0.64	0.42	36.8
2	T1	All MCs	2	0.0	2	0.0	*0.316	36.2	LOS C	4.3	30.2	0.88	0.77	0.88	31.4
3	R2	All MCs	93	0.0	93	0.0	0.316	43.4	LOS D[11]	4.3	30.2	0.88	0.77	0.88	23.0
Approach			175	0.0	175	0.0	0.316	29.6	LOS C	4.3	30.2	0.67	0.71	0.67	28.0
East: Burelli Street (E)															
4	L2	All MCs	20	0.0	20	0.0	0.327	42.9	LOS D[11]	4.0	29.1	0.68	0.58	0.68	29.8
5	T1	All MCs	213	4.9	213	4.9	*0.327	36.5	LOS C	4.0	29.4	0.68	0.56	0.68	10.1
Approach			233	4.5	233	4.5	0.327	37.0	LOS C	4.0	29.4	0.68	0.56	0.68	10.4
West: Burelli Street (W)															
10	L2	All MCs	5	0.0	5	0.0	0.122	12.6	LOS A	2.8	19.9	0.38	0.32	0.38	40.9
11	T1	All MCs	242	3.3	242	3.3	0.244	8.1	LOS A	5.2	37.0	0.43	0.42	0.43	17.7
12	R2	All MCs	113	0.0	113	0.0	*0.244	16.3	LOS B	5.2	37.0	0.51	0.57	0.51	36.8
Approach			360	2.3	360	2.3	0.244	10.7	LOS A	5.2	37.0	0.46	0.47	0.46	30.1
All Vehicles			768	2.4	768	2.4	0.327	23.0	LOS B	5.2	37.0	0.57	0.55	0.57	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.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* 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: Kenny Street (S)											
P1	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
East: Burelli Street (E)											
P2	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
North: Site Access (N)											
P3	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
West: Burelli Street (W)											

P4 Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
All Pedestrians	253	49.3	LOS E[12]	0.2	0.2	0.95	0.95	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.

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

MOVEMENT SUMMARY

Site: 01 [Crown Street | Atchison Street (Site Folder: Cumulative Impact - AM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2034)]

AM Peak 8:00am-9:00am
Site Category: Base Year (2024)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Crown Street (E)															
4	L2	All MCs	199	1.7	199	1.7	* 0.633	27.0	LOS B	4.4	31.2	0.69	0.73	0.69	18.3
5	T1	All MCs	85	31.5	85	31.5	0.285	24.1	LOS B	1.6	14.2	0.59	0.47	0.59	34.0
Approach			284	10.6	284	10.6	0.633	26.1	LOS B	4.4	31.2	0.66	0.65	0.66	25.0
West: Crown Street (W)															
11	T1	All MCs	205	15.3	205	15.3	0.155	3.1	LOS A	1.6	12.9	0.26	0.23	0.26	46.1
12	R2	All MCs	624	1.7	624	1.7	* 0.470	7.2	LOS A	5.8	41.2	0.37	0.68	0.37	41.8
Approach			829	5.0	829	5.0	0.470	6.2	LOS A	5.8	41.2	0.34	0.57	0.34	42.7
All Vehicles			1113	6.5	1113	6.5	0.633	11.3	LOS A	5.8	41.2	0.42	0.59	0.43	37.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
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: Atchison Street (S)											
P1	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
East: Crown Street (E)											
P2	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
All Pedestrians		126	49.3	LOS E[12]	0.2	0.2	0.95	0.95	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.

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

MOVEMENT SUMMARY

Site: 02 [Crown Street | Keira Street (Site Folder: Cumulative Impact - AM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2034)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	28	100.0	28	100.0	0.293	20.1	LOS B	1.5	14.2	0.72	0.67	0.72	10.9
2	T1	All MCs	352	7.2	352	7.2	* 0.814	33.5	LOS C	8.9	65.8	0.89	0.79	0.93	28.8
Approach			380	14.0	380	14.0	0.814	32.5	LOS C	8.9	65.8	0.88	0.78	0.91	28.1
North: Keira Street (N)															
8	T1	All MCs	460	6.0	460	6.0	0.810	10.1	LOS A	11.4	82.4	0.49	0.45	0.51	35.8
9	R2	All MCs	255	2.3	255	2.3	* 0.810	46.2	LOS D[11]	11.4	82.4	0.92	0.89	1.01	24.9
Approach			714	4.7	714	4.7	0.810	23.0	LOS B	11.4	82.4	0.64	0.60	0.69	31.0
West: Crown Street (W)															
10	L2	All MCs	166	2.8	166	2.8	0.289	35.5	LOS C	4.1	29.3	0.79	0.76	0.79	29.2
12	R2	All MCs	28	100.0	28	100.0	* 0.728	71.8	LOS F[11]	1.1	14.2	1.00	0.88	1.31	8.8
Approach			193	16.8	193	16.8	0.728	40.7	LOS C	4.1	29.3	0.82	0.78	0.87	26.3
All Vehicles			1288	9.3	1288	9.3	0.814	28.4	LOS B	11.4	82.4	0.74	0.68	0.78	29.1

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.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* 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: Keira Street (S)											
P1	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
North: Keira Street (N)											
P3	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
West: Crown Street (W)											
P4	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
Pedestrian Movements (Diagonal)											

PD Diagonal	63	49.3	LOS E[12]	0.1	0.1	0.95	0.95	216.0	200.0	0.93
All Pedestrians	253	49.3	LOS E[12]	0.2	0.2	0.95	0.95	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.

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

MOVEMENT SUMMARY

Site: 03 [Keira Street | Burelli Street (Site Folder: Cumulative Impact - AM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2034)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Keira Street (S)															
1	L2	All MCs	28	25.0	28	25.0	0.374	29.3	LOS C	5.8	43.3	0.74	0.65	0.74	30.0
2	T1	All MCs	227	5.1	227	5.1	0.374	24.3	LOS B	5.8	43.3	0.74	0.65	0.74	30.0
Approach			255	7.3	255	7.3	0.374	24.9	LOS B	5.8	43.3	0.74	0.65	0.74	30.0
East: Burelli Street (E)															
4	L2	All MCs	76	1.5	76	1.5	0.306	25.9	LOS B	3.3	23.7	0.80	0.76	0.80	35.1
5	T1	All MCs	191	4.2	191	4.2	0.613	62.6	LOS E[11]	5.0	42.4	0.89	0.85	0.89	24.2
6	R2	All MCs	61	58.5	61	58.5	0.613	79.6	LOS F[11]	5.0	42.4	0.97	0.93	0.97	21.4
Approach			329	13.7	329	13.7	0.613	57.2	LOS E[11]	5.0	42.4	0.88	0.85	0.88	22.2
North: Keira Street (N)															
7	L2	All MCs	122	37.1	122	37.1	* 0.691	14.7	LOS B	11.9	91.1	0.81	0.78	0.81	30.9
8	T1	All MCs	371	2.8	371	2.8	* 0.691	28.4	LOS B	11.9	91.1	0.81	0.78	0.81	32.2
Approach			492	11.3	492	11.3	0.691	25.0	LOS B	11.9	91.1	0.81	0.78	0.81	31.8
West: Burelli Street (W)															
10	L2	All MCs	90	3.8	90	3.8	0.435	59.9	LOS E[11]	3.0	22.0	1.00	0.81	1.00	5.2
11	T1	All MCs	215	4.3	215	4.3	* 0.905	65.4	LOS E[11]	7.9	57.3	1.00	1.01	1.23	19.7
Approach			306	4.2	306	4.2	0.905	63.8	LOS E[11]	7.9	57.3	1.00	0.95	1.16	16.7
All Vehicles			1381	9.6	1381	9.6	0.905	41.3	LOS C	11.9	91.1	0.86	0.81	0.89	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.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* 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: Keira Street (S)											
P1	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
East: Burelli Street (E)											

P2 Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
North: Keira Street (N)										
P3 Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
West: Burelli Street (W)										
P4 Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
All Pedestrians	253	49.3	LOS E[12]	0.2	0.2	0.95	0.95	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.

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

MOVEMENT SUMMARY

Site: 04 [Burelli Street | Atchison Street (Site Folder: Cumulative Impact - AM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2034)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Atchison Street (S)															
1	L2	All MCs	88	2.6	88	2.6	0.087	8.3	LOS A	0.6	4.2	0.31	0.59	0.31	44.7
Approach			88	2.6	88	2.6	0.087	8.3	LOS A	0.6	4.2	0.31	0.59	0.31	44.7
East: Burelli Street (E)															
4	L2	All MCs	39	0.0	39	0.0	0.094	26.0	LOS B	0.6	4.4	0.97	0.74	0.97	29.9
5	T1	All MCs	249	4.2	249	4.2	* 0.471	17.2	LOS B	3.4	24.8	0.85	0.70	0.85	35.2
Approach			288	3.6	288	3.6	0.471	18.4	LOS B	3.4	24.8	0.86	0.71	0.86	34.4
North: Atchison Street (N)															
7	L2	All MCs	445	0.5	445	0.5	* 0.482	8.9	LOS A	3.2	22.8	0.46	0.68	0.46	17.3
8	T1	All MCs	176	1.3	176	1.3	0.431	8.9	LOS A	4.1	29.3	0.69	0.68	0.69	38.6
9	R2	All MCs	195	4.8	195	4.8	0.431	14.8	LOS B	4.1	29.3	0.69	0.68	0.69	37.0
Approach			815	1.7	815	1.7	0.482	10.3	LOS A	4.1	29.3	0.56	0.68	0.56	33.0
West: Burelli Street (W)															
11	T1	All MCs	59	0.0	59	0.0	0.054	15.7	LOS B	0.4	2.5	0.76	0.55	0.76	35.0
Approach			59	0.0	59	0.0	0.054	15.7	LOS B	0.4	2.5	0.76	0.55	0.76	35.0
All Vehicles			1251	2.1	1251	2.1	0.482	12.3	LOS A	4.1	29.3	0.62	0.68	0.62	35.1

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: Atchison Street (S)											
P1	Full	63	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
East: Burelli Street (E)											
P2	Full	63	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
North: Atchison Street (N)											

P3 Full	63	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
West: Burelli Street (W)										
P4 Full	63	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
All Pedestrians	253	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06

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

MOVEMENT SUMMARY

Site: 05 [Burelli Street | Kenny Street | Site Access (Site Folder: Cumulative Impact - AM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [AM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2034)]

