Proposed Mixed Use Development

# 614-632 High Street, Penrith

**TRAFFIC AND PARKING ASSESSMENT REPORT**

1 April 2020

Ref 19363

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# 1. INTRODUCTION

This report has been prepared to accompany a development application to Council for a mixed use development proposal to be located at 614-632 High Street, Penrith (Figures 1 and 2).

The proposed development involves the construction of a new mixed use development on the vacant site, comprising retail and commercial tenancies on the lower levels, with residential apartments and serviced apartments on the levels above.

Off-street parking is to be provided in an above ground car parking area in accordance with Council and *SEPP 65* requirements, in addition to an on-site loading area. Vehicular access to the car parking and loading facilities is to be provided via Union Lane, in accordance with *Clause 101(2)* of the *State Environmental Planning Policy (Infrastructure) 2007*.

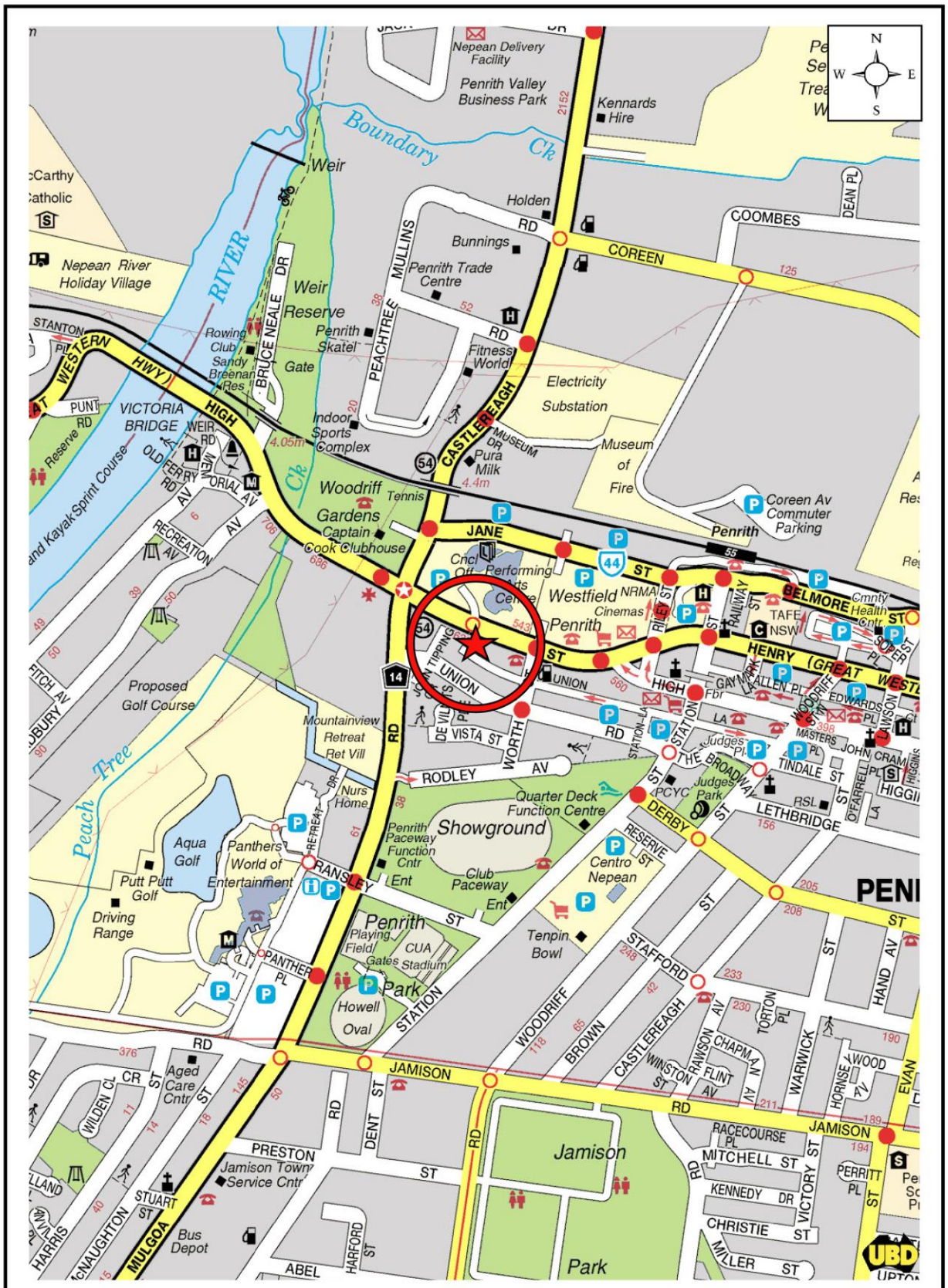
In this regard, the site is subject to land dedication requirements at its western end, as is the approved *TOGA* development adjoining the site. The combined land dedication will allow for the construction of a new local road in the future, extending southward from High Street and connecting to Union Road.

It is noted that the proposed development, with a cumulative total of 313 apartments, is classified as a *Traffic Generating Development* under Clause 104 of the *State Environmental Planning Policy (Infrastructure) 2007*, thereby requiring referral to the RMS.

In 2018, the NSW Government released a document called *'Greater Sydney Region Plan: A Metropolis of Three Cities"*. This document states that the site is situated within the Western Parkland City and that Greater Penrith is classified as a "Metropolitan Cluster". The Government envisage providing high density residential development in areas located with excellent access to public transport, including within the Penrith CBD, such as the subject site.

The purpose of this report is to assess the traffic and parking implications of the development proposal, including relevant aspects contained within Council's pre-DA notes, and to that end this report:

- describes the site and provides details of the development proposal
- reviews the road network in the vicinity of the site, and the traffic conditions on that road network, including approved intersection upgrades
- reviews the public transport facilities available in the vicinity of the site
- estimates the traffic generation potential of the development proposal (based on Council's prescribed traffic generation rates as well as the Sydney average traffic generation rates), and assigns that traffic generation to the road network serving the site
- assesses the traffic implications of the development proposal in terms of road network capacity
- reviews the geometric design features of the proposed car parking and loading facilities for compliance with the relevant codes and standards
- assesses the adequacy and suitability of the quantum of off-street car parking and loading provided on the site.

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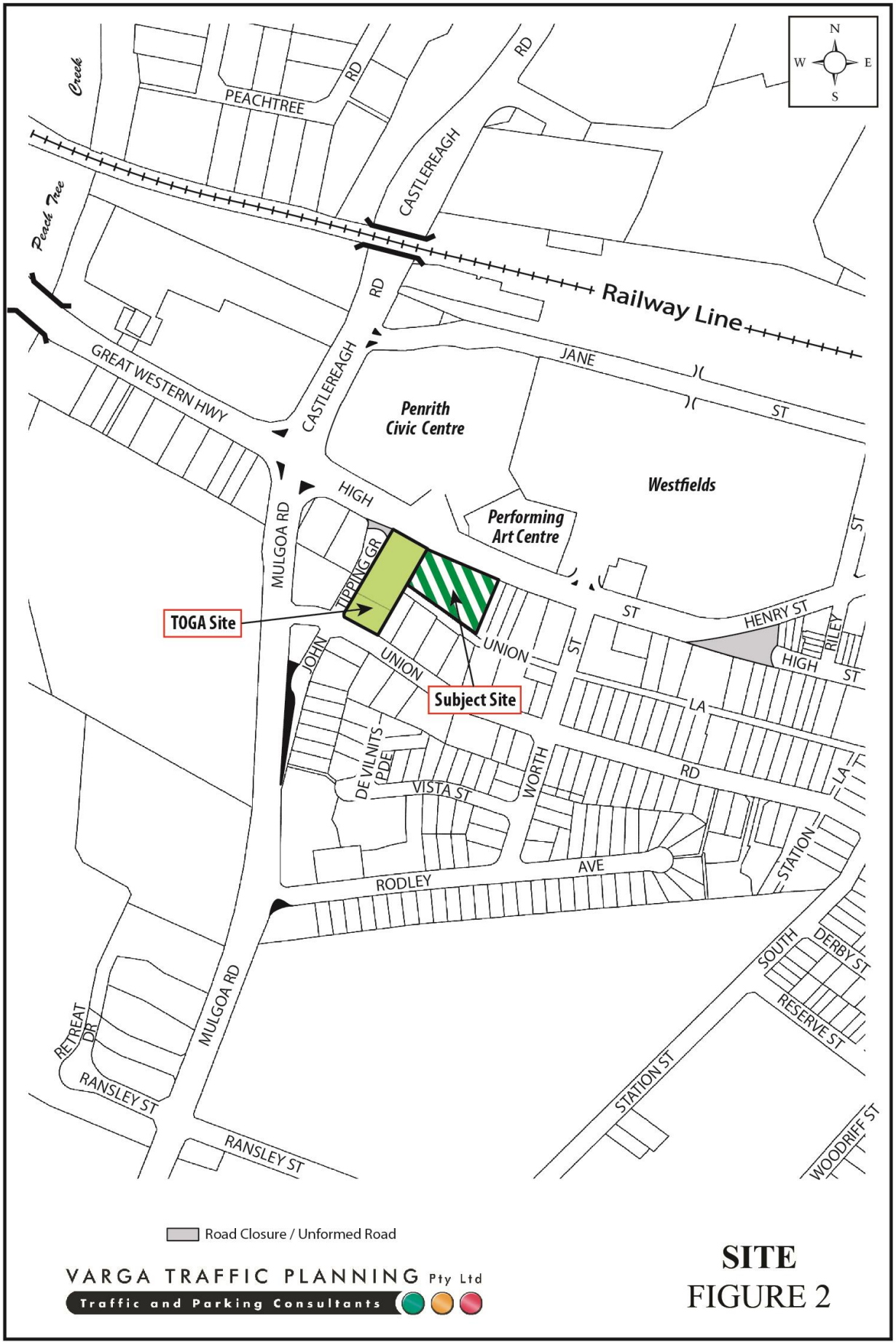
**LOCATION**
FIGURE 1



# 2. PROPOSED DEVELOPMENT

**Site**

The subject site is located on the southern side of High Street, directly opposite the Joan Sutherland Performing Arts Centre, extending through to Union Lane. The site has street frontages of approximately 85m in length to High Street, approximately 92m in length to Union Lane and occupies an area of approximately 4,715m². The site is zoned *B4 Mixed Use*, with a permissible FSR of 6.0:1.

The site lies within the Penrith City Centre, towards its western end, and is located approximately 700m walking distance south-west of Penrith Railway Station and Bus Interchange.

The site is currently vacant however was previously occupied by a car dealership and service centre. Vehicular access to the site is provided via a driveway located in the centre of the High Street site frontage as well as three driveways located off the Union Lane site frontage.

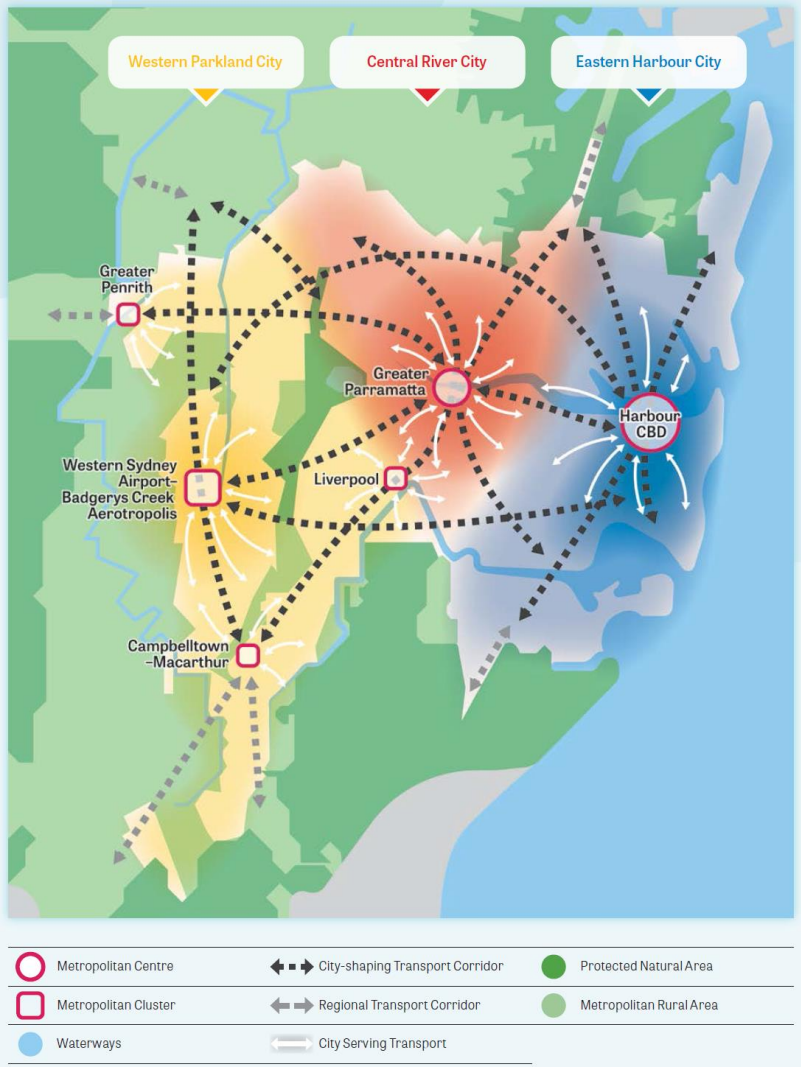
A recent aerial image of the site and its surroundings is reproduced below.

**Greater Sydney Region Plan – A Metropolis of Three Cities**

In 2018, the NSW Government released a document called *'Greater Sydney Region Plan: A Metropolis of Three Cities"*. As the population grows, the goal is to rebalance economic and social opportunities across Greater Sydney by dividing Sydney into three core cities to allow residents to live within 30mins of their jobs, education and health facilities, services and other great places.

These three cities include the following:

1. the Western Parkland City
2. the Central River City
3. the Eastern Harbour City




**Source: Greater Sydney Region Plan 2018**

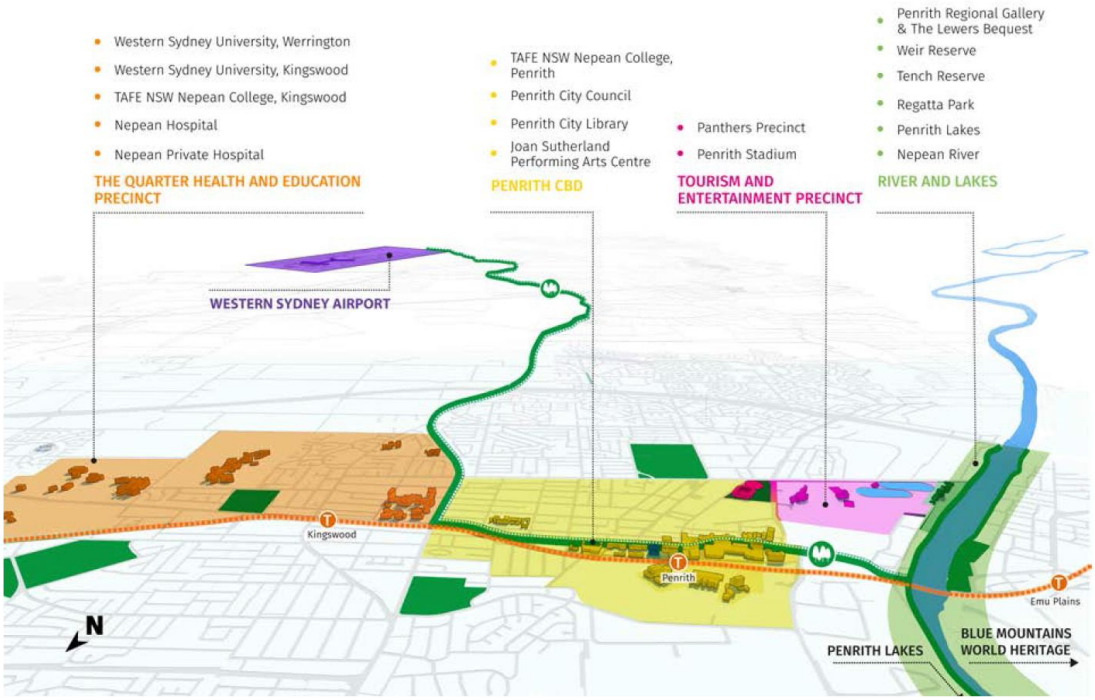
There are four main clusters within the Western Parkland City which includes:

1. Western Sydney Airport and Badgerys's Creek Aerotropolis
2. Liverpool
3. Greater Penrith
4. Campbelltown-Macarthur

Each cluster will provide concentrations of higher jobs and a wider range of goods and services for its community by focusing on improving infrastructure and access between these metropolitan clusters through a range of avenues such as sustainable transport.

This document shows that the proposed site is located within the proposed Metropolitan Cluster of Greater Penrith of the Western Parkland City. More specifically, it is located within the proposed Penrith CBD as shown below.

**Figure 35:** Greater Penrith

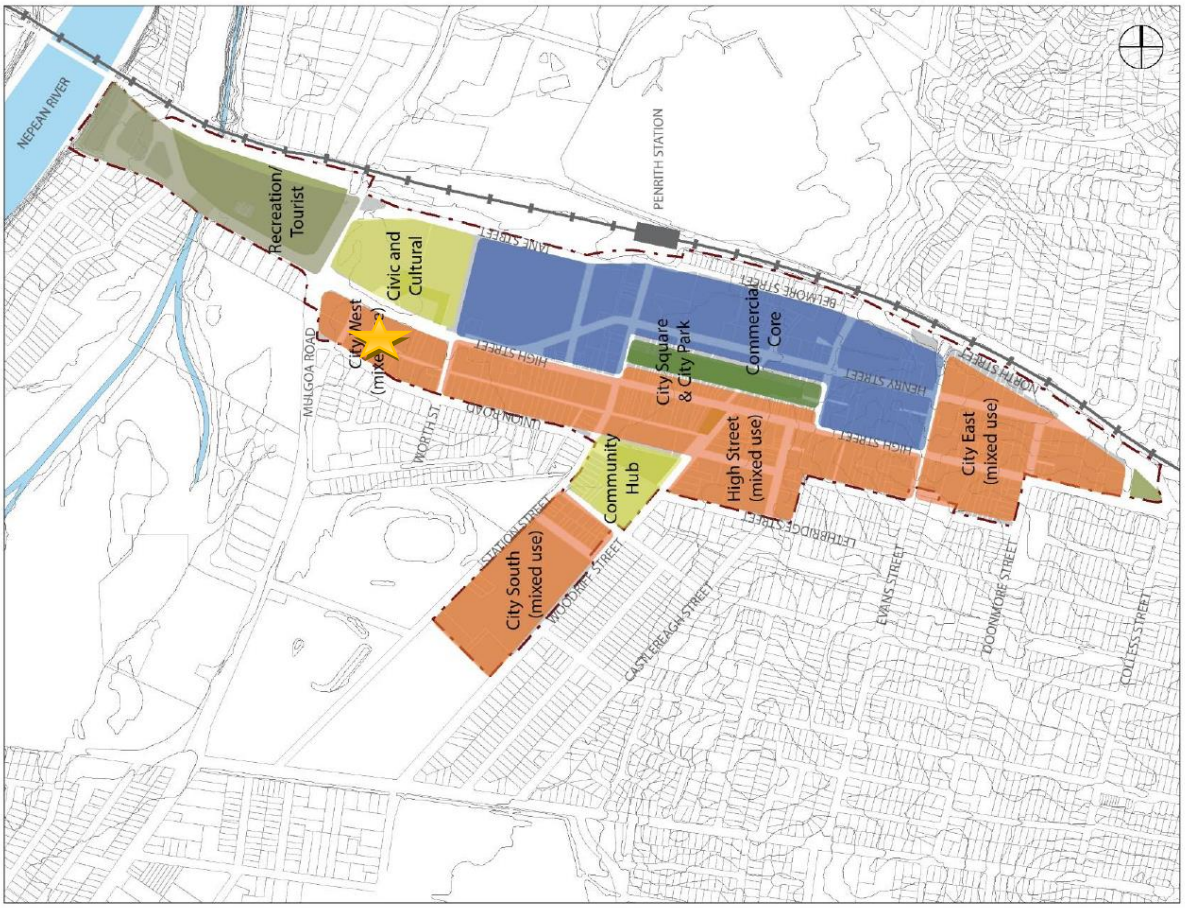



Greater Sydney Commission | Greater Sydney Region Plan 2018

**Penrith City Centre**

The site is also situated within the Penrith City Centre, as defined within Council's *Development Control Plan 2014, Part A: City Centre.* The objectives of the Penrith City Centre include:

- the revitalisation of Penrith City Centre by promoting redevelopment and urban sustainability
- providing mixed use, commercial and residential development within the Town Centre which provides high levels of amenity for occupants
- providing high levels of accessibility within the City Centre, connecting significant activity nodes, public open space and surrounding residential areas
- encouraging the integration of the residential and non-residential land uses and improved access to transport facilities




**Source: Penrith DCP 2014, Figure E11.2 Penrith City Centre Character Areas**

**Infrastructure Upgrades**

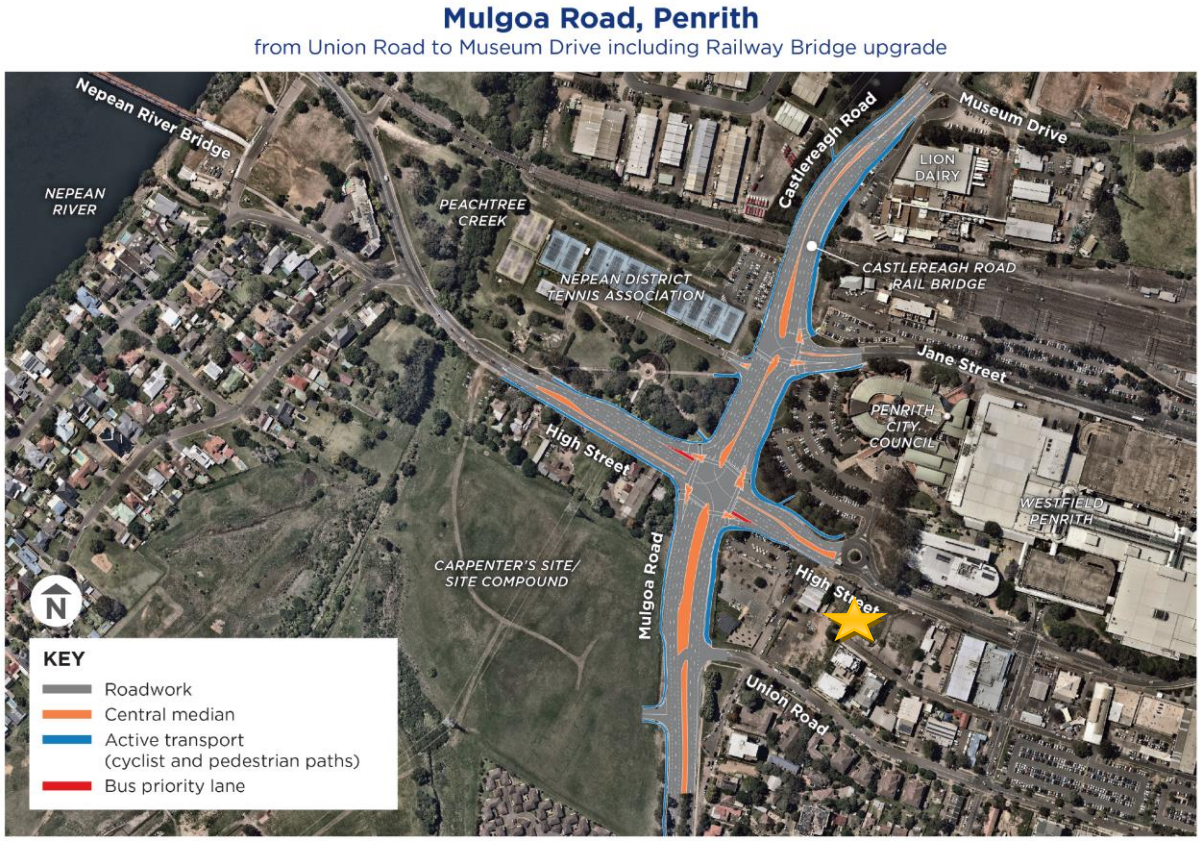
As mentioned in the foregoing, the RMS is currently upgrading Mulgoa Road in the vicinity of the site, including the High Street signalised intersection. Details of the upgrade works are illustrated on the figure below and include:

- western leg: provide additional right turn lane and through lane on the approach, including retaining the bus priority through lane

- southern leg: provide additional through lane on the approach and departure

- eastern leg: provide additional right turn bay, new bus priority through lane and increased left turn slip lane with pedestrian signals on the approach

- northern leg: provide additional through lane and new left turn slip lane with pedestrian signals on the approach and additional through lane on the departure




**Source: RMS**

**Approved *TOGA* Development**

Development consent has been granted on the adjoining site to the west (known as 87-91 Union Road & 634-638 High Street), involving the construction of two new towers above a common podium with a cumulative total of 187 residential apartments and 1,144m$^2$ of commercial space.

Off-street parking is approved for a total of 260 parking spaces within a single basement level and two podium levels. Loading facilities will be provided on the ground floor level and shared between the various uses.

**Source: www.skyscrapercity.com**

As noted in the foregoing, both the subject site and the approved *TOGA* development are subject to land dedication requirements along their common boundary which will allow for the construction of a new local road in the future, extending southward from High Street and connecting to Union Road. Council has also requested that Union Lane ultimately be converted to one-way westbound traffic flow, to match with the existing westbound restriction on Union Lane, east of Worth Street. In the interim, the new road link will connect to High Street at the existing roundabout by way of a new "fourth leg" and restricted to one-way northbound traffic flow only. Eventually the roundabout will be upgraded to traffic signals, including converting the southern one-way northbound leg to two-way traffic flow.

**Proposed Development**

The proposed development involves the construction of a new mixed use development on the site, comprising retail and commercial space as well as both residential apartments and serviced apartments.

A total of 272 *residential* apartments are proposed in the new development as follows:

| | |
|---|---|
| 1 bedroom apartments: | 104 |
| 2 bedroom apartments: | 134 |
| 3 bedroom apartments: | 34 |
| **TOTAL APARTMENTS:** | **272** |

A total of 41 *serviced* apartments are also proposed in the new development, including a number of "dual-key" apartments, as follows:

| | |
|---|---|
| 2 bedroom apartments: | 2 |
| 2 bedroom "dual key" apartments: | 35 (studio + 1 bed) |
| 3 bedroom "dual key" apartments: | 4 (2 bed + 1 bed) |
| **TOTAL SERVICED APARTMENTS:** | **41 (80 "keys")** |

The proposed serviced apartments will be operated by a total of 3 staff on site at any one time comprising 1 on-site manager, 1 clerk and 1 contractor to carry out back-of-house works.

In order to achieve the objectives of Council's future vision for developments located within the Penrith City Centre, the proposed development also includes 727m$^2$ of retail space on the ground floor level and 1,373m$^2$ of commercial space on Levels 4, 5 & 6.

Off-street parking is to be provided for a total of 338 cars across five above ground levels, in accordance with Council and *SEPP 65* requirements. Vehicular access to the car parking facilities is to be provided via a new entry/exit driveway located off Union Lane.

Loading/servicing is expected to be undertaken by a variety of commercial vehicles ranging from light "tradie" vehicles up to and including 11m long rigid trucks. In this regard, a shared loading area is proposed to be provided on the ground floor level of the building, capable of accommodating an 11m long rigid truck as well as an 8.8m long medium rigid truck.

Vehicular access for service vehicles is to be provided via a new dedicated service driveway located midway along the Union Lane site frontage.

In addition to the land dedication at the western end of the site it is also proposed to provide an at-grade pedestrian site through-link along the eastern boundary line, connecting Union Lane to High Street.

Plans of the proposed development have been prepared by *DKO Architects* and are reproduced in Appendix A.

# 3. TRAFFIC ASSESSMENT

## Road Hierarchy

The road hierarchy allocated to the road network in the vicinity of the site by the Roads and Maritime Services is illustrated on Figure 3.

High Street and Henry Street form part of the Great Western Highway which is classified by the RMS as a *State Road*, providing the key east-west road link through the area, linking the City to the Blue Mountains. It typically carries two traffic lanes in each direction in the vicinity of the site, with opposing traffic flows separated by a central median island. Kerbside parking is not permitted on either side of the road in the vicinity of the site.

Mulgoa Road and Castlereagh Road are also classified by the RMS as *State Roads*, providing the key north-south road link in the area, linking Richmond to Wallacia. It typically carries two to three traffic lanes in each direction in the vicinity of the site with turning bays provided at key locations.

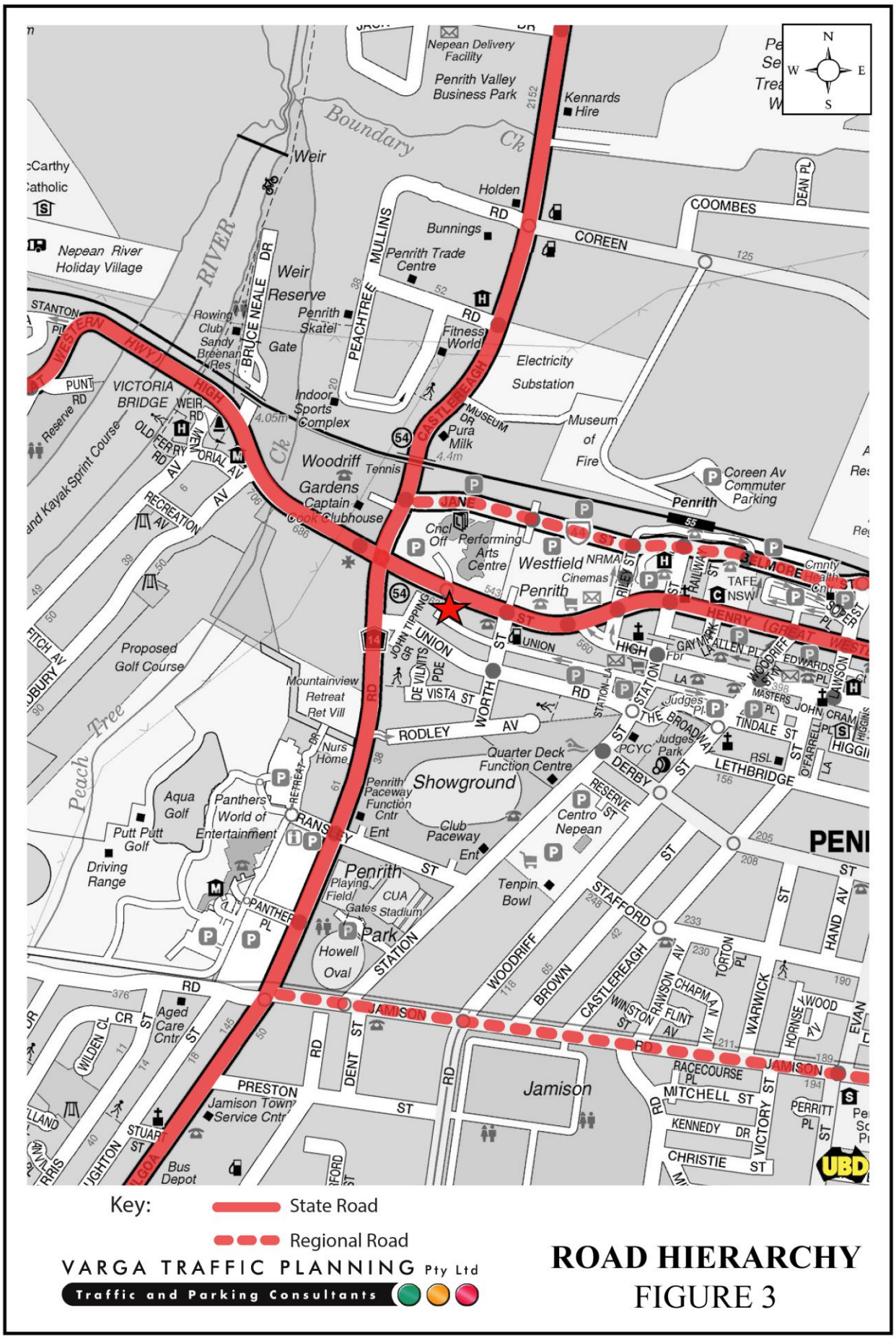
Worth Street is a local, unclassified road which is primarily used to provide vehicular and pedestrian access to frontage properties. Kerbside parking is permitted at selected locations, subject to sign posted restrictions.

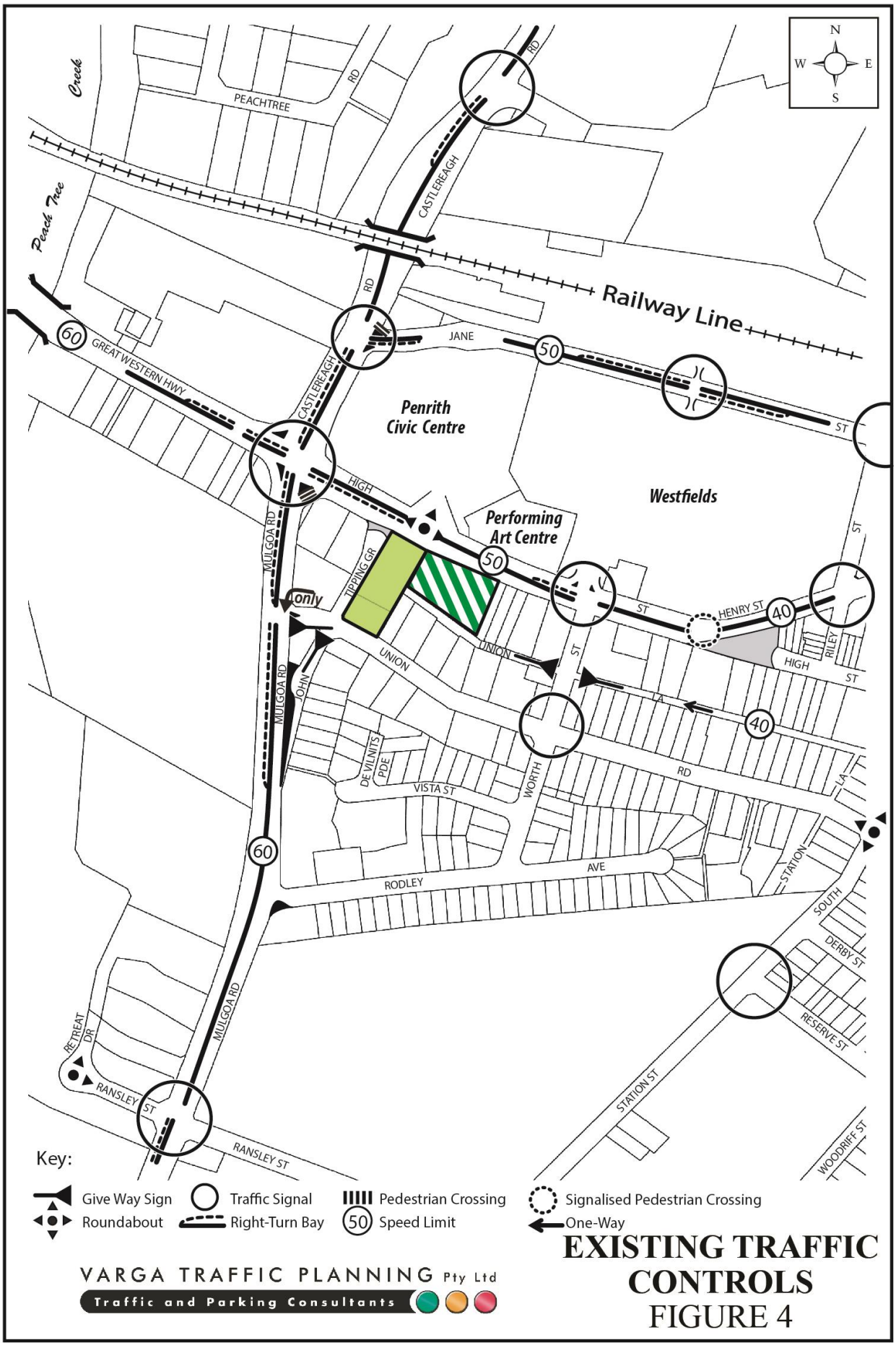
Union Lane is a local, unclassified, 6.0m wide service lane which is primarily used to provide rear vehicular and pedestrian access to properties fronting High Street or Union Road, and currently terminates at the far western end. Kerbside parking is not permitted in the laneway.

## Existing Traffic Controls

The existing traffic controls which apply to the road network in the vicinity of the site are illustrated on Figure 4. Key features of those traffic controls are:

- a 60 km/h SPEED LIMIT which applies to Mulgoa Road and Castlereagh Road





- a 50 km/h SPEED LIMIT which applies to High Street and other local roads in the area

- a 40 km/h SPEED LIMIT which applies to Henry Street

- TRAFFIC SIGNALS in High Street where it intersects with Mulgoa Road/Castlereagh Road and also Worth Street

- TRAFFIC SIGNALS in Worth Street where it intersects with Union Road

- a RIGHT TURN HOLDING BAY in Mulgoa Road for northbound traffic turning onto Union Road

- LEFT TURN ONLY restrictions for westbound traffic on Union Road turning onto Mulgoa Road.

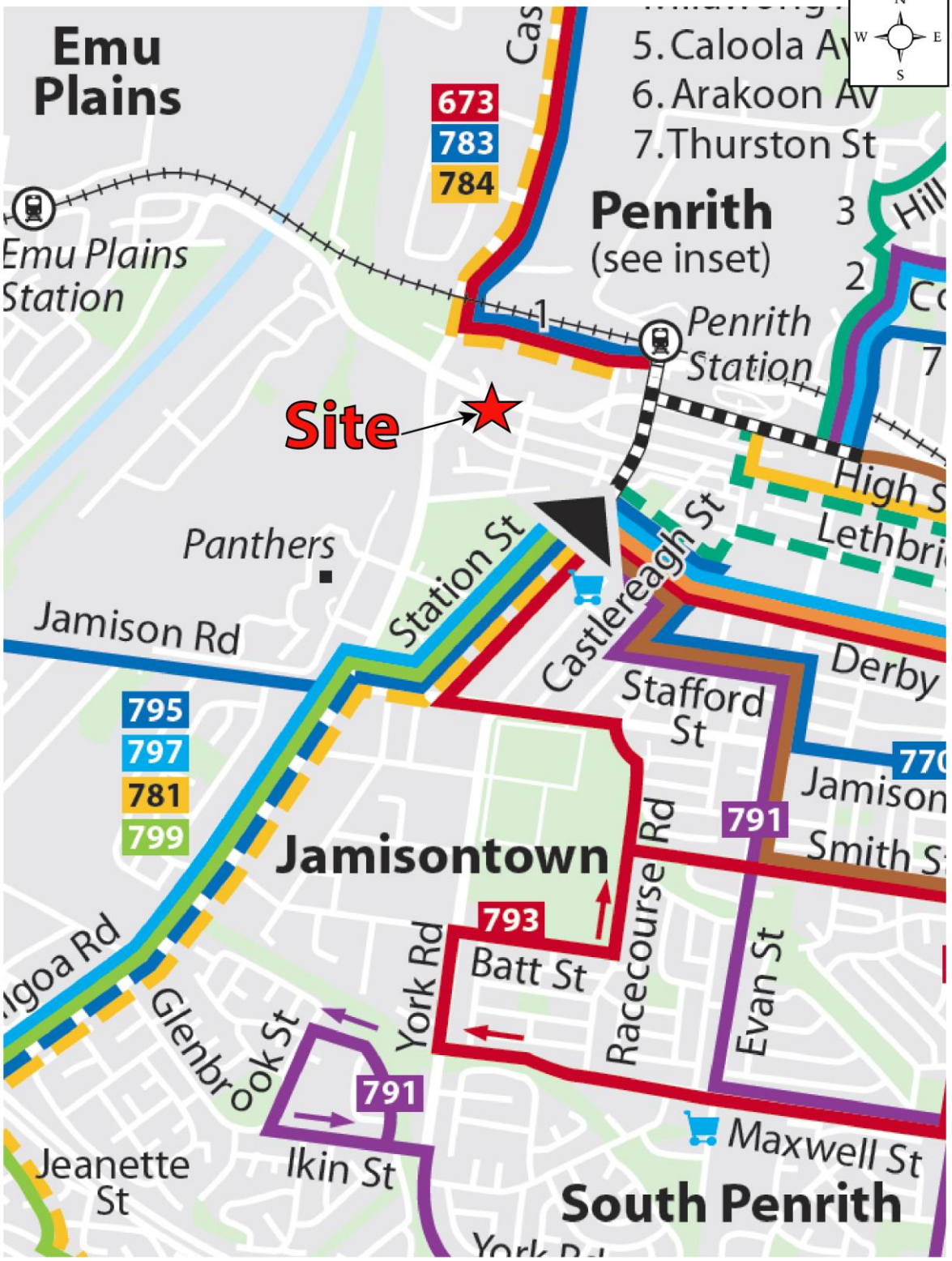
**Existing Public Transport Services**

The existing public transport services available in the vicinity of the site are illustrated on Figure 5.

The subject site is located approximately 700m walking distance south-west of Penrith Railway Station and Bus Interchange. Penrith Railway Station is situated on the T1 North Shore and Western Line, operating between Emu Plains and Hornsby via Strathfield and the City, and also the Blue Mountains Line, operating between Bathurst and the City. Train services operate out of Penrith Railway Station every 10-15 minutes during peak periods and every 20-30 minutes during off-peak periods.

In addition, Penrith Bus Interchange is serviced by more than 20 services into and out of the local area.

Penrith Westfields Shopping Centre is located approximately 250m walking distance east of the site and includes a wide range of essential shops and services such as Woolworths and ALDI supermarkets, fruit market, butchery, bakery, seafood shop, bottle shop, post office, pharmacy, optometrist, newsagency, hair dresser and beautician.

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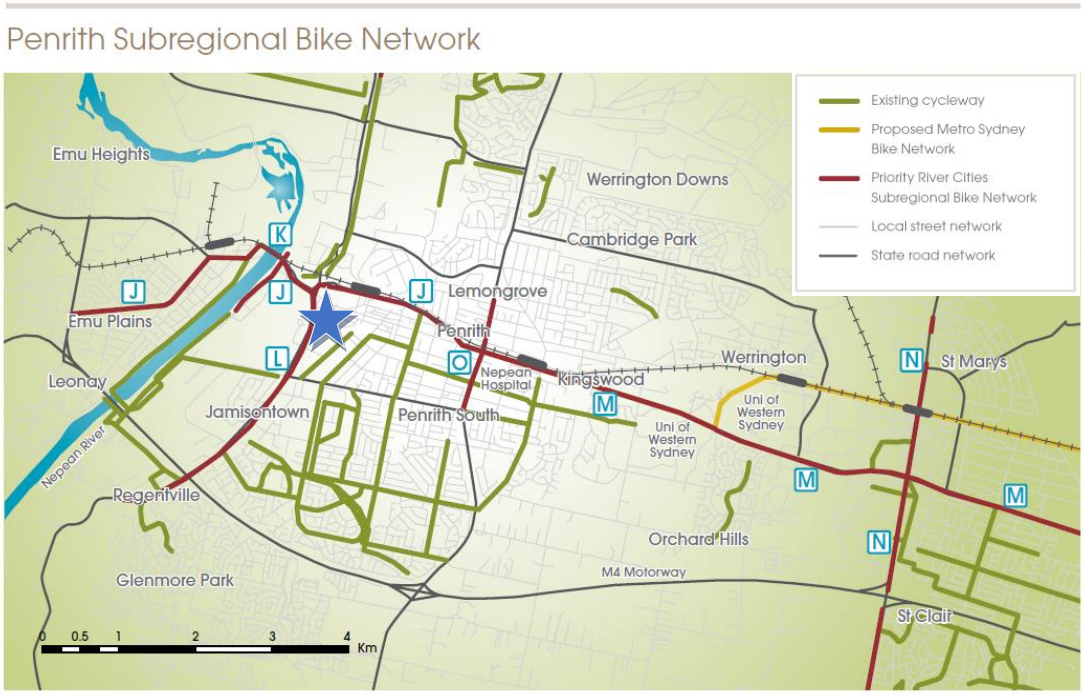
**PUBLIC TRANSPORT**
FIGURE 5

As such, the site is readily accessible by public transport, whilst an extensive range of shops and services are located within easy walking distance. The site is therefore ideally located to encourage reduced private car usage and to encourage alternate forms of transport such as public transport, cycling and walking.

**Local Bicycle Routes**

The site is conveniently located in close proximity to a number of useful bicycle routes which connect to the wider cycle network cycle network including on-road and off-road bicycle routes in the surrounding area. The location of the existing bicycle routes in the vicinity of the site are illustrated on the figure below which is taken from the NSW Government's *BikePlan 2010*. It is noted that Penrith has been chosen as a key location for an increase in employment, infrastructure and cultural activities. In this regard, a new shared path is proposed along the Great Western Highway, west of the City Centre. The priority projects in Penrith include:

- Penrith to Emu Plains
- Victoria Bridge investigations
- Penrith to St Marys – Great Western Highway shared path
- Penrith eastern subregional connections
- Penrith South to Castlereagh




**Source: NSW BikePlan 2010**

**Pedestrian Activity**

The proposed development will likely result in an increase in pedestrian activity in the vicinity of the site, with the key attractors being the nearby railway station/bus interchange and *Westfields.*

In this regard, the walking map below indicates the likely desire line for pedestrians walking to/from the subject site to the railway station/bus interchange via High Street and Henry Street, then crossing at either the Riley Street or Station Street traffic signals.

Similarly, those pedestrians walking to/from *Westfields* will likely cross at either the High Street/Worth Street traffic signals, the Henry Street/Riley Street traffic signals *or* the signalised pedestrian crossing in between Worth Street and Riley Street.

Given the existing safe pedestrian crossing points to the nearby key attractors, it is considered that no further pedestrian infrastructure upgrades are required as a consequence of the proposed development.

**Travel Plan**

A Travel Plan is a package of actions designed to encourage safe, healthy and sustainable travel options. The objectives of a Travel Plan are to remove barriers to active travel for all users of developments and to maximize the number of people who walk, cycle or take public transport to and from the development.

A Travel Plan can be prepared in consultation with future employees. In this instance however, it is difficult to predict the future travel patterns of prospective employees. However, a key feature of the Travel Plan will include a plan detailing the location of all public transport services as well as key facilities such as banks, post office etc. located within a 5 minutes and 10 minutes walking radius of the site. In this regard, it is noted that Penrith Railway Station is located an ideal 700m walking distance south-west of the site, which a large proportion of future employees working within the subject building are likely to utilise for their weekday trips to/from work.

