

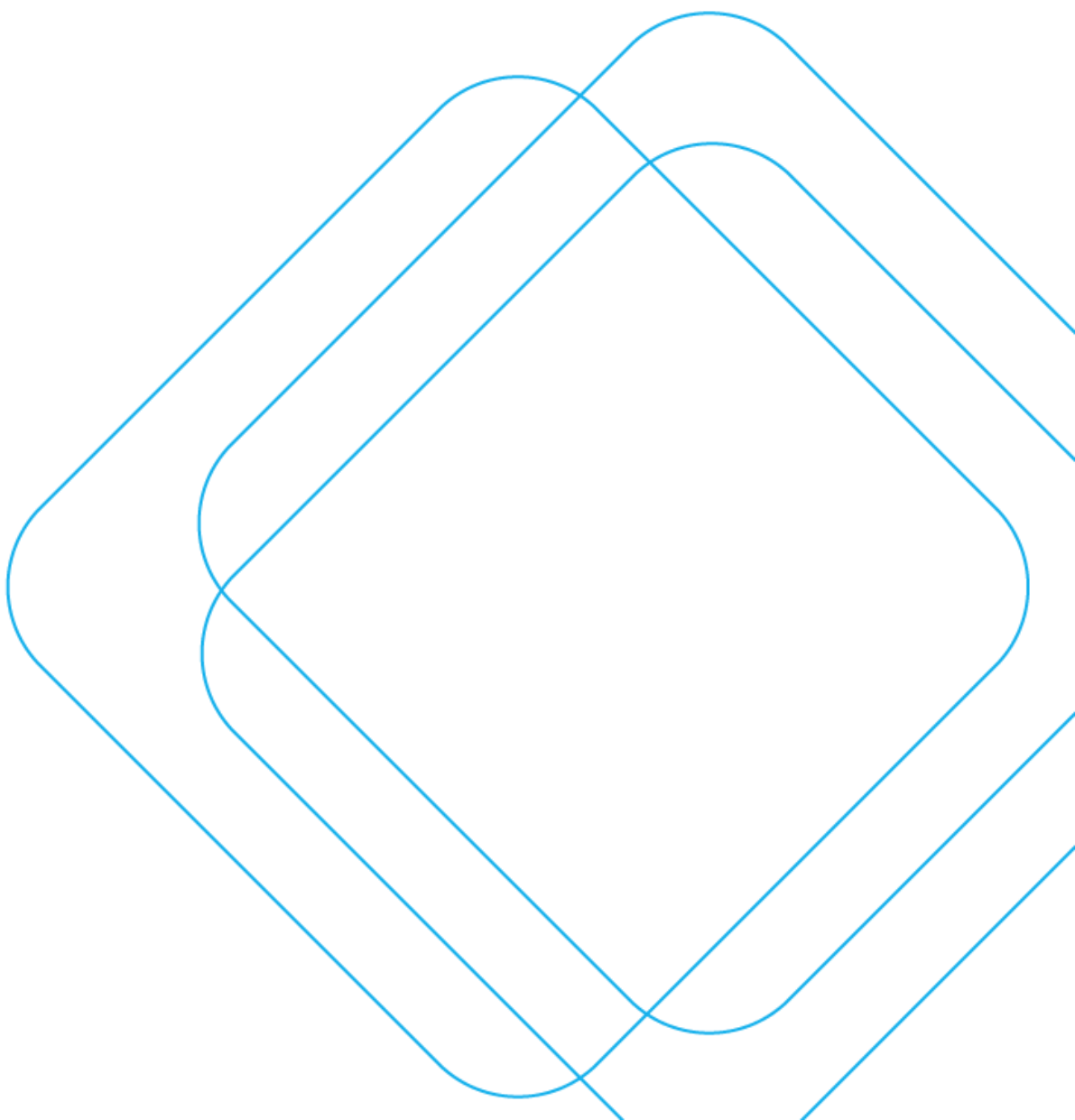
# **RESIDENTIAL SUBDIVISION OF LOT 7025 DP1020631, LOT 7332 DP1166365, LOT 7317 DP1166614 AND WORKS WITHIN LOT 1 DP1077961 FORBES, NSW**

Traffic Impact Assessment

16 JANUARY 2024


A large, abstract graphic in the bottom right corner of the page. It consists of several overlapping, rounded rectangular outlines in white, creating a complex, layered geometric pattern.

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

<b>Project:</b>	Residential Subdivision Of Lot 7025 DP1020631, Lot 7332 DP1166365, Lot 7317 DP1166614 And Works Within Lot 1 DP1077961 Forbes, NSW		
<b>Project Number:</b>	SCT_00425		
<b>Client:</b>	ADW Johnson Pty Ltd	<b>ABN:</b>	62 129 445 398
<b>Proponent:</b>	Land and Housing Corporation - Department of Planning and Environment		
<b>Prepared by:</b>	SCT Consulting PTY. LTD. (SCT Consulting)	<b>ABN:</b>	53 612 624 058

Information	Name	Position	Signature
Author:	Nicholas Bradbury	Consultant	
Reviewer:	Shawn Cen	Principal Consultant	
Authoriser:	Shawn Cen	Principal Consultant	

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## Appendices

Appendix A     Detailed SIDRA outputs

## Executive Summary

ADW Johnson has engaged SCT consulting on behalf of Land and Housing Corporation to conduct a traffic impact assessment for a proposed subdivision for 102 lots, yielding an estimated 123 new dwellings, subject to future consent, located between Watson Close, Farnell Street, York Street and Dawson Street in the town of Forbes within the Central West region of New South Wales.

The population of the Forbes Shire area is projected to increase by 34 per cent by 2041. This will increase demand for current infrastructure. The provision of well-positioned, diverse housing is considered a key outcome of the strategy to meet community needs. The Forbes Housing Strategy sets a vision for approximately 238 hectares of zoned, serviceable residential land to accommodate expected housing demand in the Forbes Shire. 10 new precincts are identified as being suitable to accommodate future urban growth. The subdivision comprises the land partly within Precinct No. 4, which is expected to be fully released by 2026.

Farnell Street and York Street are the two local roads that run in a north-south direction. They both intersect with The Bogan Way to the south, which is a regional road that extends to Forbes town centre. Both local roads have a sign posted speed limit of 50km/h and are two-lane roads with one lane in each direction of travel. The carriageway widths are approximately 10-11m.

Cycling facilities are generally limited within Forbes, with no continuous cycle links from the site or surrounding residential areas to the Forbes town centre. Footpaths and pedestrian infrastructure are limited to segments of local streets in the vicinity of the site. Footpaths do not provide any direct connectivity to the Forbes Town Centre or any local amenities.

Bus routes 586 and 587 are located close to the site and are within walking distance. Service frequencies are generally low across the day with a maximum of three services during the AM period and two during the PM period, with hours of operation confined between 9am and 3pm.

The subdivision is expected to yield an estimated 123 dwellings on 102 lots with a small component of medium-density housing. Dwellings at the site will be the subject of future consents. A total of four internal roads are proposed within the subdivision, which are classified as minor collectors and local roads. The proposed cross-sections within the subdivision satisfy the Forbes Shire Council Development Control Plan, which also provides reserves for footpaths on both sides of the road.

Traffic modelling using SIDRA 9 software was used to assess the impacts of this development on current traffic conditions as well as the impacts as a result of future housing growth in the area predicted by Forbes Shire Council. The intersections of Dawson Street / York Street / Lower Morton Street and Farnell Street / the proposed MC01 road into the development were assessed.

Both intersections performed satisfactorily with minor delays of under 10 seconds during the AM and PM peak hours with the subdivision traffic and background housing growth. The intersections have significant spare capacity.

Therefore, road upgrades required as a result of the development, are those necessary under the Forbes Shire Council Development Control Plan concerning subdivisions, which are planned as part of this Review of Environmental Factors.