AM Peak 8:00am-9:00am
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Kenny Street (S)															
1	L2	All MCs	19	6.3	19	6.3	0.018	14.8	LOS B	0.3	1.8	0.44	0.62	0.44	35.8
2	T1	All MCs	31	0.0	31	0.0	0.211	39.0	LOS C	1.7	11.7	0.88	0.71	0.88	31.4
3	R2	All MCs	28	0.0	28	0.0	0.211	48.3	LOS D[11]	1.7	11.7	0.88	0.71	0.88	23.0
Approach			78	1.5	78	1.5	0.211	36.6	LOS C	1.7	11.7	0.78	0.69	0.78	29.3
East: Burelli Street (E)															
4	L2	All MCs	23	25.0	23	25.0	0.189	14.7	LOS B	0.9	7.1	0.29	0.32	0.29	38.1
5	T1	All MCs	188	4.9	188	4.9	*0.189	9.6	LOS A	0.9	7.1	0.28	0.26	0.28	20.1
Approach			211	7.1	211	7.1	0.189	10.2	LOS A	0.9	7.1	0.29	0.27	0.29	25.4
North: Site Access (N)															
7	L2	All MCs	54	0.0	54	0.0	0.548	47.7	LOS D[11]	5.5	38.2	0.95	0.80	0.95	23.7
8	T1	All MCs	54	0.0	54	0.0	0.548	41.9	LOS C	5.5	38.2	0.95	0.80	0.95	33.7
9	R2	All MCs	72	0.0	72	0.0	*0.548	51.4	LOS D[11]	5.5	38.2	0.95	0.80	0.95	23.7
Approach			181	0.0	181	0.0	0.548	47.5	LOS D[11]	5.5	38.2	0.95	0.80	0.95	27.4
West: Burelli Street (W)															
10	L2	All MCs	85	0.0	85	0.0	0.163	6.2	LOS A	0.7	5.4	0.12	0.30	0.12	44.0
11	T1	All MCs	234	5.0	234	5.0	0.325	3.1	LOS A	2.5	17.9	0.20	0.39	0.20	25.1
12	R2	All MCs	188	0.0	188	0.0	*0.325	8.6	LOS A	2.5	17.9	0.29	0.48	0.29	41.2
Approach			506	2.3	506	2.3	0.325	5.6	LOS A	2.5	17.9	0.22	0.41	0.22	39.4
All Vehicles			975	2.9	975	2.9	0.548	16.8	LOS B	5.5	38.2	0.41	0.47	0.41	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.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* 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: Kenny Street (S)											

P1	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
East: Burelli Street (E)											
P2	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
North: Site Access (N)											
P3	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
West: Burelli Street (W)											
P4	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
All Pedestrians		253	49.3	LOS E[12]	0.2	0.2	0.95	0.95	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.

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

MOVEMENT SUMMARY

Site: 01 [Crown Street | Atchison Street (Site Folder: Cumulative Impact - PM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2034)]

PM Peak 4:15pm-5:15pm
Site Category: Base Year (2024)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	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: Crown Street (E)															
4	L2	All MCs	197	0.6	197	0.6	* 0.683	11.7	LOS A	3.6	25.1	0.34	0.64	0.35	28.5
5	T1	All MCs	109	22.3	109	22.3	0.341	15.6	LOS B	2.4	20.3	0.43	0.34	0.43	38.3
Approach			306	8.3	306	8.3	0.683	13.1	LOS A	3.6	25.1	0.37	0.53	0.38	34.1
West: Crown Street (W)															
11	T1	All MCs	302	8.4	302	8.4	0.215	3.3	LOS A	4.2	31.2	0.28	0.24	0.28	45.9
12	R2	All MCs	652	0.5	652	0.5	* 0.470	6.4	LOS A	8.3	58.3	0.32	0.66	0.32	42.5
Approach			954	3.0	954	3.0	0.470	5.4	LOS A	8.3	58.3	0.31	0.53	0.31	43.5
All Vehicles			1260	4.3	1260	4.3	0.683	7.3	LOS A	8.3	58.3	0.33	0.53	0.33	41.3

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: Atchison Street (S)											
P1	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
East: Crown Street (E)											
P2	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
All Pedestrians		126	49.3	LOS E[12]	0.2	0.2	0.95	0.95	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.

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

MOVEMENT SUMMARY

Site: 02 [Crown Street | Keira Street (Site Folder: Cumulative Impact - PM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2034)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	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: Keira Street (S)															
1	L2	All MCs	29	100.0	29	100.0	* 0.256	20.6	LOS B	4.0	34.2	0.70	0.65	0.70	11.5
2	T1	All MCs	512	2.5	512	2.5	* 0.711	30.1	LOS C	17.6	126.2	0.82	0.72	0.82	31.0
Approach			541	7.7	541	7.7	0.711	29.6	LOS C	17.6	126.2	0.81	0.71	0.81	29.5
North: Keira Street (N)															
8	T1	All MCs	311	5.2	311	5.2	0.696	5.8	LOS A	13.7	96.1	0.30	0.26	0.31	42.6
9	R2	All MCs	274	0.4	274	0.4	* 0.696	44.0	LOS D[11]	13.7	96.1	0.94	0.84	0.96	23.1
Approach			586	3.0	586	3.0	0.696	23.7	LOS B	13.7	96.1	0.60	0.53	0.61	30.6
West: Crown Street (W)															
10	L2	All MCs	263	1.3	263	1.3	0.662	50.1	LOS D[11]	13.1	92.8	0.97	0.83	0.97	25.5
12	R2	All MCs	21	100.0	21	100.0	0.427	68.6	LOS E[11]	1.2	16.0	1.00	0.72	1.00	9.3
Approach			284	8.6	284	8.6	0.662	51.4	LOS D[11]	13.1	92.8	0.97	0.83	0.97	24.2
All Vehicles			1410	5.9	1410	5.9	0.711	31.5	LOS C	17.6	126.2	0.76	0.66	0.76	28.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* 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: Keira Street (S)											
P1	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
North: Keira Street (N)											
P3	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
West: Crown Street (W)											
P4	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
Pedestrian Movements (Diagonal)											

PD Diagonal	63	49.3	LOS E[12]	0.1	0.1	0.95	0.95	216.0	200.0	0.93
All Pedestrians	253	49.3	LOS E[12]	0.2	0.2	0.95	0.95	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.

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

MOVEMENT SUMMARY

Site: 03 [Keira Street | Burelli Street (Site Folder: Cumulative Impact - PM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2034)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	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: Keira Street (S)															
1	L2	All MCs	28	0.0	28	0.0	0.561	35.0	LOS C	12.9	90.7	0.85	0.75	0.85	27.4
2	T1	All MCs	271	0.4	271	0.4	* 0.561	30.4	LOS C	12.9	90.7	0.85	0.75	0.85	27.4
Approach			299	0.4	299	0.4	0.561	30.8	LOS C	12.9	90.7	0.85	0.75	0.85	27.4
East: Burelli Street (E)															
4	L2	All MCs	41	2.9	41	2.9	0.410	25.8	LOS B	6.7	48.7	0.80	0.73	0.80	34.6
5	T1	All MCs	204	4.5	204	4.5	0.819	61.0	LOS E[11]	9.8	81.2	0.87	0.85	0.95	23.9
6	R2	All MCs	107	32.6	107	32.6	* 0.819	87.9	LOS F[11]	9.8	81.2	1.00	1.10	1.25	19.2
Approach			351	12.9	351	12.9	0.819	65.1	LOS E[11]	9.8	81.2	0.90	0.91	1.02	19.4
North: Keira Street (N)															
7	L2	All MCs	94	34.6	94	34.6	0.506	14.0	LOS A	10.2	77.6	0.66	0.67	0.66	32.5
8	T1	All MCs	229	1.0	229	1.0	0.506	24.8	LOS B	10.2	77.6	0.66	0.67	0.66	33.8
Approach			323	10.8	323	10.8	0.506	21.7	LOS B	10.2	77.6	0.66	0.67	0.66	33.4
West: Burelli Street (W)															
10	L2	All MCs	134	0.0	134	0.0	0.539	46.6	LOS D[11]	6.4	44.9	0.90	0.79	0.90	6.6
11	T1	All MCs	256	3.2	256	3.2	* 0.766	45.3	LOS D[11]	13.3	95.3	0.98	0.86	1.03	24.6
Approach			390	2.1	390	2.1	0.766	45.8	LOS D[11]	13.3	95.3	0.95	0.83	0.99	19.9
All Vehicles			1363	6.5	1363	6.5	0.819	41.8	LOS C	13.3	95.3	0.85	0.80	0.89	23.8

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.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* 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: Keira Street (S)											
P1	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
East: Burelli Street (E)											

P2 Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
North: Keira Street (N)										
P3 Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
West: Burelli Street (W)										
P4 Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
All Pedestrians	253	49.3	LOS E[12]	0.2	0.2	0.95	0.95	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.

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

MOVEMENT SUMMARY

Site: 04 [Burelli Street | Atchison Street (Site Folder: Cumulative Impact - PM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2034)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	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: Atchison Street (S)															
1	L2	All MCs	116	1.0	116	1.0	0.116	9.1	LOS A	1.5	10.4	0.34	0.60	0.34	44.3
Approach			116	1.0	116	1.0	0.116	9.1	LOS A	1.5	10.4	0.34	0.60	0.34	44.3
East: Burelli Street (E)															
4	L2	All MCs	17	0.0	17	0.0	0.118	26.8	LOS B	1.4	10.3	0.93	0.72	0.93	31.8
5	T1	All MCs	354	2.9	354	2.9	* 0.588	20.2	LOS B	7.8	56.2	0.94	0.78	0.94	33.4
Approach			372	2.8	372	2.8	0.588	20.5	LOS B	7.8	56.2	0.94	0.78	0.94	33.4
North: Atchison Street (N)															
7	L2	All MCs	535	0.4	535	0.4	* 0.579	9.7	LOS A	7.5	52.6	0.54	0.71	0.54	16.4
8	T1	All MCs	167	0.0	167	0.0	0.349	8.1	LOS A	5.1	35.6	0.63	0.63	0.63	39.6
9	R2	All MCs	144	1.6	144	1.6	0.349	13.8	LOS A	5.1	35.6	0.63	0.63	0.63	38.0
Approach			845	0.5	845	0.5	0.579	10.1	LOS A	7.5	52.6	0.57	0.68	0.57	31.6
West: Burelli Street (W)															
11	T1	All MCs	59	11.8	59	11.8	0.060	15.8	LOS B	0.6	4.6	0.76	0.56	0.76	34.9
Approach			59	11.8	59	11.8	0.060	15.8	LOS B	0.6	4.6	0.76	0.56	0.76	34.9
All Vehicles			1392	1.7	1392	1.7	0.588	13.0	LOS A	7.8	56.2	0.66	0.70	0.66	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
South: Atchison Street (S)											
P1	Full	63	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
East: Burelli Street (E)											
P2	Full	63	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
North: Atchison Street (N)											

P3 Full	63	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
West: Burelli Street (W)										
P4 Full	63	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06
All Pedestrians	253	21.9	LOS C	0.1	0.1	0.89	0.89	188.6	200.0	1.06

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

MOVEMENT SUMMARY

Site: 05 [Burelli Street | Kenny Street | Site Access (Site Folder: Cumulative Impact - PM Peak (Without Slip Lane))]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Network: N101 [PM Peak (Network Folder: Cumulative Impact (Without Slip Lane) - Year 2034)]