**Existing Traffic Conditions**

A detailed indication of the existing traffic conditions on the road network in the vicinity of the site is provided by peak period traffic surveys undertaken as part of this traffic study which are reproduced in Appendix B. The traffic surveys were undertaken at the following intersections on Thursday 13th February 2020:

- High Street, Worth Street & *Westfields* access (traffic signals)
- Worth Street & Union Lane (give way priority controlled)
- Union Road and Worth Street (traffic signals)

The results of the traffic surveys are summarised in the diagrams on the following page, with the existing weekday AM and PM network peak "hour" as follows:

- the AM "network" peak period occurred between 8:30am and 9:30am
- the PM "network" peak period occurred between 4:30pm and 5:30pm

**Penrith IC - Traffic Flows**

MATRIX Traffic and Transport Data

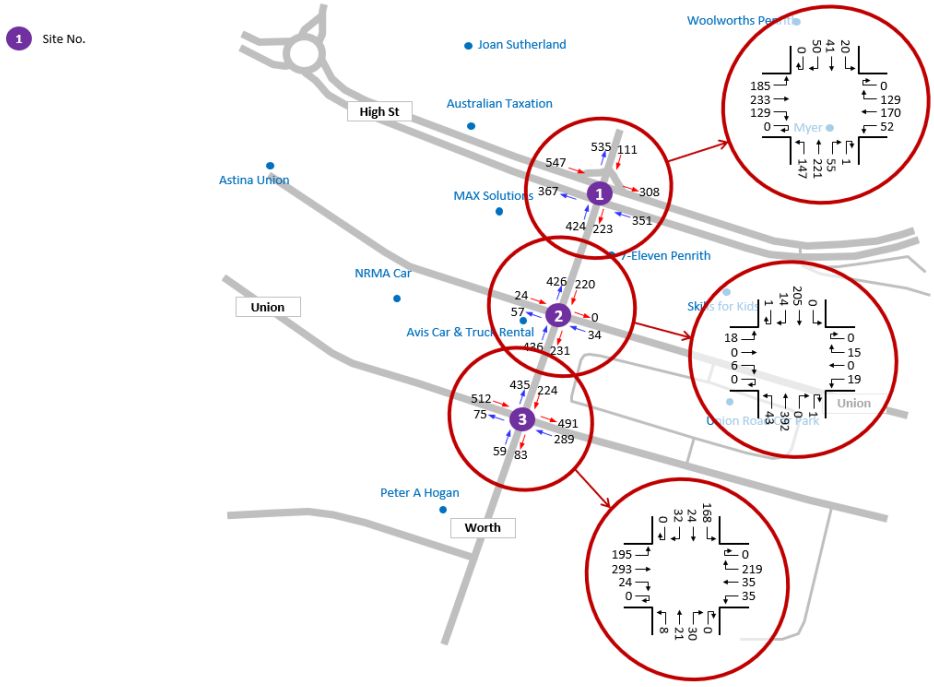
Search By Time and Classfication

| Day | Start Time | End Time | Classification |
|---|---|---|---|
| AM | 8:30 | 9:30 | All vehicles |

Volume Forecasting

0 % * 0 = original survey data

(e.g. input 20 for volume increase 20% or -20 for volume decrease 20%)




**Penrith IC - Traffic Flows**

MATRIX Traffic and Transport Data

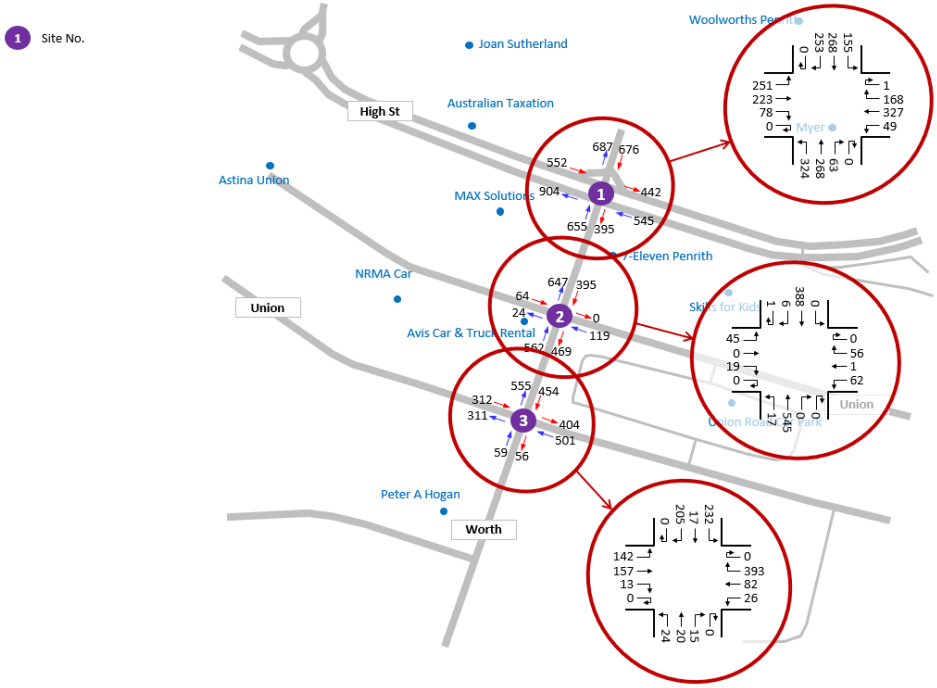
Search By Time and Classfication

| Day | Start Time | End Time | Classification |
|---|---|---|---|
| PM | 16:30 | 17:30 | All vehicles |

Volume Forecasting

0 % * 0 = original survey data

(e.g. input 20 for volume increase 20% or -20 for volume decrease 20%)



## Projected Traffic Generation

The traffic implications of development proposals primarily concern the effects of the *additional* traffic flows generated as a result of a development and its impact on the operational performance of the adjacent road network.

An indication of the traffic generation potential of the development proposal is provided by reference to the Roads and Maritime Services publication *Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation (October 2002)* and the updated traffic generation rates in the recently published RMS *Technical Direction* (TDT 2013/04a) document.

The TDT 2013/04a document specifies that it replaces those sections of the RMS *Guidelines* indicated, and must be followed when RMS is undertaken trip generation and/or parking demand assessments.
The RMS *Guidelines* and the updated TDT 2013/04a are based on extensive surveys of a wide range of land uses and nominate the following traffic generation rates which are applicable to the development proposal:

**Office Blocks (Sydney Average)**

AM: 1.6 peak hour vehicle trips per 100m$^2$ GFA

PM: 1.2 peak hour vehicle trips per 100m$^2$ GFA

**High Density Residential Flat Dwellings (Sydney Average)**

AM: 0.19 peak hour vehicle trips/unit

PM: 0.15 peak hour vehicle trips/unit

The RMS *Guidelines* also make the following observation in respect of high density residential flat buildings:

**Definition**

A *high density residential flat building* refers to a building containing 20 or more dwellings. This does not include aged or disabled persons housing. *High density residential flat buildings* are usually more than 5 levels, have basement level car parking and are located in close proximity to public transport services. The building may contain a component of commercial use.

**Factors**

The above rates include visitors, staff, service/delivery and on-street movements such as taxis and pick-up/set-down activities.

Neither the RMS *Guidelines*, nor their TDT 2013/04a specify a traffic generation rate for serviced apartments, referring only to hotels and motels. As serviced apartments share similar characteristics as regular apartments, in that most people leave the apartment in the morning (for business or leisure) and arrive back in the afternoon, for the purposes of this assessment, the abovementioned high density residential traffic generation rates have also been applied to the proposed serviced apartment component of the development.

Furthermore, the RMS *Guidelines* do not nominate a traffic generation rate for small, local shops or businesses, referring only to major regional shopping centres incorporating supermarkets and department stores. For the purpose of this assessment therefore, the above traffic generation rates nominated in the TDT 2013/04a for *office blocks* has been adopted in respect of the retail component of the development proposal.
Notwithstanding, discussions with Council have indicated that the traffic generation rate for the residential component should be *0.33 peak hour vehicle trips per dwelling* in accordance with the Penrith CBD Transport Model, as it is more closely aligned with the existing modal splits of the LGA.

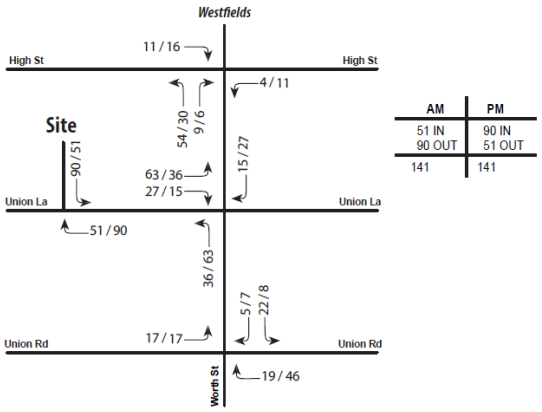
It is pertinent to note in this regard that reference to a number of other development applications for projects in close proximity to (or within) the Penrith City Centre and their associated traffic and parking assessment reports, did *not* adopt the above *0.33 peak hour vehicle trips per dwelling* rate but rather the Sydney average rate.

Furthermore, the *'Greater Sydney Region Plan: A Metropolis of Three Cities"* document envisages Penrith as a future CBD centre. The goal of the NSW Government is ultimately to allow residents to live within 30mins of their jobs, education and health facilities, services and other great places, including jobs within the Penrith City Centre. As such, it is expected that the *actual* traffic generation potential of the residential component of the DA will be in line with the current Sydney average rates or potentially *even less.*

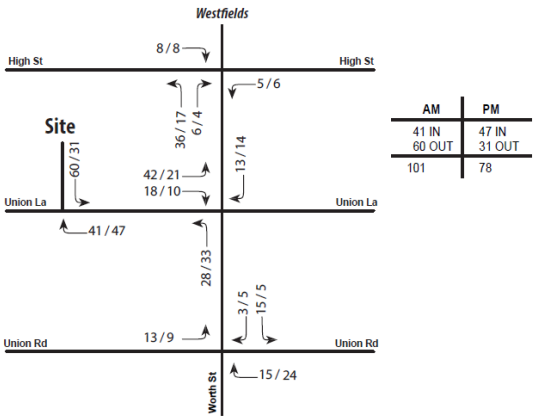
In any event, both scenarios have been assessed as set out in the table on the following page.

| Projected Future Traffic Generation Potential | | | | |
|---|---|---|---|---|
| | Council rate for residential | | RMS Sydney average rates for residential | |
| | **AM** | **PM** | **AM** | **PM** |
| Residential apartments (272 units) | 90 vph | 90 vph | 52 vph | 41 vph |
| Serviced apartments (80 "keys") | 26 vph | 26 vph | 15 vph | 12 vph |
| Commercial suites (1,373m$^2$) | 22 vph | 16 vph | 22 vph | 16 vph |
| Retail shops (727m$^2$) | 12 vph | 9 vph | 12 vph | 9 vph |
| **TOTAL TRAFFIC GENERATION POTENTIAL** | **141 vph** | **141 vph** | **101 vph** | **78 vph** |

The distribution of the projected future traffic volumes for both are summarised on the figures below.




PROJECTED FUTURE ADDITIONAL TRAFFIC VOLUMES
(COUNCIL RATE)




PROJECTED FUTURE ADDITIONAL TRAFFIC VOLUMES
(SYDNEY AVERAGE RATES)

Furthermore, in order to ensure future capacity of the surrounding intersections, 10 year growth projections scenarios have also been assessed using a 2% p.a. growth rate, as requested by Council. Typically, growth rates are applied to the through movements along the main road only, however in this instance, *all* movements have been factored up by 2% p.a. to provide an even more rigorous assessment.

That projected increase in the traffic generation potential of the site as a consequence of the development proposal will not have any unacceptable traffic implications in terms of road network capacity, nor will any infrastructure upgrades be required, as is demonstrated by the following section of this report.

**Traffic Implications - Road Network Capacity**

The traffic implications of Planning Proposals primarily concern the effects that any *additional* traffic flows may have on the operational performance of the nearby road network. Those effects can be assessed using the SIDRA INTERSECTION 8 NETWORK program which is widely used by the RMS and many LGA's for this purpose.

It is pertinent to note that the existing "base case" network traffic model, i.e. the base model that all future scenarios are built upon, has been reviewed by Council, including the model set-up and peak periods, and deemed acceptable.

SIDRA movement summaries and intersection layouts are reproduced in Appendix C and summarised in the tables below, with criteria for evaluating the results of the analysis reproduced in the following pages.

| Key Indicators | Existing 2020 Traffic Demand | | Projected 2020 Development Traffic Demand (Sydney Average Residential Rates) | | Projected 2020 Development Traffic Demand (Council Residential Rates) | |
|---|---|---|---|---|---|---|
| | AM | PM | AM | PM | AM | PM |
| **High Street & Worth Street** | | | | | | |
| LOS | B | C | B | C | B | C |
| DOS | 0.403 | 0.717 | 0.423 | 0.786 | 0.426 | 0.786 |
| AVD (Sec/Veh) | 22.2 | 30.7 | 22.8 | 32.6 | 22.9 | 32.6 |
| **Worth Street & Union Lane** | | | | | | |
| LOS | A | A | A | A | A | A |
| DOS | 0.113 | 0.264 | 0.121 | 0.292 | 0.146 | 0.354 |
| AVD (Sec/Veh) | 1.0 | 1.8 | 1.7 | 2.3 | 2.0 | 2.7 |
| **Union Road and Worth Street** | | | | | | |
| LOS | B | C | B | C | B | C |
| DOS | 0.550 | 0.661 | 0.593 | 0.701 | 0.605 | 0.745 |
| AVD (Sec/Veh) | 19.3 | 30.1 | 19.5 | 30.4 | 19.7 | 30.9 |

LOS – Level of Service; DOS – Degree of Saturation; AVD – Average Vehicle Delays

| Key Indicators | Existing 2030 Traffic Demand | | Projected 2030 Development Traffic Demand (Sydney Average Residential Rates) | | Projected 2030 Development Traffic Demand (Council Residential Rates) | |
|---|---|---|---|---|---|---|
| | **AM** | **PM** | **AM** | **PM** | **AM** | **PM** |
| **High Street & Worth Street** | | | | | | |
| LOS | B | D | B | D | B | D |
| DOS | 0.491 | 1.049 | 0.501 | 1.073 | 0.522 | 1.073 |
| AVD (Sec/Veh) | 22.8 | 49.3 | 23.0 | 51.2 | 23.5 | 52.0 |
| **Worth Street & Union Lane** | | | | | | |
| LOS | A | A | A | A | A | A |
| DOS | 0.138 | 0.501 | 0.149 | 0.508 | 0.184 | 0.606 |
| AVD (Sec/Veh) | 1.1 | 2.7 | 1.8 | 3.5 | 2.0 | 4.2 |
| **Union Road and Worth Street** | | | | | | |
| LOS | B | C | B | D | B | D |
| DOS | 0.746 | 0.875 | 0.795 | 0.916 | 0.809 | 0.949 |
| AVD (Sec/Veh) | 21.1 | 38.8 | 22.2 | 43.9 | 22.7 | 51.6 |

LOS – Level of Service; DOS – Degree of Saturation; AVD – Average Vehicle Delays

Whilst it is acknowledged that in the 2030 scenario the High Street and Worth Street intersection operates at *Level of Service "D"*, the *Level of Service* does *not* change with the addition of the development traffic. Furthermore, the 2% p.a. growth rate was applied to *all* movements in the existing model to provide an even more rigorous assessment.

In the circumstances, the SIDRA capacity analysis has confirmed that there is sufficient spare capacity available on the surrounding road network during the weekday peak periods and it is therefore expected that the proposed development will not result in any unacceptable traffic implications in terms of road network capacity, nor will any infrastructure upgrades be required.

# Criteria for Interpreting Results of Sidra Analysis

## *1. Level of Service (LOS)*

| LOS | Traffic Signals and Roundabouts | Give Way and Stop Signs |
|---|---|---|
| 'A' | Good operation. | Good operation. |
| 'B' | Good with acceptable delays and spare capacity. | Acceptable delays and spare capacity. |
| 'C' | Satisfactory. | Satisfactory but accident study required. |
| 'D' | Operating near capacity. | Near capacity and accident study required. |
| 'E' | At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode. | At capacity and requires other control mode. |
| 'F' | Unsatisfactory and requires additional capacity. | Unsatisfactory and requires other control mode. |

## *2. Average Vehicle Delay (AVD)*

The AVD provides a measure of the operational performance of an intersection as indicated on the table below which relates AVD to LOS. The AVD's listed in the table should be taken as a guide only as longer delays could be tolerated in some locations (ie inner city conditions) and on some roads (ie minor side street intersecting with a major arterial route).

| Level of Service | Average Delay per Vehicle (secs/veh) | Traffic Signals, Roundabout | Give Way and Stop Signs |
|---|---|---|---|
| A | less than 14 | Good operation. | Good operation. |
| B | 15 to 28 | Good with acceptable delays and spare capacity. | Acceptable delays and spare capacity. |
| C | 29 to 42 | Satisfactory. | Satisfactory but accident study required. |
| D | 43 to 56 | Operating near capacity. | Near capacity and accident study required. |
| E | 57 to 70 | At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode. | At capacity and requires other control mode. |

## *3. Degree of Saturation (DS)*

The DS is another measure of the operational performance of individual intersections.

For intersections controlled by traffic signals[1] both queue length and delay increase rapidly as DS approaches 1, and it is usual to attempt to keep DS to less than 0.9. Values of DS in the order of 0.7 generally represent satisfactory intersection operation. When DS exceeds 0.9 queues can be anticipated.

For intersections controlled by a roundabout or GIVE WAY or STOP signs, satisfactory intersection operation is indicated by a DS of 0.8 or less.

[1] *The values of DS for intersections under traffic signal control are only valid for cycle length of 120 secs.*

# 4. PARKING IMPLICATIONS

**Existing Kerbside Parking Restrictions**

The existing kerbside parking restrictions which apply to the road network in the vicinity of the site are illustrated on Figure 6 and comprise:

- NO STOPPING restrictions along both sides of High Street, including along the entire site frontage

- NO STOPPING restrictions along both sides of Union Lane, including along the entire site frontage

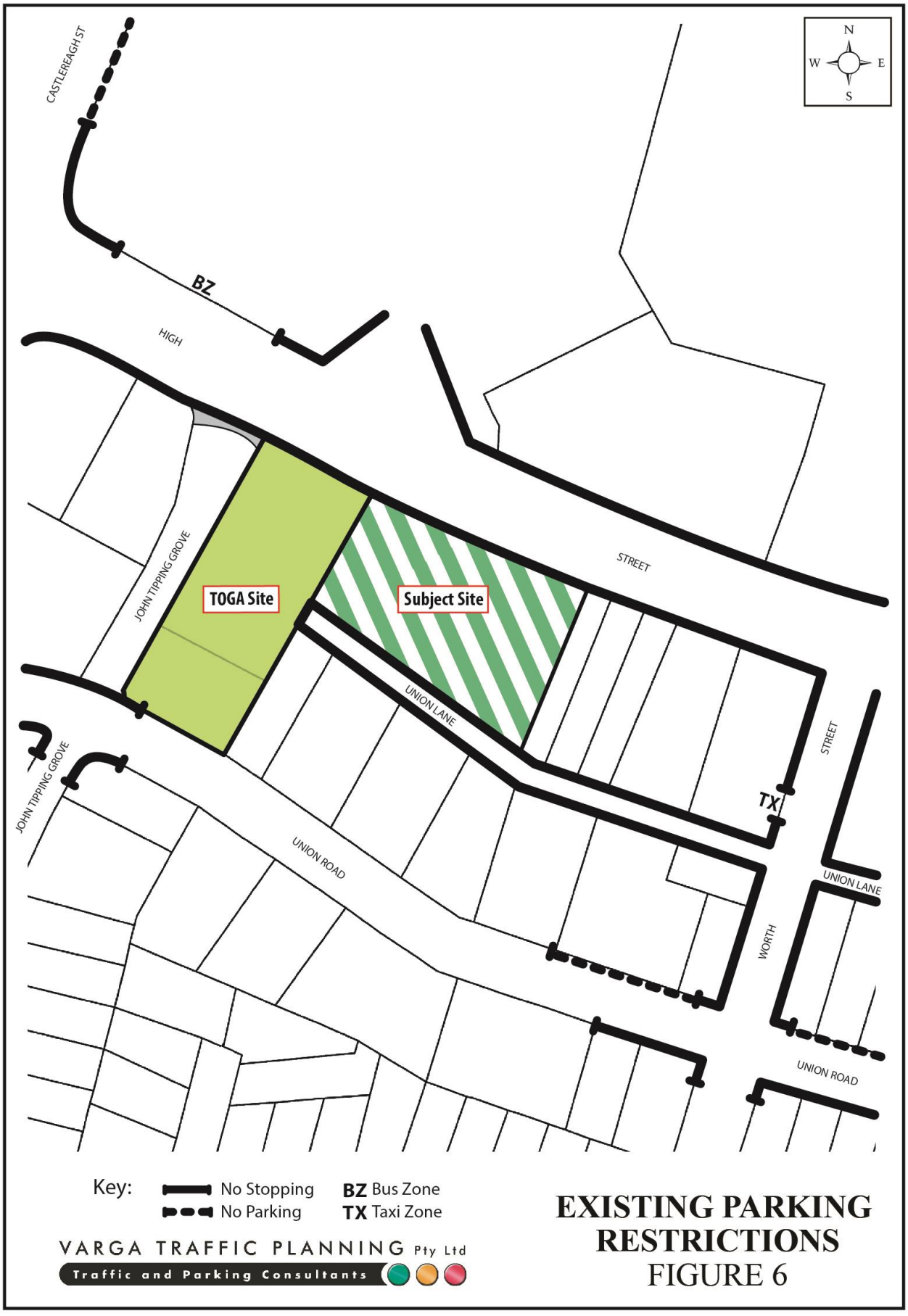
- NO STOPPING restrictions along both sides of Worth Street, in between High Street and Union Road

- TIME RESTRICTED PARKING permitted in the Penrith Civic Centre, opposite the site.

**Off-Street Parking Requirements & Provisions**

The off-street car parking rates applicable to the development proposal are specified in the *Penrith Development Control Plan 2014, Part C10 – Transport, Access and Parking* document in the following terms:

> **Residential Flat Buildings**
> 1 space per 1 or 2 bedrooms
> 2 spaces per 3 or more bedrooms
> 1 visitor space per 5 dwellings, or part thereof.
> 1 carwash bay for every 50 units, up to a maximum of 4 spaces per building.
> 1 space per 40 units for service vehicles
>
> **Retail Premises (Penrith City Centre)**
> 1 space per 30m² GFA



**Office/Business Premises**

1 space per 100m² GFA

It should be noted that *PDCP 2010* also specifies that for commercial/retail uses located within the Penrith City Centre, *"a maximum 60% of the total number of commercial parking spaces required by a development, other than for service vehicles, car washing bays and parking spaces allocated to people with a disability, are to be provided on-site. The balance of the total required number of parking spaces not provided on-site would need to be subject to a contribution under an adopted Contribution Plan or as set by the terms of a Voluntary Planning Agreement".*

Furthermore, the *PDCP 2010* does not specify an off-street parking rate for serviced apartments. Reference is therefore made to a number of LGAs located within the Sydney metropolitan area and their respective *DCPs* which *do* specify an off-street parking rate for serviced apartments. Those Councils and their respective parking rates are specified in the table below.

| **Comparison Serviced Apartment Off-Street Parking Rates** | |
|---|---|
| Council | Parking Rate |
| Botany | 1 space per 1.5 units plus 1 space per 2 employees |
| Hurstville | 1 space per 5 bedrooms/units |
| Liverpool | 1 space per bedroom/suite plus 1 space per 2 employees |
| Ryde | 1 space per 1.5 units |
| **Average** | **0.63 spaces per unit plus 1 space per 4 staff** |

Application of the above car parking rates to the various components of the development proposal yields an off-street car parking requirement of 475 spaces as set out on the following page:

| **Penrith DCP 2010 Parking Requirements** | |
|---|---|
| Residential apartments (272 units): | 306 spaces |
| Visitors: | 54 spaces |
| Serviced apartments (80 "keys" & 3 staff): | 53 spaces (based on other LGA comparison rates) |
| Commercial suites (1,373m$^2$): | 8 spaces* |
| Retail shops (727m$^2$): | 15 spaces* |
| Car wash bay: | 4 spaces |
| Service bay: | 8 spaces |
| **TOTAL:** | **475 spaces** |

* 60% of total requirement

Notwithstanding, the subject site is also located within 800 metres of a railway station in the Sydney metropolitan area, and therefore the residential component of the development is also subject to the parking requirements specified in the *State Environmental Planning Policy No 65 – Design Quality of Residential Flat Development (Amendment No 3), 2015* in the following terms:

> **30 Standards that cannot be used to refuse development consent or modification of development consent**
>
> (1) If an application for the modification of a development consent or a development application for the carrying out of development to which this Policy applies satisfies the following design criteria, the consent authority must not refuse the application because of those matters:
>
> a) if the car parking for the building will be equal to, or greater than, the recommended minimum amount of car parking specified in Part 3J of the Apartment Design Guide.

Reference is therefore made to the *Apartment Design Guide 2015, Section 3J – Bicycle and Car Parking* document which nominates the following car parking requirements:

> **Objective 3J-1**
> Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas.
>
> For development in the following locations:
>
> - on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or

- on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre

the minimum car parking requirements for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less.

The car parking needs for a development must be provided off street.

Comparison therefore needs to be drawn between the off-street car parking requirements for residential flat buildings outlined in the *Penrith DCP 2010* and also the RMS *Guidelines* to determine the *lesser* requirement. The relevant car parking rates outlined in the RMS *Guidelines* are reproduced on the following page:

**RMS Guidelines - High Density Residential Flat Buildings in Metropolitan Regional (CBD) Centres**

0.4 spaces per 1 bedroom unit

0.7 spaces per 2 bedroom unit

1.2 spaces per 3 bedroom unit

1 space per 7 units for visitor parking

Accordingly, the minimum off-street car parking requirement applicable to the residential component of the development is 216 spaces, comprising 177 residential spaces and 39 visitor spaces as set out below:

| | **Penrith DCP 2010** | **RMS Guidelines** |
|---|---|---|
| **Residents:** | 306 spaces | 177 spaces |
| **Visitors:** | 54 spaces | 39 spaces |
| **Total:** | 360 spaces | 216 spaces |
| **Lesser Car Parking Requirement: 216 spaces** | | |

The total minimum off-street parking requirement applicable to the proposed development is therefore 303 spaces as set out on the following page:

**Penrith DCP 2010 & Apartment Design Guide Parking Requirements**

| | |
|---|---|
| Residential apartments (272 units): | 176 spaces (ADG/RMS) |
| Visitors: | 39 spaces (ADG/RMS) |
| Serviced apartments (80 "keys" & 3 staff): | 53 spaces (based on other LGA comparison rates) |
| Commercial suites (1,373m$^2$): | 8 spaces* (DCP) |
| Retail shops (727m$^2$): | 15 spaces* (DCP) |
| Car wash bay: | 4 spaces (DCP) |
| Service bay: | 8 spaces (DCP) |
| **TOTAL MINIMUM REQUIRED:** | **303 spaces** |

* 60% of total requirement

The proposed development makes provision for a total of 338 off-street car parking spaces, thereby satisfying Council and *SEPP 65* requirements.

The geometric design layout of the proposed car parking facilities has been designed to comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 1 - Off-Street Car Parking AS2890.1:2004* and *Parking Facilities Part 6 - Off-Street Parking for People with Disabilities AS2890.6:2009* in respect of parking bay dimensions, ramp gradients, aisle widths and overhead clearances.

## Off-Street Bicycle Parking Provisions

The off-street bicycle parking rates for the proposed development have been assessed using the *Cycling Aspects of Austroads Guides, Appendix H: Bicycle Parking Provision Rates* which specifies the following rates:

**Flat**

| | |
|---|---|
| Residents: | 1 space per 3 flats |
| Visitors: | 1 space per 12 flats |

**Office**

| | |
|---|---|
| Staff: | 1 space per 200m$^2$ |
| Visitors: | 1 space per 750m$^2$ over 1,000m$^2$ |

**Shop**

| | |
|---|---|
| Staff: | 1 space per 300m$^2$ |
| Customers: | 1 space per 500m$^2$ over 1,000m$^2$ |

Application of the above bicycle parking requirements to the various components of the development proposal yields an off-street bicycle parking requirement of 123 spaces.

The proposed development makes provision for a total of 142 off-street bicycle parking spaces in a secure Class 2 room on the ground floor level, thereby satisfying the *Austroads* bicycle parking rates.

**Loading/Servicing Provisions**

The proposed new mixed use building is expected to be serviced by a variety of commercial vehicles ranging from light "tradie" vehicles up to and including 11m long rigid trucks (including Council's 10.5m long garbage truck, as per the image below). In this regard, 2 service vehicle bays and a dedicated truck loading bay are proposed to be provided on the ground floor level of the building.

**2.3.2 Heavy Rigid Waste Collection Vehicle**

**Note:** The following vehicle to be used for developments comprised of 80 or more dwellings. Alternate solutions which propose the use of the low entry 9.7m heavy rigid waste collection vehicle (section 2.3.1) will be reviewed in accordance with section 2.5.

| Vehicle Classifications | Heavy Rigid Vehicle Dimensions |
|---|---|
| Overall Length (m) | 10.5 |
| Operational Length (m) | 12.5 |
| Design Width (m) | 2.8 |
| Design Height (m) | 3.7 |
| Swept Circle (m) | 22.5 |
| Clearance (travel height) (m) | 4.5 |
| Roadway/ramp grade (max) | 1:6.5 (15.4%) |
| Rate of change of grade (max) | 1:16 (6.25%) in 7.0m of travel |
| Gross Weight (max tonnes) | 28.0 |
| Front Chassis Clearance | 13° |
| Rear Chassis Clearance | 16° |

Table 2: Standard dimensions in accordance with AS 2890.2

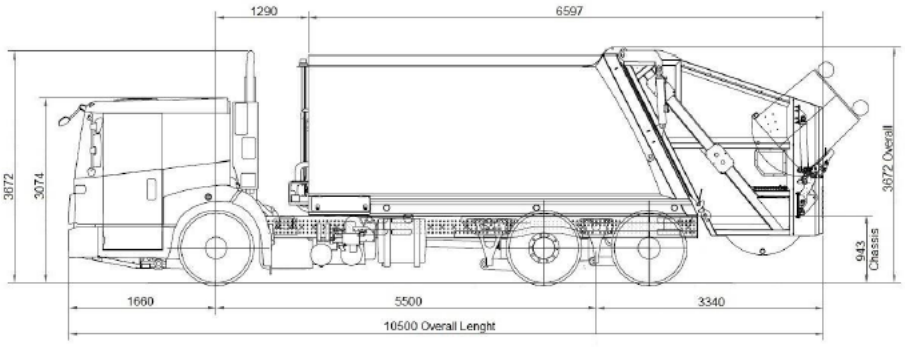



Figure 2: 10.5m Heavy Rigid Rear Load Waste Collection Vehicle specifications

The manoeuvring area has been designed to accommodate the swept turning path requirements of these 11m rigid trucks, allowing them to enter and exit the site in a forward direction at all times. Whilst it is acknowledged that the trucks require the use of the main vehicular circulation aisle to manoeuvre into the respective loading bays, the time required for the trucks to use the vehicular circulation aisle will be a matter of seconds. Driver visibility in the vicinity is excellent such that if cars are using the area, the truck driver will wait until the cars are clear. Cars must be given priority at all times.

Whilst it is also acknowledged that exiting trucks require the full width of Union Lane to turn out of the site, *AS2890.2:2002* notes that trucks may be required to perform this manoeuvre when exiting a site. In this instance, traffic and pedestrian activity in Union Lane will be minimal and the width of the service driveway is such that excellent driver visibility will be provided. Similarly, the truck driver will exercise caution when exiting the site, waiting until all pedestrian and vehicular movements in the vicinity have cleared before proceeding.

The geometric design layout of the proposed loading facilities have been designed to comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 2 - Off-Street Commercial Vehicle Facilities AS2890.2* in respect of loading dock dimensions, overhead clearances and service area requirements for 11m rigid trucks

An indicative Loading Dock Management Plan is included in Appendix D.

**Conclusion**

Based on the analysis and discussions presented within this report, the following conclusions are made:

- the proposed development involves the construction of a new residential development, comprising 272 residential apartments and 41 serviced apartments (80 “keys”) above 1,373m$^2$ of commercial suites, 727m$^2$ of retail shops and 338 off-street car parking spaces,

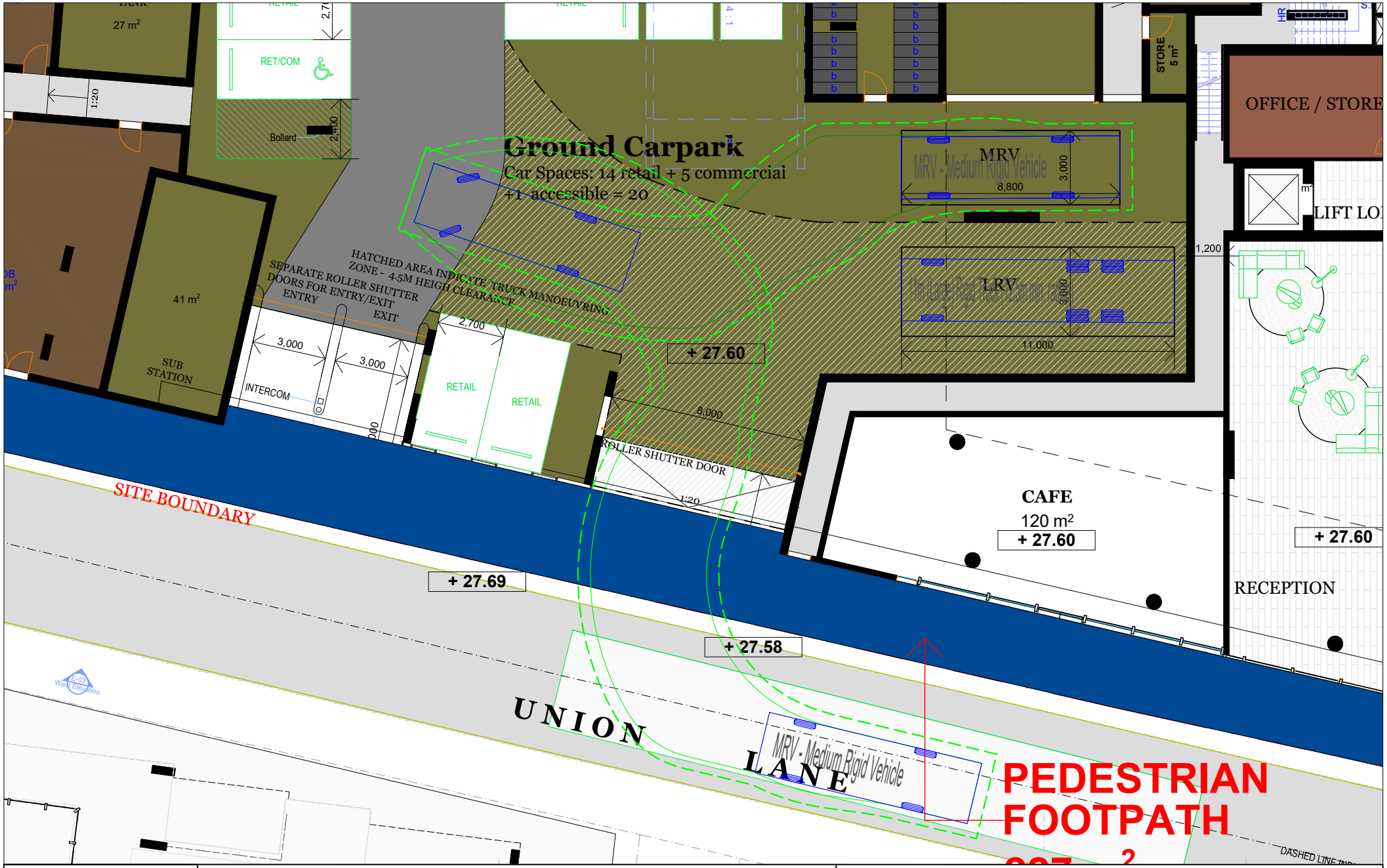
- the proposed development is expected to generate in the order of between 78 and 141 vehicle trips per hour during the weekday peak periods (*less* at other times), depending on the traffic generation rates used for the residential component

- the projected future traffic generation potential of the proposed development is consistent with the zoning expectations of the site and not expected to result in any unacceptable traffic implications, irrespective of the traffic generation rates used for the residential component

- whilst the development proposal includes a land dedication at the western end of the site in order to construct a new local road in the future (with the adjoining *TOGA* development), the site does *not* rely on this new road link from a traffic and site access perspective. There is sufficient capacity on the *existing* road network in the (unlikely) event the new road link does not proceed

- the off-street parking and loading provisions are generally in accordance with Council and *SEPP 65* requirements as well as the Australian Standards

In summary, it is therefore concluded that the proposed development will not have any unacceptable traffic, parking, loading or access implications.

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www.vargatraffic.com.au
Sydney, Australia

PROJECT
HIGH STREET PENRITH

DRAWING TITLE
8.8m MRV
ENTRY SWEPT TURNING PATH

1:200 @ A4

ADDRESS
614-632 HIGH STREET
PENRITH

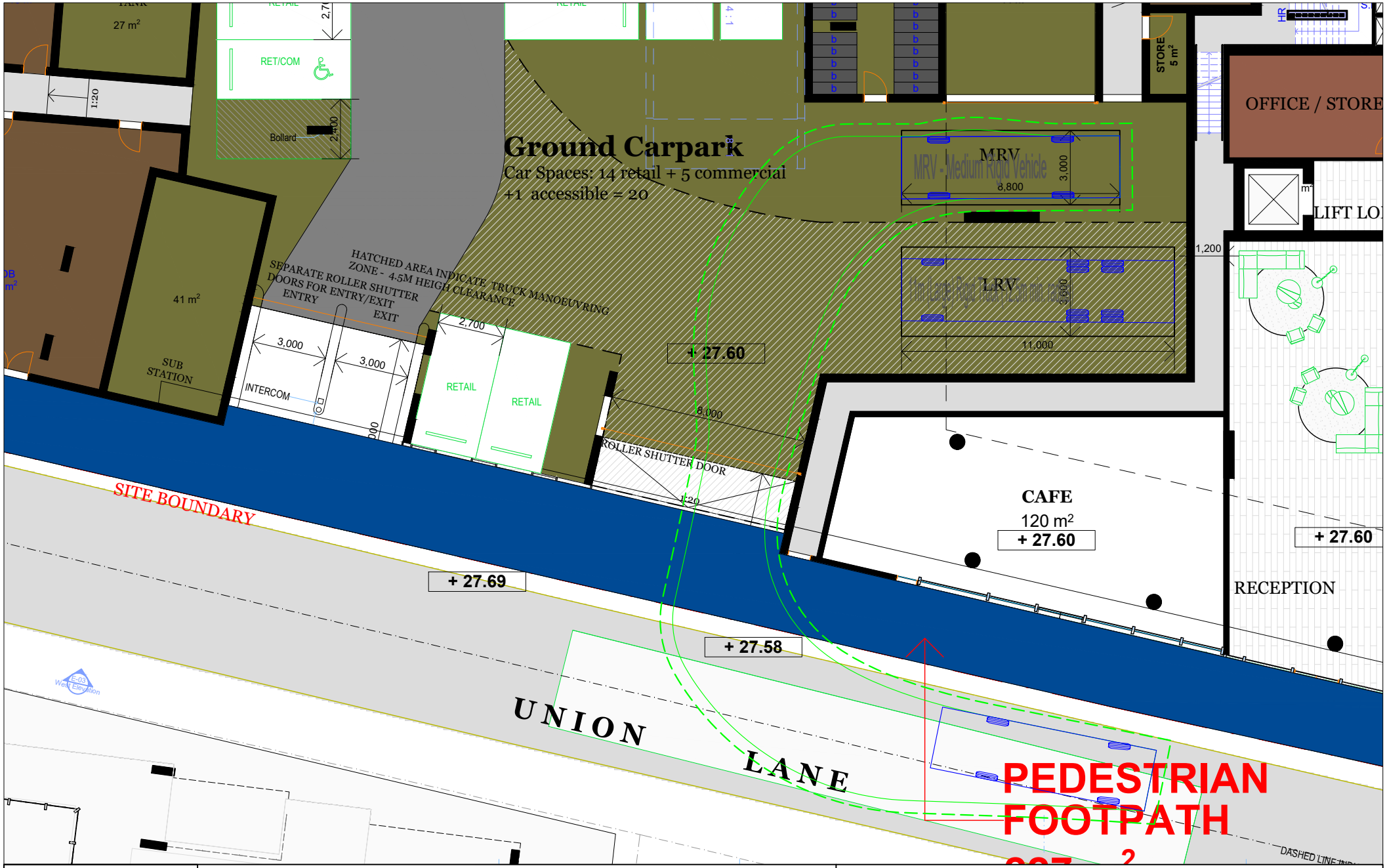
PROJECT NO.
19363

DATE DRAWN
2020-4-1

REVIEWED
CP

PREPARED
TY

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

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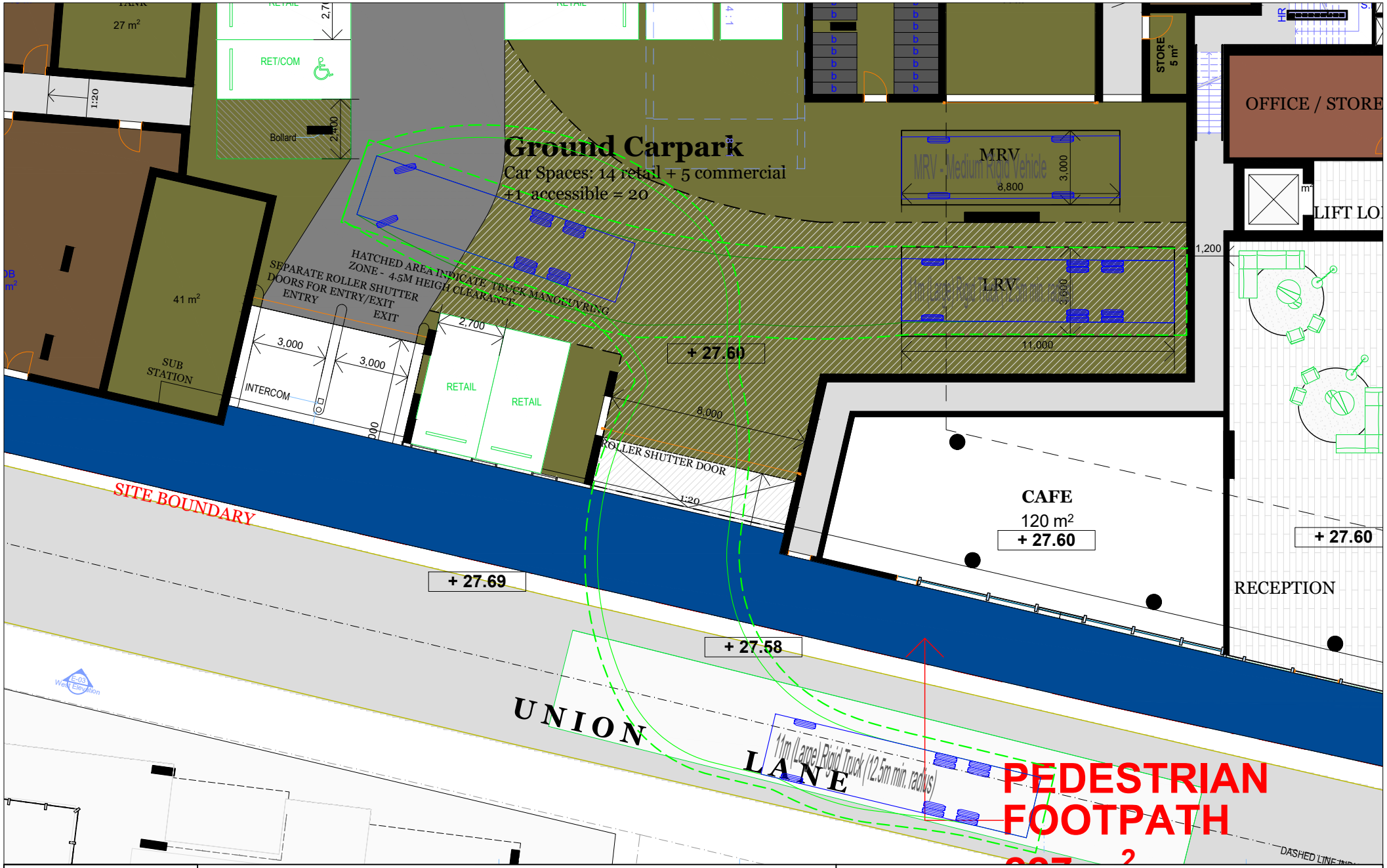


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Sydney, Australia

PROJECT
HIGH STREET PENRITH

DRAWING TITLE
11m RIGID TRUCK
ENTRY SWEPT TURNING PATH

1:200 @ A4

ADDRESS
614-632 HIGH STREET
PENRITH

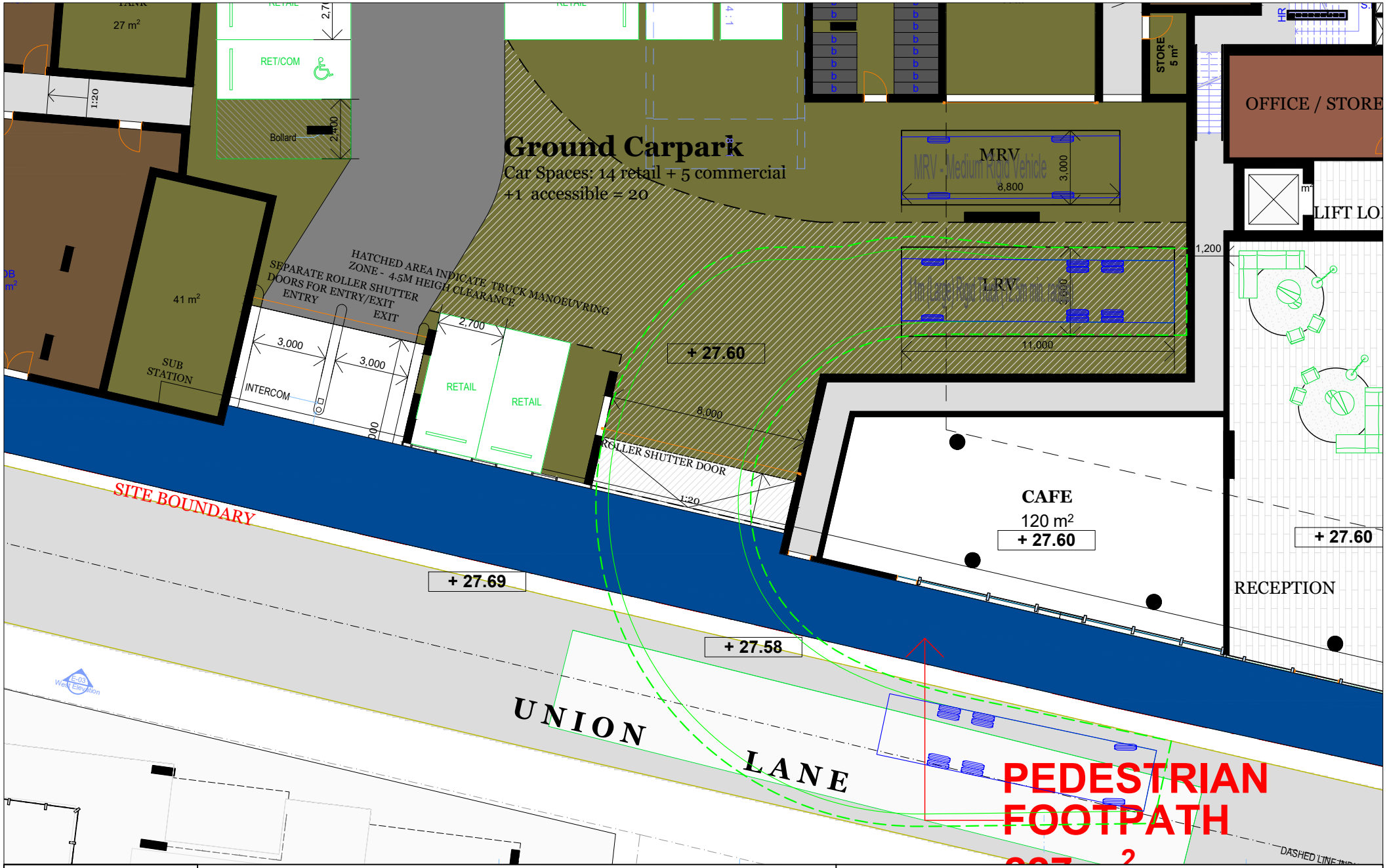
PROJECT NO.
19363

DATE DRAWN
2020-4-1

REVIEWED
CP

PREPARED
TY

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

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PROJECT
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11m RIGID TRUCK
EXIT SWEPT TURNING PATH

1:200 @ A4

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PENRITH

PROJECT NO.
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DATE DRAWN
2020-4-1

