GTAconsultants

Interchange Precinct
Geeves Avenue, Rockdale
Transport Study

Client // Fivex
Office // NSW
Reference // 16S1109000
Date // 31/10/17

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Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
A	12/05/17	Final	Andrian Juric	Nicole Vukic / Karen McNatty	Brett Maynard	Brett Maynard
B	30/05/17	Final	Andrian Juric / Oasika Faiz	Karen McNatty	Brett Maynard	Brett Maynard
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1. Introduction

1.1 Background

A planning proposal is to be lodged with Rockdale City Council (Council) on behalf of the owner of 507-511 Princes Highway, Rockdale for a mixed-use development on land identified by Council as the 'Transport Interchange Precinct' located on Geeves Avenue, Rockdale.

It is anticipated that the planning proposal will include three separate mixed use sites, which combined would incorporate:

- 257 residential units, including:
  - 59 studio units
  - 38 one bedroom units
  - 133 two bedroom units
  - 27 three bedroom units
- 3,890 square metres retail space.

Fivex commissioned GTA Consultants (GTA) to undertake a transport study to support the planning proposal.

1.2 Purpose of this Report

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

i Existing traffic and parking conditions surrounding the site
ii Suitability of the proposed parking in terms of supply and layout
iii Service vehicle requirements
iv Pedestrian and bicycle requirements
v The traffic generating characteristics of the Planning Proposal
vi The transport impact of the development proposal on the surrounding road network.

1.3 Consultation

Department of Planning and Environment, Transport for NSW (TfNSW), Roads and Maritime Services (Roads and Maritime) and Bayside Council (formerly Rockdale City Council) were consulted at the start of this assessment to gain agreement on the study methodology and ensure elements required by TfNSW and Roads and Maritime in particular were assessed. Various meetings held to confirm the final scope and a draft version of this study was provided to TfNSW, Roads and Maritime and Council for comment. Comments received on the draft report have been incorporated into this final assessment.

1.4 References

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

- An inspection of the site and its surroundings on Thursday 11 August 2016
- Rockdale City Council Development Control Plan (DCP) 2011

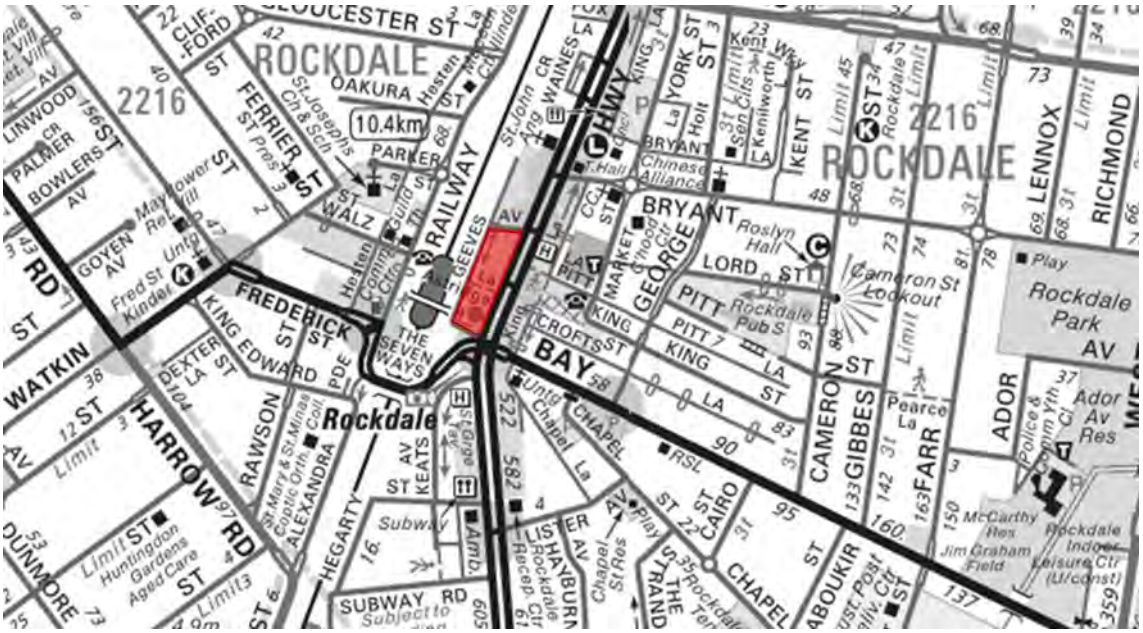
- Australian Standard/ New Zealand Standard, Parking Facilities, Part 1: Off-Street Car Parking AS/NZS 2890.1:2004
- Australian Standard, Parking Facilities, Part 2: Off-Street Commercial Vehicle Facilities AS 2890.2:2002
- Australian Standard / New Zealand Standard, Parking Facilities, Part 6: Off-Street Parking for People with Disabilities AS/NZS 2890.6:2009
- Traffic and car parking surveys undertaken by Matrix Traffic and Transport Data as referenced in the context of this report
- Proposed precinct schedule prepared by Eeles Trelease dated 17 August 2016
- Other documents and data as referenced in this report.

2. Existing Conditions

The subject site is bounded by the Princes Highway, Geeves Avenue and Tramway Arcade, Rockdale and is known as the Interchange Precinct, in the Rockdale Town Centre Masterplan. The site of around 6,000 square metres has a frontage of 140 metres to Princes Highway in the east, 50 metres to Geeves Avenue in north, 130 metres to Geeves Avenue in the west and 55 metres to Tramway Arcade in the south. The site currently has a land use classification as B2 – Local Centre and is occupied by retail and commercial land uses. The surrounding properties predominantly include commercial and retail uses.

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: Sydways

2.1 Road Network

2.1.1 Adjoining Roads

Princes Highway

The Princes Highway is a classified State road (Roads and Maritime Services [Roads and Maritime] Road Number 1) and is a major north-south aligned route linking Sydney CBD with Sydney's south-western suburbs and Wollongong. It is a two-way road configured with a six-lane divided road with an 18-metre wide carriageway, set within an approximately 22-metre wide road reserve. It has a posted speed limit of 60 km/h.

Kerbside parking is permitted, subject to half-hour time restrictions and peak period clearway restrictions.

The Princes Highway is shown in Figure 2.2 and Figure 2.3 and carries around 38,000 vehicles per day[1].

Geeves Avenue

Geeves Avenue is a local road and near the site is aligned in a north-south direction. It is a two-way road configured with a two-lane, 11-metre wide carriageway, set within an 11.5-metre wide road reserve. It has a posted speed limit of 10 km/h along the western frontage of the site and 50 km/h along the northern frontage of the site.

Adjacent to the western site frontage, Geeves Avenue includes a bus zone, which is part of the Rockdale Transport Interchange. There is kerbside parking on Geeves Avenue adjacent to the northern site frontage including a loading zone, five-minute and one-hour time restricted parking on both sides of the road.

Geeves Avenue is shown in Figure 2.4 and Figure 2.5 and carries around 400 vehicles per day[2].

Figure 2.2: Princes Highway (facing south)

Figure 2.3: Princes Highway (facing north)

Figure 2.4: Geeves Avenue (facing south)

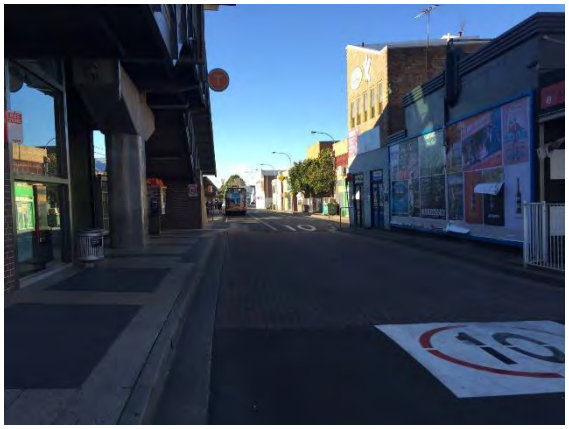


Figure 2.5: Geeves Avenue (facing north)

1 Based on the peak hour traffic counts undertaken by GTA in July 2016 and assuming a peak-to-daily ratio of eight per cent for arterial roads.

2 Based on the peak hour traffic counts undertaken by GTA in July 2016 and assuming a peak-to-daily ratio of eight per cent for arterial roads and 10 per cent for local roads.

2.1.2 Surrounding Intersections

The following intersections currently exist near the site:

- Princes Highway/ Bryant Street (signalised)
- Princes Highway/ Geeves Avenue (signalised)
- Princes Highway/ Bay Street/ The Seven Ways/ Tramway Arcade (signalised)
- Geeves Avenue / Geeves Lane (priority controlled).

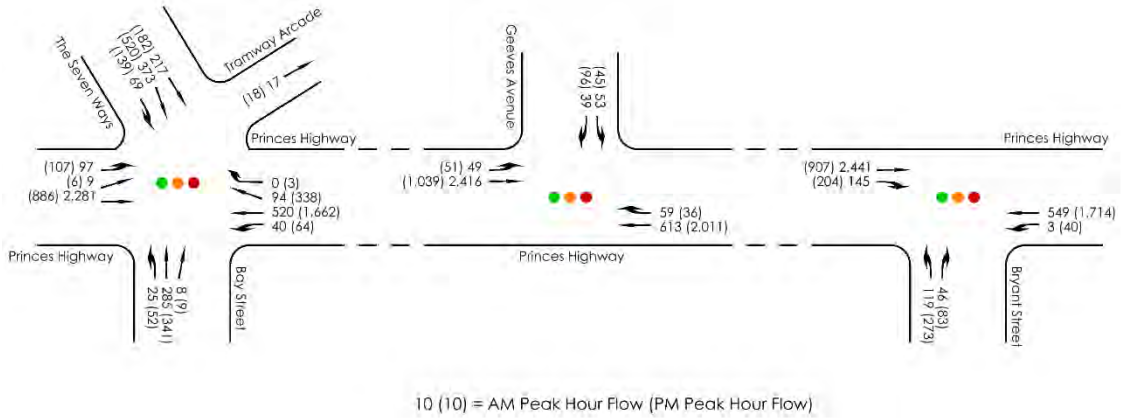
2.2 Traffic Volumes

GTA commissioned traffic movement counts on key roads near the site on 4 August 2016 during the following peak periods:

- 6:30am and 9:30am
- 3:30pm and 6:30pm.

The AM and PM peak hour traffic volumes are summarised in Figure 2.6, with full results contained in Appendix A of this report.

Figure 2.6: Existing AM / PM peak hour traffic volumes



Traffic volumes accessing Geeves Avenue is largely associated with pick-up/ drop-off activities for the Rockdale Transport Interchange and the 159-car space Geeves Avenue/Lane commuter car park.

2.3 Intersection Operation

The operation of the key intersections within the study area have been assessed using the network analysis function of SIDRA Intersection[3], a computer based modelling package, which calculates intersection performance.

The commonly used measure of intersection performance, as defined by the Roads and Maritime, 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.

[3] Program used under license from Akcelik & Associates Pty Ltd.0.12

Table 2.1: SIDRA Intersection level of service criteria

LOS	Average delay per vehicle (secs/veh)	Traffic signals, roundabout	Give way and 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

Table 2.2 presents a summary of the existing operation of the key intersections, with full results presented in Appendix B.

Table 2.2: Existing operating conditions (2016)

Intersection	Control	Peak	Degree of saturation (DOS)	Average delay (sec)	95th percentile queue (m)	LOS
Princes Highway/ Bryant Street	Signalised	AM	0.64	12	126	A
		PM	0.58	18	178	B
Princes Highway/ Geeves Avenue	Signalised	AM	0.85	4	37	A
		PM	1.02	31	122	C
Princes Highway/ Bay Street/ The Seven Ways/ Tramway Arcade	Signalised	AM	1.18	49	446	D
		PM	0.89	38	205	C

Based on the above assessment, all the intersections analysed currently operate at an acceptable level of service, with the Princes Highway/ Bryant Street and Princes Highway/ Geeves Avenue intersections indicating there is some spare capacity in the AM peak. During both the AM and PM peaks the intersection of the Princes Highway/ Bay Street is operating at an acceptable level but is approaching capacity.

2.4 Car Parking

A review of publicly available car parking near the site indicates that parking demand is high.

Parking along the Princes Highway is generally at capacity outside of restricted parking times. Within the dedicated off-street parking areas, employee parking was full and in some instances tandem parking was observed.

Near the site there also exists the following public car parks:

- Geeves Avenue/Lane commuter car park – located adjacent to the proposal this car park is at-grade with 151 long term parking spaces, including five accessible spaces, in addition there are eight ¼ P restricted spaces

- Chapel Street car park – an at-grade car park with 120 short stay and 27 long stay parking spaces
- Target car park – located in the middle of the Rockdale town centre, the site contains approximately 200 long stay and 175 short stay parking spaces
- York Street car park – located close to Rockdale Town Hall it contains 66 short stay and 21 long stay at-grade car parking spaces
- Railway Street car parks – there are two at grade car parks provided on the opposite side of the station with around 22 spaces provided in the car park closest to the station and 28 spaces provided in the car park further north.

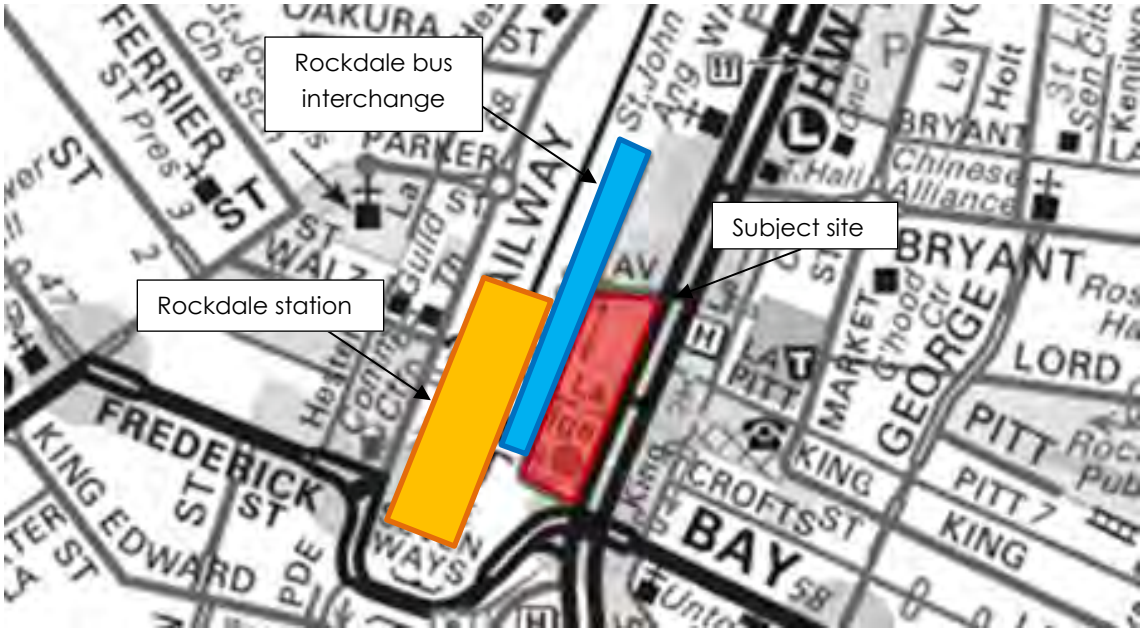
Figure 2.7: On-street parking – Princes Highway

Figure 2.8: Off-street employee parking – Geeves Avenue

2.5 Public Transport

The site is well serviced by public transport. Adjacent to the site is a high frequency bus interchange and access to the rail network through Rockdale station. The site's proximity to the Rockdale bus interchange and Rockdale station is shown in Figure 2.9.

Figure 2.9: Proximity to public transport facilities



Source: Base map from Sydways

The bus interchange provides regular services to the surrounding area with buses travelling to:

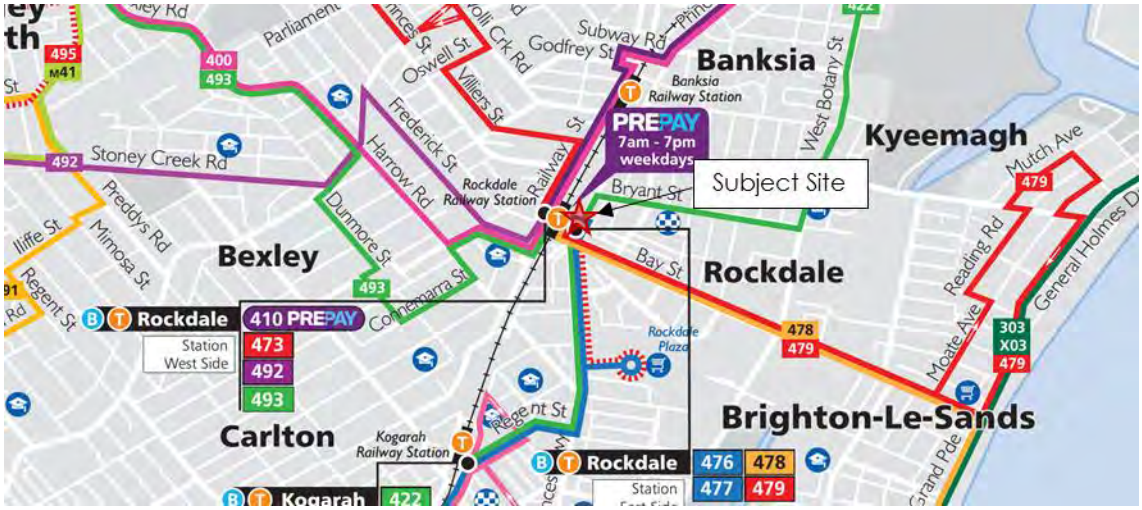
- Sydney CBD
- Hurstville
- Brighton-Le-Sands
- Bondi Junction
- Burwood
- Campsie.

Rockdale station is located on the T4 – Eastern Suburbs and Illawarra Line and provides commuters access to the rail network. The station provides direct services to the CBD and southern centres including Cronulla and Wollongong.

