Bonds Spinning Mills
Pendle Hill
Traffic and Transport Report

transportation planning, design and delivery

13S1210100 30/04/14

GTAconsultants

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Pendle Hill

Traffic and Transport Report

Issue: E 30/04/14

Client: Dyldam Development Pty Ltd
Reference: 13S1210100
GTA Consultants Office: NSW

Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
A	13/12/12	Final	Sarah Court	Ken Hollyoak	Ken Hollyoak	Ken Hollyoak
B	22/05/13	Revised Final	Jason Rudd	Ken Hollyoak	Ken Hollyoak	Ken Hollyoak
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D	11/04/14	Incorporating Council and RMS comments	Ashish Modessa	Wayne Johnson	Ken Hollyoak	Ken Hollyoak
E	30/04/14	Amended Car Parking Provisions	Ashish Modessa	Wayne Johnson	Ken Hollyoak	

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1. Introduction

1.1 Background

Dyldam Development Pty Ltd is currently investigating the redevelopment of the Bonds Spinning Mills in Pendle Hill to incorporate approximately 1,600 new dwellings and 6,000m^2 of retail, including an approximately 4,000m^2 supermarket. The final dwelling numbers/mix as well as the retail floor areas would be confirmed at a later stage.

The site is located close to public transport and is within easy walking and/or cycling distance of key destinations such as Pendle Hill Station, Westmead Hospital precinct and the Parramatta CBD. Such a location provides an opportunity to create a sustainable urban neighbourhood which promotes and encourages sustainable transport, and provides a catalyst for urban renewal and revitalisation in and around the Pendle Hill area.

GTA Consultants was commissioned by CBRE to undertake a transport impact assessment for the proposed development. This report has also taken into account comments from the City of Holroyd Council meeting in October 2013.

1.2 Purpose of this Report

This report sets out an assessment of the anticipated transport implications of the proposed development, including consideration of the following:

i existing traffic and parking conditions surrounding the site;
ii existing pedestrian, bicycle and public transport facilities and accessibility;
iii pedestrian, bicycle & public transport needs, in particular with regard to site layout;
iv service vehicle requirements;
v the traffic generating characteristics of the proposed development;
vi suitability of the proposed access arrangements for the site; and
vii the transport impact of the development proposal on the surrounding road network.

1.3 References

In preparing this report, reference has been made to the following:

- an inspection of the site and its surrounds;
- City of Holroyd Development Control Plan (DCP) and Local Environment Plan (LEP);
- Australian Standard/ New Zealand Standard, Parking Facilities, Part 1: Off-Street Car Parking AS/NZS 2890.1:2004;
- Australian Standard, Parking Facilities, Part 2: Off-Street Commercial Vehicle Facilities AS 2890.2:2002;
- Australian Standard / New Zealand Standard, Parking Facilities, Part 6: Off-Street Parking for People with Disabilities AS/NZS 2890.6:2009;
- City of Holroyd – Ordinary Council Meeting 29 October 2013 at 6:30pm;
- traffic and car parking surveys undertaken by Colston Budd Hunt & Kafes as referenced in *Transport Report for Proposed Mixed Use Residential Development, Pendle Hill*, dated July 2012;
- traffic surveys undertaken by Skyhigh Traffic Data in March 2014;
- correspondence relating to proposed development configuration; and
- other documents and data as referenced in this report.

2. Existing Conditions

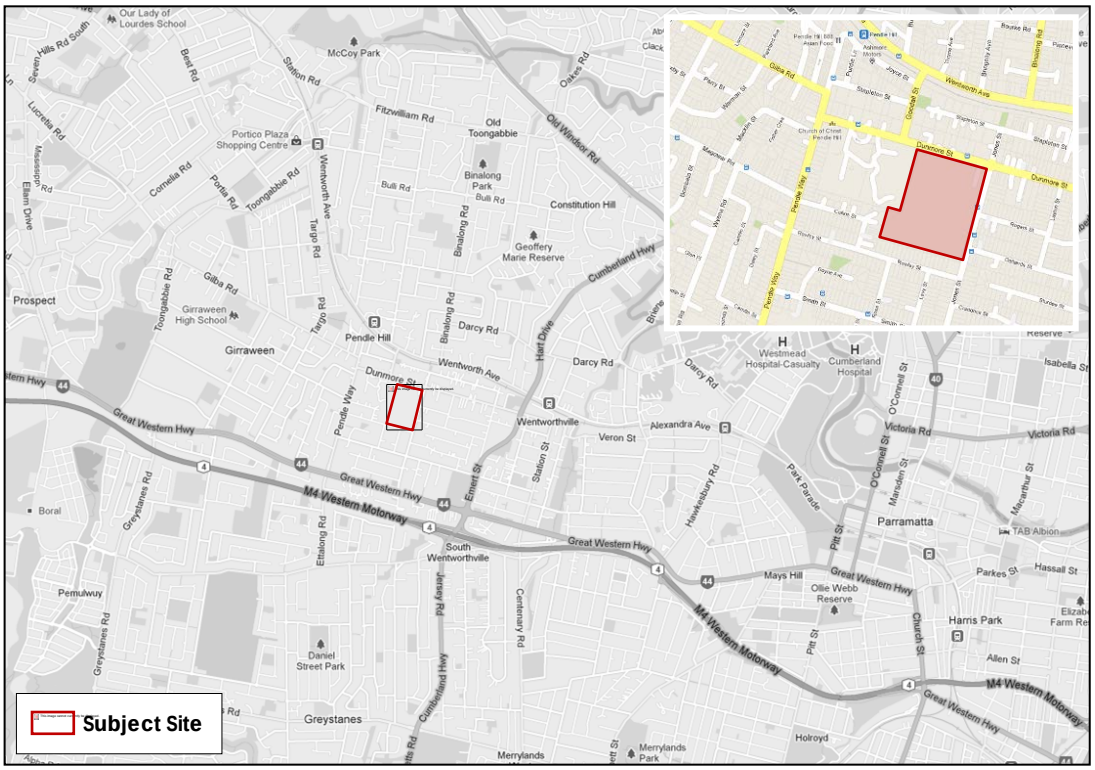
The subject site is located at 190-192 Dunmore Street, Pendle Hill. The site has frontage to Dunmore Street (~230m) and Jones Street (~320m), and comprises 8 hectares with approximately 47,000m^2 of existing industrial/warehouse development.

The site currently has a land use classification as Light Industrial and is occupied by the Pacific Brands industrial/ manufacturing facility, administration, storage and distribution operations. Surrounding land use is predominately residential and commercial/ retail, with the Pendle Hill Retirement Village located just west of the site.

Access to the site is currently provided from both Dunmore Street and Jones Street via combined entry/exit driveways.

The location of the subject site and its surrounding environs is shown in Figure 2.1.

Figure 2.1: Subject Site and Its Environs



(Source: Google Maps)

2.1 Road Network

The major road network in the vicinity of the site includes the Great Western Highway and the M4 Western Motorway running east-west to the south of the site and the Cumberland Highway running north-south to the east of the site. These arterial roads connect the site to major destinations including the Sydney CBD, Parramatta and Liverpool.

2.1.1 Adjoining Roads

Dunmore Street

Dunmore Street is a classified Regional Road and in the vicinity of the site is aligned in an east-west direction. It is a two-way road configured with a 4-lane, comprising a traffic lane and a kerbside parking lane in each direction, 12m wide carriageway, set within an approximately 20m wide road reserve.

Kerbside parking is permitted in certain locations, including along the perimeter of the site. Dunmore Street is shown in Figure 2.2 and carries approximately 12,000 vehicles per day[1] (in the vicinity of the site).

Jones Street

Jones Street is a local road and in the vicinity of the site is aligned in a north-south direction. It is a two-way road configured with a 2-lane, 12m wide carriageway, set within an approximately 20m wide road reserve.

Kerbside parking is permitted, subject to time restrictions. Jones Street is shown in Figure 2.3 and carries approximately 5,000 vehicles per day[2] (in the vicinity of the site).

Figure 2.2: Dunmore Street

Figure 2.3: Jones Street

Pendle Way

Pendle Way is a local road and in the vicinity of the site is aligned in a north-south direction. It is a two-way road configured with a 2-lane, 12m wide carriageway, set within an approximately 20m wide road reserve.

Kerbside parking is permitted and is unrestricted. Pendle Way is shown in Figure 2.4 and carries approximately 11,000 vehicles per day[3] (in the vicinity of the site).

Smith Street

Smith Street is a local road and in the vicinity of the site is aligned in an east-west direction. It is a two-way road configured with a 2-lane, 12m wide carriageway, set within an approximately 20m wide road reserve.

Kerbside parking is permitted and is unrestricted. Smith Street is shown in Figure 2.5 and carries approximately 5,500 vehicles per day[4] (in the vicinity of the site).

1 Based on tube count data collected between Jones Street and Goodall Street in March 2014.
2 Based on tube count data collected between Jones Street and Goodall Street in March 2014.
3 Based on the peak hour traffic counts undertaken by Colston Budd Hunt in 2012 (factored for a Thursday PM peak hour) and assuming a peak-to-daily ratio of 10% for local roads.

Figure 2.4: Pendle Way

Figure 2.5: Smith Street

Rogers Street

Rogers Street is a local road and in the vicinity of the site is aligned in an east-west direction. It is a two-way road configured with a 2-lane, 10m wide carriageway, set within a 20m wide road reserve (approximate).

Kerbside parking is permitted and is unrestricted. Rogers Street is shown in Figure 2.1 and carries less than 400 vehicles per day[5].

Oatlands Street

Oatlands Street is a local road and in the vicinity of the site is aligned in an east-west direction. It is a two-way road configured with a 2-lane, 12m wide carriageway, set within a 20m wide road reserve (approximate).

Kerbside parking is permitted and is unrestricted. Oatlands Street is shown in Figure 2.7 and carries less than 600 vehicles per day[6].

Figure 2.6: Rogers Street

Figure 2.7: Oatlands Street

4 Based on the peak hour traffic counts undertaken by Colston Budd Hunt in 2012 (factored for a Thursday PM peak hour) and assuming a peak-to-daily ratio of 10% for local roads.

5 Based on the peak hour traffic counts undertaken by Colston Budd Hunt in 2012 (factored for a Thursday PM peak hour) and assuming a peak-to-daily ratio of 10% for local roads.

6 Based on the peak hour traffic counts undertaken by GTA Consultants in 2012 (factored for a Thursday PM peak hour) and assuming a peak-to-daily ratio of 10% for local roads.

2.1.2 Surrounding Intersections

The following intersections currently exist in the vicinity of the site:

- Dunmore Street/ Jones Street (roundabout)
- Dunmore Street/ Goodall Street (signalised intersection)
- Dunmore Street/ Pendle Way (signalised intersection)
- Jones Street/ Smith Street (roundabout)
- Jones Street/ Rogers Street (unsignalised intersection)
- Jones Street/ Oatlands Street (roundabout).

2.2 Traffic Volumes

As part of a previous planning proposal submission for the subject site, Colston Budd Hunt and Kafes (CBHK) on behalf of Pacific Brands, undertook traffic movement counts on key roads/ intersections in the vicinity of the site during the AM and PM peak period.

GTA Consultants supplemented these counts by undertaking traffic movement counts at the intersection of Jones Street/ Oatlands Street on Tuesday 27 November 2012 during the AM and PM peak hours, determined to be 7.30am-8.30am and 5.00pm to 6.00pm, respectively.

Following comments from City of Holroyd Council and Roads and Maritime Services (RMS), the study intersections were surveyed on Saturday 8th March 2014 during the midday peak hour, determined to be 11:00am-12:00pm.

In addition, classified traffic volumes were collected on Dunmore Street and Jones Street for 7-days starting 5th March 2014 to estimate the change in traffic on a Thursday in 2014 as compared to a Tuesday in 2012. In this way the existing Tuesday counts could be factored to replicate the Thursday conditions required by Council. As a result, all movements along Dunmore Street were increased by 2% and 5% during the weekday AM and PM peak hour periods respectively. Similarly, all movements along Jones Street were reduced by 6% and increased by 10% during the weekday AM and PM peak hour periods respectively.

The estimated Thursday AM and PM peak hour and surveyed Saturday midday traffic volumes are summarised in Figure 2.8, Figure 2.9 and Figure 2.10, respectively.

2.2.1 Historic / Potential Re-Use of Site

In addition to the surveyed intersections, Colston Budd also undertook traffic counts of the number of vehicles entering and exiting the site from Dunmore Street and Jones Street. These counts indicated that the existing facility on the site generated between 50-60 vehicles per hour two-way during the morning and afternoon peak. Historically, the site would have generated significantly more traffic than this. Indeed, the Colston Budd report noted the following:

> *"over recent years, the industrial and manufacturing operations on the site have been scaled down and as a consequence, a number of existing buildings within the site are either vacant or underutilised. At peak operation the site generated significant heavy vehicle movements, including articulated vehicles, and significant on-site employee parking. The site operated 24 hours per day seven days per week and had an employment work force of some 2,000 staff. The site currently has substantial fewer staff, with some 400 people employed on the site".*

With approximately 47,000m^2 of existing industrial/warehouse development spread over 8 hectares, the existing site has significantly higher potential to generate traffic than it currently does. If the existing building footprint on-site was to be used to full capacity (without redevelopment) the site has the potential to generated 565 trips per hour in the peak periods. Given the nature of the use, a significant number of these would presumably be by trucks.

If redeveloped for an industrial or warehousing / distribution use, for which the current zoning allows, it is likely that a developer would increase the floor space ration (FSR) from the current provision, and as such the traffic generated could be much higher than 565 trips per hour.

Based on surrounding development patterns of 0.5:1 for R2 Low Density Residential and 1.2:1 for the R4 High Density Residential, the subject site, if developed for industrial use to an FSR of, say, 0.85:1, could potentially generate around 800 trips per hour.

Figure 2.8: Estimated Existing Thursday AM Traffic Volumes

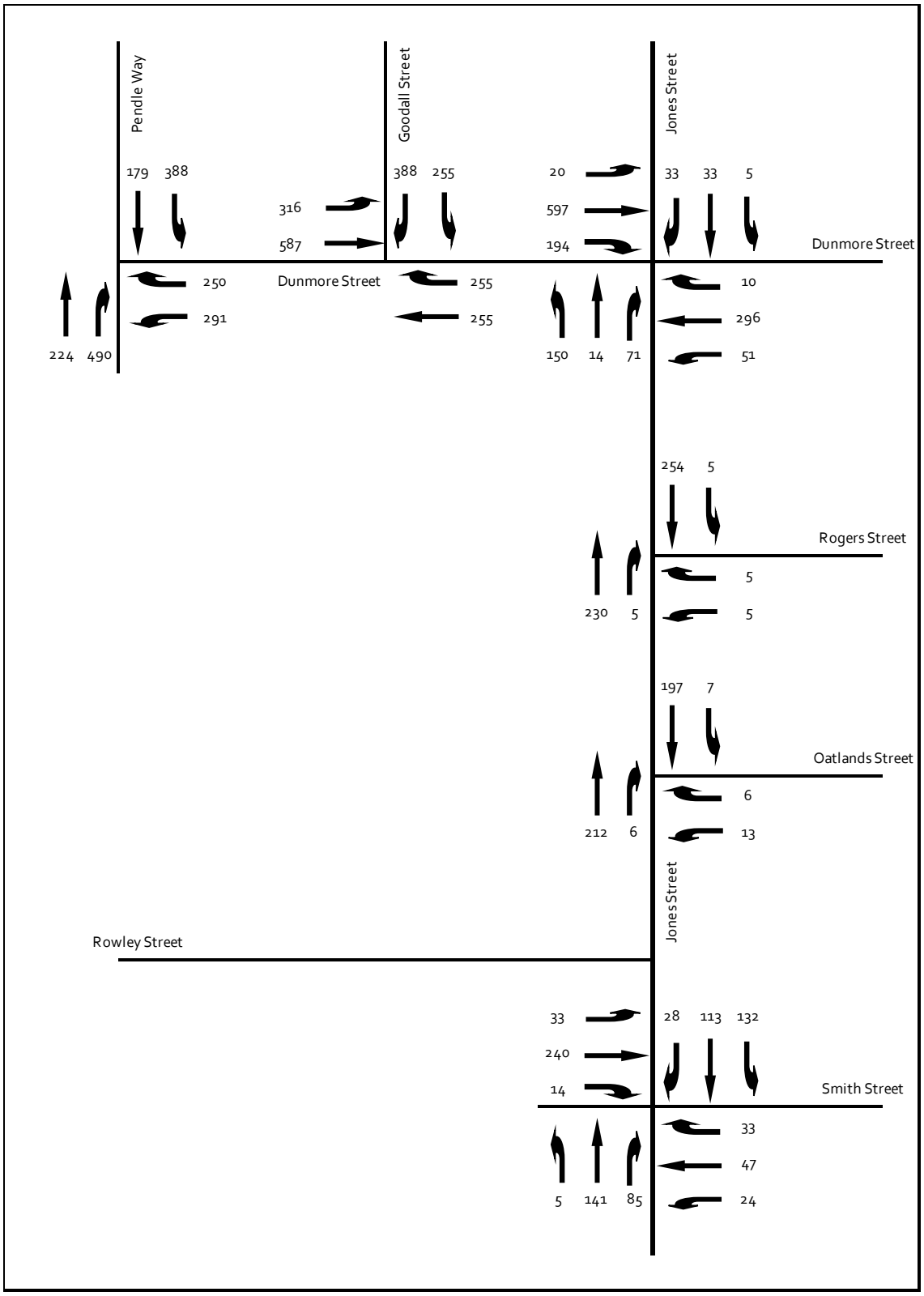


Figure 2.9: Estimated Existing Thursday PM Traffic Volumes

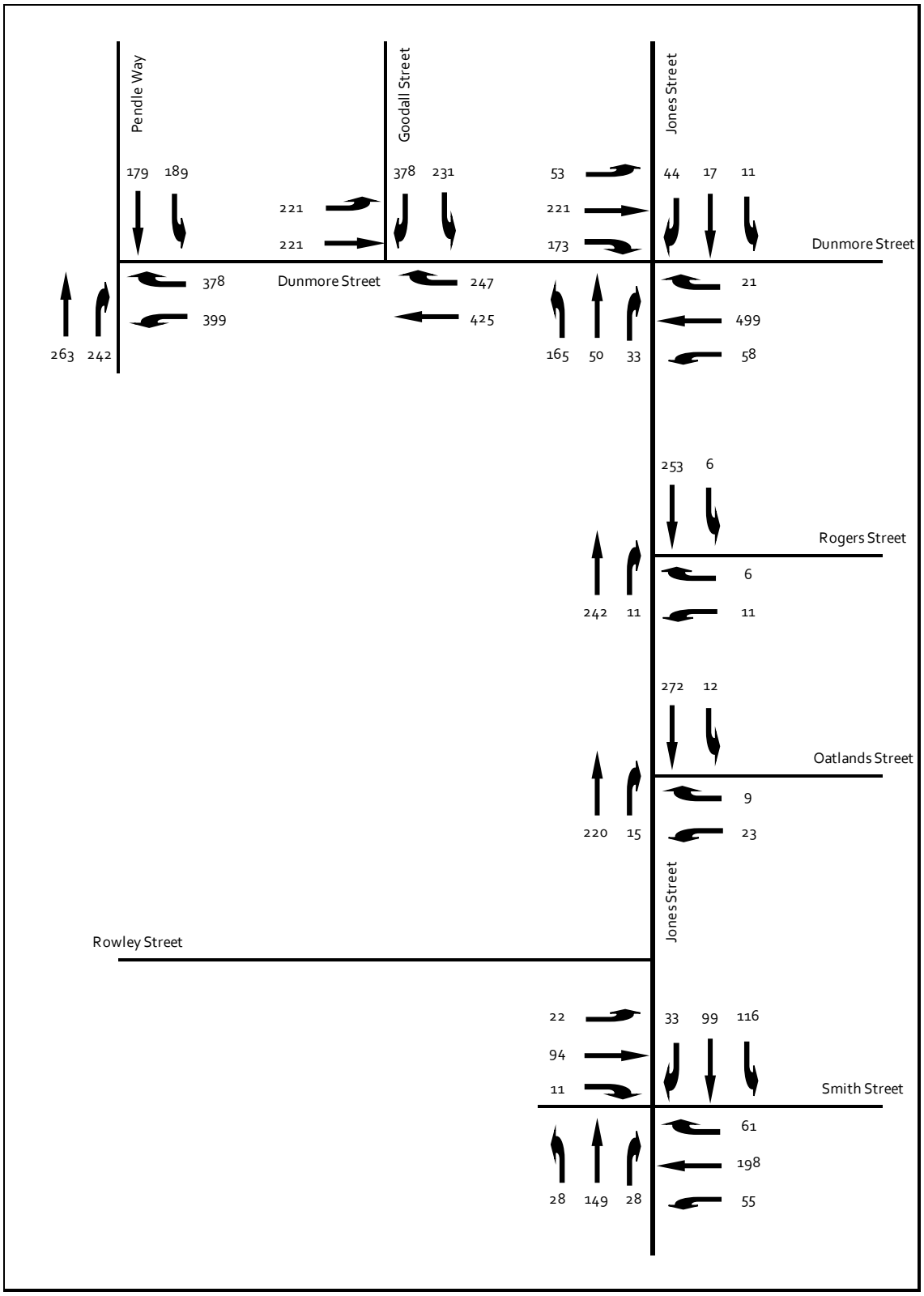
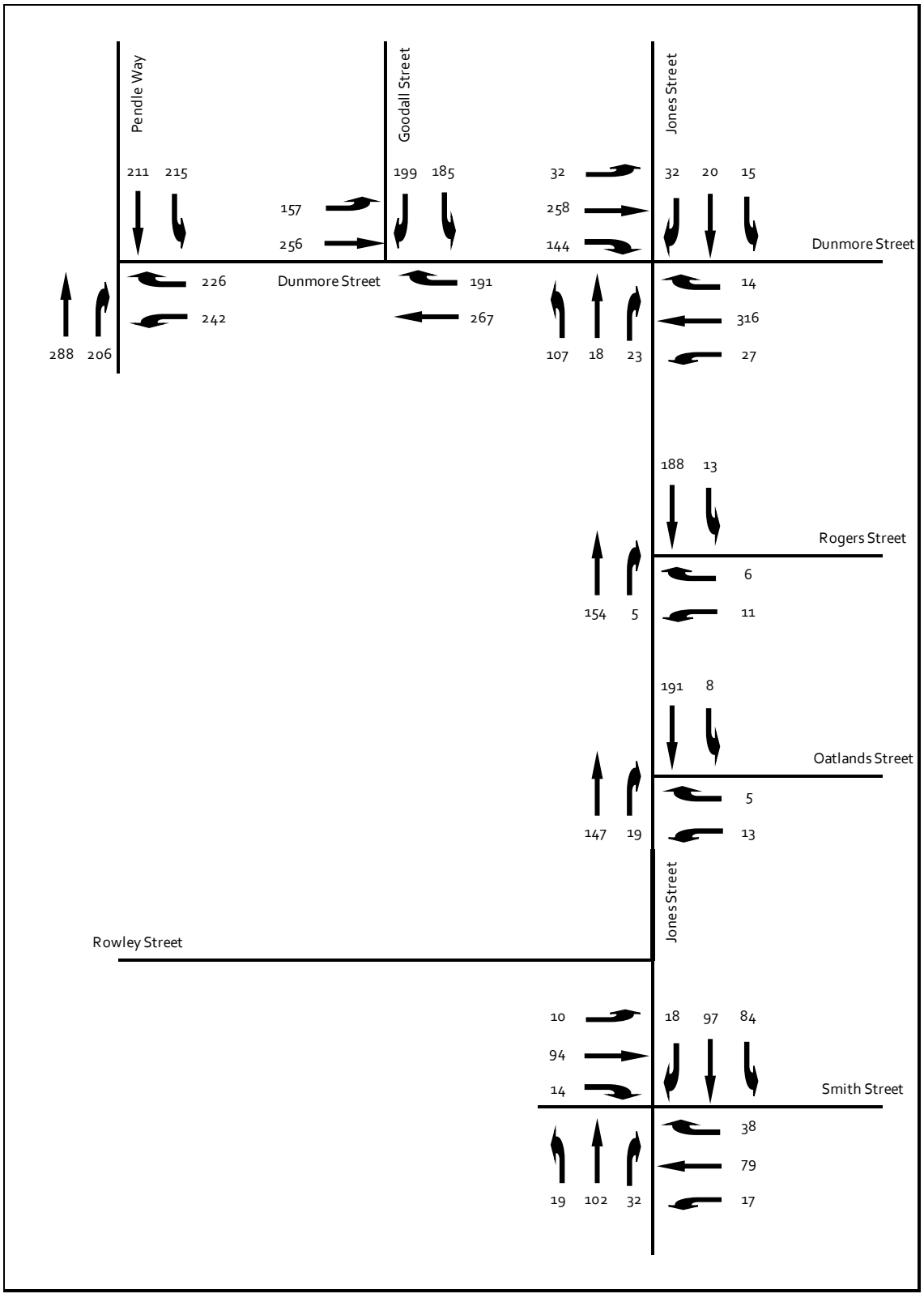


