

# FEDERAL HOTEL MUDGEE DEVELOPMENT APPLICATION

Traffic and Parking Impact Assessment

**5 OCTOBER 2023** 

SCT Consulting acknowledges the traditional owners of the lands on which we work. We pay our respects to Elders past, present and emerging.





# **Quality Assurance**

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# **Executive Summary**

IMG Hotels Group has engaged SCT Consulting to conduct a traffic and parking impact assessment as part of a development application (DA) for the Federal Hotel, Mudgee. The proposed development would amalgamate four existing lots at the intersection of Inglis Street and Lewis Street.

The existing Federal Hotel is situated at the intersection of Inglis Street and Lewis Street and occupies a site area of approximately 584m<sup>2</sup>. It consists of a pub/hotel space with 15 rooms for guest accommodation and a drive through liquor store located on the western edge of the site.

The proposed redevelopment is set to include:

- An additional 23 rooms.
- An Increase in the licensed Gross Floor Area (GFA) to 791m<sup>3</sup> with a new bistro and dining area.
- The provision of 38 onsite car parking spaces.
- Relocation of the drive through liquor store to the southwest corner of the development site.

The redevelopment is expected to generate 78 additional trips during peak periods. SIDRA modelling was carried out for three intersections in the vicinity of the proposed development site. The following four scenarios were assessed:

- Base Case using existing vehicle volumes and intersection configurations.
- Base Case + Development using Base Case conditions plus additional traffic generated from the development.
- Future Base Case using Base Case conditions plus a 10-year compounding annual growth rate.
- Future Base Case + Development considers the cumulative or ultimate impact using Future Base conditions
  plus additional traffic generated from the development.

The intersection modelling results indicate very minor increases in delay as a result of the development, with a maximum increase in delay of 1.3 seconds over base case conditions. The Degree of Saturation accounting for future network growth and additional development traffic was 0.57 indicating the network still has significant spare capacity. Warrants for signals were not met from the vehicle volume criteria given in *Austroads Guide to Traffic Management Part 6* and *Guide to Road Design Part 4A*.

The development meets Mid-Western Regional Council DCP parking rate requirements for staff and accommodation guests. The development site is eligible for parking credits and meets criteria for the 'Heritage Incentive' under the Mid-Western Regional Council Development Control Plan. The net increase in parking demand from pub/restaurant patrons can be satisfied by on-street parking in the vicinity of the site which has sufficient capacity to accommodate increased demand because of the development. Especially as proposed street upgrades, which are part of the parking plan will likely increase on street parking capacity. The implementation of a 'courtesy bus' will act as a crucial road safety measure and will aim to reduce the number of patrons choosing to drive to the pub. As part of the development, the Federal Hotel will upgrade Inglis Street from Church Street to Lewis Street with the following:

- Providing a footpath
- Providing time limit signage
- Providing line marking to formalise parking arrangements within 200m of the site, increasing capacity to 162 spaces
- Targeted resurfacing on the south side.

This outcome improves the streetscape around the site, benefitting the community in a way that increased on-site parking does not.



# 1.0 Introduction

### 1.1 Background

IMG Hotels Group owns the Federal Hotel located in Mudgee, and is preparing a Development Application (DA) for the Mid-Western Regional Council to expand the hotels' pub facilities and accommodation.

# 1.2 Development context

The proposed development would amalgamate four existing lots at the intersection of Inglis Street and Lewis Street in the town of Mudgee. These are:

- Lot 10 DP 1275386 14-36 Inglis Street (the existing Federal Hotel)
- Lot 16 DP 758721 40-42 Inglis Street
- Lot 17 DP 758721 40-42 Inglis Street
- Lot 18 DP 758721 38 Inglis Street.

The lot in which the federal hotel is currently situated is zoned as SP3-Tourist Use. The proposed development would extend to Lots 16 – 18 which are currently zoned as MU1-mixed use. The current lot boundaries are shown in **Figure 1-1**.

### Figure 1-1 Site Boundary of the proposed Federal Hotel



Legend Site lots

© SCT Consulting, OpenStreetMap contributors

Source: Nearmaps, 2023



# 1.3 Purpose of report

SCT Consulting has been engaged by IMG Hotels Group to undertake a traffic and parking impact assessment to support the Development Application (DA) for the Federal Hotel in Mudgee (the site).

This document has accounted for the following scope of works:

- A review of existing conditions.
- Future vehicle trip generation from the proposed development and distribution to the surrounding road network based on preferred access strategies and travel patterns.
- SIDRA intersection modelling for the following scenarios:
  - Base case
  - Base case and development
  - Future year without development
  - Future year with development
- Assessment of impacts on the road, active transport, and public transport network.
- A review of parking facilities in accordance with AS2890 and the Mid-Western Regional Council DCP.



# 2.0 Existing conditions

# 2.1 Existing site

The Federal Hotel is situated at the intersection of Inglis Street and Lewis Street and occupies a site area of approximately 584m<sup>2</sup>. It consists of a pub/hotel space with 15 rooms for guest accommodation and a drive through liquor store located on the western edge of the site. 15 marked parking spaces are provided onsite, including one disabled car space. The drive through liquor store is accessed via Inglis Street, with vehicles exiting from Lewis Street.

### Figure 2-1 Existing Federal Hotel



Source: Nearmap, 2023

### 2.2 Road network

Key roads in the vicinity of the site are shown in Figure 2-2 and are listed below:

- Inglis Street is a local no through road where the proposed development is located. It extends from Perry
  Street in the west to Lawson Street in the east. It is assumed to have a sign-posted speed limit of 50km/h.
  Coach services operate from Mudgee station located on Inglis Street, adjacent to the development site.
- Lewis Street is a north-south local road that bounds the eastern frontage of the development site. It extends
  from Inglis Street to Short Street in the northern extent of Mudgee. It is assumed to have a sign-posted speed
  limit of 50km/h. Lewis Street connects to the Castlereagh Highway, a major state road, and Ulan Road a
  regional Road that extends northeast.
- Castlereagh Highway/Horatio Street is a state road that bisects Mudgee from the southeast to the northwest of the town. It is an important link road connecting Sydney with regional town centres such as Gulgong, Gilgandra, and Mudgee. Horatio Street forms the east to west section of the Castlereagh Highway through Mudgee. It is an approved b-double route and has a posted speed limit of 50km/h, along with the rest of the Castlereagh Highway that runs through the town centre of Mudgee. The 560 and 561 bus routes run along the Castlereagh Highway and Horatio Street.
- Church Street is a local road that spans a significant length of Mudgee from Spring Road in Mudgee South to Short Street and Ulan Road. Church Street provides north-south access to the development and intersects with most of the key local and state roads in Mudgee. Church Street contains Mudgee's primary retail/business district and contains establishments such as Kellys Irish Pub. Church Street has a posted speed limit of 50km/h.





Figure 2-2 Road network surrounding the Federal Hotel

Source: Transport for New South Wales, 2023

## 2.3 Public transport network

Public transport in Mudgee consists of four bus services that operate Monday to Friday, as shown in **Figure 2-3**. The closest bus stops to the site are located at the intersection of Horatio Street/Church Street (I) and Horatio and Lawson Street (W). These stops are serviced by the 560 and 561 routes which operate between 9:31am and 5:21pm. Service frequencies for all bus services within Mudgee are 3-4 per day.

### 2.4 Active transport

The site can be accessed by footpaths on the west side of Lewis Street and the north side of Inglis Street. Horatio Street has footpaths on both sides from Lawson Street to Perry Street, whilst Church Street has footpaths on both sides along its length.





Source: Ogden Coaches, 2021



# 2.5 Intersection performance

### 2.5.1 Traffic surveys

Traffic volumes were surveyed at three priority-controlled intersections in the vicinity of the Federal Hotel, during the afternoon network peak (3pm – 6pm) on a typical Friday and a daytime peak on a Saturday (11am – 1pm). These periods were considered to coincide with the road network peak and higher patronage at the Federal Hotel. The vehicle volumes using the drive through liquor store were also collected during these times. The intersections surveyed are listed below:

- Horatio Street / Lewis Street
- Inglis Street / Church Street
- Horatio Street / Church Street

### 2.5.2 Traffic modelling

SIDRA 9.1 modelling was used to assess the road network performance SIDRA models the delays to road users (cars, trucks, buses, pedestrians, cyclists) based on the demands and geometry of intersections. It is a typical software used for a development application of this scale. Four scenarios were modelled, these were:

- Base Case using existing vehicle volumes and intersection configurations.
- Base Case + Development using Base Case conditions plus additional traffic generated from the development.
- Future Base Case using Base Case conditions plus a 10-year compounding annual growth rate of 0.77%<sup>1</sup> to the state road.
- Future Base Case + Development considers the cumulative or ultimate impact using Future Base conditions
  plus additional traffic generated from the development.

### 2.5.3 Intersection performance

Intersection Level of Service (LOS) is a tool to measure the level of congestion at an intersection as well as to identify locations requiring further investigations. The LOS as defined in the Traffic Modelling Guidelines is summarised in **Table 2-1**.

Level of Service (LOS)	Average Delay per Vehicles (sec/h)	Performance explanation
А	Less than 14.5	Good operation
В	14.5 to 28.4	Good with acceptable delays and spare capacity
С	28.5 to 42.4	Satisfactory
D	42.5 to 56.4	Operating near capacity
E	56.5 to 70.4	At capacity, at signals incidents will cause excessive delays. Roundabouts require other control method.
F	70.5 or greater	At capacity, at signals incidents will cause excessive delays. Roundabouts require other control method.

Table 2-1 Level of Service definitions

Source: Roads and Maritime Services, 2002

The Traffic Modelling Guidelines produced by Transport for New South Wales (formerly Roads and Maritime Services) provide guidance on applying average delays for signalised and priority-controlled intersections. Level of Service for signalised intersections is taken as the average delay of all approaches, whilst LOS for priority intersections is taken as the worst movement on an approach.

<sup>&</sup>lt;sup>1</sup> Mid-Western Regional Population Projection, Department of Planning NSW



Intersection Degree of Saturation (DOS) is another metric to measure the performance of isolated intersections and approaches. DOS is a ratio of traffic demand to capacity. For intersections controlled by traffic signals, both queue length and delays typically increase rapidly as DOS approaches 1.0.

Intersection performance results are shown in Table 2-2. The detailed SIDRA results are shown in Appendix A.

	Weekday PM peak				Weekend day peak			
Intersection	Volume (veh/hr)	Delay (sec)	DOS	LOS	Volume (veh/hr)	Delay (sec)	DOS	LOS
Horatio St / Church St	1,851	14.7	0.52	В	1,509	11.7	0.37	Α
Horatio St / Lewis St	1,247	58.4	0.25	E	1,048	24.3	0.2	В
Church St / Inglis St	1,042	9.3	0.28	Α	696	6.4	0.17	Α
Drive Through	40	-	-	-	15	-	-	-

Table 2-2 Base year PM and day peak intersection performance

The intersections are performing well with generally low delays. DOS for each intersection is also low indicating significant capacity on the network. The Intersection of Horatio Street / Lewis Street is observed to have higher delays than the other intersections with an LOS of E.

As shown in **Appendix A**, the delay is caused by six vehicles turning right from Lewis Street onto Horatio Street. This is confirmed by the low DOS of 0.25 indicating significant spare capacity and minimal delay on the other approaches.



# 3.0 Proposed modifications

## 3.1 The Proposal

IMG Hotels Group is preparing a DA that seeks to expand the Federal Hotel facilities notably:

- The hotel will relocate and expand its accommodation to 38 new one-bedroom units located on the northwest corner of the development, an increase of 23 rooms from the existing 15 rooms.
- Increase the licensed Gross Floor Area (GFA) to 791m<sup>2</sup>. This will include a new bistro and dining area.
- The provision of 38 onsite car parking spaces.
- Relocation of the drive through liquor store to the southwest corner of the development site. The entry and exit
  point will be reconfigured with vehicles circulating west, entering, and exiting onto Inglis Street.

The concept plan can be seen in Figure 3-1.



### Figure 3-1 Federal Hotel redevelopment concept plan

Source: Bergstrom Architects, 2023

# 3.2 Trip generation and distribution

The *Guide to Traffic Generating Developments* (GTGD) outlines trip generation rates for various development types. No trip generation rates are provided for pubs/hotels or drive through liquor stores. As such, the various land uses for the proposed development have been segregated, each with its own trip generation rate. The GTGD provides rates for motels which were used to inform the trip generation for accommodation, as well as rates for restaurants.

The restaurant trip generation rate was used for any part of the development outside of the accommodation and drive through. This was considered conservative as the GTGD outlines that trip generation for pubs is highly variable and has declined over time, given the illegality of driving under the influence of alcohol, enforcement of drink-driving



laws<sup>2</sup>, and the prevalence of designated drivers. The latter is confirmed by a study conducted in two towns in Queensland that surveyed 405 individuals at 16 drinking venues and found that 14 per cent of individuals reported being designated drivers<sup>3</sup>. It is therefore likely that applying the restaurant rate to the entire development GFA outside of the drive through or accommodation provides a conservative approximation of trips generated.

It was assumed that trip rates during day and evening peak periods would be similar and therefore, the rate provided by the GTGD was used for both the AM and PM periods. Vehicle trip generation rates for restaurants from the GTGD assume that patrons must travel to reach the destination. Restaurants with adjoining accommodation are not considered in the formulation of trip generation rates. It was therefore assumed that guests using the accommodation would likely represent a proportion of the patrons using the restaurant/pub. The trip generation rate for the accommodation component was subtracted from the restaurant/pub generation, as only one trip to the destination will be made.

Vehicle trips to the current drive through liquor store during peak periods shown in **Table 2-2** were assumed not to increase to a degree that it would impact the surrounding road network, given the drive through capacity is not proposed to change. Therefore, no additional trips due to the drive through were considered to be generated. The trip generation and rates for the proposed development are summarised in **Table 3-1**.

### Table 3-1 Trip generation for the proposed redevelopment

Development type	Trip rate	Trip generation
Motel/accommodation	0.4 per unit (peak hour, assuming 100% occupancy)	15 trips during the peak hour
Restaurant	5 per 100m <sup>2</sup> of gross floor area (peak hour)	63 trips during the peak hour (subtracting the accommodation trips)
Drive through liquor store	-	No change

Source: Guide to Traffic Generating Developments, 2002

The trip distribution for the accommodation and pub is shown in **Table 3-2** and **Table 3-3**. Trips for the accommodation were distributed northwest and southeast, as guests are expected to be predominantly out of town visitors using the state road network to travel to and from Mudgee. An 80% / 20% in / out directional split was used for the Weekday PM peak period accounting for patrons and staff arriving. A 50% / 50% directional split was used for the weekend day peak representing a flatter profile of arrivals and departures.