Services to the CBD and to the southern centres arrive at Rockdale station every 10 minutes throughout the day.

The local public transport network summarised in Figure 2.10.

Figure 2.10: Local public transport network



Source: Transport Buses (Sydney Buses)

2.6 Pedestrian and Cycling Infrastructure

The site and its surroundings are well connected by pedestrian infrastructure.

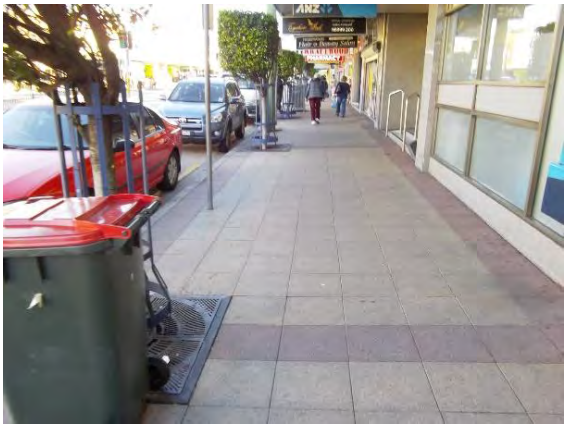
Pedestrian paths are located as follows:

- Princes Highway (both sides)
- Geeves Avenue, northern frontage (both sides)
- Tramway Arcade (both sides).

Pedestrian footpaths are shown in Figure 2.11 and Figure 2.12.

Figure 2.11: Footpath – Geeves Avenue

Figure 2.12: Footpath – Princes Highway



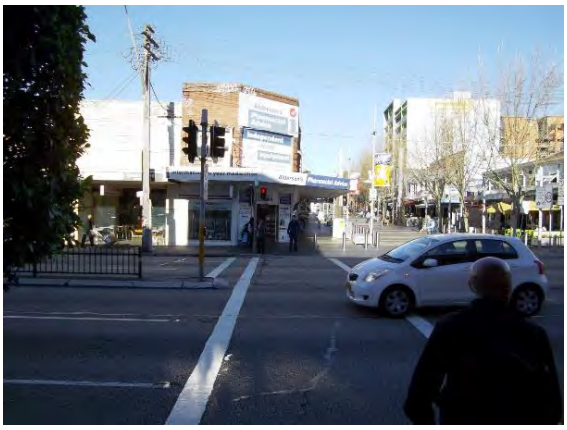
Crossing facilities in vicinity of the site's internal walkway

- Geeves Avenue adjacent to the site's internal walkway
- All legs of the Princes Highway/ Bay Street/ The Seven Ways/ Tramway Arcade intersection
- All legs of the Princes Highway/ Geeves Avenue intersection
- Princes Highway signalised pedestrian crossing (mid-block).

The crossings maintain pedestrian permeability in the area and provide direct access from the King Street shared zone to Rockdale station. The Geeves Avenue crossing and the Princes Highway crossing are shown in Figure 2.13 and Figure 2.14.

Figure 2.13: Geeves Avenue marked pedestrian crossing

Figure 2.14: Princes Highway signalised pedestrian crossing



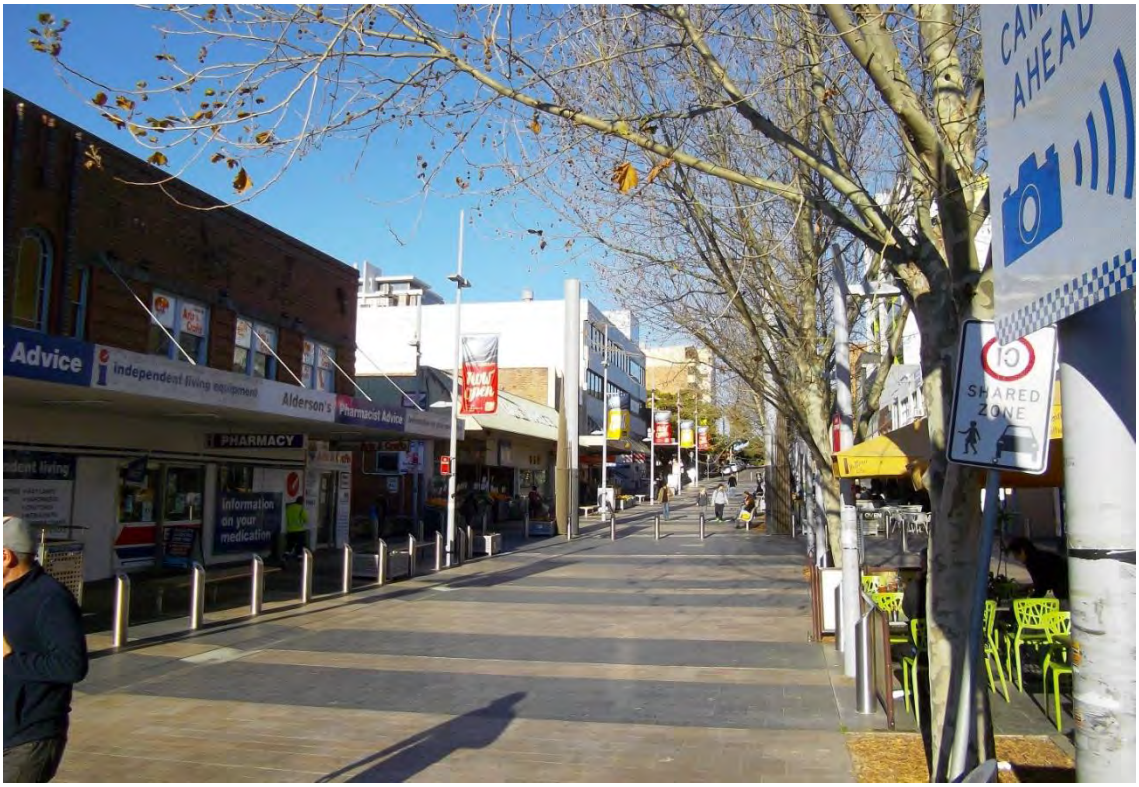
In addition, the site contains an internal pedestrian walkway. This walkway is connected to a larger east-west pedestrian link that runs through Rockdale. The walkway is shown in Figure 2.15 and Figure 2.16.

Figure 2.15: Internal walkway (facing east)

Figure 2.16: Internal walkway (facing west)

The King Street shared zone is about 17 metres wide and 100 metres long. It provides pedestrian access to the eastern retail precinct and is connected to the site via the Princes Highway signalised pedestrian crossing. The shared zone is shown in Figure 2.17.

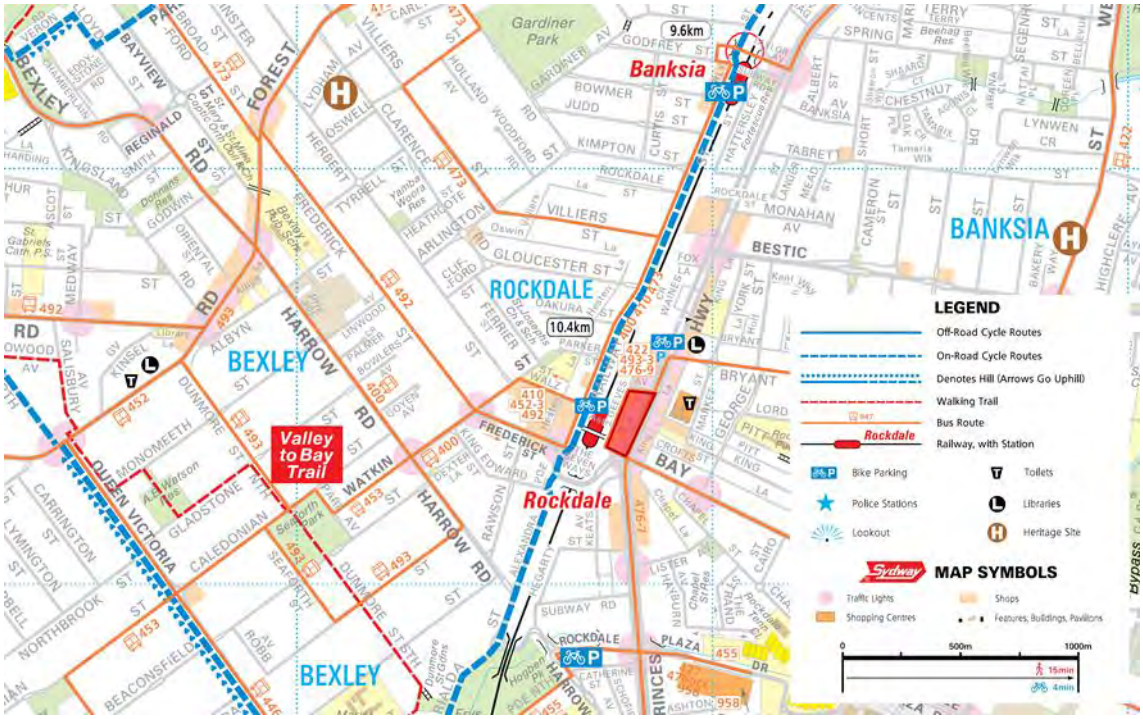
Figure 2.17: King Street shared zone



The site is located within proximity of an on-road cycling route. The route is located on Railway Street, 100 metres west of the subject site and has a north-south orientation. The route generally runs parallel with the railway line and connects the Rockdale Local Government Area (LGA) with the Cooks River cycleway and the greater Sydney cycle network.

The subject site and the surrounding cycling network is shown in Figure 2.18.

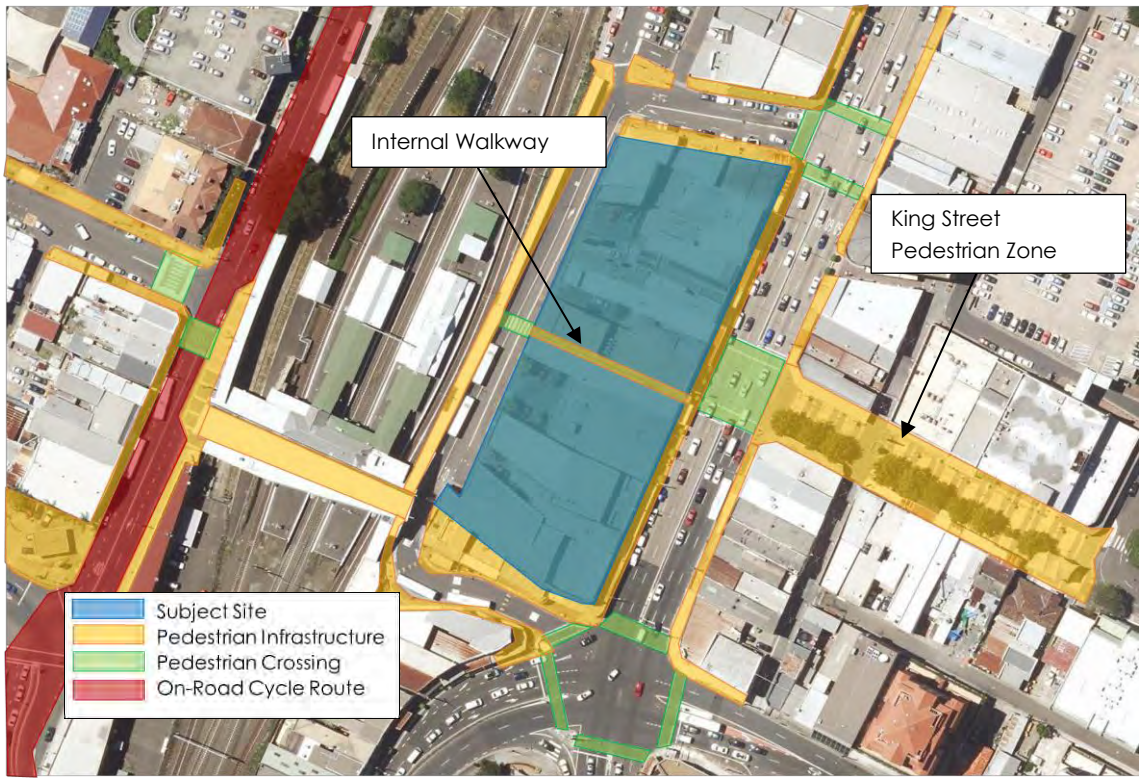
Figure 2.18: Rockdale LGA cycling infrastructure



Source: Rockdale City Council

A summary of the all existing pedestrian and cycling infrastructure is shown in Figure 2.19.

Figure 2.19: Pedestrian and cycling infrastructure summary



Source: NSW Department of Finance, Services and Innovation (DFSI)

2.6.1 Pedestrian Activity

GTA completed pedestrian surveys in November 2016 during the weekday AM (7am to 9am) and PM (4:30pm to 6:30pm) peak periods. The peak hourly pedestrian movements near the site are summarised in Table 2.3 and Table 2.4 and shown in Figure 2.20.

Table 2.3: Pedestrian movements to/from Rockdale station

Location	To Rockdale station		From Rockdale station	
	AM peak (7:45-8:45am)	PM peak (4:45pm-5:45pm)	AM peak (7:45-8:45am)	PM peak (4:45pm-5:45pm)
Tramway Arcade	842	215	106	392
Internal walkway	273	130	104	220
Car park	43	27	12	46

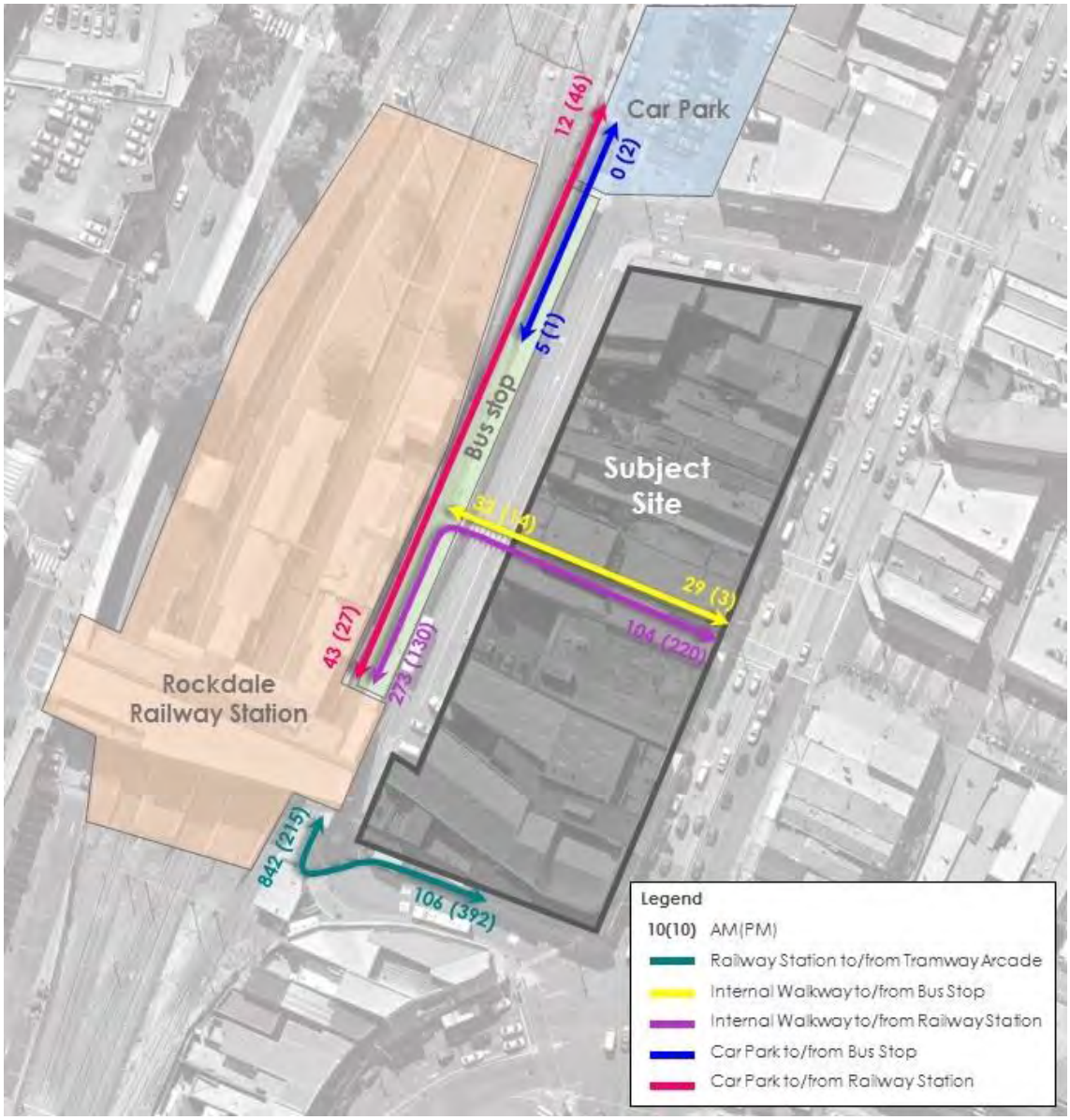
Table 2.4: Pedestrian movements to/from bus stop

Location	To bus stop		From bus stop	
	AM peak (7:45-8:45am)	PM peak (4:45pm-5:45pm)	AM peak (7:45-8:45am)	PM peak (4:45pm-5:45pm)
Internal walkway	32	14	29	3
Car park	5	1	0	2

The following observations were made with respect to the pedestrian arrival and departure profiles during the peak periods:

- Tramway Arcade carries the highest proportion of pedestrians near the site, with up to 950 and 607 pedestrians (two-way) observed to use this link during the AM and PM peak hours, respectively
- The internal walkway carries around 410 and 370 pedestrians during the AM and PM peak hours, respectively
- The footpath linking the station and bus stop to the commuter car park carries around, 60 and 80 pedestrians (two-way) during the AM and PM peak hours, respectively.

Figure 2.20: AM and PM peak pedestrian movements



Basemap source: Nearmap

Analysis of the pedestrian surveys show that there is a high demand for pedestrian access from Rockdale station through Tramway Arcade to the Princes Highway and through the existing internal walkway between Geeves Avenue and the Princes Highway.