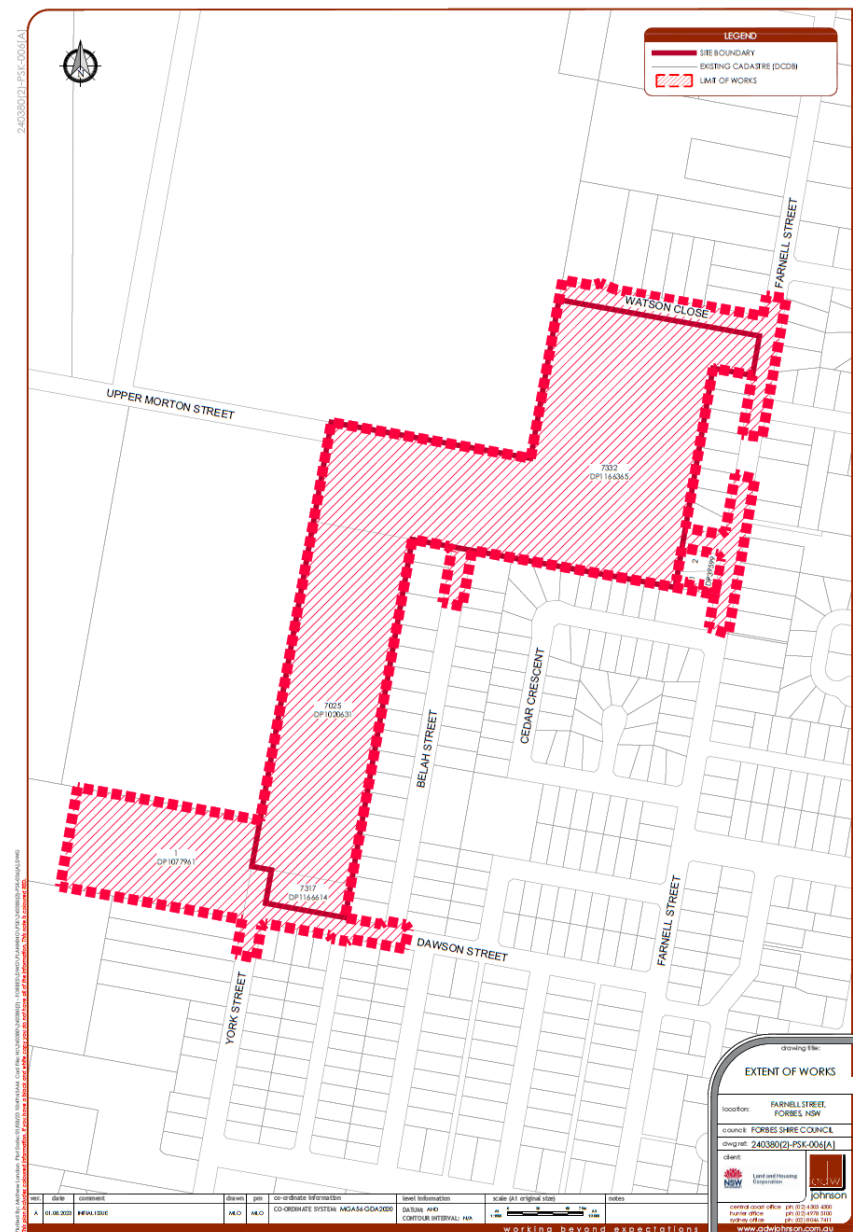
## 1.0 Introduction

### 1.1 Background

ADW Johnson is undertaking a Review of Environmental Factors (REF) for The Land and Housing Corporation for a proposed subdivision in the town of Forbes in the Central West region of New South Wales. The REF is applicable under C2 P2 D6 Residential Development – Aboriginal Housing Office and Land and Housing Corporation of the State Environmental Planning Policy (Housing) 2021.

The study area as part of the proposed subdivision shown in **Figure 1-1** is zoned as R1 – General Residential and occupies an area of approximately 12.3 hectares. An estimated 123 dwellings are anticipated to be accommodated for this subdivision; however, it is acknowledged that the REF is for subdivision only and consent for dwellings will be made as part of subsequent applications.

**Figure 1-1 Current lot boundaries and limit of works for proposed sub-division**



## 1.2 Purpose of this report

SCT Consulting has assessed traffic and transport impacts to support the subdivision as part of the REF process. The report includes the following:

- A review of strategic context
- A review against Forbes Shire Council Development Control Plan (DCP) and transport planning requirements
- Traffic data collection during the two morning peak hours and two afternoon peak hours for the surrounding two intersections
- A summary of existing traffic conditions
- Future vehicle trip generation from the proposed development and distribute the trips to the surrounding road network based on preferred access strategies and travel patterns
- SIDRA intersection modelling for the following scenarios:
  - Base case
  - Base year with the subdivision
  - Base year with the subdivision and future housing release in the surrounding area
- Assessment of impacts on the road, active transport, and public transport network.

## 1.3 Report structure

The report comprises the following sections:

- **Section 2** summarises the strategic context of the region and describes how the development could support the future intents of the region.
- **Section 3** describes the existing transport condition for all modes of transport.
- **Section 4** describes the proposed development, including its access strategy and proposed road network.
- **Section 5** assesses the estimated trips generated, their distribution based on the preferred access strategy, and the likely traffic impacts associated with the additional trips.
- **Section 6** summarises the report and presents the conclusion.

## 2.0 Context

### 2.1 Future Transport Strategy

Future Transport Strategy is a 40-year strategy developed by Transport for NSW (TfNSW) which outlines the directions and principles for mobility and transport investment as a guiding document. Future Transport 2056 builds on the achievements of the Long-Term Transport Master Plan, which has delivered local and international investment in the NSW transport network and placed a focus on customer-oriented planning.

The strategy covers three aspects of vision, which are replicated in **Figure 2-1**.

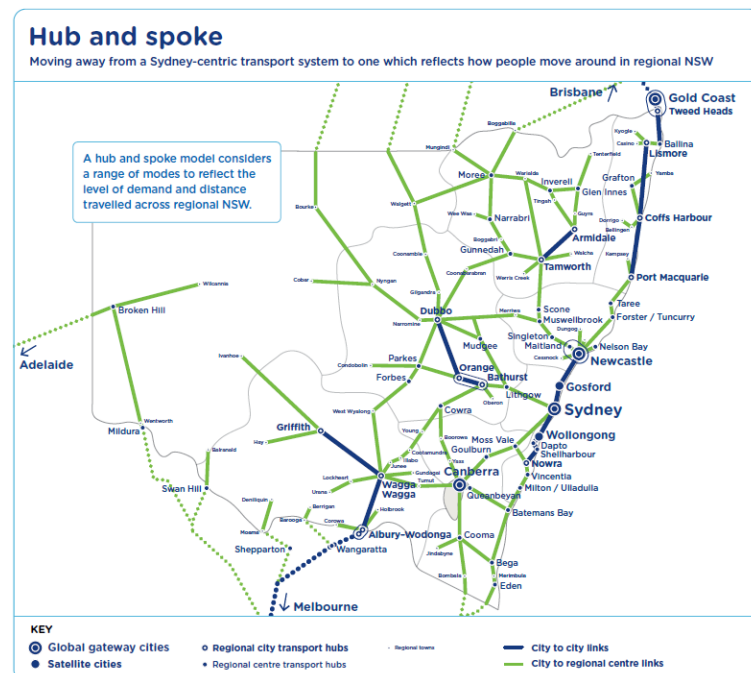
**Figure 2-1 Future Transport Strategy vision elements**



Source: TfNSW, 2018

The intended network functionality is explained in **Figure 2-2**. The concept is that there are key city to city links and city to regional centre links, which provide a lower order of connectivity. The plan puts forward a centre hierarchy with global gateway cities -Gold Coast, Newcastle, Sydney, and Canberra.

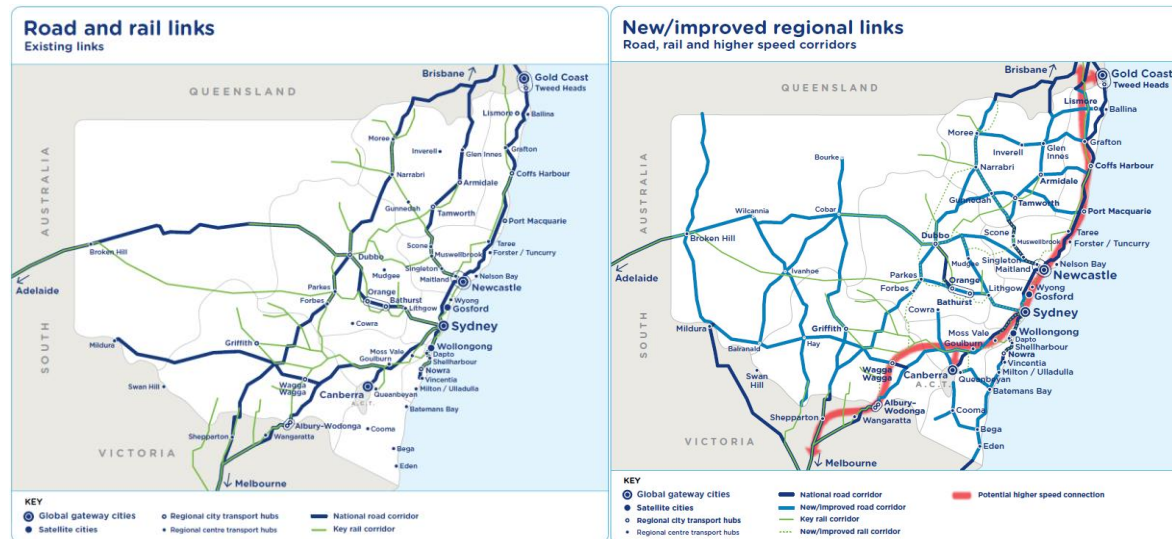
**Figure 2-2 Hub and spoke networking in Regional NSW**



Source: Transport for NSW, 2018

Sydney is connected to the broader transport landscape of regional NSW as shown in **Figure 2-3**. The left side of the figure shows the existing links and the right side shows the future links.

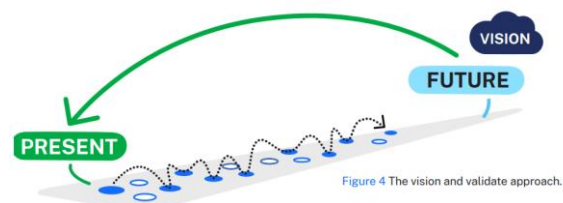
**Figure 2-3 Regional NSW strategic transport corridors**



Source: Transport for New South Wales, 2018

The strategy takes a vision and validate approach (**Figure 2-4**), which is about determining the desired end state and developing a plan to achieve the vision rather than taking predict and provide planning (which takes a forecast of the future as the end state objective).