PM Peak 4:15pm-5:15pm
Site Category: Year 2024
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 110 seconds (Network User-Given Cycle Time)
Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	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: Kenny Street (S)															
1	L2	All MCs	80	0.0	80	0.0	0.074	38.2	LOS C	1.8	12.8	0.46	0.65	0.46	35.5
2	T1	All MCs	93	0.0	93	0.0	0.716	66.7	LOS E [11]	9.8	68.8	0.98	0.88	1.07	29.9
3	R2	All MCs	93	0.0	93	0.0	* 0.716	77.5	LOS F [11]	9.8	68.8	0.98	0.88	1.07	21.5
Approach			265	0.0	265	0.0	0.716	61.9	LOS E [11]	9.8	68.8	0.83	0.81	0.89	22.3
East: Burelli Street (E)															
4	L2	All MCs	20	0.0	20	0.0	0.244	23.7	LOS B	2.9	20.8	0.47	0.43	0.47	34.5
5	T1	All MCs	220	4.7	220	4.7	* 0.244	19.1	LOS B	2.9	20.8	0.47	0.40	0.47	14.2
Approach			240	4.3	240	4.3	0.244	19.5	LOS B	2.9	20.8	0.47	0.40	0.47	16.5
North: Site Access (N)															
7	L2	All MCs	58	0.0	58	0.0	0.667	48.9	LOS D [11]	10.0	70.0	0.98	0.84	1.02	22.7
8	T1	All MCs	58	0.0	58	0.0	0.667	42.8	LOS D [11]	10.0	70.0	0.98	0.84	1.02	32.7
9	R2	All MCs	76	0.0	76	0.0	0.667	59.1	LOS E [11]	10.0	70.0	0.98	0.84	1.02	22.7
Approach			192	0.0	192	0.0	0.667	51.1	LOS D [11]	10.0	70.0	0.98	0.84	1.02	26.4
West: Burelli Street (W)															
10	L2	All MCs	215	0.0	215	0.0	0.197	6.7	LOS A	1.7	11.8	0.14	0.53	0.14	41.8
11	T1	All MCs	257	3.2	257	3.2	0.395	4.1	LOS A	4.9	34.7	0.28	0.38	0.28	23.7
12	R2	All MCs	113	0.0	113	0.0	* 0.395	9.2	LOS A	4.9	34.7	0.29	0.37	0.29	42.1
Approach			586	1.4	586	1.4	0.395	6.0	LOS A	4.9	34.7	0.23	0.44	0.23	39.1
All Vehicles			1283	1.4	1283	1.4	0.716	26.9	LOS B	10.0	70.0	0.51	0.57	0.53	27.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.
* 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: Kenny Street (S)											

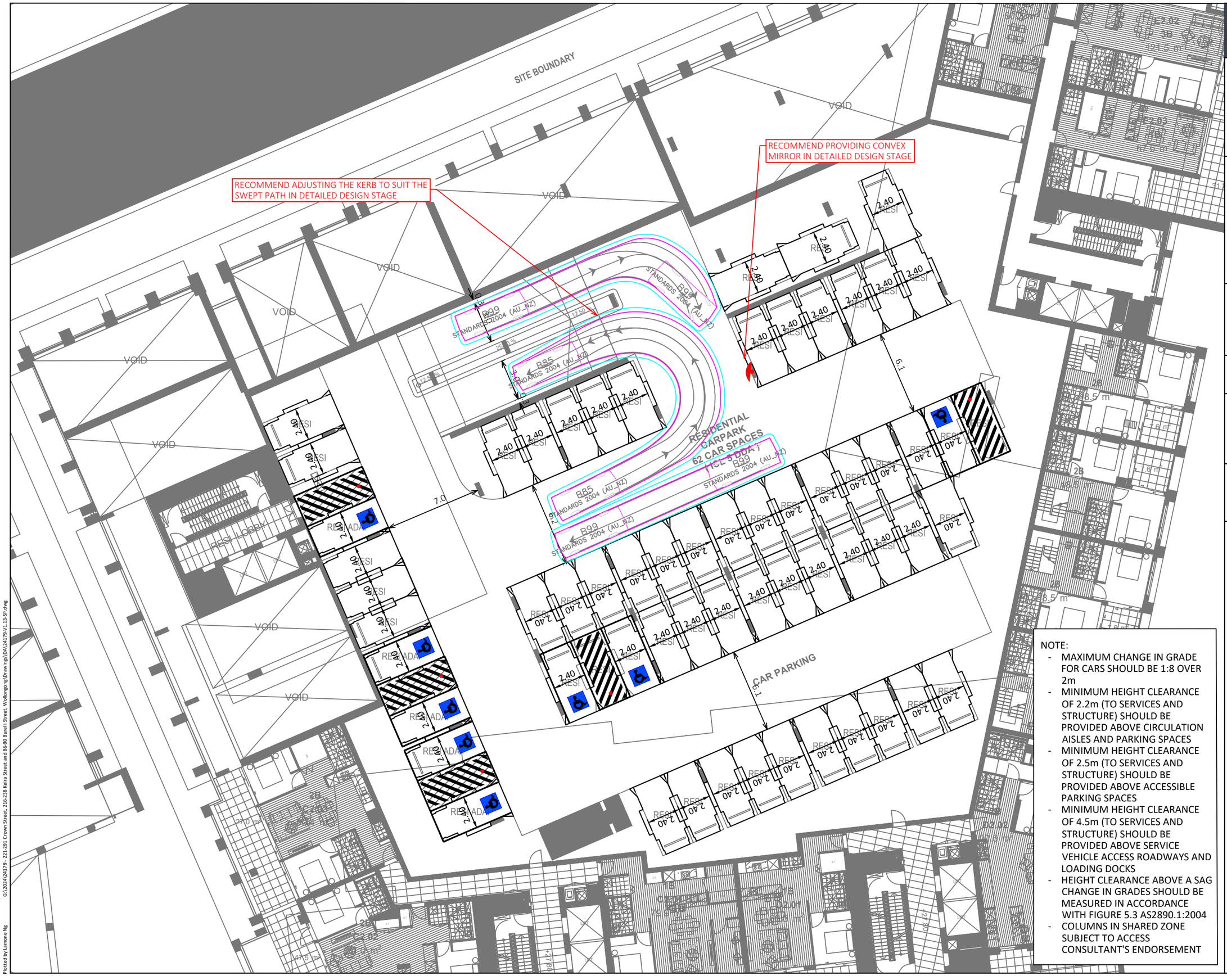
P1	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
East: Burelli Street (E)											
P2	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
North: Site Access (N)											
P3	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
West: Burelli Street (W)											
P4	Full	63	49.3	LOS E[12]	0.2	0.2	0.95	0.95	216.0	200.0	0.93
All Pedestrians		253	49.3	LOS E[12]	0.2	0.2	0.95	0.95	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.

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

Attachment 5

Turning Path Assessment



NOTE:

- MAXIMUM CHANGE IN GRADE FOR CARS SHOULD BE 1:8 OVER 2m
- MINIMUM HEIGHT CLEARANCE OF 2.2m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE CIRCULATION AISLES AND PARKING SPACES
- MINIMUM HEIGHT CLEARANCE OF 2.5m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE ACCESSIBLE PARKING SPACES
- MINIMUM HEIGHT CLEARANCE OF 4.5m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE SERVICE VEHICLE ACCESS ROADWAYS AND LOADING DOCKS
- HEIGHT CLEARANCE ABOVE A SAG CHANGE IN GRADES SHOULD BE MEASURED IN ACCORDANCE WITH FIGURE 5.3 AS2890.1:2004
- COLUMNS IN SHARED ZONE SUBJECT TO ACCESS CONSULTANT'S ENDORSEMENT

Genesis Traffic

PROJECT

221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG

TITLE

COMPLIANCE ASSESSMENT

SWEPT PATH ASSESSMENT

LEVEL 02

N

SCALE A3 1:250

0 2.5 5.0

DESIGNED BY	REVIEWED BY
L.NG	B.LO

DRAWING REFERENCE (SOURCE):

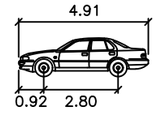
G:\2024\24179 - 221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG\DRAWINGS\DA\20250414

ISSUE DATE	17 April 2025
SHEET NO.	01 OF 09
DRAWING REF NO.	24179-V1.13-SP

LEGENDS/NOTES

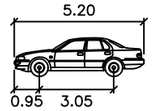
SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

Plotted by Lamone Ng G:\2024\24179 - 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong\Drawings\DA\24179-V1.13-SP.dwg

RECOMMEND ADJUSTING THE KERB TO SUIT THE SWEPT PATH IN DETAILED DESIGN STAGE

RECOMMEND PROVIDING CONVEX MIRROR IN DETAILED DESIGN STAGE

RECOMMEND PROVIDING CONVEX MIRROR IN DETAILED DESIGN STAGE

RESIDENTIAL CARPARK 56 CAR SPACES (1CL 5 DDA)

EGRESS

5 MB

±23.80

±23.50

±24.60

54.6

6.1

B85 STANDARDS 2004 (AU_NZ)

B99 STANDARDS 2004 (AU_NZ)

2.40 RESI

2.40 RESI ADA

12.50 %

25.00 %

3.50 %

NOTE:

- MAXIMUM CHANGE IN GRADE FOR CARS SHOULD BE 1:8 OVER 2m
- MINIMUM HEIGHT CLEARANCE OF 2.2m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE CIRCULATION AISLES AND PARKING SPACES
- MINIMUM HEIGHT CLEARANCE OF 2.5m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE ACCESSIBLE PARKING SPACES
- MINIMUM HEIGHT CLEARANCE OF 4.5m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE SERVICE VEHICLE ACCESS ROADWAYS AND LOADING DOCKS
- HEIGHT CLEARANCE ABOVE A SAG CHANGE IN GRADES SHOULD BE MEASURED IN ACCORDANCE WITH FIGURE 5.3 AS2890.1:2004
- COLUMNS IN SHARED ZONE SUBJECT TO ACCESS CONSULTANT'S ENDORSEMENT

Genesis Traffic

PROJECT

221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG

TITLE

COMPLIANCE ASSESSMENT

SWEPT PATH ASSESSMENT

LEVEL 01

N

SCALE A3 1:200

0 2.0 4.0

DESIGNED BY	REVIEWED BY
L.NG	B.LO

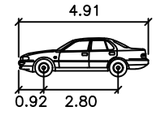
DRAWING REFERENCE (SOURCE):
G:\2024\24179 - 221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG\DRAWINGS\DA\20250414

ISSUE DATE	17 April 2025
SHEET NO.	02 OF 09
DRAWING REF NO.	24179-V1.13-SP

LEGENDS/NOTES

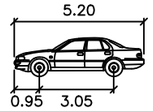
SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