2.7 Existing Travel Behaviour

The 2011 Census data provided by the Australian Bureau of Statistic (ABS) was reviewed to understand the travel demand characteristic for the travel zone containing and surrounding the subject site (TZ 2606). The travel zone is shown in Figure 2.21.

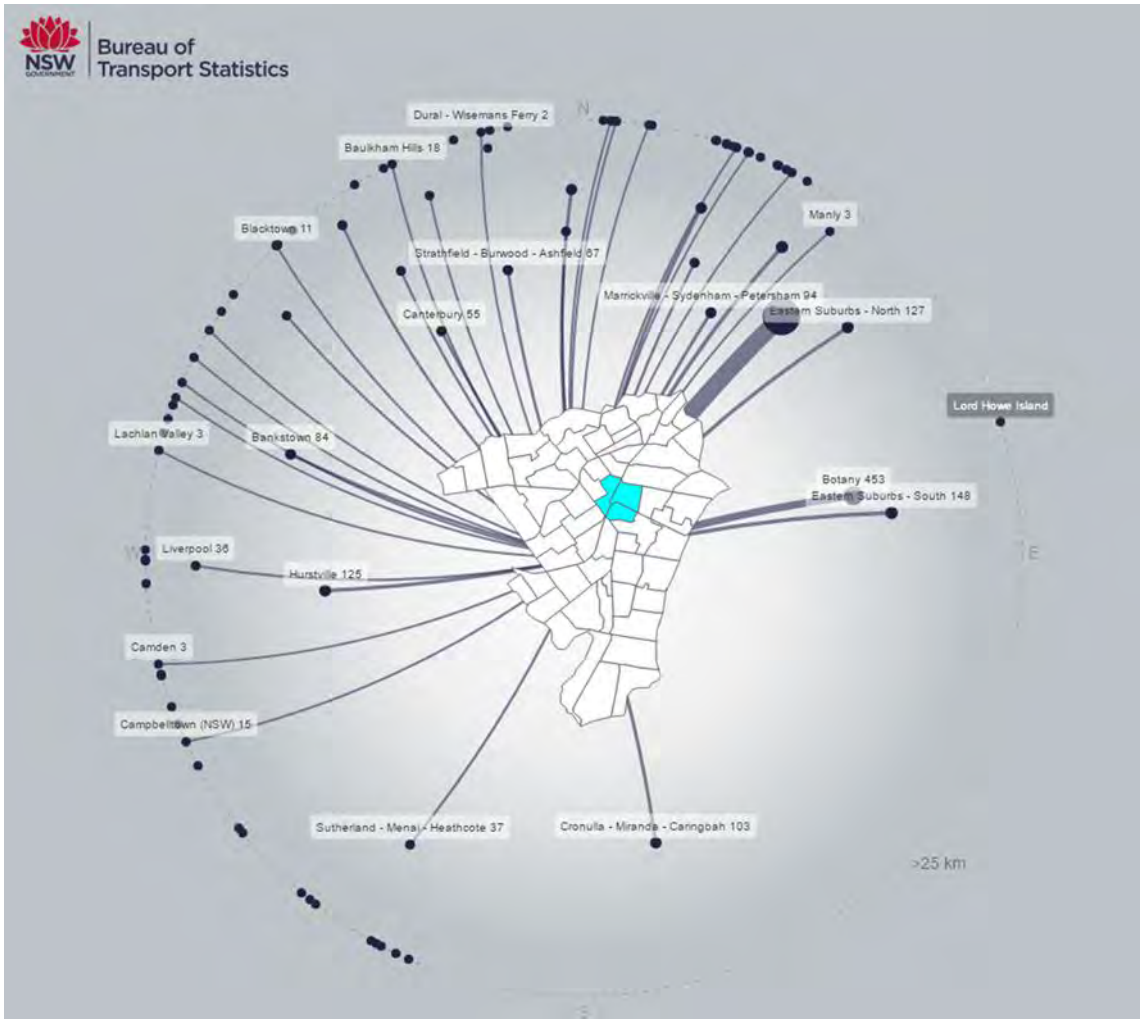
Figure 2.21: Travel zone (TZ 2764, 2766 and 2768)

Source: NSW Bureau of Transport Statistics accessed February 2016 (http://visual.bts.nsw.gov.au/jtwbasic/)

Place of Work

The 2011 Census data indicates that a total of 4,027 employed residents live in the relevant travel zones. Of these, 32 per cent worked in Sydney CBD, 19 per cent worked in the eastern suburbs and Botany and 15 per cent worked within the Rockdale/ Kogarah statistical area. Figure 2.22 shows where the 4,027 employed residents in the travel zone go to work.

Figure 2.22: Place of work (statistical area 3) for workers in travel zones 2764, 2766 and 2768

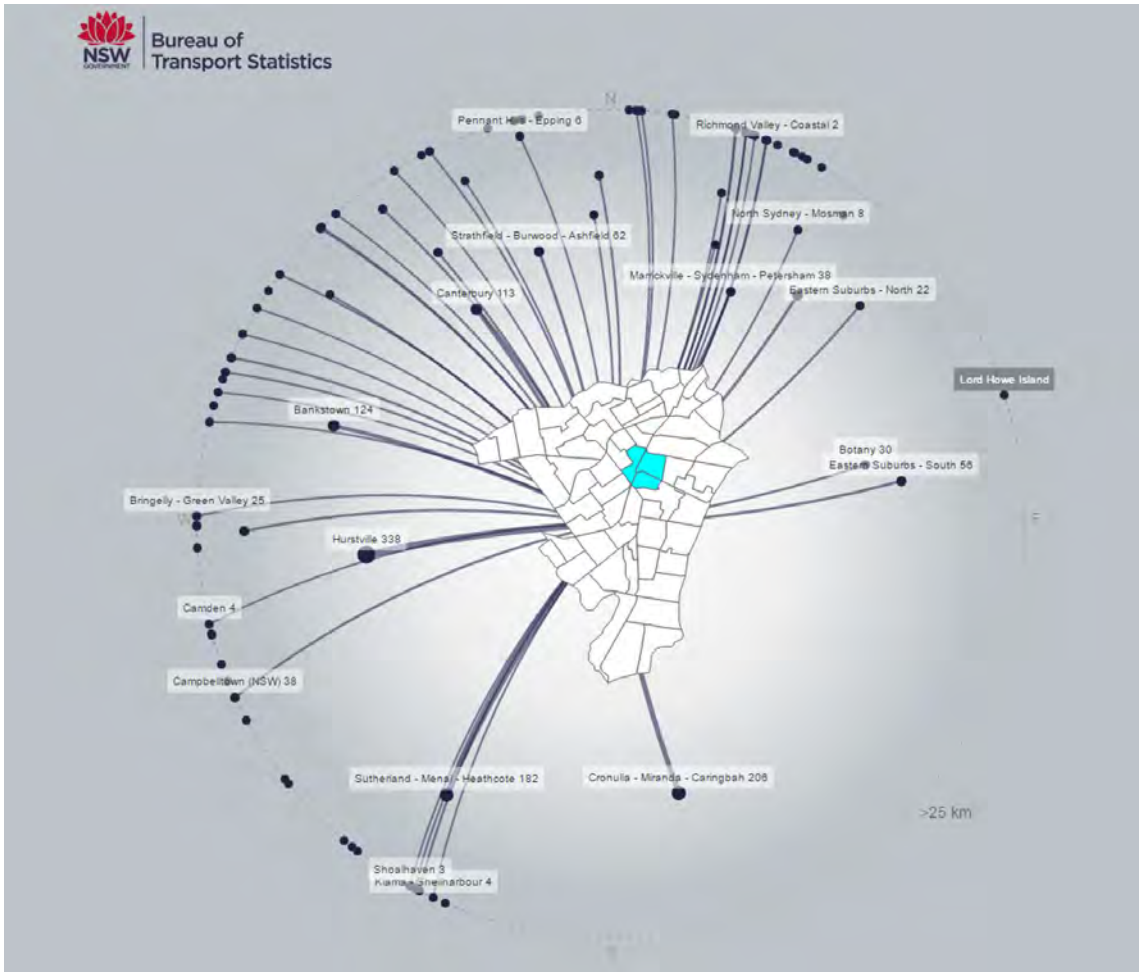


Source: NSW Bureau of Transport Statistics accessed February 2016 (http://visual.bts.nsw.gov.au/jtwdynamic/)

Place of Residence

2011 Census indicates that 2,756 people were employed in the travel zone, of which 36 per cent lived in the Kogarah/ Rockdale area. The remaining 64 per cent lived outside Rockdale, predominantly in neighbouring statistical areas, such as Hurstville (12 per cent), Sutherland/ Menai/ Heathcote (seven per cent), Canterbury or Cronulla/ Miranda/ Caringbah (seven per cent) and Bankstown (five per cent). Figure 2.23 shows where the 5,386 people who work in the travel zone originate.

Figure 2.23: Place of residence (statistical area 3) for workers in travel zones 2764, 2766 and 2768



Source: NSW Bureau of Transport Statistics accessed February 2016 (http://visual.bts.nsw.gov.au/jtwdynamic/)

Mode Choice

2011 Census indicates that for trips to locations where access to public transport is well established, commuter trips would generally be made using public transport. For employed residents of Rockdale, mode choice for each location in descending order of commuter volumes is as follows:

- Sydney Inner City (1,296): 81 per cent public transport, 19 per cent private vehicle
- Kogarah/ Rockdale (604): 29 per cent walked only, 20 per cent public transport, 46 per cent private vehicle
- Botany (453): 35 per cent public transport, 63 per cent private vehicle
- Eastern Suburbs – South (148): 30 per cent public transport, 67 per cent private vehicle
- North Sydney – Mosman (144): 75 per cent public transport, 25 per cent private vehicle
- Eastern Suburbs – North (125): 66 per cent public transport, 33 per cent private vehicle
- The key mode of travel used by people employed in the Travel Zone included vehicle as a driver or passenger (59 per cent), train (14 per cent), walked only (nine per cent) and bus (five per cent).

3. Sustainable Transport Infrastructure

3.1 Rockdale Masterplan (2013)

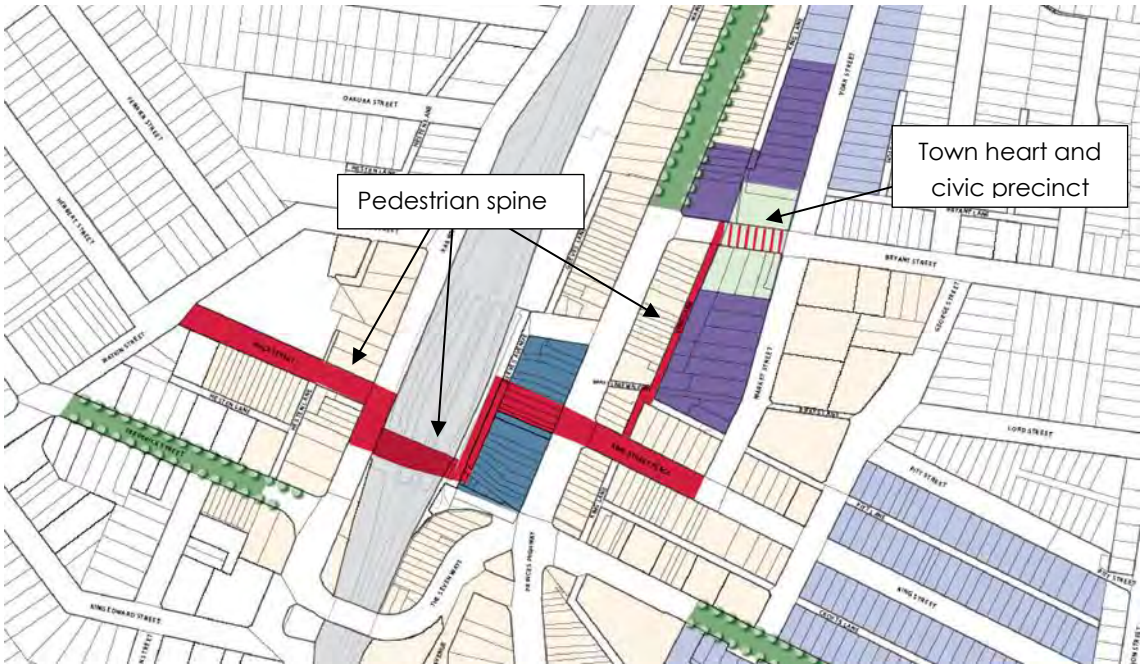
The Rockdale Masterplan is a document developed by Council and addresses the growing needs within the Rockdale town centre. The overall aim of the document is to set out how the area can achieve the following:

- Establish a unique identity for Rockdale
- Grow the town heart and civic role
- Increase the vitality and lifestyle
- Improve the pedestrian experience
- Strengthen the centre's economic hubs
- Provide convenience and legible access for visitors.

In pursuit of the above, Council has recognised the area occupied by the subject site as playing a crucial role in the overall development of Rockdale's sustainable transport infrastructure.

The subject site will make up the centre point of the proposed pedestrian spine expected to be developed in the future. This pedestrian spine is shown in Figure 3.1.

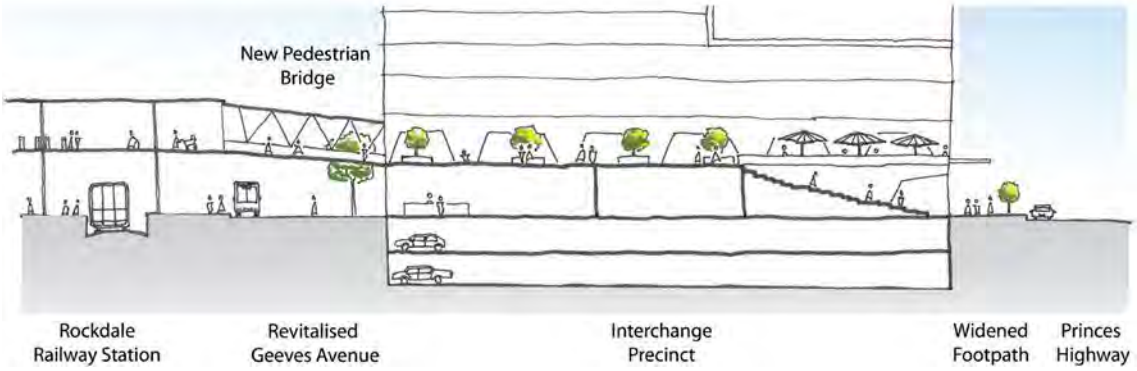
Figure 3.1: Rockdale Town Centre Masterplan



Source: Rockdale City Council Masterplan (2013)

Council plans to have a pedestrian walkway that that connects the King Street shared zone with Watkin Street in the west. The pedestrian spine will run through the site and connect to the overhead pedestrian walkway at Rockdale station via a pedestrian bridge. This walkway will then connect to the at grade pedestrian foot path. An artist's impression of this connection is shown in Figure 3.2.

Figure 3.2: Anticipated cross section (artist's impression)



Council also anticipates that any future development at the subject site will incorporate high density, mixed use land. Figure 3.3 is an extract from the masterplan and shows that Council expects high rise developments to occur. The figure shows indicative floor plans and anticipated building heights.

Figure 3.3: Anticipated floor plan (indicative)

The extract from Council's masterplan shows that Council anticipates major development to occur on site.

3.2 Existing Development

The existing development consists of an assortment of commercial and retail outlets with a total area of around 6,000 square metres. Existing developments are generally limited to a single ground level with access points along Tramway Arcade, the Princes Highway and Geeves Avenue. Traffic generated by the combined commercial and retail outlets are generally limited to pedestrian traffic. Any vehicular traffic generated by the site is assumed to be diverted to one of the surrounding public car parks.

4. Development Proposal

4.1 Proposal

The proposal includes the development of three separated areas with residential, commercial and retail uses. These sites are known in this report by the following names:

- Site 1: 507 – 511 Princes Highway
- Site 2: mid site
- Site 3: end site.

The anticipated land use to form the planning proposal includes:

- 59 studio units
- 38 one bedroom units
- 133 two bedroom units
- 27 three bedroom units
- 3,890 square metres retail space.

The proposed development should provide parking that satisfies Council's DCP and AS 2890.1 requirements. Site 1 proposes to provide direct pedestrian access to Rockdale station. It is proposed that an overhead pedestrian walkway over Geeves Avenue would connect the station to the site and through to the Princes Highway at the intersection of Bays Street/ Princes Highway/ Tramway Arcade/ The Seven Ways. When complete, Site 1 will be unique in its ability to provide access to the public transport network, encouraging high public transport use to key employment destinations and active transport use to key amenities within the Rockdale town centre. Based on the high public transport usage expected for the interchange precinct, the provision of the pedestrian link is proposed in exchange for reduced parking provision. However, it is proposed that car parking and loading facilities would be combined across the three sites.

A common car park and combined loading dock is proposed across the basement of all three sites. This would also comply with motorcycle parking and relevant bicycle end of trip facilities requirements.

Loading and service areas on site will be designed such as to be compliant with Council's DCP and AS 2890.1.

The development schedule for each site is summarised in Table 4.1, Table 4.2 and Table 4.3 with a summary of the entire site shown in Table 4.4.

Table 4.1: Site 1 – 507-511 Princes Highway development schedule

Use	Type	Yield
Residential	Studio	15
	1 Bedroom	18
	2 Bedroom	42
	3 Bedroom	9
	Sub-total	**84 units**
Retail	Ground Floor	1,297 m^2
Site Area		**1,723 m^2**

Table 4.2: Site 2 – Mid site development schedule

Use	Type	Yield
Residential	Studio	24
	1 Bedroom	9
	2 Bedroom	50
	3 Bedroom	9
	Sub-total	**92 units**
Retail	Ground Floor	1,297 m^2
Site Area		**2,166 m^2**

Table 4.3: Site 3 – End site development schedule

Use	Type	Yield
Residential	Studio	20
	1 Bedroom	11
	2 Bedroom	41
	3 Bedroom	9
	Sub-total	**81units**
Retail	Ground Floor	1,297 m^2
Site Area		**2,064 m^2**

Table 4.4: Summary development schedule

Use	Type	Yield
Residential	Studio	59
	1 Bedroom	38
	2 Bedroom	133
	3 Bedroom	27
	Sub-total	**257 units**
Retail		3,890 m^2
Site Area		**5,953 m^2**

5. Car Parking

5.1 Car Parking Requirements

The car parking provision requirements for different development types are set out in Council's DCP 2011. A review of the car parking rates and the gross floor area (GFA) schedule results in a parking requirement for the planning proposal is summarised in Table 5.1.