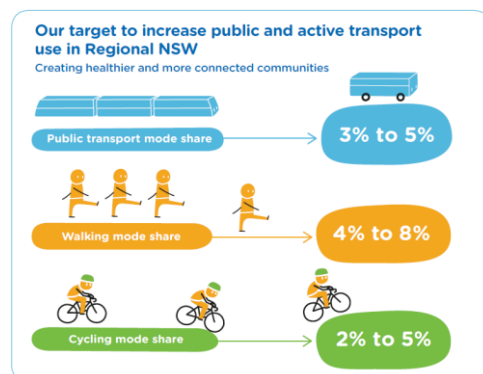
**Figure 2-4 Vision and validate methodology**



Source: Transport for NSW, 2022

The plan sets bold targets for walking, cycling and public transport (**Figure 2-5**).

**Figure 2-5 Targets for walking, cycling and public transport**



Source: Transport for NSW, 2018

**Implications for this site:** Future Transport outlines a visionary approach to planning, which incorporates not only connectivity objectives but also placemaking objectives. This site needs to consider the broader context that it sits in as part of the planning.

## 2.2 Forbes Housing Strategy 2021-2041

The population of the Forbes Shire area is projected to increase by 34 per cent by 2041. This will inevitably put pressure on the current infrastructure. Based on the current rate of housing supply of new housing, the Forbes residential market is not keeping up with housing demands. The provision of well-positioned, diverse housing is considered a key outcome of the strategy to meet community needs. The Strategy outlines that this is to be achieved through setting a strategic direction for housing policy to better inform land use zoning and other planning controls. An implied demand for 1,819 new dwellings within Forbes, from 4,063 in 2021 to 5,624 in 2041 is expected (based on NSW Department of Planning and Environment's methodology that takes account of projected household size and structures). The analysis confirms that this Strategy should seek to deliver approximately 238 hectares of zoned, serviceable residential land to accommodate expected housing demand in the Forbes Shire.

Affordable housing in Forbes is identified as a key issue. If supply cannot keep pace house and rental prices increase, which drives up housing and rental stress, those most likely to be affected are young adults who are studying or doing an apprenticeship, low-income family households, retirees and those with accessibility needs. The availability of affordable housing is noted in the strategy as impacting the urban form and social cohesiveness of a place, with residents being displaced to more marginalised towns where they may be unable to access jobs and other key services.

Local housing strategy measures can contribute to relieving housing stress and improving housing affordability. It is essential that planning policy also focuses on improving supply-side efficiencies, along all facets of the housing production pipeline, from rezoning, servicing and construction of individual houses. The strategy outlines the following recommendations:

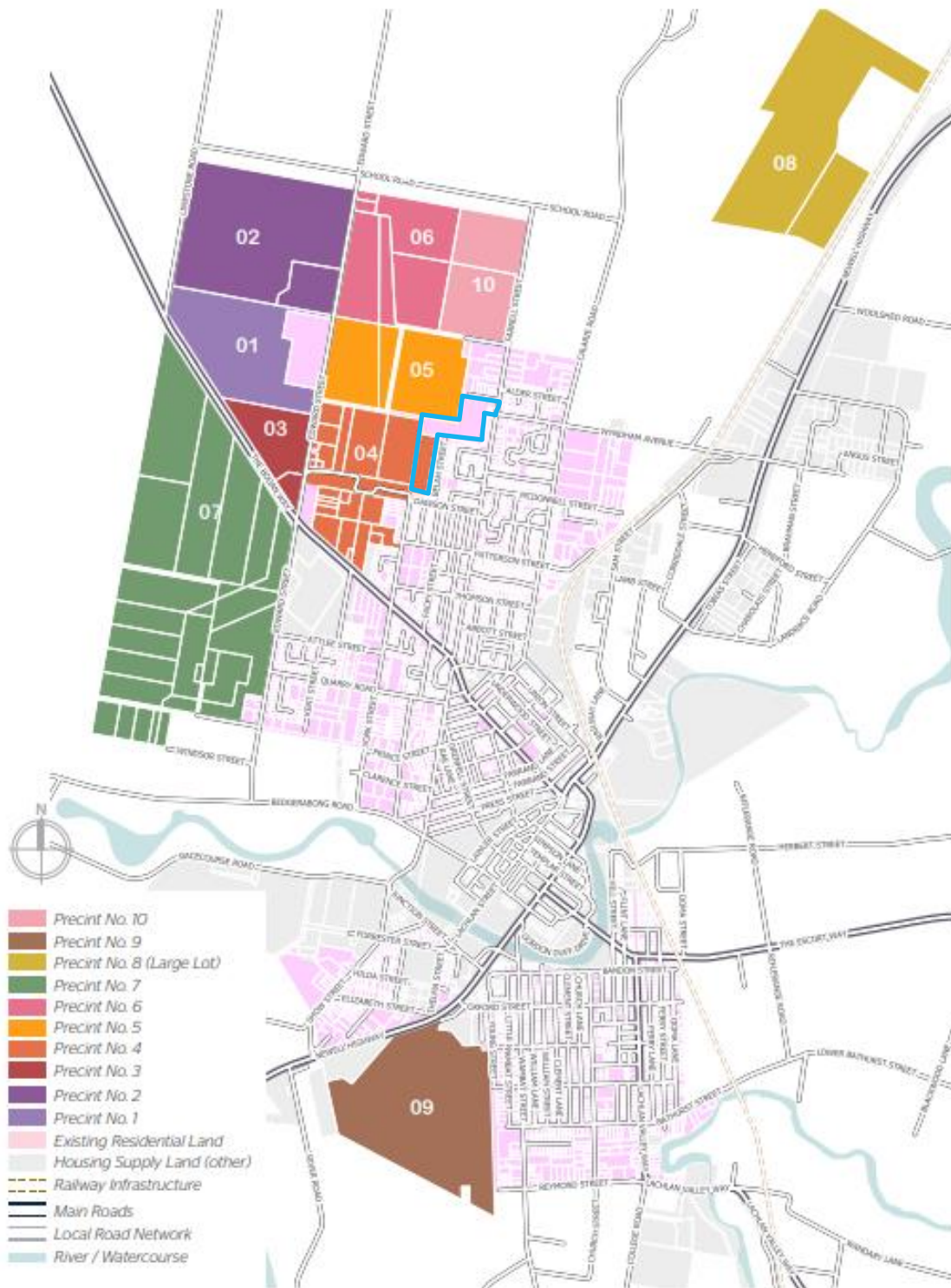
- Update LEP / DCP to achieve the following:
  - Smaller lot sizes for more compact housing
  - Wider availability of different types of housing
  - A component of affordable rental housing in new developments/housing estates
  - incentives for housing types, where there are identified gaps in the market.
- Identify suitable strategic development sites for affordable housing projects that may be progressed by government and community housing providers
- Partner with the Land and Housing Corporation (LAHC) to develop a memorandum of understanding on the delivery of public housing options
- Allow for re-development / subdivision of existing large residential lots for infill development of dual occupancies to provide opportunities for additional housing close to the Forbes Town Centre and Lake Foreshore and more compact housing that is currently not available in Forbes
- Remove 'urban release' areas from the Forbes Local Environmental Plan to concentrate resources on inner-urban land releases
- Identify sites for the redevelopment of higher-density living, with attributes for strong urban form, improved liveability and easy access to the Forbes Town Centre and Lake Foreshore. Create a development control framework for the land that encourages high-quality planning outcomes for medium to high-density housing forms.

Currently, 77.8 per cent of the population in Forbes Shire use private vehicles (car and truck) for trips to work, with 11 per cent using public transport and 10 per cent using active transport. Urban form in Forbes Shire is predominantly characterised by low density and dispersed residential and rural-residential living, which has led to a reliance on the private car as the primary means of transport. The strategy recognises the need for more user-friendly pedestrian and cycling facilities in Forbes to connect neighbourhoods to the Forbes Town Centre, Lake Foreshore and Lachlan River, as well as other attractors such as schools, sportsgrounds and high attractor facilities.

Sites to accommodate urban growth have been identified within the strategy. These include existing zoned residential land and agricultural land, the latter subject to future demand. 10 new precincts are identified as being suitable to accommodate future urban growth. These are shown in **Figure 2-6** in relation to the proposed development. These new precincts will form part of four land parcels staged for scheduled release as shown in **Table 2-1** and **Figure 2-7**.

**Implications for this site:** The Forbes Housing Strategy represents a shift in planning policy, changing the urban form of Forbes to meet future housing needs. Developments such as those proposed align with the strategy by providing higher-density residential housing on an existing vacant lot, with a portion dedicated towards affordable public housing. The need for easy access to Forbes Town Centre and improved liveability through the provision of active and public transport should be considered for future developments.