B85

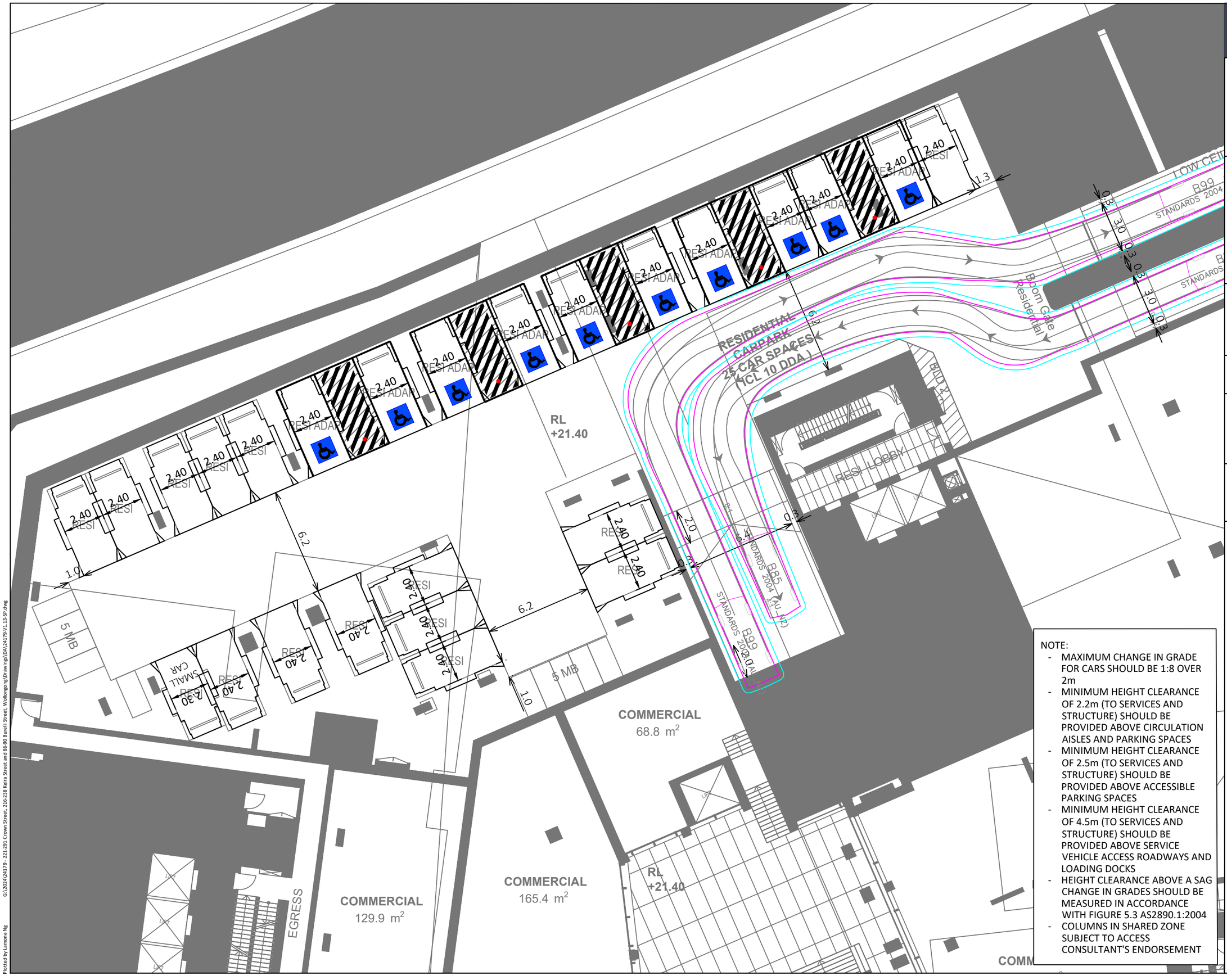
	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

Plotted by Lamone Ng G:\2024\24179 - 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong\Drawings\DA\24179-V1.13-SP.dwg



NOTE:

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- HEIGHT CLEARANCE ABOVE A SAG CHANGE IN GRADES SHOULD BE MEASURED IN ACCORDANCE WITH FIGURE 5.3 AS2890.1:2004
- COLUMNS IN SHARED ZONE SUBJECT TO ACCESS CONSULTANT'S ENDORSEMENT

Genesis Traffic

PROJECT

221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG

TITLE

COMPLIANCE ASSESSMENT
SWEPT PATH ASSESSMENT

GROUND FLOOR

SCALE A3 1:200

0 2.0 4.0

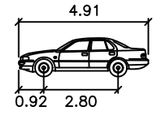
DESIGNED BY	REVIEWED BY
L.NG	B.LO

DRAWING REFERENCE (SOURCE):
G:\2024\24179 - 221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG\DRAWINGS\DA\20250414

ISSUE DATE	17 April 2025
SHEET NO.	03 OF 09
DRAWING REF NO.	24179-V1.13-SP

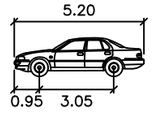
LEGENDS/NOTES

SWEPT PATH KEY:
- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

Genesis Traffic

PROJECT

221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG

TITLE

COMPLIANCE ASSESSMENT

SWEPT PATH ASSESSMENT

LOWER GROUND FLOOR

N

SCALE A3 1:400

0 4.0 8.0

DESIGNED BY	REVIEWED BY
L.NG	B.LO

DRAWING REFERENCE (SOURCE):

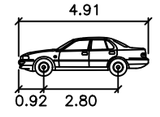
G:\2024\24179 - 221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG\DRAWINGS\DA\20250414

ISSUE DATE	17 April 2025
SHEET NO.	04 OF 09
DRAWING REF NO.	24179-V1.13-SP

LEGENDS/NOTES

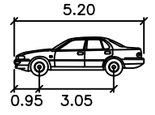
SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

NOTE:

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- COLUMNS IN SHARED ZONE SUBJECT TO ACCESS CONSULTANT'S ENDORSEMENT

RECOMMEND PROVIDING CONVEX MIRROR IN DETAILED DESIGN STAGE

RECOMMEND ADJUSTING THE CAR SPACE TO CLEAR THE COLUMN DURING DETAILED DESIGN STAGE

EXISTING DOUBLE STOREY BUILDING

SITE BOUNDARY

BUS ZONE

RESIDENTIAL CARPARK
25 CAR SPACES
RESIDENTIAL VISITOR
49 CAR SPACES
(1CL 1 DDA)

EGRESS

RL +18.20

RL +16.40

BLD 2.2

46 STORAGE CAGES

58 BICYCLE SPACES

VOID

RECOMMEND ADJUSTING THE COLUMN TO CLEAR THE PARKING ENVELOPE IN DETAILED DESIGN STAGE

NOTE:
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- MINIMUM HEIGHT CLEARANCE OF 2.2m (TO SERVICES AND STRUCTURE) SHOULD BE PROVIDED ABOVE CIRCULATION AISLES AND PARKING SPACES
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Genesis Traffic

PROJECT
221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG

TITLE
COMPLIANCE ASSESSMENT
SWEPT PATH ASSESSMENT

MEZZANINE LEVEL

SCALE A3 1:500

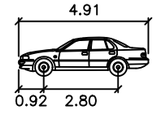
DESIGNED BY L.NG
REVIEWED BY B.LO

DRAWING REFERENCE (SOURCE):
G:\2024\24179 - 221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG\DRAWINGS\DA\20250414

ISSUE DATE 17 April 2025
SHEET NO. 05 OF 09
DRAWING REF NO. 24179-V1.13-SP

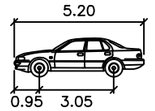
LEGENDS/NOTES

SWEPT PATH KEY:
- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



B85

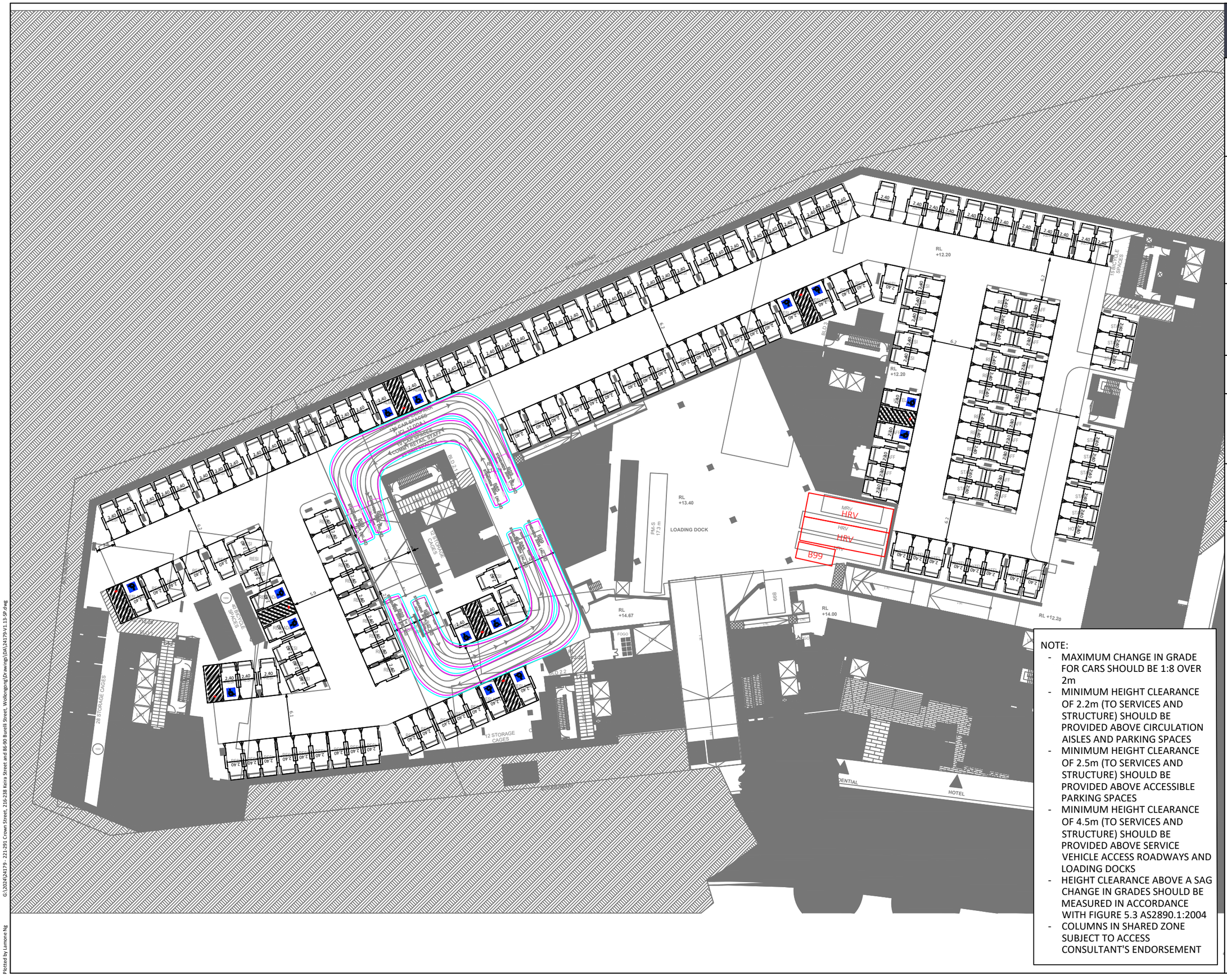
	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

Plotted by Lamone Ng G:\2024\24179 - 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong\Drawings\DA\24179-V1.13-SP.dwg