Table 5.1: DCP car parking requirements

Description	Use	DCP parking rate	507 – 511 Princes Highway		Mid site		End site	
			Units/ GFA	Parking requirement	Units/ GFA	Parking requirement	Units/ GFA	Parking requirement
Residential	Studio	1 space/ unit	15	15	24	24	20	20
	1 Bed		18	18	9	9	11	11
	2 Bed		42	42	50	42	41	41
	3 Bed	2 spaces/ unit	9	18	9	18	9	18
	Visitor	1 space/ 5 dwellings	84	17	92	19	81	17
	Sub-Total		**110**		**112**		**107**	
Retail		1 space/ 40 m² GFA	1,297	33	1,297	33	1,297	33
Individual Total			**143**		**145**		**140**	
Precinct Total			**428**					

As outlined in Table 5.1 to comply with the DCP requirements the precinct would need to provide a total of 428 parking spaces.

5.2 Empirical Assessment of Car Parking Demand

5.2.1 Residential

The NSW Department of Planning and Environment have released the Apartment Design Guide[4] (ADG) that provides commentary on acceptable levels of car parking provision.

The ADG states *that for developments either:*

- *within 800 metres of a railway station or light rail stop in Sydney Metropolitan Area; or*
- *on land zoned, or within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre,*

the lesser resident and/ or visitor car parking rate of either the 'Guide to Traffic Generating Developments' (October 2002) or the relevant Council's requirements can be used.

The site is uniquely positioned within 20 metres of the Rockdale station and bus interchange, and on land proposed to be zoned B4 Mixed Use. As such, the lesser resident and visitor car parking rates provided in the Roads and Maritime Guide are applicable.

[4] NSW Department of Planning and Environment, Apartment Design Guide, July 2015.

An assessment of the car parking requirements adopting the high density residential rates in the Roads and Maritime Guide is presented in Table 4.2.

Table 4.2: Roads and Maritime - residential parking requirements

Description	Use	Parking rate	507 – 511 Princes Highway (Site 1)		Mid site (site 2)		End site (site 3)	
			Units/ GFA	Parking requirement	Units/ GFA	Parking requirement	Units/ GFA	Parking requirement
Residential	Studio	0.4 spaces / unit	15	6	24	10	20	8
	1 Bed		18	8	9	4	11	5
	2 Bed	0.7 spaces / units	42	30	50	35	41	29
	3 Bed	1.2 spaces / units	9	11	9	11	9	11
	Visitor	1 space / 5 units	84	17	92	19	81	17
Individual Residential Total			**72**		**79**		**70**	
Precinct Residential Total			**221**					

Table 4.2 indicates that the application of the Roads and Maritime based residential parking rates would equate to a residential parking demand of 221 car spaces across the precinct. This is less than the DCP residential car parking requirement of 329 spaces. Therefore, in accordance with the ADG, the Roads and Maritime parking provision would be applicable to the proposed development sites.

5.2.2 Retail

The DCP parking rates for the retail land uses result in a requirement of 99 spaces for the retail components of the planning proposal.

5.3 Car Sharing Opportunities

There are currently no GoGet car sharing pods located in Rockdale. To encourage and promote sustainable transport there could be an opportunity to provide parking GoGet cars within the precinct. Providing GoGet vehicles promotes car sharing and provides vehicles to residents and tenants if required.

5.4 Adequacy of Parking Supply

The proposal provides a combined basement car park across the precinct. The proximity of the entire site to the local train and bus network provides unparalleled access to public transportation. The site located at the southern end (507-511 Princes Highway) proposes to construct a direct pedestrian walkway (overbridge) from the station through the site and to the Princes Highway. This unique opportunity will promote the use of public transport and reduce car occupancy for the site. It is therefore proposed that in exchange for the development providing an innovative direct link to the train station, that the retail component of parking from Site 1 be removed, therefore reducing the retail parking spaces by one-third across the precinct.

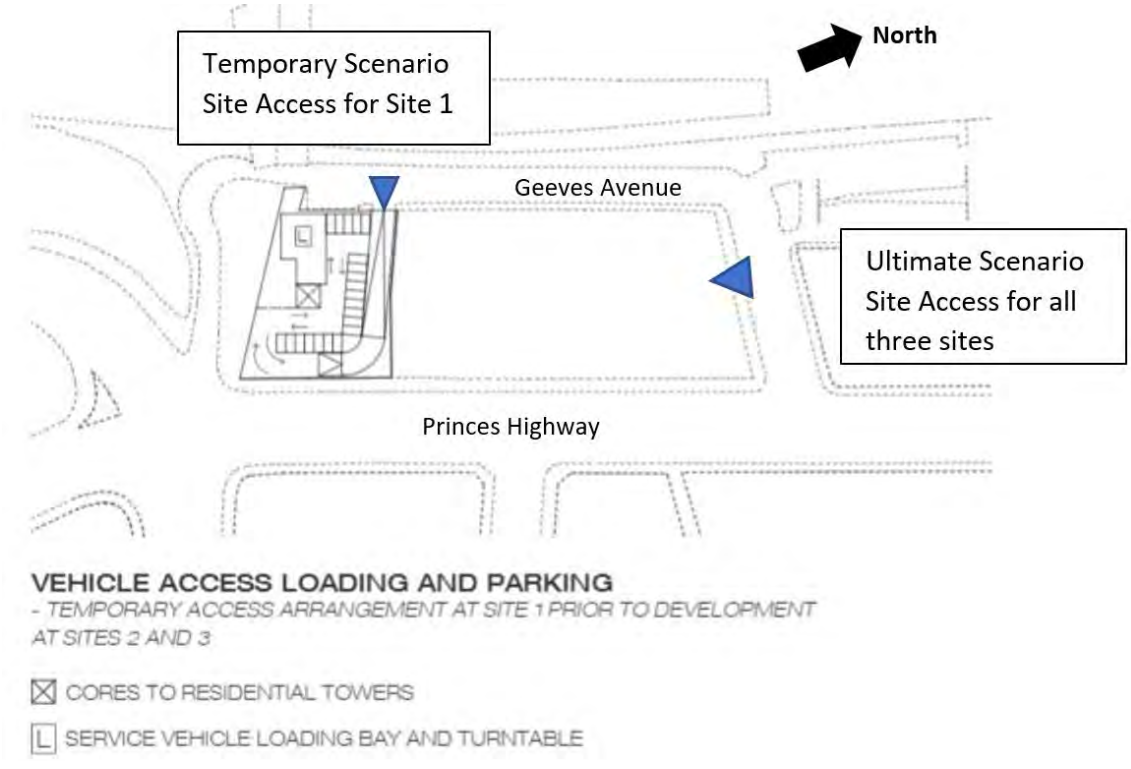
The development proposes to provide a maximum total of 395 car parking spaces across the precinct, which would result in a shortfall of 33 spaces, when compared to the DCP requirement. Due to the unique ability of direct access to the public transport network, it is considered that 395 parking spaces should be the maximum number provided across the precinct, with possible consideration being given to reduce the retail component of parking further to tenant (staff) parking only. This arrangement will meet the Roads and Maritime parking requirements in accordance with the ADG discussed in Section 5.2.1, with further opportunity to also reduce resident parking in accordance with the ADG.

5.5 Access Arrangements

The access arrangements for the complete development of the site (Sites 1, 2 and 3) are proposed to be from a single (two-way) access provided from Geeves Avenue at the northern end of the site as shown in Figure 5.1. This access would connect through to a centralised loading dock and parking areas for all three sites.

However, it is likely that Site 1 will be developed first and therefore a temporary access for Site 1 is proposed as shown in Figure 5.1. This access would be removed under the ultimate scenario (or restricted to service vehicles only) when Sites 2 and 3 are developed.

Figure 5.1: Site Access – Temporary and Ultimate Scenarios



Source: Draft UCR Report for Geeves Avenue Precinct dated 5 May 2017.

The proposed ramps into the site would have adequate width to provide two-way movement.

It is noted that the temporary access ramp to Site 1 will be located adjacent to the Rockdale bus interchange. Vehicles accessing this site will enter and exit in a forward direction. The temporary access is not expected to negatively affect the operation of the bus interchange. In the ultimate scenario the access ramp is proposed to be located on the northern section of Geeves Avenue

away from the bus interchange and therefore would not adversely impact the operation of the bus interchange.

6. Traffic Impact Assessment

6.1 Overview

The traffic impact assessment for the planning proposal has been undertaken in the following manner:

- Identification of the traffic generation characteristics of the land uses that form the planning proposal
- Off-setting the existing traffic volumes being generated by the subject site.

6.2 Traffic Generation

6.2.1 Development Generated Traffic

Traffic generation estimates for the land uses that form the planning proposal are based the Roads and Maritime Guide to Traffic Generating Developments 2002 and Roads and Maritime Technical Direction 2013/04a (TDT 2013/4a).

Residential Uses

TDT 2013/04 provides updated rates for high density residential flat dwellings (2012 surveys) that are close to public transport services, greater than six storeys and almost exclusively residential in nature.

TDT 2013/04 conducted surveys of 10 separate sites, eight of which were in the Sydney metropolitan area and two located in regional NSW. Two of the surveys were conducted in Chatswood and Parramatta. Traffic generation rates for the planning proposal were based on the rates derived from these surveys.

TDT 2013/04 indicates that for Parramatta and Chatswood, an average AM peak hour trip generation of 0.15 trips per hour per apartment, with PM peak hour rates slightly lower at 0.08 trips per hour. These rates have been adopted for the residential component of this assessment.

Retail Uses

The proposal includes ground level and level one retail space and is expected to comprise of specialty retail stores, thus excluding major department stores and/or supermarkets. As such, the Thursday evening rate applicable to speciality stores of 46 vehicle movements per 1,000 square metres gross leasable floor area (GLFA) as detailed in the Roads and Maritime Guide (2002) has been adopted for the retail space. It has also been assumed that retail activity would be lower during the AM peak hour than the PM peak hour. Therefore, the traffic generated by the retail component for the AM has been assessed based on a rate 50 per cent that of the PM peak hour.

It is also considered that the retail uses will largely operate as complementary to not only the proposed residential uses, but all surrounding existing land uses given the site's proximity to the Rockdale town centre and Rockdale station. Retail analysis suggests that around 40 per cent of retail activity within mixed use developments is generated by the residential component of the same site. That said, no reduction has been applied to reflect this characteristic.

Existing Uses

As previously discussed the existing site consists of an assortment of small commercial/ retail outlets. On-site inspections revealed that most individual outlets were restricted to a single storey and no public parking spaces are provided on site. It was observed that most of the traffic generated by the existing land uses is pedestrian. It is also noted that any vehicular traffic generated by the site would likely use the surrounding public car parks or on-street parking, and therefore it was not possible to accurately survey existing traffic generation.

The entire existing site is around 6,000 square metres, with an estimated 4,600 square metres GLFA. Most visitors to the current site would be from those passing by either by vehicle or walking. It is not expected that this site would be considered a destination. It has been assumed that the GLFA of the site would therefore be around 3,500 square metres. The expected traffic generation of the existing site has been reduced to 50 per cent as a conservative approach to calculate based on no on-site parking and passing by traffic. The total anticipated existing traffic generation is shown Table 6.1 and will be offset from the expected traffic generation of the site.

Table 6.1: Existing retail traffic generation

Land use	Total size	Weekday AM		Weekday PM	
		Trip rate	Vehicle trips per hour (vtph)	Trip rate	vtph
Existing retail	3,500 m^2 GLFA [1]	23 per 1,000 m^2	81	23 per 1,000 m^2 [2]	81

[1] GFA to GLFA conversion: 0.75 GFA = GLFA

[2] 23 trips per 1,000 m^2 = 46 trips per 1,000 m^2 x 0.5 (for trip containment)

Summary

Estimates of peak hour traffic volumes resulting from the proposal are set out in Table 6.2.

Table 6.2: Traffic generation estimates

Land use	Total size	Size (excl. Site 1 Retail)	Weekday AM		Weekday PM	
			Trip rate	vtph	Trip rate	vtph
Residential	257 apartments	-	0.19 per apartment	49	0.15 per apartment	39
Retail	3,890 m^2 GLFA [1]	1,297 m^2 GLFA [1]	23 per 1,000 m^2	60	46 per 1,000 m^2 [2]	60
Existing retail	3,500 m^2 GLFA	-	23 per 1,000 m^2	- 81	23 per 1,000 m^2	-81
Total				**28**		**18**

[1] GFA to GLFA conversion: 0.75 GFA = GLFA

[2] 23 trips per 1,000 m^2 = 46 trips per 1,000 m^2 x 0.5 (for trip containment)

Table 6.2 indicates that the land uses that make up the planning proposal could be expected to generate an additional 28 and 18 vehicle movements during a weekday AM and PM peak hours, respectively, above the existing site traffic generation.

6.3 Distribution and Assignment

The directional distribution and assignment of traffic generated by the planning proposal will be influenced by many factors, including the:

i Configuration of the arterial road network in the immediate vicinity of the site
ii Existing operation of intersections providing access between the local and arterial road network
iii Distribution of households near the site
iv For residential uses surrounding employment centres, retail centres and schools in relation to the site
v For office uses likely distribution of employees' residences in relation to the site
vi Configuration of access points to the site.

Having consideration to the above, for the purposes of estimating vehicle movements, the following directional distributions have been assumed:

- North/ east: 25 per cent
- West: 15 per cent
- South: 60 per cent.

The distribution has been based on information gathered from both the on-site surveys as well as the existing 2011 Census data as outlined in Section 2.6.1. It is understood that the largest generator of trips is the Sydney CBD, which accounts for around 50 per cent of all trips from the site. It was found for trips taken to the Sydney CBD, the majority (80 per cent) of all commutes were undertaken by public transport. Conversely, trips taken to areas with less established public transport infrastructure had higher proportions of commuters using private vehicles.

Because of this, a greater emphasis was given to trips to the south and west. In modifying the existing trip distributions, the true number of trips taken by private vehicles can be more accurately predicted. This will give a more accurate understanding of the true traffic impact of the proposed development.

In addition, the directional split of traffic during the AM and PM period has also been calculated. Each land use on site will generate trips in different directions depending on the time of day. Residential land uses will generally have more 'out' trips in the morning and 'in' trips in the afternoon. Conversely retail land use will reflect the influx of staff in the morning and the equal distribution of customers travelling both to and from the site.

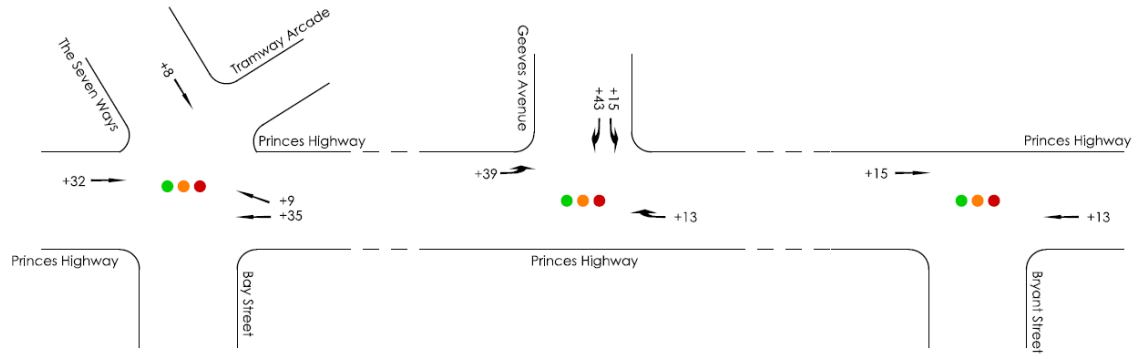
The directional split of traffic is shown in Table 6.3.

Table 6.3: Directional split of traffic

Land use	Weekday AM				Weekday PM			
	In		Out		In		Out	
Residential	20%	10	80%	39	60%	23	40%	16
Retail	70%	42	30%	18	50%	30	50%	30
Total	**52**		**57**		**53**		**46**	

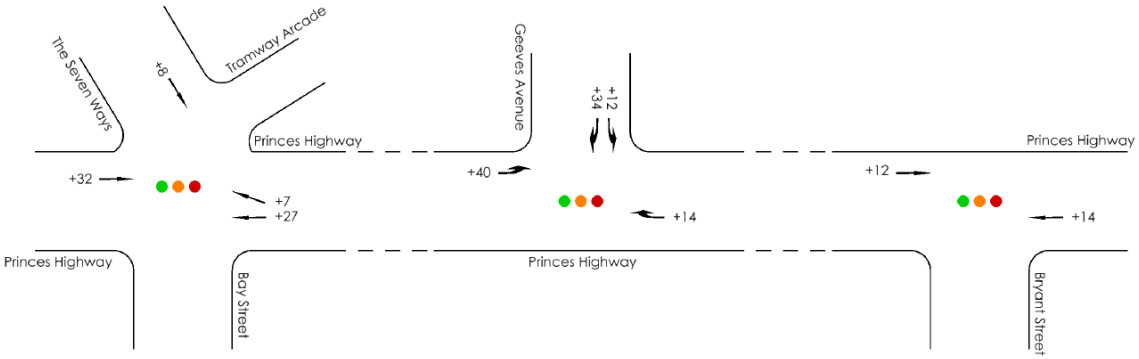
Based on the above, Figure 6.1 and Figure 6.2 have been prepared to show the estimated marginal increase in turning movements near the subject property following full site development.