Figure 2-6 New residential precincts as part of the Forbes Housing Strategy 2023



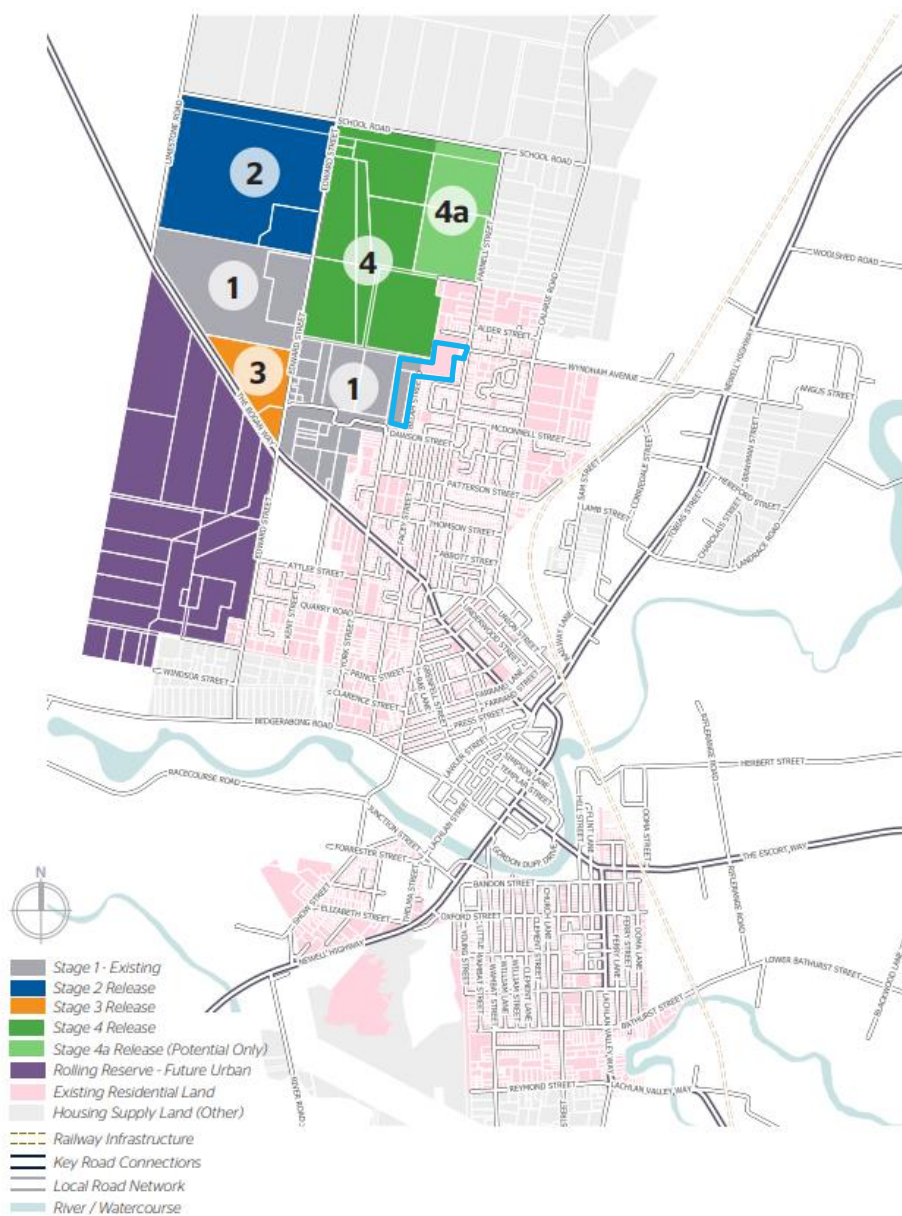
Source: Forbes Shire Council, 2023

Table 2-1 Staged land release dates and dwelling numbers for each stage

Census period	annual dwelling requirement	Total dwelling requirement	Total land requirement	Land release	Land release (area)	Release Schedule
2021-2026	67 <sup>#</sup>	336 <sup>^</sup>	44 ha <sup>*</sup>	Existing (Stage 1)	%	N/A
2026-2031	97 <sup>#</sup>	484 <sup>^</sup>	63 ha <sup>*</sup>	Stage 2	70 ha	Release at 2026
2031-2036	101 <sup>#</sup>	506 <sup>^</sup>	66 ha <sup>*</sup>	Stage 3	16ha	Release at 2031
2036-2041	98 <sup>#</sup>	493 <sup>^</sup>	64 ha <sup>*</sup>	Stage 4	83ha	Release at 2036
2031	-	-	126 ha	RR	126	Release at 2031
<b>Total</b>		<b>1819 <sup>^</sup></b>	<b>237ha <sup>B</sup></b>		<b>246ha <sup>C</sup></b>	

Source: Forbes Shire Council, 2023

Figure 2-7 Land release stages in relation to proposed development site



Source: Forbes Shire Council, 2023

## 3.0 Existing conditions

### 3.1 The site

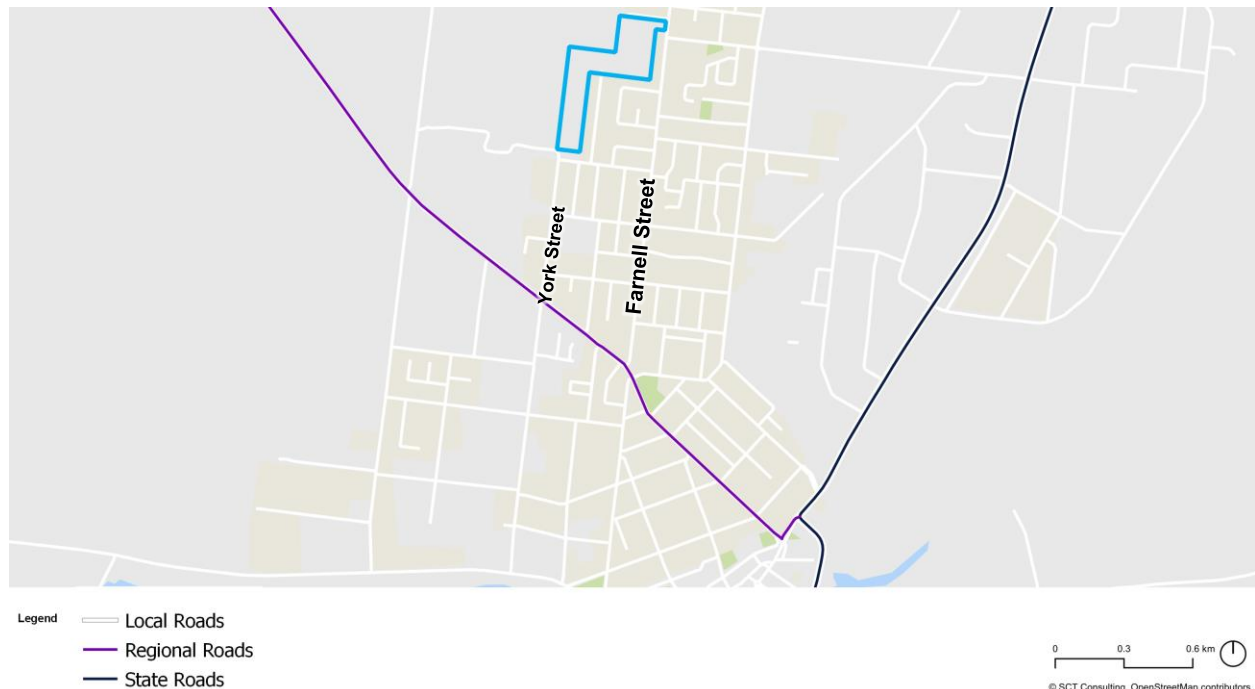
The proposed development site is located in the north of the Forbes township and is bound by Farnell Street to the east, Dawson Street to the south and Watson Close to the north, covering around 12.3 hectares.

### 3.2 Road network

The site is situated north approximately 2.5km from the Forbes Town Centre as shown in **Figure 3-1**. The following are key roads within the vicinity of the site:

- **The Bogan Way** is a regional road that begins within the Forbes town centre at the intersection with the Newell Highway and runs northwest terminating with Henry Parkes Way. It is a major collector road with a posted speed limit of 80km/h west of York Street and 50km/h within the residential areas of Forbes. It is a two-lane road with one lane in each direction of travel and a carriageway width of approximately- 10m.
- **Farnell Street** is a local road that runs along the east side of the site. It is a north-south road that extends from School Road in the north extent of the residential part of Forbes, intersecting with The Bogan Way before becoming Show Street. It has a posted speed limit of 50km/h and is a two-lane road with one lane in each direction of travel. Farnell Street is expected to be a principal road for vehicles travelling south or north from the proposed development to access the wider road network. The carriageway's width is approximately 11m.
- **York Street** is a local road that intersects with the southern boundary of the site. York Street intersects with Dawson Street and extends south for approximately 1.8km, intersecting with The Bogan Way before finishing at Bedgerabong Road. It has a posted speed limit of 50km/h and is a two-lane road with one lane in each direction of travel. The carriageway width is approximately 10m at the southern boundary of the site.

**Figure 3-1 Road hierarchy and key roads in the vicinity of the site**



Source: Transport for New South Wales, 2023

## 3.3 Intersection performance

### 3.3.1 Traffic surveys

Intersection turning counts surveys were taken at the intersection of Dawson Street / York Street / Morton Street and Farnell Street / an unnamed access road as shown in **Figure 3-2**. Turning counts were collected on 20/06/2023

between 8am – 10am and 3pm – 6pm. These are typical periods as they cover the typical morning and evening peaks in most contexts. The date of the survey was during the school term. Intersection turning counts were collected in fifteen-minute intervals with classifications of light vehicles and heavy vehicles.

**Figure 3-2 Intersection survey locations**



Source: Nearmap, 2022

### 3.3.2 Intersection modelling

The intersections were modelled in SIDRA 9.1, which is the most recent version of the software at the time of writing. 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.