Figure 2.10: Existing Saturday Midday Traffic Volumes



2.3 Intersection Operation

The operation of the key intersections within the study area have been assessed using SIDRA INTERSECTION[7], a computer based modelling package which calculates intersection performance.

The commonly used measure of intersection performance, as defined by the RMS, is vehicle delay. SIDRA INTERSECTION determines the average delay that vehicles encounter and provides a measure of the level of service.

Table 2.1 shows the criteria that SIDRA INTERSECTION adopts in assessing the level of service.

Table 2.1: SIDRA INTERSECTION Level of Service Criteria

Level of Service (LOS)	Average Delay per vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Sign
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Near capacity	Near capacity, accident study required
E	57 to 70	At capacity, at signals incidents will cause excessive delays	At capacity, requires other control mode
F	Greater than 70	Extra capacity required	Extreme delay, major treatment required
N/A	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 lanes.		

Table 2.2 presents a summary of the existing operation of the study intersections with full results provided in Appendix A of this report.

[7] Program used under license from Akcelik & Associates Pty Ltd.

Table 2.2: Existing – Sidra Results

Intersection	Peak	Leg	Average Delay (sec)	Level of Service (LOS)
Jones Street/ Rogers Street	AM	South	1	NA
		East	11	A
		North	0	NA
		All	1	NA
	PM	South	2	NA
		East	10	A
		North	0	NA
		All	1	NA
	Sat	South	1	NA
		East	9	A
		North	0	NA
		All	1	NA
Jones Street/ Oatlands Street	AM	South	1	NA
		East	9	A
		North	0	NA
		All	1	NA
	PM	South	2	NA
		East	10	A
		North	0	NA
		All	2	NA
	Sat	South	2	NA
		East	8	A
		North	0	NA
		All	1	NA
Jones Street/ Smith Street	AM	South	7	A
		East	7	A
		North	9	A
		West	8	A
		All	8	A
	PM	South	8	A
		East	7	A
		North	7	A
		West	7	A
		All	7	A
	Sat	South	7	A
		East	7	A
		North	7	A
		West	7	A
		All	7	A

Intersection	Peak	Leg	Average Delay (sec)	Level of Service (LOS)
Jones Street/ Dunmore Street	AM	South	10	A
		East	8	A
		North	15	B
		West	7	A
		All	8	A
	PM	South	12	A
		East	9	A
		North	11	A
		West	7	A
		All	9	A
	Sat	South	9	A
		East	7	A
		North	10	A
		West	7	A
		All	7	A
Goodall Street/ Dunmore Street	AM	East	26	B
		North	31	C
		West	23	B
		All	26	B
	PM	East	14	A
		North	24	B
		West	14	A
		All	18	B
	Sat	East	14	A
		North	20	B
		West	15	B
		All	16	B
Pendle Way/ Dunmore Street	AM	South	20	B
		East	23	B
		North	16	B
		All	20	B
	PM	South	16	B
		East	20	B
		North	15	B
		All	18	B
	Sat	South	10	A
		East	22	B
		North	12	A
		All	15	B

The priority controlled intersections of Jones Street/ Rogers Street and Jones Street/ Oatlands Street are currently operating with little to no delay (less than 14 seconds) and an average Level of Service A during all peak hours. This signifies good intersection operation.

The roundabout controlled intersections of Dunmore Street/ Jones Street and Jones Street/ Smith Street are also operating with minimal delay (less than 20 seconds) and an average Level of Service A/ B during all peak hours, constituting a good level of intersection operation.

The signalised intersections of Dunmore Street/ Goodall Street and Dunmore Street/ Pendle Way are both currently operating with minimal but acceptable delay (35 seconds or less). Both intersections have an average Level of Service B, indicating spare capacity.

2.4 Public Transport

2.4.1 Rail

Pendle Hill Station is located approximately 500m north-west of the subject site, equivalent to an 8-10 minute walk. The station is served by the North Shore and Western Line, and the Cumberland Line.

The North Shore and Western Line travels from Richmond and Emu Plains through Parramatta and the Sydney CBD to North Sydney and Chatswood. During the AM and PM peak, services run every 15 minutes. Outside of the peak services run every 30 minutes.

The Cumberland Line travels from Blacktown through Parramatta and Liverpool to Campbelltown. During the AM and PM peak, services run every 15 minutes. Outside of the peak services run every 30 minutes.

Combined, these train services run every 5-10 minutes in the peak and every 20-30 minutes in the off-peak in both directions. Transferring trains at Parramatta Station allows for more frequent trips between Pendle Hill and major destinations such as the Sydney CBD and Liverpool.

2.4.2 Bus

Local bus services are operated by Hillsbus and include the following routes:

- Route 700: Every 15 minutes during weekday AM/ PM peak and every hour off-peak (including weekends). Runs along Smith Street between Blacktown Station and Parramatta Station via Girraween and Pendle Hill.
- Route 705: Every 30 minutes during weekday AM/ PM peak and every hour off-peak (including weekends). Runs along Dunmore Street and Pendle Way between Seven Hill, Toongabbie, Pendle Hill, Wentworthville and Parramatta.
- Route 708: One service in the morning and one in the afternoon. Runs along Dunmore Street and Pendle Way, connecting retirement villages in Parramatta, Wentworthville and Pendle Hill.

2.5 Pedestrian Infrastructure

Pedestrian paths are located as follows:

- Dunmore Street – 1.2m wide footpath on both sides
- Jones Street – 1.2m wide footpath on the western side only
- Pendle Way – 1.2m wide footpath on both sides, widening to approximately 3m in the town centre
- Smith Street – 1.2m wide footpath on the northern side only
- Rogers Street – 1.2m wide footpath on the southern side only
- Oatlands Street – 1.2m wide footpath on the southern side only.

The northern and western arms of the Dunmore Street/ Goodall Street intersection and the eastern and southern arms of the Dunmore Street/ Pendle Way intersection have signalised pedestrian crossings.

Pedestrian refuges are provided on all the arms of the roundabout intersections of Smith Street/ Jones Street and Dunmore Street/ Jones Street.

There are no other pedestrian crossings in the vicinity of the site. Additional crossing facilities could be provided to help encourage increased pedestrian activity.

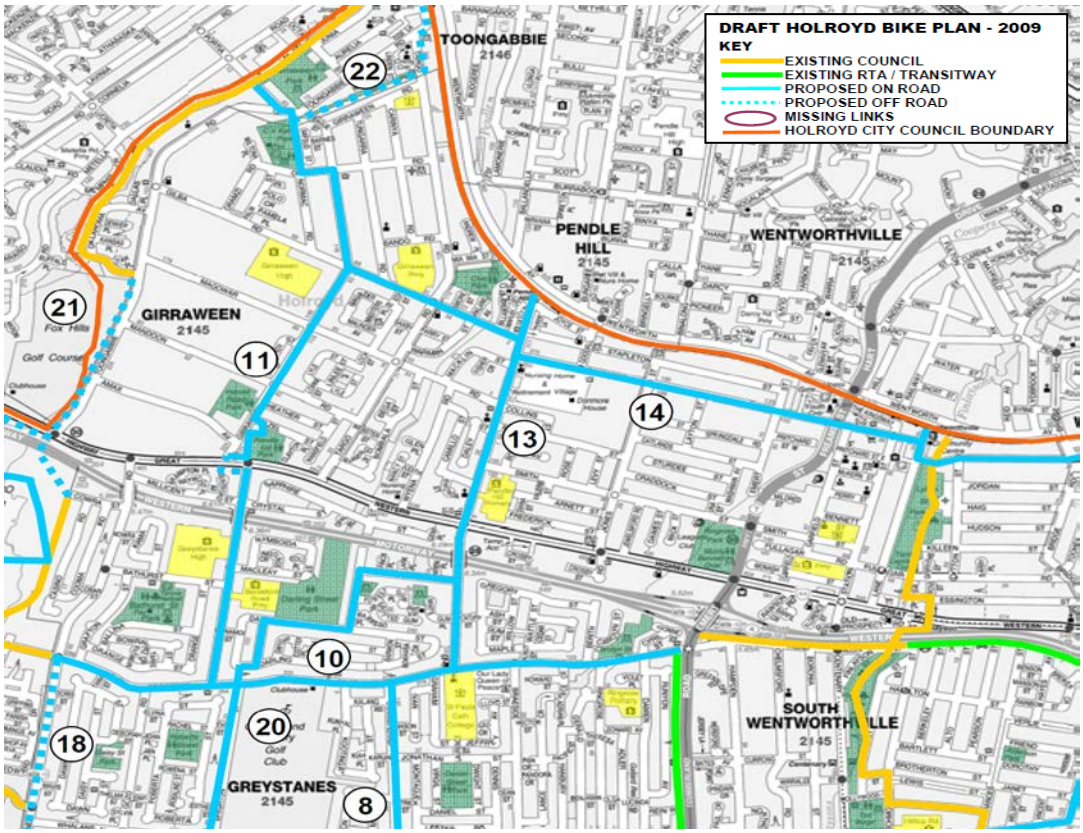
2.6 Cycle Infrastructure

There are no dedicated cycling facilities within the immediate vicinity of the subject site, however many of the local streets are suitable for mixed traffic. Children under the age of 12, and accompanying adults can of course legally cycle on footpaths.

The 2009 Holroyd Bike Plan, shown in Figure 2.11, indicates that on-road bicycle facilities are proposed along Dunmore Street and Pendle Way. These are likely be mixed traffic facilities shared with parked vehicles.

Four secure bicycle lockers are currently available at Pendle Hill Station.

Figure 2.11: Holroyd Bike Plan



2.7 Local Car Sharing Initiatives

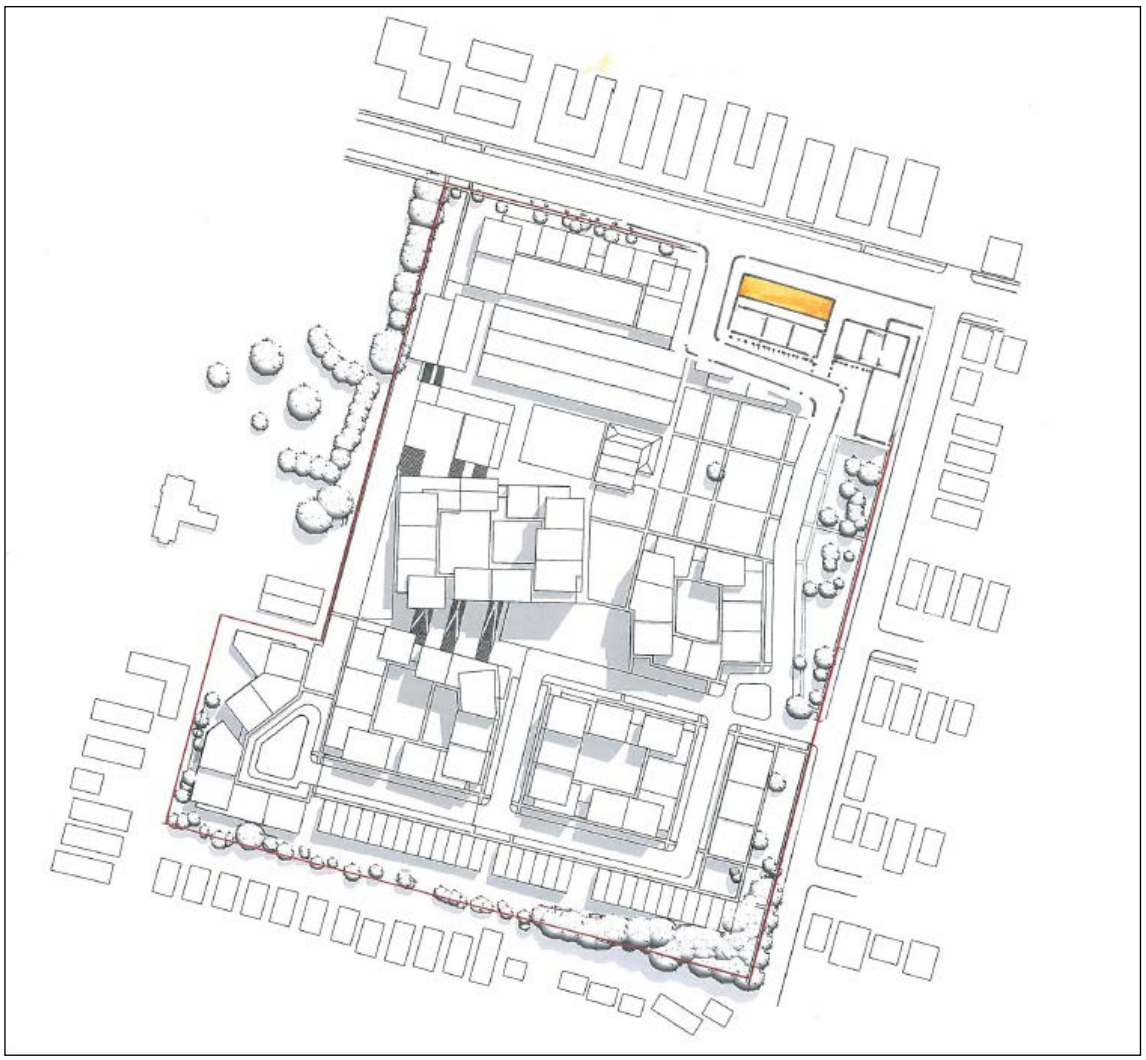
There are currently no local car sharing initiatives operating near the subject site.

3. Development Proposal

3.1 Land Uses

The revised Concept Master Plan, shown in Figure 3.1, includes approximately 1,600 new dwellings and 6,000m^2 of retail floor space, including approximately 4,000m^2 of supermarket and 2,000m^2 of specialty retail. The final dwelling numbers/mix as well as retail floor areas will be confirmed at a later stage.

Figure 3.1: Site Layout



Source: Roberts Day dated 26 April 13 (Drawing No. RD3 313).

3.2 Vehicle Access

The revised Concept Master Plan will seek to provide vehicle access via both of the site's road frontages, namely Dunmore Street and Jones Street. The provision of multiple site access roads with supporting internal road linkages will assist the general distribution and dispersion of site generated traffic to the external road network.

The exact location of accesses is not proposed to be fixed at this point as the location will be dependent upon a number of variables (e.g. heritage buildings). Whilst it was the intention to use the existing single access T-intersection on Dunmore Street and Jones Street, it is unlikely that a simple tee intersection would be able to operate satisfactorily on Dunmore Street. Furthermore this access is close to the Dunmore Street/ Jones Street roundabout.

Consequently, in Section 4.6, scenarios have been tested which show that access to the site can be satisfactorily achieved on the Dunmore and Jones Street frontages, this report does not intend to finalise the form and location of these as this stage as they may need to amended during the development application. However the traffic analysis does show, for the purposes of rezoning the site, that satisfactory accesses can be achieved along the site frontages.

3.3 Car Parking

On-site car parking provision would need to be provided in accordance with the goals and objectives as set out in the City of Holroyd LEP 2013 and DCP 2013. Essentially the objectives of the current DCPs are to ensure that there is sufficient on-site car parking to accommodate the site's parking demands.

Figure 3.2 has been extracted from the City of Holroyd DCP 2013 and provides the minimum and maximum car parking requirements for residential and retail uses.

Figure 3.2: City of Holroyd DCP 2013 – Car Parking Requirements

Residential			
Use	**Measure**	**Minimum Spaces Required**	**Maximum Spaces Required**
Attached dwellings and Small lot dwelling houses (<300m² or 8m or less width)	Per dwelling	1	2 (max. 1 covered)
Dwelling houses (other than on small lots), semi detached dwellings, dual occupancies.	Per dwelling	2 (min. 1 covered)	n/a
Multi dwelling housing	Bedroom per dwelling: Studio / 1 bedroom	1	1.5
	2 bedroom	1	2
	3 bedroom	1.2	2
	4+ bedroom	1.5	2
	Visitor / dwelling	0.2	0.5
Residential flat buildings, dwellings in B1, B2 and B6 business zones (including shop top housing)	Bedroom per dwelling: Studio / 1 bedroom	0.8	1
	2 bedroom	1	1.5
	3 bedroom	1.2	2
	4+ bedroom	1.5	2
	Visitor / dwelling	0.2	0.5
Dwellings in mixed use development in B4 Mixed Use zone (including shop top housing)	Bedroom per dwelling: Studio / 1 bedroom	0.8	1
	2 bedroom	1	1.2
	3 bedroom	1	1.2
	4+ bedroom	1.2	1.5
	Visitor / dwelling	0.2	0.2
Retail & Commercial			
Use	**Measure**	**Minimum Spaces Required**	**Maximum Spaces Required**
Commercial (including retail premises, business premises and office premises) - B4 zone	Ground Floor Leasable GFA	1 per 50m²	1 per 15m²
	Above Ground Floor Leasable GFA		
Commercial (including retail premises, business premises and office premises) - B2 zones in: * Wentworthville * Pendle Hill * Toongabbie * Guildford	Ground Floor - Leasable GFA	1 per 20m²	1 per 15m²
	Above Ground Floor - Leasable GFA	1 per 40m²	1 per 20m²
Commercial (including retail premises, business premises and office premises) in all other B1, B2 and B6 zoned areas	Ground Floor - Leasable GFA	1 per 20m²	1 per 10m²
	Above Ground Floor - Leasable GFA	1 per 40m²	1 per 15m²
Neighbourhood shop	leasable GFA	1 space per 30m²	n/a

Extract from City of Holroyd DCP 2013

Based on the above, the car parking provisions for the proposed mixed use development would need to provide in the order of 2,040 spaces with a breakdown by use as follows:

- 1,600 spaces for Residential
- 320 for Residential Visitors
- 120 for Retail.

The demands of the development on the site also need to be considered with the broader state and local government transport objectives where non-private motor vehicle modes of travel are to be encouraged.

With the above in mind, and given the proposed rezoning of the site to Mixed Use, the Concept Master Plan envisages the following general on-site car parking provisions:

- Residential at 1 space / dwelling = 1,600 residential parking spaces
- Visitor parking at 1 space / 5 dwellings = 320 residential visitor parking spaces
- Retail at 1 space / 44m^2 GLFA = 137 retail parking spaces.

As such the envisaged provision of 2,057 car parking spaces accords with the minimum City of Holroyd DCP 2013 car parking requirements.

It is also expected that the supermarket and associated specialty stores would operate complementary to residential development, with a significant proportion of the trips generated internally/locally. Consequently, the parking provision at the site will be required for local/pass by facility rather than for a destination shopping centre.

Notwithstanding the above, the exact on-site parking provision will need to be defined once further details regarding the type of retail, commercial and residential land uses are proposed on the site.

3.4 Pedestrian Facilities

A network of new pedestrian paths connecting to the surround area would be provided as part of the proposed development. Additional details will be provided at the development application stage.