Figure 6.1: AM peak hour site generated traffic volumes



AM Peak Hour Flow (Proposal Generated Traffic)

Figure 6.2: PM peak hour site generated traffic volumes



PM Peak Hour Flow (Proposal Generated Traffic)

Figure 6.1 and Figure 6.2 provide an understanding of the traffic distribution associated with the proposed development, not accounting for the existing traffic generation of the site, which will be removed (therefore presenting a conservatively high analysis).

6.4 Cumulative Impacts

6.4.1 Approved Developments

To provide an understanding of future traffic conditions this report will take into consideration proposed and approved future developments. The approved development directly impacting Geeves Avenue is 433-439 Princes Highway. This site, along with the planning proposal, will be accessed via the Geeves Avenue/ Princes Highway intersection. Because of this, it is important to develop an understanding of the cumulative impact.

The location of the sites that will be accessed via the Geeves Avenue/ Princes Highway intersection is shown in Figure 6.3.

Figure 6.3: Subject site and known surrounding developments

Basemap source: Sydway

433 – 439 Princes Highway

The redevelopment of 433-439 Princes Highway will result in the demolition of the existing bulky goods retail building followed by the construction of high density residential apartments. The apartments will consist of a total of 86 apartments and be accessed from Geeves Lane.

Varga Traffic Planning conducted a traffic and parking assessment in April 2017. The assessment stated that the site will produce a total traffic generation of 34 vehicles during the peak hour. This increase was offset by the existing bulky goods retail stores which produces a total peak hour traffic generation of 38 vehicles.

The overall traffic impact of the site was assessed to be a decrease of five trips during the peak hour.

Council advised that this assessment should also take into consideration the potential future development of the sites adjacent to 433-439 Princes Highway as traffic from these sites would also access through the intersection of Geeves Avenue and the Princes Highway. The existing land uses of the sites 441-467 Princes Highway are similar to that of the neighbouring sites at 433-439 Princes Highway. As no planning proposal has currently been submitted for these adjacent sites, it has been assumed that a similar development to that proposed at 433-439 Princes Highway would be likely. Based on the traffic report by Varga Traffic Planning Pty Ltd for 433-439 Princes Highway it can be assumed that the development of the sites from 441-467 Princes Highway would not result in any net increase in traffic generation through the intersection of Geeves Avenue and Princes Highway.

6.5 Future Growth and Assessment

This section provides potential future traffic conditions on the local road network and the potential impact of the planning proposal and surrounding developments. For this assessment, the year of opening has been assumed to be 2021.

A 2021 base model scenario has been modelled to assess the traffic impact of the planning proposal, comprising existing traffic conditions with background growth rate applied to 2021.

Once the existing site traffic generation has been removed, the expected net traffic generation increase for the site is expected to be around 28 vehicles in the peak hour. Modelling for this increase has been outlined in Section 6.6 for the potential year of opening.

6.5.1 Background Traffic Growth

Background traffic growth has been obtained from the Sydney Strategic Travel Model (STM) for the years 2016 and 2036 for the three analysed intersections to determine the expected background traffic growth in both the AM and PM peak hour periods. The average compound annual growth rate is about 0.4 per cent.

6.6 Traffic Impact

The scenario outlined in Section 6.5. has been modelled within SIDRA Intersection, using a network model. The operational impact is discussed and tabulated in the following sub sections.

2021 Base Model

The 2021 base model considers the operation of each of the three intersections studied in Table 2.2. This model applies the same traffic volumes to each intersection whilst also factoring an average 0.4 per cent annual growth rate. The operation of each intersection is shown in Table 6.4.

Table 6.4: 2021 base model

Intersection	Control	Peak	Degree of saturation	Average delay (sec)	95th percentile queue (m)	LOS
Princes Highway/ Bryant Street	Signalised	AM	0.66	13	130	A
		PM	0.70	20	228	B
Princes Highway/ Geeves Avenue	Signalised	AM	0.91	5	39	A
		PM	0.97	46	122	D
Princes Highway/ Bay Street/ The Seven Ways/ Tramway Arcade	Signalised	AM	1.25	53	465	D
		PM	0.91	44	274	D

As shown in Table 6.4 the intersection of Geeves Avenue/ Princes Highway in the PM peak and the intersection of Princes Highway/ Bay Street/ Seven Ways/ Tramway Arcade in both AM and PM peaks would be operating near capacity in 2021 based on background traffic, without any development traffic.

Analysis of the intersection of Geeves Avenue and Princes Highway shows that the right turning movements are delaying the overall operation of this intersection.

2021 Base Model + Development

This analysis considers the operation of each of the three intersections in 2021 when including the expected development traffic. The operation of each intersection is shown in Table 6.4.

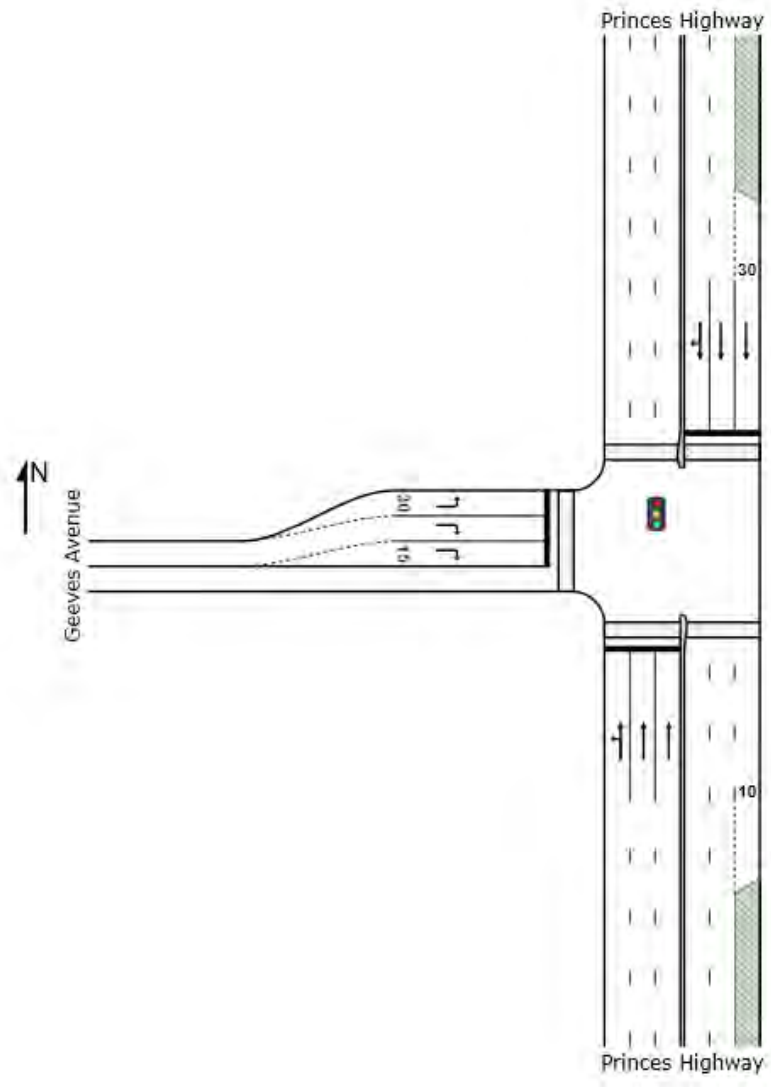
Table 6.5: 2021 base model + development

Intersection	Control	Peak	Degree of saturation	Average delay (sec)	95th percentile queue (m)	LOS
Princes Highway/ Bryant Street	Signalised	AM	0.66	13	130	A
		PM	0.82	26	329	B
Princes Highway/ Geeves Avenue	Signalised	AM	0.94	6	42	A
		PM	1.14	61	162	E
Princes Highway/ Bay Street/ The Seven Ways/ Tramway Arcade	Signalised	AM	1.30	54	449	D
		PM	0.90	40	260	C

As shown in Table 6.4 the intersection of Geeves Avenue/ Princes Highway in the PM peak would operate at capacity in 2021 based on background and development traffic. The right turning movement from Geeves Avenue into Princes Highway would experience significant delays.

Modifications to the Geeves Avenue approach and departure lanes through removing the parking in this section as shown in Figure 6.4 would assist to increase the capacity of the right turning vehicles and therefore improve the overall intersection performance as background traffic increases in the future. This modification would assist in improving the future operation of the Geeves Avenue intersection.

Figure 6.4: Geeves Avenue – proposed configuration



2021 Base + Development Model (Geeves Avenue upgrade)

The intersection of Geeves Avenue and Princes Highway has been modelled based on the proposed upgrade. The expected operation is shown in Table 6.6.

Table 6.6: 2021 base model + development (Geeves Avenue intersection improvements)

Intersection	Control	Peak	Degree of saturation	Average delay (sec)	95th percentile queue (m)	LOS
Princes Highway/ Geeves Avenue	Signalised	AM	0.94	6	40	A
		PM	0.98	52	122	D

As shown in Table 6.6 the intersection of Geeves Avenue/ Princes Highway in the PM peak would improve from an overall intersection operation of Level of Service E to a Level of Service D. The delays to right turning movements from Geeves Avenue would significantly improve.

6.6.1 Overall Traffic Impact

The planning proposal could be expected to generate an additional 28 vehicle movements during the peak hour from what the existing site is currently generating.

In considering cumulative impacts for potential developments also accessing Geeves Avenue, based on the traffic report by Varga Traffic Planning Pty Ltd for 433-439 Princes Highway, there is not expected to be any net increase in traffic from the planning proposal at this site. It has therefore also been assumed that the development of the sites from 441-467 Princes Highway would not result in any net increase in traffic generation through the intersection of Geeves Avenue and the Princes Highway.

A 2021 base model has been analysed to assess intersection operation whilst factoring in an average 0.4 per cent annual growth rate to Princes Highway through movements, as obtained from the STM model. This determined that the intersection of Geeves Avenue/ Princes Highway in the PM peak and the intersection of Princes Highway/ Bay Street/ Seven Ways/ Tramway Arcade in both AM and PM peaks would be operating near capacity in 2021 based on background traffic, without any development traffic.

In summary, the operation of the surrounding existing intersections is unlikely to be substantially impacted, however minor improvements to the lane configuration on the Geeves Avenue approach to the Princes Highway, as shown in Figure 6.4, are recommended for efficient intersection operation and to address transport needs for the proposed development site, with consideration of its location of the planning proposal it is a prime location for development with a focus on increasing public transport use.

7. Other Considerations

Visitor spaces should be easily accessible from public domain and areas that we well-lit with adequate levels of natural surveillance. For staff and residents, spaces should be secured. Communal shower, changing facilities and lockers should be provided for commercial and retail staff.

7.1 Loading and Waste Collection Requirements.

Council's DCP requires that car parking and service/ delivery areas are to be located so that they do not visually dominate either the development or the public domain.

Based on the above proposed loading and service areas will be located underground within the sites.

7.2 Car Wash Facilities

Council's DCP requires that for buildings with five dwellings or more, at least one visitor parking space is to be equipped with car wash facilities. This facility is to be equipped with cold water tap and connected to the sewage system.

Based on the above the planning proposal will provide car wash facilities to a single visitor space in each of the sites where basement car parking is provided.

7.3 Bicycle Parking

Council's DCP provides the following minimum bicycle storage rack requirements:

- Office/ retail – One bicycle space for every 200 square metres with 15 per cent accessible to visitors
- Residential – One bicycle space for every 10 units.

Based on the above, the planning proposal requires the following bicycle provisions to meet the DCP requirements:

- Office/ retail – 62 spaces (including nine spaces accessible to visitors)
- Residential – 25 spaces.

The planning proposal is required to provide at least 87 bicycle parking spaces including a balance for staff/ residents and visitors.

Visitor spaces should be easily accessible from public domain and areas that we well-lit with adequate levels of natural surveillance. For staff and residents, spaces should be secure. Communal shower, changing facilities and lockers should be provided for commercial and retail staff.

7.4 Motorcycle Parking

Council's DCP provides the following minimum motorcycle parking requirements:

- Office/ retail – one motorcycle space per 20 car spaces
- Residential – one motorcycle space per 15 dwellings.

Based on the above, the planning proposal requires the following bicycle provisions to meet the DCP requirements:

- Office/ Retail – 10 spaces
- Residential – 17 spaces.

The planning proposal is required to provide at least 27 motorcycle spaces.

7.5 Travel Plans

It is recommended that various user specific travel plans are prepared for the development including:

- Workplace travel plan
- Residential traffic plan
- Visitor traffic plan.

Travel plans are designed to reduce the reliance on private car travel, car ownership, or at least single occupant vehicles to destinations by boosting and encouraging the use of active and sustainable transport modes.

Organisations use travel plans as an effective tool to meet a range of different travel-related goals. Examples include initiatives to reduce traffic congestion and/ or parking demand (both on and off-street), reduce absenteeism, improve staff retention, increase physical activity, improve air quality and to improve morale.

Each site has unique characteristics so the objectives, programs, initiatives and measures contained in the travel plan must be tailored and site specific. Successful travel plans are iterative processes supported by development management and generally delivered by a full-time staff member (or team).

The travel plans would include:

- A 'reach' transport goal/ target to reduce single occupant vehicle travel demand
- Infrastructure to support walking, cycling, motorcycling and public transport access to the site
- Programs to reduce drive-alone travel behaviour by staff, visitors and customers
- Programs to reduce residential car ownership, such as provision of car share services
- Tenant policies to reduce drive-alone travel demand at the subject site
- Staff travel coordinator responsibilities
- Monitoring tools and an evaluation program to document performance.

7.6 Construction Traffic Impact

A construction traffic management plan should be prepared prior to works commencing on-site. It is noted that construction access from the rear of the site would potentially impact bus operations and it is recommended that a suitable construction methodology is developed in consultation with the preferred contractor, Roads and Maritime and Transport for NSW.

8. Conclusion

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

i The proposed development generates a statutory parking requirement of 428 spaces, for those uses with nominated rates.

ii The development proposes to provide a maximum total of 395 car parking spaces across the precinct. Over the precinct, this would result in a shortfall of 33 spaces when compared to DCP requirements. Due to the unique opportunity for direct access to the public transport network, it is considered that 395 parking spaces should be the maximum number provided across the precinct, with possible consideration being given to reduce the retail component of parking further. There is also an opportunity to also reduce resident parking in accordance with the ADG.

iii Analysis of the pedestrian surveys show that there is a high demand for pedestrian access from the Rockdale station through Tramway Arcade to the Princes Highway, confirming a demand for the pedestrian overbridge and link to the Princes Highway through Site 1.

iv The proposed parking layout is yet to be determined and would need to be consistent with the dimensional requirements as set out in the Australian/ New Zealand Standard for Off Street Car Parking (AS/NZS2890.1:2004 and AS/NZS2890.6:2009).

v The provision for bicycle facilities motorcycle facilities would be provided in accordance with the DCP.

vi The access arrangements for the full redevelopment of the precinct (Sites 1, 2 and 3) are proposed to be from a single (two-way) access provided from Geeves Avenue at the northern end of the site. This access would connect through to a centralised loading dock and parking areas for all three sites. However, it is likely that Site 1 will be developed first and therefore a temporary access for Site 1 is proposed. This access would be removed under the ultimate scenario (or restricted to service vehicles only) when Sites 2 and 3 are developed.

vii The site is expected to generate up to 109 vehicle movements in any peak hour. The existing site is estimated to generate around 81 vehicle movements in any peak hour. Therefore, the net increase of this planning proposal is around 28 vehicle movements in any peak hour.

viii Assessment of the potential year of opening has been undertaken to consider background traffic growth on the surrounding road network, analysis indicates that in the year 2021 intersections may be operating near capacity without the proposed development.

ix Potential intersection improvements could be undertaken at the intersection of Geeves Avenue and the Princes Highway to assist in alleviating delay to exiting Geeves Avenue traffic.

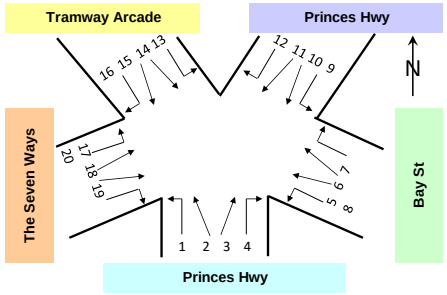
x The sites immediate proximity to Rockdale train station and bus interchange is a prime opportunity to provide a development with a reduced traffic impact and promote public and sustainable transport use.