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Genesis Traffic

PROJECT

221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG

TITLE

COMPLIANCE ASSESSMENT
SWEPT PATH ASSESSMENT

BASEMENT 01

N

SCALE A3 1:500

0 5.0 10.0

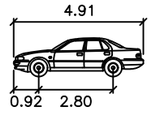
DESIGNED BY	REVIEWED BY
L.NG	B.LO

DRAWING REFERENCE (SOURCE):
G:\2024\24179 - 221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG\DRAWINGS\DA\20250414

ISSUE DATE	17 April 2025
SHEET NO.	06 OF 09
DRAWING REF NO.	24179-V1.13-SP

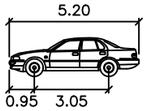
LEGENDS/NOTES

SWEPT PATH KEY:
- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



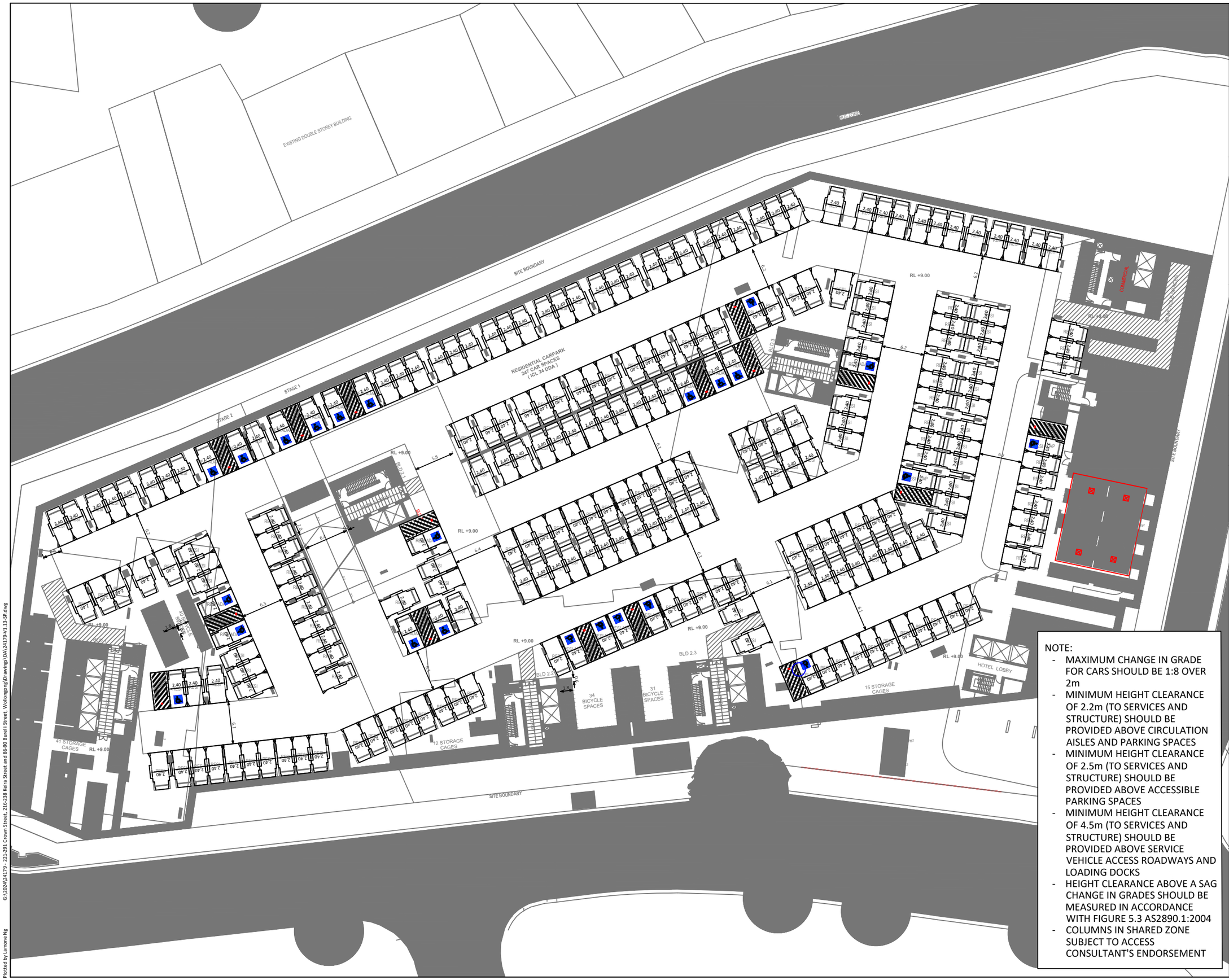
B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9



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Genesis Traffic

PROJECT

221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG

TITLE

COMPLIANCE ASSESSMENT
SWEPT PATH ASSESSMENT

BASEMENT 02

N

SCALE A3 1:500

0 5.0 10.0

DESIGNED BY	REVIEWED BY
L.NG	B.LO

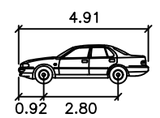
DRAWING REFERENCE (SOURCE):
G:\2024\24179 - 221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG\DRAWINGS\DA\20250414

ISSUE DATE	17 April 2025
SHEET NO.	07 OF 09
DRAWING REF NO.	24179-V1.13-SP

LEGENDS/NOTES

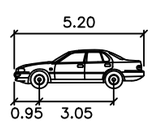
SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



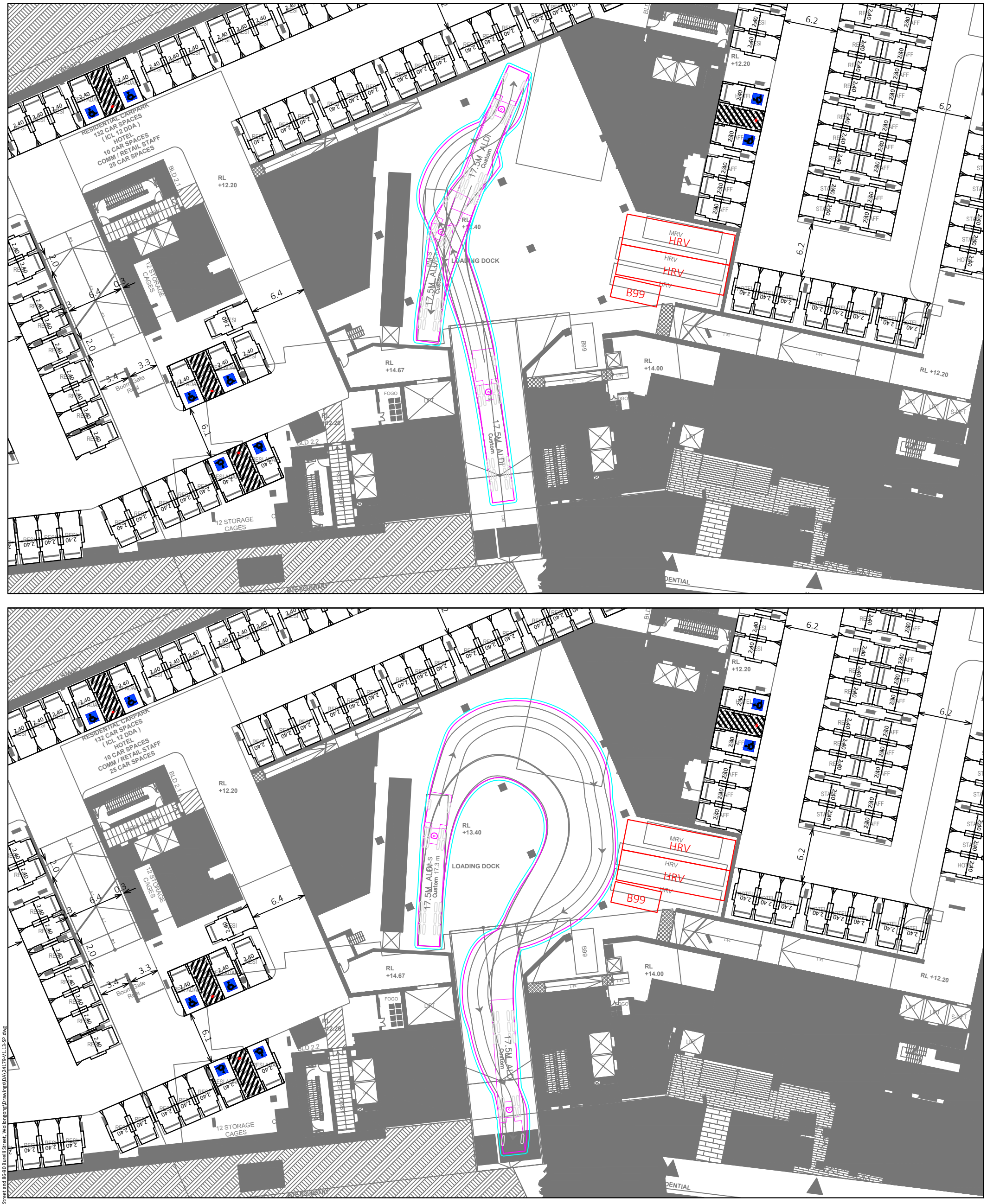
B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9



SWEPT PATH ASSESSMENT

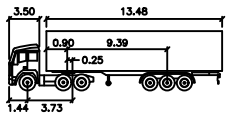
17.5m ALDI TRUCK ENTRY AND EXIT

BASEMENT 1

SHEET NO. 08 OF 09 ISSUE DATE 17 April 2025

LEGENDS/NOTES

SWEPT PATH KEY:
- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



17.5M ALDI

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 24.9
Tractor Track	: 2.50	Articulating Angle	: 72.0
Trailer Track	: 2.50		