### 3.3.3 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 3-1**.

**Table 3-1 Level of Service definitions**

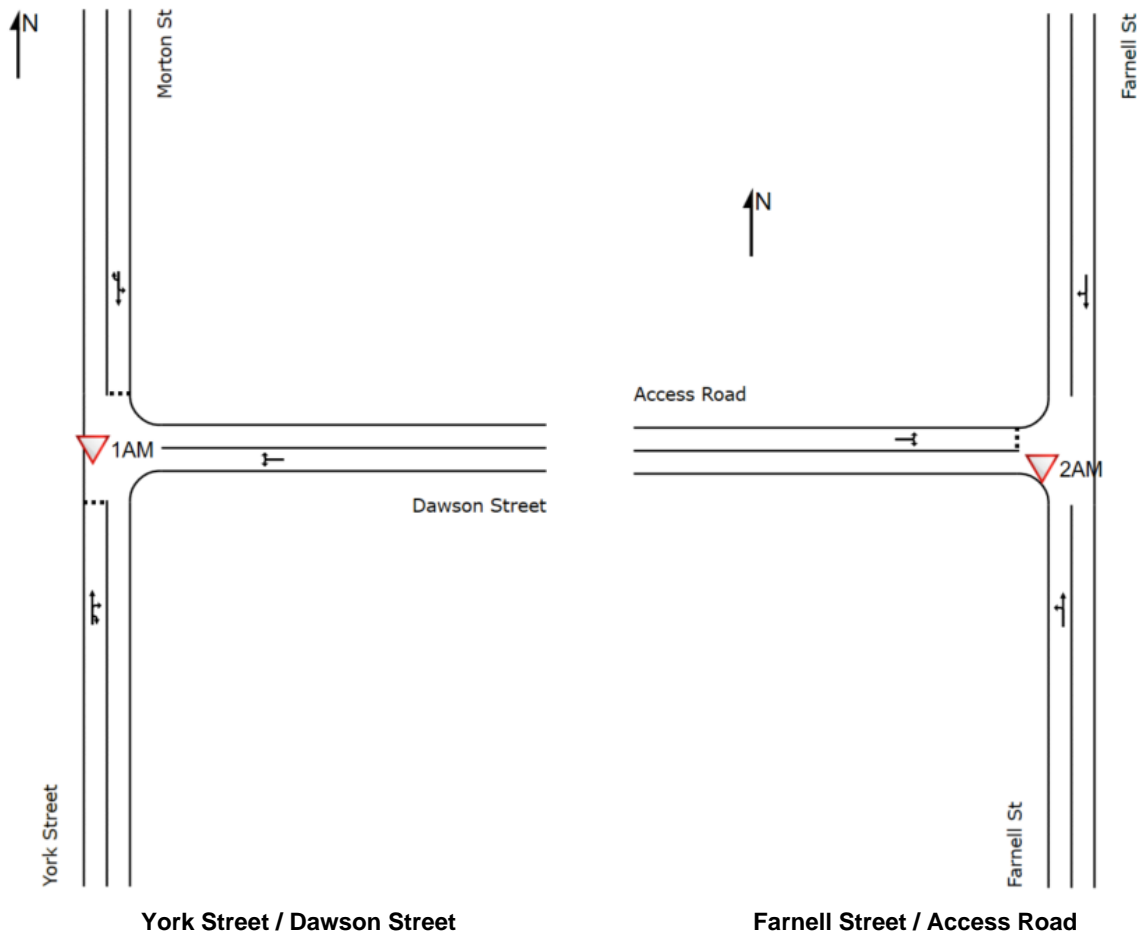
Level of Service (LoS)	Average Delay per Vehicles (sec/h)	Performance explanation
<b>A</b>	Less than 14.5	Good operation
<b>B</b>	14.5 to 28.4	Good with acceptable delays and spare capacity
<b>C</b>	28.5 to 42.4	Satisfactory
<b>D</b>	42.5 to 56.4	Operating near capacity
<b>E</b>	56.5 to 70.4	At capacity,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

Source: Roads and Maritime Services, 2002

Intersection Degree of Saturation (DoS) is another metric to measure the performance of isolated intersections and approaches. DS 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. The Traffic Modelling Guidelines identified an upper limit of 0.9 for signalised intersections.

Traffic modelling was undertaken using SIDRA 9.1 for the intersection of Dawson Street / York Street / Lower Morton Street and Farnell Street / the unnamed access road using the traffic volumes collected on 20/06/2023. The current intersection geometry and configuration were used for base year and future year analysis (**Figure 3-3**). Base year results are shown in **Table 3-2**.

**Figure 3-3 SIDRA 9.1 Base year layout**



**Table 3-2 Base year AM and PM intersection performance**

Intersection	AM peak				PM peak			
	Volume	Delay	DoS	LoS	Volume	Delay	DoS	LoS
<b>Base case</b>								
Dawson Street / York Street / Lower Morton Street	32	5.8s	0.01	A	35	5.8s	0.02	A
Farnell Street / access road	132	4.7s	0.04	A	134	4.7s	0.04	A

Both Intersections are performing at a Level of Service A with negligible delay and low peak traffic volumes. Degree of Saturation is low indicating the road network has spare capacity to accommodate additional traffic.

### 3.4 Walking and cycling infrastructure

The cycling infrastructure around the site is shown in **Figure 3-4**. Cycling facilities are generally limited within Forbes, with no continuous cycle links from the site or surrounding residential areas to the Forbes town centre. In the vicinity of the site, cycling is on quieter local roads, with the dedicated cycling infrastructure concentrated around the town centre and along the Lake Forbes foreshore.

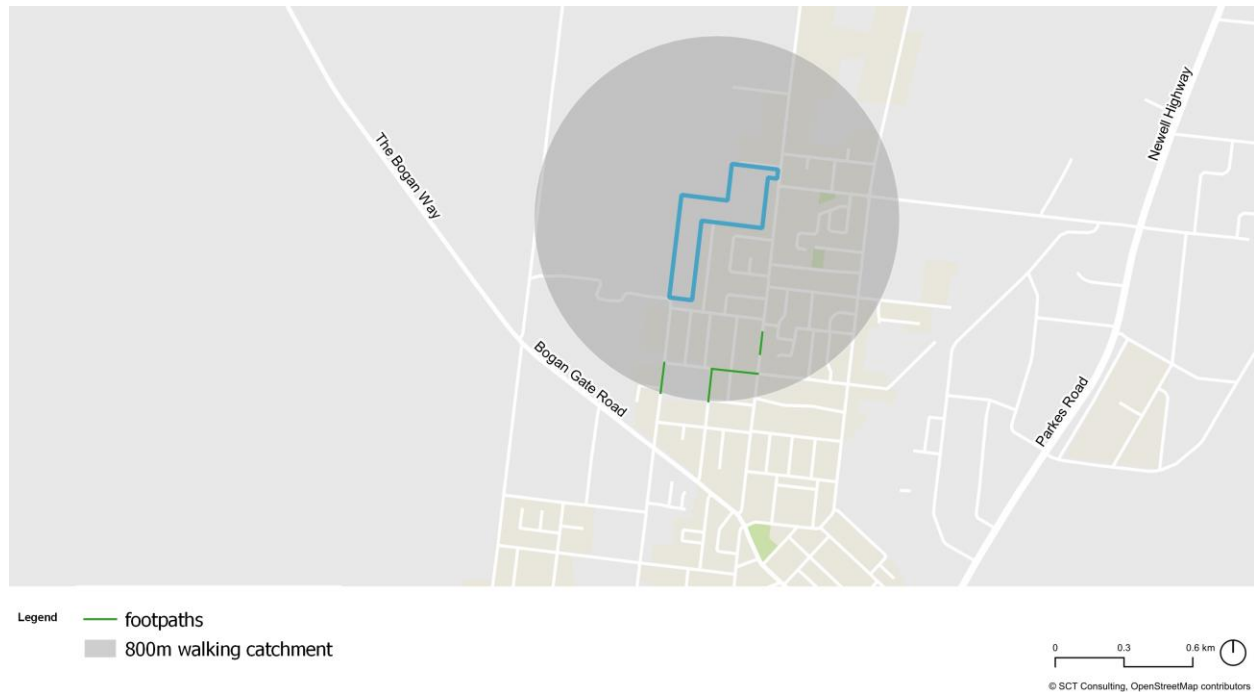
**Figure 3-4 Cycling Infrastructure in the vicinity of the site**



Source: SCT Consulting and Transport for New South Wales, 2023

Footpaths and pedestrian infrastructure within an 800m radial catchment of the site are shown in **Figure 3-5**. It is limited to segments of local streets in the vicinity of the site. Footpaths do not provide any direct connectivity to the Forbes Town Centre or any local amenities.

**Figure 3-5 Footpaths within an 800m radial walking catchment of the proposed site**

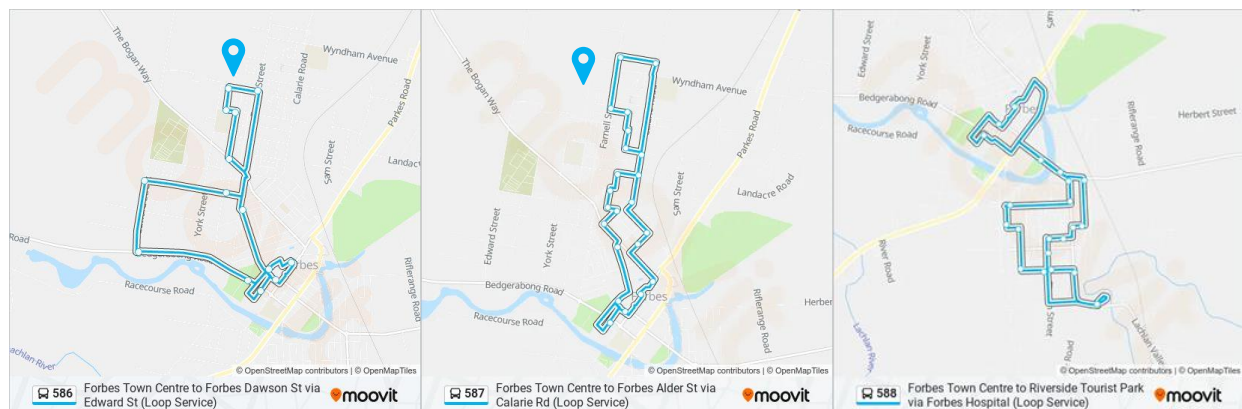


Source: SCT Consulting and Nearmap, 2022

### 3.5 Public Transport

Three public bus services operate around Forbes: Routes 586, 587 and 588 services. Routes 586 and 587 are located close to the site and are within walking distance. Each bus route and its proximity to the site are shown in **Figure 3-6**. Service frequencies are generally low across the day with a maximum of three services during the AM period and two during the PM period, with hours of operation confined between 9am and 3pm.