3.5 Bicycle Facilities

Cycle paths will be provided through the site and bicycle parking will be provided in accordance with the requirements of the City of Holroyd DCP.

3.6 Loading Areas

Loading areas for the proposed supermarket and specialty retail shops, as well as service vehicle access and refuse storage areas are to be provided in accordance with the City of Holroyd DCP and the relevant Australian Standards.

The required provisions will be determined at a later stage.

3.7 Consistency of Development Proposal with Holroyd Centres Strategy

The Holroyd Residential Centres Strategy Transport Review prepared by Stapleton Transportation and Planning Pty Ltd (STAP) identifies that:

- Pendle Hill provides good opportunities for the retention and enhancement of the currently surveyed use of non-car travel, and is well situated to provide high and medium density residential development.
- STAP is of the opinion that it would not be unwarranted for Council to investigate further expansion of the high density zone (or provision of a medium density zone)

south of the station to 400m at least if additional residential capacity is required in the future.

In terms of the provision of infrastructure to accommodate the future growth in population, previous discussions with Sydney Trains indicated that as the population grows in a given area and demand subsequently grows for rail services, the level of services to particular stations can be adjusted accordingly.

With regard to parking, the transport consultant review concluded that "total parking demands within Holroyd, and within the transit centres, will be lower under a high density residential strategy than under a dispersed strategy". According to their research and analysis "High density residential development in close proximity to transit centres (unlike dispersed medium density) reduces commuter parking demand, as residents can walk to public transport services rather than have to drive.....their commuter parking is provided in the basement parking levels below their dwelling. Non-residential development (i.e. shops and businesses) within the transit centres also generates a lower parking demand, as a higher percentage of visitors (staff, customers etc.) can walk/cycle or use public transport to access the development".

With a dispersed strategy (applied to either the new non-residential or residential development) those same customers simply cannot walk/cycle the greater distance and as such car trip and car parking demand is higher.

4. Traffic Impact Assessment

The traffic impact assessment presented in this section was prepared on the basis of an earlier development profile of 1,679 dwellings. Consequently, the modelling provides a conservative approach.

4.1 Traffic Generation

Traffic generation estimates for the proposed development have been sourced from the RMS *Guide to Traffic Generating Development* (including the recently issued Technical Direction TDT 2013/04a). The RMS Guide specifies different rates having consideration for a number of parameters including the size and location of the development. The document recorded the following traffic generation at the surveyed sites (which general comprise a mixture of unit sizes but with the majority being 2 bed apartments).

Table 4.1: Traffic generation of High Density Dwellings

	RMS Updated Traffic Surveys (2012)#								
	Site 1 – St Leonards	Site 2 - Chatswood	Site 3 - Cronulla	Site 4 - Rockdale	Site 5 - Parramatta	Site 6 – Liberty Grove	Site 7 - Strathfield	Site 10 - Pyrmont	Sydney Metropolitan Area (Average)
No. of Units	70	129	28	234	83	64	31	131	96
No. of Parking Spaces	97	206	18	260	108	93	30	199	126
Parking Provision Ratio (spaces/unit)	1.39	1.60	0.64	1.11	1.30	1.45	0.97	1.52	1.31
Peak hour vehicle trips per unit	0.14(AM) 0.07(PM)	0.14(AM) 0.12(PM)	0.07(AM) 0.11(PM)	0.32(AM) 0.18(PM)	0.27(AM) 0.12(PM)	0.28(AM) 0.41(PM)	0.10(AM) 0.06(PM)	0.18(AM) 0.10(PM)	0.19 (AM) 0.15 (PM)

The sites surveyed within Sydney Metropolitan Area included sites within close proximity to the Sydney CBD with excellent access to public transport and retail and commercial precincts. As such, although the development is located in close proximity to public transport, traffic generation rates towards the higher end of the spectrum are anticipated. We have therefore used some of the highest recorded rates in the study (i.e. those at Rockdale), these rates being:

- weekday AM peak hour - 0.32 vehicles per dwelling two-way
- weekday PM peak hour - 0.18 vehicles per dwelling two-way
- Saturday peak hour - 0.23 vehicles per dwelling two-way.

The revised Concept Master Plan also includes approximately 6,000m^2 of retail floor area, including approximately 4,000m^2 of supermarket.

The RMS Guide, in Section 3.6.1, indicates that a supermarket of this size would generate around 155 and 147 two-way vehicle movements (per 1,000m^2) in the Thursday PM and Saturday peak hours respectively, and specialty stores around 46 and 107 two-way vehicle movements (per 1,000m^2) in the Thursday PM and Saturday peak hours respectively.

For the purpose of this assessment, it has been assumed that during the AM peak hour the traffic movements for the retail component would be around 50% of that generated during the PM peak hour.

It is also envisaged that the supermarket and associated specialty stores will operate complementary to residential development, with a limited number of trips generated externally. Retail analysis suggests that approximately 40% of retail activity in mixed use developments is generated by the residential component of the site. However, a conservative reduction of 25% has been applied to reflect this characteristic of the development - suggesting that up to 75% of trips could be generated externally (which again is believed to be a conservative figure).

Based on the above, estimates of external peak hour traffic volumes resulting from the proposal are set out in Table 4.2.

Table 4.2: Traffic Generation Estimates (External Trips)

Use	Units / GFA	Generation Rate			Movements/hr.		
		AM	PM	Sat	AM	PM	Sat
Residential							
Dwellings	1,679	0.32 per dwelling	0.18 per dwelling	0.23 per dwelling	537	302	386
Retail							
Supermarket	4,000m^2	58 per 1,000m^2	116 per 1,000m^2	110 per 1,000m^2	232	464	440
Specialty retail	2,000m^2	17.5 per 1,000m^2	35 per 1,000m^2	80 per 1,000m^2	35	70	160
Total					804	836	986

Table 4.2 indicates that the site could potentially generate approximately 800 external vehicle movements in the AM peak hour, 840 external vehicle movements in the PM peak hour and 1,000 external vehicle movements in the Saturday midday peak hour.

This compares to the 800 peak hour trips that could be generated by redeveloping the site to accommodate a higher FSR whilst maintaining a similar industrial use, as detailed in Section 2.2.1.

4.2 Distribution and Assignment

The directional distribution and assignment of traffic generated by the proposed development will be influenced by a number of factors, including the:

- configuration of the arterial road network in the immediate vicinity of the site
- existing operation of intersections providing access between the local and arterial road network
- distribution of households both within the site and in the vicinity of the site
- surrounding employment centres, retail centres and schools in relation to the site
- configuration of access points to the site.

Having considered the above, for the purposes of estimating vehicle movements, the directional split of traffic (i.e. the ratio between the inbound and outbound traffic movements) has been assumed as follows:

- Residential: 20% inbound/ 80% outbound during the Thursday AM peak, and 40% inbound/ 60% outbound during the Thursday PM peak.
- Retail: 70% inbound/ 30% outbound during the Thursday AM peak, and 60% inbound/ 40% outbound during the Thursday PM peak.
- During the Saturday midday peak, the directional split of both retail and residential traffic has been assumed as 50% outbound/ 50% inbound.

The splits are based on results from traffic surveys undertaken by Halcrow to update the RMS Guide to Traffic Generating Developments for shopping centres.

As stated in Section 3.2, the traffic distribution and assignment was undertaken based on one access on Dunmore Street and one access on Jones Street.

The NSW Governments' Bureau of Transport Statistics website was used to undertake where employed residents from Pendle Hill work. Mode of travel had also been considered with only vehicle travel assessed. The distribution of residential traffic was determined based on the top six destinations, factoring in the portion that drive, and has been summarised in Table 4.3.

Table 4.3: Journey to Work Assessment

Employment Region	Where residents work	Portion that drive to work	Distribution Factor
Parramatta	36%	17%	**40%**
City	22%	4%	**5%**
Blacktown	14%	20%	**19%**
Auburn	14%	19%	**18%**
Ryde	7%	18%	**9%**
Baulkham Hill	6%	22%	**8%**
	100%	**100%**	**100%**

Therefore based on the above the anticipated traffic distribution for the residential component is summarised in Figure 4.1.

Figure 4.1: Traffic Distribution – Residential Component

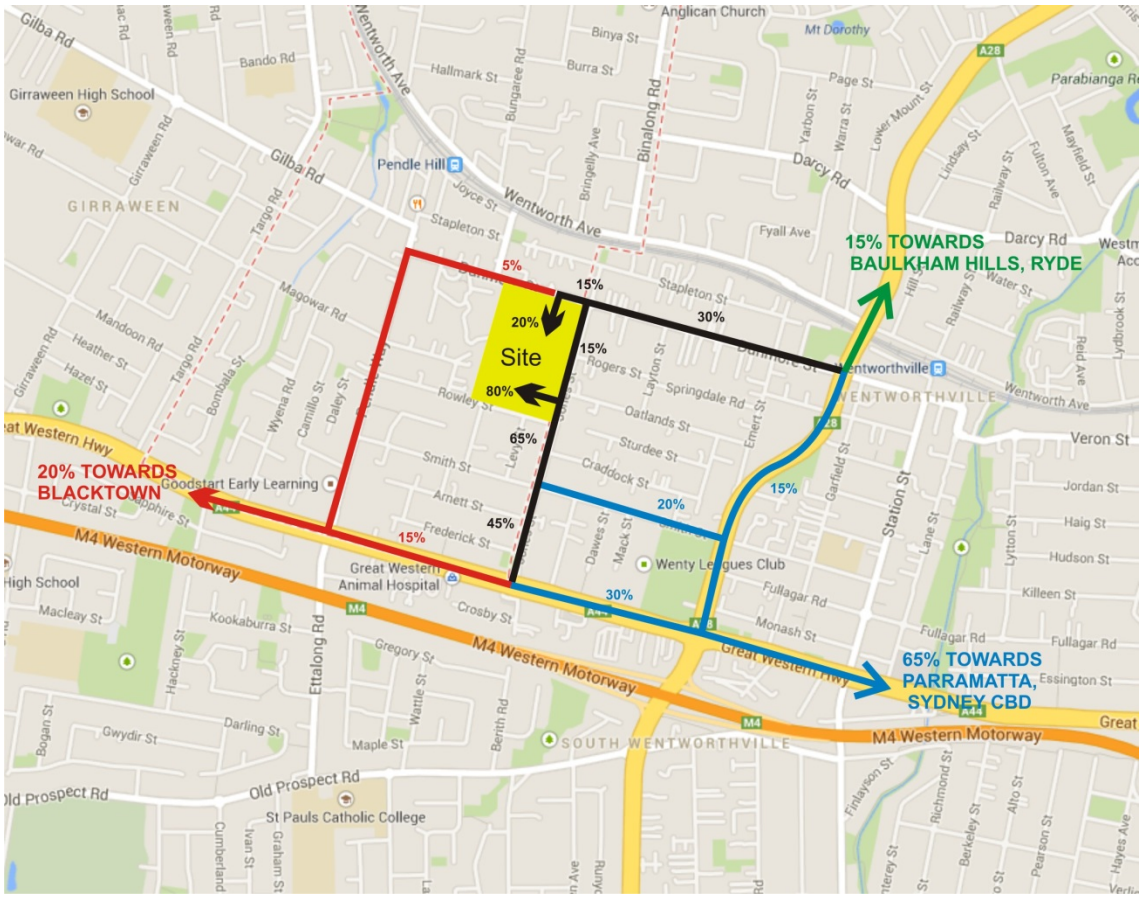


Figure 4.1 illustrates that the employed residents that work east of Pendle Hill would either travel between the Great Western Highway and the development by either Dunmore Street (15%), Smith Street (20%) or Jones Street (30%). Employed residents that work west of Pendle Hill would either travel via Pendle Way (5%) or Jones Street (15%). All traffic towards the north (15%) would use Dunmore Street. Traffic using Dunmore Street to/ from Cumberland Highway would access the development via either the Dunmore Street or Jones Street access (50/50 split).

For the retail component, the anticipated traffic distribution was determined based on the residential and retail in proximity to the development and is presented in Figure 4.2.

Figure 4.2: Traffic Distribution – Retail Component

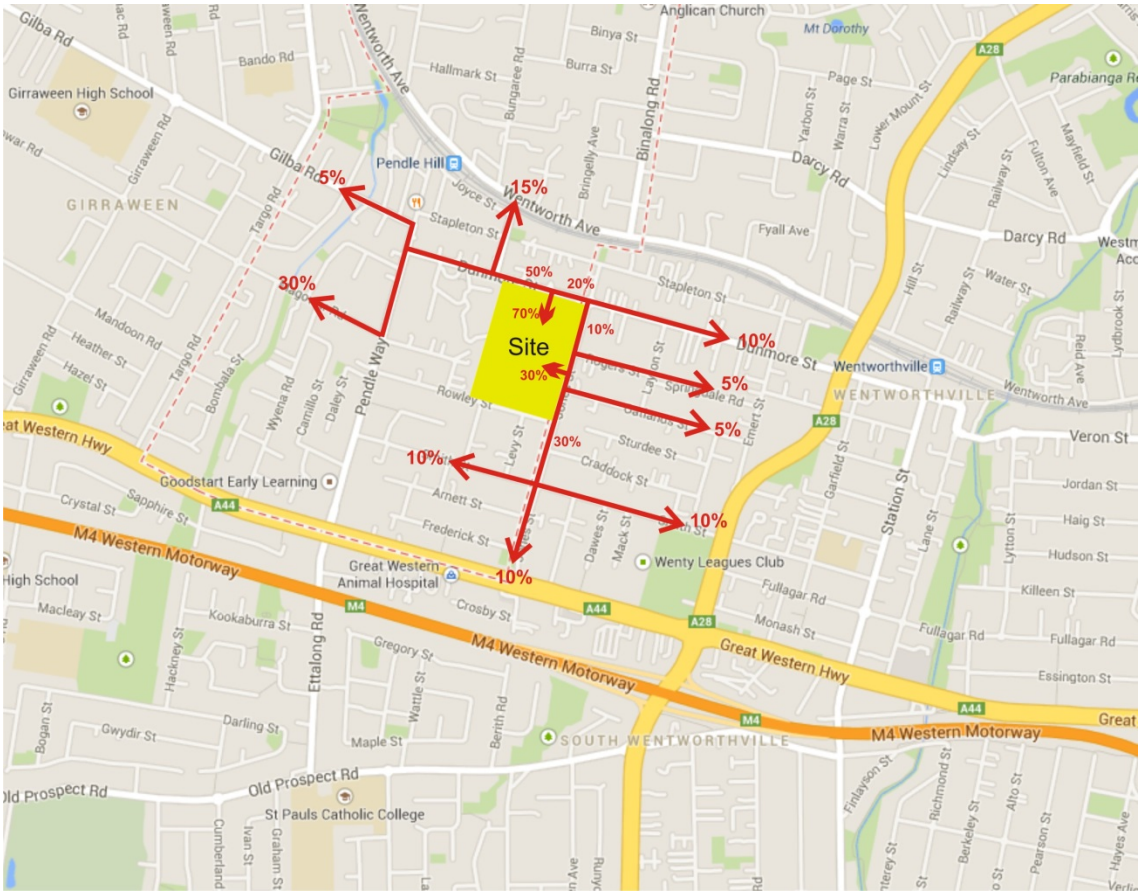


Figure 4.2 illustrates that 70% of retail traffic would access the development via the Dunmore Street access and 30% via the Jones Street access. This was determined based on the retail component being located at the north end of the development.

4.3 Future Impacts

To consider the likely traffic conditions on the surrounding road network under a 10 year horizon (dependant on when the development is likely to be constructed), a "per annum" linear growth factor was applied to the background traffic.

The growth of traffic surrounding the site is influenced by a range of factors including nearby developments and regional traffic conditions. Given that the surrounding area is well established, future developments are likely to be 'infill' developments of existing sites, a 1% per annum linear growth rate was applied to the background traffic.

For the purpose of this assessment it was assumed that the development would be completed by 2017, hence modelling was undertaken for the Year 2027.

In addition, two 10 year horizon scenarios have been assessed, a 'without development' scenario to understand the likely traffic conditions in 2027 without the development; and a 'with development' scenario to understand the potential impacts the development has on the road network.

Based on the above, Figure 4.3, Figure 4.4 and Figure 4.5 have been prepared to show the anticipated Year 2027 background traffic volumes and the estimated increase in turning movements (shown in red on the figures) in the vicinity of the subject property following full site development.