REVIEWED
CP

PREPARED
TY

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

# APPENDIX A

# ARCHITECTURAL PLANS

**614-632 High Street Penrith**
**Yield Table - 01/04/2020**

## 614-632 High Street Penrith

| | Controls | Proposed |
|---|---|---|
| Site Area | 4,715 | |
| FSR | 6.00 | 6.00 |
| GFA | 28,290 | 28,275 |

| | | Car Parking | | Serviced Apartments | | | Residential Apartments | | | Subtotal | NLA Retail/ Com | NLA Serviced Apt | NSA | TOWER A COMM GFA | TOWER B RES GFA | Efficiency |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2B + 1Ba | 2B Dual Key | 3B Dual Key | 1 Bed | 2 Bed | 3 Bed | | | | | | | |
| 1 | Ground | 20 | | | | | | | | | 727 | | | | 1191 | 61.0% |
| | Mezzanine | 51 | | | | | | | | | | | | | | 0.0% |
| 2 | Level 1 | 89 | | | | | | | | | | | | | | 0.0% |
| 3 | Level 2 | 89 | | | | | | | | | | | | | | 0.0% |
| 4 | Level 3 | 89 | | | | | | | | | | | | | | 0.0% |
| 5 | Level 4 | | Serviced Apartments | | 5 | | | | | 5 | 470 | 398 | | 522 | 566 | 79.8% |
| 6 | Level 5 | | | | 5 | | | | | 5 | 470 | 398 | | 522 | 566 | 79.8% |
| 7 | Level 6 | | | 2 | 5 | | | | | 7 | 433 | 542 | | 485 | 629 | 87.5% |
| 8 | Level 7 | | | | 5 | 1 | | | | 6 | | 544 | | | 629 | 86.5% |
| 9 | Level 8 | | | | 5 | 1 | | | | 6 | | 544 | | | 629 | 86.5% |
| 10 | Level 9 | | | | 5 | 1 | | | | 6 | | 544 | | | 629 | 86.5% |
| 11 | Level 10 | | | | 5 | 1 | | | | 6 | | 544 | | | 629 | 86.5% |
| 12 | Level 11 | | Technical Floor | | | | 2 | 4 | 1 | 7 | | | 498 | | 567 | 87.8% |
| 13 | Level 12 | | Residential Apartments | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 14 | Level 13 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 15 | Level 14 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 16 | Level 15 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 17 | Level 16 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 18 | Level 17 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 19 | Level 18 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 20 | Level 19 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 21 | Level 20 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 22 | Level 21 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 23 | Level 22 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 24 | Level 23 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 25 | Level 24 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 26 | Level 25 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 27 | Level 26 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 28 | Level 27 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 29 | Level 28 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 30 | Level 29 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 31 | Level 30 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 32 | Level 31 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 33 | Level 32 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 34 | Level 33 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 35 | Level 34 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 36 | Level 35 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 37 | Level 36 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 38 | Level 37 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 39 | Level 38 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 40 | Level 39 | | | | | | 3 | 4 | 1 | 8 | | | 548 | | 623 | 88.0% |
| 41 | Level 40 | | | | | | 2 | 4 | | 6 | | | 406 | | 472 | 86.0% |
| 42 | Level 41 | | | | | | 2 | 4 | | 6 | | | 406 | | 472 | 86.0% |
| 43 | Level 42 | | | | | | 6 | 2 | 1 | 9 | | | 572 | | 668 | 85.6% |
| 44 | Level 43 | | | | | | 2 | 3 | 2 | 7 | | | 529 | | 611 | 86.6% |
| 45 | Level 44 | | | | | | 4 | 2 | 1 | 7 | | | 464 | | 540 | 85.9% |
| 46 | Level 45 | | | | | | 2 | 3 | 1 | 6 | | | 439 | | 504 | 87.1% |
| | Roof | | | | | | | | | | | | | | | |
| | **Subtotal** | 338 | | 2 | 35 | 4 | 104 | 134 | 34 | **313** | **2100** | **3514** | **18658** | **1529** | **26746** | 85.8% |

| Residential | | 1 Bed | 2 Bed | 3 Bed | | | |
|---|---|---|---|---|---|---|---|
| Proposed Mix | | 104 | 134 | 34 | | | **272** |
| | | *38%* | *49%* | *13%* | | | **100%** |



| Rev. | Date | By | Ckd | Description |
|---|---|---|---|---|
| P7 | 5/11/2019 | OS | SZ | Draft DA |
| A | 28/11/2019 | | | DA |
| B | 1/04/2020 | | | DA |

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ABN: 81956706590
NSW: Nominated Architects
Koos de Keijzer 5767
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| | | | |
|---|---|---|---|
| Project Name | High Street Penrith | Project Number | 00012012 |
| Project Address | 614-632 High Street, Penrith, NSW 2750 | Drawing Name | Calculations |
| Client | Urban Apartments | Scale | 1:0.63@A1 |
| | | Date Commenced | March 2019 |
| | | Drawing Number | **DA001** |
| | | Revision | **B** |

HIGH STREET

OUTLINE OF TOWER ABOVE

TOWER FOOTPRINT 15 STOREYS

608-612 HIGH STREET 6 STOREYS

NEW ROAD

ROAD WIDENING

SITE BOUNDARY

SITE BOUNDARY

SITE BOUNDARY

PEDESTRIAN LANEWAY

SITE BOUNDARY

UNION LANE

TOWER FOOTPRINT 12 STOREYS

83-85 UNION ROAD 8 STOREYS

79-81 UNION ROAD 5 STOREYS

608-612 HIGH STREET 6 STOREYS

**RETAIL 3** 225 m² + 27.60

**RETAIL 2** 113 m² + 27.60

**RETAIL 1** 128 m² + 27.60

**RETAIL 4** 141 m² + 27.63

**CAFE** 120 m² + 27.60

**COMMERCIAL LOBBY** 61 m² TOWER A + 27.63

**RESIDENTIAL LOBBY** 156 m²

**SERVICED APT LOBBY** 220 m²

RECEPTION

TOWER B

**Ground Carpark**
Car Spaces: 15 retail + 4 commercial
+1 accessible = 20

COMMERCIAL

AMENITIES 10 m²

CARE TAKER 12 m²

RETAIL

RETICOM

Bollard

B99 Vehicle

B85 Vehicle

Min. 2.2m head height

BICYCLE STORAGE CAGE - DOUBLE STACKED 74x2 SPACE

NBN 26 m²

SPRINKLER VALVE &PUMP 24 m²

FCR 26 m²

RETAIL / COMMERCIAL WASTE

RESIDENTIAL WASTE
18 + 18 recy = 36 bins

BIN

MAIL ROOM

RESIDENTIAL BULKYGOODS 44 m²

MECH ELEC 15 m²

STORE 9 m²

OFFICE / STORE

LIFT LOBBY

MRV 8,800 3,000

LRV 11,000 3,000

1,200

PUMP ROOM 18 m²

STORMWATER TANK 27 m²

MDB 68 m²

41 m²

SUB STATION

SEPARATE ROLLER SHUTTER DOORS FOR ENTRY/EXIT

HATCHED AREA INDICATE TRUCK MANOEUVRING ZONE - 4.5M HEIGH CLEARANCE

INTERCOM

BOLLARD

ROLLER SHUTTER DOOR

PRIVATE VEHICLE ENTRY

SERVICES VEHICLE ENTRY

FLUSH LEVEL ENTRY OR 35MM THRESHOLD RAMP

LEVEL ENTRY

Outline of the Awning Above

BOOSTER 7 m²

1:20

DASHED LINE INDICATE CENTRE OF UNION LANE

+ 27.52 + 27.53 + 27.68 + 27.66 + 27.69 + 27.58 + 27.65 + 27.15 + 27.02 + 27.11 + 27.22



| Rev. | Date | By | Ckd | Description |
|---|---|---|---|---|
| P6 | 1/11/2019 | | | Draft DA |
| P7 | 5/11/2019 | OS | SZ | Draft DA |
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ABN: 81956706590
NSW: Nominated Architects
Koos de Keijzer 5767
David Randerson 8542

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| | | | |
|---|---|---|---|
| Project Name | High Street Penrith | Project Number | 00012012 |
| Project Address | 614-632 High Street, Penrith, NSW 2750 | Drawing Name | Ground Floor Plan |
| Client | Urban Apartments | Scale | 1:200@A1 |
| | | Date Commenced | March 2019 |
| | | Drawing Number | DA200 |
| | | Revision | B |

HIGH STREET

TOWER FOOTPRINT 15 STOREYS

NEW ROAD

ROAD WIDENING

SITE BOUNDARY

Street Awning

OUTLINE OF TOWER ABOVE

SITE BOUNDARY

VOID

VOID

VOID

VOID

VOID

VOID

VOID

+32.400

## Mezzanine Level Carpark

Car Spaces: 4 commercial + 34 Serv.Apt
+ 4 Accessible + 2 Adaptable + 7 visitor = 51

COMMERCIAL 5,400

COMMERCIAL 5,400

COMMERCIAL

COMMERCIAL

2,600

TOWER A

SERV.APT

2.6 M Height Clearance

Bollard

SPRINKLER TANK 28 m³

5,800

6,700

6,100

6,200

2,600

3,800

ADAPTABLE 2.6 M Height Clearance

RESIDENTIAL

TOWER B

VISITOR

PLANTER

SITE BOUNDARY

SITE BOUNDARY

UNION LANE

DASHED LINE INDICATE CENTRE OF UNION LANE

608-612 HIGH STREET 6 STOREYS

608-612 HIGH STREET 6 STOREYS

83-85 UNION ROAD 8 STOREYS

79-81 UNION ROAD 5 STOREYS

TOWER FOOTPRINT 12 STOREYS



| Rev. | Date | By | Ckd | Description |
|---|---|---|---|---|
| P6 | 1/11/2019 | | | Draft DA |
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| | | | |
|---|---|---|---|
| Project Name | High Street Penrith | Project Number | 00012012 |
| Project Address | 614-632 High Street, Penrith, NSW 2750 | Drawing Name | Mezzanine Floor Plan |
| Client | Urban Apartments | Scale | 1:200@A1 |
| | | Date Commenced | March 2019 |
| | | Drawing Number | DA201 |
| | | Revision | B |

HIGH STREET

TOWER FOOTPRINT 15 STOREYS

NEW ROAD

ROAD WIDENING

SITE BOUNDARY

OUTLINE OF TOWER ABOVE

SITE BOUNDARY

PLANTER

## Podium Level 1 Carpark

Car Spaces: 15 Serviced Apartments
+ 50 Residential + 9 Adaptable+ 15 visitor = 89

+35.500

TOWER A

TOWER B

24 STORAGE CAGES

STORAGE AREA 37 m²

PLANTER

STORAGE AREA 16 m²

57 STORAGE CAGES

STORAGE AREA 71 m²

PLANTER

PLANTER

SITE BOUNDARY

SITE BOUNDARY

608-612 HIGH STREET 6 STOREYS

608-612 HIGH STREET 6 STOREYS

UNION LANE

DASHED LINE INDICATE CENTRE OF UNION LANE

TOWER FOOTPRINT 12 STOREYS

83-85 UNION ROAD 8 STOREYS

79-81 UNION ROAD 5 STOREYS



| Rev. | Date | By | Ckd | Description |
|---|---|---|---|---|
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| | | | |
|---|---|---|---|
| Project Name | High Street Penrith | Project Number | 00012012 |
| Project Address | 614-632 High Street, Penrith, NSW 2750 | Drawing Name | Level 1 Carpark |
| Client | Urban Apartments | Scale | 1:200@A1 |
| | | Date Commenced | March 2019 |
| | | Drawing Number | DA202 |
| | | Revision | B |

HIGH STREET

TOWER FOOTPRINT 15 STOREYS

NEW ROAD

ROAD WIDENING

SITE BOUNDARY

OUTLINE OF TOWER ABOVE

SITE BOUNDARY

PLANTER

## Podium Level 2 Carpark

Car Spaces: 65 Residential + 9 Adaptable+ 15 visitor = 89

+38.600

TOWER A

TOWER B

RESI

VISITOR

ADAPTABLE 2.5M Height Clearance

24 STORAGE CAGES

STORAGE AREA 37 m²

STORAGE AREA 16 m²

57 STORAGE CAGES

STORAGE AREA 71 m²

5,900

6,100

6,700

6,800

6,200

5,800

2,600

3,800

3,600

4 : 1

8 : 1

SITE BOUNDARY

PLANTER

SITE BOUNDARY

UNION LANE

DASHED LINE INDICATE CENTRE OF UNION LANE

608-612 HIGH STREET 6 STOREYS

608-612 HIGH STREET 6 STOREYS

83-85 UNION ROAD 8 STOREYS

79-81 UNION ROAD 5 STOREYS

TOWER FOOTPRINT 12 STOREYS



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|---|---|---|---|---|
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|---|---|---|---|
| Project Name | High Street Penrith | Project Number | 00012012 |
| Project Address | 614-632 High Street, Penrith, NSW 2750 | Drawing Name | Level 2 Carpark |
| Client | Urban Apartments | Scale | 1:200@A1 |
| | | Date Commenced | March 2019 |
| | | Drawing Number | DA203 |
| | | Revision | B |

HIGH STREET

TOWER FOOTPRINT 15 STOREYS

NEW ROAD

ROAD WIDENING

SITE BOUNDARY

OUTLINE OF TOWER ABOVE

SITE BOUNDARY

PLANTER

## Podium Level 3 Carpark

Car Spaces: 65 Residential + 9 Adaptable+ 15 visitor = 89

+41.700

RESI

VISITOR

ADAPTABLE 2.5 M Height Clearance

TOWER A

TOWER B

18 STORAGE CAGES

STORAGE AREA 29 m²

STAIR PRESS & PLENUM

LIFT

LIFT OVERRUN

51 STORAGE CAGES

STORAGE AREA 9 m²

STORAGE AREA 71 m²

5,900

6,100

6,700

6,200

5,800

2,600

3,800

3,900

6,500

PLANTER

SITE BOUNDARY

608-612 HIGH STREET 6 STOREYS

608-612 HIGH STREET 6 STOREYS

UNION LANE

DASHED LINE INDICATE CENTRE OF UNION LANE

TOWER FOOTPRINT 12 STOREYS

83-85 UNION ROAD 8 STOREYS

79-81 UNION ROAD 5 STOREYS



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|---|---|---|---|---|
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| | | | |
|---|---|---|---|
| Project Name | High Street Penrith | Project Number | 00012012 |
| Project Address | 614-632 High Street, Penrith, NSW 2750 | Drawing Name | Level 3 Carpark |
| Client | Urban Apartments | Scale | 1:200@A1 |
| | | Date Commenced | March 2019 |
| | | Drawing Number | DA204 |
| | | Revision | B |

HIGH STREET

TOWER
FOOTPRINT
15 STOREYS

NEW ROAD

ROAD WIDENING

SITE BOUNDARY

SITE

102 m²

106 m²

89 m²

COMMERCIAL
470 m²

129 m²

ACCESSIBLE TOILETS

MALE TOILETS

FEMALE TOILETS

ELEC

COMMS

SERVICES

TOWER A

RL 44.800

SERVICES

SERVICES

SWIMMING POOL ABOVE

STRUCTURE ABOVE

[redacted]

12.080
SETBACK FROM BOUNDARY

10.380

SITE BOUNDARY

608-612 HIGH
STREET
6 STOREYS

SITE BOUNDARY

UNION LANE

10.346

DASHED LINE INDICATE CENTRE OF UNION LANE

TOWER
FOOTPRINT
12 STOREYS

83-85 UNION
ROAD
8 STOREYS

79-81 UNION
ROAD
5 STOREYS

608-612 HIGH
STREET
6 STOREYS



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|---|---|---|---|---|
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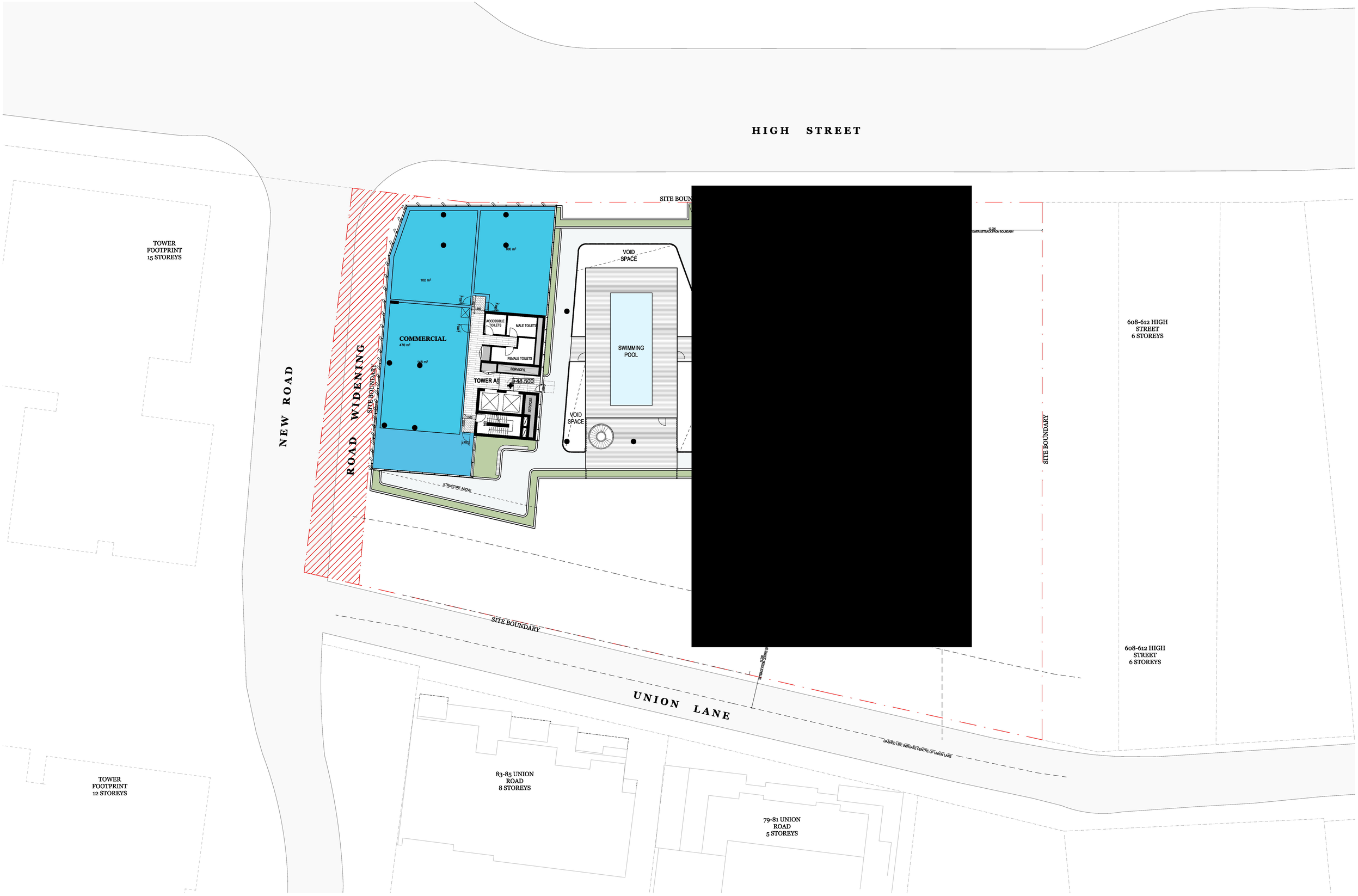
|---|---|---|---|
| Project Name | High Street Penrith | Project Number | 00012012 |
| Project Address | 614-632 High Street, Penrith, NSW 2750 | Drawing Name | Level 4 Podium |
| Client | Urban Apartments | Scale | 1:200@A1 |
| | | Date Commenced | March 2019 |
| | | Drawing Number | **DA205** |
| | | Revision | **B** |






| Rev. | Date | By | Ckd | Description |
|---|---|---|---|---|
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|---|---|---|---|
| Project Name | High Street Penrith | Project Number | 00012012 |
| Project Address | 614-632 High Street, Penrith, NSW 2750 | Drawing Name | Level 5 Podium |
| Client | Urban Apartments | Scale | 1:200@A1 |
| | | Date Commenced | March 2019 |
| | | Drawing Number | DA206 |
| | | Revision | B |

HIGH STREET

TOWER
FOOTPRINT
15 STOREYS

NEW ROAD

ROAD WIDENING

SITE BOUNDARY

SITE B

4.270

102 m²

106 m²

COMMERCIAL
433 m²

105 m²

ACCESSIBLE TOILETS

MALE TOILETS

FEMALE TOILETS

SERVICES

TOWER A/B

RL 52.200

SERVICES

MECH SERVICES

FULL HEIGHT SCREEN

VOID SPACE

[redacted]

12.000
SETBACK FROM BOUNDARY

SITE BOUNDARY

608-612 HIGH
STREET
6 STOREYS

608-612 HIGH
STREET
6 STOREYS

SITE BOUNDARY

UNION LANE

DASHED LINE INDICATE CENTRE OF UNION LANE

TOWER
FOOTPRINT
12 STOREYS

83-85 UNION
ROAD
8 STOREYS

79-81 UNION
ROAD
5 STOREYS



| Rev. | Date | By | Ckd | Description |
|---|---|---|---|---|
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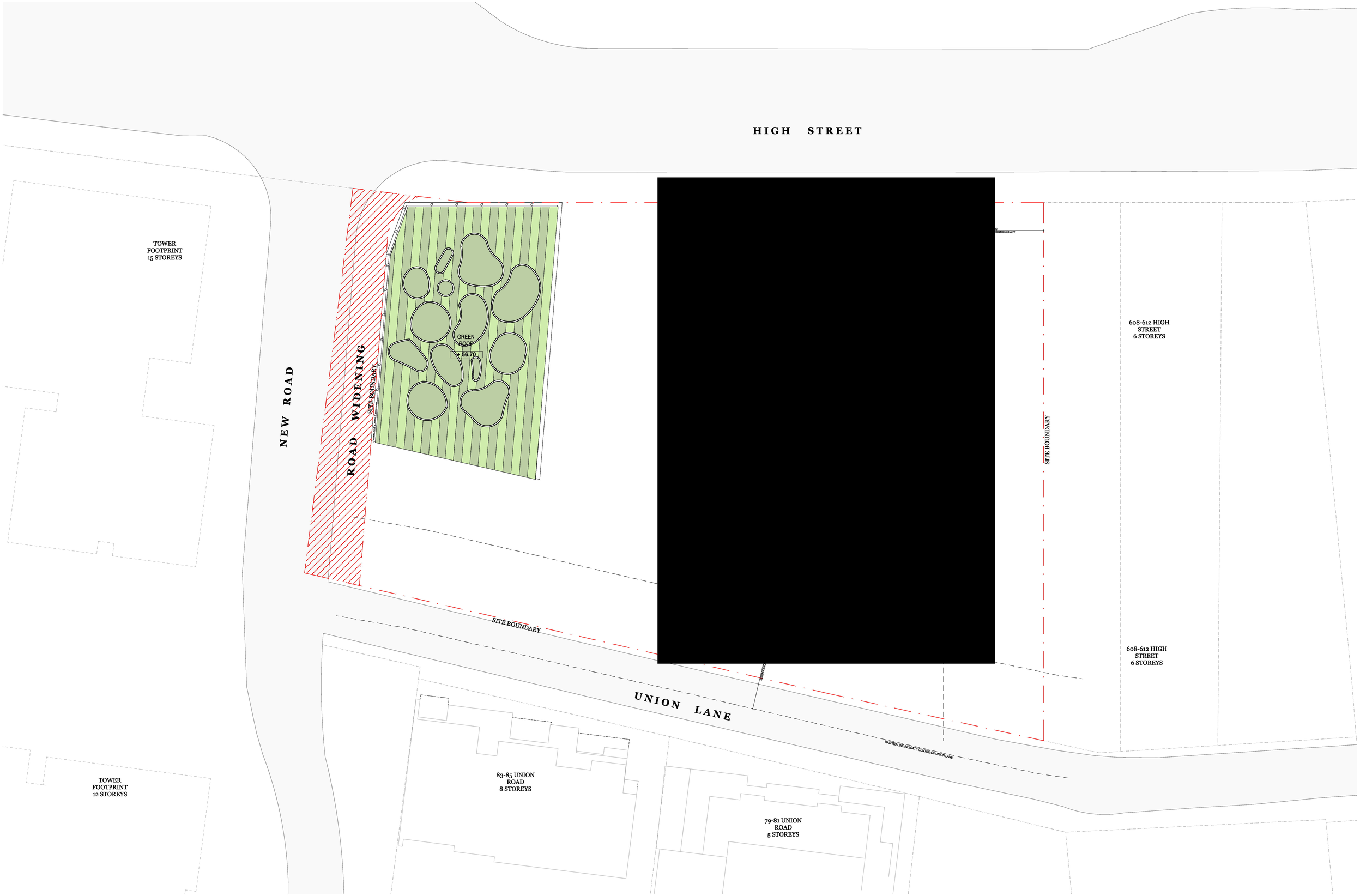
|---|---|
| Project Name | High Street Penrith |
| Project Address | 614-632 High Street, Penrith, NSW 2750 |
| Client | Urban Apartments |
| Project Number | 00012012 |
| Drawing Name | Level 6 Podium |
| Scale | 1:200@A1 |
| Date Commenced | March 2019 |
| Drawing Number | DA207 |
| Revision | B |






| Rev. | Date | By | Ckd | Description |
|---|---|---|---|---|
| P6 | 1/11/2019 | | | Draft DA |
| P7 | 5/11/2019 | OS | SZ | Draft DA |
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| B | 27/03/2020 | | | DA |

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|---|---|---|---|
| Project Name | High Street Penrith | Project Number | 00012012 |
| Project Address | 614-632 High Street, Penrith, NSW 2750 | Drawing Name | Level 7 Plan |
| Client | Urban Apartments | Scale | 1:200@A1 |
| | | Date Commenced | March 2019 |
| | | Drawing Number | **DA208** |
| | | Revision | **B** |

HIGH STREET

TOWER
FOOTPRINT
15 STOREYS

NEW ROAD

ROAD WIDENING
SITE BOUNDARY

[redacted]

SITE BOUNDARY

608-612 HIGH
STREET
6 STOREYS

SITE BOUNDARY

UNION LANE

DASHED LINE INDICATE CENTRE OF UNION LANE

608-612 HIGH
STREET
6 STOREYS

TOWER
FOOTPRINT
12 STOREYS

83-85 UNION
ROAD
8 STOREYS

79-81 UNION
ROAD
5 STOREYS

**NOTE:**
Drawing shows Level 8 floor plan



| Rev. | Date | By | Ckd | Description |
|---|---|---|---|---|
| B | 27/03/2020 | | | DA |

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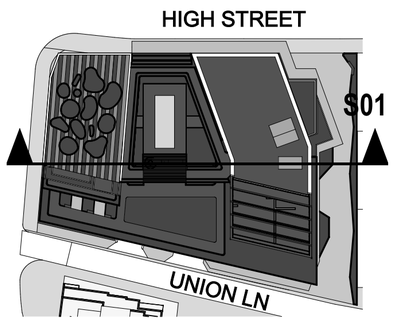
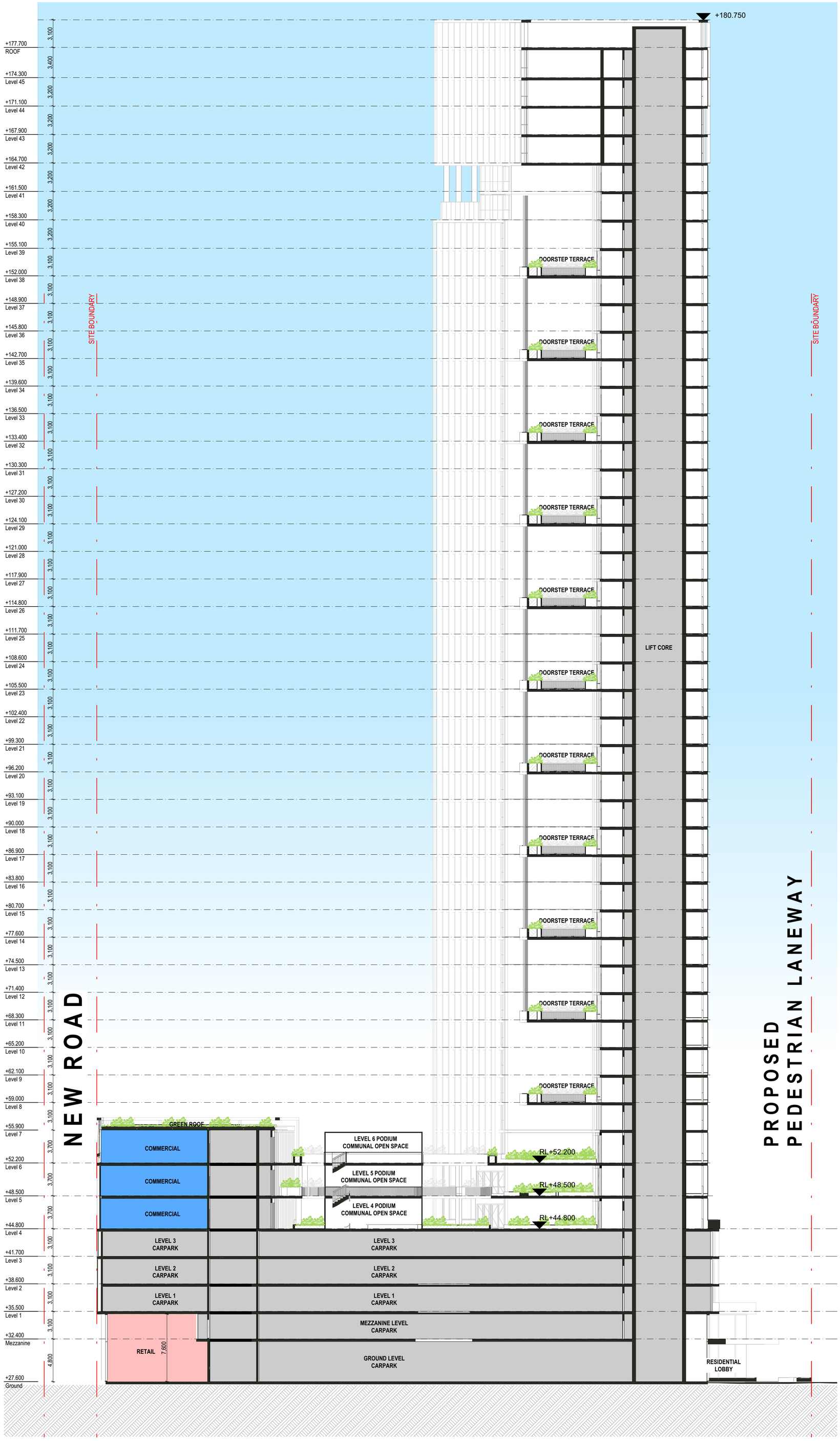
|---|---|---|---|
| Project Name | High Street Penrith | Project Number | 00012012 |
| Project Address | 614-632 High Street, Penrith, NSW 2750 | Drawing Name | Level 8 Plan |
| Client | Urban Apartments | Scale | 1:200@A1 |
| | | Date Commenced | March 2019 |
| | | Drawing Number | DA209 |
| | | Revision | B |

## KEY MAP



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|---|---|---|---|---|
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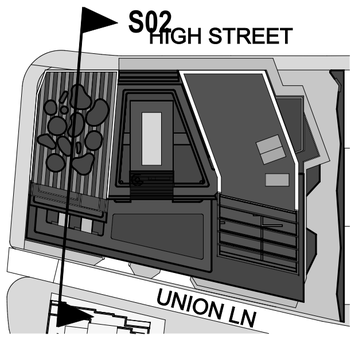
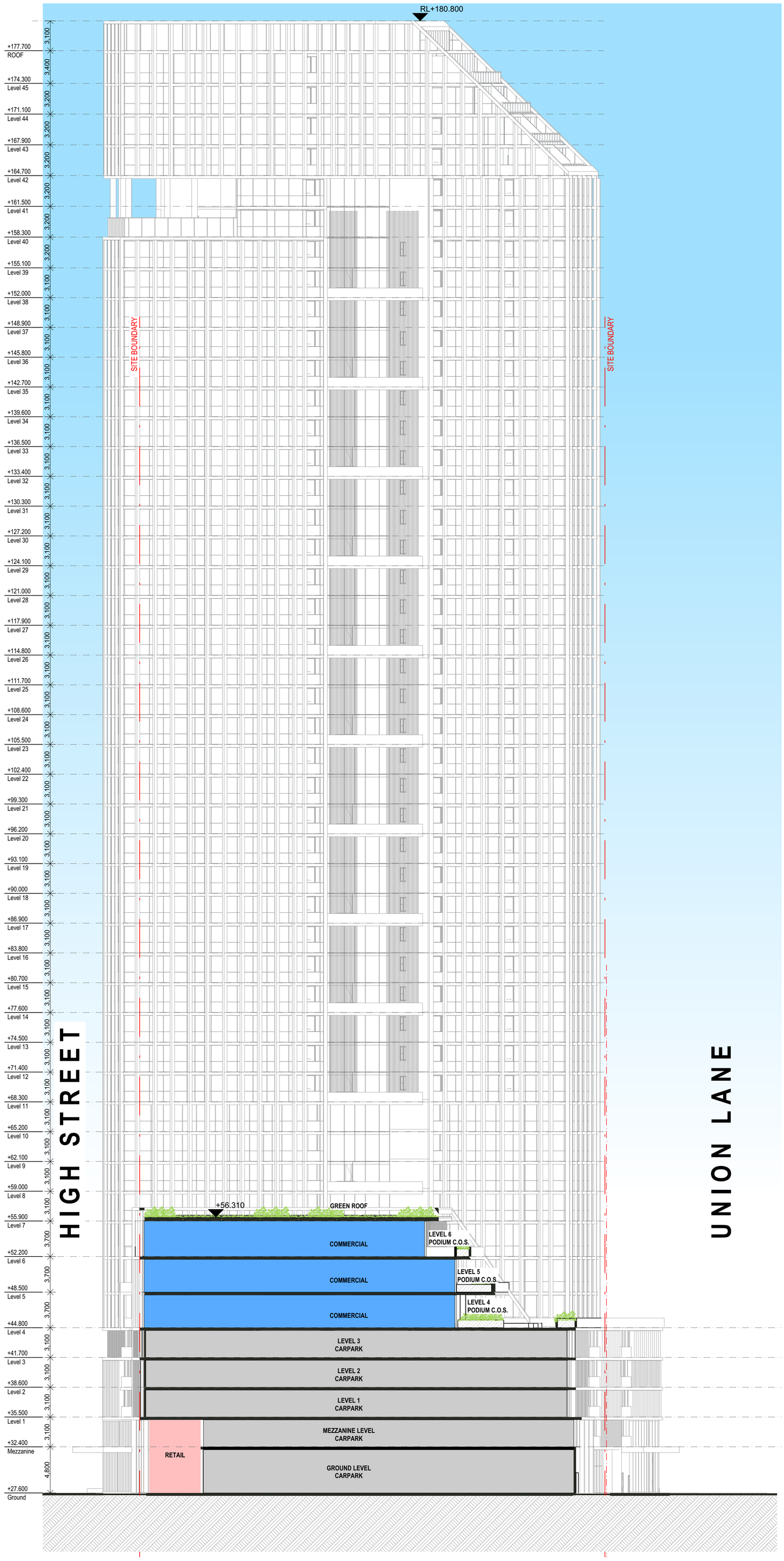
| | |
|---|---|
| Project Name | High Street Penrith |
| Project Number | 00012012 |
| Project Address | 614-632 High Street Penrith NSW 2750 Australia |
| Drawn By | |
| Checked By | |
| Date | March 2019 |
| Scale | |

| | |
|---|---|
| Drawing Series | Elevations & Sections |
| Drawing Name | Sections - Sheet 1 |
| Drawing Number | DA304 |
| Revision | B |

## KEY MAP






| Rev. | Date | By | Ckd | Description |
|---|---|---|---|---|
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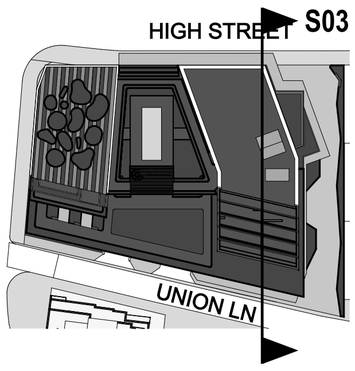
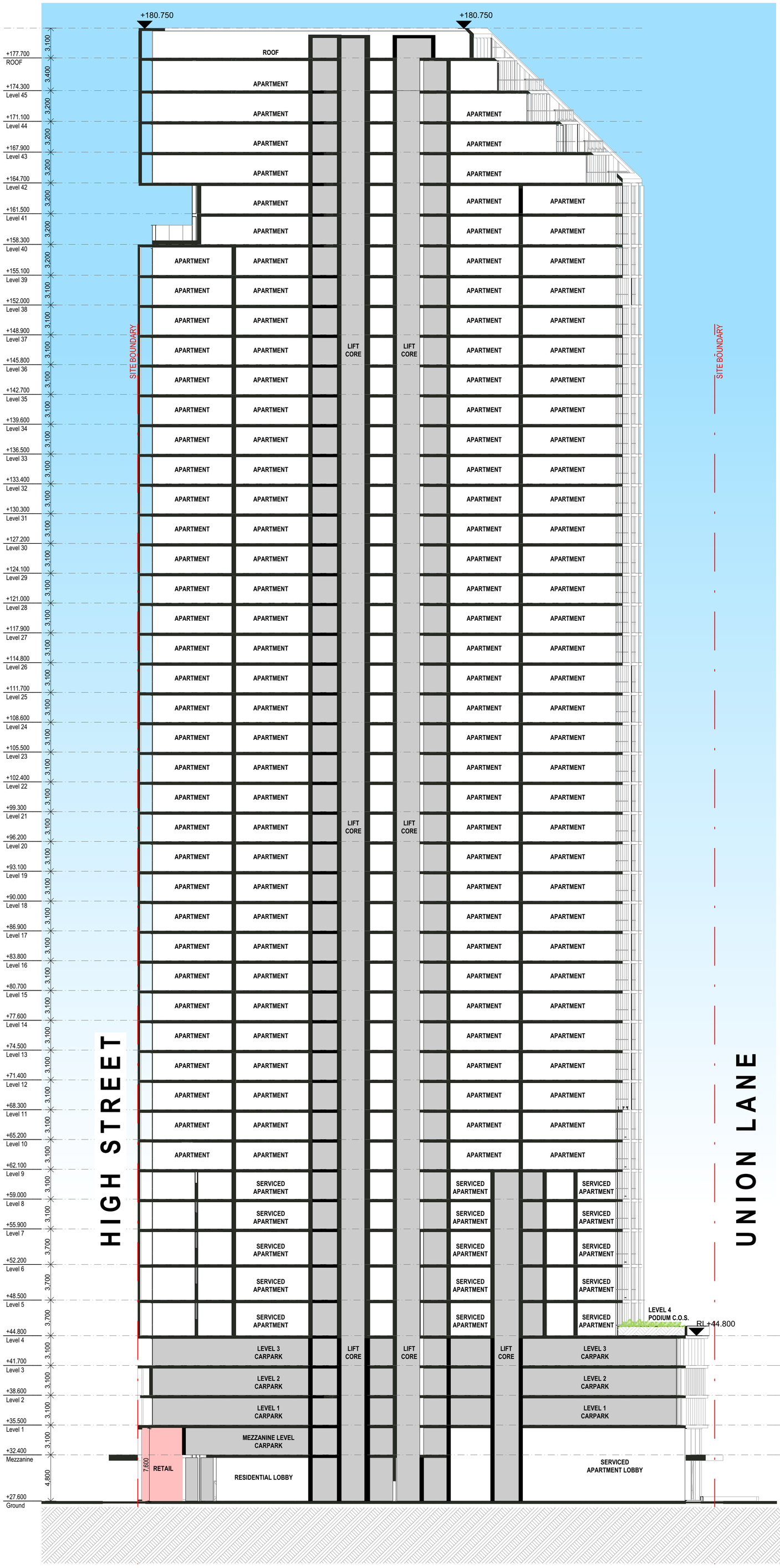
| | |
|---|---|
| Project Name | High Street Penrith |
| Project Number | 00012012 |
| Project Address | 614-632 High Street Penrith NSW 2750 Australia |
| Drawn By | |
| Checked By | |
| Date | March 2019 |
| Scale | |

| | |
|---|---|
| Drawing Series | Elevations & Sections |
| Drawing Name | Sections - Sheet 2 |
| Drawing Number | DA305 |
| Revision | B |

## KEY MAP






| Rev. | Date | By | Ckd | Description |
|---|---|---|---|---|
| P6 | 1/11/2019 | | | Draft DA |
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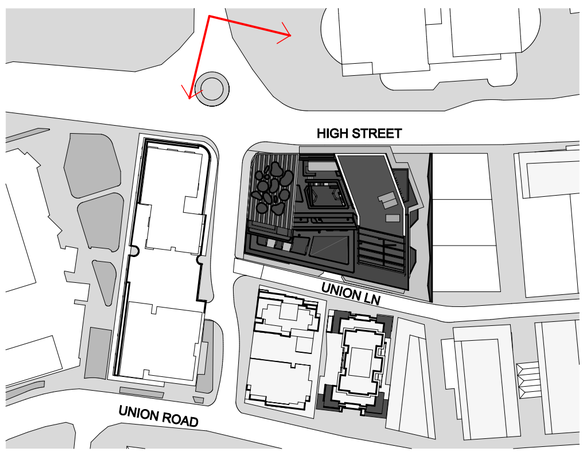
| | |
|---|---|
| Project Name | High Street Penrith |
| Project Number | 00012012 |
| Project Address | 614-632 High Street Penrith NSW 2750 Australia |
| Drawn By | |
| Checked By | |
| Date | March 2019 |
| Scale | |

| | |
|---|---|
| Drawing Series | Elevations & Sections |
| Drawing Name | Sections - Sheet 3 |
| Drawing Number | DA306 |
| Revision | B |




# KEY PLAN



| Rev. | Date | By | Ckd | Description |
|---|---|---|---|---|
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| | |
|---|---|
| Project Name | High Street Penrith |
| Project Number | 00012012 |
| Project Address | 614-632 High Street Penrith NSW 2750 Australia |
| Drawn By | |
| Checked By | |
| Date | March 2019 |
| Scale | |

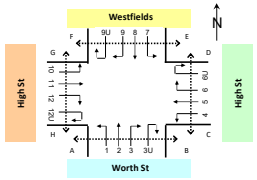
| | |
|---|---|
| Drawing Series | Elevations & Sections |
| Drawing Name | Streetscape Montage |
| Drawing Number | DA307 |
| Revision | B |

# APPENDIX B

# TRAFFIC SURVEY DATA

| | |
|---|---|
| Job No. | : N5611 |
| Client | : Varga Traffic Planning |
| Suburb | : Penrith |
| Location | : 1. High St / Worth St / Westfields |
| Day/Date | : Thu, 13th February 2020 |
| Weather | : Fine |
| Description | : Classified Intersection Count |
| | : 15 mins Data |

| Classifications | Class 1 | Class 2 | Class 3 |
|---|---|---|---|
| | Lights | Heavies | Buses |