### Table 3-2 Accommodation traffic distribution

Development type	Weekday Pl	M peak	Weekend day peak			
	Northwest	Southwest	Northwest	Southwest		
Accommodation	50%	50%	50%	50%		
Total trips (in)	6	6	4	4		
Total trips (out)	2	2	4	4		

\*Northwest travel direction is via Church and Horatio Steets, Southwest travel direction is via Lewis and Horatio Streets

### Table 3-3 Pub/restaurant traffic distribution

Development type		Weekday	PM peak		Weekend day peak				
	North	South	West	East	North	South	West	East	
Pub/restaurant	30%	30%	30%	10%	30%	30%	30%	10%	
Total trips (in)	15	15	15	5	9	3	9	9	
Total trips (out)	4	1	4	4	9	3	9	9	

North is via Church Street, South is also via Church Street, west is via Church and Horatio Streets and East is via Lewis and Horatio Streets.

<sup>&</sup>lt;sup>2</sup> Guide to Traffic Generating Developments, Transport for New South Wales formally the Road Traffic Authority (2002)

<sup>&</sup>lt;sup>3</sup> A Profile of designated drivers and the people who use them: A survey of two provincial cities, Queensland University of Technology (2008)



# 4.0 Traffic and transport impact assessment

### 4.1.1 Intersection modelling results

SIDRA modelling results for the future base case and development scenarios under existing base case and future base case are shown in **Table 4-1**. Future base case is created using base case conditions plus a 10-year compounding annual growth rate of 0.77% to the state road.

### Table 4-1 Intersection modelling results

Intercontion	Weekday PM peak				Weekend day peak					
Intersection	Volume	Delay	DOS	LOS	Volume	Delay	DOS	LOS		
Base case with development										
Horatio St / Church St	1,897	15.7s	0.55	В	1,553	12.3s	0.38	А		
Horatio St / Lewis St	1,258	59.4s	0.25	E	1,062	24.3s	0.2	В		
Church St / Inglis St	1,107	9.6s	0.3	А	758	7.5ss	0.18	А		
	Future base case: Base case with future traffic growth									
Horatio St / Church St	1,883	15.1s	0.54	В	1,534	12.2s	0.38	А		
Horatio St / Lewis St	1,309	70.6s	0.27	F	1,101	27.2s	0.21	В		
Church St / Inglis St	1,042	9.3s	0.28	А	696	6.5s	0.17	А		
Future base case with development: Base case with development and future growth										
Horatio St / Church St	1,929	16.3s	0.57	В	1,578	12.3	0.39	А		
Horatio St / Lewis St	1,320	72s	0.27	F	1,114	27.2s	0.22	В		
Church St / Inglis St	1,107	9.6s	0.3	А	758	7.5s	0.18	А		

The increase in delay associated with the development (assessed from the future year scenario) is:

- Horatio Street / Church Street: +1.2s (weekday PM), +0.1s (weekend midday)
- Horatio Street / Lewis Street: +1.4s (weekday PM), +0.0s (weekend midday)
- Church Street / Inglis Street: +0.3s (weekday PM), +1.0s (weekend midday).

The increase in traffic volume because of the development will have an insignificant impact on delays for current road network volumes evidenced by the largest increase in delays being 1.1 seconds. The road network still has significant spare capacity with a maximum increase in DOS of 0.03.

Under the base case + future growth scenario increases in delays are generally small, with DOS for each intersection indicating capacity under future traffic conditions. Horatio Street / Lewis Street is observed to have a larger increase in delay of 12.2 seconds and an LOS of F. However, similar to the base case this is a result of six vehicles turning right onto Horatio Street. The increase in delays for this minor movement is a result of greater through traffic volumes on Horatio Street. As it represents a small fraction of vehicles using the intersection, this delay should not be taken as an indication of overall intersection performance given the average delay is three seconds.

With the addition of development traffic, the largest increase in delay and DOS is 1.4 seconds and 0.03 respectively. This indicates that with future background the development will have minimal impact on traffic conditions. Furthermore, vehicles wishing to travel east from Lewis Street, can turn left from Lewis Street and use the roundabout at Horatio Street / Church Street to do a U-turn, with each movement having an LOS of A and B respectively.



### 4.1.2 Signal Warrants

Transport for New South Wales *Traffic Signal Design Section 2 -Warrants* presents considerations for signal treatments at intersections. These are:

- Traffic Demand if traffic volume is the principal reason for a control device (signals), the major road should carry at least 600 veh/hour (two-way) and the minor road concurrently should carry 200 veh/hour for each of four one hour periods.
- Continuous traffic If the speed of traffic on the major road or limited sight distance on the minor road is sufficient to cause undue delay or hazard for traffic on the minor road, signals may be considered when the major road carries 900 veh/hour and 100 veh/hour are present on the minor road for each of four one hour periods. This warrant applies provided that the installation would not disrupt progressive traffic flow and that no alternative and reasonably accessible signalised intersection is present on the major road
- Pedestrian safety To help pedestrians cross a road safely, signals should be considered when over any four hours of an average day, the major road carries 450 veh/hour (two-way), or where there is a central pedestrian refuge at least 1.2 m wide, the major road flow exceeds 750 veh/hour, and 150 pedestrians per hour or more cross the major road, or where the 85<sup>th</sup> percentile speed on the major road exceeds 75km/h.
- Crashes Where the intersection has an average of three or more reported tow-away or casualty crashes per year over a three-year period where the crashes could have been prevented by traffic signals, and traffic flows are at least 80% of the volume warrants given in '*Traffic Volume*' and '*Continuous traffic*' and an assessment concludes that no new serious or fatal crash types are likely to be introduced.

An assessment was undertaken of the traffic volumes to determine if criteria for warrants were met (Table 4-2).

Intersection	Weekday PM peak				Weekend day peak			
	North	South	East	West	North	South	East	West
Horatio St / Church St	608	468	501	419	473	404	421	473
Horatio St / Lewis St	117	53	711	444	103	44	568	402
Church St / Inglis St	606	474	60	25	381	356	51	11

Table 4-2 Approach volumes for warrants assessment (cells in blue meet criteria for major road)

None of the intersections meet the criteria for major road in both directions ('Traffic Demand' criteria). None of the approaches have a demand of 900 veh/h required for continuous traffic.

Pedestrian crossing data is unavailable for Horatio Street and there have been no crashes causing casualty along Horatio Street in the last five years.

It is therefore concluded that signal warrants are not met for three intersections analysed as part of this report.



# 5.0 Parking impact assessment

### 5.1 Development parking requirements

Mid-Western Regional Council Development Control Plan (DCP) outlines the following parking requirements:

- Pubs 1 space per 5m<sup>2</sup> of public/licensed area plus 2 spaces per 3 guest rooms plus 2 spaces per 3 employees
- Auto electric shop (existing use to be removed) 5 spaces per vehicle work bay
- Cabinet maker (existing use to be removed) 1 space per 75m<sup>2</sup> of GFA ('manufacturing').

The council does not provide parking requirements for drive through liquor stores. The GTGD provides the following design principles for drive through liquor stores:

- The internal roadway must be a minimum of 2 lanes wide, each lane being at least 3 metres wide, with one way
  circulation. Off-street parking spaces for browse-room customers and employees must also be provided which
  must not inhibit the free flow of vehicles.
- Separate entry / exit driveways are recommended, each with a minimum width of 4 metres and with a minimum separation of 1 metre.

The current and proposed parking requirements under the council's DCP (if applicable), are outlined in Table 5-1.

Use	С	urrent	Pr	oposed	Change in parking required		
	Yield	Parking	Yield	Parking			
Licensed areas	340m <sup>2</sup>	68 spaces	791m <sup>2</sup>	158 spaces	+90 spaces		
Employees	7	4 spaces	10	7 spaces	+3 spaces		
Accommodation (guest rooms)	15	10 spaces	38	26 spaces	+16 spaces		
Drive through liquor store	1	3 spaces	1	8 spaces	(self-contained)		
Auto-electric repair shop bays	4	20 spaces	-	-	-20 spaces		
Cabinetmaker	550m2	8 spaces	-	-	-8 spaces		
Total		113 spaces		199 spaces	+81 spaces		

### Table 5-1 Current and proposed parking yields

The Federal Hotel and the adjoining land uses that form the proposed development in their current state would require 113 car spaces under the Mid-Western Regional Council DCP. Notably, the licensed pub space would require 68 spaces. This indicates that current parking demands from patrons are serviced via on street parking given the 15 marked onsite parking spaces currently provided.

Given the change of use of the adjoining businesses, the net parking increase because of the development (under the DCP) is 81 spaces. A total of 38 parking spaces are proposed to be provided. This would be sufficient for the accommodation and staff onsite.

# 5.2 Historical parking precedent

Mudgee is home to several pubs, bars, and hotels. Establishments of similar scale to that of the proposed redevelopment are:

- Paragon Hotel Approximately 710m<sup>2</sup> building footprint, 13 rooms, and 16 unmarked parking spaces
- Kelly's Irish Pub Approximately 950m<sup>2</sup> building footprint, 16 rooms, and 7 marked car spaces
- Woolpack Hotel Approximately 800m<sup>2</sup> building footprint, 13 rooms, and 9 unmarked car spaces
- Three Tails Brewery Approximately 650m<sup>2</sup> building footprint, no onsite parking spaces.

Of these examples, the Paragon Hotel is the only establishment that would likely provide adequate parking for accommodation guests and staff at a rate consistent with the council DCP. Conservatively assuming for an



establishment such as Kelly's Irish Pub, that half the building footprint on the ground floor only is licensed, DCP parking rates would stipulate 11 car spaces for accommodation guests and 95 spaces for pub patrons. For all venues, patron parking is serviced by on street parking.

The intended use for the proposed development is not anticipated to change. Further, as the aforementioned establishment's operations are of the same nature and of similar scale, on street parking impacts for these existing pubs/hotels would be congruent to those of the proposal.

# 5.3 On street parking capacity

Within a 400m radius of the Federal Hotel (not including north of Horatio Street where there are limited pedestrian crossing points), the current on-street parking has a full capacity of 300 spaces with a mix of parallel and angular parking as shown in **Figure 5-1**.



### Figure 5-1 On-street parking in the vicinity of the proposed development site

### 5.4 On-street parking plan

**Figure 5-2** (also shown in **Appendix B**) shows the proposed parking plan in the vicinity of the site. 162 line marked parking spaces will be formalised along Lewis Street and Inglis Street, resulting in more efficient utilisation of kerb side parking and therefore a greater on street parking capacity. 'Give way' lines and a painted median are proposed at the intersection of Lewis and Inglis Street to improve vehicle and pedestrian safety.



### Figure 5-2 On street car parking plan



Source: IMG Hotel Group, 2023

### 5.5 Heritage incentive and car parking credits

Under (Part 5 Development Standards - 5.1 Car Parking - Heritage Incentives) in the Mid-Western Development Control Plan 2013, historical parking credits for lawfully established uses are recognised. This would yield a parking credit of 98 spaces, based on 15 marked spaces currently provided on site, and supports the assumption that current parking demand for the site is predominantly accommodated by on-street parking. Frontage parking credits are recognised under the DCP relating to parking availability on-street. The frontage credit is the subject lot width reduced by the extent of driveways and no parking zones. The formalisation of parking along the frontage of the proposed development outlined in Section 5.4, would yield a credit of 22 parking spaces.

The site for the proposed DA is therefore eligible for a combined total historical and frontage parking credit of 120 spaces.

Under the DCP, a 'Heritage Incentive' provides concession for premises in which part, or all of the developments parking demand may be exempt if it involves the restoration and/or conservation of a heritage listed property such as the Federal Hotel. Under current conditions, the Federal Hotel and the adjoining lots would require 120 car spaces under the DCP. If this resulted in the construction of onsite parking, it would undoubtedly result in a considerable portion of the site being utilised for parking, which could impact the heritage listed building that may need to be altered to accommodate the required parking spaces.

Given that the site under current conditions would require considerable on site parking under the DCP, it is therefore considered appropriate to utilise on street parking to preserve the heritage characteristics of the Federal Hotel as part of the DA. This is because the additional parking demand of 81 vehicles is accounted for from the 120 DCP parking credits and can be accommodated given the on-street parking capacity and planned upgrades to the surrounding streets.



# 5.6 Development parking impact

The proposed development will provide 38 on site parking spaces. This satisfies the council DCP requirement for the accommodation and staff parking component of a pub development with a provision of 31 spaces for guests and seven for staff. In addition, the on-street environment along Inglis Street from Lewis Street to Church Street will be upgraded to accommodate future parking demands as a result of the development. This will result in an increase of on street parking to 162 spaces within approximately 200m of the site. Namely, providing line marking to formalise parking arrangements, for more efficient use of on street parking space, centre line road marking on Lewis Street, a painted median on Inglis Street, providing a footpath, and installing time limit signage to prevent long stay parking from affecting neighbouring dwellings.

The drive through has capacity for approximately eight B99 vehicles whilst still allowing for one-way circulation. A maximum of 12 vehicles (during the peak period) were observed entering the current bottle store in any 15-minute period with 10 exiting in the same period This indicates a high turnover rate with parking capacity freeing up quickly. Therefore, the drive through bottle store redevelopment is viewed as not requiring additional onsite parking or the use of on street parking.

From **Table 5-1** and the provision of 120 parking credits outlined in **Section 5.5**, this leaves an increase in 41 parking spaces to be accounted for. With 300 on-street parking spaces in the vicinity of the development site (**Figure 5-1**) at present, the additional parking demand can comfortably be accommodated by on street parking, given the additional spaces produced from on street formalisation of parking.

The heritage incentive under the DCP is considered appropriate for this DA to preserve and revitalise the Federal Hotel An extra on street parking demand of 41 additional vehicles, can comfortably be accommodated in the surrounding street environment. This will assist in maintaining the heritage characteristics of the hotel, by not turning over the majority of the lot for patron parking.