Appendix A

Survey Results

Job No.	: N2552
Client	: GTA
Suburb	: Rockdale
Location	: 1. Princes Hwy / Bay St / Tramway Arcade / The Seven Ways
Day/Date	: Thu, 4th August 2016
Weather	: Fine
Description	: Classified Intersection Count
	: 15 mins Data

	Class 1	Class 2
Classifications	Lights	Heavies



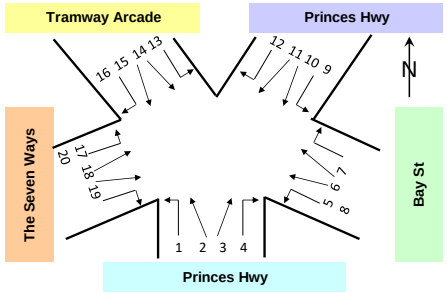
MATRIX Traffic and Transport Data

Approach	Princes Hwy												Bay St											
Direction	Direction 1			Direction 2			Direction 3			Direction 4			Direction 5			Direction 6			Direction 7			Direction 8		
Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total
6:30 to 6:45	9	0	**9**	0	3	**3**	566	18	**584**	0	0	**0**	1	0	**1**	41	2	**43**	0	0	**0**	0	0	**0**
6:45 to 7:00	19	1	**20**	0	1	**1**	585	11	**596**	0	0	**0**	7	1	**8**	33	2	**35**	0	2	**2**	0	0	**0**
7:00 to 7:15	12	3	**15**	0	2	**2**	547	14	**561**	0	0	**0**	2	0	**2**	56	2	**58**	0	2	**2**	0	0	**0**
7:15 to 7:30	17	0	**17**	0	2	**2**	620	10	**630**	0	0	**0**	9	0	**9**	71	3	**74**	0	2	**2**	0	0	**0**
7:30 to 7:45	27	3	**30**	0	1	**1**	535	7	**542**	0	0	**0**	8	1	**9**	83	3	**86**	0	3	**3**	0	0	**0**
7:45 to 8:00	34	1	**35**	0	4	**4**	534	14	**548**	0	0	**0**	5	0	**5**	66	1	**67**	0	1	**1**	0	0	**0**
8:00 to 8:15	28	1	**29**	0	4	**4**	477	7	**484**	0	0	**0**	8	1	**9**	80	2	**82**	0	2	**2**	0	0	**0**
8:15 to 8:30	36	0	**36**	0	2	**2**	420	9	**429**	0	0	**0**	13	1	**14**	96	5	**101**	0	3	**3**	0	0	**0**
8:30 to 8:45	44	1	**45**	0	2	**2**	443	9	**452**	0	0	**0**	9	0	**9**	94	3	**97**	0	2	**2**	0	0	**0**
8:45 to 9:00	28	3	**31**	0	2	**2**	412	19	**431**	0	0	**0**	15	0	**15**	80	3	**83**	0	2	**2**	0	0	**0**
9:00 to 9:15	28	0	**28**	0	2	**2**	368	8	**376**	0	0	**0**	13	0	**13**	48	1	**49**	0	1	**1**	0	0	**0**
9:15 to 9:30	25	4	**29**	0	4	**4**	347	14	**361**	0	0	**0**	6	0	**6**	51	3	**54**	0	3	**3**	0	0	**0**
AM Totals	**307**	**17**	**324**	**0**	**29**	**29**	**5,854**	**140**	**5,994**	**0**	**0**	**0**	**96**	**4**	**100**	**799**	**30**	**829**	**0**	**23**	**23**	**0**	**0**	**0**
15:30 to 15:45	33	1	**34**	0	5	**5**	261	14	**275**	0	0	**0**	7	1	**8**	81	2	**83**	0	3	**3**	0	0	**0**
15:45 to 16:00	42	1	**43**	0	1	**1**	188	7	**195**	0	0	**0**	16	0	**16**	83	3	**86**	0	1	**1**	0	0	**0**
16:00 to 16:15	33	0	**33**	0	2	**2**	239	7	**246**	0	0	**0**	11	1	**12**	77	1	**78**	0	2	**2**	0	0	**0**
16:15 to 16:30	23	2	**25**	0	3	**3**	238	5	**243**	0	0	**0**	10	1	**11**	74	0	**74**	0	3	**3**	0	0	**0**
16:30 to 16:45	30	0	**30**	0	1	**1**	228	6	**234**	0	0	**0**	7	1	**8**	72	0	**72**	0	2	**2**	0	0	**0**
16:45 to 17:00	29	1	**30**	0	3	**3**	205	5	**210**	0	0	**0**	10	1	**11**	83	1	**84**	0	2	**2**	0	0	**0**
17:00 to 17:15	23	2	**25**	0	0	**0**	220	3	**223**	0	0	**0**	12	1	**13**	82	1	**83**	0	2	**2**	0	0	**0**
17:15 to 17:30	22	2	**24**	0	2	**2**	198	7	**205**	0	0	**0**	12	1	**13**	82	1	**83**	0	2	**2**	0	0	**0**
17:30 to 17:45	27	1	**28**	0	1	**1**	238	10	**248**	0	0	**0**	15	0	**15**	91	0	**91**	0	3	**3**	0	0	**0**
17:45 to 18:00	32	1	**33**	0	3	**3**	198	4	**202**	0	0	**0**	7	1	**8**	83	1	**84**	0	1	**1**	0	0	**0**
18:00 to 18:15	26	0	**26**	0	2	**2**	206	4	**210**	0	0	**0**	9	0	**9**	92	0	**92**	0	1	**1**	0	0	**0**
18:15 to 18:30	22	0	**22**	0	1	**1**	229	2	**231**	0	0	**0**	8	0	**8**	77	0	**77**	0	3	**3**	0	0	**0**
PM Totals	**342**	**11**	**353**	**0**	**24**	**24**	**2,648**	**74**	**2,722**	**0**	**0**	**0**	**124**	**8**	**132**	**977**	**10**	**987**	**0**	**25**	**25**	**0**	**0**	**0**

Approach	Princes Hwy												Tramway Arcade												The Seven Ways											
Direction	Direction 9			Direction 10			Direction 11			Direction 12			Direction 13			Direction 14			Direction 15			Direction 16			Direction 17			Direction 18			Direction 19			Direction 20		
Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total
6:30 to 6:45	10	2	**12**	81	9	**90**	13	1	**14**	0	1	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	65	1	**66**	64	2	**66**	16	1	**17**
6:45 to 7:00	5	1	**6**	79	15	**94**	10	3	**13**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	51	2	**53**	64	6	**70**	17	1	**18**
7:00 to 7:15	5	2	**7**	86	11	**97**	22	2	**24**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	55	2	**57**	70	2	**72**	9	0	**9**
7:15 to 7:30	8	1	**9**	122	9	**131**	12	2	**14**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	37	0	**37**	81	3	**84**	12	0	**12**
7:30 to 7:45	8	4	**12**	137	9	**146**	28	1	**29**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	60	3	**63**	117	4	**121**	20	1	**21**
7:45 to 8:00	9	3	**12**	136	10	**146**	25	2	**27**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	58	2	**60**	93	3	**96**	27	0	**27**
8:00 to 8:15	10	0	**10**	115	13	**128**	35	1	**36**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	59	0	**59**	103	5	**108**	21	1	**22**
8:15 to 8:30	8	3	**11**	147	13	**160**	29	1	**30**	0	1	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	56	0	**56**	132	2	**134**	31	3	**34**
8:30 to 8:45	12	2	**14**	147	9	**156**	28	2	**30**	0	1	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	65	1	**66**	136	2	**138**	19	1	**20**
8:45 to 9:00	14	3	**17**	128	15	**143**	32	2	**34**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	71	1	**72**	143	2	**145**	32	1	**33**
9:00 to 9:15	13	2	**15**	163	22	**185**	40	2	**42**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	54	3	**57**	91	2	**93**	32	2	**34**
9:15 to 9:30	16	2	**18**	146	12	**158**	22	1	**23**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	65	3	**68**	82	3	**85**	38	1	**39**
AM Totals	**118**	**25**	**143**	**1,487**	**147**	**1,634**	**296**	**20**	**316**	**0**	**3**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**696**	**18**	**714**	**1,176**	**36**	**1,212**	**274**	**12**	**286**
15:30 to 15:45	21	3	**24**	329	13	**342**	74	2	**76**	0	2	**2**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	52	0	**52**	56	0	**56**	23	0	**23**
15:45 to 16:00	23	3	**26**	316	5	**321**	85	4	**89**	0	1	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	35	0	**35**	65	2	**67**	30	1	**31**
16:00 to 16:15	18	2	**20**	384	10	**394**	88	0	**88**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	37	0	**37**	63	2	**65**	27	1	**28**
16:15 to 16:30	12	0	**12**	364	8	**372**	86	4	**90**	0	2	**2**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	1	**1**	37	0	**37**	78	1	**79**	26	0	**26**
16:30 to 16:45	15	4	**19**	447	4	**451**	96	1	**97**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	45	0	**45**	60	0	**60**	23	1	**24**
16:45 to 17:00	12	3	**15**	404	8	**412**	83	1	**84**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	48	0	**48**	79	0	**79**	49	1	**50**
17:00 to 17:15	17	2	**19**	403	6	**409**	89	2	**91**	0	1	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	45	0	**45**	68	1	**69**	26	2	**28**
17:15 to 17:30	9	2	**11**	406	9	**415**	96	0	**96**	0	2	**2**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	48	1	**49**	97	0	**97**	25	1	**26**
17:30 to 17:45	17	2	**19**	419	7	**426**	65	2	**67**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	40	0	**40**	74	1	**75**	35	0	**35**
17:45 to 18:00	14	2	**16**	424	5	**429**	83	3	**86**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	33	1	**34**	62	0	**62**	29	1	**30**
18:00 to 18:15	19	2	**21**	414	9	**423**	65	0	**65**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	51	1	**52**	82	0	**82**	30	1	**31**
18:15 to 18:30	19	0	**19**	398	10	**408**	73	0	**73**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	42	0	**42**	76	0	**76**	27	0	**27**
PM Totals	**196**	**25**	**221**	**4,708**	**94**	**4,802**	**983**	**19**	**1,002**	**0**	**8**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**513**	**3**	**516**	**860**	**7**	**867**	**350**	**9**	**359**

Job No. : N2552
Client : GTA
Suburb : Rockdale
Location : 1. Princes Hwy / Bay St / Tramway Arcade / The Seven Ways

Day/Date : Thu, 4th August 2016
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



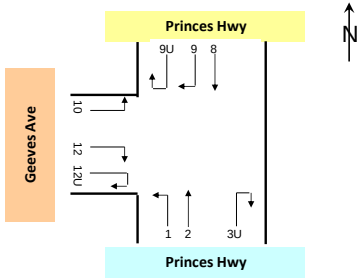
MATRIX Traffic and Transport Data

Approach	Princes Hwy												Bay St											
Direction	Direction 1			Direction 2			Direction 3			Direction 4			Direction 5			Direction 6			Direction 7			Direction 8		
Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total
6:30 to 7:30	57	4	**61**	0	8	**8**	2,318	53	**2,371**	0	0	**0**	19	1	**20**	201	9	**210**	0	6	**6**	0	0	**0**
6:45 to 7:45	75	7	**82**	0	6	**6**	2,287	42	**2,329**	0	0	**0**	26	2	**28**	243	10	**253**	0	9	**9**	0	0	**0**
7:00 to 8:00	90	7	**97**	0	9	**9**	2,236	45	**2,281**	0	0	**0**	24	1	**25**	276	9	**285**	0	8	**8**	0	0	**0**
7:15 to 8:15	106	5	**111**	0	11	**11**	2,166	38	**2,204**	0	0	**0**	30	2	**32**	300	9	**309**	0	8	**8**	0	0	**0**
7:30 to 8:30	125	5	**130**	0	11	**11**	1,966	37	**2,003**	0	0	**0**	34	3	**37**	325	11	**336**	0	9	**9**	0	0	**0**
7:45 to 8:45	142	3	**145**	0	12	**12**	1,874	39	**1,913**	0	0	**0**	35	2	**37**	336	11	**347**	0	8	**8**	0	0	**0**
8:00 to 9:00	136	5	**141**	0	10	**10**	1,752	44	**1,796**	0	0	**0**	45	2	**47**	350	13	**363**	0	9	**9**	0	0	**0**
8:15 to 9:15	136	4	**140**	0	8	**8**	1,643	45	**1,688**	0	0	**0**	50	1	**51**	318	12	**330**	0	8	**8**	0	0	**0**
8:30 to 9:30	125	8	**133**	0	10	**10**	1,570	50	**1,620**	0	0	**0**	43	0	**43**	273	10	**283**	0	8	**8**	0	0	**0**
AM Totals	**307**	**17**	**324**	**0**	**29**	**29**	**5,854**	**140**	**5,994**	**0**	**0**	**0**	**96**	**4**	**100**	**799**	**30**	**829**	**0**	**23**	**23**	**0**	**0**	**0**
15:30 to 16:30	131	4	**135**	0	11	**11**	926	33	**959**	0	0	**0**	44	3	**47**	315	6	**321**	0	9	**9**	0	0	**0**
15:45 to 16:45	128	3	**131**	0	7	**7**	893	25	**918**	0	0	**0**	44	3	**47**	306	4	**310**	0	8	**8**	0	0	**0**
16:00 to 17:00	115	3	**118**	0	9	**9**	910	23	**933**	0	0	**0**	38	4	**42**	306	2	**308**	0	9	**9**	0	0	**0**
16:15 to 17:15	105	5	**110**	0	7	**7**	891	19	**910**	0	0	**0**	39	4	**43**	311	2	**313**	0	9	**9**	0	0	**0**
16:30 to 17:30	104	5	**109**	0	6	**6**	851	21	**872**	0	0	**0**	41	4	**45**	319	3	**322**	0	8	**8**	0	0	**0**
16:45 to 17:45	101	6	**107**	0	6	**6**	861	25	**886**	0	0	**0**	49	3	**52**	338	3	**341**	0	9	**9**	0	0	**0**
17:00 to 18:00	104	6	**110**	0	6	**6**	854	24	**878**	0	0	**0**	46	3	**49**	338	3	**341**	0	8	**8**	0	0	**0**
17:15 to 18:15	107	4	**111**	0	8	**8**	840	25	**865**	0	0	**0**	43	2	**45**	348	2	**350**	0	7	**7**	0	0	**0**
17:30 to 18:30	107	2	**109**	0	7	**7**	871	20	**891**	0	0	**0**	39	1	**40**	343	1	**344**	0	8	**8**	0	0	**0**
PM Totals	**342**	**11**	**353**	**0**	**24**	**24**	**2,648**	**74**	**2,722**	**0**	**0**	**0**	**124**	**8**	**132**	**977**	**10**	**987**	**0**	**25**	**25**	**0**	**0**	**0**

Approach	Princes Hwy												Tramway Arcade												The Seven Ways											
Direction	Direction 9			Direction 10			Direction 11			Direction 12			Direction 13			Direction 14			Direction 15			Direction 16			Direction 17			Direction 18			Direction 19			Direction 20		
Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total
6:30 to 7:30	28	6	**34**	368	44	**412**	57	8	**65**	0	1	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	208	5	**213**	279	13	**292**	54	2	**56**
6:45 to 7:45	26	8	**34**	424	44	**468**	72	8	**80**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	203	7	**210**	332	15	**347**	58	2	**60**
7:00 to 8:00	30	10	**40**	481	39	**520**	87	7	**94**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	210	7	**217**	361	12	**373**	68	1	**69**
7:15 to 8:15	35	8	**43**	510	41	**551**	100	6	**106**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	214	5	**219**	394	15	**409**	80	2	**82**
7:30 to 8:30	35	10	**45**	535	45	**580**	117	5	**122**	0	1	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	233	5	**238**	445	14	**459**	99	5	**104**
7:45 to 8:45	39	8	**47**	545	45	**590**	117	6	**123**	0	2	**2**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	238	3	**241**	464	12	**476**	98	5	**103**
8:00 to 9:00	44	8	**52**	537	50	**587**	124	6	**130**	0	2	**2**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	251	2	**253**	514	11	**525**	103	6	**109**
8:15 to 9:15	47	10	**57**	585	59	**644**	129	7	**136**	0	2	**2**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	246	5	**251**	502	8	**510**	114	7	**121**
8:30 to 9:30	55	9	**64**	584	58	**642**	122	7	**129**	0	1	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	255	8	**263**	452	9	**461**	121	5	**126**
AM Totals	**118**	**25**	**143**	**1,487**	**147**	1,634	**296**	**20**	**316**	**0**	**3**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**696**	**18**	**714**	**1,176**	**36**	1,212	**274**	**12**	**286**
15:30 to 16:30	74	8	**82**	1,393	36	**1,429**	333	10	**343**	0	5	**5**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	1	**1**	161	0	**161**	262	5	**267**	106	2	**108**
15:45 to 16:45	68	9	**77**	1,511	27	**1,538**	355	9	**364**	0	3	**3**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	1	**1**	154	0	**154**	266	5	**271**	106	3	**109**
16:00 to 17:00	57	9	**66**	1,599	30	**1,629**	353	6	**359**	0	2	**2**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	1	**1**	167	0	**167**	280	3	**283**	125	3	**128**
16:15 to 17:15	56	9	**65**	1,618	26	**1,644**	354	8	**362**	0	3	**3**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	1	**1**	175	0	**175**	285	2	**287**	124	4	**128**
16:30 to 17:30	53	11	**64**	1,660	27	**1,687**	364	4	**368**	0	3	**3**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	186	1	**187**	304	1	**305**	123	5	**128**
16:45 to 17:45	55	9	**64**	1,632	30	**1,662**	333	5	**338**	0	3	**3**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	181	1	**182**	318	2	**320**	135	4	**139**
17:00 to 18:00	57	8	**65**	1,652	27	**1,679**	333	7	**340**	0	3	**3**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	166	2	**168**	301	2	**303**	115	4	**119**
17:15 to 18:15	59	8	**67**	1,663	30	**1,693**	309	5	**314**	0	2	**2**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	172	3	**175**	315	1	**316**	119	3	**122**
17:30 to 18:30	69	6	**75**	1,655	31	**1,686**	286	5	**291**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	166	2	**168**	294	1	**295**	121	2	**123**
PM Totals	**196**	**25**	**221**	**4,708**	**94**	4,802	**983**	**19**	1,002	**0**	**8**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**513**	**3**	**516**	**860**	**7**	**867**	**350**	**9**	**359**

Job No.	: N2552
Client	: GTA
Suburb	: Rockdale
Location	: 2. Princes Hwy / Geeves Ave
Day/Date	: Thu, 4th August 2016
Weather	: Fine
Description	: Classified Intersection Count
	: 15 mins Data