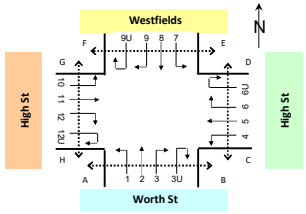

MATRIX
Traffic and Transport Data

| Approach | Worth St | | | | | | | | | | | | | | | | High St | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Direction 1 (Left Turn) | | | | Direction 2 (Through) | | | | Direction 3 (Right Turn) | | | | Direction 3U (U Turn) | | | | Direction 4 (Left Turn) | | | | Direction 5 (Through) | | | | Direction 6 (Right Turn) | | | | Direction 6U (U Turn) | | | |
| Time Period | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total |
| 6:30 to 6:45 | 15 | 0 | 0 | **15** | 2 | 0 | 0 | **2** | 6 | 0 | 0 | **6** | 0 | 0 | 0 | **0** | 4 | 2 | 0 | **6** | 25 | 0 | 0 | **25** | 2 | 0 | 0 | **2** | 0 | 0 | 0 | **0** |
| 6:45 to 7:00 | 14 | 0 | 0 | **14** | 4 | 0 | 0 | **4** | 10 | 0 | 0 | **10** | 0 | 0 | 0 | **0** | 3 | 0 | 0 | **3** | 28 | 0 | 0 | **28** | 1 | 0 | 0 | **1** | 0 | 0 | 0 | **0** |
| 7:00 to 7:15 | 33 | 0 | 0 | **33** | 4 | 0 | 0 | **4** | 14 | 0 | 0 | **14** | 0 | 0 | 0 | **0** | 6 | 1 | 0 | **7** | 31 | 1 | 0 | **32** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** |
| 7:15 to 7:30 | 27 | 1 | 0 | **28** | 6 | 0 | 0 | **6** | 17 | 1 | 0 | **18** | 0 | 0 | 0 | **0** | 4 | 0 | 0 | **4** | 24 | 1 | 0 | **25** | 1 | 0 | 0 | **1** | 0 | 0 | 0 | **0** |
| 7:30 to 7:45 | 24 | 0 | 0 | **24** | 12 | 0 | 0 | **12** | 10 | 0 | 0 | **10** | 0 | 0 | 0 | **0** | 6 | 0 | 0 | **6** | 45 | 3 | 0 | **48** | 4 | 0 | 0 | **4** | 0 | 0 | 0 | **0** |
| 7:45 to 8:00 | 21 | 1 | 0 | **22** | 11 | 0 | 0 | **11** | 17 | 0 | 0 | **17** | 0 | 0 | 0 | **0** | 16 | 1 | 0 | **17** | 33 | 1 | 0 | **34** | 4 | 0 | 0 | **4** | 0 | 0 | 0 | **0** |
| 8:00 to 8:15 | 35 | 0 | 0 | **35** | 20 | 0 | 0 | **20** | 9 | 2 | 0 | **11** | 0 | 0 | 0 | **0** | 8 | 0 | 0 | **8** | 36 | 1 | 0 | **37** | 4 | 0 | 0 | **4** | 0 | 0 | 0 | **0** |
| 8:15 to 8:30 | 35 | 0 | 0 | **35** | 29 | 0 | 0 | **29** | 16 | 1 | 0 | **17** | 0 | 0 | 0 | **0** | 11 | 1 | 0 | **12** | 47 | 1 | 0 | **48** | 17 | 0 | 0 | **17** | 0 | 0 | 0 | **0** |
| 8:30 to 8:45 | 34 | 2 | 0 | **36** | 37 | 0 | 0 | **37** | 11 | 0 | 0 | **11** | 0 | 0 | 0 | **0** | 14 | 0 | 0 | **14** | 49 | 0 | 0 | **49** | 20 | 0 | 0 | **20** | 0 | 0 | 0 | **0** |
| 8:45 to 9:00 | 30 | 0 | 0 | **30** | 48 | 0 | 0 | **48** | 14 | 1 | 0 | **15** | 0 | 0 | 0 | **0** | 13 | 2 | 0 | **15** | 43 | 0 | 1 | **44** | 32 | 0 | 0 | **32** | 0 | 0 | 0 | **0** |
| 9:00 to 9:15 | 42 | 2 | 0 | **44** | 76 | 0 | 0 | **76** | 17 | 1 | 0 | **18** | 1 | 0 | 0 | **1** | 10 | 0 | 0 | **10** | 43 | 1 | 0 | **44** | 39 | 0 | 0 | **39** | 0 | 0 | 0 | **0** |
| 9:15 to 9:30 | 33 | 4 | 0 | **37** | 60 | 0 | 0 | **60** | 11 | 0 | 0 | **11** | 0 | 0 | 0 | **0** | 13 | 0 | 0 | **13** | 31 | 2 | 0 | **33** | 38 | 0 | 0 | **38** | 0 | 0 | 0 | **0** |
| **AM Totals** | **343** | **10** | **0** | **353** | **309** | **0** | **0** | **309** | **152** | **6** | **0** | **158** | **1** | **0** | **0** | **1** | **108** | **7** | **0** | **115** | **435** | **11** | **1** | **447** | **162** | **0** | **0** | **162** | **0** | **0** | **0** | **0** |
| 15:30 to 15:45 | 73 | 0 | 0 | **73** | 68 | 0 | 0 | **68** | 10 | 0 | 0 | **10** | 0 | 0 | 0 | **0** | 7 | 0 | 0 | **7** | 64 | 0 | 0 | **64** | 28 | 0 | 0 | **28** | 0 | 0 | 0 | **0** |
| 15:45 to 16:00 | 62 | 1 | 0 | **63** | 68 | 0 | 0 | **68** | 9 | 0 | 0 | **9** | 0 | 0 | 0 | **0** | 12 | 1 | 0 | **13** | 80 | 0 | 0 | **80** | 45 | 0 | 0 | **45** | 0 | 0 | 0 | **0** |
| 16:00 to 16:15 | 69 | 2 | 0 | **71** | 80 | 0 | 0 | **80** | 15 | 0 | 0 | **15** | 0 | 0 | 0 | **0** | 11 | 1 | 0 | **12** | 83 | 1 | 0 | **84** | 44 | 0 | 0 | **44** | 0 | 0 | 0 | **0** |
| 16:15 to 16:30 | 89 | 0 | 0 | **89** | 63 | 0 | 0 | **63** | 10 | 0 | 0 | **10** | 0 | 0 | 0 | **0** | 22 | 0 | 0 | **22** | 71 | 0 | 0 | **71** | 43 | 0 | 0 | **43** | 0 | 0 | 0 | **0** |
| 16:30 to 16:45 | 75 | 0 | 0 | **75** | 65 | 0 | 0 | **65** | 14 | 0 | 0 | **14** | 0 | 0 | 0 | **0** | 18 | 0 | 0 | **18** | 72 | 0 | 0 | **72** | 52 | 0 | 0 | **52** | 0 | 0 | 0 | **0** |
| 16:45 to 17:00 | 92 | 0 | 0 | **92** | 79 | 0 | 0 | **79** | 15 | 0 | 0 | **15** | 0 | 0 | 0 | **0** | 9 | 0 | 0 | **9** | 77 | 2 | 0 | **79** | 30 | 0 | 0 | **30** | 0 | 0 | 0 | **0** |
| 17:00 to 17:15 | 83 | 0 | 0 | **83** | 52 | 0 | 0 | **52** | 12 | 0 | 0 | **12** | 0 | 0 | 0 | **0** | 15 | 0 | 0 | **15** | 99 | 0 | 0 | **99** | 46 | 0 | 0 | **46** | 0 | 0 | 0 | **0** |
| 17:15 to 17:30 | 74 | 0 | 0 | **74** | 72 | 0 | 0 | **72** | 22 | 0 | 0 | **22** | 0 | 0 | 0 | **0** | 7 | 0 | 0 | **7** | 77 | 0 | 0 | **77** | 40 | 0 | 0 | **40** | 1 | 0 | 0 | **1** |
| 17:30 to 17:45 | 61 | 0 | 0 | **61** | 76 | 0 | 0 | **76** | 10 | 0 | 0 | **10** | 0 | 0 | 0 | **0** | 19 | 0 | 0 | **19** | 80 | 0 | 0 | **80** | 53 | 0 | 0 | **53** | 0 | 0 | 0 | **0** |
| 17:45 to 18:00 | 58 | 0 | 0 | **58** | 58 | 0 | 0 | **58** | 25 | 0 | 0 | **25** | 0 | 0 | 0 | **0** | 7 | 0 | 0 | **7** | 88 | 0 | 0 | **88** | 54 | 0 | 0 | **54** | 0 | 0 | 0 | **0** |
| 18:00 to 18:15 | 65 | 0 | 0 | **65** | 82 | 0 | 0 | **82** | 14 | 0 | 0 | **14** | 0 | 0 | 0 | **0** | 13 | 0 | 0 | **13** | 72 | 0 | 0 | **72** | 45 | 0 | 0 | **45** | 0 | 0 | 0 | **0** |
| 18:15 to 18:30 | 55 | 1 | 0 | **56** | 60 | 0 | 0 | **60** | 9 | 0 | 0 | **9** | 0 | 0 | 0 | **0** | 9 | 0 | 0 | **9** | 67 | 0 | 0 | **67** | 48 | 0 | 0 | **48** | 0 | 0 | 0 | **0** |
| **PM Totals** | **856** | **4** | **0** | **860** | **823** | **0** | **0** | **823** | **165** | **0** | **0** | **165** | **0** | **0** | **0** | **0** | **149** | **2** | **0** | **151** | **930** | **3** | **0** | **933** | **528** | **0** | **0** | **528** | **1** | **0** | **0** | **1** |

| Approach | Westfields | | | | | | | | | | | | | | | | High St | | | | | | | | | | | | | | | | Crossing Pedestrians | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Direction 7 (Left Turn) | | | | Direction 8 (Through) | | | | Direction 9 (Right Turn) | | | | Direction 9U (U Turn) | | | | Direction 10 (Left Turn) | | | | Direction 11 (Through) | | | | Direction 12 (Right Turn) | | | | Direction 12U (U Turn) | | | | | | | | | | | |
| Time Period | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | B to A | A to B | D to C | C to D | F to E | E to F | H to G | G to H | Total |
| 6:30 to 6:45 | 0 | 0 | 0 | **0** | 2 | 0 | 0 | **2** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 18 | 0 | 1 | **19** | 7 | 0 | 0 | **7** | 0 | 0 | 0 | **0** | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | **1** |
| 6:45 to 7:00 | 1 | 0 | 0 | **1** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 3 | 0 | 0 | **3** | 51 | 0 | 0 | **51** | 17 | 1 | 0 | **18** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | **2** |
| 7:00 to 7:15 | 0 | 0 | 0 | **0** | 1 | 0 | 0 | **1** | 1 | 0 | 0 | **1** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 36 | 2 | 1 | **39** | 6 | 0 | 0 | **6** | 0 | 0 | 0 | **0** | 0 | 1 | 0 | 2 | 0 | 0 | 2 | 1 | **6** |
| 7:15 to 7:30 | 1 | 0 | 0 | **1** | 0 | 0 | 0 | **0** | 2 | 0 | 0 | **2** | 0 | 0 | 0 | **0** | 5 | 0 | 0 | **5** | 61 | 4 | 2 | **67** | 15 | 0 | 0 | **15** | 0 | 0 | 0 | **0** | 0 | 1 | 0 | 3 | 3 | 1 | 4 | 0 | **12** |
| 7:30 to 7:45 | 0 | 0 | 0 | **0** | 3 | 0 | 0 | **3** | 2 | 0 | 0 | **2** | 0 | 0 | 0 | **0** | 8 | 0 | 0 | **8** | 42 | 0 | 1 | **43** | 28 | 0 | 0 | **28** | 0 | 0 | 0 | **0** | 3 | 1 | 0 | 1 | 1 | 0 | 5 | 4 | **15** |
| 7:45 to 8:00 | 1 | 0 | 0 | **1** | 5 | 0 | 0 | **5** | 1 | 0 | 0 | **1** | 0 | 0 | 0 | **0** | 8 | 0 | 0 | **8** | 55 | 0 | 2 | **57** | 33 | 0 | 0 | **33** | 1 | 0 | 0 | **1** | 4 | 1 | 0 | 3 | 0 | 2 | 16 | 2 | **28** |
| 8:00 to 8:15 | 2 | 0 | 0 | **2** | 2 | 0 | 0 | **2** | 4 | 0 | 0 | **4** | 0 | 0 | 0 | **0** | 15 | 0 | 0 | **15** | 77 | 3 | 0 | **80** | 31 | 0 | 0 | **31** | 0 | 0 | 0 | **0** | 5 | 1 | 0 | 5 | 0 | 0 | 14 | 3 | **28** |
| 8:15 to 8:30 | 4 | 0 | 0 | **4** | 3 | 0 | 0 | **3** | 3 | 0 | 0 | **3** | 0 | 0 | 0 | **0** | 21 | 0 | 0 | **21** | 62 | 0 | 0 | **62** | 33 | 0 | 0 | **33** | 0 | 0 | 0 | **0** | 5 | 0 | 0 | 8 | 0 | 2 | 10 | 10 | **35** |
| 8:30 to 8:45 | 2 | 0 | 0 | **2** | 8 | 0 | 0 | **8** | 4 | 0 | 0 | **4** | 0 | 0 | 0 | **0** | 35 | 0 | 0 | **35** | 62 | 0 | 2 | **64** | 35 | 0 | 0 | **35** | 0 | 0 | 0 | **0** | 5 | 2 | 0 | 5 | 2 | 0 | 22 | 10 | **46** |
| 8:45 to 9:00 | 1 | 0 | 0 | **1** | 7 | 0 | 0 | **7** | 4 | 0 | 0 | **4** | 0 | 0 | 0 | **0** | 36 | 0 | 0 | **36** | 68 | 0 | 1 | **69** | 39 | 0 | 0 | **39** | 0 | 0 | 0 | **0** | 10 | 6 | 1 | 3 | 2 | 0 | 14 | 12 | **48** |
| 9:00 to 9:15 | 10 | 0 | 0 | **10** | 10 | 0 | 0 | **10** | 16 | 0 | 0 | **16** | 0 | 0 | 0 | **0** | 46 | 0 | 0 | **46** | 46 | 3 | 1 | **50** | 25 | 0 | 0 | **25** | 0 | 0 | 0 | **0** | 14 | 4 | 1 | 1 | 0 | 0 | 6 | 11 | **37** |
| 9:15 to 9:30 | 7 | 0 | 0 | **7** | 16 | 0 | 0 | **16** | 26 | 0 | 0 | **26** | 0 | 0 | 0 | **0** | 68 | 0 | 0 | **68** | 44 | 5 | 1 | **50** | 30 | 0 | 0 | **30** | 0 | 0 | 0 | **0** | 10 | 8 | 0 | 0 | 0 | 0 | 17 | 15 | **50** |
| **AM Totals** | **29** | **0** | **0** | **29** | **57** | **0** | **0** | **57** | **63** | **0** | **0** | **63** | **0** | **0** | **0** | **0** | **245** | **0** | **0** | **245** | **622** | **17** | **12** | **651** | **299** | **1** | **0** | **300** | **1** | **0** | **0** | **1** | **56** | **25** | **3** | **32** | **8** | **5** | **111** | **68** | **308** |
| 15:30 to 15:45 | 35 | 0 | 0 | **35** | 57 | 0 | 0 | **57** | 60 | 0 | 0 | **60** | 0 | 0 | 0 | **0** | 56 | 0 | 0 | **56** | 55 | 2 | 0 | **57** | 17 | 0 | 0 | **17** | 0 | 0 | 0 | **0** | 12 | 7 | 0 | 0 | 2 | 0 | 12 | 16 | **49** |
| 15:45 to 16:00 | 26 | 0 | 0 | **26** | 60 | 0 | 0 | **60** | 64 | 0 | 0 | **64** | 0 | 0 | 0 | **0** | 62 | 0 | 0 | **62** | 59 | 0 | 0 | **59** | 23 | 0 | 0 | **23** | 0 | 0 | 0 | **0** | 7 | 11 | 0 | 2 | 0 | 3 | 8 | 11 | **42** |
| 16:00 to 16:15 | 38 | 0 | 0 | **38** | 57 | 0 | 0 | **57** | 50 | 0 | 0 | **50** | 0 | 0 | 0 | **0** | 77 | 0 | 0 | **77** | 55 | 1 | 1 | **57** | 23 | 0 | 0 | **23** | 0 | 0 | 0 | **0** | 4 | 12 | 6 | 6 | 3 | 1 | 10 | 15 | **57** |
| 16:15 to 16:30 | 33 | 0 | 0 | **33** | 66 | 0 | 0 | **66** | 70 | 0 | 0 | **70** | 0 | 0 | 0 | **0** | 74 | 0 | 0 | **74** | 47 | 1 | 1 | **49** | 14 | 0 | 0 | **14** | 0 | 0 | 0 | **0** | 2 | 5 | 3 | 2 | 1 | 2 | 18 | 12 | **45** |
| 16:30 to 16:45 | 43 | 0 | 0 | **43** | 83 | 0 | 0 | **83** | 60 | 0 | 0 | **60** | 0 | 0 | 0 | **0** | 59 | 0 | 0 | **59** | 55 | 0 | 1 | **56** | 11 | 0 | 0 | **11** | 0 | 0 | 0 | **0** | 2 | 6 | 6 | 1 | 0 | 0 | 11 | 11 | **37** |
| 16:45 to 17:00 | 50 | 0 | 0 | **50** | 56 | 0 | 0 | **56** | 61 | 0 | 0 | **61** | 0 | 0 | 0 | **0** | 60 | 0 | 0 | **60** | 51 | 0 | 0 | **51** | 24 | 0 | 0 | **24** | 0 | 0 | 0 | **0** | 4 | 6 | 6 | 3 | 4 | 0 | 12 | 7 | **42** |
| 17:00 to 17:15 | 19 | 0 | 0 | **19** | 47 | 0 | 0 | **47** | 61 | 0 | 0 | **61** | 0 | 0 | 0 | **0** | 70 | 0 | 0 | **70** | 59 | 0 | 1 | **60** | 18 | 1 | 0 | **19** | 0 | 0 | 0 | **0** | 3 | 15 | 5 | 1 | 2 | 1 | 8 | 17 | **52** |
| 17:15 to 17:30 | 43 | 0 | 0 | **43** | 82 | 0 | 0 | **82** | 71 | 0 | 0 | **71** | 0 | 0 | 0 | **0** | 62 | 0 | 0 | **62** | 56 | 0 | 0 | **56** | 24 | 0 | 0 | **24** | 0 | 0 | 0 | **0** | 3 | 7 | 1 | 0 | 0 | 1 | 5 | 8 | **25** |
| 17:30 to 17:45 | 46 | 0 | 0 | **46** | 69 | 0 | 0 | **69** | 65 | 0 | 0 | **65** | 0 | 0 | 0 | **0** | 60 | 0 | 0 | **60** | 44 | 0 | 1 | **45** | 20 | 0 | 0 | **20** | 0 | 0 | 0 | **0** | 1 | 7 | 1 | 3 | 1 | 3 | 4 | 14 | **34** |
| 17:45 to 18:00 | 43 | 0 | 0 | **43** | 67 | 0 | 0 | **67** | 53 | 0 | 0 | **53** | 0 | 0 | 0 | **0** | 74 | 0 | 0 | **74** | 67 | 0 | 0 | **67** | 14 | 0 | 0 | **14** | 0 | 0 | 0 | **0** | 0 | 1 | 4 | 0 | 0 | 1 | 4 | 7 | **17** |
| 18:00 to 18:15 | 29 | 0 | 0 | **29** | 58 | 0 | 0 | **58** | 70 | 0 | 0 | **70** | 0 | 0 | 0 | **0** | 72 | 0 | 0 | **72** | 48 | 0 | 0 | **48** | 20 | 0 | 0 | **20** | 0 | 0 | 0 | **0** | 1 | 3 | 1 | 2 | 2 | 0 | 7 | 5 | **21** |
| 18:15 to 18:30 | 40 | 0 | 0 | **40** | 55 | 0 | 0 | **55** | 52 | 0 | 0 | **52** | 0 | 0 | 0 | **0** | 57 | 0 | 0 | **57** | 55 | 0 | 0 | **55** | 15 | 0 | 0 | **15** | 0 | 0 | 0 | **0** | 0 | 4 | 0 | 0 | 1 | 0 | 6 | 8 | **19** |
| **PM Totals** | **445** | **0** | **0** | **445** | **757** | **0** | **0** | **757** | **737** | **0** | **0** | **737** | **0** | **0** | **0** | **0** | **783** | **0** | **0** | **783** | **651** | **4** | **5** | **660** | **223** | **1** | **0** | **224** | **0** | **0** | **0** | **0** | **39** | **84** | **33** | **20** | **16** | **12** | **105** | **131** | **440** |

**Job No.** : N5611
**Client** : Varga Traffic Planning
**Suburb** : Penrith
**Location** : 1. High St / Worth St / Westfields

**Day/Date** : Thu, 13th February 2020
**Weather** : Fine
**Description** : Classified Intersection Count
: Hourly Summary



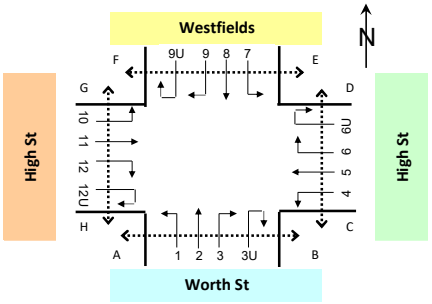

MATRIX Traffic and Transport Data

| Approach | Worth St | | | | | | | | | | | | | | | | High St | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Direction 1 (Left Turn) | | | | Direction 2 (Through) | | | | Direction 3 (Right Turn) | | | | Direction 3U (U Turn) | | | | Direction 4 (Left Turn) | | | | Direction 5 (Through) | | | | Direction 6 (Right Turn) | | | | Direction 6U (U Turn) | | | |
| Time Period | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total |
| 6:30 to 7:30 | 89 | 1 | 0 | **90** | 16 | 0 | 0 | **16** | 47 | 1 | 0 | **48** | 0 | 0 | 0 | **0** | 17 | 3 | 0 | **20** | 108 | 2 | 0 | **110** | 4 | 0 | 0 | **4** | 0 | 0 | 0 | **0** |
| 6:45 to 7:45 | 98 | 1 | 0 | **99** | 26 | 0 | 0 | **26** | 51 | 1 | 0 | **52** | 0 | 0 | 0 | **0** | 19 | 1 | 0 | **20** | 128 | 5 | 0 | **133** | 6 | 0 | 0 | **6** | 0 | 0 | 0 | **0** |
| 7:00 to 8:00 | 105 | 2 | 0 | **107** | 33 | 0 | 0 | **33** | 58 | 1 | 0 | **59** | 0 | 0 | 0 | **0** | 32 | 2 | 0 | **34** | 133 | 6 | 0 | **139** | 9 | 0 | 0 | **9** | 0 | 0 | 0 | **0** |
| 7:15 to 8:15 | 107 | 2 | 0 | **109** | 49 | 0 | 0 | **49** | 53 | 3 | 0 | **56** | 0 | 0 | 0 | **0** | 34 | 1 | 0 | **35** | 138 | 6 | 0 | **144** | 13 | 0 | 0 | **13** | 0 | 0 | 0 | **0** |
| 7:30 to 8:30 | 115 | 1 | 0 | **116** | 72 | 0 | 0 | **72** | 52 | 3 | 0 | **55** | 0 | 0 | 0 | **0** | 41 | 2 | 0 | **43** | 161 | 6 | 0 | **167** | 29 | 0 | 0 | **29** | 0 | 0 | 0 | **0** |
| 7:45 to 8:45 | 125 | 3 | 0 | **128** | 97 | 0 | 0 | **97** | 53 | 3 | 0 | **56** | 0 | 0 | 0 | **0** | 49 | 2 | 0 | **51** | 165 | 3 | 0 | **168** | 45 | 0 | 0 | **45** | 0 | 0 | 0 | **0** |
| 8:00 to 9:00 | 134 | 2 | 0 | **136** | 134 | 0 | 0 | **134** | 50 | 4 | 0 | **54** | 0 | 0 | 0 | **0** | 46 | 3 | 0 | **49** | 175 | 2 | 1 | **178** | 73 | 0 | 0 | **73** | 0 | 0 | 0 | **0** |
| 8:15 to 9:15 | 141 | 4 | 0 | **145** | 190 | 0 | 0 | **190** | 58 | 3 | 0 | **61** | 1 | 0 | 0 | **1** | 48 | 3 | 0 | **51** | 182 | 2 | 1 | **185** | 108 | 0 | 0 | **108** | 0 | 0 | 0 | **0** |
| 8:30 to 9:30 | 139 | 8 | 0 | **147** | 221 | 0 | 0 | **221** | 53 | 2 | 0 | **55** | 1 | 0 | 0 | **1** | 50 | 2 | 0 | **52** | 166 | 3 | 1 | **170** | 129 | 0 | 0 | **129** | 0 | 0 | 0 | **0** |
| **AM Totals** | **343** | **10** | **0** | **353** | **309** | **0** | **0** | **309** | **152** | **6** | **0** | **158** | **1** | **0** | **0** | **1** | **108** | **7** | **0** | **115** | **435** | **11** | **1** | **447** | **162** | **0** | **0** | **162** | **0** | **0** | **0** | **0** |
| 15:30 to 16:30 | 293 | 3 | 0 | **296** | 279 | 0 | 0 | **279** | 44 | 0 | 0 | **44** | 0 | 0 | 0 | **0** | 52 | 2 | 0 | **54** | 298 | 1 | 0 | **299** | 160 | 0 | 0 | **160** | 0 | 0 | 0 | **0** |
| 15:45 to 16:45 | 295 | 3 | 0 | **298** | 276 | 0 | 0 | **276** | 48 | 0 | 0 | **48** | 0 | 0 | 0 | **0** | 63 | 2 | 0 | **65** | 306 | 1 | 0 | **307** | 184 | 0 | 0 | **184** | 0 | 0 | 0 | **0** |
| 16:00 to 17:00 | 325 | 2 | 0 | **327** | 287 | 0 | 0 | **287** | 54 | 0 | 0 | **54** | 0 | 0 | 0 | **0** | 60 | 1 | 0 | **61** | 303 | 3 | 0 | **306** | 169 | 0 | 0 | **169** | 0 | 0 | 0 | **0** |
| 16:15 to 17:15 | 339 | 0 | 0 | **339** | 259 | 0 | 0 | **259** | 51 | 0 | 0 | **51** | 0 | 0 | 0 | **0** | 64 | 0 | 0 | **64** | 319 | 2 | 0 | **321** | 171 | 0 | 0 | **171** | 0 | 0 | 0 | **0** |
| 16:30 to 17:30 | 324 | 0 | 0 | **324** | 268 | 0 | 0 | **268** | 63 | 0 | 0 | **63** | 0 | 0 | 0 | **0** | 49 | 0 | 0 | **49** | 325 | 2 | 0 | **327** | 168 | 0 | 0 | **168** | 1 | 0 | 0 | **1** |
| 16:45 to 17:45 | 310 | 0 | 0 | **310** | 279 | 0 | 0 | **279** | 59 | 0 | 0 | **59** | 0 | 0 | 0 | **0** | 50 | 0 | 0 | **50** | 333 | 2 | 0 | **335** | 169 | 0 | 0 | **169** | 1 | 0 | 0 | **1** |
| 17:00 to 18:00 | 276 | 0 | 0 | **276** | 258 | 0 | 0 | **258** | 69 | 0 | 0 | **69** | 0 | 0 | 0 | **0** | 48 | 0 | 0 | **48** | 344 | 0 | 0 | **344** | 193 | 0 | 0 | **193** | 1 | 0 | 0 | **1** |
| 17:15 to 18:15 | 258 | 0 | 0 | **258** | 288 | 0 | 0 | **288** | 71 | 0 | 0 | **71** | 0 | 0 | 0 | **0** | 46 | 0 | 0 | **46** | 317 | 0 | 0 | **317** | 192 | 0 | 0 | **192** | 1 | 0 | 0 | **1** |
| 17:30 to 18:30 | 239 | 1 | 0 | **240** | 276 | 0 | 0 | **276** | 58 | 0 | 0 | **58** | 0 | 0 | 0 | **0** | 48 | 0 | 0 | **48** | 307 | 0 | 0 | **307** | 200 | 0 | 0 | **200** | 0 | 0 | 0 | **0** |
| **PM Totals** | **856** | **4** | **0** | **860** | **823** | **0** | **0** | **823** | **165** | **0** | **0** | **165** | **0** | **0** | **0** | **0** | **149** | **2** | **0** | **151** | **930** | **3** | **0** | **933** | **528** | **0** | **0** | **528** | **1** | **0** | **0** | **1** |

| Approach | Westfields | | | | | | | | | | | | | | | | High St | | | | | | | | | | | | | | | | Crossing Pedestrians | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Direction 7 (Left Turn) | | | | Direction 8 (Through) | | | | Direction 9 (Right Turn) | | | | Direction 9U (U Turn) | | | | Direction 10 (Left Turn) | | | | Direction 11 (Through) | | | | Direction 12 (Right Turn) | | | | Direction 12U (U Turn) | | | | | | | | | | | |
| Time Period | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | B to A | A to B | D to C | C to D | F to E | E to F | H to G | G to H | Total |
| 6:30 to 7:30 | 2 | 0 | 0 | **2** | 3 | 0 | 0 | **3** | 3 | 0 | 0 | **3** | 0 | 0 | 0 | **0** | 8 | 0 | 0 | **8** | 166 | 6 | 4 | **176** | 45 | 1 | 0 | **46** | 0 | 0 | 0 | **0** | 0 | 2 | 1 | 6 | 3 | 1 | 7 | 1 | **21** |
| 6:45 to 7:45 | 2 | 0 | 0 | **2** | 4 | 0 | 0 | **4** | 5 | 0 | 0 | **5** | 0 | 0 | 0 | **0** | 16 | 0 | 0 | **16** | 190 | 6 | 4 | **200** | 66 | 1 | 0 | **67** | 0 | 0 | 0 | **0** | 3 | 3 | 0 | 7 | 4 | 1 | 12 | 5 | **35** |
| 7:00 to 8:00 | 2 | 0 | 0 | **2** | 9 | 0 | 0 | **9** | 6 | 0 | 0 | **6** | 0 | 0 | 0 | **0** | 21 | 0 | 0 | **21** | 194 | 6 | 6 | **206** | 82 | 0 | 0 | **82** | 1 | 0 | 0 | **1** | 7 | 4 | 0 | 9 | 4 | 3 | 27 | 7 | **61** |
| 7:15 to 8:15 | 4 | 0 | 0 | **4** | 10 | 0 | 0 | **10** | 9 | 0 | 0 | **9** | 0 | 0 | 0 | **0** | 36 | 0 | 0 | **36** | 235 | 7 | 5 | **247** | 107 | 0 | 0 | **107** | 1 | 0 | 0 | **1** | 12 | 4 | 0 | 12 | 4 | 3 | 39 | 9 | **83** |
| 7:30 to 8:30 | 7 | 0 | 0 | **7** | 13 | 0 | 0 | **13** | 10 | 0 | 0 | **10** | 0 | 0 | 0 | **0** | 52 | 0 | 0 | **52** | 236 | 3 | 3 | **242** | 125 | 0 | 0 | **125** | 1 | 0 | 0 | **1** | 17 | 3 | 0 | 17 | 1 | 4 | 45 | 19 | **106** |
| 7:45 to 8:45 | 9 | 0 | 0 | **9** | 18 | 0 | 0 | **18** | 12 | 0 | 0 | **12** | 0 | 0 | 0 | **0** | 79 | 0 | 0 | **79** | 256 | 3 | 4 | **263** | 132 | 0 | 0 | **132** | 1 | 0 | 0 | **1** | 19 | 4 | 0 | 21 | 2 | 4 | 62 | 25 | **137** |
| 8:00 to 9:00 | 9 | 0 | 0 | **9** | 20 | 0 | 0 | **20** | 15 | 0 | 0 | **15** | 0 | 0 | 0 | **0** | 107 | 0 | 0 | **107** | 269 | 3 | 3 | **275** | 138 | 0 | 0 | **138** | 0 | 0 | 0 | **0** | 25 | 9 | 1 | 21 | 4 | 2 | 60 | 35 | **157** |
| 8:15 to 9:15 | 17 | 0 | 0 | **17** | 28 | 0 | 0 | **28** | 27 | 0 | 0 | **27** | 0 | 0 | 0 | **0** | 138 | 0 | 0 | **138** | 238 | 3 | 4 | **245** | 132 | 0 | 0 | **132** | 0 | 0 | 0 | **0** | 34 | 12 | 2 | 17 | 4 | 2 | 52 | 43 | **166** |
| 8:30 to 9:30 | 20 | 0 | 0 | **20** | 41 | 0 | 0 | **41** | 50 | 0 | 0 | **50** | 0 | 0 | 0 | **0** | 185 | 0 | 0 | **185** | 220 | 8 | 5 | **233** | 129 | 0 | 0 | **129** | 0 | 0 | 0 | **0** | 39 | 20 | 2 | 9 | 4 | 0 | 59 | 48 | **181** |
| **AM Totals** | **29** | **0** | **0** | **29** | **57** | **0** | **0** | **57** | **63** | **0** | **0** | **63** | **0** | **0** | **0** | **0** | **245** | **0** | **0** | **245** | **622** | **17** | **12** | **651** | **299** | **1** | **0** | **300** | **1** | **0** | **0** | **1** | **56** | **25** | **3** | **32** | **8** | **5** | **111** | **68** | **308** |
| 15:30 to 16:30 | 132 | 0 | 0 | **132** | 240 | 0 | 0 | **240** | 244 | 0 | 0 | **244** | 0 | 0 | 0 | **0** | 269 | 0 | 0 | **269** | 216 | 4 | 2 | **222** | 77 | 0 | 0 | **77** | 0 | 0 | 0 | **0** | 25 | 35 | 9 | 10 | 6 | 6 | 48 | 54 | **193** |
| 15:45 to 16:45 | 140 | 0 | 0 | **140** | 266 | 0 | 0 | **266** | 244 | 0 | 0 | **244** | 0 | 0 | 0 | **0** | 272 | 0 | 0 | **272** | 216 | 2 | 3 | **221** | 71 | 0 | 0 | **71** | 0 | 0 | 0 | **0** | 15 | 34 | 15 | 11 | 4 | 6 | 47 | 49 | **181** |
| 16:00 to 17:00 | 164 | 0 | 0 | **164** | 262 | 0 | 0 | **262** | 241 | 0 | 0 | **241** | 0 | 0 | 0 | **0** | 270 | 0 | 0 | **270** | 208 | 2 | 3 | **213** | 72 | 0 | 0 | **72** | 0 | 0 | 0 | **0** | 12 | 29 | 21 | 12 | 8 | 3 | 51 | 45 | **181** |
| 16:15 to 17:15 | 145 | 0 | 0 | **145** | 252 | 0 | 0 | **252** | 252 | 0 | 0 | **252** | 0 | 0 | 0 | **0** | 263 | 0 | 0 | **263** | 212 | 1 | 3 | **216** | 67 | 1 | 0 | **68** | 0 | 0 | 0 | **0** | 11 | 32 | 20 | 7 | 7 | 3 | 49 | 47 | **176** |
| 16:30 to 17:30 | 155 | 0 | 0 | **155** | 268 | 0 | 0 | **268** | 253 | 0 | 0 | **253** | 0 | 0 | 0 | **0** | 251 | 0 | 0 | **251** | 221 | 0 | 2 | **223** | 77 | 1 | 0 | **78** | 0 | 0 | 0 | **0** | 12 | 34 | 18 | 5 | 6 | 2 | 36 | 43 | **156** |
| 16:45 to 17:45 | 158 | 0 | 0 | **158** | 254 | 0 | 0 | **254** | 258 | 0 | 0 | **258** | 0 | 0 | 0 | **0** | 252 | 0 | 0 | **252** | 210 | 0 | 2 | **212** | 86 | 1 | 0 | **87** | 0 | 0 | 0 | **0** | 11 | 35 | 13 | 7 | 7 | 5 | 29 | 46 | **153** |
| 17:00 to 18:00 | 151 | 0 | 0 | **151** | 265 | 0 | 0 | **265** | 250 | 0 | 0 | **250** | 0 | 0 | 0 | **0** | 266 | 0 | 0 | **266** | 226 | 0 | 2 | **228** | 76 | 1 | 0 | **77** | 0 | 0 | 0 | **0** | 7 | 30 | 11 | 4 | 3 | 6 | 21 | 46 | **128** |
| 17:15 to 18:15 | 161 | 0 | 0 | **161** | 276 | 0 | 0 | **276** | 259 | 0 | 0 | **259** | 0 | 0 | 0 | **0** | 268 | 0 | 0 | **268** | 215 | 0 | 1 | **216** | 78 | 0 | 0 | **78** | 0 | 0 | 0 | **0** | 5 | 18 | 7 | 5 | 3 | 5 | 20 | 34 | **97** |
| 17:30 to 18:30 | 158 | 0 | 0 | **158** | 249 | 0 | 0 | **249** | 240 | 0 | 0 | **240** | 0 | 0 | 0 | **0** | 263 | 0 | 0 | **263** | 214 | 0 | 1 | **215** | 69 | 0 | 0 | **69** | 0 | 0 | 0 | **0** | 2 | 15 | 6 | 5 | 4 | 4 | 21 | 34 | **91** |
| **PM Totals** | **445** | **0** | **0** | **445** | **757** | **0** | **0** | **757** | **737** | **0** | **0** | **737** | **0** | **0** | **0** | **0** | **783** | **0** | **0** | **783** | **651** | **4** | **5** | **660** | **223** | **1** | **0** | **224** | **0** | **0** | **0** | **0** | **39** | **84** | **33** | **20** | **16** | **12** | **105** | **131** | **440** |

**Job No.** : N5611
**Client** : Varga Traffic Planning
**Suburb** : Penrith
**Location** : 1. High St / Worth St / Westfields

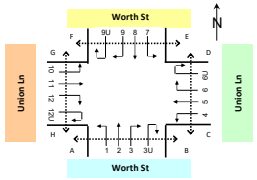
**Day/Date** : Thu, 13th February 2020
**Weather** : Fine
**Description** : Classified Intersection Count
: Pedestrian Data




MATRIX Traffic and Transport Data

| Direction | Pedestrians | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time Period | B to A | A to B | D to C | C to D | F to E | E to F | H to G | G to H |
| 6:30 to 6:45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 6:45 to 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 7:00 to 7:15 | 0 | 1 | 0 | 2 | 0 | 0 | 2 | 1 |
| 7:15 to 7:30 | 0 | 1 | 0 | 3 | 3 | 1 | 4 | 0 |
| 7:30 to 7:45 | 3 | 1 | 0 | 1 | 1 | 0 | 5 | 4 |
| 7:45 to 8:00 | 4 | 1 | 0 | 3 | 0 | 2 | 16 | 2 |
| 8:00 to 8:15 | 5 | 1 | 0 | 5 | 0 | 0 | 14 | 3 |
| 8:15 to 8:30 | 5 | 0 | 0 | 8 | 0 | 2 | 10 | 10 |
| 8:30 to 8:45 | 5 | 2 | 0 | 5 | 2 | 0 | 22 | 10 |
| 8:45 to 9:00 | 10 | 6 | 1 | 3 | 2 | 0 | 14 | 12 |
| 9:00 to 9:15 | 14 | 4 | 1 | 1 | 0 | 0 | 6 | 11 |
| 9:15 to 9:30 | 10 | 8 | 0 | 0 | 0 | 0 | 17 | 15 |
| **AM Totals** | **56** | **25** | **3** | **32** | **8** | **5** | **111** | **68** |
| 15:30 to 15:45 | 12 | 7 | 0 | 0 | 2 | 0 | 12 | 16 |
| 15:45 to 16:00 | 7 | 11 | 0 | 2 | 0 | 3 | 8 | 11 |
| 16:00 to 16:15 | 4 | 12 | 6 | 6 | 3 | 1 | 10 | 15 |
| 16:15 to 16:30 | 2 | 5 | 3 | 2 | 1 | 2 | 18 | 12 |
| 16:30 to 16:45 | 2 | 6 | 6 | 1 | 0 | 0 | 11 | 11 |
| 16:45 to 17:00 | 4 | 6 | 6 | 3 | 4 | 0 | 12 | 7 |
| 17:00 to 17:15 | 3 | 15 | 5 | 1 | 2 | 1 | 8 | 17 |
| 17:15 to 17:30 | 3 | 7 | 1 | 0 | 0 | 1 | 5 | 8 |
| 17:30 to 17:45 | 1 | 7 | 1 | 3 | 1 | 3 | 4 | 14 |
| 17:45 to 18:00 | 0 | 1 | 4 | 0 | 0 | 1 | 4 | 7 |
| 18:00 to 18:15 | 1 | 3 | 1 | 2 | 2 | 0 | 7 | 5 |
| 18:15 to 18:30 | 0 | 4 | 0 | 0 | 1 | 0 | 6 | 8 |
| **PM Totals** | **39** | **84** | **33** | **20** | **16** | **12** | **105** | **131** |

| | |
|---|---|
| Job No. | : N5611 |
| Client | : Varga Traffic Planning |
| Suburb | : Penrith |
| Location | : 2. Worth St / Union Ln |
| Day/Date | : Thu, 13th February 2020 |
| Weather | : Fine |
| Description | : Classified Intersection Count |
| | : 15 mins Data |




MATRIX Traffic and Transport Data

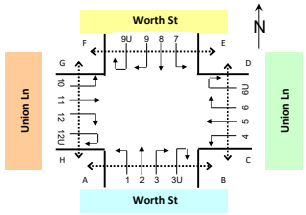
| Classifications | Class 1 | Class 2 | Class 3 |
|---|---|---|---|
| | Lights | Heavies | Buses |

| Approach | Worth St | | | | | | | | | | | | | | | | Union Ln | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Direction 1 (Left Turn) | | | | Direction 2 (Through) | | | | Direction 3 (Right Turn) | | | | Direction 3U (U Turn) | | | | Direction 4 (Left Turn) | | | | Direction 5 (Through) | | | | Direction 6 (Right Turn) | | | | Direction 6U (U Turn) | | | |
| Time Period | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total |
| 6:30 to 6:45 | 1 | 0 | 0 | 1 | 18 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 |
| 6:45 to 7:00 | 2 | 0 | 0 | 2 | 25 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 7:00 to 7:15 | 2 | 0 | 0 | 2 | 47 | 0 | 0 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 to 7:30 | 8 | 1 | 0 | 9 | 47 | 3 | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 7:30 to 7:45 | 6 | 0 | 0 | 6 | 41 | 0 | 0 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 7:45 to 8:00 | 5 | 0 | 0 | 5 | 43 | 0 | 0 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 5 | 1 | 1 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 8:00 to 8:15 | 11 | 0 | 0 | 11 | 57 | 2 | 0 | 59 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 8:15 to 8:30 | 9 | 0 | 0 | 9 | 69 | 1 | 0 | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 8:30 to 8:45 | 11 | 0 | 0 | 11 | 74 | 2 | 0 | 76 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 5 | 1 | 0 | 6 | 0 | 0 | 0 | 0 |
| 8:45 to 9:00 | 12 | 0 | 0 | 12 | 86 | 0 | 0 | 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 to 9:15 | 13 | 0 | 0 | 13 | 129 | 3 | 0 | 132 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 9:15 to 9:30 | 7 | 0 | 0 | 7 | 95 | 3 | 0 | 98 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| **AM Totals** | **87** | **1** | **0** | **88** | **731** | **14** | **0** | **745** | **0** | **0** | **0** | **0** | **2** | **0** | **0** | **2** | **37** | **2** | **0** | **39** | **3** | **1** | **0** | **4** | **32** | **1** | **0** | **33** | **0** | **0** | **0** | **0** |
| 15:30 to 15:45 | 2 | 0 | 0 | 2 | 132 | 0 | 0 | 132 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 17 | 0 | 0 | 0 | 0 |
| 15:45 to 16:00 | 2 | 0 | 0 | 2 | 142 | 1 | 0 | 143 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 7 | 1 | 0 | 8 | 0 | 0 | 0 | 0 |
| 16:00 to 16:15 | 4 | 0 | 0 | 4 | 144 | 0 | 0 | 144 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 1 | 0 | 12 | 0 | 0 | 0 | 0 | 9 | 1 | 0 | 10 | 0 | 0 | 0 | 0 |
| 16:15 to 16:30 | 0 | 0 | 0 | 0 | 152 | 0 | 0 | 152 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 1 | 0 | 9 | 2 | 0 | 0 | 2 | 21 | 0 | 0 | 21 | 0 | 0 | 0 | 0 |
| 16:30 to 16:45 | 4 | 0 | 0 | 4 | 132 | 0 | 0 | 132 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 16 | 0 | 0 | 0 | 0 |
| 16:45 to 17:00 | 3 | 0 | 0 | 3 | 148 | 0 | 0 | 148 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 11 | 0 | 0 | 0 | 0 |
| 17:00 to 17:15 | 4 | 0 | 0 | 4 | 135 | 0 | 0 | 135 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 0 | 26 | 1 | 0 | 0 | 1 | 13 | 0 | 0 | 13 | 0 | 0 | 0 | 0 |
| 17:15 to 17:30 | 6 | 0 | 0 | 6 | 130 | 0 | 0 | 130 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 16 | 0 | 0 | 0 | 0 |
| 17:30 to 17:45 | 2 | 0 | 0 | 2 | 145 | 0 | 0 | 145 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 9 | 0 | 0 | 0 | 0 |
| 17:45 to 18:00 | 5 | 0 | 0 | 5 | 114 | 0 | 0 | 114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 14 | 0 | 0 | 0 | 0 |
| 18:00 to 18:15 | 7 | 0 | 0 | 7 | 129 | 0 | 0 | 129 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 25 | 0 | 0 | 0 | 0 |
| 18:15 to 18:30 | 1 | 0 | 0 | 1 | 114 | 0 | 0 | 114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 12 | 1 | 0 | 13 | 0 | 0 | 0 | 0 |
| **PM Totals** | **40** | **0** | **0** | **40** | **1,617** | **1** | **0** | **1,618** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **154** | **2** | **0** | **156** | **3** | **0** | **0** | **3** | **170** | **3** | **0** | **173** | **0** | **0** | **0** | **0** |

| Approach | Worth St | | | | | | | | | | | | | | | | Union Ln | | | | | | | | | | | | Crossing Pedestrians | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Direction 7 (Left Turn) | | | | Direction 8 (Through) | | | | Direction 9 (Right Turn) | | | | Direction 9U (U Turn) | | | | Direction 10 (Left Turn) | | | | Direction 11 (Through) | | | | Direction 12 (Right Turn) | | | | Direction 12U (U Turn) | | | | | | | | | | | |
| Time Period | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | B to A | A to B | D to C | C to D | F to E | E to F | H to G | G to H | Total |
| 6:30 to 6:45 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 14 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 6:45 to 7:00 | 0 | 0 | 0 | 0 | 18 | 3 | 0 | 21 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 4 | 0 | 2 | 0 | 0 | 9 |
| 7:00 to 7:15 | 0 | 0 | 0 | 0 | 16 | 1 | 0 | 17 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 2 | 7 |
| 7:15 to 7:30 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 14 | 3 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 3 |
| 7:30 to 7:45 | 0 | 0 | 0 | 0 | 32 | 0 | 0 | 32 | 1 | 0 | 0 | 1 | 4 | 0 | 0 | 4 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 4 | 0 | 8 | 0 | 2 | 6 | 1 | 24 |
| 7:45 to 8:00 | 0 | 0 | 0 | 0 | 52 | 0 | 0 | 52 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 4 | 0 | 3 | 4 | 1 | 15 |
| 8:00 to 8:15 | 0 | 0 | 0 | 0 | 38 | 1 | 0 | 39 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 5 | 1 | 1 | 7 | 2 | 21 |
| 8:15 to 8:30 | 0 | 0 | 0 | 0 | 42 | 1 | 0 | 43 | 5 | 0 | 0 | 5 | 3 | 0 | 0 | 3 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 7 | 7 | 0 | 20 |
| 8:30 to 8:45 | 0 | 0 | 0 | 0 | 56 | 0 | 0 | 56 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 3 | 6 | 0 | 3 | 9 | 1 | 26 |
| 8:45 to 9:00 | 0 | 0 | 0 | 0 | 52 | 0 | 0 | 52 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 2 | 4 | 1 | 2 | 0 | 15 | 0 | 26 |
| 9:00 to 9:15 | 0 | 0 | 0 | 0 | 44 | 0 | 0 | 44 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 12 | 1 | 17 |
| 9:15 to 9:30 | 0 | 0 | 0 | 0 | 53 | 0 | 0 | 53 | 3 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 4 | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 4 | 2 | 3 | 5 | 2 | 19 |
| **AM Totals** | **0** | **0** | **0** | **0** | **431** | **6** | **0** | **437** | **32** | **0** | **0** | **32** | **10** | **0** | **0** | **10** | **39** | **2** | **0** | **41** | **0** | **0** | **0** | **0** | **17** | **1** | **0** | **18** | **0** | **0** | **0** | **0** | **21** | **9** | **13** | **39** | **6** | **23** | **66** | **11** | **188** |
| 15:30 to 15:45 | 0 | 0 | 0 | 0 | 79 | 0 | 0 | 79 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 6 | 3 | 1 | 0 | 0 | 2 | 10 | 23 |
| 15:45 to 16:00 | 0 | 0 | 0 | 0 | 95 | 1 | 0 | 96 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 2 | 0 | 0 | 5 | 4 | 17 |
| 16:00 to 16:15 | 0 | 0 | 0 | 0 | 88 | 1 | 0 | 89 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 4 | 2 | 0 | 0 | 0 | 6 | 8 | 22 |
| 16:15 to 16:30 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 100 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 8 | 6 | 16 |
| 16:30 to 16:45 | 0 | 0 | 0 | 0 | 109 | 0 | 0 | 109 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 1 | 4 | 1 | 1 | 3 | 0 | 4 | 10 | 24 |
| 16:45 to 17:00 | 0 | 0 | 0 | 0 | 92 | 0 | 0 | 92 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 2 | 2 | 9 |
| 17:00 to 17:15 | 0 | 0 | 0 | 0 | 76 | 0 | 0 | 76 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 2 | 12 | 19 |
| 17:15 to 17:30 | 0 | 0 | 0 | 0 | 110 | 1 | 0 | 111 | 3 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 9 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 6 |
| 17:30 to 17:45 | 0 | 0 | 0 | 0 | 97 | 0 | 0 | 97 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 11 | 16 |
| 17:45 to 18:00 | 0 | 0 | 0 | 0 | 97 | 0 | 0 | 97 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 1 | 0 | 0 | 3 | 3 | 12 |
| 18:00 to 18:15 | 0 | 0 | 0 | 0 | 89 | 0 | 0 | 89 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 2 | 2 | 7 |
| 18:15 to 18:30 | 0 | 0 | 0 | 0 | 77 | 0 | 0 | 77 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 7 | 11 |
| **PM Totals** | **0** | **0** | **0** | **0** | **1,109** | **3** | **0** | **1,112** | **16** | **0** | **0** | **16** | **6** | **0** | **0** | **6** | **73** | **0** | **0** | **73** | **0** | **0** | **0** | **0** | **30** | **1** | **0** | **31** | **0** | **0** | **0** | **0** | **10** | **23** | **17** | **9** | **4** | **0** | **39** | **80** | **182** |

**Job No.** : N5611
**Client** : Varga Traffic Planning
**Suburb** : Penrith
**Location** : 2. Worth St / Union Ln

**Day/Date** : Thu, 13th February 2020
**Weather** : Fine
**Description** : Classified Intersection Count
: Hourly Summary