Figure 4.3: Thursday AM Peak Hour Site Generated Traffic Volumes

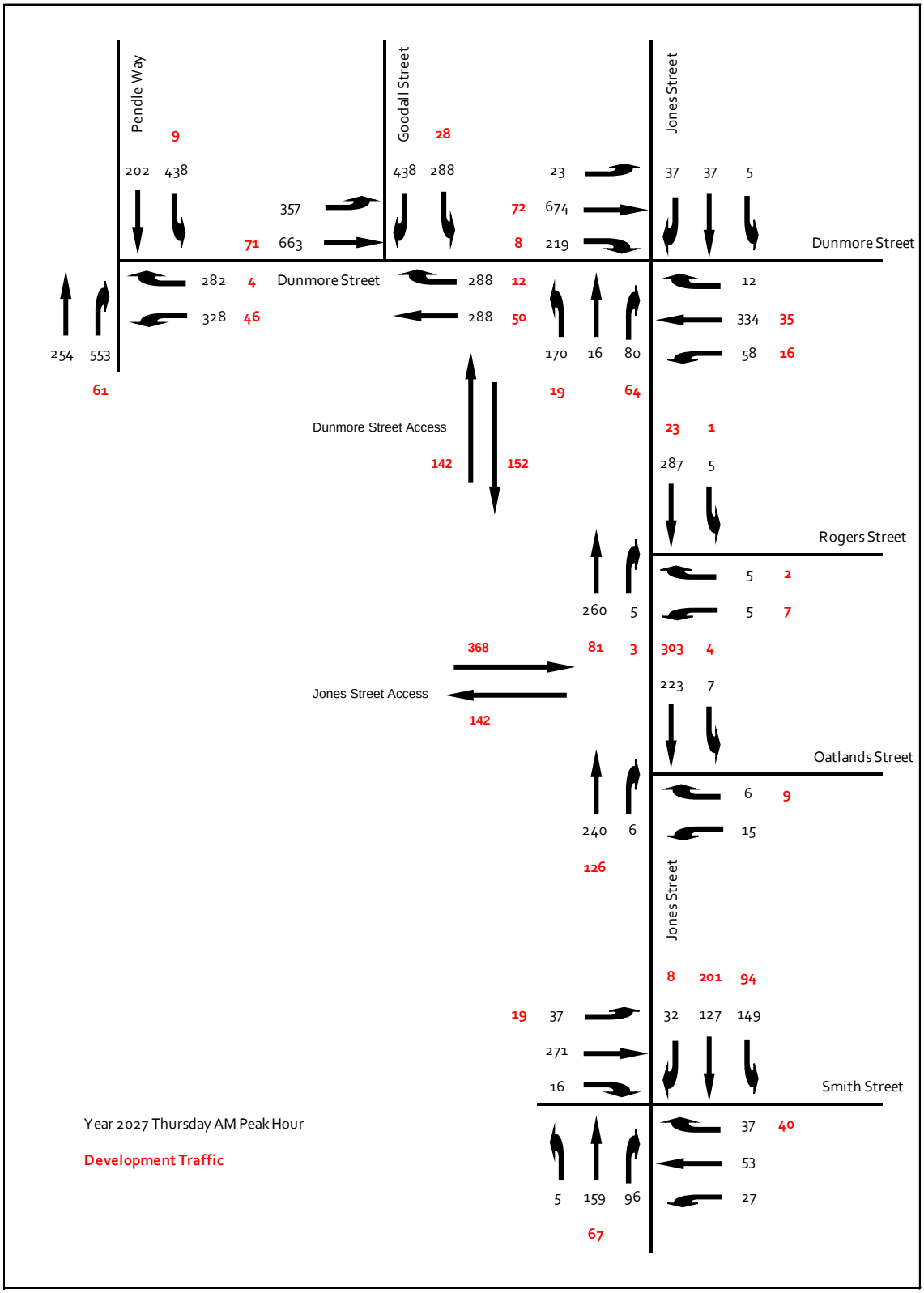


Figure 4.4: Thursday PM Peak Hour Site Generated Traffic Volumes

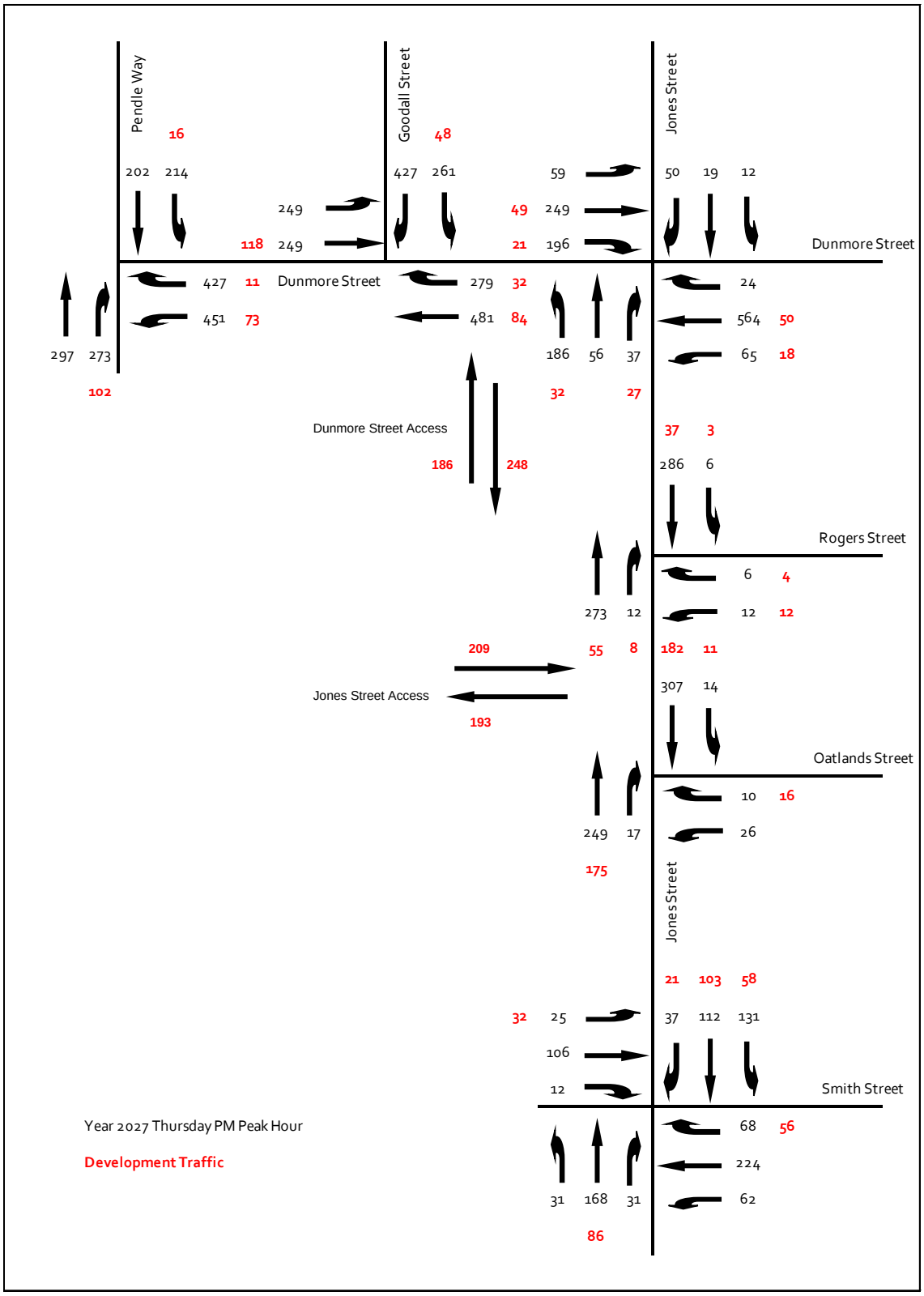
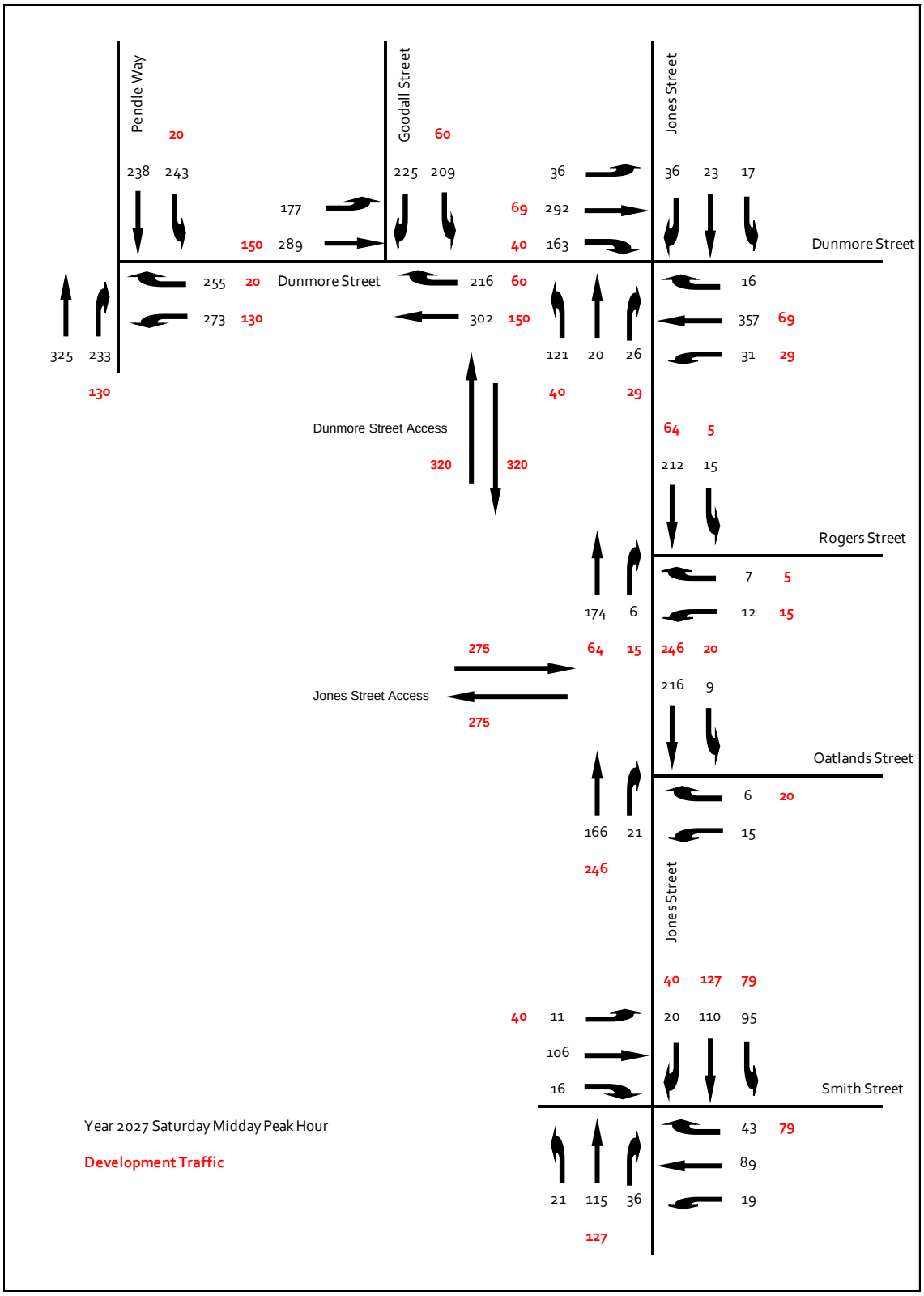


Figure 4.5: Saturday Midday Peak Hour Site Generated Traffic Volumes



4.4 Traffic Impact

Following the distribution and assignment of development traffic and application of growth to background traffic, the study intersections were reanalysed using SIDRA INTERSECTION.

Table 4.4 summarises the SIDRA results of the Year 2027 'without development' and 'with development' scenarios in terms of average delay and level of service.

The full results from the SIDRA analysis are presented in Appendix A of this report.

Table 4.4: Year 2027 'Without Development' and 'With Development' scenarios – SIDRA Results

Intersection	Peak	Leg	'Without Development'		'With Development'	
			Average Delay (sec)	Level of Service (LOS)	Average Delay (sec)	Level of Service (LOS)
Jones Street/ Rogers Street	AM	South	2	NA	2	NA
		East	11	A	12	A
		North	0	NA	0	NA
		All	1	NA	1	NA
	PM	South	2	NA	2	NA
		East	11	A	11	A
		North	0	NA	0	NA
		All	1	NA	2	NA
	Sat	South	1	NA	2	NA
		East	9	A	10	A
		North	0	NA	0	NA
		All	1	NA	2	NA
Jones Street/ Oatlands Street	AM	South	1	NA	4	NA
		East	9	A	20	B
		North	0	NA	0	NA
		All	1	NA	2	NA
	PM	South	2	NA	4	NA
		East	10	A	27	B
		North	0	NA	0	NA
		All	2	NA	4	NA
	Sat	South	2	NA	4	NA
		East	9	A	24	B
		North	0	NA	0	NA
		All	1	NA	3	NA
Jones Street/ Smith Street	AM	South	7	A	8	A
		East	8	A	11	A
		North	9	A	18	B
		West	8	A	10	A
		All	8	A	13	A
	PM	South	8	A	10	A
		East	7	A	9	A
		North	7	A	7	A
		West	7	A	9	A
		All	7	A	9	A
	Sat	South	7	A	8	A
		East	7	A	10	A
		North	7	A	7	A
		West	7	A	9	A
		All	7	A	8	A

Table 4.4: Year 2027 'Without Development' and 'With Development' scenarios – SIDRA Results (cont.)

Intersection	Peak	Leg	'Without Development'		'With Development'	
			Average Delay (sec)	Level of Service (LOS)	Average Delay (sec)	Level of Service (LOS)
Jones Street/ Dunmore Street	AM	South	10	A	12	A
		East	8	A	9	A
		North	18	B	24	B
		West	8	A	27	B
		All	9	A	20	B
	PM	South	15	B	23	B
		East	11	A	16	B
		North	11	A	12	A
		West	8	A	8	A
		All	11	A	14	A
	Sat	South	10	A	11	A
		East	7	A	9	A
		North	11	A	12	A
		West	7	A	7	A
		All	8	A	9	A
Goodall Street/ Dunmore Street	AM	East	34	C	29	C
		North	46	D	77	F
		West	35	C	57	E
		All	38	C	56	D
	PM	East	18	B	20	B
		North	23	B	27	B
		West	15	B	17	B
		All	19	B	21	B
	Sat	East	15	B	16	B
		North	20	B	24	B
		West	15	B	17	B
		All	16	B	19	B
Pendle Way/ Dunmore Street	AM	South	23	B	24	B
		East	26	B	27	B
		North	19	B	23	B
		All	23	B	24	B
	PM	South	18	B	23	B
		East	22	B	23	B
		North	15	B	17	B
		All	19	B	22	B
	Sat	South	11	A	15	B
		East	23	B	23	B
		North	13	A	13	A
		All	16	B	17	B

The following conclusions are made from the modelling results:

- The priority controlled intersection of Jones Street/ Rogers Street would continue to operate with a Level of Service A.
- The priority controlled intersection of Jones Street/ Oatlands Street would experience some minor delay in the peaks for vehicles entering from Oatlands Street (comparative to 'without development' conditions), however the intersection would maintain an acceptable operating conditions with an average Level of Service B.
- The roundabout controlled intersection of Jones Street/ Smith Street would maintain good operating conditions with an average Level of Service A/ B.
- The roundabout controlled intersection of Jones Street/ Dunmore Street would experience some minor additional delay in the Thursday AM peak on the west approach (<30 seconds) and Thursday PM peaks on the east approach (<30 seconds), compared to 'without development' conditions. The intersection would maintain to operate with an average Level of Service B during these peak hours which is considered to be a good level of service. During the Saturday midday peak hour the intersection continues to operate with an average Level of Service A.
- The signalised intersection of Dunmore Street/ Goodall Street would experience additional delay and queuing during the Thursday AM peak. Overall, the intersection would operate with an average Level of Service D which is considered to be approaching capacity. During the Thursday PM and Saturday midday peaks the intersection would continue to operate with an average Level of Service B.
- The signalised intersection of Dunmore Street/ Pendle Way would continue to operate with a Level of Service B with some minor additional delay experienced. This is considered to be a good level of service.

4.5 Mitigating Measures

There are a number of options which could be progressed to improve operating conditions at the intersection of Dunmore Street/ Goodall Street. These include:

- altering signal phasings to optimise vehicle movements;
- altering or removing parking provisions along Dunmore Street (east) and Goodall Street to provide increased vehicle capacity on approach to and departure from the intersection; and
- providing a residential travel plan to minimise the number of peak hour car trips generated by the site (detailed further below).

4.6 Modelling of Accesses

As stated in Section 3.2, this section provides an assessment of a number of potential access options for consideration during the Development Application once the site layout is at a more detailed stage.

Figure 4.6 to Figure 4.10 present the access configurations assessed using SIDRA INTERSECTION and the results are provided in Table 4.5 and Table 4.6 for the Dunmore Street and Jones Street accesses respectively.

Figure 4.6: Dunmore Access – Priority-Controlled All Movements

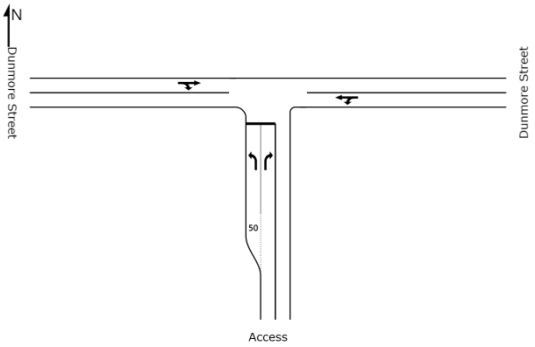


Figure 4.7: Dunmore Access – Priority-Controlled Left in/ Left Out

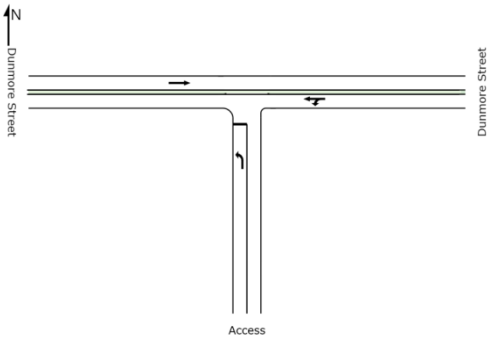


Figure 4.8: Dunmore Access – Roundabout-Controlled

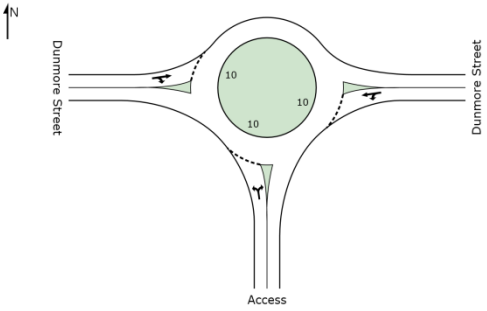


Figure 4.9: Dunmore Access – Signalised-Controlled

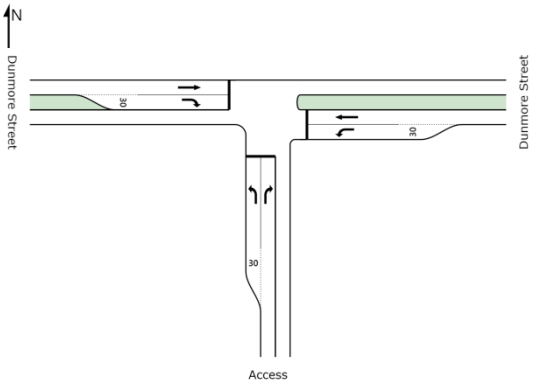


Figure 4.10: Jones Access – Priority-Controlled All Movements

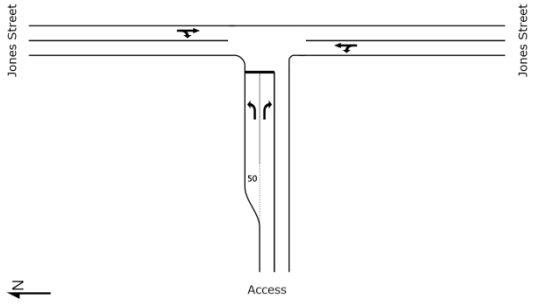


Table 4.5: Dunmore Street Access Options Testing – SIDRA Results

Intersection	Peak	Leg	Average Delay (sec)	Level of Service (LOS)
Priority-Controlled (All Movement)	AM	South	146	F
		East	0	NA
		West	11	NA
		All	18	NA
	PM	South	36	C
		East	1	NA
		West	15	NA
		All	10	NA
	Sat	South	25	B
		East	1	NA
		West	9	NA
		All	9	NA
Priority-Controlled (Left-In/ Left-Out)	AM	South	14	A
		East	1	NA
		West	0	NA
		All	1	NA
	PM	South	21	B
		East	2	NA
		West	0	NA
		All	2	NA
	Sat	South	17	B
		East	3	NA
		West	0	NA
		All	3	NA
Roundabout	AM	South	13	A
		East	6	A
		West	7	A
		All	7	A
	PM	South	12	A
		East	5	A
		West	5	A
		All	6	A
	Sat	South	10	A
		East	5	A
		West	6	A
		All	7	A

Table 4.5: Dunmore Street Access Options Testing – SIDRA Results (cont.)

Signalised	AM	South	54	D
		East	4	A
		West	2	A
		All	7	A
	PM	South	46	D
		East	8	A
		West	8	A
		All	12	A
	Sat	South	38	C
		East	12	A
		West	15	B
		All	18	B

Based on options testing indicated above, for the Dunmore Street access, the following conclusions are made:

- An all movement priority-controlled intersection would operate at a Level of Service F during the Thursday AM peak hour (worst case). This is a result of the right-turn movement from the access would experiencing significant delays and queuing due to high volumes of through movement on Dunmore Street reducing the opportunities to undertake the manoeuvre. Consequently, this option has been discounted.
- A left-in/ left-out intersection would operate at a Level of Service B during the Thursday PM and Saturday midday peak hours (worst cases). This option was tested assuming all proposed right-turn development traffic from Dunmore Street into the development would continue to use the access via undertaking a U-turn manoeuvre at roundabout at Jones Street. However, due to the proximity of the intersection to the Dunmore Street/ Jones Street roundabout, this has been discounted.
- A roundabout-controlled intersection would operate at a Level of Service A during all peak hours.
- A signalised-controlled intersection would operate at a Level of Service B during the Saturday midday peak hour (worst case).

Table 4.6: Jones Street Access Options Testing – SIDRA Results

Intersection	Peak	Leg	Average Delay (sec)	Level of Service (LOS)
Priority-Controlled (All Movement)	AM	South	2	NA
		North	2	NA
		West	16	B
		All	7	NA
	PM	South	3	NA
		North	3	NA
		West	17	B
		All	6	NA
	Sat	South	4	NA
		North	3	NA
		West	15	B
		All	7	NA
Priority-Controlled (All Movement) [1]	AM	South	2	NA
		North	2	NA
		West	15	B
		All	7	NA
	PM	South	3	NA
		North	3	NA
		West	16	B
		All	6	NA
	Sat	South	4	NA
		North	3	NA
		West	15	B
		All	8	NA

[1] If Dunmore Street access was Left in/ Left out only. As such, all right-turn movements from the Dunmore access would be relocated.

Based on options testing above for an access on Jones Street, the following conclusions are made:

- An all movement priority-controlled intersection would operate at a Level of Service B during all peak hours.
- Should the Dunmore Street access be a left-in/ left-out arrangement, the additional traffic resulting from the inability to undertake a right-turn into Dunmore Street would not impact on the intersection performance and a Level of Service B during all peak hours would be maintained.

In summary, this shows that for the purposes of rezoning, adequate access can be provided on both the Dunmore and Jones Street frontages. The likely preference for access from Dunmore Street would be for a roundabout as this would also introduce an element of traffic calming on Dunmore Street and there are a number of locations where such an intersection could be provided without compromising access into properties on the northern side of Dunmore Street. Furthermore, the proposed access would allow closure of the existing access which is located close to the Jones Street/ Dunmore Street roundabout which would provide additional road safety benefits.

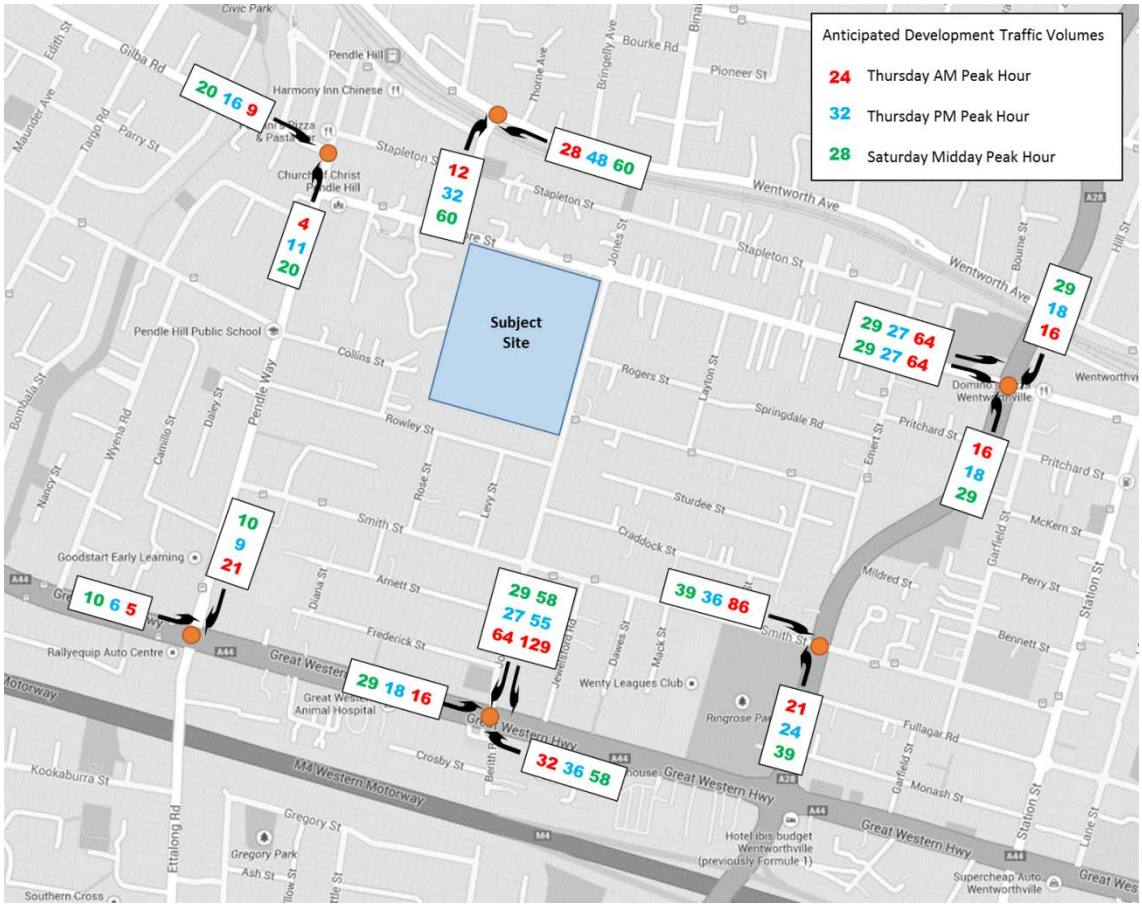
The access onto Jones Street would be likely to be in the form of a priority tee intersection.