	Class 1	Class 2
Classifications	Lights	Heavies



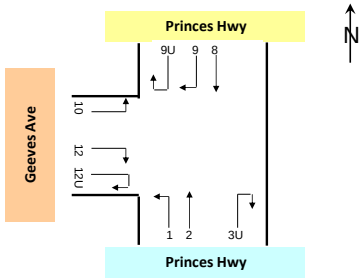
MATRIX Traffic and Transport Data

Approach	Princes Hwy								
Direction	Direction 1 (Left Turn)			Direction 2 (Through)				Direction 3U (U Turn)	
Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total
6:30 to 6:45	20	0	**20**	611	18	**629**	0	0	**0**
6:45 to 7:00	15	0	**15**	632	12	**644**	0	0	**0**
7:00 to 7:15	11	1	**12**	617	17	**634**	0	0	**0**
7:15 to 7:30	14	0	**14**	571	10	**581**	0	0	**0**
7:30 to 7:45	13	0	**13**	616	9	**625**	0	0	**0**
7:45 to 8:00	10	0	**10**	561	15	**576**	0	0	**0**
8:00 to 8:15	8	0	**8**	537	8	**545**	0	0	**0**
8:15 to 8:30	17	0	**17**	460	11	**471**	0	0	**0**
8:30 to 8:45	9	0	**9**	496	8	**504**	0	0	**0**
8:45 to 9:00	9	1	**10**	507	19	**526**	0	0	**0**
9:00 to 9:15	18	0	**18**	375	10	**385**	0	0	**0**
9:15 to 9:30	13	1	**14**	430	17	**447**	0	0	**0**
AM Totals	**157**	**3**	**160**	**6,413**	**154**	**6,567**	**0**	**0**	**0**
15:30 to 15:45	19	0	**19**	287	12	**299**	0	0	**0**
15:45 to 16:00	13	0	**13**	226	10	**236**	0	0	**0**
16:00 to 16:15	11	0	**11**	257	7	**264**	0	0	**0**
16:15 to 16:30	15	0	**15**	254	5	**259**	0	0	**0**
16:30 to 16:45	12	1	**13**	259	4	**263**	0	0	**0**
16:45 to 17:00	18	0	**18**	258	5	**263**	0	0	**0**
17:00 to 17:15	10	0	**10**	233	3	**236**	0	0	**0**
17:15 to 17:30	11	0	**11**	254	6	**260**	0	0	**0**
17:30 to 17:45	12	0	**12**	270	10	**280**	0	0	**0**
17:45 to 18:00	11	0	**11**	240	7	**247**	0	0	**0**
18:00 to 18:15	5	0	**5**	233	4	**237**	0	0	**0**
18:15 to 18:30	11	1	**12**	269	2	**271**	0	0	**0**
PM Totals	**148**	**2**	**150**	**3,040**	**75**	**3,115**	**0**	**0**	**0**

Approach	Princes Hwy									Geeves Ave								
Direction		Direction 8 (Through)			Direction 9 (Right Turn)			Direction 9U (U Turn)			Direction 10 (Left Turn)				Direction 12 (Right Turn)			Direction 12U (U Turn)		
Time Period		Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total		Lights	Heavies	Total	Lights	Heavies	Total
6:30 to 6:45		96	10	**106**	13	0	**13**	0	0	**0**	5	1	**6**		6	4	**10**	0	0	**0**
6:45 to 7:00		90	13	**103**	13	0	**13**	0	0	**0**	7	0	**7**		4	5	**9**	0	0	**0**
7:00 to 7:15		121	13	**134**	6	0	**6**	0	0	**0**	11	0	**11**		3	3	**6**	0	0	**0**
7:15 to 7:30		133	9	**142**	16	0	**16**	0	0	**0**	10	1	**11**		5	3	**8**	0	0	**0**
7:30 to 7:45		166	10	**176**	22	0	**22**	0	0	**0**	12	0	**12**		7	4	**11**	0	0	**0**
7:45 to 8:00		149	12	**161**	15	0	**15**	0	0	**0**	16	3	**19**		11	3	**14**	0	0	**0**
8:00 to 8:15		158	10	**168**	17	0	**17**	0	0	**0**	10	0	**10**		6	3	**9**	0	0	**0**
8:15 to 8:30		189	14	**203**	15	0	**15**	0	0	**0**	11	2	**13**		12	5	**17**	0	0	**0**
8:30 to 8:45		180	11	**191**	6	1	**7**	0	0	**0**	9	1	**10**		4	3	**7**	0	0	**0**
8:45 to 9:00		175	15	**190**	9	0	**9**	0	0	**0**	3	2	**5**		9	5	**14**	0	0	**0**
9:00 to 9:15		199	22	**221**	3	0	**3**	0	0	**0**	11	0	**11**		7	3	**10**	0	0	**0**
9:15 to 9:30		183	12	**195**	6	0	**6**	0	0	**0**	7	1	**8**		4	4	**8**	0	0	**0**
AM Totals		**1,839**	**151**	**1,990**	**141**	**1**	**142**	**0**	**0**	**0**	**112**	**11**	**123**		**78**	**45**	**123**	**0**	**0**	**0**
15:30 to 15:45		396	13	**409**	10	0	**10**	0	0	**0**	9	2	**11**		18	7	**25**	0	0	**0**
15:45 to 16:00		469	11	**480**	13	0	**13**	0	0	**0**	20	1	**21**		23	3	**26**	0	0	**0**
16:00 to 16:15		479	11	**490**	7	0	**7**	0	0	**0**	12	0	**12**		22	3	**25**	0	0	**0**
16:15 to 16:30		462	11	**473**	9	0	**9**	0	0	**0**	10	2	**12**		19	3	**22**	0	0	**0**
16:30 to 16:45		530	3	**533**	9	0	**9**	0	0	**0**	5	1	**6**		18	7	**25**	0	0	**0**
16:45 to 17:00		486	11	**497**	7	0	**7**	1	0	**1**	4	2	**6**		16	3	**19**	0	0	**0**
17:00 to 17:15		470	6	**476**	9	0	**9**	1	0	**1**	8	1	**9**		24	3	**27**	0	0	**0**
17:15 to 17:30		534	10	**544**	9	0	**9**	0	0	**0**	11	1	**12**		25	3	**28**	0	0	**0**
17:30 to 17:45		488	6	**494**	11	0	**11**	0	0	**0**	17	1	**18**		17	5	**22**	0	0	**0**
17:45 to 18:00		502	7	**509**	10	0	**10**	1	0	**1**	9	1	**10**		19	2	**21**	0	0	**0**
18:00 to 18:15		480	9	**489**	8	0	**8**	0	0	**0**	14	1	**15**		23	4	**27**	0	0	**0**
18:15 to 18:30		473	6	**479**	9	0	**9**	1	0	**1**	5	2	**7**		20	1	**21**	0	0	**0**
PM Totals		**5,769**	**104**	**5,873**	**111**	**0**	**111**	**4**	**0**	**4**	**124**	**15**	**139**		**244**	**44**	**288**	**0**	**0**	**0**

Job No. : N2552
Client : GTA
Suburb : Rockdale
Location : 2. Princes Hwy / Geeves Ave

Day/Date : Thu, 4th August 2016
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



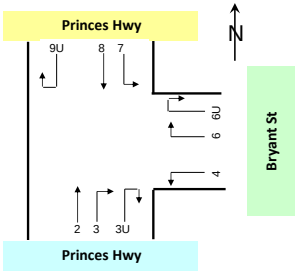
MATRIX Traffic and Transport Data

Approach	Princes Hwy									
Direction	Direction 1 (Left Turn)			Direction 2 (Through)				Direction 3U (U Turn)		
Time Period	Lights	Heavies	Total	Lights	Heavies	Total		Lights	Heavies	Total
6:30 to 7:30	60	1	**61**	2,431	57	**2,488**		0	0	**0**
6:45 to 7:45	53	1	**54**	2,436	48	**2,484**		0	0	**0**
7:00 to 8:00	48	1	**49**	2,365	51	**2,416**		0	0	**0**
7:15 to 8:15	45	0	**45**	2,285	42	**2,327**		0	0	**0**
7:30 to 8:30	48	0	**48**	2,174	43	**2,217**		0	0	**0**
7:45 to 8:45	44	0	**44**	2,054	42	**2,096**		0	0	**0**
8:00 to 9:00	43	1	**44**	2,000	46	**2,046**		0	0	**0**
8:15 to 9:15	53	1	**54**	1,838	48	**1,886**		0	0	**0**
8:30 to 9:30	49	2	**51**	1,808	54	**1,862**		0	0	**0**
AM Totals	**157**	**3**	**160**	**6,413**	**154**	**6,567**		**0**	**0**	**0**
15:30 to 16:30	58	0	**58**	1,024	34	**1,058**		0	0	**0**
15:45 to 16:45	51	1	**52**	996	26	**1,022**		0	0	**0**
16:00 to 17:00	56	1	**57**	1,028	21	**1,049**		0	0	**0**
16:15 to 17:15	55	1	**56**	1,004	17	**1,021**		0	0	**0**
16:30 to 17:30	51	1	**52**	1,004	18	**1,022**		0	0	**0**
16:45 to 17:45	51	0	**51**	1,015	24	**1,039**		0	0	**0**
17:00 to 18:00	44	0	**44**	997	26	**1,023**		0	0	**0**
17:15 to 18:15	39	0	**39**	997	27	**1,024**		0	0	**0**
17:30 to 18:30	39	1	**40**	1,012	23	**1,035**		0	0	**0**
PM Totals	**148**	**2**	**150**	**3,040**	**75**	**3,115**		**0**	**0**	**0**

Approach	Princes Hwy									Geeves Ave								
Direction		Direction 8 (Through)			Direction 9 (Right Turn)			Direction 9U (U Turn)			Direction 10 (Left Turn)				Direction 12 (Right Turn)			Direction 12U (U Turn)		
Time Period		Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total		Lights	Heavies	Total	Lights	Heavies	Total
6:30 to 7:30		440	45	**485**	48	0	**48**	0	0	**0**	33	2	**35**		18	15	**33**	0	0	**0**
6:45 to 7:45		510	45	**555**	57	0	**57**	0	0	**0**	40	1	**41**		19	15	**34**	0	0	**0**
7:00 to 8:00		569	44	**613**	59	0	**59**	0	0	**0**	49	4	**53**		26	13	**39**	0	0	**0**
7:15 to 8:15		606	41	**647**	70	0	**70**	0	0	**0**	48	4	**52**		29	13	**42**	0	0	**0**
7:30 to 8:30		662	46	**708**	69	0	**69**	0	0	**0**	49	5	**54**		36	15	**51**	0	0	**0**
7:45 to 8:45		676	47	**723**	53	1	**54**	0	0	**0**	46	6	**52**		33	14	**47**	0	0	**0**
8:00 to 9:00		702	50	**752**	47	1	**48**	0	0	**0**	33	5	**38**		31	16	**47**	0	0	**0**
8:15 to 9:15		743	62	**805**	33	1	**34**	0	0	**0**	34	5	**39**		32	16	**48**	0	0	**0**
8:30 to 9:30		737	60	**797**	24	1	**25**	0	0	**0**	30	4	**34**		24	15	**39**	0	0	**0**
AM Totals		**1,839**	**151**	**1,990**	**141**	**1**	**142**	**0**	**0**	**0**	**112**	**11**	**123**		**78**	**45**	**123**	**0**	**0**	**0**
15:30 to 16:30		1,806	46	**1,852**	39	0	**39**	0	0	**0**	51	5	**56**		82	16	**98**	0	0	**0**
15:45 to 16:45		1,940	36	**1,976**	38	0	**38**	0	0	**0**	47	4	**51**		82	16	**98**	0	0	**0**
16:00 to 17:00		1,957	36	**1,993**	32	0	**32**	1	0	**1**	31	5	**36**		75	16	**91**	0	0	**0**
16:15 to 17:15		1,948	31	**1,979**	34	0	**34**	2	0	**2**	27	6	**33**		77	16	**93**	0	0	**0**
16:30 to 17:30		2,020	30	**2,050**	34	0	**34**	2	0	**2**	28	5	**33**		83	16	**99**	0	0	**0**
16:45 to 17:45		1,978	33	**2,011**	36	0	**36**	2	0	**2**	40	5	**45**		82	14	**96**	0	0	**0**
17:00 to 18:00		1,994	29	**2,023**	39	0	**39**	2	0	**2**	45	4	**49**		85	13	**98**	0	0	**0**
17:15 to 18:15		2,004	32	**2,036**	38	0	**38**	1	0	**1**	51	4	**55**		84	14	**98**	0	0	**0**
17:30 to 18:30		1,943	28	**1,971**	38	0	**38**	2	0	**2**	45	5	**50**		79	12	**91**	0	0	**0**
PM Totals		**5,769**	**104**	**5,873**	**111**	**0**	**111**	**4**	**0**	**4**	**124**	**15**	**139**		**244**	**44**	**288**	**0**	**0**	**0**

Job No.	: N2552
Client	: GTA
Suburb	: Rockdale
Location	: 3. Princes Hwy / Bryant St
Day/Date	: Thu, 4th August 2016
Weather	: Fine
Description	: Classified Intersection Count
	: 15 mins Data

	Class 1	Class 2
Classifications	Lights	Heavies



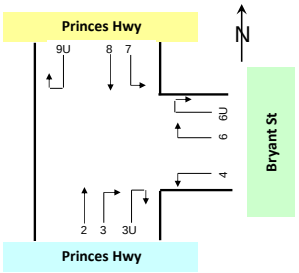
MATRIX Traffic and Transport Data

Approach	Princes Hwy									Bryant St								
Direction		Direction 2 (Through)			Direction 3 (Right Turn)			Direction 3U (U Turn)			Direction 4 (Left Turn)				Direction 6 (Right Turn)			Direction 6U (U Turn)		
Time Period		Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total		Lights	Heavies	Total	Lights	Heavies	Total
6:30 to 6:45		644	19	**663**	14	1	**15**	0	0	**0**	21	1	**22**		10	0	**10**	0	0	**0**
6:45 to 7:00		598	11	**609**	19	0	**19**	0	0	**0**	19	2	**21**		8	0	**8**	0	0	**0**
7:00 to 7:15		604	17	**621**	28	1	**29**	0	0	**0**	22	1	**23**		15	0	**15**	0	0	**0**
7:15 to 7:30		606	10	**616**	29	2	**31**	0	0	**0**	21	3	**24**		15	0	**15**	0	0	**0**
7:30 to 7:45		596	7	**603**	40	2	**42**	0	0	**0**	38	0	**38**		7	1	**8**	0	0	**0**
7:45 to 8:00		584	17	**601**	42	1	**43**	0	0	**0**	31	3	**34**		8	0	**8**	0	0	**0**
8:00 to 8:15		480	7	**487**	58	0	**58**	0	0	**0**	46	0	**46**		12	0	**12**	0	0	**0**
8:15 to 8:30		454	11	**465**	62	2	**64**	0	0	**0**	37	2	**39**		7	2	**9**	0	0	**0**
8:30 to 8:45		412	8	**420**	80	0	**80**	0	0	**0**	29	2	**31**		7	0	**7**	0	0	**0**
8:45 to 9:00		428	21	**449**	83	1	**84**	0	0	**0**	29	2	**31**		14	1	**15**	0	0	**0**
9:00 to 9:15		378	9	**387**	63	1	**64**	0	0	**0**	36	3	**39**		22	0	**22**	0	0	**0**
9:15 to 9:30		358	16	**374**	62	1	**63**	0	0	**0**	33	0	**33**		8	0	**8**	0	0	**0**
AM Totals		**6,142**	**153**	**6,295**	**580**	**12**	**592**	**0**	**0**	**0**	**362**	**19**	**381**		**133**	**4**	**137**	**0**	**0**	**0**
15:30 to 15:45		234	13	**247**	41	1	**42**	0	0	**0**	49	1	**50**		31	0	**31**	0	0	**0**
15:45 to 16:00		224	10	**234**	44	1	**45**	0	0	**0**	60	1	**61**		21	1	**22**	0	0	**0**
16:00 to 16:15		228	7	**235**	32	0	**32**	0	0	**0**	64	2	**66**		15	0	**15**	0	0	**0**
16:15 to 16:30		234	7	**241**	36	1	**37**	0	0	**0**	44	1	**45**		13	0	**13**	0	0	**0**
16:30 to 16:45		216	4	**220**	56	0	**56**	0	0	**0**	74	1	**75**		16	0	**16**	0	0	**0**
16:45 to 17:00		204	5	**209**	49	1	**50**	0	0	**0**	66	2	**68**		11	0	**11**	0	0	**0**
17:00 to 17:15		208	4	**212**	61	1	**62**	0	0	**0**	83	0	**83**		22	0	**22**	0	0	**0**
17:15 to 17:30		206	5	**211**	43	1	**44**	0	0	**0**	58	1	**59**		28	0	**28**	0	0	**0**
17:30 to 17:45		264	11	**275**	47	1	**48**	0	0	**0**	60	3	**63**		22	0	**22**	0	0	**0**
17:45 to 18:00		196	6	**202**	33	1	**34**	0	0	**0**	70	1	**71**		21	0	**21**	0	0	**0**
18:00 to 18:15		214	5	**219**	28	1	**29**	0	0	**0**	60	1	**61**		17	0	**17**	0	0	**0**
18:15 to 18:30		232	4	**236**	44	0	**44**	0	0	**0**	60	1	**61**		17	0	**17**	0	0	**0**
PM Totals		**2,660**	**81**	**2,741**	**514**	**9**	**523**	**0**	**0**	**0**	**748**	**15**	**763**		**234**	**1**	**235**	**0**	**0**	**0**

Approach	Princes Hwy											
Direction	Direction 7 (Left Turn)			Direction 8 (Through)				Direction 9U (U Turn)				
Time Period	Lights	Heavies	Total	Lights	Heavies	Total		Lights	Heavies	Total		
6:30 to 6:45	2	0	**2**	88	9	**97**		0	0	**0**		
6:45 to 7:00	5	0	**5**	83	11	**94**		0	0	**0**		
7:00 to 7:15	1	0	**1**	110	12	**122**		0	0	**0**		
7:15 to 7:30	0	0	**0**	120	6	**126**		0	0	**0**		
7:30 to 7:45	0	0	**0**	141	9	**150**		0	0	**0**		
7:45 to 8:00	2	0	**2**	141	10	**151**		0	0	**0**		
8:00 to 8:15	0	0	**0**	132	10	**142**		0	0	**0**		
8:15 to 8:30	3	2	**5**	168	12	**180**		0	0	**0**		
8:30 to 8:45	2	0	**2**	147	10	**157**		0	0	**0**		
8:45 to 9:00	5	1	**6**	158	13	**171**		0	0	**0**		
9:00 to 9:15	8	1	**9**	162	20	**182**		0	0	**0**		
9:15 to 9:30	10	0	**10**	159	12	**171**		0	0	**0**		
AM Totals	**38**	**4**	**42**	**1,609**	**134**	**1,743**		**0**	**0**	**0**		
15:30 to 15:45	13	0	**13**	319	10	**329**		0	0	**0**		
15:45 to 16:00	18	2	**20**	408	12	**420**		0	0	**0**		
16:00 to 16:15	5	1	**6**	392	10	**402**		0	0	**0**		
16:15 to 16:30	14	1	**15**	421	8	**429**		0	0	**0**		
16:30 to 16:45	8	0	**8**	423	2	**425**		0	0	**0**		
16:45 to 17:00	12	0	**12**	424	7	**431**		0	0	**0**		
17:00 to 17:15	9	0	**9**	385	8	**393**		0	0	**0**		
17:15 to 17:30	12	0	**12**	451	10	**461**		0	0	**0**		
17:30 to 17:45	7	0	**7**	425	4	**429**		0	0	**0**		
17:45 to 18:00	13	0	**13**	395	5	**400**		0	0	**0**		
18:00 to 18:15	9	0	**9**	425	9	**434**		0	0	**0**		
18:15 to 18:30	15	0	**15**	398	5	**403**		0	0	**0**		
PM Totals	**135**	**4**	**139**	**4,866**	**90**	**4,956**		**0**	**0**	**0**		