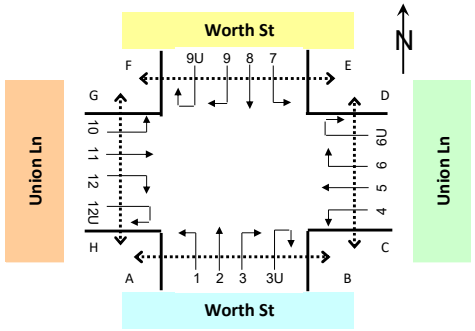

MATRIX
Traffic and Transport Data

| Approach | Worth St | | | | | | | | | | | | | | | | Union Ln | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Direction 1 (Left Turn) | | | | Direction 2 (Through) | | | | Direction 3 (Right Turn) | | | | Direction 3U (U Turn) | | | | Direction 4 (Left Turn) | | | | Direction 5 (Through) | | | | Direction 6 (Right Turn) | | | | Direction 6U (U Turn) | | | |
| Time Period | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total |
| 6:30 to 7:30 | 13 | 1 | 0 | **14** | 137 | 3 | 0 | **140** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 7 | 0 | 0 | **7** | 2 | 0 | 0 | **2** | 9 | 0 | 0 | **9** | 0 | 0 | 0 | **0** |
| 6:45 to 7:45 | 18 | 1 | 0 | **19** | 160 | 3 | 0 | **163** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 6 | 0 | 0 | **6** | 2 | 0 | 0 | **2** | 5 | 0 | 0 | **5** | 0 | 0 | 0 | **0** |
| 7:00 to 8:00 | 21 | 1 | 0 | **22** | 178 | 3 | 0 | **181** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 10 | 0 | 0 | **10** | 3 | 1 | 0 | **4** | 5 | 0 | 0 | **5** | 0 | 0 | 0 | **0** |
| 7:15 to 8:15 | 30 | 1 | 0 | **31** | 188 | 5 | 0 | **193** | 0 | 0 | 0 | **0** | 1 | 0 | 0 | **1** | 12 | 0 | 0 | **12** | 3 | 1 | 0 | **4** | 8 | 0 | 0 | **8** | 0 | 0 | 0 | **0** |
| 7:30 to 8:30 | 31 | 0 | 0 | **31** | 210 | 3 | 0 | **213** | 0 | 0 | 0 | **0** | 1 | 0 | 0 | **1** | 12 | 1 | 0 | **13** | 1 | 1 | 0 | **2** | 9 | 0 | 0 | **9** | 0 | 0 | 0 | **0** |
| 7:45 to 8:45 | 36 | 0 | 0 | **36** | 243 | 5 | 0 | **248** | 0 | 0 | 0 | **0** | 1 | 0 | 0 | **1** | 12 | 2 | 0 | **14** | 1 | 1 | 0 | **2** | 13 | 1 | 0 | **14** | 0 | 0 | 0 | **0** |
| 8:00 to 9:00 | 43 | 0 | 0 | **43** | 286 | 5 | 0 | **291** | 0 | 0 | 0 | **0** | 1 | 0 | 0 | **1** | 10 | 2 | 0 | **12** | 0 | 0 | 0 | **0** | 11 | 1 | 0 | **12** | 0 | 0 | 0 | **0** |
| 8:15 to 9:15 | 45 | 0 | 0 | **45** | 358 | 6 | 0 | **364** | 0 | 0 | 0 | **0** | 1 | 0 | 0 | **1** | 11 | 2 | 0 | **13** | 0 | 0 | 0 | **0** | 11 | 1 | 0 | **12** | 0 | 0 | 0 | **0** |
| 8:30 to 9:30 | 43 | 0 | 0 | **43** | 384 | 8 | 0 | **392** | 0 | 0 | 0 | **0** | 1 | 0 | 0 | **1** | 18 | 1 | 0 | **19** | 0 | 0 | 0 | **0** | 14 | 1 | 0 | **15** | 0 | 0 | 0 | **0** |
| **AM Totals** | **87** | **1** | **0** | **88** | **731** | **14** | **0** | **745** | **0** | **0** | **0** | **0** | **2** | **0** | **0** | **2** | **37** | **2** | **0** | **39** | **3** | **1** | **0** | **4** | **32** | **1** | **0** | **33** | **0** | **0** | **0** | **0** |
| 15:30 to 16:30 | 8 | 0 | 0 | **8** | 570 | 1 | 0 | **571** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 39 | 2 | 0 | **41** | 2 | 0 | 0 | **2** | 54 | 2 | 0 | **56** | 0 | 0 | 0 | **0** |
| 15:45 to 16:45 | 10 | 0 | 0 | **10** | 570 | 1 | 0 | **571** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 41 | 2 | 0 | **43** | 2 | 0 | 0 | **2** | 53 | 2 | 0 | **55** | 0 | 0 | 0 | **0** |
| 16:00 to 17:00 | 11 | 0 | 0 | **11** | 576 | 0 | 0 | **576** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 44 | 2 | 0 | **46** | 2 | 0 | 0 | **2** | 57 | 1 | 0 | **58** | 0 | 0 | 0 | **0** |
| 16:15 to 17:15 | 11 | 0 | 0 | **11** | 567 | 0 | 0 | **567** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 59 | 1 | 0 | **60** | 3 | 0 | 0 | **3** | 61 | 0 | 0 | **61** | 0 | 0 | 0 | **0** |
| 16:30 to 17:30 | 17 | 0 | 0 | **17** | 545 | 0 | 0 | **545** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 62 | 0 | 0 | **62** | 1 | 0 | 0 | **1** | 56 | 0 | 0 | **56** | 0 | 0 | 0 | **0** |
| 16:45 to 17:45 | 15 | 0 | 0 | **15** | 558 | 0 | 0 | **558** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 64 | 0 | 0 | **64** | 1 | 0 | 0 | **1** | 49 | 0 | 0 | **49** | 0 | 0 | 0 | **0** |
| 17:00 to 18:00 | 17 | 0 | 0 | **17** | 524 | 0 | 0 | **524** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 69 | 0 | 0 | **69** | 1 | 0 | 0 | **1** | 52 | 0 | 0 | **52** | 0 | 0 | 0 | **0** |
| 17:15 to 18:15 | 20 | 0 | 0 | **20** | 518 | 0 | 0 | **518** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 60 | 0 | 0 | **60** | 0 | 0 | 0 | **0** | 64 | 0 | 0 | **64** | 0 | 0 | 0 | **0** |
| 17:30 to 18:30 | 15 | 0 | 0 | **15** | 502 | 0 | 0 | **502** | 0 | 0 | 0 | **0** | 0 | 0 | 0 | **0** | 53 | 0 | 0 | **53** | 0 | 0 | 0 | **0** | 60 | 1 | 0 | **61** | 0 | 0 | 0 | **0** |
| **PM Totals** | **40** | **0** | **0** | **40** | **1,617** | **1** | **0** | **1,618** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **154** | **2** | **0** | **156** | **3** | **0** | **0** | **3** | **170** | **3** | **0** | **173** | **0** | **0** | **0** | **0** |

| Approach | Worth St | | | | | | | | | | | | | | | | Union Ln | | | | | | | | | | | | Crossing Pedestrians | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Direction 7 (Left Turn) | | | | Direction 8 (Through) | | | | Direction 9 (Right Turn) | | | | Direction 9U (U Turn) | | | | Direction 10 (Left Turn) | | | | Direction 11 (Through) | | | | Direction 12 (Right Turn) | | | | Direction 12U (U Turn) | | | | | | | | | | | | | |
| Time Period | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | B to A | A to B | D to C | C to D | F to E | E to F | H to G | G to H | Total |
| 6:30 to 7:30 | 0 | 0 | 0 | **0** | 62 | 4 | 0 | **66** | 5 | 0 | 0 | **5** | 2 | 0 | 0 | **2** | 9 | 0 | 0 | **9** | 0 | 0 | 0 | **0** | 4 | 0 | 0 | **4** | 0 | 0 | 0 | **0** | 0 | 2 | 3 | 7 | 0 | 4 | 1 | 3 | **20** |
| 6:45 to 7:45 | 0 | 0 | 0 | **0** | 80 | 4 | 0 | **84** | 5 | 0 | 0 | **5** | 6 | 0 | 0 | **6** | 9 | 0 | 0 | **9** | 0 | 0 | 0 | **0** | 7 | 0 | 0 | **7** | 0 | 0 | 0 | **0** | 3 | 6 | 2 | 15 | 0 | 6 | 7 | 4 | **43** |
| 7:00 to 8:00 | 0 | 0 | 0 | **0** | 114 | 1 | 0 | **115** | 8 | 0 | 0 | **8** | 6 | 0 | 0 | **6** | 8 | 1 | 0 | **9** | 0 | 0 | 0 | **0** | 7 | 1 | 0 | **8** | 0 | 0 | 0 | **0** | 6 | 5 | 0 | 15 | 0 | 7 | 11 | 5 | **49** |
| 7:15 to 8:15 | 0 | 0 | 0 | **0** | 136 | 1 | 0 | **137** | 11 | 0 | 0 | **11** | 5 | 0 | 0 | **5** | 10 | 1 | 0 | **11** | 0 | 0 | 0 | **0** | 8 | 1 | 0 | **9** | 0 | 0 | 0 | **0** | 11 | 5 | 0 | 18 | 1 | 6 | 17 | 5 | **63** |
| 7:30 to 8:30 | 0 | 0 | 0 | **0** | 164 | 2 | 0 | **166** | 13 | 0 | 0 | **13** | 7 | 0 | 0 | **7** | 13 | 1 | 0 | **14** | 0 | 0 | 0 | **0** | 7 | 1 | 0 | **8** | 0 | 0 | 0 | **0** | 14 | 4 | 0 | 20 | 1 | 13 | 24 | 4 | **80** |
| 7:45 to 8:45 | 0 | 0 | 0 | **0** | 188 | 2 | 0 | **190** | 15 | 0 | 0 | **15** | 3 | 0 | 0 | **3** | 15 | 1 | 0 | **16** | 0 | 0 | 0 | **0** | 7 | 1 | 0 | **8** | 0 | 0 | 0 | **0** | 15 | 0 | 3 | 18 | 1 | 14 | 27 | 4 | **82** |
| 8:00 to 9:00 | 0 | 0 | 0 | **0** | 188 | 2 | 0 | **190** | 15 | 0 | 0 | **15** | 3 | 0 | 0 | **3** | 19 | 0 | 0 | **19** | 0 | 0 | 0 | **0** | 8 | 0 | 0 | **8** | 0 | 0 | 0 | **0** | 14 | 2 | 7 | 15 | 3 | 11 | 38 | 3 | **93** |
| 8:15 to 9:15 | 0 | 0 | 0 | **0** | 194 | 1 | 0 | **195** | 16 | 0 | 0 | **16** | 3 | 0 | 0 | **3** | 18 | 0 | 0 | **18** | 0 | 0 | 0 | **0** | 8 | 0 | 0 | **8** | 0 | 0 | 0 | **0** | 9 | 3 | 8 | 11 | 3 | 10 | 43 | 2 | **89** |
| 8:30 to 9:30 | 0 | 0 | 0 | **0** | 205 | 0 | 0 | **205** | 14 | 0 | 0 | **14** | 1 | 0 | 0 | **1** | 17 | 1 | 0 | **18** | 0 | 0 | 0 | **0** | 6 | 0 | 0 | **6** | 0 | 0 | 0 | **0** | 7 | 3 | 10 | 12 | 5 | 6 | 41 | 4 | **88** |
| **AM Totals** | **0** | **0** | **0** | **0** | **431** | **6** | **0** | **437** | **32** | **0** | **0** | **32** | **10** | **0** | **0** | **10** | **39** | **2** | **0** | **41** | **0** | **0** | **0** | **0** | **17** | **1** | **0** | **18** | **0** | **0** | **0** | **0** | **21** | **9** | **13** | **39** | **6** | **23** | **66** | **11** | **188** |
| 15:30 to 16:30 | 0 | 0 | 0 | **0** | 362 | 2 | 0 | **364** | 6 | 0 | 0 | **6** | 2 | 0 | 0 | **2** | 13 | 0 | 0 | **13** | 0 | 0 | 0 | **0** | 5 | 1 | 0 | **6** | 0 | 0 | 0 | **0** | 7 | 13 | 6 | 3 | 0 | 0 | 21 | 28 | **78** |
| 15:45 to 16:45 | 0 | 0 | 0 | **0** | 392 | 2 | 0 | **394** | 6 | 0 | 0 | **6** | 2 | 0 | 0 | **2** | 18 | 0 | 0 | **18** | 0 | 0 | 0 | **0** | 10 | 0 | 0 | **10** | 0 | 0 | 0 | **0** | 7 | 11 | 4 | 3 | 3 | 0 | 23 | 28 | **79** |
| 16:00 to 17:00 | 0 | 0 | 0 | **0** | 389 | 1 | 0 | **390** | 5 | 0 | 0 | **5** | 1 | 0 | 0 | **1** | 24 | 0 | 0 | **24** | 0 | 0 | 0 | **0** | 14 | 0 | 0 | **14** | 0 | 0 | 0 | **0** | 3 | 11 | 6 | 2 | 3 | 0 | 20 | 26 | **71** |
| 16:15 to 17:15 | 0 | 0 | 0 | **0** | 377 | 0 | 0 | **377** | 4 | 0 | 0 | **4** | 1 | 0 | 0 | **1** | 39 | 0 | 0 | **39** | 0 | 0 | 0 | **0** | 17 | 0 | 0 | **17** | 0 | 0 | 0 | **0** | 1 | 9 | 7 | 2 | 3 | 0 | 16 | 30 | **68** |
| 16:30 to 17:30 | 0 | 0 | 0 | **0** | 387 | 1 | 0 | **388** | 6 | 0 | 0 | **6** | 1 | 0 | 0 | **1** | 45 | 0 | 0 | **45** | 0 | 0 | 0 | **0** | 19 | 0 | 0 | **19** | 0 | 0 | 0 | **0** | 1 | 8 | 6 | 2 | 3 | 0 | 9 | 29 | **58** |
| 16:45 to 17:45 | 0 | 0 | 0 | **0** | 375 | 1 | 0 | **376** | 5 | 0 | 0 | **5** | 2 | 0 | 0 | **2** | 36 | 0 | 0 | **36** | 0 | 0 | 0 | **0** | 15 | 0 | 0 | **15** | 0 | 0 | 0 | **0** | 0 | 4 | 6 | 3 | 1 | 0 | 6 | 30 | **50** |
| 17:00 to 18:00 | 0 | 0 | 0 | **0** | 380 | 1 | 0 | **381** | 5 | 0 | 0 | **5** | 3 | 0 | 0 | **3** | 31 | 0 | 0 | **31** | 0 | 0 | 0 | **0** | 13 | 0 | 0 | **13** | 0 | 0 | 0 | **0** | 2 | 2 | 7 | 3 | 1 | 0 | 7 | 31 | **53** |
| 17:15 to 18:15 | 0 | 0 | 0 | **0** | 393 | 1 | 0 | **394** | 6 | 0 | 0 | **6** | 3 | 0 | 0 | **3** | 20 | 0 | 0 | **20** | 0 | 0 | 0 | **0** | 9 | 0 | 0 | **9** | 0 | 0 | 0 | **0** | 2 | 1 | 5 | 4 | 1 | 0 | 7 | 21 | **41** |
| 17:30 to 18:30 | 0 | 0 | 0 | **0** | 360 | 0 | 0 | **360** | 4 | 0 | 0 | **4** | 3 | 0 | 0 | **3** | 15 | 0 | 0 | **15** | 0 | 0 | 0 | **0** | 6 | 0 | 0 | **6** | 0 | 0 | 0 | **0** | 2 | 2 | 5 | 4 | 1 | 0 | 9 | 23 | **46** |
| **PM Totals** | **0** | **0** | **0** | **0** | **1,109** | **3** | **0** | **1,112** | **16** | **0** | **0** | **16** | **6** | **0** | **0** | **6** | **73** | **0** | **0** | **73** | **0** | **0** | **0** | **0** | **30** | **1** | **0** | **31** | **0** | **0** | **0** | **0** | **10** | **23** | **17** | **9** | **4** | **0** | **39** | **80** | **182** |

**Job No.** : N5611
**Client** : Varga Traffic Planning
**Suburb** : Penrith
**Location** : 2. Worth St / Union Ln

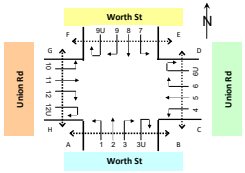
**Day/Date** : Thu, 13th February 2020
**Weather** : Fine
**Description** : Classified Intersection Count
: Pedestrian Data




MATRIX Traffic and Transport Data

| Direction | Pedestrians | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time Period | B to A | A to B | D to C | C to D | F to E | E to F | H to G | G to H |
| 6:30 to 6:45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 6:45 to 7:00 | 0 | 1 | 2 | 4 | 0 | 2 | 0 | 0 |
| 7:00 to 7:15 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 2 |
| 7:15 to 7:30 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 7:30 to 7:45 | 3 | 4 | 0 | 8 | 0 | 2 | 6 | 1 |
| 7:45 to 8:00 | 3 | 0 | 0 | 4 | 0 | 3 | 4 | 1 |
| 8:00 to 8:15 | 5 | 0 | 0 | 5 | 1 | 1 | 7 | 2 |
| 8:15 to 8:30 | 3 | 0 | 0 | 3 | 0 | 7 | 7 | 0 |
| 8:30 to 8:45 | 4 | 0 | 3 | 6 | 0 | 3 | 9 | 1 |
| 8:45 to 9:00 | 2 | 2 | 4 | 1 | 2 | 0 | 15 | 0 |
| 9:00 to 9:15 | 0 | 1 | 1 | 1 | 1 | 0 | 12 | 1 |
| 9:15 to 9:30 | 1 | 0 | 2 | 4 | 2 | 3 | 5 | 2 |
| **AM Totals** | **21** | **9** | **13** | **39** | **6** | **23** | **66** | **11** |
| 15:30 to 15:45 | 1 | 6 | 3 | 1 | 0 | 0 | 2 | 10 |
| 15:45 to 16:00 | 4 | 2 | 0 | 2 | 0 | 0 | 5 | 4 |
| 16:00 to 16:15 | 2 | 4 | 2 | 0 | 0 | 0 | 6 | 8 |
| 16:15 to 16:30 | 0 | 1 | 1 | 0 | 0 | 0 | 8 | 6 |
| 16:30 to 16:45 | 1 | 4 | 1 | 1 | 3 | 0 | 4 | 10 |
| 16:45 to 17:00 | 0 | 2 | 2 | 1 | 0 | 0 | 2 | 2 |
| 17:00 to 17:15 | 0 | 2 | 3 | 0 | 0 | 0 | 2 | 12 |
| 17:15 to 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 |
| 17:30 to 17:45 | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 11 |
| 17:45 to 18:00 | 2 | 0 | 3 | 1 | 0 | 0 | 3 | 3 |
| 18:00 to 18:15 | 0 | 1 | 1 | 1 | 0 | 0 | 2 | 2 |
| 18:15 to 18:30 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 7 |
| **PM Totals** | **10** | **23** | **17** | **9** | **4** | **0** | **39** | **80** |

| | |
|---|---|
| **Job No.** | : N5611 |
| **Client** | : Varga Traffic Planning |
| **Suburb** | : Penrith |
| **Location** | : 3. Union Rd / Worth St |
| **Day/Date** | : Thu, 13th February 2020 |
| **Weather** | : Fine |
| **Description** | : Classified Intersection Count |
| | : 15 mins Data |




MATRIX Traffic and Transport Data

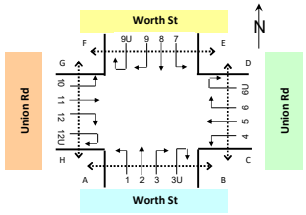
| **Classifications** | **Class 1** | **Class 2** | **Class 3** |
|---|---|---|---|
| | Lights | Heavies | Buses |

| Approach | Worth St | | | | | | | | | | | | | | | | Union Rd | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Direction 1 (Left Turn) | | | | Direction 2 (Through) | | | | Direction 3 (Right Turn) | | | | Direction 3U (U Turn) | | | | Direction 4 (Left Turn) | | | | Direction 5 (Through) | | | | Direction 6 (Right Turn) | | | | Direction 6U (U Turn) | | | |
| Time Period | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total |
| 6:30 to 6:45 | 5 | 1 | 0 | 6 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 9 | 0 | 0 | 9 | 0 | 0 | 0 | 0 |
| 6:45 to 7:00 | 3 | 0 | 0 | 3 | 4 | 0 | 0 | 4 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 3 | 0 | 0 | 3 | 8 | 0 | 0 | 8 | 0 | 0 | 0 | 0 |
| 7:00 to 7:15 | 5 | 0 | 0 | 5 | 2 | 0 | 0 | 2 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 12 | 1 | 0 | 13 | 22 | 0 | 0 | 22 | 0 | 0 | 0 | 0 |
| 7:15 to 7:30 | 8 | 0 | 0 | 8 | 4 | 0 | 0 | 4 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 4 | 0 | 0 | 4 | 22 | 2 | 0 | 24 | 0 | 0 | 0 | 0 |
| 7:30 to 7:45 | 4 | 0 | 0 | 4 | 6 | 0 | 0 | 6 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 7 | 0 | 0 | 7 | 20 | 0 | 0 | 20 | 0 | 0 | 0 | 0 |
| 7:45 to 8:00 | 3 | 0 | 0 | 3 | 4 | 0 | 0 | 4 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 7 | 0 | 0 | 7 | 22 | 0 | 0 | 22 | 0 | 0 | 0 | 0 |
| 8:00 to 8:15 | 3 | 0 | 0 | 3 | 4 | 1 | 0 | 5 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 3 | 10 | 1 | 0 | 11 | 40 | 0 | 0 | 40 | 0 | 0 | 0 | 0 |
| 8:15 to 8:30 | 5 | 0 | 0 | 5 | 11 | 0 | 0 | 11 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 5 | 4 | 1 | 0 | 5 | 40 | 0 | 0 | 40 | 0 | 0 | 0 | 0 |
| 8:30 to 8:45 | 1 | 0 | 0 | 1 | 5 | 0 | 0 | 5 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 4 | 1 | 0 | 5 | 43 | 2 | 0 | 45 | 0 | 0 | 0 | 0 |
| 8:45 to 9:00 | 3 | 0 | 0 | 3 | 5 | 0 | 0 | 5 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 9 | 0 | 0 | 9 | 44 | 0 | 0 | 44 | 0 | 0 | 0 | 0 |
| 9:00 to 9:15 | 2 | 0 | 0 | 2 | 5 | 0 | 0 | 5 | 16 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 12 | 11 | 0 | 0 | 11 | 72 | 1 | 0 | 73 | 0 | 0 | 0 | 0 |
| 9:15 to 9:30 | 2 | 0 | 0 | 2 | 5 | 1 | 0 | 6 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 12 | 10 | 0 | 0 | 10 | 55 | 2 | 0 | 57 | 0 | 0 | 0 | 0 |
| **AM Totals** | **44** | **1** | **0** | **45** | **57** | **2** | **0** | **59** | **57** | **0** | **0** | **57** | **0** | **0** | **0** | **0** | **49** | **1** | **0** | **50** | **83** | **4** | **0** | **87** | **397** | **7** | **0** | **404** | **0** | **0** | **0** | **0** |
| 15:30 to 15:45 | 1 | 0 | 0 | 1 | 8 | 0 | 0 | 8 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 10 | 0 | 0 | 10 | 94 | 0 | 0 | 94 | 0 | 0 | 0 | 0 |
| 15:45 to 16:00 | 3 | 0 | 0 | 3 | 2 | 0 | 0 | 2 | 5 | 1 | 0 | 6 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 9 | 15 | 0 | 0 | 15 | 100 | 1 | 0 | 101 | 0 | 0 | 0 | 0 |
| 16:00 to 16:15 | 2 | 0 | 0 | 2 | 9 | 0 | 0 | 9 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 13 | 0 | 0 | 13 | 87 | 1 | 0 | 88 | 0 | 0 | 0 | 0 |
| 16:15 to 16:30 | 5 | 0 | 0 | 5 | 9 | 0 | 0 | 9 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 20 | 0 | 0 | 20 | 108 | 0 | 0 | 108 | 0 | 0 | 0 | 0 |
| 16:30 to 16:45 | 5 | 0 | 0 | 5 | 5 | 0 | 0 | 5 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 16 | 0 | 0 | 16 | 94 | 0 | 0 | 94 | 0 | 0 | 0 | 0 |
| 16:45 to 17:00 | 6 | 0 | 0 | 6 | 3 | 0 | 0 | 3 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 22 | 0 | 0 | 22 | 106 | 0 | 0 | 106 | 0 | 0 | 0 | 0 |
| 17:00 to 17:15 | 5 | 0 | 0 | 5 | 4 | 0 | 0 | 4 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 9 | 30 | 0 | 0 | 30 | 105 | 0 | 0 | 105 | 0 | 0 | 0 | 0 |
| 17:15 to 17:30 | 7 | 1 | 0 | 8 | 8 | 0 | 0 | 8 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 14 | 0 | 0 | 14 | 88 | 0 | 0 | 88 | 0 | 0 | 0 | 0 |
| 17:30 to 17:45 | 6 | 0 | 0 | 6 | 6 | 0 | 0 | 6 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 18 | 0 | 0 | 18 | 89 | 0 | 0 | 89 | 0 | 0 | 0 | 0 |
| 17:45 to 18:00 | 5 | 0 | 0 | 5 | 7 | 0 | 0 | 7 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 23 | 0 | 0 | 23 | 69 | 0 | 0 | 69 | 0 | 0 | 0 | 0 |
| 18:00 to 18:15 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 5 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 6 | 18 | 0 | 0 | 18 | 81 | 0 | 0 | 81 | 0 | 0 | 0 | 0 |
| 18:15 to 18:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 19 | 0 | 0 | 19 | 79 | 0 | 0 | 79 | 0 | 0 | 0 | 0 |
| **PM Totals** | **45** | **1** | **0** | **46** | **67** | **0** | **0** | **67** | **44** | **1** | **0** | **45** | **0** | **0** | **0** | **0** | **72** | **0** | **0** | **72** | **218** | **0** | **0** | **218** | **1,100** | **2** | **0** | **1,102** | **0** | **0** | **0** | **0** |

| Approach | Worth St | | | | | | | | | | | | | | | | Union Rd | | | | | | | | | | | | | | | | Crossing Pedestrians | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Direction 7 (Left Turn) | | | | Direction 8 (Through) | | | | Direction 9 (Right Turn) | | | | Direction 9U (U Turn) | | | | Direction 10 (Left Turn) | | | | Direction 11 (Through) | | | | Direction 12 (Right Turn) | | | | Direction 12U (U Turn) | | | | | | | | | | | |
| Time Period | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | B to A | A to B | D to C | C to D | F to E | E to F | H to G | G to H | Total |
| 6:30 to 6:45 | 10 | 0 | 0 | 10 | 1 | 0 | 0 | 1 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 8 | 12 | 1 | 0 | 13 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6:45 to 7:00 | 14 | 3 | 0 | 17 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 15 | 0 | 0 | 15 | 37 | 0 | 0 | 37 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 1 | 0 | 1 | 0 | 0 | 7 |
| 7:00 to 7:15 | 11 | 1 | 0 | 12 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 25 | 30 | 0 | 0 | 30 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 7:15 to 7:30 | 13 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 28 | 2 | 0 | 30 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 5 |
| 7:30 to 7:45 | 24 | 0 | 0 | 24 | 2 | 0 | 0 | 2 | 8 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 21 | 66 | 0 | 0 | 66 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 5 | 0 | 0 | 0 | 12 |
| 7:45 to 8:00 | 48 | 1 | 0 | 49 | 2 | 0 | 0 | 2 | 8 | 1 | 0 | 9 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 24 | 91 | 1 | 0 | 92 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 4 |
| 8:00 to 8:15 | 35 | 1 | 0 | 36 | 3 | 0 | 0 | 3 | 6 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 25 | 84 | 1 | 0 | 85 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 3 | 0 | 8 |
| 8:15 to 8:30 | 37 | 1 | 0 | 38 | 1 | 0 | 0 | 1 | 8 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 27 | 1 | 0 | 28 | 104 | 3 | 0 | 107 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 2 | 2 | 2 | 10 |
| 8:30 to 8:45 | 44 | 1 | 0 | 45 | 5 | 0 | 0 | 5 | 11 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 37 | 1 | 0 | 38 | 84 | 1 | 0 | 85 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 2 | 1 | 8 |
| 8:45 to 9:00 | 39 | 0 | 0 | 39 | 7 | 0 | 0 | 7 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 49 | 0 | 0 | 49 | 78 | 1 | 0 | 79 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 1 | 0 | 6 | 1 | 13 |
| 9:00 to 9:15 | 34 | 0 | 0 | 34 | 7 | 0 | 0 | 7 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 65 | 2 | 0 | 67 | 65 | 3 | 0 | 68 | 8 | 1 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1 | 2 | 9 | 0 | 19 |
| 9:15 to 9:30 | 50 | 0 | 0 | 50 | 5 | 0 | 0 | 5 | 11 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 41 | 0 | 0 | 41 | 59 | 2 | 0 | 61 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 0 | 4 | 2 | 1 | 12 |
| **AM Totals** | **359** | **8** | **0** | **367** | **33** | **0** | **0** | **33** | **80** | **1** | **0** | **81** | **0** | **0** | **0** | **0** | **365** | **6** | **0** | **371** | **746** | **13** | **0** | **759** | **41** | **2** | **0** | **43** | **0** | **0** | **0** | **0** | **4** | **5** | **6** | **34** | **10** | **11** | **25** | **6** | **101** |
| 15:30 to 15:45 | 49 | 0 | 0 | 49 | 1 | 0 | 0 | 1 | 34 | 0 | 0 | 34 | 0 | 0 | 0 | 0 | 32 | 0 | 0 | 32 | 56 | 0 | 0 | 56 | 4 | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 2 | 7 |
| 15:45 to 16:00 | 58 | 1 | 0 | 59 | 3 | 0 | 0 | 3 | 43 | 0 | 0 | 43 | 0 | 0 | 0 | 0 | 37 | 0 | 0 | 37 | 44 | 1 | 0 | 45 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 3 | 7 |
| 16:00 to 16:15 | 54 | 1 | 0 | 55 | 3 | 0 | 0 | 3 | 42 | 1 | 0 | 43 | 0 | 0 | 0 | 0 | 52 | 0 | 0 | 52 | 34 | 1 | 0 | 35 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 2 | 1 | 5 | 2 | 1 | 0 | 3 | 6 | 20 |
| 16:15 to 16:30 | 62 | 0 | 0 | 62 | 3 | 0 | 0 | 3 | 44 | 0 | 0 | 44 | 0 | 0 | 0 | 0 | 32 | 0 | 0 | 32 | 39 | 0 | 0 | 39 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 5 | 2 | 11 |
| 16:30 to 16:45 | 62 | 1 | 0 | 63 | 7 | 0 | 0 | 7 | 50 | 0 | 0 | 50 | 0 | 0 | 0 | 0 | 41 | 0 | 0 | 41 | 44 | 0 | 0 | 44 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 4 | 10 |
| 16:45 to 17:00 | 64 | 0 | 0 | 64 | 3 | 0 | 0 | 3 | 42 | 0 | 0 | 42 | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 31 | 42 | 1 | 0 | 43 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 1 | 1 | 0 | 1 | 0 | 8 |
| 17:00 to 17:15 | 48 | 0 | 0 | 48 | 2 | 0 | 0 | 2 | 46 | 0 | 0 | 46 | 0 | 0 | 0 | 0 | 36 | 0 | 0 | 36 | 36 | 1 | 0 | 37 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 1 | 4 | 0 | 2 | 1 | 1 | 11 | 21 |
| 17:15 to 17:30 | 57 | 0 | 0 | 57 | 4 | 1 | 0 | 5 | 67 | 0 | 0 | 67 | 0 | 0 | 0 | 0 | 34 | 0 | 0 | 34 | 33 | 0 | 0 | 33 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 2 | 1 | 0 | 6 | 14 |
| 17:30 to 17:45 | 50 | 0 | 0 | 50 | 3 | 0 | 0 | 3 | 54 | 0 | 0 | 54 | 0 | 0 | 0 | 0 | 52 | 0 | 0 | 52 | 38 | 0 | 0 | 38 | 6 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 1 | 0 | 2 | 6 | 13 |
| 17:45 to 18:00 | 59 | 0 | 0 | 59 | 3 | 0 | 0 | 3 | 59 | 0 | 0 | 59 | 0 | 0 | 0 | 0 | 39 | 0 | 0 | 39 | 39 | 0 | 0 | 39 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 6 | 1 | 1 | 1 | 10 |
| 18:00 to 18:15 | 58 | 0 | 0 | 58 | 3 | 0 | 0 | 3 | 41 | 0 | 0 | 41 | 0 | 0 | 0 | 0 | 47 | 0 | 0 | 47 | 33 | 0 | 0 | 33 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2 | 6 |
| 18:15 to 18:30 | 49 | 0 | 0 | 49 | 2 | 0 | 0 | 2 | 31 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 32 | 0 | 0 | 32 | 35 | 0 | 0 | 35 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 2 | 5 | 10 |
| **PM Totals** | **670** | **3** | **0** | **673** | **37** | **1** | **0** | **38** | **553** | **1** | **0** | **554** | **0** | **0** | **0** | **0** | **465** | **0** | **0** | **465** | **473** | **4** | **0** | **477** | **39** | **1** | **0** | **40** | **0** | **0** | **0** | **0** | **10** | **3** | **26** | **10** | **15** | **4** | **21** | **48** | **137** |

**Job No.** : N5611
**Client** : Varga Traffic Planning
**Suburb** : Penrith
**Location** : 3. Union Rd / Worth St

**Day/Date** : Thu, 13th February 2020
**Weather** : Fine
**Description** : Classified Intersection Count
: Hourly Summary



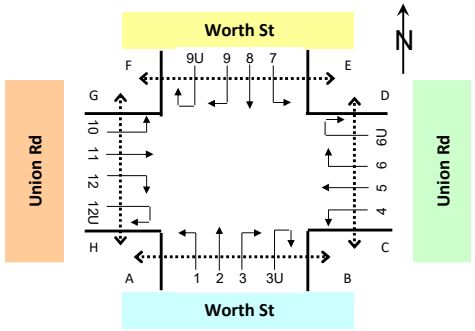

MATRIX
Traffic and Transport Data

| Approach | Worth St | | | | | | | | | | | | | | | | Union Rd | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Direction 1 (Left Turn) | | | | Direction 2 (Through) | | | | Direction 3 (Right Turn) | | | | Direction 3U (U Turn) | | | | Direction 4 (Left Turn) | | | | Direction 5 (Through) | | | | Direction 6 (Right Turn) | | | | Direction 6U (U Turn) | | | |
| Time Period | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total |
| 6:30 to 7:30 | 21 | 1 | 0 | **22** | 12 | 0 | 0 | **12** | 10 | 0 | 0 | **10** | 0 | 0 | 0 | **0** | 5 | 0 | 0 | **5** | 21 | 1 | 0 | **22** | 61 | 2 | 0 | **63** | 0 | 0 | 0 | **0** |
| 6:45 to 7:45 | 20 | 0 | 0 | **20** | 16 | 0 | 0 | **16** | 13 | 0 | 0 | **13** | 0 | 0 | 0 | **0** | 6 | 0 | 0 | **6** | 26 | 1 | 0 | **27** | 72 | 2 | 0 | **74** | 0 | 0 | 0 | **0** |
| 7:00 to 8:00 | 20 | 0 | 0 | **20** | 16 | 0 | 0 | **16** | 13 | 0 | 0 | **13** | 0 | 0 | 0 | **0** | 4 | 0 | 0 | **4** | 30 | 1 | 0 | **31** | 86 | 2 | 0 | **88** | 0 | 0 | 0 | **0** |
| 7:15 to 8:15 | 18 | 0 | 0 | **18** | 18 | 1 | 0 | **19** | 14 | 0 | 0 | **14** | 0 | 0 | 0 | **0** | 5 | 1 | 0 | **6** | 28 | 1 | 0 | **29** | 104 | 2 | 0 | **106** | 0 | 0 | 0 | **0** |
| 7:30 to 8:30 | 15 | 0 | 0 | **15** | 25 | 1 | 0 | **26** | 17 | 0 | 0 | **17** | 0 | 0 | 0 | **0** | 9 | 1 | 0 | **10** | 28 | 2 | 0 | **30** | 122 | 0 | 0 | **122** | 0 | 0 | 0 | **0** |
| 7:45 to 8:45 | 12 | 0 | 0 | **12** | 24 | 1 | 0 | **25** | 16 | 0 | 0 | **16** | 0 | 0 | 0 | **0** | 12 | 1 | 0 | **13** | 25 | 3 | 0 | **28** | 145 | 2 | 0 | **147** | 0 | 0 | 0 | **0** |
| 8:00 to 9:00 | 12 | 0 | 0 | **12** | 25 | 1 | 0 | **26** | 19 | 0 | 0 | **19** | 0 | 0 | 0 | **0** | 18 | 1 | 0 | **19** | 27 | 3 | 0 | **30** | 167 | 2 | 0 | **169** | 0 | 0 | 0 | **0** |
| 8:15 to 9:15 | 11 | 0 | 0 | **11** | 26 | 0 | 0 | **26** | 31 | 0 | 0 | **31** | 0 | 0 | 0 | **0** | 28 | 0 | 0 | **28** | 28 | 2 | 0 | **30** | 199 | 3 | 0 | **202** | 0 | 0 | 0 | **0** |
| 8:30 to 9:30 | 8 | 0 | 0 | **8** | 20 | 1 | 0 | **21** | 30 | 0 | 0 | **30** | 0 | 0 | 0 | **0** | 35 | 0 | 0 | **35** | 34 | 1 | 0 | **35** | 214 | 5 | 0 | **219** | 0 | 0 | 0 | **0** |
| **AM Totals** | **44** | **1** | **0** | **45** | **57** | **2** | **0** | **59** | **57** | **0** | **0** | **57** | **0** | **0** | **0** | **0** | **49** | **1** | **0** | **50** | **83** | **4** | **0** | **87** | **397** | **7** | **0** | **404** | **0** | **0** | **0** | **0** |
| 15:30 to 16:30 | 11 | 0 | 0 | **11** | 28 | 0 | 0 | **28** | 17 | 1 | 0 | **18** | 0 | 0 | 0 | **0** | 27 | 0 | 0 | **27** | 58 | 0 | 0 | **58** | 389 | 2 | 0 | **391** | 0 | 0 | 0 | **0** |
| 15:45 to 16:45 | 15 | 0 | 0 | **15** | 25 | 0 | 0 | **25** | 16 | 1 | 0 | **17** | 0 | 0 | 0 | **0** | 27 | 0 | 0 | **27** | 64 | 0 | 0 | **64** | 389 | 2 | 0 | **391** | 0 | 0 | 0 | **0** |
| 16:00 to 17:00 | 18 | 0 | 0 | **18** | 26 | 0 | 0 | **26** | 14 | 0 | 0 | **14** | 0 | 0 | 0 | **0** | 25 | 0 | 0 | **25** | 71 | 0 | 0 | **71** | 395 | 1 | 0 | **396** | 0 | 0 | 0 | **0** |
| 16:15 to 17:15 | 21 | 0 | 0 | **21** | 21 | 0 | 0 | **21** | 14 | 0 | 0 | **14** | 0 | 0 | 0 | **0** | 30 | 0 | 0 | **30** | 88 | 0 | 0 | **88** | 413 | 0 | 0 | **413** | 0 | 0 | 0 | **0** |
| 16:30 to 17:30 | 23 | 1 | 0 | **24** | 20 | 0 | 0 | **20** | 15 | 0 | 0 | **15** | 0 | 0 | 0 | **0** | 26 | 0 | 0 | **26** | 82 | 0 | 0 | **82** | 393 | 0 | 0 | **393** | 0 | 0 | 0 | **0** |
| 16:45 to 17:45 | 24 | 1 | 0 | **25** | 21 | 0 | 0 | **21** | 13 | 0 | 0 | **13** | 0 | 0 | 0 | **0** | 26 | 0 | 0 | **26** | 84 | 0 | 0 | **84** | 388 | 0 | 0 | **388** | 0 | 0 | 0 | **0** |
| 17:00 to 18:00 | 23 | 1 | 0 | **24** | 25 | 0 | 0 | **25** | 14 | 0 | 0 | **14** | 0 | 0 | 0 | **0** | 21 | 0 | 0 | **21** | 85 | 0 | 0 | **85** | 351 | 0 | 0 | **351** | 0 | 0 | 0 | **0** |
| 17:15 to 18:15 | 18 | 1 | 0 | **19** | 26 | 0 | 0 | **26** | 15 | 0 | 0 | **15** | 0 | 0 | 0 | **0** | 18 | 0 | 0 | **18** | 73 | 0 | 0 | **73** | 327 | 0 | 0 | **327** | 0 | 0 | 0 | **0** |
| 17:30 to 18:30 | 11 | 0 | 0 | **11** | 19 | 0 | 0 | **19** | 12 | 0 | 0 | **12** | 0 | 0 | 0 | **0** | 19 | 0 | 0 | **19** | 78 | 0 | 0 | **78** | 318 | 0 | 0 | **318** | 0 | 0 | 0 | **0** |
| **PM Totals** | **45** | **1** | **0** | **46** | **67** | **0** | **0** | **67** | **44** | **1** | **0** | **45** | **0** | **0** | **0** | **0** | **72** | **0** | **0** | **72** | **218** | **0** | **0** | **218** | **1,100** | **2** | **0** | **1,102** | **0** | **0** | **0** | **0** |

| Approach | Worth St | | | | | | | | | | | | | | | | Union Rd | | | | | | | | | | | | Crossing Pedestrians | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direction | Direction 7 (Left Turn) | | | | Direction 8 (Through) | | | | Direction 9 (Right Turn) | | | | Direction 9U (U Turn) | | | | Direction 10 (Left Turn) | | | | Direction 11 (Through) | | | | Direction 12 (Right Turn) | | | | Direction 12U (U Turn) | | | | | | | | | | | | | |
| Time Period | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | Lights | Heavies | Buses | Total | B to A | A to B | D to C | C to D | F to E | E to F | H to G | G to H | Total |
| 6:30 to 7:30 | 48 | 4 | 0 | **52** | 1 | 0 | 0 | **1** | 18 | 0 | 0 | **18** | 0 | 0 | 0 | **0** | 76 | 2 | 0 | **78** | 115 | 1 | 0 | **116** | 6 | 1 | 0 | **7** | 0 | 0 | 0 | **0** | 1 | 1 | 5 | 4 | 1 | 2 | 0 | 1 | **15** |
| 6:45 to 7:45 | 62 | 4 | 0 | **66** | 2 | 0 | 0 | **2** | 21 | 0 | 0 | **21** | 0 | 0 | 0 | **0** | 89 | 2 | 0 | **91** | 169 | 0 | 0 | **169** | 8 | 0 | 0 | **8** | 0 | 0 | 0 | **0** | 1 | 1 | 5 | 10 | 6 | 2 | 0 | 1 | **26** |
| 7:00 to 8:00 | 96 | 2 | 0 | **98** | 4 | 0 | 0 | **4** | 26 | 1 | 0 | **27** | 0 | 0 | 0 | **0** | 98 | 2 | 0 | **100** | 223 | 1 | 0 | **224** | 9 | 0 | 0 | **9** | 0 | 0 | 0 | **0** | 0 | 0 | 2 | 12 | 6 | 1 | 1 | 1 | **23** |
| 7:15 to 8:15 | 120 | 2 | 0 | **122** | 7 | 0 | 0 | **7** | 25 | 1 | 0 | **26** | 0 | 0 | 0 | **0** | 98 | 2 | 0 | **100** | 277 | 2 | 0 | **279** | 8 | 0 | 0 | **8** | 0 | 0 | 0 | **0** | 0 | 0 | 1 | 13 | 8 | 2 | 4 | 1 | **29** |
| 7:30 to 8:30 | 144 | 3 | 0 | **147** | 8 | 0 | 0 | **8** | 30 | 1 | 0 | **31** | 0 | 0 | 0 | **0** | 97 | 1 | 0 | **98** | 345 | 5 | 0 | **350** | 12 | 0 | 0 | **12** | 0 | 0 | 0 | **0** | 2 | 1 | 1 | 12 | 7 | 3 | 6 | 2 | **34** |
| 7:45 to 8:45 | 164 | 4 | 0 | **168** | 11 | 0 | 0 | **11** | 33 | 1 | 0 | **34** | 0 | 0 | 0 | **0** | 113 | 2 | 0 | **115** | 363 | 6 | 0 | **369** | 11 | 0 | 0 | **11** | 0 | 0 | 0 | **0** | 2 | 3 | 0 | 9 | 2 | 3 | 8 | 3 | **30** |
| 8:00 to 9:00 | 155 | 3 | 0 | **158** | 16 | 0 | 0 | **16** | 30 | 0 | 0 | **30** | 0 | 0 | 0 | **0** | 138 | 2 | 0 | **140** | 350 | 6 | 0 | **356** | 18 | 0 | 0 | **18** | 0 | 0 | 0 | **0** | 2 | 4 | 0 | 10 | 3 | 3 | 13 | 4 | **39** |
| 8:15 to 9:15 | 154 | 2 | 0 | **156** | 20 | 0 | 0 | **20** | 29 | 0 | 0 | **29** | 0 | 0 | 0 | **0** | 178 | 4 | 0 | **182** | 331 | 8 | 0 | **339** | 23 | 1 | 0 | **24** | 0 | 0 | 0 | **0** | 2 | 4 | 0 | 15 | 2 | 4 | 19 | 4 | **50** |
| 8:30 to 9:30 | 167 | 1 | 0 | **168** | 24 | 0 | 0 | **24** | 32 | 0 | 0 | **32** | 0 | 0 | 0 | **0** | 192 | 3 | 0 | **195** | 286 | 7 | 0 | **293** | 23 | 1 | 0 | **24** | 0 | 0 | 0 | **0** | 1 | 3 | 0 | 18 | 2 | 6 | 19 | 3 | **52** |
| **AM Totals** | **359** | **8** | **0** | **367** | **33** | **0** | **0** | **33** | **80** | **1** | **0** | **81** | **0** | **0** | **0** | **0** | **365** | **6** | **0** | **371** | **746** | **13** | **0** | **759** | **41** | **2** | **0** | **43** | **0** | **0** | **0** | **0** | **4** | **5** | **6** | **34** | **10** | **11** | **25** | **6** | **101** |
| 15:30 to 16:30 | 223 | 2 | 0 | **225** | 10 | 0 | 0 | **10** | 163 | 1 | 0 | **164** | 0 | 0 | 0 | **0** | 153 | 0 | 0 | **153** | 173 | 2 | 0 | **175** | 14 | 1 | 0 | **15** | 0 | 0 | 0 | **0** | 2 | 1 | 11 | 5 | 2 | 0 | 11 | 13 | **45** |
| 15:45 to 16:45 | 236 | 3 | 0 | **239** | 16 | 0 | 0 | **16** | 179 | 1 | 0 | **180** | 0 | 0 | 0 | **0** | 162 | 0 | 0 | **162** | 161 | 2 | 0 | **163** | 13 | 0 | 0 | **13** | 0 | 0 | 0 | **0** | 4 | 1 | 9 | 6 | 1 | 0 | 12 | 15 | **48** |
| 16:00 to 17:00 | 242 | 2 | 0 | **244** | 16 | 0 | 0 | **16** | 178 | 1 | 0 | **179** | 0 | 0 | 0 | **0** | 156 | 0 | 0 | **156** | 159 | 2 | 0 | **161** | 12 | 0 | 0 | **12** | 0 | 0 | 0 | **0** | 7 | 1 | 11 | 5 | 2 | 0 | 11 | 12 | **49** |
| 16:15 to 17:15 | 236 | 1 | 0 | **237** | 15 | 0 | 0 | **15** | 182 | 0 | 0 | **182** | 0 | 0 | 0 | **0** | 140 | 0 | 0 | **140** | 161 | 2 | 0 | **163** | 10 | 0 | 0 | **10** | 0 | 0 | 0 | **0** | 6 | 1 | 10 | 3 | 3 | 1 | 9 | 17 | **50** |
| 16:30 to 17:30 | 231 | 1 | 0 | **232** | 16 | 1 | 0 | **17** | 205 | 0 | 0 | **205** | 0 | 0 | 0 | **0** | 142 | 0 | 0 | **142** | 155 | 2 | 0 | **157** | 13 | 0 | 0 | **13** | 0 | 0 | 0 | **0** | 6 | 1 | 11 | 3 | 5 | 2 | 4 | 21 | **53** |
| 16:45 to 17:45 | 219 | 0 | 0 | **219** | 12 | 1 | 0 | **13** | 209 | 0 | 0 | **209** | 0 | 0 | 0 | **0** | 153 | 0 | 0 | **153** | 149 | 2 | 0 | **151** | 16 | 0 | 0 | **16** | 0 | 0 | 0 | **0** | 5 | 1 | 13 | 2 | 6 | 2 | 4 | 23 | **56** |
| 17:00 to 18:00 | 214 | 0 | 0 | **214** | 12 | 1 | 0 | **13** | 226 | 0 | 0 | **226** | 0 | 0 | 0 | **0** | 161 | 0 | 0 | **161** | 146 | 1 | 0 | **147** | 15 | 0 | 0 | **15** | 0 | 0 | 0 | **0** | 3 | 1 | 11 | 1 | 11 | 3 | 4 | 24 | **58** |
| 17:15 to 18:15 | 224 | 0 | 0 | **224** | 13 | 1 | 0 | **14** | 221 | 0 | 0 | **221** | 0 | 0 | 0 | **0** | 172 | 0 | 0 | **172** | 143 | 0 | 0 | **143** | 13 | 0 | 0 | **13** | 0 | 0 | 0 | **0** | 2 | 1 | 8 | 1 | 9 | 3 | 4 | 15 | **43** |
| 17:30 to 18:30 | 216 | 0 | 0 | **216** | 11 | 0 | 0 | **11** | 185 | 0 | 0 | **185** | 0 | 0 | 0 | **0** | 170 | 0 | 0 | **170** | 145 | 0 | 0 | **145** | 12 | 0 | 0 | **12** | 0 | 0 | 0 | **0** | 2 | 1 | 4 | 2 | 8 | 2 | 6 | 14 | **39** |
| **PM Totals** | **670** | **3** | **0** | **673** | **37** | **1** | **0** | **38** | **553** | **1** | **0** | **554** | **0** | **0** | **0** | **0** | **465** | **0** | **0** | **465** | **473** | **4** | **0** | **477** | **39** | **1** | **0** | **40** | **0** | **0** | **0** | **0** | **10** | **3** | **26** | **10** | **15** | **4** | **21** | **48** | **137** |