4.7 Impact on Additional Intersections

Further to the original analysis, Roads and Maritime Services requested additional consideration be given to the impacts of the development on a number of intersections located beyond the seven intersections modelled by GTA. These intersections have been shown on Figure 4.11.

The overall anticipated traffic volumes added to each of the intersections are presented in Figure 4.11.

Figure 4.11: Traffic Volumes at Additional Intersections



Of the intersections considered, it is clear that the Pendle Way/ Gilba Street and Pendle Way/ Great Western Highway intersections would experience insignificant impacts with a maximum of one vehicle every three minutes.

Similarly, the Wentworth Avenue/ Goodall Street intersection would experience a maximum of one vehicle every one minute during the Saturday peak.

The intersections on the Cumberland Highway would experience more than a vehicle every minute entering Cumberland Highway during the Thursday AM peak, at other times they would experience less than one vehicle every one minute.

Similarly, with respect to the Jones Street intersection with the Great Western Highway, it is noted that the increase in traffic would be between one to two minutes per vehicle, except during the Thursday AM peak with a vehicle turning left into the highway every 30 seconds.

In summary, it can be seen that the additional traffic at each of the intersections offers a very modest increase. In terms of the two-way flows on the Cumberland highway and the Great Western Highway, the additional traffic would be negligible and would probably be within the daily variation in traffic. The additional traffic on the side road arms is generally less than one a minute and would be unlikely to affect the performance of the intersections significantly.

Due to these minor increases in flow, it has been considered that the modelling of the intersections is an excessive requirement for rezoning as the development is unlikely to trigger the need for any improvements at these intersections. If necessary, however, this additional intersection modelling could be undertaken at development application stage.

4.8 Residential Travel Plan

The use of such plans has been accepted at such sites as Harold Park in Sydney as a means of reducing the peak hour traffic impacts of development. A number of measures can be provided to encourage sustainable travel, and hence reduced car use, such as:

- Creation of street networks and associated cycle ways, footpaths and links to encourage cycling and walking.
- Provision of a Transport Access Guide which would be given to every new occupant of dwellings.
- Provision of public transport information boards to make residents and visitors more aware of the alternative transport options available to them. The format would be based upon the Transport Access Guide.
- Provision of a free public transport tickets for the initial occupation of the dwellings so that residents would be encouraged to make public transport their modal choice from the day they moved into their new dwelling.
- Provision of half yearly membership to a car club which could have dedicated cars and dedicated parking spaces reasonably close to the proposed development.
- Providing properties with high quality telecommunication points which will provide residents with the opportunity to work at home and to reduce the need to travel.
- Provision of bicycle parking spaces both for residents and for visitors to the site.
- Provision of a half yearly newsletter to residents to promote local travel initiatives.

All residents could be given this travel information and any associated membership in the owners pack for new residents.

5. Conclusion

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

i A Concept Master Plan has been developed for the site, incorporating approximately 1,600 new dwellings and approximately 6,000m^2 of retail floor space, including a supermarket.

ii The site is within walking distance to Pendle Hill Station and bus stops are located on the surrounding streets. Note: It is generally accepted that residents are willing to walk up to 800m to a rail station as opposed to only 400m to a bus stop.

iii The envisaged provision of 2,057 on-site car parking spaces accords with the minimum City of Holroyd DCP 2013 car parking requirements.

iv The site is expected to generate approximately 800-850 vehicle movements in the AM and PM peak hour and 1,000 vehicle movements in the Saturday midday peak hour.

v A potential re-use of the site for industrial purposes with an FSR comparable with adjacent development would be likely to generate at least 800 trips in the peak hours

vi Other than at the intersection of Dunmore Street/ Goodall Street, there appears to be adequate capacity in the surrounding road network to cater for the traffic generated by the proposed development.

vii Operation of the signalised intersection at Dunmore Street/ Goodall Street could be improved by altering signal phasings to optimise vehicle movements, altering or removing parking provisions along Dunmore Street (east) and Goodall Street, and/ or reviewing the number or configuration of apartments/ commercial floor space to reduce overall vehicle flows expected.

viii The anticipated increase in traffic resulting from the development at each of the additional intersections that RMS asked to be considered is expected to be very modest.

ix In terms of the two-way flows on the Cumberland Highway and the Great Western Highway, the additional traffic would be negligible and would probably be within the daily variation in traffic.

x Due to these minor increases in flow, it has been considered that the modelling of the intersections is an excessive requirement for rezoning as the development is unlikely to trigger the need for any improvements at these intersections. If necessary however, the intersection modelling could be undertaken at development application stage.

xi As the exact location of entrances and exits to the site along Jones Street and Dunmore Street cannot be fixed at this time, a range of access options has been presented and the analysis shows that adequate access to the site can be achieved.

xii The development proposal is consistent with the Holroyd Residential Centres Strategy Transport Review which identifies that

- Pendle Hill provides good opportunities for the retention and enhancement of the currently surveyed use of non-car travel, and is well situated to provide high and medium density residential development.
- It would not be unwarranted for Council to investigate further expansion of the high density zone (or provision of a medium density zone) south of the station to 400m at least if additional residential capacity is required in the future.

In conclusion, the proposed redevelopment would be able to proceed without having a significant adverse impact on the performance of the road network in the vicinity of the site.

Appendix A

SIDRA INERSECTION Results

MOVEMENT SUMMARY

Site: Jones-Rogers (Ex Thurs AM)

13S1210100
Jones Street-Rogers Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	242	2.0	0.131	1.3	LOS A	1.0	6.8	0.43	0.00	44.9
3	R	5	2.0	0.131	8.1	LOS A	1.0	6.8	0.43	0.89	43.0
Approach		247	2.0	0.131	1.5	NA	1.0	6.8	0.43	0.02	44.9
East: Rogers Street											
4	L	5	2.0	0.019	10.4	LOS A	0.1	0.5	0.48	0.60	39.9
6	R	5	2.0	0.019	10.8	LOS A	0.1	0.5	0.48	0.75	39.8
Approach		11	2.0	0.019	10.6	LOS A	0.1	0.5	0.48	0.67	39.8
North: Jones Street											
7	L	5	2.0	0.142	6.5	LOS A	0.0	0.0	0.00	0.91	43.3
8	T	267	2.0	0.142	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		273	2.0	0.142	0.1	NA	0.0	0.0	0.00	0.02	49.9
All Vehicles		531	2.0	0.142	1.0	NA	1.0	6.8	0.21	0.03	47.2

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Rogers (Ex Thurs PM)

13S1210100
Jones Street-Rogers Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	255	2.0	0.143	1.3	LOS A	1.0	7.4	0.44	0.00	44.8
3	R	12	2.0	0.143	8.1	LOS A	1.0	7.4	0.44	0.88	43.0
Approach		266	2.0	0.143	1.6	NA	1.0	7.4	0.44	0.04	44.8
East: Rogers Street											
4	L	12	2.0	0.030	9.8	LOS A	0.1	0.7	0.45	0.62	40.4
6	R	6	2.0	0.030	10.2	LOS A	0.1	0.7	0.45	0.77	40.2
Approach		18	2.0	0.030	10.0	LOS A	0.1	0.7	0.45	0.67	40.3
North: Jones Street											
7	L	6	2.0	0.142	6.5	LOS A	0.0	0.0	0.00	0.91	43.3
8	T	266	2.0	0.142	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		273	2.0	0.142	0.1	NA	0.0	0.0	0.00	0.02	49.8
All Vehicles		557	2.0	0.143	1.2	NA	1.0	7.4	0.22	0.05	46.9

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Rogers (Ex Sat)

13S1210100
Jones Street-Rogers Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	162	2.0	0.089	0.9	LOS A	0.6	4.2	0.36	0.00	45.7
3	R	5	2.0	0.089	7.7	LOS A	0.6	4.2	0.36	0.88	43.0
Approach		167	2.0	0.089	1.1	NA	0.6	4.2	0.36	0.03	45.6
East: Rogers Street											
4	L	12	2.0	0.024	8.5	LOS A	0.1	0.6	0.37	0.58	41.4
6	R	6	2.0	0.024	8.9	LOS A	0.1	0.6	0.37	0.71	41.3
Approach		18	2.0	0.024	8.7	LOS A	0.1	0.6	0.37	0.63	41.4
North: Jones Street											
7	L	14	2.0	0.110	6.5	LOS A	0.0	0.0	0.00	0.89	43.3
8	T	198	2.0	0.110	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		212	2.0	0.110	0.4	NA	0.0	0.0	0.00	0.06	49.5
All Vehicles		397	2.0	0.110	1.1	NA	0.6	4.2	0.17	0.07	47.4

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Oatlands (Ex Thurs AM)

13S1210100
Jones Street-Oatlands Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	223	2.0	0.121	1.0	LOS A	0.8	5.9	0.38	0.00	45.5
3	R	6	2.0	0.121	7.8	LOS A	0.8	5.9	0.38	0.88	43.0
Approach		229	2.0	0.121	1.2	NA	0.8	5.9	0.38	0.02	45.5
East: Oatlands Street											
4	L	14	2.0	0.028	8.8	LOS A	0.1	0.7	0.38	0.59	41.2
6	R	6	2.0	0.028	9.2	LOS A	0.1	0.7	0.38	0.73	41.1
Approach		20	2.0	0.028	8.9	LOS A	0.1	0.7	0.38	0.63	41.2
North: Jones Street											
7	L	7	2.0	0.112	6.5	LOS A	0.0	0.0	0.00	0.91	43.3
8	T	207	2.0	0.112	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		215	2.0	0.112	0.2	NA	0.0	0.0	0.00	0.03	49.7
All Vehicles		464	2.0	0.121	1.1	NA	0.8	5.9	0.20	0.05	47.1

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Oatlands (Ex Thurs PM)

13S1210100
Jones Street-Oatlands Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	232	2.0	0.135	1.5	LOS A	1.0	7.0	0.45	0.00	44.6
3	R	16	2.0	0.135	8.3	LOS A	1.0	7.0	0.45	0.88	43.0
Approach		247	2.0	0.135	1.9	NA	1.0	7.0	0.45	0.06	44.5
East: Oatlands Street											
4	L	24	2.0	0.053	9.7	LOS A	0.2	1.3	0.45	0.65	40.5
6	R	9	2.0	0.053	10.0	LOS A	0.2	1.3	0.45	0.79	40.4
Approach		34	2.0	0.053	9.8	LOS A	0.2	1.3	0.45	0.69	40.5
North: Jones Street											
7	L	13	2.0	0.156	6.5	LOS A	0.0	0.0	0.00	0.90	43.3
8	T	286	2.0	0.156	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		299	2.0	0.156	0.3	NA	0.0	0.0	0.00	0.04	49.7
All Vehicles		580	2.0	0.156	1.5	NA	1.0	7.0	0.22	0.08	46.8

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Oatlands (Ex Sat)

13S1210100
Jones Street-Oatlands Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	155	2.0	0.097	0.9	LOS A	0.6	4.4	0.35	0.00	45.6
3	R	20	2.0	0.097	7.7	LOS A	0.6	4.4	0.35	0.85	42.9
Approach		175	2.0	0.097	1.7	NA	0.6	4.4	0.35	0.10	45.3
East: Oatland Street											
4	L	14	2.0	0.025	8.3	LOS A	0.1	0.6	0.36	0.59	41.6
6	R	5	2.0	0.025	8.7	LOS A	0.1	0.6	0.36	0.71	41.4
Approach		19	2.0	0.025	8.4	LOS A	0.1	0.6	0.36	0.62	41.6
North: Jones Street											
7	L	8	2.0	0.109	6.5	LOS A	0.0	0.0	0.00	0.90	43.3
8	T	201	2.0	0.109	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		209	2.0	0.109	0.3	NA	0.0	0.0	0.00	0.04	49.7
All Vehicles		403	2.0	0.109	1.3	NA	0.6	4.4	0.17	0.09	47.3

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Smith (Ex Thurs AM)

13S1210100
Jones Street-Smith Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	5	2.0	0.225	6.7	LOS A	1.3	9.1	0.33	0.58	42.6
2	T	148	2.0	0.225	5.7	LOS A	1.3	9.1	0.33	0.49	43.0
3	R	89	2.0	0.225	9.7	LOS A	1.3	9.1	0.33	0.73	40.8
Approach		243	2.0	0.225	7.2	LOS A	1.3	9.1	0.33	0.58	42.2
East: Smith Street											
4	L	25	2.0	0.113	7.0	LOS A	0.6	4.3	0.38	0.59	42.4
5	T	49	2.0	0.113	6.0	LOS A	0.6	4.3	0.38	0.51	42.7
6	R	35	2.0	0.113	10.0	LOS A	0.6	4.3	0.38	0.72	40.7
Approach		109	2.0	0.113	7.5	LOS A	0.6	4.3	0.38	0.60	42.0
North: Jones Street											
7	L	139	2.0	0.357	8.9	LOS A	2.2	15.6	0.63	0.74	41.3
8	T	119	2.0	0.357	7.9	LOS A	2.2	15.6	0.63	0.70	41.6
9	R	29	2.0	0.357	12.0	LOS A	2.2	15.6	0.63	0.83	39.5
Approach		287	2.0	0.357	8.8	LOS A	2.2	15.6	0.63	0.73	41.2
West: Smith Street											
10	L	35	2.0	0.343	8.2	LOS A	2.1	14.8	0.55	0.70	42.1
11	T	253	2.0	0.343	7.2	LOS A	2.1	14.8	0.55	0.64	42.1
12	R	15	2.0	0.343	11.2	LOS A	2.1	14.8	0.55	0.82	40.1
Approach		302	2.0	0.343	7.5	LOS A	2.1	14.8	0.55	0.66	42.0
All Vehicles		942	2.0	0.357	7.8	LOS A	2.2	15.6	0.50	0.65	41.8

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Smith (Ex Thurs PM)

13S1210100
Jones Street-Smith Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	29	2.0	0.255	8.2	LOS A	1.4	10.3	0.55	0.70	42.0
2	T	157	2.0	0.255	7.3	LOS A	1.4	10.3	0.55	0.64	42.1
3	R	29	2.0	0.255	11.3	LOS A	1.4	10.3	0.55	0.81	40.0
Approach		216	2.0	0.255	8.0	LOS A	1.4	10.3	0.55	0.67	41.8
East: Smith Street											
4	L	58	2.0	0.318	7.0	LOS A	2.0	14.1	0.42	0.61	42.4
5	T	208	2.0	0.318	6.1	LOS A	2.0	14.1	0.42	0.53	42.6
6	R	64	2.0	0.318	10.1	LOS A	2.0	14.1	0.42	0.75	40.7
Approach		331	2.0	0.318	7.0	LOS A	2.0	14.1	0.42	0.59	42.2
North: Jones Street											
7	L	122	2.0	0.252	6.9	LOS A	1.5	10.5	0.38	0.59	42.4
8	T	104	2.0	0.252	5.9	LOS A	1.5	10.5	0.38	0.51	42.8
9	R	35	2.0	0.252	10.0	LOS A	1.5	10.5	0.38	0.73	40.8
Approach		261	2.0	0.252	6.9	LOS A	1.5	10.5	0.38	0.58	42.3
West: Smith Street											
10	L	23	2.0	0.150	7.6	LOS A	0.8	5.6	0.47	0.65	42.3
11	T	99	2.0	0.150	6.7	LOS A	0.8	5.6	0.47	0.58	42.5
12	R	12	2.0	0.150	10.7	LOS A	0.8	5.6	0.47	0.78	40.4
Approach		134	2.0	0.150	7.2	LOS A	0.8	5.6	0.47	0.61	42.3
All Vehicles		941	2.0	0.318	7.2	LOS A	2.0	14.1	0.44	0.61	42.1

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Smith (Ex Sat)

13S1210100
Jones Street-Smith Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	20	2.0	0.161	6.9	LOS A	0.9	6.1	0.35	0.60	42.6
2	T	107	2.0	0.161	5.9	LOS A	0.9	6.1	0.35	0.51	43.0
3	R	34	2.0	0.161	9.9	LOS A	0.9	6.1	0.35	0.75	40.8
Approach		161	2.0	0.161	6.9	LOS A	0.9	6.1	0.35	0.57	42.4
East: Smith Street											
4	L	18	2.0	0.140	6.8	LOS A	0.7	5.2	0.34	0.59	42.6
5	T	83	2.0	0.140	5.9	LOS A	0.7	5.2	0.34	0.50	43.0
6	R	40	2.0	0.140	9.9	LOS A	0.7	5.2	0.34	0.74	40.8
Approach		141	2.0	0.140	7.1	LOS A	0.7	5.2	0.34	0.58	42.3
North: Jones Street											
7	L	88	2.0	0.207	6.9	LOS A	1.1	8.2	0.37	0.60	42.5
8	T	102	2.0	0.207	6.0	LOS A	1.1	8.2	0.37	0.52	42.8
9	R	19	2.0	0.207	10.0	LOS A	1.1	8.2	0.37	0.75	40.8
Approach		209	2.0	0.207	6.8	LOS A	1.1	8.2	0.37	0.57	42.5
West: Smith Street											
10	L	11	2.0	0.129	7.1	LOS A	0.7	4.7	0.39	0.61	42.5
11	T	99	2.0	0.129	6.1	LOS A	0.7	4.7	0.39	0.53	42.9
12	R	15	2.0	0.129	10.2	LOS A	0.7	4.7	0.39	0.77	40.7
Approach		124	2.0	0.129	6.7	LOS A	0.7	4.7	0.39	0.57	42.6
All Vehicles		636	2.0	0.207	6.9	LOS A	1.1	8.2	0.36	0.57	42.4

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Dunmore (Ex Thurs AM)

13S1210100
Jones Street-Dunmore Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	158	2.0	0.311	8.8	LOS A	1.9	13.4	0.62	0.73	41.2
2	T	15	2.0	0.311	7.8	LOS A	1.9	13.4	0.62	0.68	41.4
3	R	75	2.0	0.311	11.8	LOS A	1.9	13.4	0.62	0.80	39.4
Approach		247	2.0	0.311	9.6	LOS A	1.9	13.4	0.62	0.75	40.6
East: Dunmore Street											
4	L	54	2.0	0.426	8.4	LOS A	2.9	20.3	0.61	0.72	41.9
5	T	312	2.0	0.426	7.4	LOS A	2.9	20.3	0.61	0.67	41.9
6	R	11	2.0	0.426	11.4	LOS A	2.9	20.3	0.61	0.82	40.0
Approach		376	2.0	0.426	7.7	LOS A	2.9	20.3	0.61	0.68	41.8
North: Jones Street											
7	L	5	2.0	0.175	14.2	LOS A	1.0	7.5	0.84	0.89	37.3
8	T	35	2.0	0.175	13.3	LOS A	1.0	7.5	0.84	0.87	37.5
9	R	35	2.0	0.175	17.3	LOS B	1.0	7.5	0.84	0.93	35.9
Approach		75	2.0	0.175	15.2	LOS B	1.0	7.5	0.84	0.90	36.7
West: Dunmore Street											
10	L	21	2.0	0.704	7.2	LOS A	8.4	59.7	0.60	0.58	41.8
11	T	628	2.0	0.704	6.2	LOS A	8.4	59.7	0.60	0.53	41.8
12	R	204	2.0	0.704	10.2	LOS A	8.4	59.7	0.60	0.68	40.6
Approach		854	2.0	0.704	7.2	LOS A	8.4	59.7	0.60	0.56	41.5
All Vehicles		1552	2.0	0.704	8.1	LOS A	8.4	59.7	0.61	0.64	41.2

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Dunmore (Ex Thurs PM)

13S1210100
Jones Street-Dunmore Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	174	2.0	0.427	11.7	LOS A	2.9	20.9	0.81	0.91	39.0
2	T	53	2.0	0.427	10.8	LOS A	2.9	20.9	0.81	0.89	39.2
3	R	35	2.0	0.427	14.8	LOS B	2.9	20.9	0.81	0.95	37.5
Approach		261	2.0	0.427	11.9	LOS A	2.9	20.9	0.81	0.91	38.8
East: Dunmore Street											
4	L	61	2.0	0.634	9.4	LOS A	6.0	42.8	0.71	0.76	41.2
5	T	525	2.0	0.634	8.4	LOS A	6.0	42.8	0.71	0.72	41.5
6	R	22	2.0	0.634	12.4	LOS A	6.0	42.8	0.71	0.84	39.4
Approach		608	2.0	0.634	8.7	LOS A	6.0	42.8	0.71	0.73	41.4
North: Jones Street											
7	L	12	2.0	0.102	8.9	LOS A	0.5	3.8	0.58	0.69	41.0
8	T	18	2.0	0.102	8.0	LOS A	0.5	3.8	0.58	0.64	41.4
9	R	46	2.0	0.102	12.0	LOS A	0.5	3.8	0.58	0.77	39.2
Approach		76	2.0	0.102	10.6	LOS A	0.5	3.8	0.58	0.73	40.0
West: Dunmore Street											
10	L	56	2.0	0.415	6.8	LOS A	3.1	22.2	0.41	0.58	42.3
11	T	233	2.0	0.415	5.8	LOS A	3.1	22.2	0.41	0.50	42.6
12	R	182	2.0	0.415	9.8	LOS A	3.1	22.2	0.41	0.71	40.7
Approach		471	2.0	0.415	7.5	LOS A	3.1	22.2	0.41	0.59	41.8
All Vehicles		1416	2.0	0.634	9.0	LOS A	6.0	42.8	0.62	0.72	40.9

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Dunmore (Ex Sat)