Genesis Traffic

PROJECT
221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG

N

DRAWING REFERENCE (SOURCE):
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DRAWING REFENCE NO. 24179-V1.13-SP

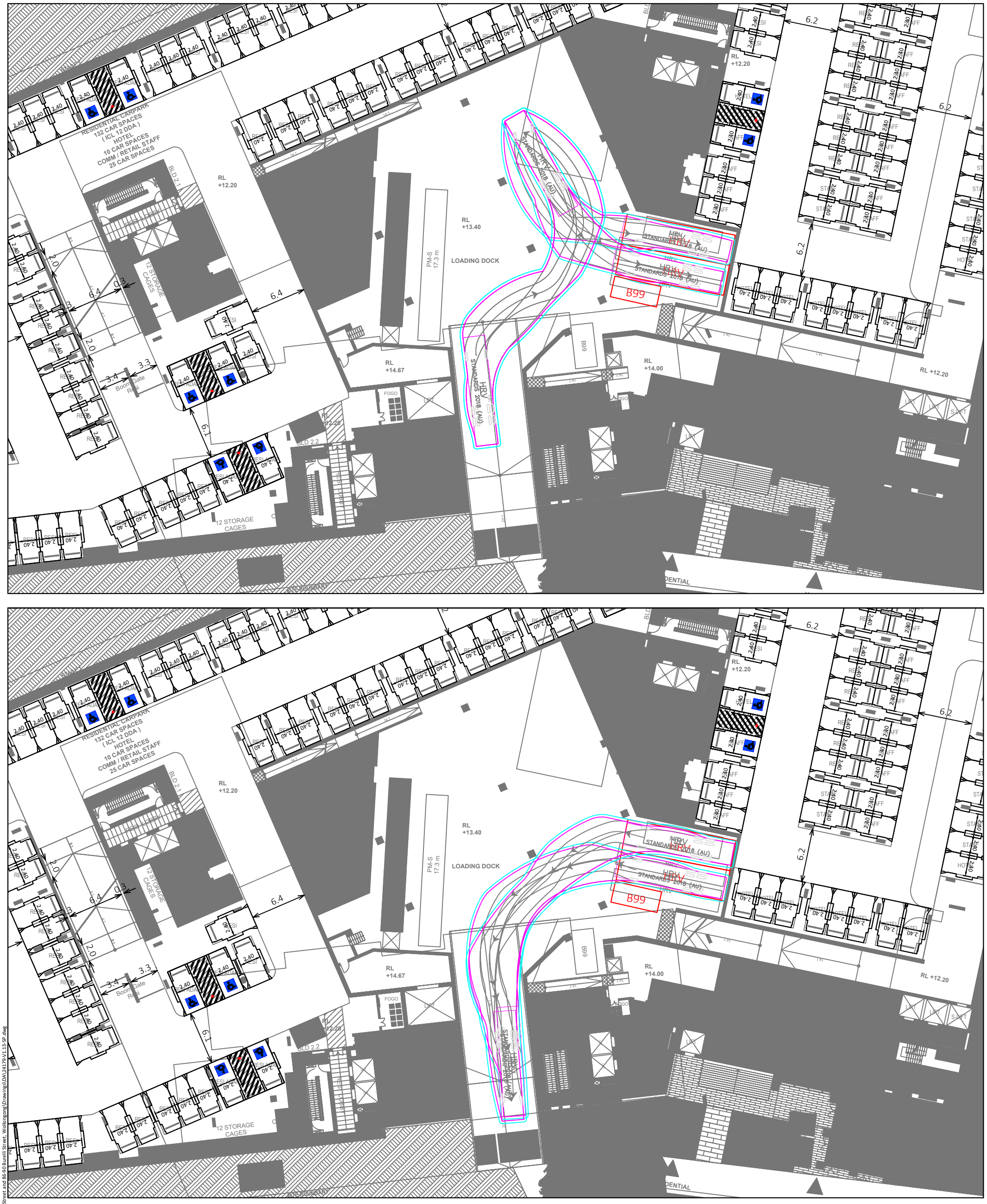
SCALE A3 0 4.0 8.0 1:400

DESIGNED BY L.NG

REVIEWED BY B.LO

G:\2024\24179 - 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong\Drawings\DA\24179-V1.13-SP.dwg

Plotted by Lamone Ng



SWEPT PATH ASSESSMENT

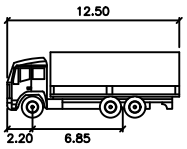
17.5m ALDI TRUCK ENTRY AND EXIT

BASEMENT 1

SHEET NO. 09 OF 09 ISSUE DATE 17 April 2025

LEGENDS/NOTES

SWEPT PATH KEY:
- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.7

Genesis Traffic

PROJECT
221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG

DRAWING REFERENCE (SOURCE):
G:\2024\24179 - 221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG\DRAWINGS\DA\20250414

DRAWING REFENCE NO. 24179-V1.13-SP

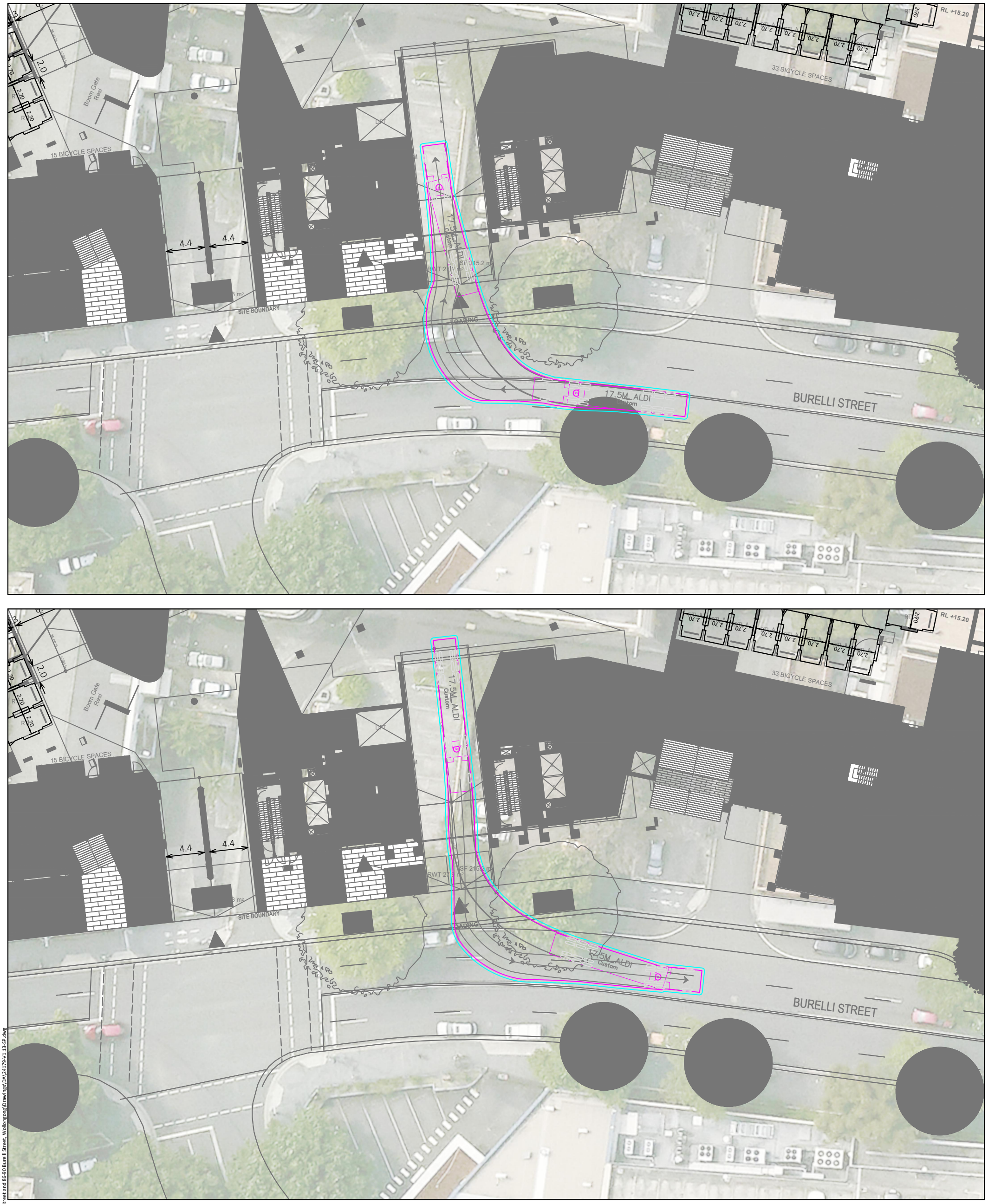
SCALE A3 1:400

DESIGNED BY L.NG

REVIEWED BY B.LO

G:\2024\24179 - 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong\Drawings\DA\24179-V1.13-SP.dwg

Plotted by Lamone Ng



SWEPT PATH ASSESSMENT

17.5m ALDI TRUCK ENTRY AND EXIT

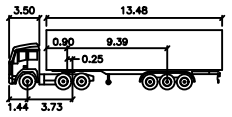
BASEMENT 1

SHEET NO. 10 OF 09 ISSUE DATE 17 April 2025

LEGENDS/NOTES

SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



17.5M ALDI

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 24.9
Tractor Track	: 2.50	Articulating Angle	: 72.0
Trailer Track	: 2.50		

Genesis Traffic

PROJECT

221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG

DRAWING REFERENCE (SOURCE):

G:\2024\24179 - 221-291 CROWN STREET, 216-238 KEIRA STREET AND 86-90 BURELLI STREET, WOLLONGONG\DRAWINGS\DA\20250414

DRAWING REFENCE NO. 24179-V1.13-SP

SCALE A3 1:400

DESIGNED BY L.NG

REVIEWED BY B.LO

G:\2024\24179 - 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong\Drawings\DA\24179-V1.13-SP.dwg

Plotted by Lamone Ng

Attachment 6

Queuing Analysis

Austroads Queuing Analysis

Sourced from: 'Austroads Guide to Traffic Management Part 2: Traffic Theory'

Boom Gate

Waiting time - 7s

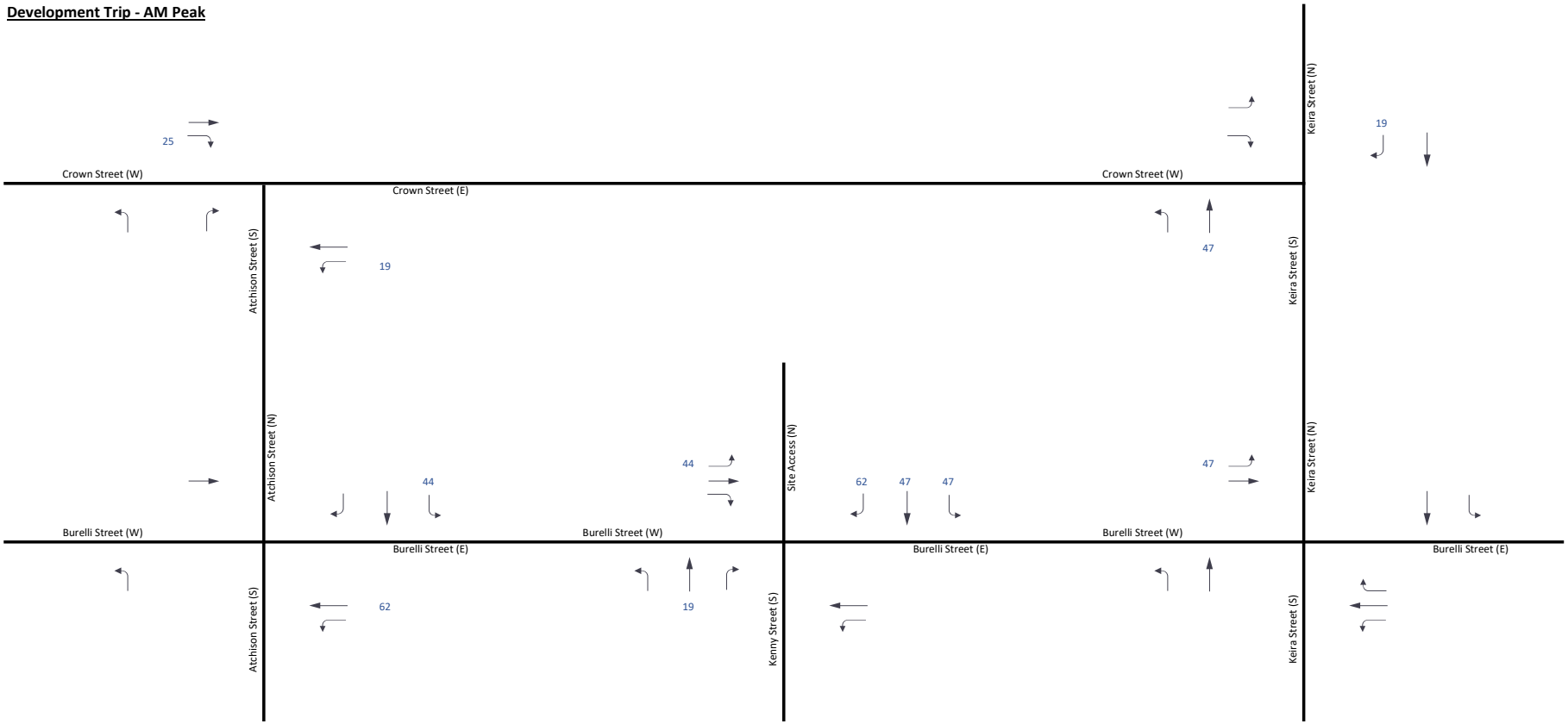
Arrivals	r value	260	veh/hr	
Service Time	s	7	sec/veh	
		514.28571	veh/hr	
Degree of Saturation	ρ	0.51		
Nominated Percentile		98	th %ile	
		0.02		
Queue (Nominated Percentile)		4.7	veh	(includes vehicle using facility)
Queue (Mean)	E(n)	1.0	veh	(includes vehicle using facility)
	E(m)	0.5	veh	(excludes vehicle using facility)
Standard Deviation of queue	σ	1.4	veh	(includes vehicle using facility)
Average Delay	E(τ)	14.2	sec	(includes time using facility)
	E(w)	7.2	sec	(excludes time using facility)
Probability of zero queue	P_0	49.4	%	(includes vehicle using facility)
Probability of exactly X vehicles in queue	P_x	25.0	%	(includes vehicle using facility)
(where X=	1	veh)		
Probability of more than Y vehicles in queue		1.7	%	(includes vehicle using facility)
(where Y=	5	veh)		