**Job No.** : N5611
**Client** : Varga Traffic Planning
**Suburb** : Penrith
**Location** : 3. Union Rd / Worth St

**Day/Date** : Thu, 13th February 2020
**Weather** : Fine
**Description** : Classified Intersection Count
: Pedestrian Data




MATRIX Traffic and Transport Data

| Direction | Pedestrians | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time Period | B to A | A to B | D to C | C to D | F to E | E to F | H to G | G to H |
| 6:30 to 6:45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 6:45 to 7:00 | 1 | 1 | 3 | 1 | 0 | 1 | 0 | 0 |
| 7:00 to 7:15 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 7:15 to 7:30 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 1 |
| 7:30 to 7:45 | 0 | 0 | 1 | 6 | 5 | 0 | 0 | 0 |
| 7:45 to 8:00 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 |
| 8:00 to 8:15 | 0 | 0 | 0 | 2 | 2 | 1 | 3 | 0 |
| 8:15 to 8:30 | 2 | 1 | 0 | 1 | 0 | 2 | 2 | 2 |
| 8:30 to 8:45 | 0 | 2 | 0 | 3 | 0 | 0 | 2 | 1 |
| 8:45 to 9:00 | 0 | 1 | 0 | 4 | 1 | 0 | 6 | 1 |
| 9:00 to 9:15 | 0 | 0 | 0 | 7 | 1 | 2 | 9 | 0 |
| 9:15 to 9:30 | 1 | 0 | 0 | 4 | 0 | 4 | 2 | 1 |
| **AM Totals** | **4** | **5** | **6** | **34** | **10** | **11** | **25** | **6** |
| 15:30 to 15:45 | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 2 |
| 15:45 to 16:00 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 3 |
| 16:00 to 16:15 | 2 | 1 | 5 | 2 | 1 | 0 | 3 | 6 |
| 16:15 to 16:30 | 0 | 0 | 4 | 0 | 0 | 0 | 5 | 2 |
| 16:30 to 16:45 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 4 |
| 16:45 to 17:00 | 3 | 0 | 2 | 1 | 1 | 0 | 1 | 0 |
| 17:00 to 17:15 | 1 | 1 | 4 | 0 | 2 | 1 | 1 | 11 |
| 17:15 to 17:30 | 0 | 0 | 5 | 0 | 2 | 1 | 0 | 6 |
| 17:30 to 17:45 | 1 | 0 | 2 | 1 | 1 | 0 | 2 | 6 |
| 17:45 to 18:00 | 1 | 0 | 0 | 0 | 6 | 1 | 1 | 1 |
| 18:00 to 18:15 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2 |
| 18:15 to 18:30 | 0 | 0 | 1 | 1 | 1 | 0 | 2 | 5 |
| **PM Totals** | **10** | **3** | **26** | **10** | **15** | **4** | **21** | **48** |

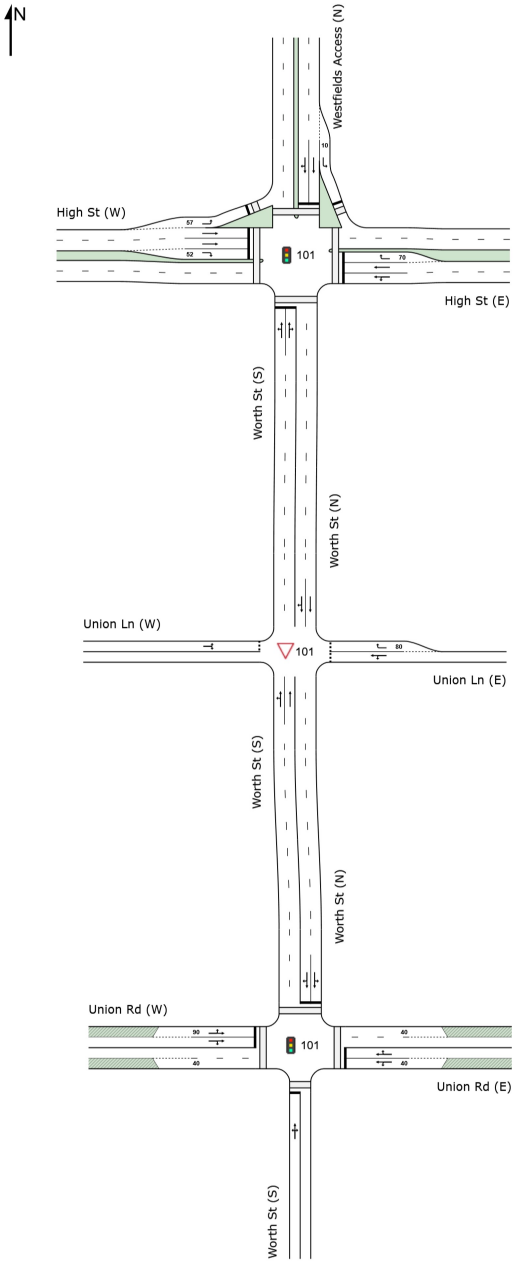
# APPENDIX C

# SIDRA MOVEMENT SUMMARIES

# NETWORK LAYOUT

## Network: N101 [Existing Network AM 2020]

Existing Network AM 2020
Network Category: (None)




| SITES IN NETWORK | | |
|---|---|---|
| **Site ID** | **CCG ID** | **Site Name** |
| 101 | NA | HIG_WORX AM 2020 |
| 101 | NA | WOR_UNIX AM 2020 |
| 101 | NA | UNI_WORX AM 2020 |


Organisation: VARGA TRAFFIC PLANNING | Created: Wednesday, 1 April 2020 7:41:31 AM
Project: Z:\DATA\Data\Jobs01\Jobs\19work\19363C_614-632HighStPenrith\SIDRA\200305\Existing Network 2020.sip8

# MOVEMENT SUMMARY

**Site: 101 [HIG_WORX AM 2020]**

**Network: N101 [Existing Network AM 2020]**

High St & Worth St, Penrith

Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 70 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 147 | 5.4 | 147 | 5.4 | 0.403 | 25.4 | LOS B | 4.2 | 30.3 | 0.89 | 0.78 | 0.89 | 21.1 |
| 2 | T1 | 221 | 0.0 | 221 | 0.0 | 0.403 | 26.2 | LOS B | 4.2 | 30.3 | 0.95 | 0.81 | 0.95 | 13.6 |
| 3 | R2 | 55 | 3.6 | 55 | 3.6 | 0.403 | 34.3 | LOS C | 3.9 | 27.5 | 1.00 | 0.82 | 1.00 | 15.4 |
| Approach | | 423 | 2.4 | 423 | 2.4 | 0.403 | 27.0 | LOS B | 4.2 | 30.3 | 0.94 | 0.80 | 0.94 | 16.6 |
| East: High St (E) | | | | | | | | | | | | | | |
| 4 | L2 | 52 | 3.8 | 52 | 3.8 | 0.195 | 24.5 | LOS B | 1.7 | 12.4 | 0.78 | 0.68 | 0.78 | 14.7 |
| 5 | T1 | 170 | 2.4 | 170 | 2.4 | 0.195 | 19.9 | LOS B | 1.8 | 12.7 | 0.78 | 0.64 | 0.78 | 25.4 |
| 6 | R2 | 129 | 0.0 | 129 | 0.0 | 0.194 | 13.6 | LOS A | 1.3 | 9.4 | 0.65 | 0.70 | 0.65 | 23.5 |
| Approach | | 351 | 1.7 | 351 | 1.7 | 0.195 | 18.2 | LOS B | 1.8 | 12.7 | 0.73 | 0.67 | 0.73 | 23.4 |
| North: Westfields Access (N) | | | | | | | | | | | | | | |
| 7 | L2 | 20 | 0.0 | 20 | 0.0 | 0.027 | 14.1 | LOS A | 0.2 | 1.5 | 0.61 | 0.63 | 0.61 | 24.9 |
| 8 | T1 | 41 | 0.0 | 41 | 0.0 | 0.077 | 20.6 | LOS B | 0.6 | 4.5 | 0.77 | 0.58 | 0.77 | 11.3 |
| 9 | R2 | 50 | 0.0 | 50 | 0.0 | 0.221 | 32.6 | LOS C | 1.0 | 6.7 | 0.90 | 0.74 | 0.90 | 17.6 |
| Approach | | 111 | 0.0 | 111 | 0.0 | 0.221 | 24.9 | LOS B | 1.0 | 6.7 | 0.80 | 0.66 | 0.80 | 16.9 |
| West: High St (W) | | | | | | | | | | | | | | |
| 10 | L2 | 185 | 0.0 | 185 | 0.0 | 0.389 | 26.0 | LOS B | 3.2 | 22.1 | 0.84 | 0.77 | 0.84 | 19.7 |
| 11 | T1 | 233 | 5.6 | 233 | 5.6 | 0.206 | 20.0 | LOS B | 1.8 | 13.5 | 0.78 | 0.63 | 0.78 | 25.8 |
| 12 | R2 | 129 | 0.0 | 129 | 0.0 | 0.192 | 13.6 | LOS A | 1.3 | 9.4 | 0.65 | 0.70 | 0.65 | 24.5 |
| Approach | | 547 | 2.4 | 547 | 2.4 | 0.389 | 20.5 | LOS B | 3.2 | 22.1 | 0.77 | 0.69 | 0.77 | 23.2 |
| All Vehicles | | 1432 | 2.0 | 1432 | 2.0 | 0.403 | 22.2 | LOS B | 4.2 | 30.3 | 0.81 | 0.72 | 0.81 | 20.7 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 59 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 |
| P2 | East Full Crossing | 11 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P3 | North Full Crossing | 4 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P3B | North Slip/Bypass Lane Crossing | 6 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P4 | West Full Crossing | 107 | 29.4 | LOS C | 0.2 | 0.2 | 0.92 | 0.92 |
| P4B | West Slip/Bypass Lane Crossing | 59 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 |
| All Pedestrians | | 246 | 29.3 | LOS C | | | 0.92 | 0.92 |

# MOVEMENT SUMMARY

## Site: 101 [HIG_WORX PM 2020]

## Network: N101 [Existing Network PM 2020]

High St & Worth St, Penrith

Site Category: (None)
Signals - Fixed Time Coordinated  Cycle Time = 115 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 324 | 0.0 | 324 | 0.0 | 0.330 | 19.5 | LOS B | 8.1 | 56.8 | 0.69 | 0.75 | 0.69 | 23.7 |
| 2 | T1 | 268 | 0.0 | 268 | 0.0 | 0.330 | 20.8 | LOS B | 8.1 | 56.8 | 0.78 | 0.72 | 0.78 | 16.0 |
| 3 | R2 | 63 | 0.0 | 63 | 0.0 | 0.330 | 26.7 | LOS B | 7.1 | 49.8 | 0.80 | 0.71 | 0.80 | 18.8 |
| Approach | | 655 | 0.0 | 655 | 0.0 | 0.330 | 20.8 | LOS B | 8.1 | 56.8 | 0.73 | 0.73 | 0.73 | 20.3 |
| East: High St (E) | | | | | | | | | | | | | | |
| 4 | L2 | 49 | 0.0 | 49 | 0.0 | 0.415 | 45.0 | LOS D | 5.5 | 38.5 | 0.90 | 0.75 | 0.90 | 9.1 |
| 5 | T1 | 327 | 0.6 | 327 | 0.6 | 0.415 | 40.4 | LOS C | 5.5 | 39.0 | 0.90 | 0.75 | 0.90 | 17.1 |
| 6 | R2 | 168 | 0.0 | 168 | 0.0 | 0.442 | 35.5 | LOS C | 4.4 | 30.7 | 0.86 | 0.76 | 0.86 | 13.4 |
| Approach | | 544 | 0.4 | 544 | 0.4 | 0.442 | 39.3 | LOS C | 5.5 | 39.0 | 0.88 | 0.75 | 0.88 | 15.4 |
| North: Westfields Access (N) | | | | | | | | | | | | | | |
| 7 | L2 | 155 | 0.0 | 155 | 0.0 | 0.283 | 13.5 | LOS A | 2.1 | 15.0 | 0.49 | 0.65 | 0.49 | 25.5 |
| 8 | T1 | 268 | 0.0 | 268 | 0.0 | 0.399 | 15.0 | LOS B | 4.8 | 33.8 | 0.57 | 0.48 | 0.57 | 14.3 |
| 9 | R2 | 253 | 0.0 | 253 | 0.0 | 0.717 | 37.5 | LOS C | 7.8 | 54.4 | 0.89 | 0.87 | 0.95 | 16.0 |
| Approach | | 676 | 0.0 | 676 | 0.0 | 0.717 | 23.1 | LOS B | 7.8 | 54.4 | 0.67 | 0.67 | 0.69 | 17.3 |
| West: High St (W) | | | | | | | | | | | | | | |
| 10 | L2 | 251 | 0.0 | 251 | 0.0 | 0.710 | 50.8 | LOS D | 8.3 | 58.0 | 0.98 | 0.86 | 1.03 | 12.8 |
| 11 | T1 | 223 | 0.9 | 223 | 0.9 | 0.245 | 38.5 | LOS C | 3.1 | 22.0 | 0.85 | 0.68 | 0.85 | 17.8 |
| 12 | R2 | 78 | 1.3 | 78 | 1.3 | 0.247 | 34.2 | LOS C | 1.9 | 13.6 | 0.85 | 0.73 | 0.85 | 13.8 |
| Approach | | 552 | 0.5 | 552 | 0.5 | 0.710 | 43.5 | LOS D | 8.3 | 58.0 | 0.91 | 0.77 | 0.93 | 14.8 |
| All Vehicles | | 2427 | 0.2 | 2427 | 0.2 | 0.717 | 30.7 | LOS C | 8.3 | 58.0 | 0.79 | 0.73 | 0.80 | 16.6 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 46 | 51.8 | LOS E | 0.1 | 0.1 | 0.95 | 0.95 |
| P2 | East Full Crossing | 23 | 51.7 | LOS E | 0.1 | 0.1 | 0.95 | 0.95 |
| P3 | North Full Crossing | 8 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P3B | North Slip/Bypass Lane Crossing | 6 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P4 | West Full Crossing | 79 | 51.8 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P4B | West Slip/Bypass Lane Crossing | 59 | 51.8 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| All Pedestrians | | 221 | 51.8 | LOS E | | | 0.95 | 0.95 |

# MOVEMENT SUMMARY

## Site: 101 [WOR_UNIX AM 2020]

## Network: N101 [Existing Network AM 2020]

Worth Street & Union Lane, Penrith
Site Category: (None)
Giveway / Yield (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 43 | 0.0 | 43 | 0.0 | 0.113 | 4.3 | LOS A | 0.0 | 0.0 | 0.00 | 0.11 | 0.00 | 46.0 |
| 2 | T1 | 392 | 2.0 | 392 | 2.0 | 0.113 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 46.5 |
| Approach | | 435 | 1.8 | 435 | 1.8 | 0.113 | 0.4 | NA | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 46.3 |
| East: Union Ln (E) | | | | | | | | | | | | | | |
| 4 | L2 | 19 | 5.3 | 19 | 5.3 | 0.018 | 5.0 | LOS A | 0.0 | 0.2 | 0.21 | 0.50 | 0.21 | 43.7 |
| 5 | T1 | 1 | 0.0 | 1 | 0.0 | 0.018 | 8.3 | LOS A | 0.0 | 0.2 | 0.21 | 0.50 | 0.21 | 45.0 |
| 6 | R2 | 15 | 6.7 | 15 | 6.7 | 0.034 | 10.4 | LOS A | 0.1 | 0.4 | 0.57 | 0.72 | 0.57 | 39.0 |
| Approach | | 35 | 5.7 | 35 | 5.7 | 0.034 | 7.4 | LOS A | 0.1 | 0.4 | 0.36 | 0.59 | 0.36 | 41.6 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 8 | T1 | 205 | 0.0 | 205 | 0.0 | 0.060 | 0.2 | LOS A | 0.1 | 0.4 | 0.05 | 0.03 | 0.05 | 45.6 |
| 9 | R2 | 14 | 0.0 | 14 | 0.0 | 0.060 | 6.2 | LOS A | 0.1 | 0.4 | 0.11 | 0.08 | 0.11 | 44.5 |
| Approach | | 219 | 0.0 | 219 | 0.0 | 0.060 | 0.6 | NA | 0.1 | 0.4 | 0.05 | 0.04 | 0.05 | 45.4 |
| West: Union Ln (W) | | | | | | | | | | | | | | |
| 10 | L2 | 18 | 5.6 | 18 | 5.6 | 0.029 | 5.3 | LOS A | 0.0 | 0.3 | 0.30 | 0.54 | 0.30 | 34.2 |
| 12 | R2 | 6 | 0.0 | 6 | 0.0 | 0.029 | 10.3 | LOS A | 0.0 | 0.3 | 0.30 | 0.54 | 0.30 | 34.2 |
| Approach | | 24 | 4.2 | 24 | 4.2 | 0.029 | 6.5 | LOS A | 0.0 | 0.3 | 0.30 | 0.54 | 0.30 | 34.2 |
| All Vehicles | | 713 | 1.5 | 713 | 1.5 | 0.113 | 1.0 | NA | 0.1 | 0.4 | 0.04 | 0.09 | 0.04 | 44.1 |

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

# MOVEMENT SUMMARY

## Site: 101 [WOR_UNIX PM 2020]

## Network: N101 [Existing Network PM 2020]

Worth Street & Union Lane, Penrith
Site Category: (None)
Giveway / Yield (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 17 | 0.0 | 17 | 0.0 | 0.208 | 4.3 | LOS A | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 47.3 |
| 2 | T1 | 545 | 0.0 | 545 | 0.0 | 0.208 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.02 | 0.00 | 48.8 |
| Approach | | 562 | 0.0 | 562 | 0.0 | 0.208 | 0.1 | NA | 0.0 | 0.0 | 0.00 | 0.02 | 0.00 | 48.6 |
| East: Union Ln (E) | | | | | | | | | | | | | | |
| 4 | L2 | 62 | 0.0 | 62 | 0.0 | 0.090 | 5.3 | LOS A | 0.1 | 0.7 | 0.29 | 0.53 | 0.29 | 43.3 |
| 5 | T1 | 1 | 0.0 | 1 | 0.0 | 0.090 | 12.5 | LOS A | 0.1 | 0.7 | 0.29 | 0.53 | 0.29 | 44.8 |
| 6 | R2 | 56 | 1.8 | 56 | 1.8 | 0.264 | 17.9 | LOS B | 0.3 | 2.2 | 0.75 | 0.92 | 0.84 | 33.6 |
| Approach | | 119 | 0.8 | 119 | 0.8 | 0.264 | 11.3 | LOS A | 0.3 | 2.2 | 0.50 | 0.71 | 0.55 | 38.2 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 8 | T1 | 388 | 0.3 | 388 | 0.3 | 0.158 | 0.1 | LOS A | 0.0 | 0.2 | 0.02 | 0.01 | 0.02 | 48.4 |
| 9 | R2 | 6 | 0.0 | 6 | 0.0 | 0.158 | 7.1 | LOS A | 0.0 | 0.2 | 0.04 | 0.02 | 0.04 | 46.5 |
| Approach | | 394 | 0.3 | 394 | 0.3 | 0.158 | 0.2 | NA | 0.0 | 0.2 | 0.02 | 0.01 | 0.02 | 48.3 |
| West: Union Ln (W) | | | | | | | | | | | | | | |
| 10 | L2 | 45 | 0.0 | 45 | 0.0 | 0.172 | 5.6 | LOS A | 0.2 | 1.2 | 0.43 | 0.62 | 0.43 | 30.5 |
| 12 | R2 | 19 | 0.0 | 19 | 0.0 | 0.172 | 17.1 | LOS B | 0.2 | 1.2 | 0.43 | 0.62 | 0.43 | 30.5 |
| Approach | | 64 | 0.0 | 64 | 0.0 | 0.172 | 9.0 | LOS A | 0.2 | 1.2 | 0.43 | 0.62 | 0.43 | 30.5 |
| All Vehicles | | 1139 | 0.2 | 1139 | 0.2 | 0.264 | 1.8 | NA | 0.3 | 2.2 | 0.08 | 0.12 | 0.09 | 41.7 |

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

# MOVEMENT SUMMARY

**Site: 101 [UNI_WORX AM 2020]**

**Network: N101 [Existing Network AM 2020]**

Union Rd & Worth St, Penrith
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 70 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 8 | 0.0 | 8 | 0.0 | 0.368 | 39.6 | LOS C | 1.3 | 8.9 | 0.98 | 0.74 | 0.98 | 32.7 |
| 2 | T1 | 21 | 4.8 | 21 | 4.8 | 0.368 | 35.1 | LOS C | 1.3 | 8.9 | 0.98 | 0.74 | 0.98 | 24.7 |
| 3 | R2 | 30 | 0.0 | 30 | 0.0 | 0.368 | 39.6 | LOS C | 1.3 | 8.9 | 0.98 | 0.74 | 0.98 | 32.6 |
| Approach | | 59 | 1.7 | 59 | 1.7 | 0.368 | 38.0 | LOS C | 1.3 | 8.9 | 0.98 | 0.74 | 0.98 | 30.5 |
| East: Union Rd (E) | | | | | | | | | | | | | | |
| 4 | L2 | 35 | 0.0 | 35 | 0.0 | 0.076 | 14.8 | LOS B | 0.8 | 5.5 | 0.56 | 0.56 | 0.56 | 42.3 |
| 5 | T1 | 35 | 2.9 | 35 | 2.9 | 0.076 | 10.2 | LOS A | 0.8 | 5.5 | 0.56 | 0.56 | 0.56 | 42.7 |
| 6 | R2 | 219 | 2.3 | 219 | 2.3 | 0.550 | 22.7 | LOS B | 3.7 | 26.3 | 0.82 | 0.80 | 0.82 | 31.0 |
| Approach | | 289 | 2.1 | 289 | 2.1 | 0.550 | 20.3 | LOS B | 3.7 | 26.3 | 0.76 | 0.74 | 0.76 | 34.6 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 7 | L2 | 168 | 0.6 | 168 | 0.6 | 0.530 | 34.1 | LOS C | 3.4 | 24.2 | 0.98 | 0.80 | 0.98 | 27.2 |
| 8 | T1 | 24 | 0.0 | 24 | 0.0 | 0.172 | 27.5 | LOS B | 1.0 | 7.2 | 0.89 | 0.71 | 0.89 | 29.0 |
| 9 | R2 | 32 | 0.0 | 32 | 0.0 | 0.172 | 31.8 | LOS C | 1.0 | 7.2 | 0.89 | 0.71 | 0.89 | 28.7 |
| Approach | | 224 | 0.4 | 224 | 0.4 | 0.530 | 33.1 | LOS C | 3.4 | 24.2 | 0.96 | 0.78 | 0.96 | 27.6 |
| West: Union Rd (W) | | | | | | | | | | | | | | |
| 10 | L2 | 195 | 1.5 | 195 | 1.5 | 0.143 | 7.3 | LOS A | 1.2 | 8.2 | 0.31 | 0.62 | 0.31 | 41.8 |
| 11 | T1 | 293 | 2.4 | 293 | 2.4 | 0.354 | 12.1 | LOS A | 4.1 | 29.6 | 0.66 | 0.58 | 0.66 | 42.7 |
| 12 | R2 | 24 | 4.2 | 24 | 4.2 | 0.354 | 16.7 | LOS B | 4.1 | 29.6 | 0.66 | 0.58 | 0.66 | 42.2 |
| Approach | | 512 | 2.1 | 512 | 2.1 | 0.354 | 10.5 | LOS A | 4.1 | 29.6 | 0.53 | 0.60 | 0.53 | 42.5 |
| All Vehicles | | 1084 | 1.8 | 1084 | 1.8 | 0.550 | 19.3 | LOS B | 4.1 | 29.6 | 0.70 | 0.68 | 0.70 | 36.4 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 4 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P2 | East Full Crossing | 18 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P3 | North Full Crossing | 8 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P4 | West Full Crossing | 22 | 29.3 | LOS C | 0.0 | 0.0 | 0.92 | 0.92 |
| All Pedestrians | | 52 | 29.3 | LOS C | | | 0.91 | 0.91 |

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

# MOVEMENT SUMMARY

**Site: 101 [UNI_WORX PM 2020]**

**Network: N101 [Existing Network PM 2020]**

Union Rd & Worth St, Penrith
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 115 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 24 | 0.0 | 24 | 0.0 | 0.605 | 66.9 | LOS E | 2.2 | 15.3 | 1.00 | 0.78 | 1.08 | 26.3 |
| 2 | T1 | 20 | 5.0 | 20 | 5.0 | 0.605 | 62.3 | LOS E | 2.2 | 15.3 | 1.00 | 0.78 | 1.08 | 18.1 |
| 3 | R2 | 15 | 0.0 | 15 | 0.0 | 0.605 | 66.9 | LOS E | 2.2 | 15.3 | 1.00 | 0.78 | 1.08 | 26.2 |
| Approach | | 59 | 1.7 | 59 | 1.7 | 0.605 | 65.3 | LOS E | 2.2 | 15.3 | 1.00 | 0.78 | 1.08 | 24.0 |
| East: Union Rd (E) | | | | | | | | | | | | | | |
| 4 | L2 | 26 | 0.0 | 26 | 0.0 | 0.093 | 14.8 | LOS B | 1.5 | 10.7 | 0.45 | 0.44 | 0.45 | 42.9 |
| 5 | T1 | 82 | 0.0 | 82 | 0.0 | 0.093 | 10.2 | LOS A | 1.5 | 10.7 | 0.45 | 0.44 | 0.45 | 43.3 |
| 6 | R2 | 393 | 0.0 | 393 | 0.0 | 0.661 | 22.8 | LOS B | 9.1 | 63.9 | 0.72 | 0.80 | 0.72 | 31.0 |
| Approach | | 501 | 0.0 | 501 | 0.0 | 0.661 | 20.3 | LOS B | 9.1 | 63.9 | 0.67 | 0.72 | 0.67 | 34.4 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 7 | L2 | 232 | 0.4 | 232 | 0.4 | 0.655 | 51.5 | LOS D | 7.4 | 52.0 | 0.96 | 0.82 | 0.97 | 22.1 |
| 8 | T1 | 17 | 5.9 | 17 | 5.9 | 0.624 | 46.6 | LOS D | 7.1 | 50.1 | 0.97 | 0.82 | 0.97 | 22.5 |
| 9 | R2 | 205 | 0.0 | 205 | 0.0 | 0.624 | 50.9 | LOS D | 7.1 | 50.1 | 0.97 | 0.82 | 0.97 | 22.3 |
| Approach | | 454 | 0.4 | 454 | 0.4 | 0.655 | 51.1 | LOS D | 7.4 | 52.0 | 0.97 | 0.82 | 0.97 | 22.2 |
| West: Union Rd (W) | | | | | | | | | | | | | | |
| 10 | L2 | 142 | 0.0 | 142 | 0.0 | 0.091 | 6.2 | LOS A | 0.8 | 5.6 | 0.18 | 0.58 | 0.18 | 42.9 |
| 11 | T1 | 157 | 1.3 | 157 | 1.3 | 0.153 | 10.7 | LOS A | 2.5 | 17.8 | 0.47 | 0.41 | 0.47 | 43.5 |
| 12 | R2 | 13 | 0.0 | 13 | 0.0 | 0.153 | 15.2 | LOS B | 2.5 | 17.8 | 0.47 | 0.41 | 0.47 | 42.9 |
| Approach | | 312 | 0.6 | 312 | 0.6 | 0.153 | 8.8 | LOS A | 2.5 | 17.8 | 0.34 | 0.49 | 0.34 | 43.3 |
| All Vehicles | | 1326 | 0.4 | 1326 | 0.4 | 0.661 | 30.1 | LOS C | 9.1 | 63.9 | 0.71 | 0.70 | 0.71 | 30.4 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 7 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P2 | East Full Crossing | 14 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P3 | North Full Crossing | 7 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P4 | West Full Crossing | 25 | 51.7 | LOS E | 0.1 | 0.1 | 0.95 | 0.95 |
| All Pedestrians | | 53 | 51.7 | LOS E | | | 0.95 | 0.95 |

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

# MOVEMENT SUMMARY

**Site: 101 [HIG_WORP AM 2020]**

**Network: N101 [Proposed Network AM 2020 (Sydney average rates)]**

High St & Worth St, Penrith

Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 70 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 183 | 4.4 | 183 | 4.4 | 0.412 | 24.0 | LOS B | 4.6 | 33.0 | 0.87 | 0.78 | 0.87 | 21.6 |
| 2 | T1 | 221 | 0.0 | 221 | 0.0 | 0.412 | 25.6 | LOS B | 4.6 | 33.0 | 0.95 | 0.81 | 0.95 | 13.8 |
| 3 | R2 | 61 | 3.3 | 61 | 3.3 | 0.412 | 33.5 | LOS C | 4.1 | 29.2 | 1.00 | 0.83 | 1.00 | 15.7 |
| Approach | | 465 | 2.2 | 465 | 2.2 | 0.412 | 26.0 | LOS B | 4.6 | 33.0 | 0.93 | 0.80 | 0.93 | 17.2 |
| East: High St (E) | | | | | | | | | | | | | | |
| 4 | L2 | 57 | 3.5 | 57 | 3.5 | 0.221 | 26.3 | LOS B | 1.8 | 13.3 | 0.81 | 0.70 | 0.81 | 13.9 |
| 5 | T1 | 170 | 2.4 | 170 | 2.4 | 0.221 | 21.6 | LOS B | 1.9 | 13.6 | 0.81 | 0.66 | 0.81 | 24.3 |
| 6 | R2 | 129 | 0.0 | 129 | 0.0 | 0.196 | 14.1 | LOS A | 1.4 | 9.6 | 0.67 | 0.70 | 0.67 | 23.1 |
| Approach | | 356 | 1.7 | 356 | 1.7 | 0.221 | 19.6 | LOS B | 1.9 | 13.6 | 0.76 | 0.68 | 0.76 | 22.4 |
| North: Westfields Access (N) | | | | | | | | | | | | | | |
| 7 | L2 | 20 | 0.0 | 20 | 0.0 | 0.026 | 13.1 | LOS A | 0.2 | 1.4 | 0.58 | 0.62 | 0.58 | 25.9 |
| 8 | T1 | 41 | 0.0 | 41 | 0.0 | 0.074 | 19.7 | LOS B | 0.6 | 4.4 | 0.76 | 0.57 | 0.76 | 11.6 |
| 9 | R2 | 50 | 0.0 | 50 | 0.0 | 0.222 | 32.7 | LOS C | 1.0 | 6.7 | 0.90 | 0.74 | 0.90 | 17.6 |
| Approach | | 111 | 0.0 | 111 | 0.0 | 0.222 | 24.4 | LOS B | 1.0 | 6.7 | 0.79 | 0.65 | 0.79 | 17.1 |
| West: High St (W) | | | | | | | | | | | | | | |
| 10 | L2 | 185 | 0.0 | 185 | 0.0 | 0.423 | 27.8 | LOS B | 3.3 | 23.0 | 0.87 | 0.78 | 0.87 | 19.0 |
| 11 | T1 | 233 | 5.6 | 233 | 5.6 | 0.228 | 21.7 | LOS B | 1.9 | 14.1 | 0.82 | 0.65 | 0.82 | 24.7 |
| 12 | R2 | 137 | 0.0 | 137 | 0.0 | 0.207 | 14.1 | LOS A | 1.5 | 10.3 | 0.67 | 0.71 | 0.67 | 24.0 |
| Approach | | 555 | 2.3 | 555 | 2.3 | 0.423 | 21.9 | LOS B | 3.3 | 23.0 | 0.80 | 0.71 | 0.80 | 22.4 |
| All Vehicles | | 1487 | 2.0 | 1487 | 2.0 | 0.423 | 22.8 | LOS B | 4.6 | 33.0 | 0.83 | 0.73 | 0.83 | 20.4 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 109 | 29.4 | LOS C | 0.2 | 0.2 | 0.92 | 0.92 |
| P2 | East Full Crossing | 61 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 |
| P3 | North Full Crossing | 54 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 |
| P3B | North Slip/Bypass Lane Crossing | 56 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 |
| P4 | West Full Crossing | 157 | 29.4 | LOS C | 0.3 | 0.3 | 0.92 | 0.92 |
| P4B | West Slip/Bypass Lane Crossing | 109 | 29.4 | LOS C | 0.2 | 0.2 | 0.92 | 0.92 |

# MOVEMENT SUMMARY

**Site: 101 [HIG_WORP PM 2020]**

**Network: N101 [Proposed Network PM 2020 (Sydney average rates)]**

High St & Worth St, Penrith

Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 115 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 341 | 0.0 | 341 | 0.0 | 0.349 | 19.5 | LOS B | 8.5 | 59.2 | 0.68 | 0.75 | 0.68 | 23.8 |
| 2 | T1 | 268 | 0.0 | 268 | 0.0 | 0.349 | 21.9 | LOS B | 8.5 | 59.2 | 0.79 | 0.73 | 0.79 | 15.5 |
| 3 | R2 | 67 | 0.0 | 67 | 0.0 | 0.349 | 28.0 | LOS B | 7.3 | 51.3 | 0.82 | 0.73 | 0.82 | 18.1 |
| Approach | | 676 | 0.0 | 676 | 0.0 | 0.349 | 21.3 | LOS B | 8.5 | 59.2 | 0.74 | 0.74 | 0.74 | 20.1 |
| East: High St (E) | | | | | | | | | | | | | | |
| 4 | L2 | 55 | 0.0 | 55 | 0.0 | 0.474 | 48.1 | LOS D | 5.8 | 40.7 | 0.93 | 0.78 | 0.93 | 8.6 |
| 5 | T1 | 327 | 0.6 | 327 | 0.6 | 0.474 | 43.5 | LOS D | 5.9 | 41.3 | 0.93 | 0.77 | 0.93 | 16.2 |
| 6 | R2 | 168 | 0.0 | 168 | 0.0 | 0.391 | 33.0 | LOS C | 4.1 | 29.0 | 0.84 | 0.76 | 0.84 | 14.0 |
| Approach | | 550 | 0.4 | 550 | 0.4 | 0.474 | 40.8 | LOS C | 5.9 | 41.3 | 0.90 | 0.77 | 0.90 | 15.0 |
| North: Westfields Access (N) | | | | | | | | | | | | | | |
| 7 | L2 | 155 | 0.0 | 155 | 0.0 | 0.251 | 12.2 | LOS A | 2.0 | 13.9 | 0.46 | 0.64 | 0.46 | 26.8 |
| 8 | T1 | 268 | 0.0 | 268 | 0.0 | 0.402 | 16.1 | LOS B | 5.0 | 35.1 | 0.59 | 0.50 | 0.59 | 13.5 |
| 9 | R2 | 253 | 0.0 | 253 | 0.0 | 0.769 | 43.7 | LOS D | 8.5 | 59.8 | 0.93 | 0.92 | 1.06 | 14.4 |
| Approach | | 676 | 0.0 | 676 | 0.0 | 0.769 | 25.6 | LOS B | 8.5 | 59.8 | 0.69 | 0.69 | 0.74 | 16.2 |
| West: High St (W) | | | | | | | | | | | | | | |
| 10 | L2 | 251 | 0.0 | 251 | 0.0 | 0.786 | 56.5 | LOS E | 8.9 | 62.2 | 1.00 | 0.92 | 1.14 | 11.8 |
| 11 | T1 | 223 | 0.9 | 223 | 0.9 | 0.276 | 41.4 | LOS C | 3.2 | 22.9 | 0.88 | 0.70 | 0.88 | 16.9 |
| 12 | R2 | 86 | 1.2 | 86 | 1.2 | 0.234 | 32.1 | LOS C | 2.0 | 14.2 | 0.83 | 0.74 | 0.83 | 14.4 |
| Approach | | 560 | 0.5 | 560 | 0.5 | 0.786 | 46.8 | LOS D | 8.9 | 62.2 | 0.93 | 0.81 | 0.99 | 14.0 |
| All Vehicles | | 2462 | 0.2 | 2462 | 0.2 | 0.786 | 32.6 | LOS C | 8.9 | 62.2 | 0.80 | 0.75 | 0.83 | 16.0 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 96 | 51.9 | LOS E | 0.3 | 0.3 | 0.95 | 0.95 |
| P2 | East Full Crossing | 73 | 51.8 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P3 | North Full Crossing | 58 | 51.8 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P3B | North Slip/Bypass Lane Crossing | 56 | 51.8 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P4 | West Full Crossing | 129 | 51.9 | LOS E | 0.4 | 0.4 | 0.95 | 0.95 |
| P4B | West Slip/Bypass Lane Crossing | 109 | 51.9 | LOS E | 0.3 | 0.3 | 0.95 | 0.95 |

# MOVEMENT SUMMARY

## Site: 101 [WOR_UNIP AM 2020]

## Network: N101 [Proposed Network AM 2020 (Sydney average rates)]

Worth Street & Union Lane, Penrith
Site Category: (None)
Giveway / Yield (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 71 | 0.0 | 71 | 0.0 | 0.121 | 4.3 | LOS A | 0.0 | 0.0 | 0.00 | 0.17 | 0.00 | 44.9 |
| 2 | T1 | 392 | 2.0 | 392 | 2.0 | 0.121 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.07 | 0.00 | 45.1 |
| Approach | | 463 | 1.7 | 463 | 1.7 | 0.121 | 0.7 | NA | 0.0 | 0.0 | 0.00 | 0.08 | 0.00 | 45.0 |
| East: Union Ln (E) | | | | | | | | | | | | | | |
| 4 | L2 | 19 | 5.3 | 19 | 5.3 | 0.018 | 5.1 | LOS A | 0.0 | 0.2 | 0.22 | 0.50 | 0.22 | 43.6 |
| 5 | T1 | 1 | 0.0 | 1 | 0.0 | 0.018 | 8.7 | LOS A | 0.0 | 0.2 | 0.22 | 0.50 | 0.22 | 45.0 |
| 6 | R2 | 15 | 6.7 | 15 | 6.7 | 0.037 | 11.4 | LOS A | 0.1 | 0.4 | 0.59 | 0.74 | 0.59 | 38.3 |
| Approach | | 35 | 5.7 | 35 | 5.7 | 0.037 | 7.9 | LOS A | 0.1 | 0.4 | 0.38 | 0.60 | 0.38 | 41.2 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 8 | T1 | 205 | 0.0 | 205 | 0.0 | 0.066 | 0.3 | LOS A | 0.1 | 0.7 | 0.08 | 0.06 | 0.08 | 43.2 |
| 9 | R2 | 27 | 0.0 | 27 | 0.0 | 0.066 | 6.4 | LOS A | 0.1 | 0.7 | 0.21 | 0.15 | 0.21 | 42.3 |
| Approach | | 232 | 0.0 | 232 | 0.0 | 0.066 | 1.0 | NA | 0.1 | 0.7 | 0.09 | 0.07 | 0.09 | 42.9 |
| West: Union Ln (W) | | | | | | | | | | | | | | |
| 10 | L2 | 60 | 1.7 | 60 | 1.7 | 0.107 | 5.2 | LOS A | 0.2 | 1.2 | 0.31 | 0.56 | 0.31 | 33.5 |
| 12 | R2 | 24 | 0.0 | 24 | 0.0 | 0.107 | 11.2 | LOS A | 0.2 | 1.2 | 0.31 | 0.56 | 0.31 | 33.5 |
| Approach | | 84 | 1.2 | 84 | 1.2 | 0.107 | 6.9 | LOS A | 0.2 | 1.2 | 0.31 | 0.56 | 0.31 | 33.5 |
| All Vehicles | | 814 | 1.4 | 814 | 1.4 | 0.121 | 1.7 | NA | 0.2 | 1.2 | 0.07 | 0.15 | 0.07 | 41.6 |

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

# MOVEMENT SUMMARY

**Site: 101 [WOR_UNIP PM 2020]**

**Network: N101 [Proposed Network PM 2020 (Sydney average rates)]**

Worth Street & Union Lane, Penrith
Site Category: (None)
Giveway / Yield (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 50 | 0.0 | 50 | 0.0 | 0.226 | 4.3 | LOS A | 0.0 | 0.0 | 0.00 | 0.10 | 0.00 | 46.2 |
| 2 | T1 | 545 | 0.0 | 545 | 0.0 | 0.226 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.04 | 0.00 | 47.0 |
| Approach | | 595 | 0.0 | 595 | 0.0 | 0.226 | 0.4 | NA | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 46.8 |
| East: Union Ln (E) | | | | | | | | | | | | | | |
| 4 | L2 | 62 | 0.0 | 62 | 0.0 | 0.096 | 5.4 | LOS A | 0.1 | 0.7 | 0.30 | 0.54 | 0.30 | 43.3 |
| 5 | T1 | 1 | 0.0 | 1 | 0.0 | 0.096 | 13.3 | LOS A | 0.1 | 0.7 | 0.30 | 0.54 | 0.30 | 44.7 |
| 6 | R2 | 56 | 1.8 | 56 | 1.8 | 0.292 | 19.5 | LOS B | 0.3 | 2.4 | 0.77 | 0.93 | 0.89 | 32.7 |
| Approach | | 119 | 0.8 | 119 | 0.8 | 0.292 | 12.1 | LOS A | 0.3 | 2.4 | 0.52 | 0.72 | 0.57 | 37.6 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 8 | T1 | 388 | 0.3 | 388 | 0.3 | 0.178 | 0.3 | LOS A | 0.1 | 0.7 | 0.06 | 0.03 | 0.06 | 45.3 |
| 9 | R2 | 20 | 0.0 | 20 | 0.0 | 0.178 | 7.3 | LOS A | 0.1 | 0.7 | 0.12 | 0.06 | 0.12 | 44.5 |
| Approach | | 408 | 0.2 | 408 | 0.2 | 0.178 | 0.6 | NA | 0.1 | 0.7 | 0.06 | 0.03 | 0.06 | 45.1 |
| West: Union Ln (W) | | | | | | | | | | | | | | |
| 10 | L2 | 66 | 0.0 | 66 | 0.0 | 0.283 | 5.6 | LOS A | 0.3 | 1.9 | 0.43 | 0.63 | 0.44 | 29.8 |
| 12 | R2 | 29 | 0.0 | 29 | 0.0 | 0.283 | 18.5 | LOS B | 0.3 | 1.9 | 0.43 | 0.63 | 0.44 | 29.8 |
| Approach | | 95 | 0.0 | 95 | 0.0 | 0.283 | 9.5 | LOS A | 0.3 | 1.9 | 0.43 | 0.63 | 0.44 | 29.8 |
| All Vehicles | | 1217 | 0.2 | 1217 | 0.2 | 0.292 | 2.3 | NA | 0.3 | 2.4 | 0.11 | 0.15 | 0.11 | 40.3 |

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

# MOVEMENT SUMMARY

**Site: 101 [UNI_WORP AM 2020]**

**Network: N101 [Proposed Network AM 2020 (Sydney average rates)]**

Union Rd & Worth St, Penrith
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 70 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 8 | 0.0 | 8 | 0.0 | 0.368 | 39.6 | LOS C | 1.3 | 8.9 | 0.98 | 0.74 | 0.98 | 32.7 |
| 2 | T1 | 21 | 4.8 | 21 | 4.8 | 0.368 | 35.1 | LOS C | 1.3 | 8.9 | 0.98 | 0.74 | 0.98 | 24.7 |
| 3 | R2 | 30 | 0.0 | 30 | 0.0 | 0.368 | 39.6 | LOS C | 1.3 | 8.9 | 0.98 | 0.74 | 0.98 | 32.6 |
| Approach | | 59 | 1.7 | 59 | 1.7 | 0.368 | 38.0 | LOS C | 1.3 | 8.9 | 0.98 | 0.74 | 0.98 | 30.5 |
| East: Union Rd (E) | | | | | | | | | | | | | | |
| 4 | L2 | 35 | 0.0 | 35 | 0.0 | 0.076 | 14.8 | LOS B | 0.8 | 5.5 | 0.56 | 0.56 | 0.56 | 42.3 |
| 5 | T1 | 35 | 2.9 | 35 | 2.9 | 0.076 | 10.2 | LOS A | 0.8 | 5.5 | 0.56 | 0.56 | 0.56 | 42.7 |
| 6 | R2 | 234 | 2.1 | 234 | 2.1 | 0.593 | 23.2 | LOS B | 4.0 | 28.7 | 0.84 | 0.81 | 0.84 | 30.8 |
| Approach | | 304 | 2.0 | 304 | 2.0 | 0.593 | 20.7 | LOS B | 4.0 | 28.7 | 0.77 | 0.75 | 0.77 | 34.3 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 7 | L2 | 183 | 0.5 | 183 | 0.5 | 0.577 | 34.4 | LOS C | 3.8 | 26.5 | 0.99 | 0.81 | 0.99 | 27.1 |
| 8 | T1 | 24 | 0.0 | 24 | 0.0 | 0.182 | 27.6 | LOS B | 1.1 | 7.6 | 0.89 | 0.71 | 0.89 | 29.0 |
| 9 | R2 | 35 | 0.0 | 35 | 0.0 | 0.182 | 31.9 | LOS C | 1.1 | 7.6 | 0.89 | 0.71 | 0.89 | 28.7 |
| Approach | | 242 | 0.4 | 242 | 0.4 | 0.577 | 33.3 | LOS C | 3.8 | 26.5 | 0.96 | 0.79 | 0.97 | 27.5 |
| West: Union Rd (W) | | | | | | | | | | | | | | |
| 10 | L2 | 208 | 1.4 | 208 | 1.4 | 0.152 | 7.3 | LOS A | 1.2 | 8.8 | 0.31 | 0.62 | 0.31 | 41.8 |
| 11 | T1 | 293 | 2.4 | 293 | 2.4 | 0.354 | 12.1 | LOS A | 4.1 | 29.6 | 0.66 | 0.58 | 0.66 | 42.7 |
| 12 | R2 | 24 | 4.2 | 24 | 4.2 | 0.354 | 16.7 | LOS B | 4.1 | 29.6 | 0.66 | 0.58 | 0.66 | 42.2 |
| Approach | | 525 | 2.1 | 525 | 2.1 | 0.354 | 10.4 | LOS A | 4.1 | 29.6 | 0.52 | 0.60 | 0.52 | 42.5 |
| All Vehicles | | 1130 | 1.7 | 1130 | 1.7 | 0.593 | 19.5 | LOS B | 4.1 | 29.6 | 0.71 | 0.69 | 0.71 | 36.2 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 4 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P2 | East Full Crossing | 18 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P3 | North Full Crossing | 8 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P4 | West Full Crossing | 22 | 29.3 | LOS C | 0.0 | 0.0 | 0.92 | 0.92 |
| All Pedestrians | | 52 | 29.3 | LOS C | | | 0.91 | 0.91 |