**Figure 3-6 Bus routes within Forbes and in the vicinity of the site**



Source: Moovit, 2023



**Table 4-1 Cross sections for various road types under the road hierarchy**

Traffic volume (AADT)	Servicing No. of Lots	Hierarchy	Required reserve width (Min)	Vehicle pavement width (m)	Footpath width (m)	Design speed (km/h)
0-80	0-8	Minor cul-de-sac	17m	8	4.5	40
80-300	8-30	Cul-de-sac	18m	9	4.5	60
<b>300-800</b>	<b>30-80</b>	<b>Local road</b>	<b>18m</b>	<b>9</b>	<b>4.5</b>	<b>60</b>
<b>800-1,500</b>	<b>80-150</b>	<b>Minor collector</b>	<b>20m</b>	<b>11</b>	<b>4.5</b>	<b>60</b>
1,500-5,000	>150	Major collector	22m	13	4.5	70
>5,000	>5,000	Distributor	22m	13	4.5	70

Source: Forbes Shire DCP, 2013

**Table 4-2** summarises the road widths proposed under this subdivision.

**Table 4-2 Road requirements and widths**

Road	Proposed hierarchy	Required vehicle pavement width (kerb – kerb)	Provided vehicle pavement width (kerb – kerb)	Required reserve width	Provided reserve width
MC01 Road	Minor collector	11m	12m	20m	21m
MC02 Road	Minor collector	11m	12m	20m	21m
MC03 Road	Local road	9m	9m	18m	18m
MC04 Road	Local road	9m	9m	18m	18m

Source: Forbes Shire DCP (2013), SCT Consulting, ADW Johnson, 2023

It should be noted that MC01 and MC02 fall below the 80-150 lots for a minor collector road as trips in a wider area are expected to be distributed between them. However, given the expectation of future housing developments adjacent to the proposed site, larger road reserves and pavement are prudent for ensuring adequate road infrastructure for future growth in vehicle traffic.

Neither MC03 nor MC04 is a cul-de-sac. Hence, they fall below the 30-80 lots for a local road.

Therefore, the proposed road cross-sections are considered reasonable and comply with the DCP.

## 5.0 Impact assessment

### 5.1 Road network

#### 5.1.1 Traffic generation

The *Guide to Traffic Generating Developments* (GTGD) was used to inform traffic generation for the proposed development. The rate for low-density 'dwelling houses' was adopted, despite the mix of housing typologies on the site as the low-density traffic generation rates are highest in the residential category.

Table 5-1 Development traffic generation

Yield	Traffic generation rate		Total traffic	
	Day	Peak hours (both)	Day	Peak hours (both)
123 dwellings	9.0 veh/ dwg	0.85 veh/dwg	1,107 veh / day	105 veh / h

#### 5.1.2 Modelling scenarios

The following scenarios were tested:

- **Future base with development traffic:** uses existing vehicle volumes collected from the traffic surveys and the subject subdivision traffic distributed on the road network (assuming no background traffic growth on local roads).
- **Future 2041 with full Forbes Housing Strategy land release and development traffic:** This scenario builds on the *future base with development traffic* adding the expected vehicle volumes from the future dwellings released as part of the Forbes Housing Strategy. This scenario considers the full traffic from the staged land releases adjacent to the proposed development that would likely have similar trip distributions and impact the road network in the vicinity of the site.

The year 2041 is considered appropriate as it is the end-state scenario, which allows for full land release and completion of the proposed 1,819 dwellings under the Forbes Housing Strategy.

#### 5.1.3 Traffic modelling assumptions

Assumptions used as part of this assessment are outlined as follows:

- A 90%:10% inbound and outbound directional split was used for the AM peak period. This was reversed for the PM peak.
- 2021 Journey to Work Data collected by the Australian Bureau of Statistics was to inform trip distribution from the site. An 11% north, 87% south, 1% east and 1% west was adopted for the two intersections analysed.
- The existing access road at the intersection with Farnell Street is expected to coincide with MC01 Road from **Figure 4-1**.

### 5.1.4 Intersection modelling results

Modelling results from the two scenarios tested are presented in **Table 5-2**.

**Table 5-2 Intersection performance results**

Intersection	AM peak				PM peak			
	Vol	Delay	DoS	LoS	Vol	Delay	DoS	LoS
<b>Base case + subdivision</b>								
Dawson Street / York Street / Lower Morton Street	80	5.9s	0.03	A	83	6.4s	0.03	A
Farnell Street / access road	190	4.8s	0.04	A	192	5.3s	0.06	A
<b>Base case + subdivision + 2041 Forbes Housing Strategy growth</b>								
Dawson Street / York Street / Lower Morton Street	140	6.5s	0.06	A	143	8.3s	0.06	A
Farnell Street / access road	263	4.8s	0.08	A	265	5.7s	0.09	A

During both peak hours, the intersection performance remains at LoS A for the two intersections with limited increases in delay and degree of saturation. This indicates that the proposed development coupled with expected future traffic growth as a result of housing expansion within Forbes will have negligible impacts on traffic performance at the intersections analysed.

## 5.2 Walking and cycling

All of the roads examined in **Section 4.2** have appropriate dimensioning to comply with Forbes Shire DCP footpath width requirements. It should be noted that given the limited pedestrian and cycling infrastructure outside of the Forbes town centre, mode share is unlikely to shift unless wider upgrades are carried out. This is relevant for future housing projects if Forbes Shire wishes to align with the Forbes Housing Strategy.

## 5.3 Public transport

The site is within a walkable distance of the bus stops on Dawson Street and Farnell Street for Routes 586 and 587 bus routes, providing access to the Forbes town centre and lake foreshore for future residents.

## 6.0 Conclusion

The proposal is for subdivision north of Forbes town centre with dwellings to be subject of future assessment and consent. This traffic impact assessment confirms:

- The proposed cross-sections within the subdivision satisfy Forbes Shire Council Development Control Plan
- The intersections that will be used primarily for site ingress and egress, Dawson Street / York Street / Lower Morton Street and Farnell Street / MC01 road would perform satisfactorily with the additional traffic generated from the development as well as with the expected housing growth from the Forbes Housing Strategy.
- No further infrastructure upgrade would be required as a result of this proposal.
- The proposed cross section will accommodate footpaths on both sides of the road for future walking facilities.

APPENDIX A

# DETAILED SIDRA OUTPUTS

# MOVEMENT SUMMARY

▼ Site: 1AM [DAW\_YOR\_23\_BY\_AM (Site Folder: 2023 Base)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of	Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%				[ Veh. veh	Dist ] m				
South: York Street															
2	T1	All MCs	2	0.0	2	0.0	0.010	3.2	LOS A	0.0	0.2	0.03	0.54	0.03	45.1
3	R2	All MCs	13	0.0	13	0.0	0.010	4.6	LOS A	0.0	0.2	0.03	0.54	0.03	43.6
3u	U	All MCs	1	0.0	1	0.0	0.010	5.8	LOS A	0.0	0.2	0.03	0.54	0.03	41.7
Approach			16	0.0	16	0.0	0.010	4.5	LOS A	0.0	0.2	0.03	0.54	0.03	43.7
East: Dawson Street															
4	L2	All MCs	12	9.1	12	9.1	0.007	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	43.8
6	R2	All MCs	1	0.0	1	0.0	0.007	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	45.3
Approach			13	8.3	13	8.3	0.007	4.6	NA	0.0	0.0	0.00	0.53	0.00	43.9
North: Morton St															
7	L2	All MCs	3	0.0	3	0.0	0.003	4.6	LOS A	0.0	0.1	0.02	0.53	0.02	45.5
8	T1	All MCs	1	0.0	1	0.0	0.003	3.2	LOS A	0.0	0.1	0.02	0.53	0.02	45.0
9u	U	All MCs	1	0.0	1	0.0	0.003	5.8	LOS A	0.0	0.1	0.02	0.53	0.02	45.6
Approach			5	0.0	5	0.0	0.003	4.5	LOS A	0.0	0.1	0.02	0.53	0.02	45.5
All Vehicles			34	3.1	34	3.1	0.010	4.5	NA	0.0	0.2	0.02	0.54	0.02	44.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