13S1210100
Jones Street-Dunmore Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	113	2.0	0.199	8.7	LOS A	1.1	7.8	0.58	0.71	41.4
2	T	19	2.0	0.199	7.7	LOS A	1.1	7.8	0.58	0.65	41.7
3	R	24	2.0	0.199	11.7	LOS A	1.1	7.8	0.58	0.79	39.5
Approach		156	2.0	0.199	9.0	LOS A	1.1	7.8	0.58	0.71	41.1
East: Dunmore Street											
4	L	28	2.0	0.385	7.6	LOS A	2.4	17.4	0.50	0.66	42.2
5	T	333	2.0	0.385	6.7	LOS A	2.4	17.4	0.50	0.60	42.4
6	R	15	2.0	0.385	10.7	LOS A	2.4	17.4	0.50	0.80	40.5
Approach		376	2.0	0.385	6.9	LOS A	2.4	17.4	0.50	0.61	42.3
North: Jones Street											
7	L	16	2.0	0.094	8.9	LOS A	0.5	3.4	0.56	0.69	41.1
8	T	21	2.0	0.094	7.9	LOS A	0.5	3.4	0.56	0.63	41.5
9	R	34	2.0	0.094	12.0	LOS A	0.5	3.4	0.56	0.78	39.3
Approach		71	2.0	0.094	10.1	LOS A	0.5	3.4	0.56	0.71	40.3
West: Dunmore Street											
10	L	34	2.0	0.362	6.3	LOS A	2.5	18.1	0.26	0.55	42.9
11	T	272	2.0	0.362	5.3	LOS A	2.5	18.1	0.26	0.46	43.4
12	R	152	2.0	0.362	9.4	LOS A	2.5	18.1	0.26	0.72	40.9
Approach		457	2.0	0.362	6.7	LOS A	2.5	18.1	0.26	0.55	42.5
All Vehicles		1059	2.0	0.385	7.4	LOS A	2.5	18.1	0.41	0.61	42.1

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Dunmore-Goodall (Ex Thurs AM)

13S1210100
Dunmore Street-Goodall Street
Signals - Fixed Time Cycle Time = 65 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Dunmore Street											
5	T	268	2.0	0.305	8.1	LOS A	4.4	31.4	0.55	0.47	40.5
6	R	268	2.0	0.888	44.2	LOS D	9.4	67.2	1.00	1.16	24.2
Approach		537	2.0	0.888	26.2	LOS B	9.4	67.2	0.78	0.81	30.3
North: Goodall Street											
7	L	268	2.0	0.562	19.1	LOS B	5.6	39.7	0.69	0.77	34.2
9	R	408	2.0	0.853	39.1	LOS C	14.9	105.9	1.00	1.01	25.8
Approach		677	2.0	0.853	31.2	LOS C	14.9	105.9	0.88	0.91	28.6
West: Dunmore Street											
10	L	333	2.0	0.308	9.7	LOS A	3.5	25.2	0.36	0.70	40.5
11	T	618	2.0	0.869	29.7	LOS C	22.6	161.1	1.00	1.09	27.9
Approach		951	2.0	0.869	22.7	LOS B	22.6	161.1	0.77	0.96	31.3
All Vehicles		2164	2.0	0.888	26.2	LOS B	22.6	161.1	0.81	0.91	30.2

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across N approach	53	20.0	LOS C	0.1	0.1	0.78	0.78
P7	Across W approach	53	25.9	LOS C	0.1	0.1	0.89	0.89
All Pedestrians		106	22.9	LOS C			0.84	0.84

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

MOVEMENT SUMMARY

Site: Dunmore-Goodall (Ex Thurs PM)

13S1210100
Dunmore Street-Goodall Street
Signals - Fixed Time Cycle Time = 56 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Dunmore Street											
5	T	447	2.0	0.502	9.9	LOS A	8.1	57.4	0.70	0.60	38.7
6	R	260	2.0	0.573	21.1	LOS B	5.7	40.4	0.91	0.82	33.1
Approach		707	2.0	0.573	14.0	LOS A	8.1	57.4	0.77	0.68	36.5
North: Goodall Street											
7	L	243	2.0	0.425	15.2	LOS B	3.9	27.5	0.61	0.75	36.6
9	R	398	2.0	0.761	29.4	LOS C	11.1	79.3	0.97	0.92	29.3
Approach		641	2.0	0.761	24.0	LOS B	11.1	79.3	0.83	0.86	31.7
West: Dunmore Street											
10	L	233	2.0	0.216	10.0	LOS A	2.3	16.6	0.39	0.70	40.3
11	T	233	2.0	0.423	18.0	LOS B	5.3	37.9	0.86	0.71	33.4
Approach		465	2.0	0.423	14.0	LOS A	5.3	37.9	0.62	0.71	36.5
All Vehicles		1814	2.0	0.761	17.6	LOS B	11.1	79.3	0.76	0.75	34.6

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across N approach	53	22.3	LOS C	0.1	0.1	0.89	0.89
P7	Across W approach	53	22.3	LOS C	0.1	0.1	0.89	0.89
All Pedestrians		106	22.3	LOS C			0.89	0.89

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

MOVEMENT SUMMARY

Site: Dunmore-Goodall (Ex Sat)

13S1210100
Dunmore Street-Goodall Street
Signals - Fixed Time Cycle Time = 56 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Dunmore Street											
5	T	281	2.0	0.315	8.9	LOS A	4.5	32.3	0.62	0.53	39.7
6	R	201	2.0	0.451	21.0	LOS B	4.2	30.1	0.87	0.79	33.2
Approach		482	2.0	0.451	13.9	LOS A	4.5	32.3	0.73	0.64	36.7
North: Goodall Street											
7	L	195	2.0	0.340	15.0	LOS B	3.0	21.4	0.59	0.74	36.8
9	R	209	2.0	0.400	24.4	LOS B	4.8	34.0	0.85	0.79	31.5
Approach		404	2.0	0.400	19.9	LOS B	4.8	34.0	0.73	0.77	33.8
West: Dunmore Street											
10	L	165	2.0	0.157	9.9	LOS A	1.6	11.6	0.37	0.69	40.4
11	T	269	2.0	0.482	18.2	LOS B	6.2	44.2	0.87	0.72	33.3
Approach		435	2.0	0.482	15.0	LOS B	6.2	44.2	0.68	0.71	35.7
All Vehicles		1321	2.0	0.482	16.1	LOS B	6.2	44.2	0.71	0.70	35.4

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across N approach	53	22.3	LOS C	0.1	0.1	0.89	0.89
P7	Across W approach	53	22.3	LOS C	0.1	0.1	0.89	0.89
All Pedestrians		106	22.3	LOS C			0.89	0.89

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

MOVEMENT SUMMARY

Site: Dunmore-Pendle (Ex Thurs AM)

13S1210100
Dunmore Street-Pendle Way
Signals - Fixed Time Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pendle Way											
2	T	236	2.0	0.204	5.9	LOS A	3.1	22.4	0.48	0.41	42.5
3	R	516	2.0	0.780	25.8	LOS B	12.7	90.1	0.95	1.03	30.8
Approach		752	2.0	0.780	19.5	LOS B	12.7	90.1	0.80	0.83	33.7
East: Dunmore Street											
4	L	306	2.0	0.314	15.0	LOS B	5.1	36.0	0.60	0.76	36.8
6	R	263	2.0	0.719	33.4	LOS C	7.9	56.3	0.99	0.89	27.7
Approach		569	2.0	0.719	23.5	LOS B	7.9	56.3	0.78	0.82	31.9
North: Pendle Way											
7	L	408	2.0	0.450	14.3	LOS A	6.7	47.8	0.60	0.76	37.2
8	T	188	2.0	0.367	19.8	LOS B	4.6	32.9	0.86	0.70	32.4
Approach		597	2.0	0.450	16.0	LOS B	6.7	47.8	0.68	0.74	35.6
All Vehicles		1918	2.0	0.780	19.6	LOS B	12.7	90.1	0.76	0.80	33.7

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	12.0	LOS B	0.1	0.1	0.63	0.63
P3	Across E approach	53	24.3	LOS C	0.1	0.1	0.90	0.90
All Pedestrians		106	18.2	LOS B			0.77	0.77

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

MOVEMENT SUMMARY

Site: Dunmore-Pendle (Ex Thurs PM)

13S1210100
Dunmore Street-Pendle Way
Signals - Fixed Time Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pendle Way											
2	T	277	2.0	0.308	10.8	LOS A	5.1	36.2	0.66	0.56	38.2
3	R	255	2.0	0.573	22.5	LOS B	6.0	42.7	0.91	0.82	32.4
Approach		532	2.0	0.573	16.4	LOS B	6.0	42.7	0.78	0.68	35.2
East: Dunmore Street											
4	L	420	2.0	0.430	15.7	LOS B	7.5	53.5	0.65	0.78	36.3
6	R	398	2.0	0.652	25.5	LOS B	10.3	73.2	0.91	0.84	31.0
Approach		818	2.0	0.652	20.5	LOS B	10.3	73.2	0.77	0.81	33.5
North: Pendle Way											
7	L	199	2.0	0.184	9.7	LOS A	1.9	13.9	0.36	0.69	40.6
8	T	188	2.0	0.367	19.8	LOS B	4.6	32.9	0.86	0.70	32.4
Approach		387	2.0	0.367	14.6	LOS B	4.6	32.9	0.60	0.70	36.2
All Vehicles		1737	2.0	0.652	17.9	LOS B	10.3	73.2	0.74	0.75	34.6

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	12.0	LOS B	0.1	0.1	0.63	0.63
P3	Across E approach	53	24.3	LOS C	0.1	0.1	0.90	0.90
All Pedestrians		106	18.2	LOS B			0.77	0.77

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

MOVEMENT SUMMARY

Site: Dunmore-Pendle (Ex Sat)

13S1210100
Dunmore Street-Pendle Way
Signals - Fixed Time Cycle Time = 50 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pendle Way											
2	T	303	2.0	0.449	6.5	LOS A	4.2	29.6	0.57	0.48	41.5
3	R	217	2.0	0.449	16.0	LOS B	4.2	29.6	0.79	0.80	36.2
Approach		520	2.0	0.449	10.4	LOS A	4.2	29.6	0.66	0.61	39.1
East: Dunmore Street											
4	L	255	2.0	0.316	16.5	LOS B	4.1	29.4	0.69	0.77	35.8
6	R	238	2.0	0.650	28.2	LOS B	5.8	41.4	0.97	0.86	29.8
Approach		493	2.0	0.650	22.1	LOS B	5.8	41.4	0.82	0.81	32.6
North: Pendle Way											
7	L	226	2.0	0.211	10.4	LOS A	2.3	16.2	0.44	0.71	40.0
8	T	222	2.0	0.361	14.5	LOS B	4.3	30.6	0.81	0.67	35.5
Approach		448	2.0	0.361	12.5	LOS A	4.3	30.6	0.62	0.69	37.6
All Vehicles		1461	2.0	0.650	15.0	LOS B	5.8	41.4	0.70	0.70	36.2

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	14.4	LOS B	0.1	0.1	0.76	0.76
P3	Across E approach	53	19.4	LOS B	0.1	0.1	0.88	0.88
All Pedestrians		106	16.9	LOS B			0.82	0.82

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

MOVEMENT SUMMARY

Site: Jones-Rogers (2027 Thurs AM)

13S1210100
Jones Street-Rogers Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	274	2.0	0.147	1.6	LOS A	1.1	8.0	0.47	0.00	44.5
3	R	5	2.0	0.147	8.4	LOS A	1.1	8.0	0.47	0.90	43.1
Approach		279	2.0	0.147	1.7	NA	1.1	8.0	0.47	0.02	44.5
East: Rogers Street											
4	L	5	2.0	0.022	11.3	LOS A	0.1	0.5	0.51	0.62	39.3
6	R	5	2.0	0.022	11.6	LOS A	0.1	0.5	0.51	0.78	39.1
Approach		11	2.0	0.022	11.4	LOS A	0.1	0.5	0.51	0.70	39.2
North: Jones Street											
7	L	5	2.0	0.160	6.5	LOS A	0.0	0.0	0.00	0.92	43.3
8	T	302	2.0	0.160	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		307	2.0	0.160	0.1	NA	0.0	0.0	0.00	0.02	49.9
All Vehicles		597	2.0	0.160	1.0	NA	1.1	8.0	0.23	0.03	47.0

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Rogers (2027 Thurs PM)

13S1210100
Jones Street-Rogers Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	287	2.0	0.161	1.6	LOS A	1.2	8.8	0.48	0.00	44.4
3	R	13	2.0	0.161	8.4	LOS A	1.2	8.8	0.48	0.89	43.0
Approach		300	2.0	0.161	1.9	NA	1.2	8.8	0.48	0.04	44.4
East: Rogers Street											
4	L	13	2.0	0.034	10.4	LOS A	0.1	0.8	0.48	0.64	39.9
6	R	6	2.0	0.034	10.8	LOS A	0.1	0.8	0.48	0.80	39.8
Approach		19	2.0	0.034	10.5	LOS A	0.1	0.8	0.48	0.69	39.9
North: Jones Street											
7	L	6	2.0	0.160	6.5	LOS A	0.0	0.0	0.00	0.91	43.3
8	T	301	2.0	0.160	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		307	2.0	0.160	0.1	NA	0.0	0.0	0.00	0.02	49.8
All Vehicles		626	2.0	0.161	1.3	NA	1.2	8.8	0.24	0.05	46.7

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Rogers (2027 Sat)

13S1210100
Jones Street-Rogers Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	183	2.0	0.101	1.1	LOS A	0.7	4.9	0.39	0.00	45.3
3	R	6	2.0	0.101	7.9	LOS A	0.7	4.9	0.39	0.88	43.0
Approach		189	2.0	0.101	1.3	NA	0.7	4.9	0.39	0.03	45.3
East: Rogers Street											
4	L	13	2.0	0.029	9.0	LOS A	0.1	0.7	0.40	0.60	41.1
6	R	7	2.0	0.029	9.3	LOS A	0.1	0.7	0.40	0.73	40.9
Approach		20	2.0	0.029	9.1	LOS A	0.1	0.7	0.40	0.65	41.0
North: Jones Street											
7	L	16	2.0	0.125	6.5	LOS A	0.0	0.0	0.00	0.89	43.3
8	T	223	2.0	0.125	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		239	2.0	0.125	0.4	NA	0.0	0.0	0.00	0.06	49.5
All Vehicles		448	2.0	0.125	1.2	NA	0.7	4.9	0.18	0.07	47.2

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Oatlands (2027 Thurs AM)

13S1210100
Jones Street-Oatlands Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	253	2.0	0.137	1.1	LOS A	1.0	6.9	0.41	0.00	45.2
3	R	6	2.0	0.137	7.9	LOS A	1.0	6.9	0.41	0.88	43.0
Approach		259	2.0	0.137	1.3	NA	1.0	6.9	0.41	0.02	45.1
East: Oatlands Street											
4	L	16	2.0	0.033	9.1	LOS A	0.1	0.8	0.41	0.61	41.0
6	R	6	2.0	0.033	9.5	LOS A	0.1	0.8	0.41	0.75	40.8
Approach		22	2.0	0.033	9.2	LOS A	0.1	0.8	0.41	0.65	40.9
North: Jones Street											
7	L	7	2.0	0.126	6.5	LOS A	0.0	0.0	0.00	0.91	43.3
8	T	235	2.0	0.126	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		242	2.0	0.126	0.2	NA	0.0	0.0	0.00	0.03	49.8
All Vehicles		523	2.0	0.137	1.1	NA	1.0	6.9	0.22	0.05	46.9

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Oatlands (2027 Thurs PM)

13S1210100
Jones Street-Oatlands Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	262	2.0	0.154	1.8	LOS A	1.2	8.4	0.49	0.00	44.2
3	R	18	2.0	0.154	8.6	LOS A	1.2	8.4	0.49	0.89	42.9
Approach		280	2.0	0.154	2.2	NA	1.2	8.4	0.49	0.06	44.1
East: Oatlands Street											
4	L	27	2.0	0.065	10.3	LOS A	0.2	1.6	0.49	0.67	40.0
6	R	11	2.0	0.065	10.7	LOS A	0.2	1.6	0.49	0.83	39.9
Approach		38	2.0	0.065	10.4	LOS A	0.2	1.6	0.49	0.72	40.0
North: Jones Street											
7	L	15	2.0	0.176	6.5	LOS A	0.0	0.0	0.00	0.90	43.3
8	T	323	2.0	0.176	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		338	2.0	0.176	0.3	NA	0.0	0.0	0.00	0.04	49.7
All Vehicles		656	2.0	0.176	1.7	NA	1.2	8.4	0.24	0.09	46.5

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Oatlands (2027 Sat)

13S1210100
Jones Street-Oatlands Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	175	2.0	0.110	1.1	LOS A	0.7	5.1	0.38	0.00	45.3
3	R	22	2.0	0.110	7.9	LOS A	0.7	5.1	0.38	0.85	42.9
Approach		197	2.0	0.110	1.8	NA	0.7	5.1	0.38	0.10	45.0
East: Oatland Street											
4	L	16	2.0	0.031	8.7	LOS A	0.1	0.8	0.39	0.60	41.3
6	R	6	2.0	0.031	9.1	LOS A	0.1	0.8	0.39	0.73	41.1
Approach		22	2.0	0.031	8.8	LOS A	0.1	0.8	0.39	0.64	41.3
North: Jones Street											
7	L	9	2.0	0.123	6.5	LOS A	0.0	0.0	0.00	0.90	43.3
8	T	227	2.0	0.123	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		237	2.0	0.123	0.3	NA	0.0	0.0	0.00	0.04	49.7
All Vehicles		456	2.0	0.123	1.4	NA	0.7	5.1	0.18	0.09	47.1

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Smith (2027 Thurs AM)

13S1210100
Jones Street-Smith Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	5	2.0	0.257	6.8	LOS A	1.5	10.7	0.36	0.59	42.5
2	T	167	2.0	0.257	5.9	LOS A	1.5	10.7	0.36	0.51	42.9
3	R	101	2.0	0.257	9.9	LOS A	1.5	10.7	0.36	0.73	40.8
Approach		274	2.0	0.257	7.4	LOS A	1.5	10.7	0.36	0.59	42.1
East: Smith Street											
4	L	28	2.0	0.130	7.1	LOS A	0.7	5.0	0.41	0.60	42.3
5	T	56	2.0	0.130	6.2	LOS A	0.7	5.0	0.41	0.53	42.6
6	R	39	2.0	0.130	10.2	LOS A	0.7	5.0	0.41	0.73	40.6
Approach		123	2.0	0.130	7.7	LOS A	0.7	5.0	0.41	0.61	41.9
North: Jones Street											
7	L	157	2.0	0.422	9.5	LOS A	2.7	19.4	0.69	0.79	40.8
8	T	134	2.0	0.422	8.5	LOS A	2.7	19.4	0.69	0.75	41.1
9	R	34	2.0	0.422	12.6	LOS A	2.7	19.4	0.69	0.86	39.1
Approach		324	2.0	0.422	9.4	LOS A	2.7	19.4	0.69	0.78	40.8
West: Smith Street											
10	L	39	2.0	0.400	8.6	LOS A	2.5	18.1	0.61	0.73	41.8
11	T	285	2.0	0.400	7.7	LOS A	2.5	18.1	0.61	0.68	41.9
12	R	17	2.0	0.400	11.7	LOS A	2.5	18.1	0.61	0.84	39.8
Approach		341	2.0	0.400	8.0	LOS A	2.5	18.1	0.61	0.69	41.8
All Vehicles		1062	2.0	0.422	8.2	LOS A	2.7	19.4	0.55	0.68	41.5

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Smith (2027 Thurs PM)

13S1210100
Jones Street-Smith Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	33	2.0	0.297	8.6	LOS A	1.7	12.5	0.59	0.73	41.6
2	T	177	2.0	0.297	7.7	LOS A	1.7	12.5	0.59	0.68	41.9
3	R	33	2.0	0.297	11.7	LOS A	1.7	12.5	0.59	0.83	39.7
Approach		242	2.0	0.297	8.4	LOS A	1.7	12.5	0.59	0.70	41.5
East: Smith Street											
4	L	65	2.0	0.365	7.3	LOS A	2.4	17.0	0.46	0.63	42.2
5	T	236	2.0	0.365	6.3	LOS A	2.4	17.0	0.46	0.56	42.4
6	R	72	2.0	0.365	10.3	LOS A	2.4	17.0	0.46	0.76	40.6
Approach		373	2.0	0.365	7.3	LOS A	2.4	17.0	0.46	0.61	42.0
North: Jones Street											
7	L	138	2.0	0.289	7.1	LOS A	1.8	12.5	0.42	0.61	42.3
8	T	118	2.0	0.289	6.1	LOS A	1.8	12.5	0.42	0.53	42.6
9	R	39	2.0	0.289	10.1	LOS A	1.8	12.5	0.42	0.74	40.7
Approach		295	2.0	0.289	7.1	LOS A	1.8	12.5	0.42	0.59	42.2
West: Smith Street											
10	L	26	2.0	0.174	7.9	LOS A	0.9	6.7	0.50	0.67	42.2
11	T	112	2.0	0.174	6.9	LOS A	0.9	6.7	0.50	0.60	42.3
12	R	13	2.0	0.174	10.9	LOS A	0.9	6.7	0.50	0.79	40.2
Approach		151	2.0	0.174	7.4	LOS A	0.9	6.7	0.50	0.63	42.1
All Vehicles		1060	2.0	0.365	7.5	LOS A	2.4	17.0	0.49	0.63	42.0

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Smith (2027 Sat)