i.e. there will only be an 1.7% chance that there would be more than 1 car at the entry point (within the 98th percentile)

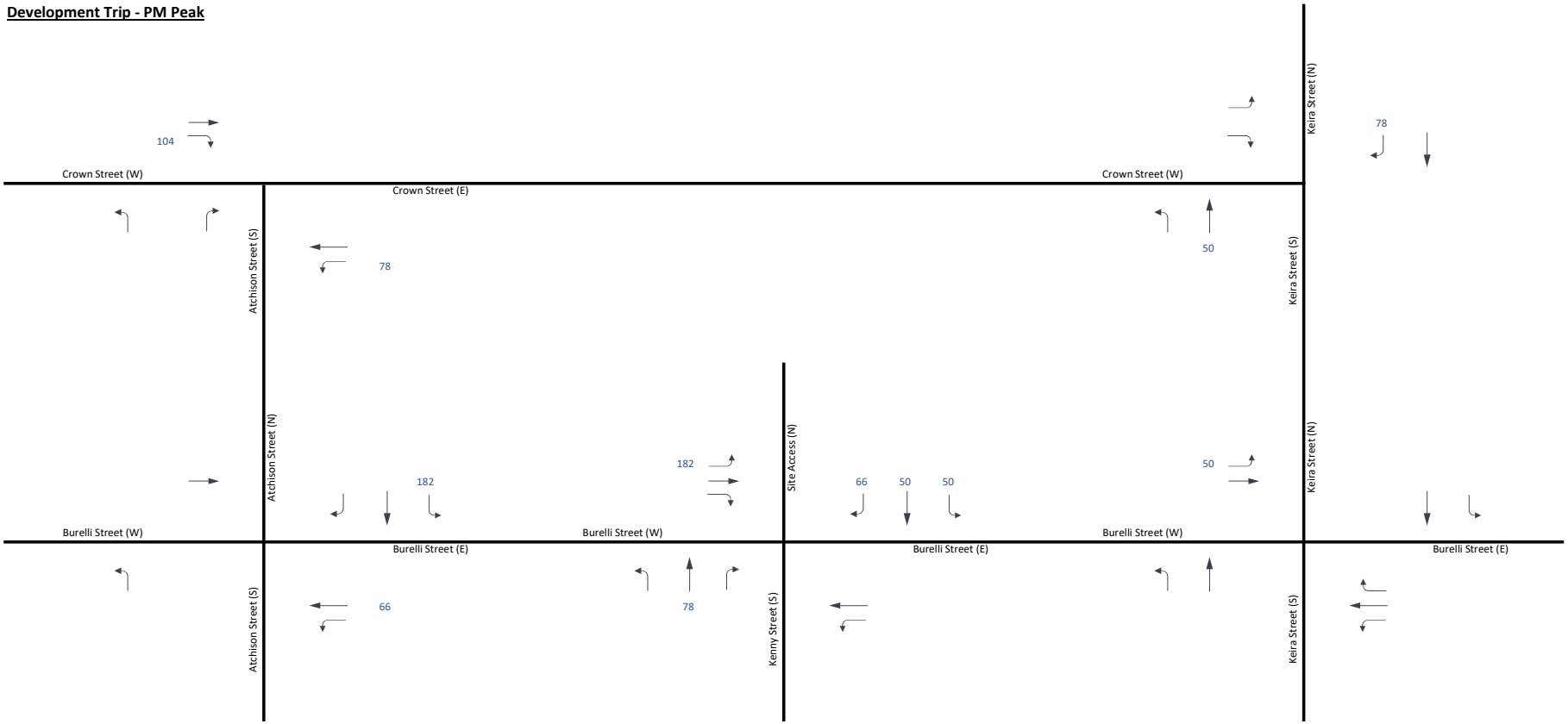
Attachment 7

Trip Distribution Diagram

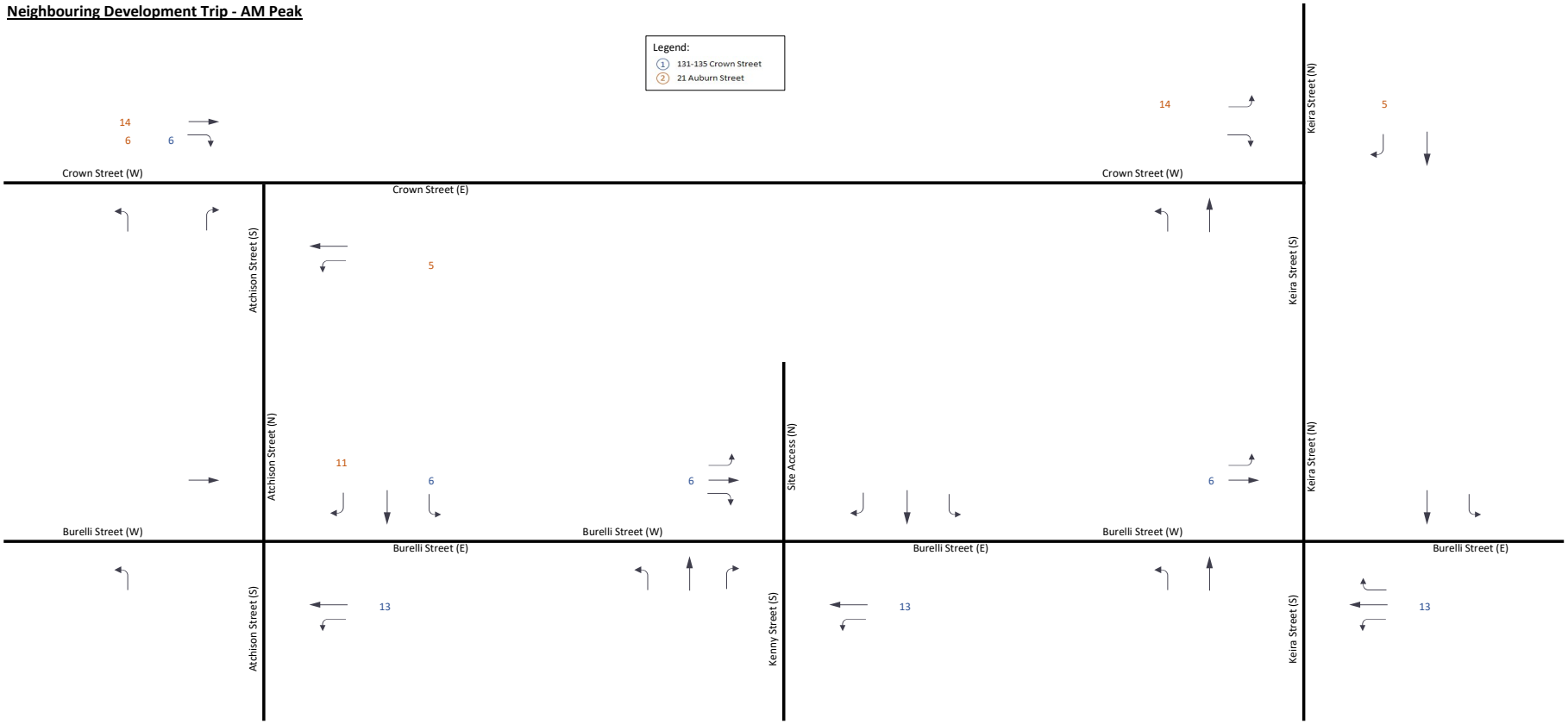
Development Trip - AM Peak



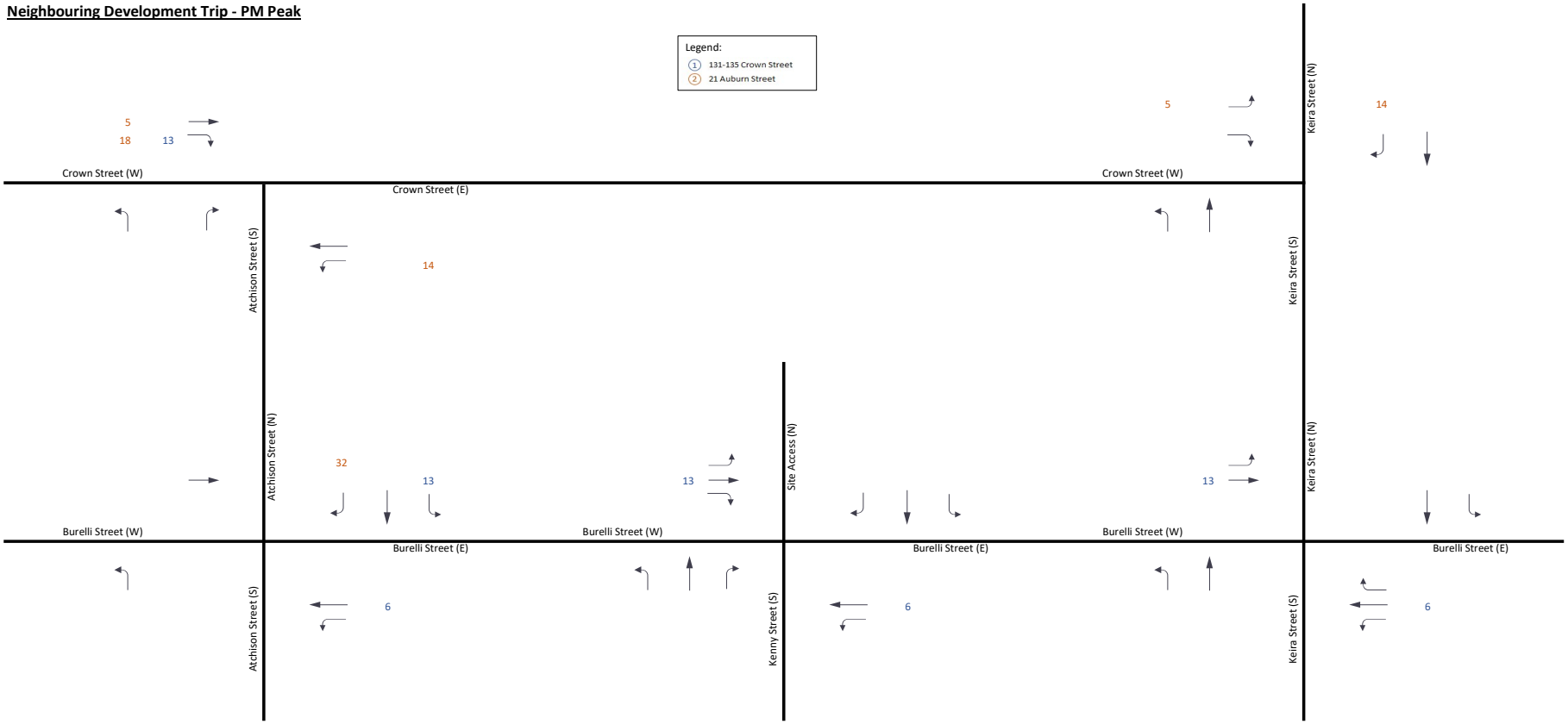
Development Trip - PM Peak



Neighbouring Development Trip - AM Peak



Neighbouring Development Trip - PM Peak



Attachment 8

Transport Access Guide (TAG)

221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong

Proposed Mixed-Use Development

Travel Access Guide

Getting to Wollongong

Train Services

Sydney Train, South Coast Line stop at Wollongong Station, providing the following services and connection.

		AM Peak	PM Peak
South Coast Line	Bondi Junction and Central to Bomaderry or Port Kembla	Every 20 minutes	Every 15 minutes
	Bomaderry or Port Kembla to Central and Bondi Junction	Every 15 minutes	Every 20 minutes

Bus Services

Bus Line	Bus Route	Bus Line	Bus Route
2	Stanwell Park to Wollongong via Thirroul	35	Unanderra to Wollongong via Farmborough Heights
3	Wollongong to Bellambi via Towradgi (Loop Service)	36	Wollongong to Kembla Heights via Cordeaux Heights (Loop Service)
6	Wollongong to Mount Pleasant (Loop Service)	37	Wollongong to Shellharbour via Dapto (Loop Service)
7	Wollongong to Bellambi (Loop Service)	39	Wollongong to Figtree via Mt Keira (Loop Service)
8	Wollongong to Bellambi via Balgownie (Loop Service)	51	Oak Flats to Wollongong via Stockland Shellharbour
10	Wollongong to West Wollongong (Loop Service)	53	Shellharbour to Wollongong via Shell Cove & Warrawong
11	Wollongong to Wollongong University (Loop Service)	57	Wollongong to Shellharbour via Warrawong (Loop Service)
24	Wollongong to Figtree via Mangerton (Loop Service)	65	North Wollongong to Port Kembla (Loop Service)
31	Wollongong to Horsley via Unanderra (Loop Service)	90	Austinmer Station to Wollongong
33	Wollongong to Dapto via Unanderra (Loop Service)	92	Bulli to Wollongong
34	Wollongong to Warrawong via Unanderra (Loop Service)	887	Campbelltown to Wollongong via Appin

For more information, use the Trip Planner or visit transportnsw.info.

Getting to 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong

Cycling

There are a number of Bike User Groups (BUGs) available within the area such as BIKE Sydney, Wollongong Mountain Bike Club and Leisure Coast Cycle Club.