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

# MOVEMENT SUMMARY

**Site: 101 [UNI_WORP PM 2020]**

**Network: N101 [Proposed Network PM 2020 (Sydney average rates)]**

Union Rd & Worth St, Penrith
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 115 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 24 | 0.0 | 24 | 0.0 | 0.605 | 66.9 | LOS E | 2.2 | 15.3 | 1.00 | 0.78 | 1.08 | 26.3 |
| 2 | T1 | 20 | 5.0 | 20 | 5.0 | 0.605 | 62.3 | LOS E | 2.2 | 15.3 | 1.00 | 0.78 | 1.08 | 18.1 |
| 3 | R2 | 15 | 0.0 | 15 | 0.0 | 0.605 | 66.9 | LOS E | 2.2 | 15.3 | 1.00 | 0.78 | 1.08 | 26.2 |
| Approach | | 59 | 1.7 | 59 | 1.7 | 0.605 | 65.3 | LOS E | 2.2 | 15.3 | 1.00 | 0.78 | 1.08 | 24.0 |
| East: Union Rd (E) | | | | | | | | | | | | | | |
| 4 | L2 | 26 | 0.0 | 26 | 0.0 | 0.092 | 14.3 | LOS A | 1.5 | 10.5 | 0.44 | 0.43 | 0.44 | 43.2 |
| 5 | T1 | 82 | 0.0 | 82 | 0.0 | 0.092 | 9.8 | LOS A | 1.5 | 10.5 | 0.44 | 0.43 | 0.44 | 43.5 |
| 6 | R2 | 417 | 0.0 | 417 | 0.0 | 0.699 | 22.7 | LOS B | 9.9 | 69.1 | 0.74 | 0.80 | 0.74 | 31.0 |
| Approach | | 525 | 0.0 | 525 | 0.0 | 0.699 | 20.3 | LOS B | 9.9 | 69.1 | 0.68 | 0.73 | 0.68 | 34.3 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 7 | L2 | 237 | 0.4 | 237 | 0.4 | 0.701 | 53.4 | LOS D | 7.7 | 54.1 | 0.97 | 0.84 | 1.00 | 21.7 |
| 8 | T1 | 17 | 5.9 | 17 | 5.9 | 0.669 | 48.0 | LOS D | 7.4 | 52.3 | 0.98 | 0.83 | 1.00 | 22.2 |
| 9 | R2 | 210 | 0.0 | 210 | 0.0 | 0.669 | 52.3 | LOS D | 7.4 | 52.3 | 0.98 | 0.83 | 1.00 | 22.0 |
| Approach | | 464 | 0.4 | 464 | 0.4 | 0.701 | 52.7 | LOS D | 7.7 | 54.1 | 0.98 | 0.84 | 1.00 | 21.9 |
| West: Union Rd (W) | | | | | | | | | | | | | | |
| 10 | L2 | 151 | 0.0 | 151 | 0.0 | 0.096 | 6.2 | LOS A | 0.9 | 6.0 | 0.18 | 0.58 | 0.18 | 42.9 |
| 11 | T1 | 157 | 1.3 | 157 | 1.3 | 0.151 | 10.2 | LOS A | 2.5 | 17.4 | 0.46 | 0.41 | 0.46 | 43.7 |
| 12 | R2 | 13 | 0.0 | 13 | 0.0 | 0.151 | 14.8 | LOS B | 2.5 | 17.4 | 0.46 | 0.41 | 0.46 | 43.2 |
| Approach | | 321 | 0.6 | 321 | 0.6 | 0.151 | 8.5 | LOS A | 2.5 | 17.4 | 0.33 | 0.49 | 0.33 | 43.4 |
| All Vehicles | | 1369 | 0.4 | 1369 | 0.4 | 0.701 | 30.4 | LOS C | 9.9 | 69.1 | 0.71 | 0.71 | 0.72 | 30.2 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 7 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P2 | East Full Crossing | 14 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P3 | North Full Crossing | 7 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P4 | West Full Crossing | 25 | 51.7 | LOS E | 0.1 | 0.1 | 0.95 | 0.95 |
| All Pedestrians | | 53 | 51.7 | LOS E | | | 0.95 | 0.95 |

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

# MOVEMENT SUMMARY

**Site: 101 [HIG_WORP AM 2020]**

**Network: N101 [Proposed Network AM 2020 (Council RFB rates)]**

High St & Worth St, Penrith

Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 70 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 201 | 4.0 | 201 | 4.0 | 0.426 | 23.9 | LOS B | 4.8 | 34.7 | 0.87 | 0.78 | 0.87 | 21.6 |
| 2 | T1 | 221 | 0.0 | 221 | 0.0 | 0.426 | 25.8 | LOS B | 4.8 | 34.7 | 0.95 | 0.81 | 0.95 | 13.7 |
| 3 | R2 | 64 | 3.1 | 64 | 3.1 | 0.426 | 33.7 | LOS C | 4.3 | 30.1 | 1.00 | 0.83 | 1.00 | 15.6 |
| Approach | | 486 | 2.1 | 486 | 2.1 | 0.426 | 26.0 | LOS B | 4.8 | 34.7 | 0.92 | 0.80 | 0.92 | 17.3 |
| East: High St (E) | | | | | | | | | | | | | | |
| 4 | L2 | 56 | 3.6 | 56 | 3.6 | 0.220 | 26.3 | LOS B | 1.8 | 13.2 | 0.81 | 0.70 | 0.81 | 13.9 |
| 5 | T1 | 170 | 2.4 | 170 | 2.4 | 0.220 | 21.6 | LOS B | 1.9 | 13.5 | 0.81 | 0.66 | 0.81 | 24.3 |
| 6 | R2 | 129 | 0.0 | 129 | 0.0 | 0.196 | 14.1 | LOS A | 1.4 | 9.6 | 0.67 | 0.70 | 0.67 | 23.1 |
| Approach | | 355 | 1.7 | 355 | 1.7 | 0.220 | 19.6 | LOS B | 1.9 | 13.5 | 0.76 | 0.68 | 0.76 | 22.5 |
| North: Westfields Access (N) | | | | | | | | | | | | | | |
| 7 | L2 | 20 | 0.0 | 20 | 0.0 | 0.026 | 13.1 | LOS A | 0.2 | 1.4 | 0.58 | 0.62 | 0.58 | 25.9 |
| 8 | T1 | 41 | 0.0 | 41 | 0.0 | 0.074 | 19.7 | LOS B | 0.6 | 4.4 | 0.76 | 0.57 | 0.76 | 11.6 |
| 9 | R2 | 50 | 0.0 | 50 | 0.0 | 0.227 | 32.7 | LOS C | 1.0 | 6.7 | 0.90 | 0.74 | 0.90 | 17.6 |
| Approach | | 111 | 0.0 | 111 | 0.0 | 0.227 | 24.4 | LOS B | 1.0 | 6.7 | 0.79 | 0.65 | 0.79 | 17.1 |
| West: High St (W) | | | | | | | | | | | | | | |
| 10 | L2 | 185 | 0.0 | 185 | 0.0 | 0.423 | 27.8 | LOS B | 3.3 | 23.0 | 0.87 | 0.78 | 0.87 | 19.0 |
| 11 | T1 | 233 | 5.6 | 233 | 5.6 | 0.228 | 21.7 | LOS B | 1.9 | 14.1 | 0.82 | 0.65 | 0.82 | 24.7 |
| 12 | R2 | 140 | 0.0 | 140 | 0.0 | 0.212 | 14.1 | LOS A | 1.5 | 10.5 | 0.67 | 0.71 | 0.67 | 23.9 |
| Approach | | 558 | 2.3 | 558 | 2.3 | 0.423 | 21.8 | LOS B | 3.3 | 23.0 | 0.80 | 0.71 | 0.80 | 22.4 |
| All Vehicles | | 1510 | 1.9 | 1510 | 1.9 | 0.426 | 22.9 | LOS B | 4.8 | 34.7 | 0.83 | 0.73 | 0.83 | 20.4 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 109 | 29.4 | LOS C | 0.2 | 0.2 | 0.92 | 0.92 |
| P2 | East Full Crossing | 61 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 |
| P3 | North Full Crossing | 54 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 |
| P3B | North Slip/Bypass Lane Crossing | 56 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 |
| P4 | West Full Crossing | 157 | 29.4 | LOS C | 0.3 | 0.3 | 0.92 | 0.92 |
| P4B | West Slip/Bypass Lane Crossing | 109 | 29.4 | LOS C | 0.2 | 0.2 | 0.92 | 0.92 |

# MOVEMENT SUMMARY

**Site: 101 [HIG_WORP PM 2020]**

**Network: N101 [Proposed Network PM 2020 (Council RFB rates)]**

High St & Worth St, Penrith

Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 115 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 354 | 0.0 | 354 | 0.0 | 0.356 | 19.1 | LOS B | 8.5 | 59.6 | 0.67 | 0.74 | 0.67 | 24.0 |
| 2 | T1 | 268 | 0.0 | 268 | 0.0 | 0.356 | 21.3 | LOS B | 8.5 | 59.6 | 0.77 | 0.72 | 0.77 | 15.7 |
| 3 | R2 | 69 | 0.0 | 69 | 0.0 | 0.356 | 27.3 | LOS B | 7.3 | 50.9 | 0.80 | 0.71 | 0.80 | 18.4 |
| Approach | | 691 | 0.0 | 691 | 0.0 | 0.356 | 20.8 | LOS B | 8.5 | 59.6 | 0.72 | 0.73 | 0.72 | 20.4 |
| East: High St (E) | | | | | | | | | | | | | | |
| 4 | L2 | 60 | 0.0 | 60 | 0.0 | 0.481 | 48.1 | LOS D | 5.9 | 41.3 | 0.93 | 0.78 | 0.93 | 8.5 |
| 5 | T1 | 327 | 0.6 | 327 | 0.6 | 0.481 | 43.6 | LOS D | 6.0 | 41.9 | 0.93 | 0.77 | 0.93 | 16.2 |
| 6 | R2 | 168 | 0.0 | 168 | 0.0 | 0.391 | 33.0 | LOS C | 4.1 | 29.0 | 0.84 | 0.76 | 0.84 | 14.0 |
| Approach | | 555 | 0.4 | 555 | 0.4 | 0.481 | 40.9 | LOS C | 6.0 | 41.9 | 0.90 | 0.77 | 0.90 | 14.9 |
| North: Westfields Access (N) | | | | | | | | | | | | | | |
| 7 | L2 | 155 | 0.0 | 155 | 0.0 | 0.251 | 12.2 | LOS A | 2.0 | 14.0 | 0.46 | 0.64 | 0.46 | 26.8 |
| 8 | T1 | 268 | 0.0 | 268 | 0.0 | 0.402 | 16.1 | LOS B | 5.0 | 35.1 | 0.59 | 0.50 | 0.59 | 13.5 |
| 9 | R2 | 253 | 0.0 | 253 | 0.0 | 0.779 | 44.9 | LOS D | 8.7 | 60.9 | 0.94 | 0.93 | 1.08 | 14.2 |
| Approach | | 676 | 0.0 | 676 | 0.0 | 0.779 | 26.0 | LOS B | 8.7 | 60.9 | 0.69 | 0.69 | 0.74 | 16.0 |
| West: High St (W) | | | | | | | | | | | | | | |
| 10 | L2 | 251 | 0.0 | 251 | 0.0 | 0.786 | 56.5 | LOS E | 8.9 | 62.2 | 1.00 | 0.92 | 1.14 | 11.8 |
| 11 | T1 | 223 | 0.9 | 223 | 0.9 | 0.276 | 41.4 | LOS C | 3.2 | 22.9 | 0.88 | 0.70 | 0.88 | 16.9 |
| 12 | R2 | 94 | 1.1 | 94 | 1.1 | 0.257 | 32.4 | LOS C | 2.2 | 15.6 | 0.85 | 0.75 | 0.85 | 14.3 |
| Approach | | 568 | 0.5 | 568 | 0.5 | 0.786 | 46.6 | LOS D | 8.9 | 62.2 | 0.93 | 0.81 | 0.99 | 14.0 |
| All Vehicles | | 2490 | 0.2 | 2490 | 0.2 | 0.786 | 32.6 | LOS C | 8.9 | 62.2 | 0.80 | 0.75 | 0.83 | 16.0 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 96 | 51.9 | LOS E | 0.3 | 0.3 | 0.95 | 0.95 |
| P2 | East Full Crossing | 73 | 51.8 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P3 | North Full Crossing | 58 | 51.8 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P3B | North Slip/Bypass Lane Crossing | 56 | 51.8 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P4 | West Full Crossing | 129 | 51.9 | LOS E | 0.4 | 0.4 | 0.95 | 0.95 |
| P4B | West Slip/Bypass Lane Crossing | 109 | 51.9 | LOS E | 0.3 | 0.3 | 0.95 | 0.95 |

# MOVEMENT SUMMARY

**Site: 101 [WOR_UNIP AM 2020]**

**Network: N101 [Proposed Network AM 2020 (Council RFB rates)]**

Worth Street & Union Lane, Penrith
Site Category: (None)
Giveway / Yield (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 79 | 0.0 | 79 | 0.0 | 0.123 | 4.3 | LOS A | 0.0 | 0.0 | 0.00 | 0.18 | 0.00 | 44.6 |
| 2 | T1 | 392 | 2.0 | 392 | 2.0 | 0.123 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.07 | 0.00 | 44.9 |
| Approach | | 471 | 1.7 | 471 | 1.7 | 0.123 | 0.7 | NA | 0.0 | 0.0 | 0.00 | 0.09 | 0.00 | 44.8 |
| East: Union Ln (E) | | | | | | | | | | | | | | |
| 4 | L2 | 19 | 5.3 | 19 | 5.3 | 0.018 | 5.1 | LOS A | 0.0 | 0.2 | 0.22 | 0.50 | 0.22 | 43.6 |
| 5 | T1 | 1 | 0.0 | 1 | 0.0 | 0.018 | 8.8 | LOS A | 0.0 | 0.2 | 0.22 | 0.50 | 0.22 | 45.0 |
| 6 | R2 | 15 | 6.7 | 15 | 6.7 | 0.039 | 11.8 | LOS A | 0.1 | 0.4 | 0.60 | 0.76 | 0.60 | 37.9 |
| Approach | | 35 | 5.7 | 35 | 5.7 | 0.039 | 8.1 | LOS A | 0.1 | 0.4 | 0.38 | 0.61 | 0.38 | 41.1 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 8 | T1 | 205 | 0.0 | 205 | 0.0 | 0.067 | 0.3 | LOS A | 0.1 | 0.7 | 0.08 | 0.06 | 0.08 | 42.9 |
| 9 | R2 | 29 | 0.0 | 29 | 0.0 | 0.067 | 6.4 | LOS A | 0.1 | 0.7 | 0.22 | 0.17 | 0.22 | 41.9 |
| Approach | | 234 | 0.0 | 234 | 0.0 | 0.067 | 1.1 | NA | 0.1 | 0.7 | 0.10 | 0.07 | 0.10 | 42.6 |
| West: Union Ln (W) | | | | | | | | | | | | | | |
| 10 | L2 | 81 | 1.2 | 81 | 1.2 | 0.146 | 5.2 | LOS A | 0.2 | 1.7 | 0.31 | 0.57 | 0.31 | 33.3 |
| 12 | R2 | 33 | 0.0 | 33 | 0.0 | 0.146 | 11.5 | LOS A | 0.2 | 1.7 | 0.31 | 0.57 | 0.31 | 33.3 |
| Approach | | 114 | 0.9 | 114 | 0.9 | 0.146 | 7.0 | LOS A | 0.2 | 1.7 | 0.31 | 0.57 | 0.31 | 33.3 |
| All Vehicles | | 854 | 1.3 | 854 | 1.3 | 0.146 | 2.0 | NA | 0.2 | 1.7 | 0.08 | 0.17 | 0.08 | 40.9 |

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

# MOVEMENT SUMMARY

## Site: 101 [WOR_UNIP PM 2020]

## Network: N101 [Proposed Network PM 2020 (Council RFB rates)]

Worth Street & Union Lane, Penrith
Site Category: (None)
Giveway / Yield (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 80 | 0.0 | 80 | 0.0 | 0.233 | 4.3 | LOS A | 0.0 | 0.0 | 0.00 | 0.15 | 0.00 | 45.3 |
| 2 | T1 | 545 | 0.0 | 545 | 0.0 | 0.233 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 45.8 |
| Approach | | 625 | 0.0 | 625 | 0.0 | 0.233 | 0.6 | NA | 0.0 | 0.0 | 0.00 | 0.07 | 0.00 | 45.6 |
| East: Union Ln (E) | | | | | | | | | | | | | | |
| 4 | L2 | 62 | 0.0 | 62 | 0.0 | 0.108 | 5.4 | LOS A | 0.1 | 0.7 | 0.30 | 0.54 | 0.30 | 43.3 |
| 5 | T1 | 1 | 0.0 | 1 | 0.0 | 0.108 | 14.1 | LOS A | 0.1 | 0.7 | 0.30 | 0.54 | 0.30 | 44.7 |
| 6 | R2 | 56 | 1.8 | 56 | 1.8 | 0.305 | 20.7 | LOS B | 0.4 | 2.5 | 0.78 | 0.95 | 0.91 | 32.0 |
| Approach | | 119 | 0.8 | 119 | 0.8 | 0.305 | 12.7 | LOS A | 0.4 | 2.5 | 0.53 | 0.73 | 0.59 | 37.2 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 8 | T1 | 388 | 0.3 | 388 | 0.3 | 0.204 | 0.4 | LOS A | 0.2 | 1.1 | 0.09 | 0.04 | 0.09 | 42.9 |
| 9 | R2 | 33 | 0.0 | 33 | 0.0 | 0.204 | 7.5 | LOS A | 0.2 | 1.1 | 0.20 | 0.10 | 0.20 | 43.0 |
| Approach | | 421 | 0.2 | 421 | 0.2 | 0.204 | 1.0 | NA | 0.2 | 1.1 | 0.10 | 0.05 | 0.10 | 42.9 |
| West: Union Ln (W) | | | | | | | | | | | | | | |
| 10 | L2 | 81 | 0.0 | 81 | 0.0 | 0.354 | 6.6 | LOS A | 0.4 | 2.7 | 0.43 | 0.65 | 0.49 | 28.3 |
| 12 | R2 | 34 | 0.0 | 34 | 0.0 | 0.354 | 20.6 | LOS B | 0.4 | 2.7 | 0.43 | 0.65 | 0.49 | 28.3 |
| Approach | | 115 | 0.0 | 115 | 0.0 | 0.354 | 10.7 | LOS A | 0.4 | 2.7 | 0.43 | 0.65 | 0.49 | 28.3 |
| All Vehicles | | 1280 | 0.2 | 1280 | 0.2 | 0.354 | 2.7 | NA | 0.4 | 2.7 | 0.12 | 0.18 | 0.13 | 39.1 |

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

# MOVEMENT SUMMARY

**Site: 101 [UNI_WORP AM 2020]**

**Network: N101 [Proposed Network AM 2020 (Council RFB rates)]**

Union Rd & Worth St, Penrith
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 70 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 8 | 0.0 | 8 | 0.0 | 0.368 | 39.6 | LOS C | 1.3 | 8.9 | 0.98 | 0.74 | 0.98 | 32.7 |
| 2 | T1 | 21 | 4.8 | 21 | 4.8 | 0.368 | 35.1 | LOS C | 1.3 | 8.9 | 0.98 | 0.74 | 0.98 | 24.7 |
| 3 | R2 | 30 | 0.0 | 30 | 0.0 | 0.368 | 39.6 | LOS C | 1.3 | 8.9 | 0.98 | 0.74 | 0.98 | 32.6 |
| Approach | | 59 | 1.7 | 59 | 1.7 | 0.368 | 38.0 | LOS C | 1.3 | 8.9 | 0.98 | 0.74 | 0.98 | 30.5 |
| East: Union Rd (E) | | | | | | | | | | | | | | |
| 4 | L2 | 35 | 0.0 | 35 | 0.0 | 0.076 | 14.8 | LOS B | 0.8 | 5.5 | 0.56 | 0.56 | 0.56 | 42.3 |
| 5 | T1 | 35 | 2.9 | 35 | 2.9 | 0.076 | 10.2 | LOS A | 0.8 | 5.5 | 0.56 | 0.56 | 0.56 | 42.7 |
| 6 | R2 | 238 | 2.1 | 238 | 2.1 | 0.605 | 23.4 | LOS B | 4.1 | 29.5 | 0.84 | 0.81 | 0.85 | 30.7 |
| Approach | | 308 | 1.9 | 308 | 1.9 | 0.605 | 20.9 | LOS B | 4.1 | 29.5 | 0.78 | 0.75 | 0.78 | 34.2 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 7 | L2 | 190 | 0.5 | 190 | 0.5 | 0.599 | 34.6 | LOS C | 3.9 | 27.7 | 0.99 | 0.82 | 1.00 | 27.0 |
| 8 | T1 | 24 | 0.0 | 24 | 0.0 | 0.188 | 27.6 | LOS B | 1.1 | 7.9 | 0.89 | 0.71 | 0.89 | 28.9 |
| 9 | R2 | 37 | 0.0 | 37 | 0.0 | 0.188 | 31.9 | LOS C | 1.1 | 7.9 | 0.89 | 0.71 | 0.89 | 28.6 |
| Approach | | 251 | 0.4 | 251 | 0.4 | 0.599 | 33.6 | LOS C | 3.9 | 27.7 | 0.97 | 0.79 | 0.98 | 27.4 |
| West: Union Rd (W) | | | | | | | | | | | | | | |
| 10 | L2 | 212 | 1.4 | 212 | 1.4 | 0.155 | 7.4 | LOS A | 1.3 | 9.0 | 0.31 | 0.63 | 0.31 | 41.7 |
| 11 | T1 | 293 | 2.4 | 293 | 2.4 | 0.354 | 12.1 | LOS A | 4.1 | 29.6 | 0.66 | 0.58 | 0.66 | 42.7 |
| 12 | R2 | 24 | 4.2 | 24 | 4.2 | 0.354 | 16.7 | LOS B | 4.1 | 29.6 | 0.66 | 0.58 | 0.66 | 42.2 |
| Approach | | 529 | 2.1 | 529 | 2.1 | 0.354 | 10.4 | LOS A | 4.1 | 29.6 | 0.52 | 0.60 | 0.52 | 42.5 |
| All Vehicles | | 1147 | 1.7 | 1147 | 1.7 | 0.605 | 19.7 | LOS B | 4.1 | 29.6 | 0.71 | 0.69 | 0.71 | 36.0 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 4 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P2 | East Full Crossing | 18 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P3 | North Full Crossing | 8 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P4 | West Full Crossing | 22 | 29.3 | LOS C | 0.0 | 0.0 | 0.92 | 0.92 |
| All Pedestrians | | 52 | 29.3 | LOS C | | | 0.91 | 0.91 |

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

# MOVEMENT SUMMARY

**Site: 101 [UNI_WORP PM 2020]**

**Network: N101 [Proposed Network PM 2020 (Council RFB rates)]**

Union Rd & Worth St, Penrith
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 115 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 24 | 0.0 | 24 | 0.0 | 0.605 | 66.9 | LOS E | 2.2 | 15.3 | 1.00 | 0.78 | 1.08 | 26.3 |
| 2 | T1 | 20 | 5.0 | 20 | 5.0 | 0.605 | 62.3 | LOS E | 2.2 | 15.3 | 1.00 | 0.78 | 1.08 | 18.1 |
| 3 | R2 | 15 | 0.0 | 15 | 0.0 | 0.605 | 66.9 | LOS E | 2.2 | 15.3 | 1.00 | 0.78 | 1.08 | 26.2 |
| Approach | | 59 | 1.7 | 59 | 1.7 | 0.605 | 65.3 | LOS E | 2.2 | 15.3 | 1.00 | 0.78 | 1.08 | 24.0 |
| East: Union Rd (E) | | | | | | | | | | | | | | |
| 4 | L2 | 26 | 0.0 | 26 | 0.0 | 0.091 | 13.9 | LOS A | 1.5 | 10.3 | 0.43 | 0.42 | 0.43 | 43.4 |
| 5 | T1 | 82 | 0.0 | 82 | 0.0 | 0.091 | 9.3 | LOS A | 1.5 | 10.3 | 0.43 | 0.42 | 0.43 | 43.8 |
| 6 | R2 | 439 | 0.0 | 439 | 0.0 | 0.731 | 22.5 | LOS B | 10.6 | 73.9 | 0.74 | 0.81 | 0.75 | 31.1 |
| Approach | | 547 | 0.0 | 547 | 0.0 | 0.731 | 20.1 | LOS B | 10.6 | 73.9 | 0.68 | 0.74 | 0.69 | 34.4 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 7 | L2 | 240 | 0.4 | 240 | 0.4 | 0.745 | 55.9 | LOS D | 8.2 | 57.8 | 1.00 | 0.87 | 1.09 | 21.1 |
| 8 | T1 | 17 | 5.9 | 17 | 5.9 | 0.708 | 50.2 | LOS D | 7.7 | 54.2 | 1.00 | 0.86 | 1.05 | 21.7 |
| 9 | R2 | 212 | 0.0 | 212 | 0.0 | 0.708 | 54.5 | LOS D | 7.7 | 54.2 | 1.00 | 0.86 | 1.05 | 21.5 |
| Approach | | 469 | 0.4 | 469 | 0.4 | 0.745 | 55.1 | LOS D | 8.2 | 57.8 | 1.00 | 0.87 | 1.07 | 21.3 |
| West: Union Rd (W) | | | | | | | | | | | | | | |
| 10 | L2 | 159 | 0.0 | 159 | 0.0 | 0.102 | 6.2 | LOS A | 0.9 | 6.4 | 0.18 | 0.58 | 0.18 | 42.9 |
| 11 | T1 | 157 | 1.3 | 157 | 1.3 | 0.149 | 9.8 | LOS A | 2.4 | 17.0 | 0.45 | 0.40 | 0.45 | 43.9 |
| 12 | R2 | 13 | 0.0 | 13 | 0.0 | 0.149 | 14.3 | LOS A | 2.4 | 17.0 | 0.45 | 0.40 | 0.45 | 43.4 |
| Approach | | 329 | 0.6 | 329 | 0.6 | 0.149 | 8.2 | LOS A | 2.4 | 17.0 | 0.32 | 0.49 | 0.32 | 43.6 |
| All Vehicles | | 1404 | 0.4 | 1404 | 0.4 | 0.745 | 30.9 | LOS C | 10.6 | 73.9 | 0.72 | 0.72 | 0.74 | 30.0 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 7 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P2 | East Full Crossing | 14 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P3 | North Full Crossing | 7 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P4 | West Full Crossing | 25 | 51.7 | LOS E | 0.1 | 0.1 | 0.95 | 0.95 |
| All Pedestrians | | 53 | 51.7 | LOS E | | | 0.95 | 0.95 |

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

# MOVEMENT SUMMARY

**Site: 101 [HIG_WORX AM 2030]**

**Network: N101 [Existing Network AM 2030]**

High St & Worth St, Penrith

Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 70 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 179 | 4.5 | 179 | 4.5 | 0.491 | 26.1 | LOS B | 5.3 | 37.8 | 0.91 | 0.80 | 0.91 | 20.8 |
| 2 | T1 | 269 | 0.0 | 269 | 0.0 | 0.491 | 26.8 | LOS B | 5.3 | 37.8 | 0.96 | 0.82 | 0.96 | 13.4 |
| 3 | R2 | 67 | 3.0 | 67 | 3.0 | 0.491 | 34.8 | LOS C | 4.7 | 33.2 | 1.00 | 0.83 | 1.00 | 15.3 |
| Approach | | 515 | 1.9 | 515 | 1.9 | 0.491 | 27.6 | LOS B | 5.3 | 37.8 | 0.95 | 0.81 | 0.95 | 16.3 |
| East: High St (E) | | | | | | | | | | | | | | |
| 4 | L2 | 63 | 3.2 | 63 | 3.2 | 0.237 | 24.8 | LOS B | 2.1 | 15.2 | 0.79 | 0.69 | 0.79 | 14.6 |
| 5 | T1 | 207 | 1.9 | 207 | 1.9 | 0.237 | 20.2 | LOS B | 2.2 | 15.6 | 0.79 | 0.66 | 0.79 | 25.2 |
| 6 | R2 | 157 | 0.0 | 157 | 0.0 | 0.245 | 13.7 | LOS A | 1.7 | 11.6 | 0.66 | 0.71 | 0.66 | 23.4 |
| Approach | | 427 | 1.4 | 427 | 1.4 | 0.245 | 18.5 | LOS B | 2.2 | 15.6 | 0.75 | 0.68 | 0.75 | 23.3 |
| North: Westfields Access (N) | | | | | | | | | | | | | | |
| 7 | L2 | 24 | 0.0 | 24 | 0.0 | 0.033 | 14.2 | LOS A | 0.3 | 1.8 | 0.62 | 0.64 | 0.62 | 24.9 |
| 8 | T1 | 50 | 0.0 | 50 | 0.0 | 0.094 | 20.7 | LOS B | 0.8 | 5.5 | 0.78 | 0.59 | 0.78 | 11.2 |
| 9 | R2 | 61 | 0.0 | 61 | 0.0 | 0.318 | 35.3 | LOS C | 1.2 | 8.6 | 0.94 | 0.75 | 0.94 | 16.7 |
| Approach | | 135 | 0.0 | 135 | 0.0 | 0.318 | 26.1 | LOS B | 1.2 | 8.6 | 0.82 | 0.67 | 0.82 | 16.4 |
| West: High St (W) | | | | | | | | | | | | | | |
| 10 | L2 | 225 | 0.0 | 225 | 0.0 | 0.486 | 27.5 | LOS B | 4.0 | 28.2 | 0.88 | 0.79 | 0.88 | 19.1 |
| 11 | T1 | 284 | 4.6 | 284 | 4.6 | 0.250 | 20.3 | LOS B | 2.3 | 16.6 | 0.80 | 0.64 | 0.80 | 25.6 |
| 12 | R2 | 157 | 0.0 | 157 | 0.0 | 0.242 | 13.7 | LOS A | 1.7 | 11.6 | 0.66 | 0.71 | 0.66 | 24.3 |
| Approach | | 666 | 2.0 | 666 | 2.0 | 0.486 | 21.2 | LOS B | 4.0 | 28.2 | 0.79 | 0.71 | 0.79 | 22.8 |
| All Vehicles | | 1743 | 1.7 | 1743 | 1.7 | 0.491 | 22.8 | LOS B | 5.3 | 37.8 | 0.83 | 0.73 | 0.83 | 20.4 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 59 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 |
| P2 | East Full Crossing | 11 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P3 | North Full Crossing | 4 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P3B | North Slip/Bypass Lane Crossing | 6 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P4 | West Full Crossing | 107 | 29.4 | LOS C | 0.2 | 0.2 | 0.92 | 0.92 |
| P4B | West Slip/Bypass Lane Crossing | 59 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 |
| All Pedestrians | | 246 | 29.3 | LOS C | | | 0.92 | 0.92 |

# MOVEMENT SUMMARY

## Site: 101 [HIG_WORX PM 2030]

## Network: N101 [Existing Network PM 2030]

High St & Worth St, Penrith

Site Category: (None)
Signals - Fixed Time Coordinated  Cycle Time = 115 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 395 | 0.0 | 395 | 0.0 | 0.415 | 18.8 | LOS B | 9.3 | 65.0 | 0.65 | 0.74 | 0.65 | 24.2 |
| 2 | T1 | 327 | 0.0 | 327 | 0.0 | 0.415 | 18.9 | LOS B | 9.3 | 65.0 | 0.71 | 0.68 | 0.71 | 16.9 |
| 3 | R2 | 77 | 0.0 | 77 | 0.0 | 0.415 | 24.6 | LOS B | 7.8 | 54.3 | 0.73 | 0.67 | 0.73 | 19.8 |
| Approach | | 799 | 0.0 | 799 | 0.0 | 0.415 | 19.4 | LOS B | 9.3 | 65.0 | 0.69 | 0.71 | 0.69 | 21.1 |
| East: High St (E) | | | | | | | | | | | | | | |
| 4 | L2 | 60 | 0.0 | 60 | 0.0 | 0.471 | 44.1 | LOS D | 6.7 | 47.0 | 0.90 | 0.77 | 0.90 | 9.3 |
| 5 | T1 | 399 | 0.5 | 399 | 0.5 | 0.471 | 39.5 | LOS C | 6.8 | 47.6 | 0.90 | 0.76 | 0.90 | 17.3 |
| 6 | R2 | 205 | 0.0 | 205 | 0.0 | 0.591 | 40.8 | LOS C | 5.4 | 37.7 | 0.91 | 0.89 | 1.13 | 12.1 |
| Approach | | 664 | 0.3 | 664 | 0.3 | 0.591 | 40.3 | LOS C | 6.8 | 47.6 | 0.90 | 0.80 | 0.97 | 15.2 |
| North: Westfields Access (N) | | | | | | | | | | | | | | |
| 7 | L2 | 189 | 0.0 | 189 | 0.0 | 0.382 | 14.7 | LOS B | 2.8 | 19.7 | 0.53 | 0.67 | 0.53 | 24.5 |
| 8 | T1 | 327 | 0.0 | 327 | 0.0 | 0.487 | 15.5 | LOS B | 6.1 | 42.8 | 0.59 | 0.51 | 0.59 | 13.9 |
| 9 | R2 | 308 | 0.0 | 308 | 0.0 | 1.049 | 141.6 | LOS F | 20.3 | 141.8 | 1.00 | 1.41 | 1.99 | 5.5 |
| Approach | | 824 | 0.0 | 824 | 0.0 | 1.049 | 62.5 | LOS E | 20.3 | 141.8 | 0.73 | 0.88 | 1.10 | 8.1 |
| West: High St (W) | | | | | | | | | | | | | | |
| 10 | L2 | 306 | 0.0 | 306 | 0.0 | 1.039 | 126.0 | LOS F | 17.4 | 122.1 | 1.00 | 1.33 | 1.89 | 6.1 |
| 11 | T1 | 272 | 0.7 | 272 | 0.7 | 0.278 | 37.3 | LOS C | 3.8 | 26.5 | 0.85 | 0.69 | 0.85 | 18.1 |
| 12 | R2 | 95 | 1.1 | 95 | 1.1 | 0.348 | 35.5 | LOS C | 2.4 | 17.0 | 0.88 | 0.75 | 0.88 | 13.4 |
| Approach | | 673 | 0.4 | 673 | 0.4 | 1.039 | 77.3 | LOS F | 17.4 | 122.1 | 0.92 | 0.99 | 1.33 | 9.5 |
| All Vehicles | | 2960 | 0.2 | 2960 | 0.2 | 1.049 | 49.3 | LOS D | 20.3 | 141.8 | 0.80 | 0.84 | 1.01 | 11.8 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 46 | 51.8 | LOS E | 0.1 | 0.1 | 0.95 | 0.95 |
| P2 | East Full Crossing | 23 | 51.7 | LOS E | 0.1 | 0.1 | 0.95 | 0.95 |
| P3 | North Full Crossing | 8 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P3B | North Slip/Bypass Lane Crossing | 6 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P4 | West Full Crossing | 79 | 51.8 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P4B | West Slip/Bypass Lane Crossing | 59 | 51.8 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| All Pedestrians | | 221 | 51.8 | LOS E | | | 0.95 | 0.95 |

# MOVEMENT SUMMARY

## Site: 101 [WOR_UNIX AM 2030]

## Network: N101 [Existing Network AM 2030]

Worth Street & Union Lane, Penrith
Site Category: (None)
Giveway / Yield (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 52 | 0.0 | 52 | 0.0 | 0.138 | 4.3 | LOS A | 0.0 | 0.0 | 0.00 | 0.11 | 0.00 | 46.0 |
| 2 | T1 | 478 | 1.7 | 478 | 1.7 | 0.138 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 46.5 |
| Approach | | 530 | 1.5 | 530 | 1.5 | 0.138 | 0.4 | NA | 0.0 | 0.0 | 0.00 | 0.05 | 0.00 | 46.4 |
| East: Union Ln (E) | | | | | | | | | | | | | | |
| 4 | L2 | 23 | 4.3 | 23 | 4.3 | 0.022 | 5.1 | LOS A | 0.0 | 0.3 | 0.23 | 0.50 | 0.23 | 43.6 |
| 5 | T1 | 1 | 0.0 | 1 | 0.0 | 0.022 | 9.9 | LOS A | 0.0 | 0.3 | 0.23 | 0.50 | 0.23 | 44.9 |
| 6 | R2 | 18 | 5.6 | 18 | 5.6 | 0.049 | 12.4 | LOS A | 0.1 | 0.5 | 0.62 | 0.79 | 0.62 | 37.4 |
| Approach | | 42 | 4.8 | 42 | 4.8 | 0.049 | 8.4 | LOS A | 0.1 | 0.5 | 0.40 | 0.62 | 0.40 | 40.8 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 8 | T1 | 250 | 0.0 | 250 | 0.0 | 0.073 | 0.2 | LOS A | 0.1 | 0.5 | 0.06 | 0.03 | 0.06 | 44.9 |
| 9 | R2 | 17 | 0.0 | 17 | 0.0 | 0.073 | 6.7 | LOS A | 0.1 | 0.5 | 0.14 | 0.08 | 0.14 | 44.1 |
| Approach | | 267 | 0.0 | 267 | 0.0 | 0.073 | 0.7 | NA | 0.1 | 0.5 | 0.07 | 0.04 | 0.07 | 44.8 |
| West: Union Ln (W) | | | | | | | | | | | | | | |
| 10 | L2 | 22 | 4.5 | 22 | 4.5 | 0.039 | 5.5 | LOS A | 0.1 | 0.4 | 0.35 | 0.56 | 0.35 | 33.2 |
| 12 | R2 | 7 | 0.0 | 7 | 0.0 | 0.039 | 12.4 | LOS A | 0.1 | 0.4 | 0.35 | 0.56 | 0.35 | 33.2 |
| Approach | | 29 | 3.4 | 29 | 3.4 | 0.039 | 7.1 | LOS A | 0.1 | 0.4 | 0.35 | 0.56 | 0.35 | 33.2 |
| All Vehicles | | 868 | 1.3 | 868 | 1.3 | 0.138 | 1.1 | NA | 0.1 | 0.5 | 0.05 | 0.09 | 0.05 | 43.6 |

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

# MOVEMENT SUMMARY

## Site: 101 [WOR_UNIX PM 2030]

## Network: N101 [Existing Network PM 2030]

Worth Street & Union Lane, Penrith
Site Category: (None)
Giveway / Yield (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 21 | 0.0 | 21 | 0.0 | 0.211 | 4.3 | LOS A | 0.2 | 1.6 | 0.00 | 0.03 | 0.00 | 47.5 |
| 2 | T1 | 664 | 0.0 | 664 | 0.0 | 0.211 | 0.0 | LOS A | 0.2 | 1.6 | 0.00 | 0.02 | 0.00 | 48.7 |
| Approach | | 685 | 0.0 | 685 | 0.0 | 0.211 | 0.1 | NA | 0.2 | 1.6 | 0.00 | 0.02 | 0.00 | 48.6 |
| East: Union Ln (E) | | | | | | | | | | | | | | |
| 4 | L2 | 75 | 0.0 | 75 | 0.0 | 0.145 | 5.6 | LOS A | 0.1 | 0.9 | 0.33 | 0.56 | 0.33 | 43.1 |
| 5 | T1 | 1 | 0.0 | 1 | 0.0 | 0.145 | 17.0 | LOS B | 0.1 | 0.9 | 0.33 | 0.56 | 0.33 | 44.6 |
| 6 | R2 | 68 | 1.5 | 68 | 1.5 | 0.501 | 30.9 | LOS C | 0.6 | 4.1 | 0.85 | 1.03 | 1.18 | 27.2 |
| Approach | | 144 | 0.7 | 144 | 0.7 | 0.501 | 17.6 | LOS B | 0.6 | 4.1 | 0.58 | 0.78 | 0.73 | 33.8 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 8 | T1 | 473 | 0.2 | 473 | 0.2 | 0.126 | 0.1 | LOS A | 1.5 | 10.4 | 0.02 | 0.01 | 0.02 | 48.0 |
| 9 | R2 | 7 | 0.0 | 7 | 0.0 | 0.126 | 8.0 | LOS A | 1.3 | 9.2 | 0.05 | 0.02 | 0.05 | 46.2 |
| Approach | | 480 | 0.2 | 480 | 0.2 | 0.126 | 0.2 | NA | 1.5 | 10.4 | 0.02 | 0.01 | 0.02 | 48.0 |
| West: Union Ln (W) | | | | | | | | | | | | | | |
| 10 | L2 | 55 | 0.0 | 55 | 0.0 | 0.353 | 8.3 | LOS A | 0.3 | 2.2 | 0.58 | 0.77 | 0.69 | 25.4 |
| 12 | R2 | 23 | 0.0 | 23 | 0.0 | 0.353 | 26.0 | LOS B | 0.3 | 2.2 | 0.58 | 0.77 | 0.69 | 25.4 |
| Approach | | 78 | 0.0 | 78 | 0.0 | 0.353 | 13.5 | LOS A | 0.3 | 2.2 | 0.58 | 0.77 | 0.69 | 25.4 |
| All Vehicles | | 1387 | 0.1 | 1387 | 0.1 | 0.501 | 2.7 | NA | 1.5 | 10.4 | 0.10 | 0.14 | 0.12 | 38.5 |

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

# MOVEMENT SUMMARY

## Site: 101 [UNI_WORX AM 2030]

## Network: N101 [Existing Network AM 2030]

Union Rd & Worth St, Penrith
Site Category: (None)
Signals - Fixed Time Coordinated  Cycle Time = 70 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 10 | 0.0 | 10 | 0.0 | 0.442 | 39.9 | LOS C | 1.5 | 10.8 | 0.99 | 0.75 | 0.99 | 32.6 |
| 2 | T1 | 25 | 4.0 | 25 | 4.0 | 0.442 | 35.4 | LOS C | 1.5 | 10.8 | 0.99 | 0.75 | 0.99 | 24.6 |
| 3 | R2 | 36 | 0.0 | 36 | 0.0 | 0.442 | 39.9 | LOS C | 1.5 | 10.8 | 0.99 | 0.75 | 0.99 | 32.5 |
| Approach | | 71 | 1.4 | 71 | 1.4 | 0.442 | 38.3 | LOS C | 1.5 | 10.8 | 0.99 | 0.75 | 0.99 | 30.4 |
| East: Union Rd (E) | | | | | | | | | | | | | | |
| 4 | L2 | 43 | 0.0 | 43 | 0.0 | 0.091 | 14.3 | LOS A | 0.9 | 6.6 | 0.55 | 0.56 | 0.55 | 42.6 |
| 5 | T1 | 43 | 2.3 | 43 | 2.3 | 0.091 | 9.8 | LOS A | 0.9 | 6.6 | 0.55 | 0.56 | 0.55 | 42.9 |
| 6 | R2 | 267 | 1.9 | 267 | 1.9 | 0.746 | 29.7 | LOS C | 5.6 | 40.0 | 0.92 | 0.92 | 1.09 | 27.8 |
| Approach | | 353 | 1.7 | 353 | 1.7 | 0.746 | 25.4 | LOS B | 5.6 | 40.0 | 0.83 | 0.83 | 0.96 | 32.1 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 7 | L2 | 205 | 0.5 | 205 | 0.5 | 0.705 | 37.0 | LOS C | 4.5 | 31.3 | 1.00 | 0.86 | 1.10 | 26.2 |
| 8 | T1 | 29 | 0.0 | 29 | 0.0 | 0.228 | 28.9 | LOS C | 1.3 | 9.1 | 0.91 | 0.72 | 0.91 | 28.5 |
| 9 | R2 | 39 | 0.0 | 39 | 0.0 | 0.228 | 33.2 | LOS C | 1.3 | 9.1 | 0.91 | 0.72 | 0.91 | 28.2 |
| Approach | | 273 | 0.4 | 273 | 0.4 | 0.705 | 35.6 | LOS C | 4.5 | 31.3 | 0.98 | 0.83 | 1.05 | 26.7 |
| West: Union Rd (W) | | | | | | | | | | | | | | |
| 10 | L2 | 238 | 1.3 | 238 | 1.3 | 0.174 | 7.4 | LOS A | 1.5 | 10.3 | 0.31 | 0.63 | 0.31 | 41.7 |
| 11 | T1 | 357 | 2.0 | 357 | 2.0 | 0.418 | 12.0 | LOS A | 5.1 | 36.5 | 0.68 | 0.60 | 0.68 | 42.8 |
| 12 | R2 | 29 | 3.4 | 29 | 3.4 | 0.418 | 16.6 | LOS B | 5.1 | 36.5 | 0.68 | 0.60 | 0.68 | 42.2 |
| Approach | | 624 | 1.8 | 624 | 1.8 | 0.418 | 10.4 | LOS A | 5.1 | 36.5 | 0.54 | 0.61 | 0.54 | 42.5 |
| All Vehicles | | 1321 | 1.4 | 1321 | 1.4 | 0.746 | 21.1 | LOS B | 5.6 | 40.0 | 0.73 | 0.72 | 0.78 | 35.5 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 4 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P2 | East Full Crossing | 18 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P3 | North Full Crossing | 8 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P4 | West Full Crossing | 22 | 29.3 | LOS C | 0.0 | 0.0 | 0.92 | 0.92 |
| All Pedestrians | | 52 | 29.3 | LOS C | | | 0.91 | 0.91 |

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

# MOVEMENT SUMMARY

**Site: 101 [UNI_WORX PM 2030]**

**Network: N101 [Existing Network PM 2030]**

Union Rd & Worth St, Penrith
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 115 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 29 | 0.0 | 29 | 0.0 | 0.727 | 68.5 | LOS E | 2.6 | 18.8 | 1.00 | 0.85 | 1.21 | 26.0 |
| 2 | T1 | 24 | 4.2 | 24 | 4.2 | 0.727 | 63.9 | LOS E | 2.6 | 18.8 | 1.00 | 0.85 | 1.21 | 17.8 |
| 3 | R2 | 18 | 0.0 | 18 | 0.0 | 0.727 | 68.5 | LOS E | 2.6 | 18.8 | 1.00 | 0.85 | 1.21 | 25.9 |
| Approach | | 71 | 1.4 | 71 | 1.4 | 0.727 | 67.0 | LOS E | 2.6 | 18.8 | 1.00 | 0.85 | 1.21 | 23.7 |
| East: Union Rd (E) | | | | | | | | | | | | | | |
| 4 | L2 | 32 | 0.0 | 32 | 0.0 | 0.111 | 14.0 | LOS A | 1.8 | 12.7 | 0.43 | 0.43 | 0.43 | 43.3 |
| 5 | T1 | 100 | 0.0 | 100 | 0.0 | 0.111 | 9.5 | LOS A | 1.8 | 12.7 | 0.43 | 0.43 | 0.43 | 43.7 |
| 6 | R2 | 479 | 0.0 | 479 | 0.0 | 0.864 | 40.4 | LOS C | 16.4 | 115.1 | 0.84 | 0.94 | 1.03 | 24.0 |
| Approach | | 611 | 0.0 | 611 | 0.0 | 0.864 | 33.9 | LOS C | 16.4 | 115.1 | 0.75 | 0.83 | 0.90 | 28.5 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 7 | L2 | 282 | 0.4 | 282 | 0.4 | 0.875 | 62.6 | LOS E | 8.5 | 60.0 | 1.00 | 0.95 | 1.22 | 19.8 |
| 8 | T1 | 21 | 4.8 | 21 | 4.8 | 0.838 | 56.4 | LOS D | 8.5 | 60.0 | 1.00 | 0.94 | 1.21 | 20.4 |
| 9 | R2 | 250 | 0.0 | 250 | 0.0 | 0.838 | 60.7 | LOS E | 8.5 | 60.0 | 1.00 | 0.94 | 1.21 | 20.2 |
| Approach | | 553 | 0.4 | 553 | 0.4 | 0.875 | 61.5 | LOS E | 8.5 | 60.0 | 1.00 | 0.94 | 1.21 | 20.0 |
| West: Union Rd (W) | | | | | | | | | | | | | | |
| 10 | L2 | 173 | 0.0 | 173 | 0.0 | 0.110 | 6.2 | LOS A | 1.0 | 7.0 | 0.18 | 0.59 | 0.18 | 42.9 |
| 11 | T1 | 191 | 1.0 | 191 | 1.0 | 0.181 | 10.0 | LOS A | 3.0 | 21.2 | 0.46 | 0.41 | 0.46 | 43.8 |
| 12 | R2 | 16 | 0.0 | 16 | 0.0 | 0.181 | 14.6 | LOS B | 3.0 | 21.2 | 0.46 | 0.41 | 0.46 | 43.3 |
| Approach | | 380 | 0.5 | 380 | 0.5 | 0.181 | 8.4 | LOS A | 3.0 | 21.2 | 0.33 | 0.49 | 0.33 | 43.5 |
| All Vehicles | | 1615 | 0.3 | 1615 | 0.3 | 0.875 | 38.8 | LOS C | 16.4 | 115.1 | 0.75 | 0.79 | 0.89 | 27.3 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 7 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P2 | East Full Crossing | 14 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P3 | North Full Crossing | 7 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P4 | West Full Crossing | 25 | 51.7 | LOS E | 0.1 | 0.1 | 0.95 | 0.95 |
| All Pedestrians | | 53 | 51.7 | LOS E | | | 0.95 | 0.95 |