13S1210100
Jones Street-Smith Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	22	2.0	0.184	7.0	LOS A	1.0	7.1	0.38	0.61	42.5
2	T	121	2.0	0.184	6.1	LOS A	1.0	7.1	0.38	0.53	42.8
3	R	38	2.0	0.184	10.1	LOS A	1.0	7.1	0.38	0.75	40.7
Approach		181	2.0	0.184	7.0	LOS A	1.0	7.1	0.38	0.58	42.3
East: Smith Street											
4	L	20	2.0	0.161	7.0	LOS A	0.9	6.1	0.37	0.60	42.5
5	T	94	2.0	0.161	6.0	LOS A	0.9	6.1	0.37	0.51	42.8
6	R	45	2.0	0.161	10.0	LOS A	0.9	6.1	0.37	0.74	40.8
Approach		159	2.0	0.161	7.3	LOS A	0.9	6.1	0.37	0.59	42.2
North: Jones Street											
7	L	100	2.0	0.239	7.1	LOS A	1.4	9.7	0.41	0.61	42.4
8	T	116	2.0	0.239	6.2	LOS A	1.4	9.7	0.41	0.54	42.7
9	R	21	2.0	0.239	10.2	LOS A	1.4	9.7	0.41	0.75	40.7
Approach		237	2.0	0.239	6.9	LOS A	1.4	9.7	0.41	0.59	42.4
West: Smith Street											
10	L	12	2.0	0.149	7.3	LOS A	0.8	5.5	0.42	0.63	42.5
11	T	112	2.0	0.149	6.3	LOS A	0.8	5.5	0.42	0.55	42.7
12	R	17	2.0	0.149	10.4	LOS A	0.8	5.5	0.42	0.78	40.6
Approach		140	2.0	0.149	6.9	LOS A	0.8	5.5	0.42	0.58	42.4
All Vehicles		717	2.0	0.239	7.0	LOS A	1.4	9.7	0.40	0.59	42.3

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Dunmore (2027 Thurs AM)

13S1210100
Jones Street-Dunmore Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	179	2.0	0.371	9.3	LOS A	2.4	16.8	0.68	0.77	40.8
2	T	17	2.0	0.371	8.3	LOS A	2.4	16.8	0.68	0.73	41.1
3	R	84	2.0	0.371	12.4	LOS A	2.4	16.8	0.68	0.83	39.0
Approach		280	2.0	0.371	10.2	LOS A	2.4	16.8	0.68	0.79	40.2
East: Dunmore Street											
4	L	61	2.0	0.504	9.0	LOS A	3.7	26.6	0.69	0.77	41.5
5	T	352	2.0	0.504	8.0	LOS A	3.7	26.6	0.69	0.73	41.5
6	R	13	2.0	0.504	12.1	LOS A	3.7	26.6	0.69	0.85	39.6
Approach		425	2.0	0.504	8.3	LOS A	3.7	26.6	0.69	0.73	41.5
North: Jones Street											
7	L	5	2.0	0.252	16.6	LOS B	1.6	11.5	0.92	0.97	35.7
8	T	39	2.0	0.252	15.7	LOS B	1.6	11.5	0.92	0.96	35.8
9	R	39	2.0	0.252	19.7	LOS B	1.6	11.5	0.92	0.98	34.5
Approach		83	2.0	0.252	17.6	LOS B	1.6	11.5	0.92	0.97	35.2
West: Dunmore Street											
10	L	24	2.0	0.808	7.8	LOS A	12.1	86.1	0.80	0.60	41.2
11	T	709	2.0	0.808	6.8	LOS A	12.1	86.1	0.80	0.57	40.9
12	R	231	2.0	0.808	10.8	LOS A	12.1	86.1	0.80	0.65	40.4
Approach		964	2.0	0.808	7.8	LOS A	12.1	86.1	0.80	0.59	40.8
All Vehicles		1753	2.0	0.808	8.8	LOS A	12.1	86.1	0.76	0.67	40.6

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Dunmore (2027 Thurs PM)

13S1210100
Jones Street-Dunmore Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	196	2.0	0.543	15.0	LOS B	4.5	32.0	0.90	1.05	36.8
2	T	59	2.0	0.543	14.0	LOS A	4.5	32.0	0.90	1.04	36.9
3	R	39	2.0	0.543	18.0	LOS B	4.5	32.0	0.90	1.07	35.5
Approach		294	2.0	0.543	15.2	LOS B	4.5	32.0	0.90	1.05	36.6
East: Dunmore Street											
4	L	68	2.0	0.741	12.1	LOS A	9.5	67.6	0.85	0.89	39.2
5	T	594	2.0	0.741	11.1	LOS A	9.5	67.6	0.85	0.87	39.3
6	R	25	2.0	0.741	15.1	LOS B	9.5	67.6	0.85	0.93	37.6
Approach		687	2.0	0.741	11.4	LOS A	9.5	67.6	0.85	0.88	39.3
North: Jones Street											
7	L	13	2.0	0.123	9.5	LOS A	0.7	4.7	0.63	0.72	40.6
8	T	20	2.0	0.123	8.5	LOS A	0.7	4.7	0.63	0.68	41.0
9	R	53	2.0	0.123	12.5	LOS A	0.7	4.7	0.63	0.80	38.8
Approach		85	2.0	0.123	11.1	LOS A	0.7	4.7	0.63	0.76	39.6
West: Dunmore Street											
10	L	62	2.0	0.476	7.0	LOS A	3.9	27.6	0.47	0.59	42.1
11	T	262	2.0	0.476	6.0	LOS A	3.9	27.6	0.47	0.52	42.3
12	R	206	2.0	0.476	10.0	LOS A	3.9	27.6	0.47	0.71	40.6
Approach		531	2.0	0.476	7.7	LOS A	3.9	27.6	0.47	0.60	41.6
All Vehicles		1597	2.0	0.741	10.8	LOS A	9.5	67.6	0.72	0.81	39.5

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Dunmore (2027 Sat)

13S1210100
Jones Street-Dunmore Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	127	2.0	0.237	9.1	LOS A	1.4	9.6	0.63	0.74	41.0
2	T	21	2.0	0.237	8.2	LOS A	1.4	9.6	0.63	0.70	41.3
3	R	27	2.0	0.237	12.2	LOS A	1.4	9.6	0.63	0.82	39.1
Approach		176	2.0	0.237	9.5	LOS A	1.4	9.6	0.63	0.75	40.7
East: Dunmore Street											
4	L	33	2.0	0.447	8.0	LOS A	3.0	21.5	0.56	0.69	42.1
5	T	376	2.0	0.447	7.1	LOS A	3.0	21.5	0.56	0.63	42.1
6	R	17	2.0	0.447	11.1	LOS A	3.0	21.5	0.56	0.81	40.3
Approach		425	2.0	0.447	7.3	LOS A	3.0	21.5	0.56	0.64	42.0
North: Jones Street											
7	L	18	2.0	0.112	9.4	LOS A	0.6	4.1	0.61	0.72	40.7
8	T	24	2.0	0.112	8.5	LOS A	0.6	4.1	0.61	0.67	41.1
9	R	38	2.0	0.112	12.5	LOS A	0.6	4.1	0.61	0.80	38.9
Approach		80	2.0	0.112	10.6	LOS A	0.6	4.1	0.61	0.74	39.9
West: Dunmore Street											
10	L	38	2.0	0.412	6.4	LOS A	3.1	22.1	0.30	0.55	42.7
11	T	307	2.0	0.412	5.4	LOS A	3.1	22.1	0.30	0.46	43.2
12	R	172	2.0	0.412	9.4	LOS A	3.1	22.1	0.30	0.71	40.9
Approach		517	2.0	0.412	6.8	LOS A	3.1	22.1	0.30	0.55	42.3
All Vehicles		1198	2.0	0.447	7.6	LOS A	3.1	22.1	0.46	0.63	41.8

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Dunmore-Goodall (2027 Thurs AM)

13S1210100
Dunmore Street-Goodall Street
Signals - Fixed Time Cycle Time = 85 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Dunmore Street											
5	T	303	2.0	0.381	9.1	LOS A	6.1	43.3	0.52	0.45	39.7
6	R	303	2.0	0.913	59.1	LOS E	14.1	100.3	1.00	1.23	20.6
Approach		606	2.0	0.913	34.1	LOS C	14.1	100.3	0.76	0.84	27.1
North: Goodall Street											
7	L	303	2.0	0.745	26.3	LOS B	9.0	64.3	0.69	0.83	30.6
9	R	461	2.0	0.931	59.1	LOS E	24.9	177.3	1.00	1.09	20.6
Approach		764	2.0	0.931	46.1	LOS D	24.9	177.3	0.88	0.98	23.7
West: Dunmore Street											
10	L	376	2.0	0.387	10.6	LOS A	5.2	37.2	0.36	0.71	39.8
11	T	698	2.0	0.934	47.8	LOS D	37.8	269.4	1.00	1.19	22.4
Approach		1074	2.0	0.934	34.8	LOS C	37.8	269.4	0.78	1.02	26.5
All Vehicles		2444	2.0	0.934	38.2	LOS C	37.8	269.4	0.80	0.96	25.7

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across N approach	53	22.6	LOS C	0.1	0.1	0.73	0.73
P7	Across W approach	53	30.5	LOS D	0.1	0.1	0.85	0.85
All Pedestrians		106	26.6	LOS C			0.79	0.79

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

MOVEMENT SUMMARY

Site: Dunmore-Goodall (2027 Thurs PM)

13S1210100
Dunmore Street-Goodall Street
Signals - Fixed Time Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Dunmore Street											
5	T	506	2.0	0.612	12.6	LOS A	10.9	77.4	0.77	0.68	36.7
6	R	294	2.0	0.740	28.3	LOS B	8.1	57.9	0.99	0.94	29.7
Approach		800	2.0	0.740	18.4	LOS B	10.9	77.4	0.85	0.78	33.8
North: Goodall Street											
7	L	275	2.0	0.479	14.8	LOS B	4.4	31.6	0.58	0.74	36.9
9	R	449	2.0	0.736	27.8	LOS B	12.6	90.1	0.94	0.89	30.0
Approach		724	2.0	0.736	22.8	LOS B	12.6	90.1	0.81	0.84	32.3
West: Dunmore Street											
10	L	262	2.0	0.243	9.8	LOS A	2.7	19.0	0.37	0.70	40.5
11	T	262	2.0	0.511	20.8	LOS B	6.7	47.9	0.90	0.75	31.9
Approach		524	2.0	0.511	15.3	LOS B	6.7	47.9	0.64	0.72	35.7
All Vehicles		2048	2.0	0.740	19.2	LOS B	12.6	90.1	0.78	0.78	33.7

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across N approach	53	24.3	LOS C	0.1	0.1	0.90	0.90
P7	Across W approach	53	20.8	LOS C	0.1	0.1	0.83	0.83
All Pedestrians		106	22.6	LOS C			0.87	0.87

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

MOVEMENT SUMMARY

Site: Dunmore-Goodall (2027 Sat)

13S1210100
Dunmore Street-Goodall Street
Signals - Fixed Time Cycle Time = 56 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Dunmore Street											
5	T	318	2.0	0.356	9.1	LOS A	5.3	37.4	0.64	0.54	39.5
6	R	227	2.0	0.535	22.2	LOS B	5.0	35.9	0.91	0.81	32.5
Approach		545	2.0	0.535	14.6	LOS B	5.3	37.4	0.75	0.65	36.2
North: Goodall Street											
7	L	220	2.0	0.385	15.1	LOS B	3.4	24.5	0.60	0.74	36.7
9	R	237	2.0	0.453	24.7	LOS B	5.5	39.1	0.87	0.80	31.3
Approach		457	2.0	0.453	20.1	LOS B	5.5	39.1	0.74	0.77	33.7
West: Dunmore Street											
10	L	186	2.0	0.168	10.0	LOS A	2.1	14.9	0.38	0.71	40.4
11	T	304	2.0	0.514	17.6	LOS B	6.7	47.6	0.85	0.71	33.6
Approach		491	2.0	0.514	14.7	LOS B	6.7	47.6	0.67	0.71	35.9
All Vehicles		1493	2.0	0.535	16.3	LOS B	6.7	47.6	0.72	0.71	35.3

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across N approach	53	22.3	LOS C	0.1	0.1	0.89	0.89
P7	Across W approach	53	22.3	LOS C	0.1	0.1	0.89	0.89
All Pedestrians		106	22.3	LOS C			0.89	0.89

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

MOVEMENT SUMMARY

Site: Dunmore-Pendle (2027 Thurs AM)

13S1210100
Dunmore Street-Pendle Way
Signals - Fixed Time Cycle Time = 65 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pendle Way											
2	T	267	2.0	0.226	6.0	LOS A	3.8	26.8	0.48	0.40	42.4
3	R	582	2.0	0.831	31.2	LOS C	15.9	113.0	0.97	1.10	28.5
Approach		849	2.0	0.831	23.3	LOS B	15.9	113.0	0.81	0.88	31.8
East: Dunmore Street											
4	L	345	2.0	0.331	14.5	LOS A	5.8	41.5	0.57	0.75	37.1
6	R	297	2.0	0.811	38.7	LOS C	10.4	73.8	1.00	0.96	25.9
Approach		642	2.0	0.811	25.7	LOS B	10.4	73.8	0.77	0.85	30.9
North: Pendle Way											
7	L	461	2.0	0.548	16.5	LOS B	9.1	64.6	0.66	0.79	35.8
8	T	213	2.0	0.449	23.0	LOS B	5.9	42.0	0.89	0.74	30.8
Approach		674	2.0	0.548	18.5	LOS B	9.1	64.6	0.73	0.77	34.1
All Vehicles		2165	2.0	0.831	22.5	LOS B	15.9	113.0	0.77	0.84	32.2

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	11.1	LOS B	0.1	0.1	0.58	0.58
P3	Across E approach	53	26.8	LOS C	0.1	0.1	0.91	0.91
All Pedestrians		106	18.9	LOS B			0.75	0.75

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

MOVEMENT SUMMARY

Site: Dunmore-Pendle (2027 Thurs PM)

13S1210100
Dunmore Street-Pendle Way
Signals - Fixed Time Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pendle Way											
2	T	313	2.0	0.348	11.1	LOS A	5.9	41.9	0.68	0.58	38.0
3	R	287	2.0	0.672	24.8	LOS B	7.4	52.9	0.96	0.86	31.3
Approach		600	2.0	0.672	17.7	LOS B	7.4	52.9	0.81	0.71	34.4
East: Dunmore Street											
4	L	475	2.0	0.486	16.0	LOS B	8.8	62.9	0.67	0.79	36.1
6	R	449	2.0	0.736	27.8	LOS B	12.6	90.1	0.94	0.89	30.0
Approach		924	2.0	0.736	21.7	LOS B	12.6	90.1	0.80	0.84	32.8
North: Pendle Way											
7	L	225	2.0	0.209	9.7	LOS A	2.2	16.0	0.36	0.69	40.5
8	T	213	2.0	0.414	20.1	LOS B	5.3	37.7	0.87	0.72	32.3
Approach		438	2.0	0.414	14.8	LOS B	5.3	37.7	0.61	0.71	36.0
All Vehicles		1962	2.0	0.736	18.9	LOS B	12.6	90.1	0.76	0.77	34.0

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	12.0	LOS B	0.1	0.1	0.63	0.63
P3	Across E approach	53	24.3	LOS C	0.1	0.1	0.90	0.90
All Pedestrians		106	18.2	LOS B			0.77	0.77

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

MOVEMENT SUMMARY

Site: Dunmore-Pendle (2027 Sat)

13S1210100
Dunmore Street-Pendle Way
Signals - Fixed Time Cycle Time = 50 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pendle Way											
2	T	342	2.0	0.520	6.7	LOS A	4.9	35.2	0.58	0.49	41.3
3	R	245	2.0	0.520	17.1	LOS B	4.9	35.2	0.84	0.81	35.5
Approach		587	2.0	0.520	11.0	LOS A	4.9	35.2	0.69	0.63	38.7
East: Dunmore Street											
4	L	287	2.0	0.357	16.7	LOS B	4.8	33.9	0.71	0.78	35.7
6	R	268	2.0	0.733	29.7	LOS C	6.9	49.2	0.99	0.92	29.1
Approach		556	2.0	0.733	23.0	LOS B	6.9	49.2	0.84	0.84	32.2
North: Pendle Way											
7	L	256	2.0	0.238	10.5	LOS A	2.6	18.7	0.44	0.71	39.9
8	T	251	2.0	0.407	14.8	LOS B	4.9	35.1	0.83	0.69	35.3
Approach		506	2.0	0.407	12.6	LOS A	4.9	35.1	0.63	0.70	37.5
All Vehicles		1649	2.0	0.733	15.5	LOS B	6.9	49.2	0.72	0.72	35.9

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	14.4	LOS B	0.1	0.1	0.76	0.76
P3	Across E approach	53	19.4	LOS B	0.1	0.1	0.88	0.88
All Pedestrians		106	16.9	LOS B			0.82	0.82

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

MOVEMENT SUMMARY

Site: Jones-Rogers (2027+Dev Thurs AM)

13S1210100
Jones Street-Rogers Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	359	2.0	0.195	1.8	LOS A	1.6	11.4	0.52	0.00	44.1
3	R	8	2.0	0.195	8.6	LOS A	1.6	11.4	0.52	0.91	43.0
Approach		367	2.0	0.195	2.0	NA	1.6	11.4	0.52	0.02	44.0
East: Rogers Street											
4	L	13	2.0	0.042	11.8	LOS A	0.1	1.0	0.53	0.66	38.9
6	R	7	2.0	0.042	12.1	LOS A	0.1	1.0	0.53	0.84	38.8
Approach		20	2.0	0.042	11.9	LOS A	0.1	1.0	0.53	0.73	38.9
North: Jones Street											
7	L	6	2.0	0.173	6.5	LOS A	0.0	0.0	0.00	0.92	43.3
8	T	326	2.0	0.173	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		333	2.0	0.173	0.1	NA	0.0	0.0	0.00	0.02	49.9
All Vehicles		720	2.0	0.195	1.4	NA	1.6	11.4	0.28	0.04	46.4

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Rogers (2027+Dev Thurs PM)

13S1210100
Jones Street-Rogers Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	345	2.0	0.200	2.0	LOS A	1.6	11.7	0.53	0.00	43.9
3	R	21	2.0	0.200	8.8	LOS A	1.6	11.7	0.53	0.90	42.8
Approach		366	2.0	0.200	2.4	NA	1.6	11.7	0.53	0.05	43.8
East: Rogers Street											
4	L	25	2.0	0.071	11.4	LOS A	0.2	1.7	0.52	0.69	39.2
6	R	11	2.0	0.071	11.7	LOS A	0.2	1.7	0.52	0.85	39.1
Approach		36	2.0	0.071	11.5	LOS A	0.2	1.7	0.52	0.73	39.2
North: Jones Street											
7	L	9	2.0	0.182	6.5	LOS A	0.0	0.0	0.00	0.91	43.3
8	T	340	2.0	0.182	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		349	2.0	0.182	0.2	NA	0.0	0.0	0.00	0.02	49.8
All Vehicles		752	2.0	0.200	1.8	NA	1.6	11.7	0.28	0.07	46.1

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Rogers (2027+Dev Sat)

13S1210100
Jones Street-Rogers Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	251	2.0	0.151	1.6	LOS A	1.1	7.9	0.47	0.00	44.4
3	R	22	2.0	0.151	8.4	LOS A	1.1	7.9	0.47	0.88	42.9
Approach		273	2.0	0.151	2.1	NA	1.1	7.9	0.47	0.07	44.3
East: Rogers Street											
4	L	28	2.0	0.069	10.1	LOS A	0.2	1.7	0.47	0.66	40.2
6	R	13	2.0	0.069	10.5	LOS A	0.2	1.7	0.47	0.82	40.0
Approach		41	2.0	0.069	10.2	LOS A	0.2	1.7	0.47	0.71	40.1
North: Jones Street											
7	L	21	2.0	0.162	6.5	LOS A	0.0	0.0	0.00	0.89	43.3
8	T	291	2.0	0.162	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		312	2.0	0.162	0.4	NA	0.0	0.0	0.00	0.06	49.5
All Vehicles		625	2.0	0.162	1.8	NA	1.1	7.9	0.24	0.11	46.4

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Oatlands (2027+Dev Thurs AM)

13S1210100
Jones Street-Oatlands Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	385	2.0	0.209	4.0	LOS A	2.3	16.1	0.69	0.00	42.4
3	R	6	2.0	0.209	10.8	LOS A	2.3	16.1	0.69	1.00	41.7
Approach		392	2.0	0.209	4.1	NA	2.3	16.1	0.69	0.02	42.4
East: Oatlands Street											
4	L	16	2.0	0.129	19.9	LOS B	0.4	3.0	0.75	0.89	33.7
6	R	16	2.0	0.129	20.3	LOS B	0.4	3.0	0.75	0.92	33.6
Approach		32	2.0	0.129	20.1	LOS B	0.4	3.0	0.75	0.90	33.7
North: Jones Street											
7	L	12	2.0	0.294	6.5	LOS A	0.0	0.0	0.00	0.91	43.3
8	T	554	2.0	0.294	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		565	2.0	0.294	0.1	NA	0.0	0.0	0.00	0.02	49.8
All Vehicles		988	2.0	0.294	2.4	NA	2.3	16.1	0.30	0.05	45.9

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Oatlands (2027+Dev Thurs PM)

13S1210100
Jones Street-Oatlands Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	446	2.0	0.255	4.0	LOS A	2.7	19.5	0.70	0.00	42.2
3	R	18	2.0	0.255	10.8	LOS A	2.7	19.5	0.70	1.00	41.6
Approach		464	2.0	0.255	4.3	NA	2.7	19.5	0.70	0.04	42.2
East: Oatlands Street											
4	L	27	2.0	0.314	26.4	LOS B	1.2	8.3	0.81	0.99	30.5
6	R	38	2.0	0.314	26.7	LOS B	1.2	8.3	0.81	0.98	30.4
Approach		65	2.0	0.314	26.6	LOS B	1.2	8.3	0.81	0.99	30.5
North: Jones Street											
7	L	26	2.0	0.282	6.5	LOS A	0.0	0.0	0.00	0.90	43.3
8	T	515	2.0	0.282	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		541	2.0	0.282	0.3	NA	0.0	0.0	0.00	0.04	49.6
All Vehicles		1071	2.0	0.314	3.6	NA	2.7	19.5	0.35	0.10	44.5

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Oatlands (2027+Dev Sat)