▼ Site: 2AM [FAR\_ACC\_23\_BY\_AM (Site Folder: 2023 Base)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ] veh/h	%	[ Total HV ] veh/h	%				[ Veh. veh	Dist ] m				
South: Farnell St															
1	L2	All MCs	1	0.0	1	0.0	0.032	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	48.0
2	T1	All MCs	57	13.0	57	13.0	0.032	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach			58	12.7	58	12.7	0.032	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
North: Farnell St															
8	T1	All MCs	78	2.7	78	2.7	0.041	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
9	R2	All MCs	1	0.0	1	0.0	0.041	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	48.3
Approach			79	2.7	79	2.7	0.041	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
West: Access Road															
10	L2	All MCs	1	0.0	1	0.0	0.001	4.7	LOS A	0.0	0.0	0.13	0.50	0.13	45.2
12	R2	All MCs	1	0.0	1	0.0	0.001	4.7	LOS A	0.0	0.0	0.13	0.50	0.13	43.2
Approach			2	0.0	2	0.0	0.001	4.7	LOS A	0.0	0.0	0.13	0.50	0.13	44.4
All Vehicles			139	6.8	139	6.8	0.041	0.1	NA	0.0	0.0	0.00	0.02	0.00	49.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: 1PM [DAW\_YOR\_23\_BY\_PM (Site Folder: 2023 Base)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [ Total HV ] veh/h %		Arrival Flows [ Total HV ] veh/h %		Deg. Satn  v/c	Aver. Delay  sec	Level of Service	95% Back Of Queue [ Veh. veh	Dist ] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed  km/h
South: York Street															
2	T1	All MCs	2	0.0	2	0.0	0.016	3.2	LOS A	0.0	0.3	0.03	0.56	0.03	44.8
3	R2	All MCs	15	0.0	15	0.0	0.016	4.6	LOS A	0.0	0.3	0.03	0.56	0.03	43.4
3u	U	All MCs	6	0.0	6	0.0	0.016	5.8	LOS A	0.0	0.3	0.03	0.56	0.03	41.4
Approach			23	0.0	23	0.0	0.016	4.8	LOS A	0.0	0.3	0.03	0.56	0.03	43.1
East: Dawson Street															
4	L2	All MCs	9	0.0	9	0.0	0.006	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	44.0
6	R2	All MCs	1	0.0	1	0.0	0.006	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	45.3
Approach			11	0.0	11	0.0	0.006	4.6	NA	0.0	0.0	0.00	0.53	0.00	44.1
North: Morton St															
7	L2	All MCs	1	0.0	1	0.0	0.002	4.6	LOS A	0.0	0.0	0.02	0.55	0.02	45.5
8	T1	All MCs	1	0.0	1	0.0	0.002	3.2	LOS A	0.0	0.0	0.02	0.55	0.02	45.1
9u	U	All MCs	1	0.0	1	0.0	0.002	5.8	LOS A	0.0	0.0	0.02	0.55	0.02	45.6
Approach			3	0.0	3	0.0	0.002	4.5	LOS A	0.0	0.0	0.02	0.55	0.02	45.4
All Vehicles			37	0.0	37	0.0	0.016	4.7	NA	0.0	0.3	0.02	0.55	0.02	43.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: 2PM [FAR\_ACC\_23\_BY\_PM (Site Folder: 2023 Base)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh ]	[ Dist ] m				km/h
South: Farnell St															
1	L2	All MCs	1	0.0	1	0.0	0.038	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	48.0
2	T1	All MCs	72	1.5	72	1.5	0.038	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach			73	1.4	73	1.4	0.038	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
North: Farnell St															
8	T1	All MCs	64	1.6	64	1.6	0.035	0.0	LOS A	0.0	0.1	0.01	0.02	0.01	49.8
9	R2	All MCs	2	0.0	2	0.0	0.035	4.7	LOS A	0.0	0.1	0.01	0.02	0.01	48.2
Approach			66	1.6	66	1.6	0.035	0.1	NA	0.0	0.1	0.01	0.02	0.01	49.8
West: Access Road															
10	L2	All MCs	1	0.0	1	0.0	0.001	4.7	LOS A	0.0	0.0	0.14	0.50	0.14	45.2
12	R2	All MCs	1	0.0	1	0.0	0.001	4.7	LOS A	0.0	0.0	0.14	0.50	0.14	43.2
Approach			2	0.0	2	0.0	0.001	4.7	LOS A	0.0	0.0	0.14	0.50	0.14	44.3
All Vehicles			141	1.5	141	1.5	0.038	0.2	NA	0.0	0.1	0.01	0.02	0.01	49.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akcelik M3D).

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: 1AM\_23 [DAW\_YOR\_23\_DEV\_AM (Site Folder: 2023 With Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [ Total HV ] veh/h %		Arrival Flows [ Total HV ] veh/h %		Deg. Satn  v/c	Aver. Delay  sec	Level of Service	95% Back Of Queue [ Veh. Dist ] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed  km/h
South: York Street															
2	T1	All MCs	2	0.0	2	0.0	0.011	3.2	LOS A	0.0	0.2	0.06	0.53	0.06	45.0
3	R2	All MCs	13	0.0	13	0.0	0.011	4.6	LOS A	0.0	0.2	0.06	0.53	0.06	43.5
3u	U	All MCs	1	0.0	1	0.0	0.011	5.8	LOS A	0.0	0.2	0.06	0.53	0.06	41.6
Approach			16	0.0	16	0.0	0.011	4.5	LOS A	0.0	0.2	0.06	0.53	0.06	43.7
East: Dawson Street															
4	L2	All MCs	12	9.1	12	9.1	0.010	4.6	LOS A	0.0	0.0	0.00	0.54	0.00	43.8
6	R2	All MCs	6	0.0	6	0.0	0.010	4.6	LOS A	0.0	0.0	0.00	0.54	0.00	45.3
Approach			18	5.9	18	5.9	0.010	4.6	NA	0.0	0.0	0.00	0.54	0.00	44.4
North: Morton St															
7	L2	All MCs	47	0.0	47	0.0	0.028	4.6	LOS A	0.1	0.6	0.04	0.51	0.04	45.5
8	T1	All MCs	2	0.0	2	0.0	0.028	3.3	LOS A	0.1	0.6	0.04	0.51	0.04	45.0
9u	U	All MCs	1	0.0	1	0.0	0.028	5.9	LOS A	0.1	0.6	0.04	0.51	0.04	45.6
Approach			51	0.0	51	0.0	0.028	4.5	LOS A	0.1	0.6	0.04	0.51	0.04	45.4
All Vehicles			84	1.3	84	1.3	0.028	4.6	NA	0.1	0.6	0.04	0.52	0.04	45.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

Site: 2AM\_23 [FAR\_ACC\_23\_DEV\_AM (Site Folder: 2023 With Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [ Total HV ] veh/h %		Arrival Flows [ Total HV ] veh/h %		Deg. Satn  v/c	Aver. Delay  sec	Level of Service	95% Back Of Queue [ Veh. Dist ] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed  km/h
South: Farnell St															
1	L2	All MCs	6	0.0	6	0.0	0.035	4.6	LOS A	0.0	0.0	0.00	0.05	0.00	47.5
2	T1	All MCs	57	13.0	57	13.0	0.035	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	49.5
Approach			63	11.7	63	11.7	0.035	0.5	NA	0.0	0.0	0.00	0.05	0.00	49.3
North: Farnell St															
8	T1	All MCs	78	2.7	78	2.7	0.042	0.0	LOS A	0.0	0.1	0.01	0.02	0.01	49.8
9	R2	All MCs	2	0.0	2	0.0	0.042	4.6	LOS A	0.0	0.1	0.01	0.02	0.01	48.3
Approach			80	2.6	80	2.6	0.042	0.1	NA	0.0	0.1	0.01	0.02	0.01	49.8
West: Access Road															
10	L2	All MCs	12	0.0	12	0.0	0.037	4.7	LOS A	0.1	0.7	0.13	0.53	0.13	45.2
12	R2	All MCs	45	0.0	45	0.0	0.037	4.8	LOS A	0.1	0.7	0.13	0.53	0.13	43.2
Approach			57	0.0	57	0.0	0.037	4.7	LOS A	0.1	0.7	0.13	0.53	0.13	43.7
All Vehicles			200	4.7	200	4.7	0.042	1.5	NA	0.1	0.7	0.04	0.17	0.04	47.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: 1PM\_23 [DAW\_YOR\_23\_DEV\_PM (Site Folder: 2023 With Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [ Total HV ] veh/h %		Arrival Flows [ Total HV ] veh/h %		Deg. Satn  v/c	Aver. Delay  sec	Level of Service	95% Back Of Queue [ Veh. Dist ] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed  km/h
South: York Street															
2	T1	All MCs	3	0.0	3	0.0	0.017	3.2	LOS A	0.0	0.3	0.05	0.55	0.05	44.8
3	R2	All MCs	15	0.0	15	0.0	0.017	4.6	LOS A	0.0	0.3	0.05	0.55	0.05	43.4
3u	U	All MCs	6	0.0	6	0.0	0.017	5.8	LOS A	0.0	0.3	0.05	0.55	0.05	41.4
Approach			24	0.0	24	0.0	0.017	4.7	LOS A	0.0	0.3	0.05	0.55	0.05	43.2
East: Dawson Street															
4	L2	All MCs	9	0.0	9	0.0	0.029	4.6	LOS A	0.0	0.0	0.00	0.55	0.00	43.9
6	R2	All MCs	45	0.0	45	0.0	0.029	4.6	LOS A	0.0	0.0	0.00	0.55	0.00	45.3
Approach			55	0.0	55	0.0	0.029	4.6	NA	0.0	0.0	0.00	0.55	0.00	45.1
North: Morton St															
7	L2	All MCs	6	0.0	6	0.0	0.005	4.6	LOS A	0.0	0.1	0.10	0.51	0.10	45.3
8	T1	All MCs	1	0.0	1	0.0	0.005	3.4	LOS A	0.0	0.1	0.10	0.51	0.10	44.8
9u	U	All MCs	1	0.0	1	0.0	0.005	6.4	LOS A	0.0	0.1	0.10	0.51	0.10	45.4
Approach			8	0.0	8	0.0	0.005	4.6	LOS A	0.0	0.1	0.10	0.51	0.10	45.3
All Vehicles			87	0.0	87	0.0	0.029	4.6	NA	0.0	0.3	0.02	0.55	0.02	44.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