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

# MOVEMENT SUMMARY

**Site: 101 [HIG_WORP AM 2030]**

**Network: N101 [Existing Network AM 2030 (Sydney average RFB rates)]**

High St & Worth St, Penrith

Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 70 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 215 | 3.7 | 215 | 3.7 | 0.497 | 24.8 | LOS B | 5.7 | 40.5 | 0.89 | 0.80 | 0.89 | 21.3 |
| 2 | T1 | 269 | 0.0 | 269 | 0.0 | 0.497 | 26.1 | LOS B | 5.7 | 40.5 | 0.96 | 0.82 | 0.96 | 13.6 |
| 3 | R2 | 73 | 2.7 | 73 | 2.7 | 0.497 | 34.0 | LOS C | 5.0 | 35.0 | 1.00 | 0.84 | 1.00 | 15.5 |
| Approach | | 557 | 1.8 | 557 | 1.8 | 0.497 | 26.6 | LOS B | 5.7 | 40.5 | 0.94 | 0.82 | 0.94 | 16.9 |
| East: High St (E) | | | | | | | | | | | | | | |
| 4 | L2 | 68 | 2.9 | 68 | 2.9 | 0.254 | 25.7 | LOS B | 2.2 | 15.9 | 0.81 | 0.70 | 0.81 | 14.1 |
| 5 | T1 | 207 | 1.9 | 207 | 1.9 | 0.254 | 21.1 | LOS B | 2.3 | 16.3 | 0.81 | 0.67 | 0.81 | 24.6 |
| 6 | R2 | 157 | 0.0 | 157 | 0.0 | 0.251 | 14.5 | LOS A | 1.7 | 12.0 | 0.70 | 0.72 | 0.70 | 22.8 |
| Approach | | 432 | 1.4 | 432 | 1.4 | 0.254 | 19.4 | LOS B | 2.3 | 16.3 | 0.77 | 0.69 | 0.77 | 22.6 |
| North: Westfields Access (N) | | | | | | | | | | | | | | |
| 7 | L2 | 24 | 0.0 | 24 | 0.0 | 0.033 | 13.7 | LOS A | 0.3 | 1.8 | 0.60 | 0.63 | 0.60 | 25.4 |
| 8 | T1 | 50 | 0.0 | 50 | 0.0 | 0.090 | 19.9 | LOS B | 0.8 | 5.4 | 0.76 | 0.58 | 0.76 | 11.6 |
| 9 | R2 | 61 | 0.0 | 61 | 0.0 | 0.319 | 35.3 | LOS C | 1.2 | 8.6 | 0.94 | 0.75 | 0.94 | 16.7 |
| Approach | | 135 | 0.0 | 135 | 0.0 | 0.319 | 25.7 | LOS B | 1.2 | 8.6 | 0.81 | 0.67 | 0.81 | 16.5 |
| West: High St (W) | | | | | | | | | | | | | | |
| 10 | L2 | 225 | 0.0 | 225 | 0.0 | 0.501 | 28.4 | LOS B | 4.1 | 28.7 | 0.89 | 0.80 | 0.89 | 18.7 |
| 11 | T1 | 284 | 4.6 | 284 | 4.6 | 0.262 | 21.1 | LOS B | 2.3 | 17.0 | 0.81 | 0.66 | 0.81 | 25.0 |
| 12 | R2 | 165 | 0.0 | 165 | 0.0 | 0.262 | 14.4 | LOS A | 1.8 | 12.7 | 0.68 | 0.72 | 0.68 | 23.8 |
| Approach | | 674 | 1.9 | 674 | 1.9 | 0.501 | 21.9 | LOS B | 4.1 | 28.7 | 0.81 | 0.72 | 0.81 | 22.3 |
| All Vehicles | | 1798 | 1.6 | 1798 | 1.6 | 0.501 | 23.0 | LOS B | 5.7 | 40.5 | 0.84 | 0.74 | 0.84 | 20.3 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 109 | 29.4 | LOS C | 0.2 | 0.2 | 0.92 | 0.92 |
| P2 | East Full Crossing | 61 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 |
| P3 | North Full Crossing | 54 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 |
| P3B | North Slip/Bypass Lane Crossing | 56 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 |
| P4 | West Full Crossing | 157 | 29.4 | LOS C | 0.3 | 0.3 | 0.92 | 0.92 |
| P4B | West Slip/Bypass Lane Crossing | 109 | 29.4 | LOS C | 0.2 | 0.2 | 0.92 | 0.92 |

# MOVEMENT SUMMARY

**Site: 101 [HIG_WORP PM 2030]**

**Network: N101 [Existing Network PM 2030 (Sydney average RFB rates)]**

High St & Worth St, Penrith

Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 115 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 412 | 0.0 | 412 | 0.0 | 0.419 | 17.5 | LOS B | 9.3 | 65.0 | 0.63 | 0.73 | 0.63 | 25.1 |
| 2 | T1 | 327 | 0.0 | 327 | 0.0 | 0.419 | 17.9 | LOS B | 9.3 | 65.0 | 0.66 | 0.65 | 0.66 | 17.5 |
| 3 | R2 | 81 | 0.0 | 81 | 0.0 | 0.419 | 23.6 | LOS B | 7.3 | 51.2 | 0.67 | 0.63 | 0.67 | 20.4 |
| Approach | | 820 | 0.0 | 820 | 0.0 | 0.419 | 18.3 | LOS B | 9.3 | 65.0 | 0.65 | 0.69 | 0.65 | 21.9 |
| East: High St (E) | | | | | | | | | | | | | | |
| 4 | L2 | 66 | 0.0 | 66 | 0.0 | 0.495 | 45.1 | LOS D | 6.9 | 48.3 | 0.91 | 0.78 | 0.91 | 9.1 |
| 5 | T1 | 399 | 0.5 | 399 | 0.5 | 0.495 | 40.5 | LOS C | 7.0 | 49.0 | 0.91 | 0.77 | 0.91 | 17.0 |
| 6 | R2 | 205 | 0.0 | 205 | 0.0 | 0.608 | 41.8 | LOS C | 5.5 | 38.2 | 0.92 | 0.90 | 1.15 | 11.9 |
| Approach | | 670 | 0.3 | 670 | 0.3 | 0.608 | 41.4 | LOS C | 7.0 | 49.0 | 0.91 | 0.81 | 0.99 | 14.8 |
| North: Westfields Access (N) | | | | | | | | | | | | | | |
| 7 | L2 | 189 | 0.0 | 189 | 0.0 | 0.377 | 14.2 | LOS A | 2.7 | 19.2 | 0.52 | 0.67 | 0.52 | 24.9 |
| 8 | T1 | 327 | 0.0 | 327 | 0.0 | 0.480 | 14.9 | LOS B | 6.0 | 42.0 | 0.58 | 0.50 | 0.58 | 14.3 |
| 9 | R2 | 308 | 0.0 | 308 | 0.0 | 1.047 | 140.8 | LOS F | 20.3 | 141.8 | 1.00 | 1.40 | 1.98 | 5.5 |
| Approach | | 824 | 0.0 | 824 | 0.0 | 1.047 | 61.8 | LOS E | 20.3 | 141.8 | 0.72 | 0.88 | 1.09 | 8.2 |
| West: High St (W) | | | | | | | | | | | | | | |
| 10 | L2 | 306 | 0.0 | 306 | 0.0 | 1.073 | 149.3 | LOS F | 19.1 | 133.9 | 1.00 | 1.42 | 2.06 | 5.2 |
| 11 | T1 | 272 | 0.7 | 272 | 0.7 | 0.288 | 38.2 | LOS C | 3.8 | 26.9 | 0.86 | 0.69 | 0.86 | 17.9 |
| 12 | R2 | 103 | 1.0 | 103 | 1.0 | 0.392 | 36.5 | LOS C | 2.7 | 18.8 | 0.89 | 0.75 | 0.89 | 13.1 |
| Approach | | 681 | 0.4 | 681 | 0.4 | 1.073 | 87.8 | LOS F | 19.1 | 133.9 | 0.93 | 1.03 | 1.40 | 8.5 |
| All Vehicles | | 2995 | 0.2 | 2995 | 0.2 | 1.073 | 51.2 | LOS D | 20.3 | 141.8 | 0.79 | 0.84 | 1.02 | 11.4 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 96 | 51.9 | LOS E | 0.3 | 0.3 | 0.95 | 0.95 |
| P2 | East Full Crossing | 73 | 51.8 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P3 | North Full Crossing | 58 | 51.8 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P3B | North Slip/Bypass Lane Crossing | 56 | 51.8 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P4 | West Full Crossing | 129 | 51.9 | LOS E | 0.4 | 0.4 | 0.95 | 0.95 |
| P4B | West Slip/Bypass Lane Crossing | 109 | 51.9 | LOS E | 0.3 | 0.3 | 0.95 | 0.95 |

# MOVEMENT SUMMARY

## Site: 101 [WOR_UNIP AM 2030]

## Network: N101 [Existing Network AM 2030 (Sydney average RFB rates)]

Worth Street & Union Lane, Penrith
Site Category: (None)
Giveway / Yield (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 80 | 0.0 | 80 | 0.0 | 0.149 | 4.3 | LOS A | 0.0 | 0.0 | 0.00 | 0.16 | 0.00 | 45.0 |
| 2 | T1 | 478 | 1.7 | 478 | 1.7 | 0.149 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.06 | 0.00 | 45.4 |
| Approach | | 558 | 1.4 | 558 | 1.4 | 0.149 | 0.6 | NA | 0.0 | 0.0 | 0.00 | 0.08 | 0.00 | 45.3 |
| East: Union Ln (E) | | | | | | | | | | | | | | |
| 4 | L2 | 23 | 4.3 | 23 | 4.3 | 0.022 | 5.2 | LOS A | 0.0 | 0.3 | 0.25 | 0.51 | 0.25 | 43.5 |
| 5 | T1 | 1 | 0.0 | 1 | 0.0 | 0.022 | 10.5 | LOS A | 0.0 | 0.3 | 0.25 | 0.51 | 0.25 | 44.9 |
| 6 | R2 | 18 | 5.6 | 18 | 5.6 | 0.054 | 13.6 | LOS A | 0.1 | 0.6 | 0.66 | 0.83 | 0.66 | 36.5 |
| Approach | | 42 | 4.8 | 42 | 4.8 | 0.054 | 8.9 | LOS A | 0.1 | 0.6 | 0.42 | 0.64 | 0.42 | 40.3 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 8 | T1 | 250 | 0.0 | 250 | 0.0 | 0.081 | 0.4 | LOS A | 0.1 | 0.8 | 0.09 | 0.06 | 0.09 | 42.6 |
| 9 | R2 | 30 | 0.0 | 30 | 0.0 | 0.081 | 6.9 | LOS A | 0.1 | 0.8 | 0.24 | 0.15 | 0.24 | 41.9 |
| Approach | | 280 | 0.0 | 280 | 0.0 | 0.081 | 1.1 | NA | 0.1 | 0.8 | 0.11 | 0.07 | 0.11 | 42.4 |
| West: Union Ln (W) | | | | | | | | | | | | | | |
| 10 | L2 | 64 | 1.6 | 64 | 1.6 | 0.133 | 5.4 | LOS A | 0.2 | 1.5 | 0.36 | 0.59 | 0.36 | 32.3 |
| 12 | R2 | 25 | 0.0 | 25 | 0.0 | 0.133 | 13.6 | LOS A | 0.2 | 1.5 | 0.36 | 0.59 | 0.36 | 32.3 |
| Approach | | 89 | 1.1 | 89 | 1.1 | 0.133 | 7.7 | LOS A | 0.2 | 1.5 | 0.36 | 0.59 | 0.36 | 32.3 |
| All Vehicles | | 969 | 1.1 | 969 | 1.1 | 0.149 | 1.8 | NA | 0.2 | 1.5 | 0.08 | 0.15 | 0.08 | 41.3 |

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

# MOVEMENT SUMMARY

**Site: 101 [WOR_UNIP PM 2030]**

**Network: N101 [Existing Network PM 2030 (Sydney average RFB rates)]**

Worth Street & Union Lane, Penrith
Site Category: (None)
Giveway / Yield (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 54 | 0.0 | 54 | 0.0 | 0.215 | 4.3 | LOS A | 0.1 | 0.6 | 0.00 | 0.07 | 0.00 | 46.7 |
| 2 | T1 | 664 | 0.0 | 664 | 0.0 | 0.215 | 0.0 | LOS A | 0.1 | 0.6 | 0.00 | 0.04 | 0.00 | 47.1 |
| Approach | | 718 | 0.0 | 718 | 0.0 | 0.215 | 0.3 | NA | 0.1 | 0.6 | 0.00 | 0.04 | 0.00 | 47.0 |
| East: Union Ln (E) | | | | | | | | | | | | | | |
| 4 | L2 | 75 | 0.0 | 75 | 0.0 | 0.147 | 5.7 | LOS A | 0.1 | 0.9 | 0.35 | 0.57 | 0.35 | 43.1 |
| 5 | T1 | 1 | 0.0 | 1 | 0.0 | 0.147 | 18.0 | LOS B | 0.1 | 0.9 | 0.35 | 0.57 | 0.35 | 44.6 |
| 6 | R2 | 68 | 1.5 | 68 | 1.5 | 0.486 | 31.5 | LOS C | 0.6 | 4.2 | 0.86 | 1.03 | 1.18 | 26.9 |
| Approach | | 144 | 0.7 | 144 | 0.7 | 0.486 | 18.0 | LOS B | 0.6 | 4.2 | 0.59 | 0.79 | 0.74 | 33.6 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 8 | T1 | 473 | 0.2 | 473 | 0.2 | 0.135 | 0.3 | LOS A | 1.8 | 12.9 | 0.06 | 0.02 | 0.06 | 44.8 |
| 9 | R2 | 21 | 0.0 | 21 | 0.0 | 0.135 | 8.3 | LOS A | 1.5 | 10.8 | 0.15 | 0.06 | 0.15 | 44.1 |
| Approach | | 494 | 0.2 | 494 | 0.2 | 0.135 | 0.7 | NA | 1.8 | 12.9 | 0.07 | 0.03 | 0.07 | 44.7 |
| West: Union Ln (W) | | | | | | | | | | | | | | |
| 10 | L2 | 76 | 0.0 | 76 | 0.0 | 0.508 | 11.8 | LOS A | 0.6 | 3.9 | 0.58 | 0.85 | 0.88 | 22.1 |
| 12 | R2 | 33 | 0.0 | 33 | 0.0 | 0.508 | 31.2 | LOS C | 0.6 | 3.9 | 0.58 | 0.85 | 0.88 | 22.1 |
| Approach | | 109 | 0.0 | 109 | 0.0 | 0.508 | 17.7 | LOS B | 0.6 | 3.9 | 0.58 | 0.85 | 0.88 | 22.1 |
| All Vehicles | | 1465 | 0.1 | 1465 | 0.1 | 0.508 | 3.5 | NA | 1.8 | 12.9 | 0.12 | 0.17 | 0.16 | 36.7 |

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

# MOVEMENT SUMMARY

**Site: 101 [UNI_WORP AM 2030]**

**Network: N101 [Existing Network AM 2030 (Sydney average RFB rates)]**

Union Rd & Worth St, Penrith
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 70 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 10 | 0.0 | 10 | 0.0 | 0.442 | 39.9 | LOS C | 1.5 | 10.8 | 0.99 | 0.75 | 0.99 | 32.6 |
| 2 | T1 | 25 | 4.0 | 25 | 4.0 | 0.442 | 35.4 | LOS C | 1.5 | 10.8 | 0.99 | 0.75 | 0.99 | 24.6 |
| 3 | R2 | 36 | 0.0 | 36 | 0.0 | 0.442 | 39.9 | LOS C | 1.5 | 10.8 | 0.99 | 0.75 | 0.99 | 32.5 |
| Approach | | 71 | 1.4 | 71 | 1.4 | 0.442 | 38.3 | LOS C | 1.5 | 10.8 | 0.99 | 0.75 | 0.99 | 30.4 |
| East: Union Rd (E) | | | | | | | | | | | | | | |
| 4 | L2 | 43 | 0.0 | 43 | 0.0 | 0.091 | 14.3 | LOS A | 0.9 | 6.6 | 0.55 | 0.56 | 0.55 | 42.6 |
| 5 | T1 | 43 | 2.3 | 43 | 2.3 | 0.091 | 9.8 | LOS A | 0.9 | 6.6 | 0.55 | 0.56 | 0.55 | 42.9 |
| 6 | R2 | 282 | 1.8 | 282 | 1.8 | 0.795 | 33.3 | LOS C | 6.4 | 45.8 | 0.95 | 0.97 | 1.20 | 26.4 |
| Approach | | 368 | 1.6 | 368 | 1.6 | 0.795 | 28.3 | LOS B | 6.4 | 45.8 | 0.85 | 0.88 | 1.05 | 30.8 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 7 | L2 | 220 | 0.5 | 220 | 0.5 | 0.756 | 38.1 | LOS C | 4.9 | 34.3 | 1.00 | 0.89 | 1.15 | 25.8 |
| 8 | T1 | 29 | 0.0 | 29 | 0.0 | 0.239 | 28.9 | LOS C | 1.4 | 9.5 | 0.91 | 0.73 | 0.91 | 28.4 |
| 9 | R2 | 42 | 0.0 | 42 | 0.0 | 0.239 | 33.2 | LOS C | 1.4 | 9.5 | 0.91 | 0.73 | 0.91 | 28.1 |
| Approach | | 291 | 0.3 | 291 | 0.3 | 0.756 | 36.5 | LOS C | 4.9 | 34.3 | 0.98 | 0.85 | 1.09 | 26.4 |
| West: Union Rd (W) | | | | | | | | | | | | | | |
| 10 | L2 | 251 | 1.2 | 251 | 1.2 | 0.183 | 7.4 | LOS A | 1.5 | 10.9 | 0.32 | 0.63 | 0.32 | 41.7 |
| 11 | T1 | 357 | 2.0 | 357 | 2.0 | 0.418 | 12.0 | LOS A | 5.1 | 36.5 | 0.68 | 0.60 | 0.68 | 42.8 |
| 12 | R2 | 29 | 3.4 | 29 | 3.4 | 0.418 | 16.6 | LOS B | 5.1 | 36.5 | 0.68 | 0.60 | 0.68 | 42.2 |
| Approach | | 637 | 1.7 | 637 | 1.7 | 0.418 | 10.4 | LOS A | 5.1 | 36.5 | 0.53 | 0.61 | 0.53 | 42.5 |
| All Vehicles | | 1367 | 1.4 | 1367 | 1.4 | 0.795 | 22.2 | LOS B | 6.4 | 45.8 | 0.74 | 0.74 | 0.82 | 34.9 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 4 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P2 | East Full Crossing | 18 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P3 | North Full Crossing | 8 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P4 | West Full Crossing | 22 | 29.3 | LOS C | 0.0 | 0.0 | 0.92 | 0.92 |
| All Pedestrians | | 52 | 29.3 | LOS C | | | 0.91 | 0.91 |

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

# MOVEMENT SUMMARY

**Site: 101 [UNI_WORP PM 2030]**

**Network: N101 [Existing Network PM 2030 (Sydney average RFB rates)]**

Union Rd & Worth St, Penrith
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 115 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 29 | 0.0 | 29 | 0.0 | 0.727 | 68.5 | LOS E | 2.6 | 18.8 | 1.00 | 0.85 | 1.21 | 26.0 |
| 2 | T1 | 24 | 4.2 | 24 | 4.2 | 0.727 | 63.9 | LOS E | 2.6 | 18.8 | 1.00 | 0.85 | 1.21 | 17.8 |
| 3 | R2 | 18 | 0.0 | 18 | 0.0 | 0.727 | 68.5 | LOS E | 2.6 | 18.8 | 1.00 | 0.85 | 1.21 | 25.9 |
| Approach | | 71 | 1.4 | 71 | 1.4 | 0.727 | 67.0 | LOS E | 2.6 | 18.8 | 1.00 | 0.85 | 1.21 | 23.7 |
| East: Union Rd (E) | | | | | | | | | | | | | | |
| 4 | L2 | 32 | 0.0 | 32 | 0.0 | 0.111 | 14.0 | LOS A | 1.8 | 12.7 | 0.43 | 0.43 | 0.43 | 43.3 |
| 5 | T1 | 100 | 0.0 | 100 | 0.0 | 0.111 | 9.5 | LOS A | 1.8 | 12.7 | 0.43 | 0.43 | 0.43 | 43.7 |
| 6 | R2 | 503 | 0.0 | 503 | 0.0 | 0.916 | 55.3 | LOS D | 20.5 | 143.8 | 0.89 | 1.02 | 1.20 | 20.1 |
| Approach | | 635 | 0.0 | 635 | 0.0 | 0.916 | 46.0 | LOS D | 20.5 | 143.8 | 0.79 | 0.90 | 1.04 | 24.6 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 7 | L2 | 287 | 0.3 | 287 | 0.3 | 0.891 | 64.3 | LOS E | 8.5 | 60.0 | 1.00 | 0.96 | 1.25 | 19.5 |
| 8 | T1 | 21 | 4.8 | 21 | 4.8 | 0.853 | 57.8 | LOS E | 8.5 | 60.0 | 1.00 | 0.96 | 1.24 | 20.1 |
| 9 | R2 | 255 | 0.0 | 255 | 0.0 | 0.853 | 62.1 | LOS E | 8.5 | 60.0 | 1.00 | 0.96 | 1.24 | 19.9 |
| Approach | | 563 | 0.4 | 563 | 0.4 | 0.891 | 63.0 | LOS E | 8.5 | 60.0 | 1.00 | 0.96 | 1.24 | 19.7 |
| West: Union Rd (W) | | | | | | | | | | | | | | |
| 10 | L2 | 182 | 0.0 | 182 | 0.0 | 0.116 | 6.2 | LOS A | 1.1 | 7.4 | 0.18 | 0.59 | 0.18 | 42.9 |
| 11 | T1 | 191 | 1.0 | 191 | 1.0 | 0.181 | 10.0 | LOS A | 3.0 | 21.2 | 0.46 | 0.41 | 0.46 | 43.8 |
| 12 | R2 | 16 | 0.0 | 16 | 0.0 | 0.181 | 14.6 | LOS B | 3.0 | 21.2 | 0.46 | 0.41 | 0.46 | 43.3 |
| Approach | | 389 | 0.5 | 389 | 0.5 | 0.181 | 8.4 | LOS A | 3.0 | 21.2 | 0.33 | 0.49 | 0.33 | 43.5 |
| All Vehicles | | 1658 | 0.3 | 1658 | 0.3 | 0.916 | 43.9 | LOS D | 20.5 | 143.8 | 0.76 | 0.82 | 0.95 | 25.8 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 7 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P2 | East Full Crossing | 14 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P3 | North Full Crossing | 7 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P4 | West Full Crossing | 25 | 51.7 | LOS E | 0.1 | 0.1 | 0.95 | 0.95 |
| All Pedestrians | | 53 | 51.7 | LOS E | | | 0.95 | 0.95 |

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

# MOVEMENT SUMMARY

**Site: 101 [HIG_WORP AM 2030]**

**Network: N101 [Proposed Network AM 2030 (Council RFB rates)]**

High St & Worth St, Penrith

Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 70 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 233 | 3.4 | 233 | 3.4 | 0.511 | 24.8 | LOS B | 5.9 | 42.3 | 0.90 | 0.80 | 0.90 | 21.2 |
| 2 | T1 | 269 | 0.0 | 269 | 0.0 | 0.511 | 26.2 | LOS B | 5.9 | 42.3 | 0.96 | 0.83 | 0.96 | 13.5 |
| 3 | R2 | 76 | 2.6 | 76 | 2.6 | 0.511 | 34.1 | LOS C | 5.1 | 35.9 | 1.00 | 0.84 | 1.00 | 15.5 |
| Approach | | 578 | 1.7 | 578 | 1.7 | 0.511 | 26.7 | LOS B | 5.9 | 42.3 | 0.94 | 0.82 | 0.94 | 17.0 |
| East: High St (E) | | | | | | | | | | | | | | |
| 4 | L2 | 67 | 3.0 | 67 | 3.0 | 0.266 | 26.6 | LOS B | 2.3 | 16.2 | 0.83 | 0.71 | 0.83 | 13.8 |
| 5 | T1 | 207 | 1.9 | 207 | 1.9 | 0.266 | 22.0 | LOS B | 2.3 | 16.6 | 0.83 | 0.68 | 0.83 | 24.1 |
| 6 | R2 | 157 | 0.0 | 157 | 0.0 | 0.247 | 14.4 | LOS A | 1.7 | 12.0 | 0.70 | 0.72 | 0.70 | 22.8 |
| Approach | | 431 | 1.4 | 431 | 1.4 | 0.266 | 19.9 | LOS B | 2.3 | 16.6 | 0.78 | 0.70 | 0.78 | 22.3 |
| North: Westfields Access (N) | | | | | | | | | | | | | | |
| 7 | L2 | 24 | 0.0 | 24 | 0.0 | 0.032 | 13.1 | LOS A | 0.2 | 1.7 | 0.59 | 0.63 | 0.59 | 25.8 |
| 8 | T1 | 50 | 0.0 | 50 | 0.0 | 0.090 | 19.9 | LOS B | 0.8 | 5.4 | 0.76 | 0.58 | 0.76 | 11.6 |
| 9 | R2 | 61 | 0.0 | 61 | 0.0 | 0.327 | 35.4 | LOS C | 1.2 | 8.6 | 0.94 | 0.75 | 0.94 | 16.7 |
| Approach | | 135 | 0.0 | 135 | 0.0 | 0.327 | 25.7 | LOS B | 1.2 | 8.6 | 0.81 | 0.67 | 0.81 | 16.6 |
| West: High St (W) | | | | | | | | | | | | | | |
| 10 | L2 | 225 | 0.0 | 225 | 0.0 | 0.522 | 29.3 | LOS C | 4.2 | 29.3 | 0.91 | 0.80 | 0.91 | 18.4 |
| 11 | T1 | 284 | 4.6 | 284 | 4.6 | 0.276 | 22.0 | LOS B | 2.4 | 17.4 | 0.83 | 0.67 | 0.83 | 24.5 |
| 12 | R2 | 168 | 0.0 | 168 | 0.0 | 0.262 | 14.3 | LOS A | 1.8 | 12.9 | 0.68 | 0.72 | 0.68 | 23.8 |
| Approach | | 677 | 1.9 | 677 | 1.9 | 0.522 | 22.6 | LOS B | 4.2 | 29.3 | 0.82 | 0.73 | 0.82 | 22.0 |
| All Vehicles | | 1821 | 1.6 | 1821 | 1.6 | 0.522 | 23.5 | LOS B | 5.9 | 42.3 | 0.85 | 0.75 | 0.85 | 20.0 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 109 | 29.4 | LOS C | 0.2 | 0.2 | 0.92 | 0.92 |
| P2 | East Full Crossing | 61 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 |
| P3 | North Full Crossing | 54 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 |
| P3B | North Slip/Bypass Lane Crossing | 56 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 |
| P4 | West Full Crossing | 157 | 29.4 | LOS C | 0.3 | 0.3 | 0.92 | 0.92 |
| P4B | West Slip/Bypass Lane Crossing | 109 | 29.4 | LOS C | 0.2 | 0.2 | 0.92 | 0.92 |

# MOVEMENT SUMMARY

**Site: 101 [HIG_WORP PM 2030]**

**Network: N101 [Proposed Network PM 2030 (Council RFB rates)]**

High St & Worth St, Penrith

Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 115 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 425 | 0.0 | 425 | 0.0 | 0.426 | 17.2 | LOS B | 9.3 | 65.0 | 0.61 | 0.73 | 0.61 | 25.3 |
| 2 | T1 | 327 | 0.0 | 327 | 0.0 | 0.426 | 17.9 | LOS B | 9.3 | 65.0 | 0.66 | 0.65 | 0.66 | 17.5 |
| 3 | R2 | 83 | 0.0 | 83 | 0.0 | 0.426 | 23.6 | LOS B | 7.4 | 52.1 | 0.67 | 0.63 | 0.67 | 20.4 |
| Approach | | 835 | 0.0 | 835 | 0.0 | 0.426 | 18.1 | LOS B | 9.3 | 65.0 | 0.64 | 0.69 | 0.64 | 22.0 |
| East: High St (E) | | | | | | | | | | | | | | |
| 4 | L2 | 71 | 0.0 | 71 | 0.0 | 0.500 | 45.2 | LOS D | 7.0 | 48.9 | 0.91 | 0.78 | 0.91 | 9.0 |
| 5 | T1 | 399 | 0.5 | 399 | 0.5 | 0.500 | 40.6 | LOS C | 7.1 | 49.6 | 0.91 | 0.77 | 0.91 | 17.0 |
| 6 | R2 | 205 | 0.0 | 205 | 0.0 | 0.608 | 41.8 | LOS C | 5.5 | 38.2 | 0.92 | 0.90 | 1.15 | 11.9 |
| Approach | | 675 | 0.3 | 675 | 0.3 | 0.608 | 41.5 | LOS C | 7.1 | 49.6 | 0.92 | 0.81 | 0.99 | 14.8 |
| North: Westfields Access (N) | | | | | | | | | | | | | | |
| 7 | L2 | 189 | 0.0 | 189 | 0.0 | 0.377 | 14.2 | LOS A | 2.8 | 19.3 | 0.52 | 0.67 | 0.52 | 24.9 |
| 8 | T1 | 327 | 0.0 | 327 | 0.0 | 0.480 | 14.9 | LOS B | 6.0 | 42.0 | 0.58 | 0.50 | 0.58 | 14.3 |
| 9 | R2 | 308 | 0.0 | 308 | 0.0 | 1.062 | 150.9 | LOS F | 21.0 | 146.9 | 1.00 | 1.44 | 2.05 | 5.2 |
| Approach | | 824 | 0.0 | 824 | 0.0 | 1.062 | 65.6 | LOS E | 21.0 | 146.9 | 0.72 | 0.89 | 1.12 | 7.8 |
| West: High St (W) | | | | | | | | | | | | | | |
| 10 | L2 | 306 | 0.0 | 306 | 0.0 | 1.073 | 149.3 | LOS F | 19.1 | 133.9 | 1.00 | 1.42 | 2.06 | 5.2 |
| 11 | T1 | 272 | 0.7 | 272 | 0.7 | 0.288 | 38.2 | LOS C | 3.8 | 26.9 | 0.86 | 0.69 | 0.86 | 17.9 |
| 12 | R2 | 111 | 0.9 | 111 | 0.9 | 0.425 | 36.8 | LOS C | 2.9 | 20.3 | 0.91 | 0.76 | 0.91 | 13.0 |
| Approach | | 689 | 0.4 | 689 | 0.4 | 1.073 | 87.3 | LOS F | 19.1 | 133.9 | 0.93 | 1.03 | 1.40 | 8.5 |
| All Vehicles | | 3023 | 0.2 | 3023 | 0.2 | 1.073 | 52.0 | LOS D | 21.0 | 146.9 | 0.79 | 0.85 | 1.02 | 11.3 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 96 | 51.9 | LOS E | 0.3 | 0.3 | 0.95 | 0.95 |
| P2 | East Full Crossing | 73 | 51.8 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P3 | North Full Crossing | 58 | 51.8 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P3B | North Slip/Bypass Lane Crossing | 56 | 51.8 | LOS E | 0.2 | 0.2 | 0.95 | 0.95 |
| P4 | West Full Crossing | 129 | 51.9 | LOS E | 0.4 | 0.4 | 0.95 | 0.95 |
| P4B | West Slip/Bypass Lane Crossing | 109 | 51.9 | LOS E | 0.3 | 0.3 | 0.95 | 0.95 |

# MOVEMENT SUMMARY

**Site: 101 [WOR_UNIP AM 2030]**

**Network: N101 [Proposed Network AM 2030 (Council RFB rates)]**

Worth Street & Union Lane, Penrith
Site Category: (None)
Giveway / Yield (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 88 | 0.0 | 88 | 0.0 | 0.153 | 4.3 | LOS A | 0.0 | 0.0 | 0.00 | 0.18 | 0.00 | 44.7 |
| 2 | T1 | 478 | 1.7 | 478 | 1.7 | 0.153 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.07 | 0.00 | 45.2 |
| Approach | | 566 | 1.4 | 566 | 1.4 | 0.153 | 0.7 | NA | 0.0 | 0.0 | 0.00 | 0.08 | 0.00 | 45.0 |
| East: Union Ln (E) | | | | | | | | | | | | | | |
| 4 | L2 | 23 | 4.3 | 23 | 4.3 | 0.023 | 5.2 | LOS A | 0.0 | 0.3 | 0.25 | 0.51 | 0.25 | 43.5 |
| 5 | T1 | 1 | 0.0 | 1 | 0.0 | 0.023 | 10.6 | LOS A | 0.0 | 0.3 | 0.25 | 0.51 | 0.25 | 44.9 |
| 6 | R2 | 18 | 5.6 | 18 | 5.6 | 0.056 | 14.2 | LOS A | 0.1 | 0.6 | 0.67 | 0.84 | 0.67 | 36.1 |
| Approach | | 42 | 4.8 | 42 | 4.8 | 0.056 | 9.2 | LOS A | 0.1 | 0.6 | 0.43 | 0.65 | 0.43 | 40.1 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 8 | T1 | 250 | 0.0 | 250 | 0.0 | 0.083 | 0.4 | LOS A | 0.1 | 0.9 | 0.09 | 0.06 | 0.09 | 42.3 |
| 9 | R2 | 32 | 0.0 | 32 | 0.0 | 0.083 | 7.0 | LOS A | 0.1 | 0.9 | 0.26 | 0.16 | 0.26 | 41.6 |
| Approach | | 282 | 0.0 | 282 | 0.0 | 0.083 | 1.2 | NA | 0.1 | 0.9 | 0.11 | 0.07 | 0.11 | 42.1 |
| West: Union Ln (W) | | | | | | | | | | | | | | |
| 10 | L2 | 85 | 1.2 | 85 | 1.2 | 0.184 | 5.4 | LOS A | 0.3 | 2.0 | 0.36 | 0.59 | 0.36 | 32.1 |
| 12 | R2 | 34 | 0.0 | 34 | 0.0 | 0.184 | 14.1 | LOS A | 0.3 | 2.0 | 0.36 | 0.59 | 0.36 | 32.1 |
| Approach | | 119 | 0.8 | 119 | 0.8 | 0.184 | 7.8 | LOS A | 0.3 | 2.0 | 0.36 | 0.59 | 0.36 | 32.1 |
| All Vehicles | | 1009 | 1.1 | 1009 | 1.1 | 0.184 | 2.0 | NA | 0.3 | 2.0 | 0.09 | 0.16 | 0.09 | 40.6 |

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

# MOVEMENT SUMMARY

**Site: 101 [WOR_UNIP PM 2030]**

**Network: N101 [Proposed Network PM 2030 (Council RFB rates)]**

Worth Street & Union Lane, Penrith
Site Category: (None)
Giveway / Yield (Two-Way)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 84 | 0.0 | 84 | 0.0 | 0.226 | 4.3 | LOS A | 0.1 | 0.7 | 0.00 | 0.10 | 0.00 | 46.0 |
| 2 | T1 | 664 | 0.0 | 664 | 0.0 | 0.226 | 0.0 | LOS A | 0.1 | 0.7 | 0.00 | 0.06 | 0.00 | 46.0 |
| Approach | | 748 | 0.0 | 748 | 0.0 | 0.226 | 0.5 | NA | 0.1 | 0.7 | 0.00 | 0.06 | 0.00 | 46.0 |
| East: Union Ln (E) | | | | | | | | | | | | | | |
| 4 | L2 | 75 | 0.0 | 75 | 0.0 | 0.150 | 5.8 | LOS A | 0.1 | 0.9 | 0.36 | 0.58 | 0.36 | 43.0 |
| 5 | T1 | 1 | 0.0 | 1 | 0.0 | 0.150 | 19.1 | LOS B | 0.1 | 0.9 | 0.36 | 0.58 | 0.36 | 44.5 |
| 6 | R2 | 68 | 1.5 | 68 | 1.5 | 0.515 | 33.7 | LOS C | 0.6 | 4.4 | 0.87 | 1.05 | 1.22 | 26.1 |
| Approach | | 144 | 0.7 | 144 | 0.7 | 0.515 | 19.1 | LOS B | 0.6 | 4.4 | 0.60 | 0.80 | 0.76 | 33.0 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 8 | T1 | 473 | 0.2 | 473 | 0.2 | 0.144 | 0.5 | LOS A | 3.2 | 22.6 | 0.10 | 0.04 | 0.10 | 42.4 |
| 9 | R2 | 34 | 0.0 | 34 | 0.0 | 0.144 | 8.5 | LOS A | 2.2 | 15.3 | 0.24 | 0.10 | 0.24 | 42.1 |
| Approach | | 507 | 0.2 | 507 | 0.2 | 0.144 | 1.1 | NA | 3.2 | 22.6 | 0.11 | 0.04 | 0.11 | 42.4 |
| West: Union Ln (W) | | | | | | | | | | | | | | |
| 10 | L2 | 91 | 0.0 | 91 | 0.0 | 0.606 | 15.2 | LOS B | 0.8 | 5.5 | 0.59 | 0.92 | 1.05 | 19.8 |
| 12 | R2 | 38 | 0.0 | 38 | 0.0 | 0.606 | 36.0 | LOS C | 0.8 | 5.5 | 0.59 | 0.92 | 1.05 | 19.8 |
| Approach | | 129 | 0.0 | 129 | 0.0 | 0.606 | 21.3 | LOS B | 0.8 | 5.5 | 0.59 | 0.92 | 1.05 | 19.8 |
| All Vehicles | | 1528 | 0.1 | 1528 | 0.1 | 0.606 | 4.2 | NA | 3.2 | 22.6 | 0.14 | 0.20 | 0.20 | 35.0 |

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

# MOVEMENT SUMMARY

**Site: 101 [UNI_WORP AM 2030]**

**Network: N101 [Proposed Network AM 2030 (Council RFB rates)]**

Union Rd & Worth St, Penrith
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 70 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 10 | 0.0 | 10 | 0.0 | 0.442 | 39.9 | LOS C | 1.5 | 10.8 | 0.99 | 0.75 | 0.99 | 32.6 |
| 2 | T1 | 25 | 4.0 | 25 | 4.0 | 0.442 | 35.4 | LOS C | 1.5 | 10.8 | 0.99 | 0.75 | 0.99 | 24.6 |
| 3 | R2 | 36 | 0.0 | 36 | 0.0 | 0.442 | 39.9 | LOS C | 1.5 | 10.8 | 0.99 | 0.75 | 0.99 | 32.5 |
| Approach | | 71 | 1.4 | 71 | 1.4 | 0.442 | 38.3 | LOS C | 1.5 | 10.8 | 0.99 | 0.75 | 0.99 | 30.4 |
| East: Union Rd (E) | | | | | | | | | | | | | | |
| 4 | L2 | 43 | 0.0 | 43 | 0.0 | 0.091 | 14.3 | LOS A | 0.9 | 6.6 | 0.55 | 0.56 | 0.55 | 42.6 |
| 5 | T1 | 43 | 2.3 | 43 | 2.3 | 0.091 | 9.8 | LOS A | 0.9 | 6.6 | 0.55 | 0.56 | 0.55 | 42.9 |
| 6 | R2 | 286 | 1.7 | 286 | 1.7 | 0.809 | 34.6 | LOS C | 6.7 | 47.6 | 0.95 | 0.99 | 1.24 | 25.9 |
| Approach | | 372 | 1.6 | 372 | 1.6 | 0.809 | 29.4 | LOS C | 6.7 | 47.6 | 0.86 | 0.89 | 1.08 | 30.3 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 7 | L2 | 227 | 0.4 | 227 | 0.4 | 0.780 | 38.7 | LOS C | 5.1 | 35.8 | 1.00 | 0.90 | 1.18 | 25.6 |
| 8 | T1 | 29 | 0.0 | 29 | 0.0 | 0.245 | 29.0 | LOS C | 1.4 | 9.8 | 0.91 | 0.73 | 0.91 | 28.4 |
| 9 | R2 | 44 | 0.0 | 44 | 0.0 | 0.245 | 33.3 | LOS C | 1.4 | 9.8 | 0.91 | 0.73 | 0.91 | 28.1 |
| Approach | | 300 | 0.3 | 300 | 0.3 | 0.780 | 37.0 | LOS C | 5.1 | 35.8 | 0.98 | 0.86 | 1.11 | 26.2 |
| West: Union Rd (W) | | | | | | | | | | | | | | |
| 10 | L2 | 255 | 1.2 | 255 | 1.2 | 0.186 | 7.4 | LOS A | 1.6 | 11.1 | 0.32 | 0.63 | 0.32 | 41.7 |
| 11 | T1 | 357 | 2.0 | 357 | 2.0 | 0.418 | 12.0 | LOS A | 5.1 | 36.5 | 0.68 | 0.60 | 0.68 | 42.8 |
| 12 | R2 | 29 | 3.4 | 29 | 3.4 | 0.418 | 16.6 | LOS B | 5.1 | 36.5 | 0.68 | 0.60 | 0.68 | 42.2 |
| Approach | | 641 | 1.7 | 641 | 1.7 | 0.418 | 10.4 | LOS A | 5.1 | 36.5 | 0.53 | 0.61 | 0.53 | 42.5 |
| All Vehicles | | 1384 | 1.4 | 1384 | 1.4 | 0.809 | 22.7 | LOS B | 6.7 | 47.6 | 0.74 | 0.75 | 0.83 | 34.6 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 4 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P2 | East Full Crossing | 18 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P3 | North Full Crossing | 8 | 29.3 | LOS C | 0.0 | 0.0 | 0.91 | 0.91 |
| P4 | West Full Crossing | 22 | 29.3 | LOS C | 0.0 | 0.0 | 0.92 | 0.92 |
| All Pedestrians | | 52 | 29.3 | LOS C | | | 0.91 | 0.91 |

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

# MOVEMENT SUMMARY

**Site: 101 [UNI_WORP PM 2030]**

**Network: N101 [Proposed Network PM 2030 (Council RFB rates)]**

Union Rd & Worth St, Penrith
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 115 seconds (Network User-Given Cycle Time)

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Arrival Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | Aver. Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Worth St (S) | | | | | | | | | | | | | | |
| 1 | L2 | 29 | 0.0 | 29 | 0.0 | 0.727 | 68.5 | LOS E | 2.6 | 18.8 | 1.00 | 0.85 | 1.21 | 26.0 |
| 2 | T1 | 24 | 4.2 | 24 | 4.2 | 0.727 | 63.9 | LOS E | 2.6 | 18.8 | 1.00 | 0.85 | 1.21 | 17.8 |
| 3 | R2 | 18 | 0.0 | 18 | 0.0 | 0.727 | 68.5 | LOS E | 2.6 | 18.8 | 1.00 | 0.85 | 1.21 | 25.9 |
| Approach | | 71 | 1.4 | 71 | 1.4 | 0.727 | 67.0 | LOS E | 2.6 | 18.8 | 1.00 | 0.85 | 1.21 | 23.7 |
| East: Union Rd (E) | | | | | | | | | | | | | | |
| 4 | L2 | 32 | 0.0 | 32 | 0.0 | 0.109 | 13.6 | LOS A | 1.8 | 12.4 | 0.42 | 0.43 | 0.42 | 43.5 |
| 5 | T1 | 100 | 0.0 | 100 | 0.0 | 0.109 | 9.0 | LOS A | 1.8 | 12.4 | 0.42 | 0.43 | 0.42 | 43.9 |
| 6 | R2 | 525 | 0.0 | 525 | 0.0 | 0.949 | 68.1 | LOS E | 24.0 | 167.9 | 0.92 | 1.08 | 1.33 | 17.6 |
| Approach | | 657 | 0.0 | 657 | 0.0 | 0.949 | 56.5 | LOS D | 24.0 | 167.9 | 0.82 | 0.95 | 1.15 | 22.0 |
| North: Worth St (N) | | | | | | | | | | | | | | |
| 7 | L2 | 290 | 0.3 | 290 | 0.3 | 0.947 | 79.2 | LOS F | 8.5 | 60.0 | 1.00 | 1.08 | 1.49 | 17.1 |
| 8 | T1 | 21 | 4.8 | 21 | 4.8 | 0.905 | 65.3 | LOS E | 8.5 | 60.0 | 1.00 | 1.02 | 1.36 | 18.7 |
| 9 | R2 | 257 | 0.0 | 257 | 0.0 | 0.905 | 69.6 | LOS E | 8.5 | 60.0 | 1.00 | 1.02 | 1.36 | 18.6 |
| Approach | | 568 | 0.4 | 568 | 0.4 | 0.947 | 74.4 | LOS F | 8.5 | 60.0 | 1.00 | 1.05 | 1.43 | 17.8 |
| West: Union Rd (W) | | | | | | | | | | | | | | |
| 10 | L2 | 190 | 0.0 | 190 | 0.0 | 0.121 | 6.2 | LOS A | 1.1 | 7.7 | 0.19 | 0.59 | 0.19 | 42.8 |
| 11 | T1 | 191 | 1.0 | 191 | 1.0 | 0.179 | 9.5 | LOS A | 2.9 | 20.7 | 0.45 | 0.40 | 0.45 | 44.0 |
| 12 | R2 | 16 | 0.0 | 16 | 0.0 | 0.179 | 14.1 | LOS A | 2.9 | 20.7 | 0.45 | 0.40 | 0.45 | 43.5 |
| Approach | | 397 | 0.5 | 397 | 0.5 | 0.179 | 8.1 | LOS A | 2.9 | 20.7 | 0.32 | 0.49 | 0.32 | 43.6 |
| All Vehicles | | 1693 | 0.3 | 1693 | 0.3 | 0.949 | 51.6 | LOS D | 24.0 | 167.9 | 0.77 | 0.87 | 1.05 | 23.7 |

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

**Movement Performance - Pedestrians**

| Mov ID | Description | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate |
|---|---|---|---|---|---|---|---|---|
| P1 | South Full Crossing | 7 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P2 | East Full Crossing | 14 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P3 | North Full Crossing | 7 | 51.7 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 |
| P4 | West Full Crossing | 25 | 51.7 | LOS E | 0.1 | 0.1 | 0.95 | 0.95 |
| All Pedestrians | | 53 | 51.7 | LOS E | | | 0.95 | 0.95 |

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

# APPENDIX D

# LOADING DOCK MANAGEMENT PLAN

1 April 2020
Ref 19363

**614-632 HIGH STREET, PENRITH**
**LOADING DOCK MANAGEMENT PLAN**

This Loading Dock Management Plan (the Plan) has been prepared to guide and manage the efficient and safe operation of the loading bays at the abovementioned address and is applicable to all future users of the building. The Plan shall be issued by the Owner's Corporation through its building manager/caretaker, to all new owners and tenants so they understand the procedures and limitations of the use of the loading bays. The Plan should be reviewed by the Owner's Corporation, as necessary, to adapt to any changes in circumstances. Contact details of the building manager or delegated person should be displayed throughout the various levels within the building.

The loading/delivery facilities comprise two loading bays as follows:

- 1 x bay capable of accommodating an 8.8m long medium rigid truck
- 1 x bay capable of accommodating an 11m long large rigid truck
- a minimum of 4.5m overhead clearance is provided at the truck vehicular entry and exit driveway, throughout the truck manoeuvring area and into the respective loading bays
- the loading bays are located close proximity to the bin rooms as well as corridors leading to the lifts and back of the retail shops

The following procedures are to be adopted for the use of the proposed loading/delivery facilities:

- all delivery vehicles must enter and exit the site in a forward direction at all times. Signage is to be installed at suitable locations prior to building occupation

- all delivery vehicles must reverse into the respective loading bays, common and private, thereby allowing them to exit the loading bay and the site whilst travelling in a forward direction

- service vehicle engines are to be switched off when not in use

- the largest service vehicle to access the upper levels must not exceed 11m in length. Service vehicles exceeding 11m in length are not permitted to access the site. Signage is to be installed at suitable locations prior to building occupation

- all loading bays and vehicular/pedestrian circulation areas must be kept clear of goods and must not be used for storage purposes at any time. Loading/unloading of trucks within the vehicular/pedestrian circulation areas is not permitted

- the Owner's Corporation shall implement a complaint system utilising an on-site diary to ensure the efficient, coordinated and equitable use of the loading bays by all authorised users

- the arrival of service vehicles and the operation of the loading bays shall be managed by the Owner's Corporation through its building manager/caretaker, to ensure that no loading bay users are required to wait on the street or look for alternative off-site loading spaces if the loading bays are occupied

- hours of operation of the loading dock will be determined as required for the building uses

- the loading bays, service areas and pedestrian circulation areas are to be kept clean at all times

- garbage is to be collected by standard-sized rear-loading trucks which range in overall length between 8m and 11m

Suitable signage is to be installed prior to building occupation, including, but not limited to:

- a "Service vehicle driveway only" sign installed at the service vehicle driveway off union Lane, visible from the street

- "Service vehicle exit only" sign installed on the inside face of the service driveway

- a "Maximum vehicle length strictly 11m" sign installed at the service vehicle driveway off union Lane, visible from the street

- "Watch Out For Pedestrians" and "Watch Out For Trucks" signs to be installed in the service area

- a "Maximum Clearance 4400mm" swing bar installed at the service vehicle driveway off union Lane, visible from the street.