As part of the redevelopment plan, the Federal Hotel will run a 'night rider' courtesy bus. This is an important road safety measure to discourage patrons from 'Driving Under the Influence' (DUI's) of alcohol. A similar service in neighbouring Gulgong has been operating for 15 years, with widespread community support in helping to reduce alcohol-related traffic accidents. A courtesy bus that operates from the Federal Hotel will encourage patrons to access the venue through alternative and safer means of transport. Furthermore, the study produced by the Queensland Institute of Technology mentions (**Section 3.2**) that in non-metropolitan areas designated driver rates are approximately 15%, indicating at least 30% of patrons will be sharing a vehicle trip to the venue.

As part of the development, the Federal Hotel will upgrade Inglis Street from Church Street to Lewis Street with the following:

- Providing a footpath
- Road line markings
- Providing time limit signage
- Providing line marking to formalise parking arrangements
- Targeted resurfacing on the south side.

This outcome improves the streetscape around the site, benefitting the community in a way that increased on-site parking does not.



# 6.0 AS2890 review

# 6.1 Carpark

The proposed layout for the accommodation and staff parking was reviewed in compliance with *AS2890.1 Off Street car parking.* B99 vehicle swept paths were undertaken (**Appendix B**) as part of this process. The outcomes of this audit are summarised in **Table 6-1**.

### Table 6-1 AS2890.1 hotel parking review

AS2890.1 section	Consistent	Comment
2.3.2 parking angle	Yes	<ul> <li>Carpark layout uses 90 degree angle parking that accommodates two- way movements</li> <li>38 car spaces are proposed.</li> </ul>
2.3.3 Parking aisle length	Yes	<ul> <li>The parking aisle length is less than 100m. Therefore, traffic control devices such as speed humps are not required under AS2890.1.</li> </ul>
2.4.1 Angle parking spaces	Yes	<ul> <li>Parking spaces are 5.4m in length (compliant with user class 2)</li> <li>Parking space widths are 2.5m (compliant with user class 2).</li> </ul>
2.4.2 Angle parking aisle	Yes	<ul> <li>Aisle widths are greater than 5.8m (user class 2).</li> </ul>
2.4.3 Angle parking module layout	Yes	<ul> <li>Parking layout consistent AS2890.1 'typical' two-way aisle, angled parking module.</li> </ul>
2.4.5 Physical controls	Yes	<ul> <li>Wheel stops are provided for parking spaces</li> <li>Wheel stops are 1650mm wide and will need to be between 90mm – 100mm high.</li> </ul>
2.4.6 Gradients within parking modules	Yes	<ul> <li>The gradient within the parking modules is 1 in 20, within the maximum and minimum gradient requirements for drainage.</li> </ul>
2.5.2 Layout design of circulation roadways and ramps	N/A	<ul> <li>No ramps or circulating roadways are provided.</li> </ul>
2.5.3 Circulation roadway and ramp grades	N/A	<ul> <li>No ramps or circulating roadways are provided.</li> </ul>
2.6 Design of domestic driveways	N/A	<ul> <li>Not a domestic premise.</li> </ul>
3.1 General	-	<ul> <li>Access facility category 2 (Local road access with between 25 and 100 spaces).</li> </ul>
3.2 Access driveways – width and location	N/A	<ul> <li>The carpark is accessed from the street via two driveways on Inglis Street</li> <li>Driveway widths are compliant - between 6.0-9.0m</li> <li>Driveway widths driveway width complies with entry width criteria</li> <li>Driveway is located a sufficient distance from the closest intersection</li> </ul>
3.3 Gradients of access driveways	Assumed to satisfy	<ul> <li>Gradient of entry driveways complies</li> </ul>



AS2890.1 section	Consistent	Comment
3.4 Queueing areas	Yes	<ul> <li>There is no vehicular control point.</li> </ul>
3.5 Access to mechanical parking installations	N/A	– N/A
4.1 Pedestrian service	Yes	<ul> <li>Pedestrian access is separated from vehicular access.</li> <li>A stairway provides access for pedestrians between carpark levels.</li> </ul>
4.2 Bicycle parking	N/A	– N/A
4.3 Signposting	Future design consideration	<ul> <li>Signage shall comply with AS2890.1 section 4.3.</li> </ul>
4.4 Pavement markings	Future design consideration	<ul> <li>Markings of parking spaces shall be in accordance with AS2890.1 section 4.4.1</li> <li>No pedestrian crossing are proposed</li> <li>Pavement arrows should try to align with 4.4.3.</li> </ul>
4.5 Parcel pick- up	N/A	– N/A
4.6 Shopping trolley requirements	N/A	– N/A
4.7 Lighting	Future design consideration	<ul> <li>Lighting to follow AS1680.2.1 as required.</li> </ul>
4.8 Landscaping	Future design consideration	<ul> <li>Trees and shrubs should not impact safety aspects for vehicles and pedestrians such as sight distances.</li> </ul>
4.9 Humps	N/A	<ul> <li>Speed humps are not proposed as positive speed control is unlikely to be necessary given the aisle length.</li> </ul>
4.10 Special loading/unloading parking spaces	N/A	<ul> <li>Special spaces for loading and unloading are not proposed.</li> </ul>
5.2 Column location and spacing	N/A	<ul> <li>Columns not proposed for ground level car parking</li> </ul>
5.3 Headroom	N/A	<ul> <li>Open air car park with no roofing or overhead obstacles.</li> </ul>
5.4 Design of enclosed garages	N/A	– N/A

# 6.2 Service vehicle area

A dedicated service area/bay, for waste collection and delivery is proposed as part of the new layout for the Federal Hotel as shown in **Figure 6-1**. The service area is accessed via Lyons Lane at the rear of the development. It runs parallel to Lyons Lane, with vehicles pulling in and out from both directions through the installation of a roll kerb. The service area was reviewed in compliance with *AS2890.2 Off-street vehicle facilities*. Medium Rigid Vehicles (MRV's) are expected to be the largest vehicle size to access the service area. As such MRV swept paths were undertaken (**Appendix B**). The outcomes of this audit are summarised in **Table 6-2**.



### Figure 6-1 Proposed service area



Source: Bergstrom Architects, 2023

### Table 6-2 AS2890.2 Off-street commercial vehicle audit

AS2890.2 section	Consistent	Comment
3.2 Design Principles	Yes	<ul> <li>Designed for the maximum vehicle size (MRV)</li> <li>Vehicle can stand entirely within site</li> <li>Manoeuvring takes place within the site.</li> </ul>
3.3.1 Circulation roadway width	Yes	<ul> <li>Service area entry runs parallel to Lyons Lane with intervisibility</li> <li>Service area 'single lane' road width is compliant at 5.6m.w</li> </ul>
3.3.2 Parking on a circulation roadway	N/A	<ul> <li>Parking not proposed on a roadway</li> </ul>
3.3.3 Maximum grades on circulation roadways	Yes	<ul> <li>Roll kerb to be provided assuming kerb height of 150mm</li> <li>Service area grade assumed consistent with carpark at 1:20 compliant with maximum grade of 1:6.5 for MRV's.</li> <li>Assumed no change of grade in service area greater than 1:16 for 7.0m of travel.</li> </ul>
3.4.1 Access Driveways - General	Yes	<ul> <li>An MRV is capable of entering and leaving the access driveway without infringing on the roadway boundary</li> </ul>
3.4.2 Provision of one-way access driveways	N/A	<ul> <li>Driveway does not lead to or from a major road and does not serve a major service area</li> </ul>
3.4.3 Layout design requirements	N/A	<ul> <li>Access driveway does not share design characteristics with those in Figure 3.1.</li> </ul>



AS2890.2 section	Consistent	Comment
4.1 Service Areas – General	Yes	<ul> <li>Service bay area is designed for largest design vehicle (MRV) and to accommodate peak loading demand for this vehicle type (one vehicle)</li> <li>Service area is separate from car parking and pub pedestrian activity.</li> </ul>
4.2 Dimensions of service bays	Yes	<ul> <li>Service bay meets the minimum dimensions for an MRV - greater than 3.5m in width and 8.8m in length</li> </ul>
4.3 Service area layout	Yes	<ul> <li>MRV vehicle can manoeuvre into service bay/area without infringing on its boundary</li> <li>Assumed no change of grade in service bay greater than 1:6.5.</li> </ul>



# 7.0 Conclusion

IMG Hotels Group owns and operates the heritage listed Federal Hotel in the town of Mudgee. IMG Hotels Group is preparing a DA application to support its redevelopment. The redevelopment will amalgamate three neighbouring lots, expanding its facilities to 38 guest rooms, a licenced pub/dining GFA of 791m<sup>2</sup> and a reconfiguration and expansion of its drive through liquor store.

The redevelopment is expected to generate 78 additional trips during peak periods. The traffic impact assessment confirms that the redevelopment will have minimal impact on the road network with a maximum delay of 1.3 seconds accounting for future growth on the state road network. Similarly, the Degree of Saturation is at a maximum of 0.57 in the 10-year future growth scenario with the development scenario modelled using SIDRA 9.1. This indicates that network capacity will remain concurrent with existing conditions.

The development meets Mid-Western Regional Council DCP parking rate requirements for staff and accommodation guests. The development site is eligible for parking credits and meets criteria for the 'Heritage Incentive' under the Mid-Western Regional Council Development Control Plan. The net increase in parking demand from pub/restaurant patrons can be satisfied by on-street parking in the vicinity of the site which has sufficient capacity to accommodate increased demand as a result of the development, especially as proposed street upgrades as part of the parking plan will likely increase on street parking capacity. The implementation of a 'courtesy bus' will act as a crucial road safety measure and will aim to reduce the number of patrons choosing to drive to the pub. As part of the development, the Federal Hotel will upgrade Inglis Street from Church Street to Lewis Street with the following:

- Providing a footpath
- Providing time limit signage
- Providing line marking to formalise parking arrangements within 200m of the site, increasing capacity to 162 spaces
- Targeted resurfacing on the south side.

This outcome improves the streetscape around the site, benefitting the community in a way that increased on-site parking does not.

Expansion of the drive though liquor store will deliver an extra five spaces which given its high turnover, will be able to accommodate the steady stream of vehicles using this service without impacting traffic on the public road network.

An AS2890 review of the carpark and service area undertaken shows compliance with relevant clauses of Australian standards related to off street and commercial vehicle parking.

# APPENDIX A DETAILED SIDRA OUTPUTS

New Site Site Category: (None) Roundabout

Vehi	Vehicle Movement Performance													
Mov ID	Turn	DEMA FLO\ [ Total	AND WS HV ]	ARRI FLO [ Total	IVAL WS I HV ]	Deg. Satn	Aver. Delay	Level of Service	95% E Ql [ Veh.	BACK OF JEUE Dist ]	Prop. Que	EffectiveA Stop Rate	ver. No. Cycles	Aver. Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South	: Churc	ch Street												
1	L2	95	3.3	95	3.3	0.176	9.2	LOS A	1.1	8.0	0.77	0.78	0.77	35.5
2	T1	268	0.4	268	0.4	0.403	7.1	LOS A	3.4	23.8	0.84	0.78	0.84	34.8
3	R2	93	1.1	93	1.1	0.403	10.9	LOS A	3.4	23.8	0.84	0.78	0.84	26.8
3u	U	2	0.0	2	0.0	0.403	12.5	LOS A	3.4	23.8	0.84	0.78	0.84	26.8
Appro	bach	458	1.1	458	1.1	0.403	8.3	LOS A	3.4	23.8	0.83	0.78	0.83	33.8
East:	Horatic	Street												
4	L2	65	4.8	65	4.8	0.132	10.1	LOS A	0.8	5.8	0.77	0.79	0.77	31.1
5	T1	232	5.9	232	5.9	0.521	9.5	LOS A	5.1	36.7	0.92	0.92	1.03	38.3
6	R2	197	2.1	197	2.1	0.521	13.1	LOS A	5.1	36.7	0.92	0.92	1.03	35.6
6u	U	7	0.0	7	0.0	0.521	14.7	LOS B	5.1	36.7	0.92	0.92	1.03	30.9
Appro	bach	501	4.2	501	4.2	0.521	11.1	LOS A	5.1	36.7	0.90	0.90	0.99	36.5
North	: Churc	h Street												
7	L2	136	3.1	136	3.1	0.220	8.4	LOS A	1.4	10.2	0.74	0.76	0.74	25.1
8	T1	366	0.6	366	0.6	0.469	6.8	LOS A	4.0	28.4	0.83	0.76	0.83	26.8
9	R2	80	0.0	80	0.0	0.469	10.6	LOS A	4.0	28.4	0.83	0.76	0.83	38.6
9u	U	11	0.0	11	0.0	0.469	12.3	LOS A	4.0	28.4	0.83	0.76	0.83	29.2
Appro	bach	593	1.1	593	1.1	0.469	7.8	LOS A	4.0	28.4	0.81	0.76	0.81	29.2
West	Horati	o Street												
10	L2	42	0.0	42	0.0	0.078	9.3	LOS A	0.5	3.2	0.73	0.73	0.73	35.4
11	T1	207	14.7	207	14.7	0.422	8.1	LOS A	3.4	25.7	0.85	0.82	0.85	32.6
12	R2	145	3.6	145	3.6	0.422	11.5	LOS A	3.4	25.7	0.85	0.82	0.85	32.6
12u	U	2	0.0	2	0.0	0.422	13.0	LOS A	3.4	25.7	0.85	0.82	0.85	40.8
Appro	bach	397	9.0	397	9.0	0.422	9.5	LOS A	3.4	25.7	0.83	0.81	0.83	33.0
All Ve	hicles	1948	3.5	1948	3.5	0.521	9.1	LOS A	5.1	36.7	0.84	0.81	0.87	33.6

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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 2PM [HOR\_LEW\_23\_BY\_PM (Site Folder: Weekday PM 2023 base)] ■■ Network: N101 [Weekday PM (Network Folder: 2023 Base)]

New Site Site Category: (None) Give-Way (Two-Way)