Walking

The preferred walking route between the site and surrounding public transport is to walk along Crown Street and Burelli Street.

Bicycle Parking

Secure bicycle parking facilities are available on B2, B1, Mezzanine and Lower Ground within the building, with end-of-trip (EOT) facilities in B1.

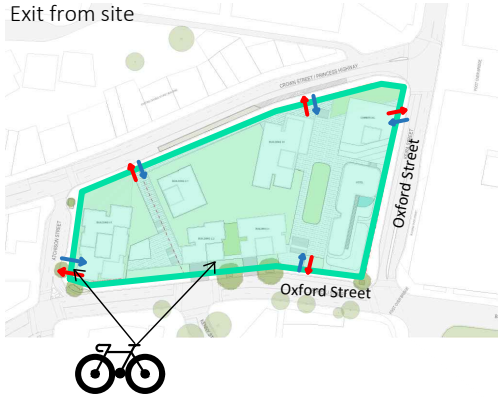
Travel Access Guide

221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong

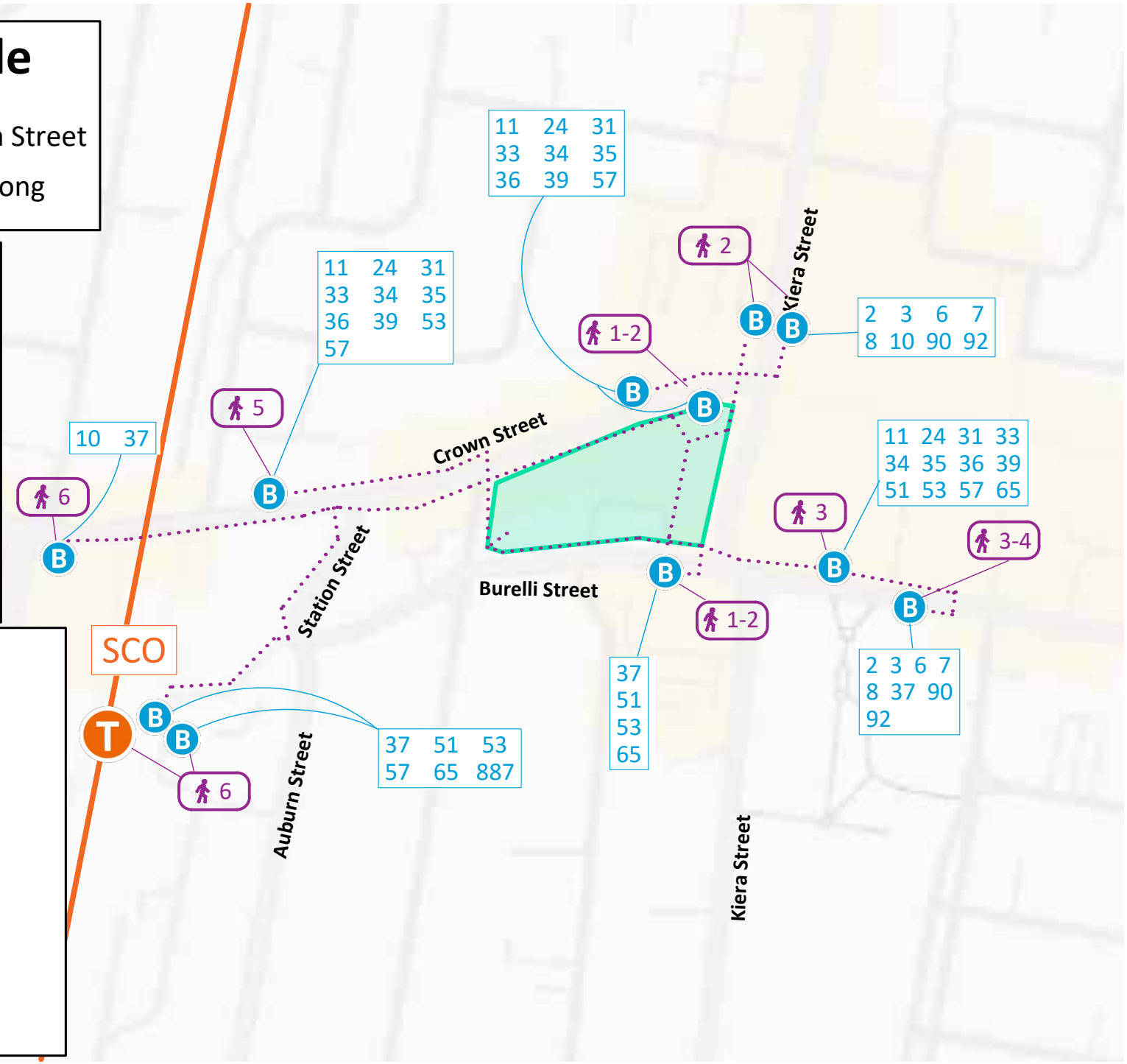
Legend

- 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong
- Pedestrian and Cycling Route to/from Public Transport Service
- 2 — Approximate Walking Time in Minutes
- T — Train Service
- T3 — Train Route
- B — Bus Service
- 123 — Bus Route
- M — Metro Service

- Entry to site
- Exit from site



In B1, B2, Mezzanine, Lower Ground and Level 1



Attachment 9

TfNSW Consultation

Documents/Correspondence

Lamone Ng

From: Lamone Ng
Sent: Thursday, 17 April 2025 6:13 PM
To: Development Sydney
Cc: Bernard Lo; Charbel Kazzi
Subject: SSDA: Proposed Mixed-Use Development - 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong

Dear colleague,

I am writing to address the subject matter above, which pertains to a proposed mixed-use development at 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong, comprising:

- 547 apartments including:
  - Approx. 415 market apartments.
  - Approx. 132 affordable apartments
- 10-storey commercial office building, comprising 7,296 sqm of GFA.
- 165 room hotel, including restaurant and conference floorspace
- Lower ground, ground and first floor retail spaces totalling 5,324 sqm of GFA.
- Car park: 774 car spaces
- Vehicle access: Burelli Street

This communication is part of the consultation process required by the SSDA SEARs.

As part of the submission, Genesis Traffic has prepared a Traffic Impact Assessment (TIA) for this proposal, available in the link below.

24179 - 221-291 Crown Street, 216-238 Keira Street and 86-90 Burelli Street, Wollongong - SSDA TIA - Issue 2 - 20250417.pdf

TfNSW's feedback is highly appreciated as part of the engagement process. Should you wish to speak with us, please don't hesitate to contact us at 7255 8198. Alternatively, I await your advice via email.

Thank you.

Kind Regards,

Lamone Ng
Senior Consultant
T 02 7255 8198
E lamone@genesistraffic.com.au

Better Developments with
Genesis Traffic