Site: 2PM\_23 [FAR\_ACC\_23\_DEV\_PM (Site Folder: 2023 With Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [ Total HV ] veh/h %		Arrival Flows [ Total HV ] veh/h %		Deg. Satn  v/c	Aver. Delay  sec	Level of Service	95% Back Of Queue [ Veh. Dist ] veh m		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed  km/h
South: Farnell St															
1	L2	All MCs	45	0.0	45	0.0	0.061	4.6	LOS A	0.0	0.0	0.00	0.21	0.00	46.3
2	T1	All MCs	72	1.5	72	1.5	0.061	0.0	LOS A	0.0	0.0	0.00	0.21	0.00	48.4
Approach			117	0.9	117	0.9	0.061	1.8	NA	0.0	0.0	0.00	0.21	0.00	47.6
North: Farnell St															
8	T1	All MCs	64	1.6	64	1.6	0.041	0.0	LOS A	0.1	0.5	0.08	0.12	0.08	49.0
9	R2	All MCs	13	0.0	13	0.0	0.041	5.3	LOS A	0.1	0.5	0.08	0.12	0.08	47.6
Approach			77	1.4	77	1.4	0.041	0.9	NA	0.1	0.5	0.08	0.12	0.08	48.7
West: Access Road															
10	L2	All MCs	2	0.0	2	0.0	0.005	4.7	LOS A	0.0	0.1	0.14	0.52	0.14	45.2
12	R2	All MCs	6	0.0	6	0.0	0.005	4.8	LOS A	0.0	0.1	0.14	0.52	0.14	43.2
Approach			8	0.0	8	0.0	0.005	4.8	LOS A	0.0	0.1	0.14	0.52	0.14	43.8
All Vehicles			202	1.0	202	1.0	0.061	1.6	NA	0.1	0.5	0.04	0.19	0.04	47.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: 1AM\_41 [DAW\_YOR\_41\_DEV\_AM (Site Folder: 2041 With Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ] m				km/h
South: York Street															
2	T1	All MCs	2	0.0	2	0.0	0.011	3.2	LOS A	0.0	0.2	0.08	0.53	0.08	44.9
3	R2	All MCs	13	0.0	13	0.0	0.011	4.7	LOS A	0.0	0.2	0.08	0.53	0.08	43.5
3u	U	All MCs	1	0.0	1	0.0	0.011	5.8	LOS A	0.0	0.2	0.08	0.53	0.08	41.5
Approach			16	0.0	16	0.0	0.011	4.6	LOS A	0.0	0.2	0.08	0.53	0.08	43.6
East: Dawson Street															
4	L2	All MCs	12	9.1	12	9.1	0.013	4.6	LOS A	0.0	0.0	0.00	0.54	0.00	43.7
6	R2	All MCs	13	0.0	13	0.0	0.013	4.6	LOS A	0.0	0.0	0.00	0.54	0.00	45.3
Approach			24	4.3	24	4.3	0.013	4.6	NA	0.0	0.0	0.00	0.54	0.00	44.7
North: Morton St															
7	L2	All MCs	103	0.0	103	0.0	0.058	4.6	LOS A	0.2	1.3	0.05	0.51	0.05	45.4
8	T1	All MCs	3	0.0	3	0.0	0.058	3.6	LOS A	0.2	1.3	0.05	0.51	0.05	44.9
9u	U	All MCs	1	0.0	1	0.0	0.058	6.5	LOS A	0.2	1.3	0.05	0.51	0.05	45.5
Approach			107	0.0	107	0.0	0.058	4.6	LOS A	0.2	1.3	0.05	0.51	0.05	45.4
All Vehicles			147	0.7	147	0.7	0.058	4.6	NA	0.2	1.3	0.05	0.52	0.05	45.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

Site: 2AM\_41 [FAR\_ACC\_41\_DEV\_AM (Site Folder: 2041 With Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ] m				km/h
South: Farnell St															
1	L2	All MCs	13	0.0	13	0.0	0.038	4.6	LOS A	0.0	0.0	0.00	0.10	0.00	47.1
2	T1	All MCs	57	13.0	57	13.0	0.038	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	49.1
Approach			69	10.6	69	10.6	0.038	0.8	NA	0.0	0.0	0.00	0.10	0.00	48.8
North: Farnell St															
8	T1	All MCs	78	2.7	78	2.7	0.043	0.0	LOS A	0.0	0.1	0.02	0.02	0.02	49.8
9	R2	All MCs	3	0.0	3	0.0	0.043	4.7	LOS A	0.0	0.1	0.02	0.02	0.02	48.2
Approach			81	2.6	81	2.6	0.043	0.2	NA	0.0	0.1	0.02	0.02	0.02	49.7
West: Access Road															
10	L2	All MCs	25	0.0	25	0.0	0.082	4.7	LOS A	0.2	1.6	0.14	0.54	0.14	45.2
12	R2	All MCs	101	0.0	101	0.0	0.082	4.8	LOS A	0.2	1.6	0.14	0.54	0.14	43.2
Approach			126	0.0	126	0.0	0.082	4.8	LOS A	0.2	1.6	0.14	0.54	0.14	43.7
All Vehicles			277	3.4	277	3.4	0.082	2.4	NA	0.2	1.6	0.07	0.28	0.07	46.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

Site: 1PM\_41 [DAW\_YOR\_41\_DEV\_PM (Site Folder: 2041 With Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ] m				km/h
South: York Street															
2	T1	All MCs	4	0.0	4	0.0	0.018	3.2	LOS A	0.0	0.3	0.05	0.55	0.05	44.9
3	R2	All MCs	15	0.0	15	0.0	0.018	4.7	LOS A	0.0	0.3	0.05	0.55	0.05	43.4
3u	U	All MCs	6	0.0	6	0.0	0.018	5.8	LOS A	0.0	0.3	0.05	0.55	0.05	41.4
Approach			25	0.0	25	0.0	0.018	4.7	LOS A	0.0	0.3	0.05	0.55	0.05	43.3
East: Dawson Street															
4	L2	All MCs	9	0.0	9	0.0	0.060	4.6	LOS A	0.0	0.0	0.00	0.56	0.00	43.9
6	R2	All MCs	101	0.0	101	0.0	0.060	4.6	LOS A	0.0	0.0	0.00	0.56	0.00	45.3
Approach			111	0.0	111	0.0	0.060	4.6	NA	0.0	0.0	0.00	0.56	0.00	45.2
North: Morton St															
7	L2	All MCs	13	0.0	13	0.0	0.008	4.6	LOS A	0.0	0.2	0.16	0.50	0.16	45.2
8	T1	All MCs	1	0.0	1	0.0	0.008	4.0	LOS A	0.0	0.2	0.16	0.50	0.16	44.6
9u	U	All MCs	1	0.0	1	0.0	0.008	8.3	LOS A	0.0	0.2	0.16	0.50	0.16	45.3
Approach			15	0.0	15	0.0	0.008	4.8	LOS A	0.0	0.2	0.16	0.50	0.16	45.1
All Vehicles			151	0.0	151	0.0	0.060	4.6	NA	0.0	0.3	0.02	0.55	0.02	45.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

# MOVEMENT SUMMARY

Site: 2PM\_41 [FAR\_ACC\_41\_DEV\_PM (Site Folder: 2041 With Development)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

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

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%	v/c	sec		[ Veh. veh	Dist ] m				km/h
South: Farnell St															
1	L2	All MCs	101	0.0	101	0.0	0.091	4.6	LOS A	0.0	0.0	0.00	0.32	0.00	45.5
2	T1	All MCs	72	1.5	72	1.5	0.091	0.0	LOS A	0.0	0.0	0.00	0.32	0.00	47.6
Approach			173	0.6	173	0.6	0.091	2.7	NA	0.0	0.0	0.00	0.32	0.00	46.4
North: Farnell St															
8	T1	All MCs	64	1.6	64	1.6	0.051	0.0	LOS A	0.2	1.1	0.17	0.21	0.17	48.2
9	R2	All MCs	26	0.0	26	0.0	0.051	5.7	LOS A	0.2	1.1	0.17	0.21	0.17	47.0
Approach			91	1.2	91	1.2	0.051	1.6	NA	0.2	1.1	0.17	0.21	0.17	47.8
West: Access Road															
10	L2	All MCs	3	0.0	3	0.0	0.011	4.7	LOS A	0.0	0.2	0.16	0.53	0.16	45.2
12	R2	All MCs	13	0.0	13	0.0	0.011	4.8	LOS A	0.0	0.2	0.16	0.53	0.16	43.1
Approach			16	0.0	16	0.0	0.011	4.8	LOS A	0.0	0.2	0.16	0.53	0.16	43.6
All Vehicles			279	0.8	279	0.8	0.091	2.5	NA	0.2	1.1	0.06	0.29	0.06	46.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

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

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.



Thoughtful Transport Solutions

Suite 4.03, Level 4, 157 Walker Street, North Sydney NSW 2060  
[sctconsulting.com.au](http://sctconsulting.com.au)