Vehi	Vehicle Movement Performance													
Mov ID	Turn	DEM/ FLO	AND WS	ARRI FLO	VAL WS	Deg. Satn	Aver. Delay	Level of Service	95% B/ QU	ACK OF EUE	Prop. Que	Effective A Stop	ver. No. Cycles	Aver. Speed
		[ Iotal veh/h	HV J %	[ Iotal veh/h	⊢HV ] %	v/c	sec		ر Veh. veh	Dist J m		Rate		km/h
South	n: Lewis	Street												
1	L2	29	7.1	29	7.1	0.030	6.5	LOS A	0.1	0.8	0.46	0.62	0.46	30.1
2	T1	17	0.0	17	0.0	0.185	25.1	LOS B	0.6	4.5	0.89	0.95	0.92	16.8
3	R2	6	33.3	6	33.3	0.185	58.4	LOS E	0.6	4.5	0.89	0.95	0.92	21.3
Appro	bach	53	8.0	53	8.0	0.185	18.7	LOS B	0.6	4.5	0.65	0.77	0.67	21.5
East:	Horatic	Street												
4	L2	15	7.1	15	7.1	0.247	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	47.5
5	T1	465	4.5	465	4.5	0.247	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.5
6	R2	219	4.3	219	4.3	0.141	6.0	LOS A	0.7	5.4	0.51	0.63	0.51	38.5
Appro	bach	699	4.5	699	4.5	0.247	2.0	NA	0.7	5.4	0.16	0.21	0.16	44.5
North	: Lewis	Street												
7	L2	99	8.5	99	8.5	0.093	6.2	LOS A	0.4	2.7	0.44	0.63	0.44	38.8
8	T1	9	0.0	9	0.0	0.115	23.2	LOS B	0.4	2.6	0.87	0.93	0.87	19.4
9	R2	8	0.0	8	0.0	0.115	31.7	LOS C	0.4	2.6	0.87	0.93	0.87	12.1
Appro	bach	117	7.2	117	7.2	0.115	9.5	LOS A	0.4	2.7	0.50	0.67	0.50	34.7
West	: Horati	o Street												
10	L2	57	0.0	57	0.0	0.228	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	47.3
11	T1	378	9.2	378	9.2	0.228	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	49.0
12	R2	9	0.0	9	0.0	0.006	5.8	LOS A	0.0	0.2	0.49	0.54	0.49	39.0
Appro	bach	444	7.8	444	7.8	0.228	0.7	NA	0.0	0.2	0.01	0.08	0.01	48.6
All Ve	hicles	1313	6.0	1313	6.0	0.247	2.9	NA	0.7	5.4	0.16	0.23	0.16	44.0

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 3PM [CHU\_ING\_23\_BY\_PM (Site Folder: Weekday PM 2023 base)]

■ Network: N101 [Weekday PM (Network Folder: 2023 Base)]

New Site Site Category: (None) Give-Way (Two-Way)

Vehi	Vehicle Movement Performance													
Mov	Turn	DEM		ARRI	VAL	Deg.	Aver.	Level of	95% BACK OF		Prop.	EffectiveA	ver. No.	Aver.
U		FLO'	ws цул	FLO Total	VVS ш\/ 1	Sath	Delay	Service	QU [\/ob	EUE Diet 1	Que	Stop	Cycles	Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		Trate		km/h
South	n: Churo	ch Street												
1	L2	12	0.0	12	0.0	0.222	6.2	LOS A	0.2	1.5	0.07	0.03	0.07	48.5
2	T1	431	1.0	431	1.0	0.222	0.1	LOS A	0.2	1.5	0.07	0.03	0.07	48.9
3	R2	16	6.7	16	6.7	0.222	6.9	LOS A	0.2	1.5	0.07	0.03	0.07	48.3
Appro	bach	458	1.1	458	1.1	0.222	0.5	NA	0.2	1.5	0.07	0.03	0.07	48.9
East:	Inglis S	Street												
4	L2	38	5.6	38	5.6	0.043	6.1	LOS A	0.2	1.2	0.48	0.63	0.48	42.6
5	T1	1	0.0	1	0.0	0.043	6.0	LOS A	0.2	1.2	0.48	0.63	0.48	41.3
6	R2	6	16.7	6	16.7	0.043	9.3	LOS A	0.2	1.2	0.48	0.63	0.48	36.2
Appro	bach	45	7.0	45	7.0	0.043	6.5	LOS A	0.2	1.2	0.48	0.63	0.48	42.2
North	: Churc	h Street												
7	L2	53	4.0	53	4.0	0.276	5.2	LOS A	0.3	2.0	0.08	0.07	0.08	46.7
8	T1	494	1.9	494	1.9	0.276	0.1	LOS A	0.3	2.0	0.08	0.07	0.08	48.7
9	R2	22	0.0	22	0.0	0.276	6.3	LOS A	0.3	2.0	0.08	0.07	0.08	46.7
Appro	bach	568	2.0	568	2.0	0.276	0.8	NA	0.3	2.0	0.08	0.07	0.08	48.5
West	Inglis	Street												
10	L2	15	0.0	15	0.0	0.026	5.7	LOS A	0.1	0.6	0.44	0.62	0.44	36.3
11	T1	4	0.0	4	0.0	0.026	6.0	LOS A	0.1	0.6	0.44	0.62	0.44	41.5
12	R2	6	0.0	6	0.0	0.026	8.2	LOS A	0.1	0.6	0.44	0.62	0.44	42.8
Appro	bach	25	0.0	25	0.0	0.026	6.4	LOS A	0.1	0.6	0.44	0.62	0.44	39.8
All Ve	hicles	1097	1.8	1097	1.8	0.276	1.1	NA	0.3	2.0	0.10	0.09	0.10	48.1

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 1W [HOR\_CHU\_23\_BY\_WE (Site Folder: Weekend MD 2023 base)]

New Site Site Category: (None) Roundabout

Vehic	Vehicle Movement Performance													
Mov ID	Turn	DEMA FLOV [ Total	ND NS HV]	ARRI FLO [ Total	VAL WS HV ]	Deg. Satn	Aver. Delay	Level of Service	95% B QU [ Veh.	ACK OF EUE Dist ]	Prop. Que	EffectiveA Stop Rate	ver. No. Cycles	Aver. Speed
0 11	0	veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South	: Churc	ch Street												
1	L2	69	0.0	69	0.0	0.115	8.1	LOS A	0.7	4.9	0.69	0.71	0.69	36.7
2	T1	240	0.0	240	0.0	0.313	6.3	LOS A	2.4	16.9	0.73	0.70	0.73	35.9
3	R2	71	1.5	71	1.5	0.313	10.1	LOS A	2.4	16.9	0.73	0.70	0.73	27.9
3u	U	1	0.0	1	0.0	0.313	11.7	LOS A	2.4	16.9	0.73	0.70	0.73	27.9
Appro	ach	381	0.3	381	0.3	0.313	7.3	LOS A	2.4	16.9	0.73	0.70	0.73	35.0
East:	Horatic	Street												
4	L2	44	0.0	44	0.0	0.071	7.7	LOS A	0.4	2.9	0.66	0.66	0.66	34.1
5	T1	178	2.4	178	2.4	0.370	6.3	LOS A	2.9	20.6	0.73	0.73	0.73	40.5
6	R2	183	1.7	183	1.7	0.370	10.1	LOS A	2.9	20.6	0.73	0.73	0.73	38.2
6u	U	16	0.0	16	0.0	0.370	11.7	LOS A	2.9	20.6	0.73	0.73	0.73	33.7
Appro	ach	421	1.8	421	1.8	0.370	8.3	LOS A	2.9	20.6	0.73	0.72	0.73	38.9
North	: Churc	h Street												
7	L2	138	0.0	138	0.0	0.172	6.5	LOS A	1.1	7.8	0.64	0.66	0.64	28.2
8	T1	249	0.0	249	0.0	0.300	5.6	LOS A	2.3	15.9	0.66	0.65	0.66	28.2
9	R2	61	0.0	61	0.0	0.300	9.4	LOS A	2.3	15.9	0.66	0.65	0.66	39.6
9u	U	15	0.0	15	0.0	0.300	11.1	LOS A	2.3	15.9	0.66	0.65	0.66	30.1
Appro	ach	463	0.0	463	0.0	0.300	6.6	LOS A	2.3	15.9	0.66	0.65	0.66	30.8
West:	Horati	o Street												
10	L2	44	0.0	44	0.0	0.077	8.7	LOS A	0.4	3.1	0.70	0.70	0.70	36.0
11	T1	169	3.7	169	3.7	0.295	6.9	LOS A	2.2	15.6	0.75	0.73	0.75	33.7
12	R2	108	0.0	108	0.0	0.295	10.5	LOS A	2.2	15.6	0.75	0.73	0.75	33.7
12u	U	1	0.0	1	0.0	0.295	12.2	LOS A	2.2	15.6	0.75	0.73	0.75	41.7
Appro	ach	323	2.0	323	2.0	0.295	8.4	LOS A	2.2	15.6	0.74	0.73	0.74	34.1
All Ve	hicles	1588	0.9	1588	0.9	0.370	7.6	LOS A	2.9	20.6	0.71	0.70	0.71	35.3

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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 2W [HOR\_LEW\_23\_BY\_WE (Site Folder: Weekend MD 2023 base)]

### New Site Site Category: (None) Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	DEMA FLO\ [ Total	AND WS HV ]	ARRI FLO [ Total	IVAL WS I HV ]	Deg. Satn	Aver. Delay	Level of Service	95% E Ql [ Veh.	BACK OF JEUE Dist ]	Prop. Que	EffectiveA Stop Rate	ver. No. Cycles	Aver. Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South	n: Lewis	Street												
1	L2	22	0.0	22	0.0	0.019	5.9	LOS A	0.1	0.5	0.41	0.57	0.41	30.6
2	T1	6	16.7	6	16.7	0.075	20.1	LOS B	0.2	1.8	0.81	0.91	0.81	21.6
3	R2	8	0.0	8	0.0	0.075	22.9	LOS B	0.2	1.8	0.81	0.91	0.81	27.0
Appro	bach	37	2.9	37	2.9	0.075	12.2	LOS A	0.2	1.8	0.57	0.71	0.57	26.9
East:	Horatio	Street												
4	L2	13	0.0	13	0.0	0.199	4.6	LOS A	0.0	0.0	0.00	0.02	0.00	48.3
5	T1	381	1.7	381	1.7	0.199	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.5
6	R2	167	2.5	167	2.5	0.100	5.7	LOS A	0.5	3.8	0.47	0.59	0.47	38.8
Appro	bach	561	1.9	561	1.9	0.199	1.8	NA	0.5	3.8	0.14	0.19	0.14	44.8
North	: Lewis	Street												
7	L2	89	7.1	89	7.1	0.079	5.9	LOS A	0.3	2.3	0.40	0.60	0.40	39.0
8	T1	5	20.0	5	20.0	0.073	20.1	LOS B	0.2	1.9	0.81	0.91	0.81	20.9
9	R2	8	12.5	8	12.5	0.073	24.3	LOS B	0.2	1.9	0.81	0.91	0.81	13.9
Appro	bach	103	8.2	103	8.2	0.079	8.1	LOS A	0.3	2.3	0.46	0.64	0.46	35.9
West	: Horatio	o Street												
10	L2	52	0.0	52	0.0	0.197	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	47.4
11	T1	339	2.2	339	2.2	0.197	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	49.0
12	R2	8	0.0	8	0.0	0.009	5.5	LOS A	0.0	0.3	0.46	0.56	0.46	38.8
12u	U	3	0.0	3	0.0	0.009	8.4	LOS A	0.0	0.3	0.46	0.56	0.46	35.9
Appro	bach	402	1.8	402	1.8	0.197	0.8	NA	0.0	0.3	0.01	0.09	0.01	48.6
All Ve	hicles	1103	2.5	1103	2.5	0.199	2.4	NA	0.5	3.8	0.14	0.21	0.14	44.9

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 3W [CHU\_ING\_23\_BY\_WE (Site Folder: Weekend MD 2023 base)]

### New Site Site Category: (None) Give-Way (Two-Way)

Vehicle Movement Performance														
Mov	Turn			ARR	IVAL	Deg.	Aver.	Level of	95% BACK OF		Prop.	EffectiveA	ver. No.	Aver.
U		FLO [ Total	vv5 ы\/1	FLU Total	VVS I H\/ 1	Sath	Delay	Service	QU [\/eh	EUE Diet 1	Que	Stop Rate	Cycles	Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		Trate		km/h
South	n: Churo	ch Street												
1	L2	1	0.0	1	0.0	0.164	5.6	LOS A	0.1	0.5	0.03	0.01	0.03	48.9
2	T1	337	0.3	337	0.3	0.164	0.0	LOS A	0.1	0.5	0.03	0.01	0.03	49.5
3	R2	8	0.0	8	0.0	0.164	5.6	LOS A	0.1	0.5	0.03	0.01	0.03	48.9
Appro	bach	346	0.3	346	0.3	0.164	0.2	NA	0.1	0.5	0.03	0.01	0.03	49.5
East:	Inglis S	Street												
4	L2	12	0.0	12	0.0	0.015	5.3	LOS A	0.1	0.4	0.35	0.55	0.35	43.2
5	T1	1	0.0	1	0.0	0.015	4.8	LOS A	0.1	0.4	0.35	0.55	0.35	41.9
6	R2	5	0.0	5	0.0	0.015	6.5	LOS A	0.1	0.4	0.35	0.55	0.35	37.0
Appro	bach	18	0.0	18	0.0	0.015	5.6	LOS A	0.1	0.4	0.35	0.55	0.35	42.1
North	: Churc	h Street												
7	L2	34	0.0	34	0.0	0.170	4.7	LOS A	0.1	0.5	0.03	0.06	0.03	47.4
8	T1	318	0.0	318	0.0	0.170	0.0	LOS A	0.1	0.5	0.03	0.06	0.03	49.1
9	R2	6	0.0	6	0.0	0.170	5.6	LOS A	0.1	0.5	0.03	0.06	0.03	47.2
Appro	bach	358	0.0	358	0.0	0.170	0.6	NA	0.1	0.5	0.03	0.06	0.03	49.0
West	Inglis	Street												
10	L2	6	0.0	6	0.0	0.009	5.4	LOS A	0.0	0.2	0.36	0.55	0.36	37.0
11	T1	1	0.0	1	0.0	0.009	4.8	LOS A	0.0	0.2	0.36	0.55	0.36	41.9
12	R2	3	0.0	3	0.0	0.009	6.4	LOS A	0.0	0.2	0.36	0.55	0.36	43.2
Appro	bach	11	0.0	11	0.0	0.009	5.6	LOS A	0.0	0.2	0.36	0.55	0.36	40.4
All Ve	hicles	733	0.1	733	0.1	0.170	0.6	NA	0.1	0.5	0.04	0.06	0.04	48.8