13S1210100
Jones Street-Oatlands Street
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
2	T	434	2.0	0.253	3.7	LOS A	2.6	18.5	0.68	0.00	42.4
3	R	22	2.0	0.253	10.5	LOS A	2.6	18.5	0.68	0.98	41.8
Approach		456	2.0	0.253	4.1	NA	2.6	18.5	0.68	0.05	42.3
East: Oatland Street											
4	L	16	2.0	0.204	23.4	LOS B	0.7	4.9	0.79	0.92	31.9
6	R	27	2.0	0.204	23.7	LOS B	0.7	4.9	0.79	0.94	31.8
Approach		43	2.0	0.204	23.6	LOS B	0.7	4.9	0.79	0.93	31.8
North: Jones Street											
7	L	31	2.0	0.269	6.5	LOS A	0.0	0.0	0.00	0.90	43.3
8	T	486	2.0	0.269	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		517	2.0	0.269	0.4	NA	0.0	0.0	0.00	0.05	49.5
All Vehicles		1016	2.0	0.269	3.0	NA	2.6	18.5	0.34	0.09	45.0

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Smith (2027+Dev Thurs AM)

13S1210100
Jones Street-Smith Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	5	2.0	0.369	7.7	LOS A	2.4	17.3	0.54	0.67	42.0
2	T	238	2.0	0.369	6.8	LOS A	2.4	17.3	0.54	0.61	42.1
3	R	101	2.0	0.369	10.8	LOS A	2.4	17.3	0.54	0.78	40.3
Approach		344	2.0	0.369	8.0	LOS A	2.4	17.3	0.54	0.66	41.5
East: Smith Street											
4	L	28	2.0	0.285	9.0	LOS A	1.8	12.8	0.68	0.75	41.0
5	T	56	2.0	0.285	8.1	LOS A	1.8	12.8	0.68	0.71	41.1
6	R	123	2.0	0.285	12.1	LOS A	1.8	12.8	0.68	0.82	39.2
Approach		207	2.0	0.285	10.6	LOS A	1.8	12.8	0.68	0.78	39.9
North: Jones Street											
7	L	256	2.0	0.826	18.7	LOS B	13.2	94.3	1.00	1.19	34.7
8	T	345	2.0	0.826	17.7	LOS B	13.2	94.3	1.00	1.19	34.8
9	R	42	2.0	0.826	21.7	LOS B	13.2	94.3	1.00	1.19	33.6
Approach		643	2.0	0.826	18.4	LOS B	13.2	94.3	1.00	1.19	34.7
West: Smith Street											
10	L	59	2.0	0.494	11.1	LOS A	3.6	25.9	0.75	0.88	39.8
11	T	285	2.0	0.494	10.1	LOS A	3.6	25.9	0.75	0.85	40.1
12	R	17	2.0	0.494	14.1	LOS A	3.6	25.9	0.75	0.95	38.2
Approach		361	2.0	0.494	10.4	LOS A	3.6	25.9	0.75	0.86	40.0
All Vehicles		1556	2.0	0.826	13.2	LOS A	13.2	94.3	0.80	0.94	37.9

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Smith (2027+Dev Thurs PM)

13S1210100
Jones Street-Smith Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	33	2.0	0.450	10.0	LOS A	3.1	22.0	0.73	0.83	40.7
2	T	267	2.0	0.450	9.0	LOS A	3.1	22.0	0.73	0.79	40.9
3	R	33	2.0	0.450	13.0	LOS A	3.1	22.0	0.73	0.90	38.9
Approach		333	2.0	0.450	9.5	LOS A	3.1	22.0	0.73	0.81	40.7
East: Smith Street											
4	L	65	2.0	0.501	8.8	LOS A	3.6	25.8	0.67	0.75	41.4
5	T	236	2.0	0.501	7.9	LOS A	3.6	25.8	0.67	0.70	41.4
6	R	131	2.0	0.501	11.9	LOS A	3.6	25.8	0.67	0.82	39.5
Approach		432	2.0	0.501	9.2	LOS A	3.6	25.8	0.67	0.75	40.8
North: Jones Street											
7	L	199	2.0	0.460	7.3	LOS A	3.4	24.6	0.50	0.62	42.1
8	T	226	2.0	0.460	6.3	LOS A	3.4	24.6	0.50	0.56	42.2
9	R	61	2.0	0.460	10.3	LOS A	3.4	24.6	0.50	0.74	40.6
Approach		486	2.0	0.460	7.2	LOS A	3.4	24.6	0.50	0.61	41.9
West: Smith Street											
10	L	60	2.0	0.248	9.2	LOS A	1.4	10.2	0.64	0.76	41.2
11	T	112	2.0	0.248	8.2	LOS A	1.4	10.2	0.64	0.71	41.5
12	R	13	2.0	0.248	12.2	LOS A	1.4	10.2	0.64	0.85	39.3
Approach		184	2.0	0.248	8.8	LOS A	1.4	10.2	0.64	0.73	41.3
All Vehicles		1435	2.0	0.501	8.6	LOS A	3.6	25.8	0.62	0.71	41.2

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Smith (2027+Dev Sat)

13S1210100
Jones Street-Smith Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	22	2.0	0.366	8.3	LOS A	2.3	16.4	0.59	0.71	41.9
2	T	255	2.0	0.366	7.4	LOS A	2.3	16.4	0.59	0.66	41.9
3	R	38	2.0	0.366	11.4	LOS A	2.3	16.4	0.59	0.82	40.0
Approach		315	2.0	0.366	7.9	LOS A	2.3	16.4	0.59	0.68	41.7
East: Smith Street											
4	L	20	2.0	0.295	8.5	LOS A	1.8	12.5	0.59	0.71	41.5
5	T	94	2.0	0.295	7.5	LOS A	1.8	12.5	0.59	0.66	41.6
6	R	128	2.0	0.295	11.6	LOS A	1.8	12.5	0.59	0.79	39.6
Approach		242	2.0	0.295	9.8	LOS A	1.8	12.5	0.59	0.73	40.5
North: Jones Street											
7	L	183	2.0	0.475	7.4	LOS A	3.6	25.5	0.52	0.63	42.0
8	T	249	2.0	0.475	6.4	LOS A	3.6	25.5	0.52	0.57	42.1
9	R	63	2.0	0.475	10.5	LOS A	3.6	25.5	0.52	0.74	40.5
Approach		496	2.0	0.475	7.3	LOS A	3.6	25.5	0.52	0.61	41.9
West: Smith Street											
10	L	54	2.0	0.240	9.1	LOS A	1.4	9.6	0.62	0.75	41.2
11	T	112	2.0	0.240	8.1	LOS A	1.4	9.6	0.62	0.70	41.6
12	R	17	2.0	0.240	12.2	LOS A	1.4	9.6	0.62	0.84	39.4
Approach		182	2.0	0.240	8.8	LOS A	1.4	9.6	0.62	0.73	41.3
All Vehicles		1235	2.0	0.475	8.2	LOS A	3.6	25.5	0.56	0.67	41.5

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Dunmore (2027+Dev Thurs AM)

13S1210100
Jones Street-Dunmore Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	199	2.0	0.510	10.9	LOS A	4.0	28.3	0.78	0.87	39.4
2	T	17	2.0	0.510	10.0	LOS A	4.0	28.3	0.78	0.85	39.7
3	R	152	2.0	0.510	14.0	LOS A	4.0	28.3	0.78	0.92	37.8
Approach		367	2.0	0.510	12.2	LOS A	4.0	28.3	0.78	0.89	38.8
East: Dunmore Street											
4	L	78	2.0	0.575	10.0	LOS A	5.1	36.1	0.76	0.82	40.7
5	T	388	2.0	0.575	9.0	LOS A	5.1	36.1	0.76	0.79	41.0
6	R	13	2.0	0.575	13.0	LOS A	5.1	36.1	0.76	0.88	39.0
Approach		479	2.0	0.575	9.3	LOS A	5.1	36.1	0.76	0.80	40.9
North: Jones Street											
7	L	5	2.0	0.358	22.7	LOS B	2.5	17.6	1.00	1.02	32.3
8	T	39	2.0	0.358	21.7	LOS B	2.5	17.6	1.00	1.02	32.4
9	R	39	2.0	0.358	25.7	LOS B	2.5	17.6	1.00	1.02	31.5
Approach		83	2.0	0.358	23.7	LOS B	2.5	17.6	1.00	1.02	32.0
West: Dunmore Street											
10	L	24	2.0	0.977	27.4	LOS B	40.1	285.9	1.00	1.11	30.3
11	T	785	2.0	0.977	26.4	LOS B	40.1	285.9	1.00	1.11	30.4
12	R	239	2.0	0.977	30.4	LOS C	40.1	285.9	1.00	1.11	29.6
Approach		1048	2.0	0.977	27.3	LOS B	40.1	285.9	1.00	1.11	30.2
All Vehicles		1978	2.0	0.977	20.0	LOS B	40.1	285.9	0.90	0.99	33.8

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Dunmore (2027+Dev Thurs PM)

13S1210100
Jones Street-Dunmore Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	229	2.0	0.735	22.7	LOS B	8.1	57.9	1.00	1.23	32.3
2	T	59	2.0	0.735	21.7	LOS B	8.1	57.9	1.00	1.23	32.4
3	R	67	2.0	0.735	25.7	LOS B	8.1	57.9	1.00	1.23	31.5
Approach		356	2.0	0.735	23.1	LOS B	8.1	57.9	1.00	1.23	32.2
East: Dunmore Street											
4	L	87	2.0	0.839	16.2	LOS B	14.8	105.6	1.00	1.07	36.4
5	T	646	2.0	0.839	15.3	LOS B	14.8	105.6	1.00	1.06	36.4
6	R	25	2.0	0.839	19.3	LOS B	14.8	105.6	1.00	1.07	35.2
Approach		759	2.0	0.839	15.5	LOS B	14.8	105.6	1.00	1.06	36.4
North: Jones Street											
7	L	13	2.0	0.138	10.4	LOS A	0.8	5.5	0.69	0.77	39.9
8	T	20	2.0	0.138	9.4	LOS A	0.8	5.5	0.69	0.74	40.2
9	R	53	2.0	0.138	13.5	LOS A	0.8	5.5	0.69	0.83	38.2
Approach		85	2.0	0.138	12.1	LOS A	0.8	5.5	0.69	0.80	38.9
West: Dunmore Street											
10	L	62	2.0	0.565	7.4	LOS A	5.1	36.6	0.59	0.62	41.7
11	T	314	2.0	0.565	6.5	LOS A	5.1	36.6	0.59	0.57	41.7
12	R	228	2.0	0.565	10.5	LOS A	5.1	36.6	0.59	0.72	40.4
Approach		604	2.0	0.565	8.1	LOS A	5.1	36.6	0.59	0.63	41.2
All Vehicles		1804	2.0	0.839	14.4	LOS A	14.8	105.6	0.85	0.94	37.0

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Jones-Dunmore (2027+Dev Sat)

13S1210100
Jones Street-Dunmore Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Jones Street											
1	L	169	2.0	0.366	10.1	LOS A	2.3	16.5	0.74	0.82	40.1
2	T	21	2.0	0.366	9.2	LOS A	2.3	16.5	0.74	0.79	40.4
3	R	58	2.0	0.366	13.2	LOS A	2.3	16.5	0.74	0.88	38.4
Approach		248	2.0	0.366	10.8	LOS A	2.3	16.5	0.74	0.83	39.7
East: Dunmore Street											
4	L	63	2.0	0.580	9.3	LOS A	4.9	34.8	0.69	0.77	41.3
5	T	448	2.0	0.580	8.3	LOS A	4.9	34.8	0.69	0.73	41.5
6	R	17	2.0	0.580	12.4	LOS A	4.9	34.8	0.69	0.85	39.4
Approach		528	2.0	0.580	8.6	LOS A	4.9	34.8	0.69	0.74	41.4
North: Jones Street											
7	L	18	2.0	0.132	10.8	LOS A	0.7	5.2	0.70	0.78	39.6
8	T	24	2.0	0.132	9.8	LOS A	0.7	5.2	0.70	0.74	39.9
9	R	38	2.0	0.132	13.9	LOS A	0.7	5.2	0.70	0.84	38.0
Approach		80	2.0	0.132	12.0	LOS A	0.7	5.2	0.70	0.80	38.9
West: Dunmore Street											
10	L	38	2.0	0.530	6.8	LOS A	4.7	33.5	0.44	0.57	42.2
11	T	380	2.0	0.530	5.8	LOS A	4.7	33.5	0.44	0.50	42.5
12	R	214	2.0	0.530	9.8	LOS A	4.7	33.5	0.44	0.70	40.7
Approach		632	2.0	0.530	7.2	LOS A	4.7	33.5	0.44	0.57	41.8
All Vehicles		1488	2.0	0.580	8.6	LOS A	4.9	34.8	0.60	0.69	41.2

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model used.

MOVEMENT SUMMARY

Site: Dunmore-Goodall (2027+Dev Thurs AM)

13S1210100
Dunmore Street-Goodall Street
Signals - Fixed Time Cycle Time = 90 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Dunmore Street											
5	T	356	2.0	0.439	8.4	LOS A	7.1	50.9	0.50	0.43	40.4
6	R	316	2.0	0.847	52.4	LOS D	13.7	97.3	1.00	1.13	22.1
Approach		672	2.0	0.847	29.1	LOS C	13.7	97.3	0.73	0.76	29.1
North: Goodall Street											
7	L	333	2.0	0.859	34.6	LOS C	11.5	81.6	0.82	0.89	27.3
9	R	461	2.0	1.030	107.8	LOS F	35.6	253.5	1.00	1.32	13.9
Approach		794	2.0	1.030	77.1	LOS F	35.6	253.5	0.93	1.14	17.5
West: Dunmore Street											
10	L	376	2.0	0.410	11.5	LOS A	5.9	42.1	0.39	0.71	39.2
11	T	773	2.0	1.003	79.8	LOS F	56.0	398.9	1.00	1.44	16.6
Approach		1148	2.0	1.003	57.4	LOS E	56.0	398.9	0.80	1.20	20.5
All Vehicles		2614	2.0	1.030	56.1	LOS D	56.0	398.9	0.82	1.07	21.0

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across N approach	53	22.8	LOS C	0.1	0.1	0.71	0.71
P7	Across W approach	53	33.8	LOS D	0.1	0.1	0.87	0.87
All Pedestrians		106	28.3	LOS C			0.79	0.79

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

MOVEMENT SUMMARY

Site: Dunmore-Goodall (2027+Dev Thurs PM)

13S1210100
Dunmore Street-Goodall Street
Signals - Fixed Time Cycle Time = 56 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Dunmore Street											
5	T	595	2.0	0.669	11.1	LOS A	11.9	84.9	0.78	0.69	37.8
6	R	327	2.0	0.874	36.7	LOS C	9.7	68.9	1.00	1.14	26.5
Approach		922	2.0	0.874	20.2	LOS B	11.9	84.9	0.86	0.85	32.8
North: Goodall Street											
7	L	325	2.0	0.570	15.7	LOS B	5.5	38.9	0.65	0.76	36.3
9	R	449	2.0	0.859	35.2	LOS C	14.5	103.4	1.00	1.03	27.0
Approach		775	2.0	0.859	27.0	LOS B	14.5	103.4	0.85	0.92	30.3
West: Dunmore Street											
10	L	262	2.0	0.243	10.1	LOS A	2.7	19.1	0.40	0.71	40.3
11	T	386	2.0	0.702	21.0	LOS B	10.1	72.3	0.95	0.86	31.7
Approach		648	2.0	0.702	16.6	LOS B	10.1	72.3	0.73	0.80	34.7
All Vehicles		2345	2.0	0.874	21.4	LOS B	14.5	103.4	0.82	0.86	32.4

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across N approach	53	22.3	LOS C	0.1	0.1	0.89	0.89
P7	Across W approach	53	22.3	LOS C	0.1	0.1	0.89	0.89
All Pedestrians		106	22.3	LOS C			0.89	0.89

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

MOVEMENT SUMMARY

Site: Dunmore-Goodall (2027+Dev Sat)

13S1210100
Dunmore Street-Goodall Street
Signals - Fixed Time Cycle Time = 65 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Dunmore Street											
5	T	476	2.0	0.531	8.6	LOS A	8.6	61.6	0.61	0.54	39.9
6	R	291	2.0	0.685	28.1	LOS B	8.2	58.7	0.97	0.92	29.8
Approach		766	2.0	0.685	16.0	LOS B	8.6	61.6	0.75	0.68	35.4
North: Goodall Street											
7	L	283	2.0	0.580	18.5	LOS B	5.8	41.1	0.68	0.77	34.6
9	R	237	2.0	0.525	30.1	LOS C	6.7	47.9	0.92	0.81	29.0
Approach		520	2.0	0.580	23.8	LOS B	6.7	47.9	0.79	0.79	31.8
West: Dunmore Street											
10	L	186	2.0	0.217	12.0	LOS A	2.3	16.3	0.60	0.74	38.9
11	T	462	2.0	0.665	19.3	LOS B	12.4	88.4	0.90	0.78	32.6
Approach		648	2.0	0.665	17.2	LOS B	12.4	88.4	0.81	0.77	34.2
All Vehicles		1935	2.0	0.685	18.5	LOS B	12.4	88.4	0.78	0.74	33.9

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P5	Across N approach	53	20.8	LOS C	0.1	0.1	0.80	0.80
P7	Across W approach	53	26.8	LOS C	0.1	0.1	0.91	0.91
All Pedestrians		106	23.8	LOS C			0.85	0.85

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

MOVEMENT SUMMARY

Site: Dunmore-Pendle (2027+Dev Thurs AM)

13S1210100
Dunmore Street-Pendle Way
Signals - Fixed Time Cycle Time = 75 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pendle Way											
2	T	267	2.0	0.217	6.0	LOS A	4.0	28.8	0.45	0.38	42.5
3	R	646	2.0	0.817	31.1	LOS C	18.0	128.0	0.94	1.07	28.6
Approach		914	2.0	0.817	23.8	LOS B	18.0	128.0	0.80	0.87	31.6
East: Dunmore Street											
4	L	394	2.0	0.343	13.6	LOS A	6.8	48.5	0.51	0.74	37.7
6	R	301	2.0	0.822	43.6	LOS D	12.1	86.0	1.00	0.96	24.4
Approach		695	2.0	0.822	26.6	LOS B	12.1	86.0	0.72	0.84	30.5
North: Pendle Way											
7	L	471	2.0	0.639	20.5	LOS B	11.8	83.9	0.73	0.80	33.5
8	T	213	2.0	0.518	29.0	LOS C	7.1	50.5	0.93	0.77	28.3
Approach		683	2.0	0.639	23.1	LOS B	11.8	83.9	0.79	0.79	31.7
All Vehicles		2292	2.0	0.822	24.4	LOS B	18.0	128.0	0.77	0.84	31.3

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	9.6	LOS A	0.1	0.1	0.51	0.51
P3	Across E approach	53	31.7	LOS D	0.1	0.1	0.92	0.92
All Pedestrians		106	20.7	LOS C			0.71	0.71

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

MOVEMENT SUMMARY

Site: Dunmore-Pendle (2027+Dev Thurs PM)

13S1210100
Dunmore Street-Pendle Way
Signals - Fixed Time Cycle Time = 65 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pendle Way											
2	T	313	2.0	0.330	10.8	LOS A	6.0	43.0	0.65	0.55	38.2
3	R	395	2.0	0.794	31.9	LOS C	11.6	82.8	0.99	1.04	28.3
Approach		707	2.0	0.794	22.6	LOS B	11.6	82.8	0.84	0.82	31.9
East: Dunmore Street											
4	L	552	2.0	0.529	15.8	LOS B	10.8	77.2	0.66	0.79	36.2
6	R	461	2.0	0.779	31.5	LOS C	14.8	105.1	0.97	0.92	28.4
Approach		1013	2.0	0.779	23.0	LOS B	14.8	105.1	0.80	0.85	32.2
North: Pendle Way											
7	L	242	2.0	0.245	11.0	LOS A	3.0	21.2	0.41	0.71	39.5
8	T	213	2.0	0.449	23.0	LOS B	5.9	42.0	0.89	0.74	30.8
Approach		455	2.0	0.449	16.7	LOS B	5.9	42.0	0.64	0.72	34.9
All Vehicles		2175	2.0	0.794	21.5	LOS B	14.8	105.1	0.78	0.82	32.6

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	11.1	LOS B	0.1	0.1	0.58	0.58
P3	Across E approach	53	26.8	LOS C	0.1	0.1	0.91	0.91
All Pedestrians		106	18.9	LOS B			0.75	0.75

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

MOVEMENT SUMMARY

Site: Dunmore-Pendle (2027+Dev Sat)

13S1210100
Dunmore Street-Pendle Way
Signals - Fixed Time Cycle Time = 50 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pendle Way											
2	T	342	2.0	0.317	6.4	LOS A	4.5	32.1	0.57	0.49	41.8
3	R	382	2.0	0.755	22.1	LOS B	8.6	61.4	0.97	0.94	32.6
Approach		724	2.0	0.755	14.7	LOS B	8.6	61.4	0.78	0.73	36.4
East: Dunmore Street											
4	L	424	2.0	0.527	17.7	LOS B	7.7	55.1	0.78	0.81	35.1
6	R	289	2.0	0.790	31.5	LOS C	7.8	55.8	1.00	0.97	28.4
Approach		714	2.0	0.790	23.3	LOS B	7.8	55.8	0.87	0.87	32.0
North: Pendle Way											
7	L	277	2.0	0.258	10.6	LOS A	2.9	20.5	0.45	0.72	39.9
8	T	251	2.0	0.407	14.8	LOS B	4.9	35.1	0.83	0.69	35.3
Approach		527	2.0	0.407	12.6	LOS A	4.9	35.1	0.63	0.70	37.6
All Vehicles		1965	2.0	0.790	17.3	LOS B	8.6	61.4	0.77	0.77	35.0

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model used.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	14.4	LOS B	0.1	0.1	0.76	0.76
P3	Across E approach	53	19.4	LOS B	0.1	0.1	0.88	0.88
All Pedestrians		106	16.9	LOS B			0.82	0.82

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

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