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 1PM [HOR\_CHU\_23\_DEV\_PM (Site Folder: Weekday PM ■■ Network: N101 [Weekday PM 2023 Development)]
(Network Folder: 2023 With Development)]

### New Site Site Category: (None) Roundabout

Vehi	Vehicle Movement Performance													
Mov ID	Turn	DEMA FLOV [ Total	ND VS HV ]	ND ARRIVAL S FLOWS HV] [Total HV		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE [ Veh. Dist ]		Prop. Que	EffectiveA Stop Rate	ver. No. Cycles	Aver. Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South	n: Churo	ch Street												
1	L2	101	3.1	101	3.1	0.185	9.2	LOS A	1.2	8.5	0.77	0.78	0.77	35.8
2	T1	273	0.4	273	0.4	0.411	7.1	LOS A	3.5	24.3	0.85	0.78	0.85	34.8
3	R2	93	1.1	93	1.1	0.411	10.9	LOS A	3.5	24.3	0.85	0.78	0.85	26.8
3u	U	2	0.0	2	0.0	0.411	12.5	LOS A	3.5	24.3	0.85	0.78	0.85	26.8
Appro	bach	468	1.1	468	1.1	0.411	8.3	LOS A	3.5	24.3	0.83	0.78	0.83	33.9
East:	Horatio	Street												
4	L2	65	4.8	65	4.8	0.138	10.6	LOS A	0.8	6.1	0.79	0.80	0.79	30.6
5	T1	232	5.9	232	5.9	0.546	10.6	LOS A	5.5	40.2	0.95	0.97	1.10	37.4
6	R2	197	2.1	197	2.1	0.546	14.2	LOS A	5.5	40.2	0.95	0.97	1.10	34.6
6u	U	7	0.0	7	0.0	0.546	15.7	LOS B	5.5	40.2	0.95	0.97	1.10	29.8
Appro	bach	501	4.2	501	4.2	0.546	12.1	LOS A	5.5	40.2	0.93	0.94	1.06	35.6
North	: Churc	h Street												
7	L2	136	3.1	136	3.1	0.230	8.8	LOS A	1.5	10.7	0.76	0.78	0.76	24.6
8	T1	382	0.6	382	0.6	0.499	7.4	LOS A	4.5	31.8	0.86	0.80	0.89	26.5
9	R2	80	0.0	80	0.0	0.499	11.2	LOS A	4.5	31.8	0.86	0.80	0.89	38.4
9u	U	11	0.0	11	0.0	0.499	12.8	LOS A	4.5	31.8	0.86	0.80	0.89	29.1
Appro	bach	608	1.0	608	1.0	0.499	8.3	LOS A	4.5	31.8	0.83	0.80	0.86	28.8
West:	Horati	o Street												
10	L2	42	0.0	42	0.0	0.079	9.3	LOS A	0.5	3.3	0.74	0.73	0.74	35.4
11	T1	207	14.7	207	14.7	0.451	8.4	LOS A	3.7	28.2	0.86	0.84	0.88	32.3
12	R2	167	3.1	167	3.1	0.451	11.9	LOS A	3.7	28.2	0.86	0.84	0.88	32.3
12u	U	2	0.0	2	0.0	0.451	13.3	LOS A	3.7	28.2	0.86	0.84	0.88	40.6
Appro	bach	419	8.5	419	8.5	0.451	9.9	LOS A	3.7	28.2	0.85	0.83	0.86	32.7
All Ve	hicles	1997	3.4	1997	3.4	0.546	9.6	LOS A	5.5	40.2	0.86	0.84	0.90	33.2

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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 2PM [HOR\_LEW\_23\_DEV\_PM (Site Folder: Weekday PM ■■ Network: N101 [Weekday PM 2023 Development)] (Network Folder: 2023 With Development)]

### New Site Site Category: (None) Give-Way (Two-Way)

Vehio	chicle Movement Performance													
Mov	Turn			ARRI	IVAL	Deg.	Aver.	Level of	95% B	ACK OF	Prop.	EffectiveA	ver. No.	Aver.
טו		FLO Total	иS цул	FLU Total	VVS I H\/ 1	Sath	Delay	Service	QU [ \/eh	EUE Diet 1	Que	Stop Rate	Cycles	Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		Trate		km/h
South	: Lewis	Street												
1	L2	29	7.1	29	7.1	0.030	6.5	LOS A	0.1	0.8	0.46	0.62	0.46	30.1
2	T1	17	0.0	17	0.0	0.188	25.5	LOS B	0.6	4.6	0.90	0.95	0.93	16.6
3	R2	6	33.3	6	33.3	0.188	59.4	LOS E	0.6	4.6	0.90	0.95	0.93	21.1
Appro	ach	53	8.0	53	8.0	0.188	19.0	LOS B	0.6	4.6	0.65	0.77	0.67	21.3
East:	Horatic	Street												
4	L2	26	4.0	26	4.0	0.253	4.6	LOS A	0.0	0.0	0.00	0.03	0.00	47.8
5	T1	465	4.5	465	4.5	0.253	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	49.4
6	R2	219	4.3	219	4.3	0.141	6.0	LOS A	0.7	5.4	0.51	0.63	0.51	38.5
Appro	ach	711	4.4	711	4.4	0.253	2.1	NA	0.7	5.4	0.16	0.22	0.16	44.5
North	: Lewis	Street												
7	L2	99	8.5	99	8.5	0.093	6.2	LOS A	0.4	2.7	0.44	0.63	0.44	38.8
8	T1	9	0.0	9	0.0	0.117	23.8	LOS B	0.4	2.6	0.87	0.93	0.87	19.2
9	R2	8	0.0	8	0.0	0.117	31.7	LOS C	0.4	2.6	0.87	0.93	0.87	12.0
Appro	ach	117	7.2	117	7.2	0.117	9.5	LOS A	0.4	2.7	0.50	0.67	0.50	34.6
West:	Horati	o Street												
10	L2	57	0.0	57	0.0	0.228	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	47.3
11	T1	378	9.2	378	9.2	0.228	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	49.0
12	R2	9	0.0	9	0.0	0.006	5.9	LOS A	0.0	0.2	0.50	0.54	0.50	38.9
Appro	ach	444	7.8	444	7.8	0.228	0.7	NA	0.0	0.2	0.01	0.08	0.01	48.6
All Ve	hicles	1324	6.0	1324	6.0	0.253	2.9	NA	0.7	5.4	0.16	0.23	0.16	43.9

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 3PM [CHU\_ING\_23\_DEV\_PM (Site Folder: Weekday PM 2023 Development)]
■ Network: N101 [Weekday PM (Network Folder: 2023 With Development)]

### New Site Site Category: (None) Give-Way (Two-Way)

Vehi	cle Mo	vement	Perfo	rmanc	e:									
Mov ID	Turn	DEMA FLO	AND WS	ARRI FLO	VAL WS	Deg. Satn	Aver. Delay	Level of Service	95% B. QU	ACK OF EUE	Prop. Que	Effective A Stop	ver. No. Cycles	Aver. Speed
		[ lotal veh/h	HV J %	[ Iotal veh/h	HV J %	v/c	sec		[ Veh. veh	Dist J m		Rate		km/h
South	: Churc	ch Street												
1	L2	12	0.0	12	0.0	0.235	6.7	LOS A	0.4	2.8	0.13	0.05	0.13	48.2
2	T1	431	1.0	431	1.0	0.235	0.3	LOS A	0.4	2.8	0.13	0.05	0.13	48.4
3	R2	32	3.3	32	3.3	0.235	7.6	LOS A	0.4	2.8	0.13	0.05	0.13	49.2
Appro	bach	474	1.1	474	1.1	0.235	0.9	NA	0.4	2.8	0.13	0.05	0.13	48.5
East:	Inglis S	Street												
4	L2	42	5.0	42	5.0	0.065	6.2	LOS A	0.2	1.6	0.48	0.67	0.48	43.1
5	T1	1	0.0	1	0.0	0.065	6.2	LOS A	0.2	1.6	0.48	0.67	0.48	41.5
6	R2	17	6.3	17	6.3	0.065	9.6	LOS A	0.2	1.6	0.48	0.67	0.48	36.4
Appro	bach	60	5.3	60	5.3	0.065	7.2	LOS A	0.2	1.6	0.48	0.67	0.48	42.0
North	: Churc	h Street												
7	L2	91	2.3	91	2.3	0.295	5.4	LOS A	0.3	2.1	0.07	0.10	0.07	47.9
8	T1	494	1.9	494	1.9	0.295	0.1	LOS A	0.3	2.1	0.07	0.10	0.07	48.4
9	R2	22	0.0	22	0.0	0.295	6.3	LOS A	0.3	2.1	0.07	0.10	0.07	46.4
Appro	bach	606	1.9	606	1.9	0.295	1.1	NA	0.3	2.1	0.07	0.10	0.07	48.3
West	Inglis S	Street												
10	L2	15	0.0	15	0.0	0.027	5.7	LOS A	0.1	0.6	0.44	0.63	0.44	36.2
11	T1	4	0.0	4	0.0	0.027	6.3	LOS A	0.1	0.6	0.44	0.63	0.44	41.4
12	R2	6	0.0	6	0.0	0.027	8.3	LOS A	0.1	0.6	0.44	0.63	0.44	42.7
Appro	bach	25	0.0	25	0.0	0.027	6.4	LOS A	0.1	0.6	0.44	0.63	0.44	39.7
All Ve	hicles	1165	1.7	1165	1.7	0.295	1.5	NA	0.4	2.8	0.13	0.12	0.13	47.8

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 1W [HOR\_CHU\_23\_DEV\_WE (Site Folder: Weekend MD 2023 Development)]

### New Site Site Category: (None) Roundabout

Vehic	icle Movement Performance													
Mov ID	Turn	DEMA FLO\ [ Total	AND WS HV]	ARRI FLO [ Total	VAL WS HV ]	Deg. Satn	Aver. Delay	Level of Service	95% E Ql [ <u>Veh</u> .	BACK OF JEUE Dist ]	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South	: Chure	ch Street												
1	L2	83	0.0	83	0.0	0.136	8.3	LOS A	0.8	5.8	0.70	0.72	0.70	37.3
2	T1	249	0.0	249	0.0	0.323	6.3	LOS A	2.5	17.6	0.74	0.70	0.74	35.9
3	R2	71	1.5	71	1.5	0.323	10.1	LOS A	2.5	17.6	0.74	0.70	0.74	27.9
3u	U	1	0.0	1	0.0	0.323	11.7	LOS A	2.5	17.6	0.74	0.70	0.74	27.9
Appro	ach	404	0.3	404	0.3	0.323	7.4	LOS A	2.5	17.6	0.73	0.71	0.73	35.3
East:	Horatio	o Street												
4	L2	44	0.0	44	0.0	0.073	8.0	LOS A	0.4	2.9	0.67	0.67	0.67	33.8
5	T1	178	2.4	178	2.4	0.378	6.5	LOS A	3.0	21.1	0.75	0.74	0.75	40.4
6	R2	183	1.7	183	1.7	0.378	10.3	LOS A	3.0	21.1	0.75	0.74	0.75	38.0
6u	U	16	0.0	16	0.0	0.378	11.9	LOS A	3.0	21.1	0.75	0.74	0.75	33.5
Appro	ach	421	1.8	421	1.8	0.378	8.5	LOS A	3.0	21.1	0.74	0.73	0.74	38.7
North	: Churc	h Street												
7	L2	138	0.0	138	0.0	0.176	6.7	LOS A	1.1	8.0	0.65	0.67	0.65	27.8
8	T1	259	0.0	259	0.0	0.313	5.8	LOS A	2.4	16.8	0.68	0.66	0.68	28.1
9	R2	61	0.0	61	0.0	0.313	9.5	LOS A	2.4	16.8	0.68	0.66	0.68	39.5
9u	U	15	0.0	15	0.0	0.313	11.2	LOS A	2.4	16.8	0.68	0.66	0.68	30.1
Appro	ach	473	0.0	473	0.0	0.313	6.7	LOS A	2.4	16.8	0.67	0.66	0.67	30.6
West:	Horati	o Street												
10	L2	44	0.0	44	0.0	0.078	8.8	LOS A	0.4	3.1	0.71	0.71	0.71	35.9
11	T1	169	3.7	169	3.7	0.312	7.0	LOS A	2.3	16.7	0.76	0.75	0.76	33.6
12	R2	122	0.0	122	0.0	0.312	10.8	LOS A	2.3	16.7	0.76	0.75	0.76	33.6
12u	U	1	0.0	1	0.0	0.312	12.3	LOS A	2.3	16.7	0.76	0.75	0.76	41.6
Appro	bach	337	1.9	337	1.9	0.312	8.6	LOS A	2.3	16.7	0.75	0.74	0.75	34.0
All Ve	hicles	1635	0.9	1635	0.9	0.378	7.7	LOS A	3.0	21.1	0.72	0.71	0.72	35.3

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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 2W [HOR\_LEW\_23\_DEV\_WE (Site Folder: Weekend MD 2023 Development)]

### New Site Site Category: (None) Give-Way (Two-Way)

Vehio	cle Mo	vement	Perfo	rmano	ce									
Mov ID	Turn	DEMA FLO\ [ Total	AND NS HV ]	ARR FLO [ Tota	IVAL WS I HV ]	Deg. Satn	Aver. Delay	Level of Service	95% E Ql [ Veh.	BACK OF JEUE Dist ]	Prop. Que	EffectiveA Stop Rate	ver. No. Cycles	Aver. Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South	: Lewis	Street												
1	L2	22	0.0	22	0.0	0.019	5.9	LOS A	0.1	0.5	0.41	0.57	0.41	30.6
2	T1	6	16.7	6	16.7	0.115	20.5	LOS B	0.4	2.8	0.82	0.92	0.82	21.3
3	R2	16	0.0	16	0.0	0.115	23.9	LOS B	0.4	2.8	0.82	0.92	0.82	27.2
Appro	bach	44	2.4	44	2.4	0.115	14.4	LOS A	0.4	2.8	0.62	0.74	0.62	27.0
East:	Horatio	Street												
4	L2	20	0.0	20	0.0	0.202	4.6	LOS A	0.0	0.0	0.00	0.03	0.00	48.3
5	T1	381	1.7	381	1.7	0.202	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	49.4
6	R2	167	2.5	167	2.5	0.100	5.7	LOS A	0.5	3.8	0.47	0.59	0.47	38.8
Appro	bach	568	1.9	568	1.9	0.202	1.9	NA	0.5	3.8	0.14	0.19	0.14	44.8
North	: Lewis	Street												
7	L2	89	7.1	89	7.1	0.079	5.9	LOS A	0.3	2.3	0.40	0.60	0.40	39.0
8	T1	5	20.0	5	20.0	0.073	20.4	LOS B	0.2	1.9	0.82	0.91	0.82	20.9
9	R2	8	12.5	8	12.5	0.073	24.3	LOS B	0.2	1.9	0.82	0.91	0.82	13.9
Appro	bach	103	8.2	103	8.2	0.079	8.2	LOS A	0.3	2.3	0.46	0.64	0.46	35.9
West	Horatio	o Street												
10	L2	52	0.0	52	0.0	0.197	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	47.4
11	T1	339	2.2	339	2.2	0.197	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	49.0
12	R2	8	0.0	8	0.0	0.009	5.6	LOS A	0.0	0.3	0.46	0.56	0.46	38.8
12u	U	3	0.0	3	0.0	0.009	8.4	LOS A	0.0	0.3	0.46	0.56	0.46	35.9
Appro	bach	402	1.8	402	1.8	0.197	0.8	NA	0.0	0.3	0.01	0.09	0.01	48.6
All Ve	hicles	1118	2.4	1118	2.4	0.202	2.6	NA	0.5	3.8	0.14	0.22	0.14	44.7

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 3W [CHU\_ING\_23\_DEV\_WE (Site Folder: Weekend MD 2023 Development)]

### ■ Network: N101 [Weekend day (Network Folder: 2023 With Development)]

### New Site Site Category: (None) Give-Way (Two-Way)

Vehio	hicle Movement Performance													
Mov Turn DEMAND ARRIVAL Deg. Aver. Level of 95% BACK OF Prop. EffectiveAver. No. / IDFLOWS Satn Delay Service QUEUE Que Stop Cycles Si									Aver.					
שו		FLO [ Total	vv5 ц\/1	FLU Total	VVS I H\/ 1	Sath	Delay	Service	QL [\/oh	JEUE Diet 1	Que	Stop Rate	Cycles	Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		Trate		km/h
South	: Chur	ch Street												
1	L2	1	0.0	1	0.0	0.170	5.7	LOS A	0.1	1.1	0.06	0.03	0.06	48.7
2	T1	337	0.3	337	0.3	0.170	0.1	LOS A	0.1	1.1	0.06	0.03	0.06	49.2
3	R2	18	0.0	18	0.0	0.170	6.3	LOS A	0.1	1.1	0.06	0.03	0.06	49.8
Appro	bach	356	0.3	356	0.3	0.170	0.4	NA	0.1	1.1	0.06	0.03	0.06	49.3
East:	Inglis S	Street												
4	L2	21	0.0	21	0.0	0.050	5.8	LOS A	0.2	1.1	0.38	0.64	0.38	45.8
5	T1	1	0.0	1	0.0	0.050	4.9	LOS A	0.2	1.1	0.38	0.64	0.38	43.1
6	R2	28	0.0	28	0.0	0.050	7.5	LOS A	0.2	1.1	0.38	0.64	0.38	38.9
Appro	bach	51	0.0	51	0.0	0.050	6.7	LOS A	0.2	1.1	0.38	0.64	0.38	43.1
North	: Churc	h Street												
7	L2	57	0.0	57	0.0	0.182	5.1	LOS A	0.1	0.5	0.03	0.09	0.03	48.5
8	T1	318	0.0	318	0.0	0.182	0.0	LOS A	0.1	0.5	0.03	0.09	0.03	48.8
9	R2	6	0.0	6	0.0	0.182	5.6	LOS A	0.1	0.5	0.03	0.09	0.03	46.9
Appro	bach	381	0.0	381	0.0	0.182	0.9	NA	0.1	0.5	0.03	0.09	0.03	48.8
West	Inglis	Street												
10	L2	6	0.0	6	0.0	0.009	5.4	LOS A	0.0	0.2	0.37	0.55	0.37	37.0
11	T1	1	0.0	1	0.0	0.009	4.9	LOS A	0.0	0.2	0.37	0.55	0.37	41.9
12	R2	3	0.0	3	0.0	0.009	6.5	LOS A	0.0	0.2	0.37	0.55	0.37	43.1
Appro	bach	11	0.0	11	0.0	0.009	5.7	LOS A	0.0	0.2	0.37	0.55	0.37	40.4
All Ve	hicles	798	0.1	798	0.1	0.182	1.1	NA	0.2	1.1	0.07	0.11	0.07	48.5

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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### New Site Site Category: (None) Roundabout

Design Life Analysis (Final Year): Results for 10 years

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov ID	Turn	DEMA FLO\	ND NS	ARR FLO	IVAL WS	Deg. Satn	Aver. Delay	Level of Service	95% B QL	ACK OF	Prop. Que	Effective A Stop	ver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] %	[ Total veh/h	I HV ] %	v/c	sec		[ Veh. veh	Dist ] m		Rate		km/h
South	n: Churo	ch Street												
1	L2	95	3.3	95	3.3	0.180	9.5	LOS A	1.1	8.2	0.78	0.79	0.78	35.3
2	T1	268	0.4	268	0.4	0.411	7.3	LOS A	3.5	24.5	0.86	0.79	0.86	34.7
3	R2	93	1.1	93	1.1	0.411	11.1	LOS A	3.5	24.5	0.86	0.79	0.86	26.7
3u	U	2	0.0	2	0.0	0.411	12.7	LOS A	3.5	24.5	0.86	0.79	0.86	26.7
Appro	bach	458	1.1	458	1.1	0.411	8.5	LOS A	3.5	24.5	0.84	0.79	0.84	33.6
East:	Horatio	Street												
4	L2	65	4.8	65	4.8	0.132	10.1	LOS A	0.8	5.9	0.78	0.79	0.78	31.1
5	T1	249	5.9	249	5.9	0.544	9.9	LOS A	5.5	40.0	0.93	0.94	1.07	37.9
6	R2	197	2.1	197	2.1	0.544	13.6	LOS A	5.5	40.0	0.93	0.94	1.07	35.2
6u	U	7	0.0	7	0.0	0.544	15.1	LOS B	5.5	40.0	0.93	0.94	1.07	30.5
Appro	bach	519	4.3	519	4.3	0.544	11.4	LOS A	5.5	40.0	0.91	0.92	1.03	36.3
North	: Churc	h Street												
7	L2	136	3.1	136	3.1	0.225	8.6	LOS A	1.5	10.5	0.75	0.77	0.75	24.8
8	T1	366	0.6	366	0.6	0.478	7.0	LOS A	4.2	29.3	0.84	0.78	0.85	26.7
9	R2	80	0.0	80	0.0	0.478	10.8	LOS A	4.2	29.3	0.84	0.78	0.85	38.5
9u	U	11	0.0	11	0.0	0.478	12.5	LOS A	4.2	29.3	0.84	0.78	0.85	29.1
Appro	bach	593	1.1	593	1.1	0.478	8.0	LOS A	4.2	29.3	0.82	0.78	0.83	29.0
West	: Horati	o Street												
10	L2	42	0.0	42	0.0	0.078	9.3	LOS A	0.5	3.2	0.74	0.73	0.74	35.4
11	T1	223	14.7	223	14.7	0.443	8.2	LOS A	3.6	27.5	0.86	0.83	0.86	32.5
12	R2	145	3.6	145	3.6	0.443	11.6	LOS A	3.6	27.5	0.86	0.83	0.86	32.5
12u	U	2	0.0	2	0.0	0.443	13.1	LOS A	3.6	27.5	0.86	0.83	0.86	40.7
Appro	bach	413	9.2	413	9.2	0.443	9.5	LOS A	3.6	27.5	0.84	0.82	0.85	32.9
All Ve	hicles	1982	3.6	1982	3.6	0.544	9.3	LOS A	5.5	40.0	0.85	0.83	0.89	33.5

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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 2PM [HOR\_LEW\_33\_PM\_No\_Development (Site Folder: 💵 Network: N101 [Weekday PM Weekday PM 2033 No Development)] (Network Folder: 2033 No **Development)**]

### New Site Site Category: (None)

Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 10 years

Vehi	cle Mo	vement	t Perfo	rmanc	e:									
Mov	Turn	DEM	AND	ARRI	VAL	Deg.	Aver.	Level of	95% BA	ACK OF	Prop.	EffectiveA	ver. No.	Aver.
ID		FLO	WS	FLO	WS	Satn	Delay	Service		EUE Dict 1	Que	Stop	Cycles	Speed
		veh/h	пvј %	veh/h	пvј %	v/c	sec		veh	m		Nale		km/h
Sout	h: Lewis	Street												
1	L2	29	7.1	29	7.1	0.032	6.7	LOS A	0.1	0.9	0.48	0.64	0.48	29.7
2	T1	17	0.0	17	0.0	0.219	30.0	LOS C	0.7	5.3	0.91	0.97	0.97	14.8
3	R2	6	33.3	6	33.3	0.219	70.6	LOS F <sup>11</sup>	0.7	5.3	0.91	0.97	0.97	19.1
Appr	oach	53	8.0	53	8.0	0.219	21.8	LOS B	0.7	5.3	0.67	0.78	0.70	19.6
East:	Horatic	Street												
4	L2	15	7.1	15	7.1	0.266	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	47.5
5	T1	501	4.5	501	4.5	0.266	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.5
6	R2	219	4.3	219	4.3	0.146	6.2	LOS A	0.8	5.5	0.53	0.65	0.53	38.4
Appr	oach	735	4.5	735	4.5	0.266	2.0	NA	0.8	5.5	0.16	0.20	0.16	44.6
North	n: Lewis	Street												
7	L2	99	8.5	99	8.5	0.096	6.4	LOS A	0.4	2.8	0.46	0.64	0.46	38.7
8	T1	9	0.0	9	0.0	0.134	26.4	LOS B	0.4	2.9	0.89	0.94	0.89	17.8
9	R2	8	0.0	8	0.0	0.134	36.4	LOS C	0.4	2.9	0.89	0.94	0.89	10.9
Appr	oach	117	7.2	117	7.2	0.134	10.2	LOS A	0.4	2.9	0.52	0.69	0.52	34.0
West	: Horatio	o Street												
10	L2	57	0.0	57	0.0	0.243	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	47.4
11	T1	407	9.2	407	9.2	0.243	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	49.0
12	R2	9	0.0	9	0.0	0.006	6.0	LOS A	0.0	0.2	0.51	0.55	0.51	38.9
Appr	oach	473	7.9	473	7.9	0.243	0.7	NA	0.0	0.2	0.01	0.08	0.01	48.7
All Ve	ehicles	1378	6.0	1378	6.0	0.266	3.0	NA	0.8	5.5	0.16	0.22	0.16	43.9

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

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 ▼ Site: 3PM [CHU\_ING\_33\_PM\_No\_Development (Site Folder:
 ■■ Network: N101 [Weekday PM

 Weekday PM 2033 No Development)]
 (Network Folder: 2033 No

Development)]

### New Site Site Category: (None)

Give-Way (Two-Way) Design Life Analysis (Final Year): Results for 10 years

Vehio	nicle Movement Performance													
Mov ID	Turn	DEMA FLOV [ Total	ND NS HV ]	ARRI FLO [ Total	VAL WS HV]	Deg. Satn	Aver. Delay	Level of Service	95%   Q [ Veh.	BACK OF UEUE Dist ]	Prop. Que	Effective <i>A</i> Stop Rate	ver. No. Cycles	Aver. Speed
South	: Churc	ch Street	70	Ven/m	70	V/C	360		Ven					K11/11
1	L2	12	0.0	12	0.0	0.222	6.2	LOS A	0.2	1.5	0.07	0.03	0.07	48.5
2	T1	431	1.0	431	1.0	0.222	0.1	LOS A	0.2	1.5	0.07	0.03	0.07	48.9
3	R2	16	6.7	16	6.7	0.222	6.9	LOS A	0.2	1.5	0.07	0.03	0.07	48.3
Appro	ach	458	1.1	458	1.1	0.222	0.5	NA	0.2	1.5	0.07	0.03	0.07	48.9
East:	Inglis S	Street												
4	L2	38	5.6	38	5.6	0.043	6.1	LOS A	0.2	1.2	0.48	0.63	0.48	42.6
5	T1	1	0.0	1	0.0	0.043	6.0	LOS A	0.2	1.2	0.48	0.63	0.48	41.3
6	R2	6	16.7	6	16.7	0.043	9.3	LOS A	0.2	1.2	0.48	0.63	0.48	36.2
Appro	bach	45	7.0	45	7.0	0.043	6.5	LOS A	0.2	1.2	0.48	0.63	0.48	42.2
North	: Churc	h Street												
7	L2	53	4.0	53	4.0	0.276	5.2	LOS A	0.3	2.0	0.08	0.07	0.08	46.7
8	T1	494	1.9	494	1.9	0.276	0.1	LOS A	0.3	2.0	0.08	0.07	0.08	48.7
9	R2	22	0.0	22	0.0	0.276	6.3	LOS A	0.3	2.0	0.08	0.07	0.08	46.7
Appro	bach	568	2.0	568	2.0	0.276	0.8	NA	0.3	2.0	0.08	0.07	0.08	48.5
West:	Inglis	Street												
10	L2	15	0.0	15	0.0	0.026	5.7	LOS A	0.1	0.6	0.44	0.62	0.44	36.3
11	T1	4	0.0	4	0.0	0.026	6.0	LOS A	0.1	0.6	0.44	0.62	0.44	41.5
12	R2	6	0.0	6	0.0	0.026	8.2	LOS A	0.1	0.6	0.44	0.62	0.44	42.8
Appro	ach	25	0.0	25	0.0	0.026	6.4	LOS A	0.1	0.6	0.44	0.62	0.44	39.8
All Ve	hicles	1097	1.8	1097	1.8	0.276	1.1	NA	0.3	2.0	0.10	0.09	0.10	48.1

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 1W [HOR\_CHU\_33\_WE\_No Development (Site Folder: Weekend MD 2033 No Development)]

### New Site Site Category: (None) Roundabout Design Life Analysis (Final Year): Results for 10 years

Vehi	cle Mo	vement	Perfo	rmanc	e									
Mov D	Turn		ND NS		VAL	Deg. Satn	Aver. Delav	Level of Service	95% B	ACK OF	Prop.	Effective A	ver. No.	Aver. Speed
		[ Total	HV]	[ Total	HV ]	Oau	Delay		[ Veh.	Dist ]	Que	Rate	Cycles	opeed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South	n: Churo	ch Street												
1	L2	69	0.0	69	0.0	0.117	8.3	LOS A	0.7	4.9	0.70	0.71	0.70	36.6
2	T1	240	0.0	240	0.0	0.317	6.4	LOS A	2.5	17.3	0.75	0.71	0.75	35.8
3	R2	71	1.5	71	1.5	0.317	10.2	LOS A	2.5	17.3	0.75	0.71	0.75	27.8
3u	U	1	0.0	1	0.0	0.317	11.8	LOS A	2.5	17.3	0.75	0.71	0.75	27.8
Appro	bach	381	0.3	381	0.3	0.317	7.4	LOS A	2.5	17.3	0.74	0.71	0.74	34.9
East:	Horatio	Street												
4	L2	44	0.0	44	0.0	0.071	7.7	LOS A	0.4	2.9	0.66	0.66	0.66	34.1
5	T1	192	2.4	192	2.4	0.384	6.4	LOS A	3.0	21.6	0.74	0.73	0.74	40.5
6	R2	183	1.7	183	1.7	0.384	10.1	LOS A	3.0	21.6	0.74	0.73	0.74	38.2
6u	U	16	0.0	16	0.0	0.384	11.7	LOS A	3.0	21.6	0.74	0.73	0.74	33.7
Appro	bach	435	1.8	435	1.8	0.384	8.3	LOS A	3.0	21.6	0.73	0.72	0.73	39.0
North	: Churc	h Street												
7	L2	138	0.0	138	0.0	0.174	6.7	LOS A	1.1	7.9	0.65	0.67	0.65	27.9
8	T1	249	0.0	249	0.0	0.303	5.7	LOS A	2.3	16.2	0.68	0.66	0.68	28.1
9	R2	61	0.0	61	0.0	0.303	9.5	LOS A	2.3	16.2	0.68	0.66	0.68	39.5
9u	U	15	0.0	15	0.0	0.303	11.2	LOS A	2.3	16.2	0.68	0.66	0.68	30.0
Appro	bach	463	0.0	463	0.0	0.303	6.7	LOS A	2.3	16.2	0.67	0.66	0.67	30.7
West	Horati	o Street												
10	L2	44	0.0	44	0.0	0.077	8.7	LOS A	0.4	3.1	0.70	0.70	0.70	36.0
11	T1	183	3.7	183	3.7	0.309	6.9	LOS A	2.3	16.5	0.75	0.74	0.75	33.7
12	R2	108	0.0	108	0.0	0.309	10.6	LOS A	2.3	16.5	0.75	0.74	0.75	33.7
12u	U	1	0.0	1	0.0	0.309	12.2	LOS A	2.3	16.5	0.75	0.74	0.75	41.7
Appro	bach	336	2.0	336	2.0	0.309	8.3	LOS A	2.3	16.5	0.75	0.73	0.75	34.1
All Ve	hicles	1615	1.0	1615	1.0	0.384	7.6	LOS A	3.0	21.6	0.72	0.70	0.72	35.3

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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 2W [HOR\_LEW\_33\_WE\_No Development (Site Folder: Weekend MD 2033 No Development)]

### Network: N101 [Weekend day (Network Folder: 2033 No Development)]

### New Site Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 10 years

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov	Turn	DEM	AND	ARR	IVAL	Deg.	Aver.	Level of	95% B	ACK OF	Prop.	EffectiveA	ver. No.	Aver.
ID		FLO'	WS	FLO Toto	WS	Satn	Delay	Service	QL [ Voh	JEUE Diet 1	Que	Stop	Cycles	Speed
		veh/h	%	veh/h	· %	v/c	sec		veh	m		Trate		km/h
South	n: Lewis	Street												
1	L2	22	0.0	22	0.0	0.020	6.0	LOS A	0.1	0.5	0.42	0.58	0.42	30.4
2	T1	6	16.7	6	16.7	0.084	22.3	LOS B	0.3	2.0	0.84	0.92	0.84	20.3
3	R2	8	0.0	8	0.0	0.084	25.5	LOS B	0.3	2.0	0.84	0.92	0.84	25.7
Appro	bach	37	2.9	37	2.9	0.084	13.3	LOS A	0.3	2.0	0.59	0.72	0.59	25.9
East:	Horatic	Street												
4	L2	13	0.0	13	0.0	0.213	4.6	LOS A	0.0	0.0	0.00	0.02	0.00	48.4
5	T1	410	1.7	410	1.7	0.213	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.5
6	R2	167	2.5	167	2.5	0.103	5.8	LOS A	0.5	3.8	0.48	0.60	0.48	38.7
Appro	bach	590	1.9	590	1.9	0.213	1.8	NA	0.5	3.8	0.14	0.18	0.14	45.0
North	: Lewis	Street												
7	L2	89	7.1	89	7.1	0.081	6.1	LOS A	0.3	2.3	0.42	0.61	0.42	39.0
8	T1	5	20.0	5	20.0	0.082	22.5	LOS B	0.3	2.1	0.84	0.92	0.84	19.6
9	R2	8	12.5	8	12.5	0.082	27.2	LOS B	0.3	2.1	0.84	0.92	0.84	12.8
Appro	bach	103	8.2	103	8.2	0.082	8.6	LOS A	0.3	2.3	0.47	0.65	0.47	35.5
West	: Horati	o Street												
10	L2	52	0.0	52	0.0	0.210	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	47.4
11	T1	365	2.2	365	2.2	0.210	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	49.1
12	R2	8	0.0	8	0.0	0.010	5.6	LOS A	0.0	0.3	0.48	0.57	0.48	38.7
12u	U	3	0.0	3	0.0	0.010	8.7	LOS A	0.0	0.3	0.48	0.57	0.48	35.7
Appro	bach	428	1.9	428	1.9	0.210	0.8	NA	0.0	0.3	0.01	0.08	0.01	48.6
All Ve	hicles	1159	2.5	1159	2.5	0.213	2.4	NA	0.5	3.8	0.14	0.20	0.14	45.0

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 3W [CHU\_ING\_33\_WE\_No Development (Site Folder: Weekend MD 2033 No Development)]

### New Site Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 10 years

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov	Turn	DEMA	ND	ARR	IVAL	Deg.	Aver.	Level of	95% E	BACK OF	Prop.	EffectiveA	ver. No.	Aver.
ID		FLOV	VS ۱	FLO	WS	Satn	Delay	Service	QL [ \/ob	JEUE Diet 1	Que	Stop	Cycles	Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		Trate		km/h
Sout	n: Churc	h Street												
1	L2	1	0.0	1	0.0	0.164	5.6	LOS A	0.1	0.5	0.03	0.01	0.03	48.9
2	T1	337	0.3	337	0.3	0.164	0.0	LOS A	0.1	0.5	0.03	0.01	0.03	49.5
3	R2	8	0.0	8	0.0	0.164	5.6	LOS A	0.1	0.5	0.03	0.01	0.03	48.9
Appr	oach	346	0.3	346	0.3	0.164	0.2	NA	0.1	0.5	0.03	0.01	0.03	49.5
East:	Inglis S	Street												
4	L2	12	0.0	12	0.0	0.015	5.3	LOS A	0.1	0.4	0.35	0.55	0.35	43.2
5	T1	1	0.0	1	0.0	0.015	4.8	LOS A	0.1	0.4	0.35	0.55	0.35	41.9
6	R2	5	0.0	5	0.0	0.015	6.5	LOS A	0.1	0.4	0.35	0.55	0.35	37.0
Appr	oach	18	0.0	18	0.0	0.015	5.6	LOS A	0.1	0.4	0.35	0.55	0.35	42.1
North	: Churc	h Street												
7	L2	34	0.0	34	0.0	0.170	4.7	LOS A	0.1	0.5	0.03	0.06	0.03	47.4
8	T1	318	0.0	318	0.0	0.170	0.0	LOS A	0.1	0.5	0.03	0.06	0.03	49.1
9	R2	6	0.0	6	0.0	0.170	5.6	LOS A	0.1	0.5	0.03	0.06	0.03	47.2
Appro	oach	358	0.0	358	0.0	0.170	0.6	NA	0.1	0.5	0.03	0.06	0.03	49.0
West	: Inglis \$	Street												
10	L2	6	0.0	6	0.0	0.009	5.4	LOS A	0.0	0.2	0.36	0.55	0.36	37.0
11	T1	1	0.0	1	0.0	0.009	4.8	LOS A	0.0	0.2	0.36	0.55	0.36	41.9
12	R2	3	0.0	3	0.0	0.009	6.4	LOS A	0.0	0.2	0.36	0.55	0.36	43.2
Appr	oach	11	0.0	11	0.0	0.009	5.6	LOS A	0.0	0.2	0.36	0.55	0.36	40.4
All Ve	ehicles	733	0.1	733	0.1	0.170	0.6	NA	0.1	0.5	0.04	0.06	0.04	48.8

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 1PM [HOR\_CHU\_33\_DEV\_PM (Site Folder: Weekday PM ■■ Network: N101 [Weekday PM 2033 Development)]
(Network Folder: 2033 With Development)]

### New Site Site Category: (None)

Roundabout

Design Life Analysis (Final Year): Results for 10 years

Vehi	cle Mo	vement	Perfo	rmano	ce									
Mov	Turn		ND	ARR	IVAL	Deg.	Aver.	Level of	95% E		Prop.	EffectiveA	ver. No.	Aver.
		[ Total	HV ]	[ Tota	1 HV 1	Salli	Delay	Service	[ Veh.	Dist ]	Que	Rate	Cycles	Speeu
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South	n: Churo	ch Street												
1	L2	101	3.1	101	3.1	0.189	9.4	LOS A	1.2	8.7	0.78	0.79	0.78	35.6
2	T1	273	0.4	273	0.4	0.420	7.3	LOS A	3.6	25.1	0.86	0.80	0.86	34.7
3	R2	93	1.1	93	1.1	0.420	11.1	LOS A	3.6	25.1	0.86	0.80	0.86	26.7
3u	U	2	0.0	2	0.0	0.420	12.7	LOS A	3.6	25.1	0.86	0.80	0.86	26.7
Appro	bach	468	1.1	468	1.1	0.420	8.5	LOS A	3.6	25.1	0.85	0.80	0.85	33.8
East:	Horatio	o Street												
4	L2	65	4.8	65	4.8	0.139	10.6	LOS A	0.8	6.2	0.79	0.80	0.79	30.6
5	T1	249	5.9	249	5.9	0.570	11.1	LOS A	6.1	43.9	0.96	0.99	1.15	37.0
6	R2	197	2.1	197	2.1	0.570	14.7	LOS B	6.1	43.9	0.96	0.99	1.15	34.1
6u	U	7	0.0	7	0.0	0.570	16.3	LOS B	6.1	43.9	0.96	0.99	1.15	29.4
Appro	bach	519	4.3	519	4.3	0.570	12.5	LOS A	6.1	43.9	0.94	0.97	1.11	35.4
North	: Churc	h Street												
7	L2	136	3.1	136	3.1	0.235	8.9	LOS A	1.5	10.9	0.77	0.79	0.77	24.3
8	T1	382	0.6	382	0.6	0.509	7.8	LOS A	4.7	33.4	0.87	0.82	0.92	26.3
9	R2	80	0.0	80	0.0	0.509	11.5	LOS A	4.7	33.4	0.87	0.82	0.92	38.2
9u	U	11	0.0	11	0.0	0.509	13.2	LOS A	4.7	33.4	0.87	0.82	0.92	29.0
Appro	bach	608	1.0	608	1.0	0.509	8.6	LOS A	4.7	33.4	0.85	0.82	0.89	28.6
West	: Horati	o Street												
10	L2	42	0.0	42	0.0	0.079	9.3	LOS A	0.5	3.3	0.74	0.73	0.74	35.4
11	T1	223	14.7	223	14.7	0.472	8.8	LOS A	4.1	30.8	0.87	0.86	0.92	32.0
12	R2	167	3.1	167	3.1	0.472	12.2	LOS A	4.1	30.8	0.87	0.86	0.92	32.0
12u	U	2	0.0	2	0.0	0.472	13.6	LOS A	4.1	30.8	0.87	0.86	0.92	40.3
Appro	bach	435	8.8	435	8.8	0.472	10.2	LOS A	4.1	30.8	0.86	0.85	0.90	32.4
All Ve	ehicles	2031	3.5	2031	3.5	0.570	9.9	LOS A	6.1	43.9	0.87	0.86	0.94	32.9

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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 2PM [HOR\_LEW\_33\_DEV\_PM (Site Folder: Weekday PM 💵 Network: N101 [Weekday PM 2033 Development)] (Network Folder: 2033 With **Development)**]

### New Site

Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance														
Mov	Turn	DEM	AND	ARRI	VAL	Deg.	Aver.	Level of	95% BA	ACK OF	Prop.	EffectiveA	ver. No.	Aver.
ID		FLO Tatal	WS	FLO Total	WS	Satn	Delay	Service	QUE		Que	Stop	Cycles	Speed
		veh/h	⊓vj %	veh/h	пvј %	v/c	sec		ven. veh	m Dist		Rate		km/h
Sout	h: Lewis	Street												
1	L2	29	7.1	29	7.1	0.032	6.7	LOS A	0.1	0.9	0.48	0.64	0.48	29.7
2	T1	17	0.0	17	0.0	0.222	30.5	LOS C	0.7	5.3	0.92	0.97	0.98	14.6
3	R2	6	33.3	6	33.3	0.222	72.0	LOS F <sup>11</sup>	0.7	5.3	0.92	0.97	0.98	18.9
Appr	oach	53	8.0	53	8.0	0.222	22.2	LOS B	0.7	5.3	0.67	0.79	0.70	19.4
East:	Horatio	Street												
4	L2	26	4.0	26	4.0	0.272	4.6	LOS A	0.0	0.0	0.00	0.03	0.00	47.8
5	T1	501	4.5	501	4.5	0.272	0.1	LOS A	0.0	0.0	0.00	0.03	0.00	49.4
6	R2	219	4.3	219	4.3	0.146	6.2	LOS A	0.8	5.5	0.53	0.65	0.53	38.4
Appr	oach	746	4.4	746	4.4	0.272	2.0	NA	0.8	5.5	0.16	0.21	0.16	44.6
North	n: Lewis	Street												
7	L2	99	8.5	99	8.5	0.096	6.4	LOS A	0.4	2.8	0.46	0.64	0.46	38.7
8	T1	9	0.0	9	0.0	0.135	27.1	LOS B	0.4	3.0	0.89	0.94	0.89	17.7
9	R2	8	0.0	8	0.0	0.135	36.4	LOS C	0.4	3.0	0.89	0.94	0.89	10.8
Appr	oach	117	7.2	117	7.2	0.135	10.3	LOS A	0.4	3.0	0.52	0.69	0.52	34.0
West	: Horatio	o Street												
10	L2	57	0.0	57	0.0	0.243	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	47.4
11	T1	407	9.2	407	9.2	0.243	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	49.0
12	R2	9	0.0	9	0.0	0.007	6.0	LOS A	0.0	0.2	0.52	0.55	0.52	38.8
Appr	oach	473	7.9	473	7.9	0.243	0.7	NA	0.0	0.2	0.01	0.08	0.01	48.7
All Ve	ehicles	1389	6.0	1389	6.0	0.272	3.0	NA	0.8	5.5	0.16	0.23	0.16	43.9

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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

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V Site: 3PM [CHU\_ING\_33\_DEV\_PM (Site Folder: Weekday PM 2033 Development)]
■ Network: N101 [Weekday PM (Network Folder: 2033 With Development)]

### New Site

Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance														
Mov	Turn	DEMA	AND	ARRI	VAL	Deg.	Aver.	Level of	95% B	ACK OF	Prop.	EffectiveA	ver. No.	Aver.
ID		FLO\	NS LIVI	FLO Totol	WS	Satn	Delay	Service	QL I Vah		Que	Stop	Cycles	Speed
		veh/h	пvј %	veh/h	пvј %	v/c	sec		veh	m		Nale		km/h
Sout	h: Churc	h Street												
1	L2	12	0.0	12	0.0	0.235	6.7	LOS A	0.4	2.8	0.13	0.05	0.13	48.2
2	T1	431	1.0	431	1.0	0.235	0.3	LOS A	0.4	2.8	0.13	0.05	0.13	48.4
3	R2	32	3.3	32	3.3	0.235	7.6	LOS A	0.4	2.8	0.13	0.05	0.13	49.2
Appr	oach	474	1.1	474	1.1	0.235	0.9	NA	0.4	2.8	0.13	0.05	0.13	48.5
East: Inglis Street														
4	L2	42	5.0	42	5.0	0.065	6.2	LOS A	0.2	1.6	0.48	0.67	0.48	43.1
5	T1	1	0.0	1	0.0	0.065	6.2	LOS A	0.2	1.6	0.48	0.67	0.48	41.5
6	R2	17	6.3	17	6.3	0.065	9.6	LOS A	0.2	1.6	0.48	0.67	0.48	36.4
Appr	oach	60	5.3	60	5.3	0.065	7.2	LOS A	0.2	1.6	0.48	0.67	0.48	42.0
North	n: Churc	h Street												
7	L2	91	2.3	91	2.3	0.295	5.4	LOS A	0.3	2.1	0.07	0.10	0.07	47.9
8	T1	494	1.9	494	1.9	0.295	0.1	LOS A	0.3	2.1	0.07	0.10	0.07	48.4
9	R2	22	0.0	22	0.0	0.295	6.3	LOS A	0.3	2.1	0.07	0.10	0.07	46.4
Appr	oach	606	1.9	606	1.9	0.295	1.1	NA	0.3	2.1	0.07	0.10	0.07	48.3
West	: Inglis S	Street												
10	L2	15	0.0	15	0.0	0.027	5.7	LOS A	0.1	0.6	0.44	0.63	0.44	36.2
11	T1	4	0.0	4	0.0	0.027	6.3	LOS A	0.1	0.6	0.44	0.63	0.44	41.4
12	R2	6	0.0	6	0.0	0.027	8.3	LOS A	0.1	0.6	0.44	0.63	0.44	42.7
Appr	oach	25	0.0	25	0.0	0.027	6.4	LOS A	0.1	0.6	0.44	0.63	0.44	39.7
All Ve	ehicles	1165	1.7	1165	1.7	0.295	1.5	NA	0.4	2.8	0.13	0.12	0.13	47.8

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.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 1W [HOR\_CHU\_33\_DEV\_WE (Site Folder: Weekend MD 2033 Development)]

### New Site Site Category: (None) Roundabout Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance														
Mov ID	Turn	DEMA FLOV [ Total	ND VS HV ]	ARRI FLO [ Total	VAL WS HV ]	Deg. Satn	Aver. Delay	Level of Service	95% B QU [ Veh.	ACK OF EUE Dist ]	Prop. Que	EffectiveA Stop Rate	ver. No. Cycles	Aver. Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South	n: Churo	ch Street												
1	L2	83	0.0	83	0.0	0.138	8.4	LOS A	0.8	5.9	0.71	0.73	0.71	37.1
2	T1	249	0.0	249	0.0	0.327	6.4	LOS A	2.6	18.0	0.75	0.71	0.75	35.8
3	R2	71	1.5	71	1.5	0.327	10.2	LOS A	2.6	18.0	0.75	0.71	0.75	27.8
3u	U	1	0.0	1	0.0	0.327	11.8	LOS A	2.6	18.0	0.75	0.71	0.75	27.8
Appro	bach	404	0.3	404	0.3	0.327	7.5	LOS A	2.6	18.0	0.74	0.71	0.74	35.1
East:	Horatio	Street												
4	L2	44	0.0	44	0.0	0.073	8.0	LOS A	0.4	2.9	0.67	0.67	0.67	33.8
5	T1	192	2.4	192	2.4	0.392	6.6	LOS A	3.1	22.2	0.76	0.74	0.76	40.4
6	R2	183	1.7	183	1.7	0.392	10.3	LOS A	3.1	22.2	0.76	0.74	0.76	38.0
6u	U	16	0.0	16	0.0	0.392	11.9	LOS A	3.1	22.2	0.76	0.74	0.76	33.5
Appro	bach	435	1.8	435	1.8	0.392	8.5	LOS A	3.1	22.2	0.75	0.74	0.75	38.8
North	: Churc	h Street												
7	L2	138	0.0	138	0.0	0.179	6.8	LOS A	1.2	8.1	0.67	0.68	0.67	27.6
8	T1	259	0.0	259	0.0	0.317	5.9	LOS A	2.4	17.1	0.69	0.67	0.69	27.9
9	R2	61	0.0	61	0.0	0.317	9.6	LOS A	2.4	17.1	0.69	0.67	0.69	39.4
9u	U	15	0.0	15	0.0	0.317	11.3	LOS A	2.4	17.1	0.69	0.67	0.69	30.0
Appro	bach	473	0.0	473	0.0	0.317	6.8	LOS A	2.4	17.1	0.69	0.67	0.69	30.5
West	: Horati	o Street												
10	L2	44	0.0	44	0.0	0.078	8.8	LOS A	0.5	3.2	0.71	0.71	0.71	35.9
11	T1	183	3.7	183	3.7	0.327	7.0	LOS A	2.5	17.7	0.77	0.75	0.77	33.6
12	R2	122	0.0	122	0.0	0.327	10.8	LOS A	2.5	17.7	0.77	0.75	0.77	33.6
12u	U	1	0.0	1	0.0	0.327	12.3	LOS A	2.5	17.7	0.77	0.75	0.77	41.7
Appro	bach	350	1.9	350	1.9	0.327	8.6	LOS A	2.5	17.7	0.76	0.75	0.76	34.0
All Ve	hicles	1661	0.9	1661	0.9	0.392	7.8	LOS A	3.1	22.2	0.73	0.71	0.73	35.2

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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 2W [HOR\_LEW\_33\_DEV\_WE (Site Folder: Weekend MD 2033 Development)]

### New Site Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 10 years

Vehi	Vehicle Movement Performance													
Mov	Turn	DEMA	AND	ARRIVAL		Deg.	Aver.	Level of	95% B/	ACK OF	Prop.	EffectiveA	ver. No.	Aver.
ID		FLO	NS цул	FLC	WS เม\/เ	Satn	Delay	Service	QUI [\/ob	EUE Diet 1	Que	Stop	Cycles	Speed
		veh/h	%	veh/h	111V j 1 %	v/c	sec		veh	m		Trate		km/h
South	n: Lewis	Street												
1	L2	22	0.0	22	0.0	0.020	6.0	LOS A	0.1	0.5	0.42	0.58	0.42	30.4
2	T1	6	16.7	6	16.7	0.130	22.8	LOS B	0.4	3.1	0.85	0.93	0.85	20.0
3	R2	16	0.0	16	0.0	0.130	26.6	LOS B	0.4	3.1	0.85	0.93	0.85	25.8
Appro	bach	44	2.4	44	2.4	0.130	15.8	LOS B	0.4	3.1	0.63	0.75	0.63	25.9
East:	Horatio	Street												
4	L2	20	0.0	20	0.0	0.217	4.6	LOS A	0.0	0.0	0.00	0.03	0.00	48.3
5	T1	410	1.7	410	1.7	0.217	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	49.4
6	R2	167	2.5	167	2.5	0.103	5.8	LOS A	0.5	3.8	0.48	0.60	0.48	38.7
Appro	bach	598	1.8	598	1.8	0.217	1.8	NA	0.5	3.8	0.14	0.19	0.14	45.0
North	: Lewis	Street												
7	L2	89	7.1	89	7.1	0.081	6.1	LOS A	0.3	2.3	0.42	0.61	0.42	39.0
8	T1	5	20.0	5	20.0	0.083	22.8	LOS B	0.3	2.1	0.84	0.92	0.84	19.6
9	R2	8	12.5	8	12.5	0.083	27.2	LOS B	0.3	2.1	0.84	0.92	0.84	12.8
Appro	bach	103	8.2	103	8.2	0.083	8.6	LOS A	0.3	2.3	0.47	0.65	0.47	35.4
West	: Horatio	o Street												
10	L2	52	0.0	52	0.0	0.210	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	47.4
11	T1	365	2.2	365	2.2	0.210	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	49.1
12	R2	8	0.0	8	0.0	0.010	5.7	LOS A	0.0	0.3	0.48	0.57	0.48	38.7
12u	U	3	0.0	3	0.0	0.010	8.7	LOS A	0.0	0.3	0.48	0.57	0.48	35.7
Appro	bach	428	1.9	428	1.9	0.210	0.8	NA	0.0	0.3	0.01	0.08	0.01	48.6
All Ve	hicles	1173	2.4	1173	2.4	0.217	2.5	NA	0.5	3.8	0.14	0.21	0.14	44.7

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 3W [CHU\_ING\_33\_DEV\_WE (Site Folder: Weekend MD 2033 Development)]

### New Site Site Category: (None)

Give-Way (Two-Way) Design Life Analysis (Final Year): Results for 10 years

Vehicle Movement Performance														
Mov	Turn	DEMA	ND	ARRI	IVAL	Deg.	Aver.	Level of	95% E	BACK OF	Prop.	Effective A	ver. No.	Aver.
ID		FLOV	VS	FLO	WS	Satn	Delay	Service	Ql		Que	Stop	Cycles	Speed
		veh/h	пvј %	veh/h	∩⊽j %	v/c	sec		ven. veh	m Dist		Rate		km/h
South	n: Churo	ch Street												
1	L2	1	0.0	1	0.0	0.170	5.7	LOS A	0.1	1.1	0.06	0.03	0.06	48.7
2	T1	337	0.3	337	0.3	0.170	0.1	LOS A	0.1	1.1	0.06	0.03	0.06	49.2
3	R2	18	0.0	18	0.0	0.170	6.3	LOS A	0.1	1.1	0.06	0.03	0.06	49.8
Appro	oach	356	0.3	356	0.3	0.170	0.4	NA	0.1	1.1	0.06	0.03	0.06	49.3
East: Inglis Street														
4	L2	21	0.0	21	0.0	0.050	5.8	LOS A	0.2	1.1	0.38	0.64	0.38	45.8
5	T1	1	0.0	1	0.0	0.050	4.9	LOS A	0.2	1.1	0.38	0.64	0.38	43.1
6	R2	28	0.0	28	0.0	0.050	7.5	LOS A	0.2	1.1	0.38	0.64	0.38	38.9
Appro	oach	51	0.0	51	0.0	0.050	6.7	LOS A	0.2	1.1	0.38	0.64	0.38	43.1
North	: Churc	h Street												
7	L2	57	0.0	57	0.0	0.182	5.1	LOS A	0.1	0.5	0.03	0.09	0.03	48.5
8	T1	318	0.0	318	0.0	0.182	0.0	LOS A	0.1	0.5	0.03	0.09	0.03	48.8
9	R2	6	0.0	6	0.0	0.182	5.6	LOS A	0.1	0.5	0.03	0.09	0.03	46.9
Appro	oach	381	0.0	381	0.0	0.182	0.9	NA	0.1	0.5	0.03	0.09	0.03	48.8
West	: Inglis S	Street												
10	L2	6	0.0	6	0.0	0.009	5.4	LOS A	0.0	0.2	0.37	0.55	0.37	37.0
11	T1	1	0.0	1	0.0	0.009	4.9	LOS A	0.0	0.2	0.37	0.55	0.37	41.9
12	R2	3	0.0	3	0.0	0.009	6.5	LOS A	0.0	0.2	0.37	0.55	0.37	43.1
Appro	bach	11	0.0	11	0.0	0.009	5.7	LOS A	0.0	0.2	0.37	0.55	0.37	40.4
All Ve	ehicles	798	0.1	798	0.1	0.182	1.1	NA	0.2	1.1	0.07	0.11	0.07	48.5

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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# APPENDIX B SWEPT PATHS AND PARKING PLAN







APPROVED	DATE 22.05.2023	PROJECT
CHECKED	DATE	
DESIGNED BY	FEDERAL HO	
A.BJELIC		MUDGEE, NEW SOL
CAD FILE		
SCALE	SHEET No.	

	DRAWING TITLE									
	CARPARKING LAYOUT PLAN									
NITH WALES										
	PROJECT No.	DRAWING No.	AMDT							
		001	В							



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