Job No. : N2552
Client : GTA
Suburb : Rockdale
Location : 3. Princes Hwy / Bryant St

Day/Date : Thu, 4th August 2016
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



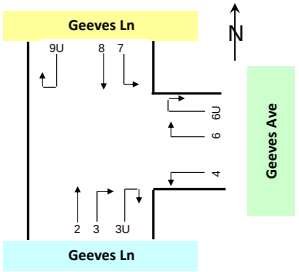
MATRIX Traffic and Transport Data

Approach	Princes Hwy									Bryant St								
Direction	Direction 2 (Through)			Direction 3 (Right Turn)			Direction 3U (U Turn)			Direction 4 (Left Turn)			Direction 6 (Right Turn)			Direction 6U (U Turn)		
Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total
6:30 to 7:30	2,452	57	**2,509**	90	4	**94**	0	0	**0**	83	7	**90**	48	0	**48**	0	0	**0**
6:45 to 7:45	2,404	45	**2,449**	116	5	**121**	0	0	**0**	100	6	**106**	45	1	**46**	0	0	**0**
7:00 to 8:00	2,390	51	**2,441**	139	6	**145**	0	0	**0**	112	7	**119**	45	1	**46**	0	0	**0**
7:15 to 8:15	2,266	41	**2,307**	169	5	**174**	0	0	**0**	136	6	**142**	42	1	**43**	0	0	**0**
7:30 to 8:30	2,114	42	**2,156**	202	5	**207**	0	0	**0**	152	5	**157**	34	3	**37**	0	0	**0**
7:45 to 8:45	1,930	43	**1,973**	242	3	**245**	0	0	**0**	143	7	**150**	34	2	**36**	0	0	**0**
8:00 to 9:00	1,774	47	**1,821**	283	3	**286**	0	0	**0**	141	6	**147**	40	3	**43**	0	0	**0**
8:15 to 9:15	1,672	49	**1,721**	288	4	**292**	0	0	**0**	131	9	**140**	50	3	**53**	0	0	**0**
8:30 to 9:30	1,576	54	**1,630**	288	3	**291**	0	0	**0**	127	7	**134**	51	1	**52**	0	0	**0**
AM Totals	**6,142**	**153**	**6,295**	**580**	**12**	**592**	**0**	**0**	**0**	**362**	**19**	**381**	**133**	**4**	**137**	**0**	**0**	**0**
15:30 to 16:30	920	37	**957**	153	3	**156**	0	0	**0**	217	5	**222**	80	1	**81**	0	0	**0**
15:45 to 16:45	902	28	**930**	168	2	**170**	0	0	**0**	242	5	**247**	65	1	**66**	0	0	**0**
16:00 to 17:00	882	23	**905**	173	2	**175**	0	0	**0**	248	6	**254**	55	0	**55**	0	0	**0**
16:15 to 17:15	862	20	**882**	202	3	**205**	0	0	**0**	267	4	**271**	62	0	**62**	0	0	**0**
16:30 to 17:30	834	18	**852**	209	3	**212**	0	0	**0**	281	4	**285**	77	0	**77**	0	0	**0**
16:45 to 17:45	882	25	**907**	200	4	**204**	0	0	**0**	267	6	**273**	83	0	**83**	0	0	**0**
17:00 to 18:00	874	26	**900**	184	4	**188**	0	0	**0**	271	5	**276**	93	0	**93**	0	0	**0**
17:15 to 18:15	880	27	**907**	151	4	**155**	0	0	**0**	248	6	**254**	88	0	**88**	0	0	**0**
17:30 to 18:30	906	26	**932**	152	3	**155**	0	0	**0**	250	6	**256**	77	0	**77**	0	0	**0**
PM Totals	**2,660**	**81**	**2,741**	**514**	**9**	**523**	**0**	**0**	**0**	**748**	**15**	**763**	**234**	**1**	**235**	**0**	**0**	**0**

Approach	Princes Hwy											
Direction	Direction 7 (Left Turn)			Direction 8 (Through)				Direction 9U (U Turn)				
Time Period	Lights	Heavies	Total	Lights	Heavies	Total		Lights	Heavies	Total		
6:30 to 7:30	8	0	**8**	401	38	**439**		0	0	**0**		
6:45 to 7:45	6	0	**6**	454	38	**492**		0	0	**0**		
7:00 to 8:00	3	0	**3**	512	37	**549**		0	0	**0**		
7:15 to 8:15	2	0	**2**	534	35	**569**		0	0	**0**		
7:30 to 8:30	5	2	**7**	582	41	**623**		0	0	**0**		
7:45 to 8:45	7	2	**9**	588	42	**630**		0	0	**0**		
8:00 to 9:00	10	3	**13**	605	45	**650**		0	0	**0**		
8:15 to 9:15	18	4	**22**	635	55	**690**		0	0	**0**		
8:30 to 9:30	25	2	**27**	626	55	**681**		0	0	**0**		
AM Totals	**38**	**4**	**42**	**1,609**	**134**	**1,743**		**0**	**0**	**0**		
15:30 to 16:30	50	4	**54**	1,540	40	**1,580**		0	0	**0**		
15:45 to 16:45	45	4	**49**	1,644	32	**1,676**		0	0	**0**		
16:00 to 17:00	39	2	**41**	1,660	27	**1,687**		0	0	**0**		
16:15 to 17:15	43	1	**44**	1,653	25	**1,678**		0	0	**0**		
16:30 to 17:30	41	0	**41**	1,683	27	**1,710**		0	0	**0**		
16:45 to 17:45	40	0	**40**	1,685	29	**1,714**		0	0	**0**		
17:00 to 18:00	41	0	**41**	1,656	27	**1,683**		0	0	**0**		
17:15 to 18:15	41	0	**41**	1,696	28	**1,724**		0	0	**0**		
17:30 to 18:30	44	0	**44**	1,643	23	**1,666**		0	0	**0**		
PM Totals	**135**	**4**	**139**	**4,866**	**90**	**4,956**		**0**	**0**	**0**		

Job No.	: N2552
Client	: GTA
Suburb	: Rockdale
Location	: 4. Geeves Ave / Geeves Ln
Day/Date	: Thu, 4th August 2016
Weather	: Fine
Description	: Classified Intersection Count
	: 15 mins Data

	Class 1	Class 2
Classifications	Lights	Heavies



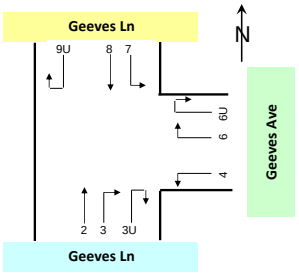
MATRIX Traffic and Transport Data

Approach	Geeves Ln									Geeves Ave									
Direction		Direction 2 (Through)			Direction 3 (Right Turn)			Direction 3U (U Turn)			Direction 4 (Left Turn)				Direction 6 (Right Turn)			Direction 6U (U Turn)		
Time Period		Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total		Lights	Heavies	Total	Lights	Heavies	Total
6:30 to 6:45		0	0	**0**	6	5	**11**	0	0	**0**	8	0	**8**		18	0	**18**	3	0	**3**
6:45 to 7:00		0	0	**0**	8	5	**13**	0	0	**0**	8	0	**8**		21	0	**21**	0	0	**0**
7:00 to 7:15		0	0	**0**	8	3	**11**	0	0	**0**	7	0	**7**		7	1	**8**	1	0	**1**
7:15 to 7:30		0	0	**0**	9	4	**13**	0	0	**0**	10	0	**10**		20	0	**20**	2	0	**2**
7:30 to 7:45		1	0	**1**	13	4	**17**	0	0	**0**	16	0	**16**		18	0	**18**	1	0	**1**
7:45 to 8:00		1	0	**1**	11	6	**17**	0	0	**0**	12	0	**12**		10	0	**10**	3	0	**3**
8:00 to 8:15		0	0	**0**	15	4	**19**	0	0	**0**	17	0	**17**		6	0	**6**	1	0	**1**
8:15 to 8:30		0	0	**0**	8	6	**14**	0	0	**0**	12	0	**12**		15	0	**15**	3	0	**3**
8:30 to 8:45		0	0	**0**	4	3	**7**	0	0	**0**	2	0	**2**		11	1	**12**	1	0	**1**
8:45 to 9:00		0	0	**0**	6	6	**12**	0	0	**0**	9	0	**9**		8	0	**8**	2	1	**3**
9:00 to 9:15		0	0	**0**	6	4	**10**	0	0	**0**	10	0	**10**		10	0	**10**	1	0	**1**
9:15 to 9:30		0	0	**0**	2	5	**7**	0	0	**0**	3	0	**3**		13	1	**14**	2	0	**2**
AM Totals		**2**	**0**	**2**	**96**	**55**	**151**	**0**	**0**	**0**	**114**	**0**	**114**		**157**	**3**	**160**	**20**	**1**	**21**
15:30 to 15:45		3	0	**3**	2	7	**9**	0	0	**0**	5	0	**5**		19	0	**19**	3	0	**3**
15:45 to 16:00		1	0	**1**	6	4	**10**	0	0	**0**	4	0	**4**		21	0	**21**	0	0	**0**
16:00 to 16:15		0	0	**0**	2	3	**5**	0	0	**0**	1	0	**1**		15	0	**15**	1	0	**1**
16:15 to 16:30		1	0	**1**	3	8	**11**	0	0	**0**	5	0	**5**		18	0	**18**	1	0	**1**
16:30 to 16:45		0	0	**0**	5	5	**10**	0	0	**0**	3	0	**3**		16	1	**17**	1	0	**1**
16:45 to 17:00		0	0	**0**	1	5	**6**	0	0	**0**	0	0	**0**		21	0	**21**	5	0	**5**
17:00 to 17:15		0	0	**0**	8	4	**12**	0	0	**0**	5	0	**5**		8	0	**8**	6	0	**6**
17:15 to 17:30		0	0	**0**	11	4	**15**	0	0	**0**	9	0	**9**		8	0	**8**	4	0	**4**
17:30 to 17:45		0	0	**0**	5	6	**11**	0	0	**0**	6	0	**6**		10	0	**10**	6	0	**6**
17:45 to 18:00		0	0	**0**	8	3	**11**	0	0	**0**	7	0	**7**		14	0	**14**	4	0	**4**
18:00 to 18:15		0	0	**0**	5	5	**10**	0	0	**0**	4	0	**4**		6	0	**6**	2	0	**2**
18:15 to 18:30		0	0	**0**	6	5	**11**	0	0	**0**	4	0	**4**		12	1	**13**	1	0	**1**
PM Totals		**5**	**0**	**5**	**62**	**59**	**121**	**0**	**0**	**0**	**53**	**0**	**53**		**168**	**2**	**170**	**34**	**0**	**34**

Approach	Geeves Ln											
Direction	Direction 7 (Left Turn)			Direction 8 (Through)				Direction 9U (U Turn)				
Time Period	Lights	Heavies	Total	Lights	Heavies	Total		Lights	Heavies	Total		
6:30 to 6:45	2	0	**2**	0	0	**0**		0	0	**0**		
6:45 to 7:00	4	0	**4**	0	0	**0**		0	0	**0**		
7:00 to 7:15	1	0	**1**	0	0	**0**		0	0	**0**		
7:15 to 7:30	4	0	**4**	0	0	**0**		0	0	**0**		
7:30 to 7:45	9	1	**10**	0	0	**0**		0	0	**0**		
7:45 to 8:00	11	0	**11**	0	0	**0**		0	0	**0**		
8:00 to 8:15	2	0	**2**	0	0	**0**		0	0	**0**		
8:15 to 8:30	11	0	**11**	0	0	**0**		0	0	**0**		
8:30 to 8:45	8	1	**9**	0	0	**0**		0	0	**0**		
8:45 to 9:00	8	0	**8**	0	0	**0**		0	0	**0**		
9:00 to 9:15	7	0	**7**	0	0	**0**		0	0	**0**		
9:15 to 9:30	5	0	**5**	0	0	**0**		0	0	**0**		
AM Totals	**72**	**2**	**74**	**0**	**0**	**0**		**0**	**0**	**0**		
15:30 to 15:45	25	0	**25**	0	0	**0**		0	0	**0**		
15:45 to 16:00	34	0	**34**	0	0	**0**		0	0	**0**		
16:00 to 16:15	29	0	**29**	0	0	**0**		0	0	**0**		
16:15 to 16:30	25	0	**25**	0	0	**0**		0	0	**0**		
16:30 to 16:45	16	0	**16**	0	0	**0**		0	0	**0**		
16:45 to 17:00	21	0	**21**	0	0	**0**		0	0	**0**		
17:00 to 17:15	11	0	**11**	2	0	**2**		0	0	**0**		
17:15 to 17:30	18	0	**18**	0	0	**0**		0	0	**0**		
17:30 to 17:45	21	0	**21**	1	0	**1**		0	0	**0**		
17:45 to 18:00	23	0	**23**	0	0	**0**		0	0	**0**		
18:00 to 18:15	22	0	**22**	0	0	**0**		0	0	**0**		
18:15 to 18:30	20	0	**20**	0	0	**0**		0	0	**0**		
PM Totals	**265**	**0**	**265**	**3**	**0**	**3**		**0**	**0**	**0**		

Job No. : N2552
Client : GTA
Suburb : Rockdale
Location : 4. Geeves Ave / Geeves Ln

Day/Date : Thu, 4th August 2016
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



MATRIX Traffic and Transport Data

Approach	Geeves Ln									Geeves Ave								
Direction		Direction 2 (Through)			Direction 3 (Right Turn)			Direction 3U (U Turn)			Direction 4 (Left Turn)				Direction 6 (Right Turn)			Direction 6U (U Turn)		
Time Period		Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total		Lights	Heavies	Total	Lights	Heavies	Total
6:30 to 7:30		0	0	**0**	31	17	**48**	0	0	**0**	33	0	**33**		66	1	**67**	6	0	**6**
6:45 to 7:45		1	0	**1**	38	16	**54**	0	0	**0**	41	0	**41**		66	1	**67**	4	0	**4**
7:00 to 8:00		2	0	**2**	41	17	**58**	0	0	**0**	45	0	**45**		55	1	**56**	7	0	**7**
7:15 to 8:15		2	0	**2**	48	18	**66**	0	0	**0**	55	0	**55**		54	0	**54**	7	0	**7**
7:30 to 8:30		2	0	**2**	47	20	**67**	0	0	**0**	57	0	**57**		49	0	**49**	8	0	**8**
7:45 to 8:45		1	0	**1**	38	19	**57**	0	0	**0**	43	0	**43**		42	1	**43**	8	0	**8**
8:00 to 9:00		0	0	**0**	33	19	**52**	0	0	**0**	40	0	**40**		40	1	**41**	7	1	**8**
8:15 to 9:15		0	0	**0**	24	19	**43**	0	0	**0**	33	0	**33**		44	1	**45**	7	1	**8**
8:30 to 9:30		0	0	**0**	18	18	**36**	0	0	**0**	24	0	**24**		42	2	**44**	6	1	**7**
AM Totals		**2**	**0**	**2**	**96**	**55**	**151**	**0**	**0**	**0**	**114**	**0**	**114**		**157**	**3**	**160**	**20**	**1**	**21**
15:30 to 16:30		5	0	**5**	13	22	**35**	0	0	**0**	15	0	**15**		73	0	**73**	5	0	**5**
15:45 to 16:45		2	0	**2**	16	20	**36**	0	0	**0**	13	0	**13**		70	1	**71**	3	0	**3**
16:00 to 17:00		1	0	**1**	11	21	**32**	0	0	**0**	9	0	**9**		70	1	**71**	8	0	**8**
16:15 to 17:15		1	0	**1**	17	22	**39**	0	0	**0**	13	0	**13**		63	1	**64**	13	0	**13**
16:30 to 17:30		0	0	**0**	25	18	**43**	0	0	**0**	17	0	**17**		53	1	**54**	16	0	**16**
16:45 to 17:45		0	0	**0**	25	19	**44**	0	0	**0**	20	0	**20**		47	0	**47**	21	0	**21**
17:00 to 18:00		0	0	**0**	32	17	**49**	0	0	**0**	27	0	**27**		40	0	**40**	20	0	**20**
17:15 to 18:15		0	0	**0**	29	18	**47**	0	0	**0**	26	0	**26**		38	0	**38**	16	0	**16**
17:30 to 18:30		0	0	**0**	24	19	**43**	0	0	**0**	21	0	**21**		42	1	**43**	13	0	**13**
PM Totals		**5**	**0**	**5**	**62**	**59**	**121**	**0**	**0**	**0**	**53**	**0**	**53**		**168**	**2**	**170**	**34**	**0**	**34**

Approach	Geeves Ln											
Direction	Direction 7 (Left Turn)			Direction 8 (Through)				Direction 9U (U Turn)				
Time Period	Lights	Heavies	Total	Lights	Heavies	Total		Lights	Heavies	Total		
6:30 to 7:30	11	0	**11**	0	0	**0**		0	0	**0**		
6:45 to 7:45	18	1	**19**	0	0	**0**		0	0	**0**		
7:00 to 8:00	25	1	**26**	0	0	**0**		0	0	**0**		
7:15 to 8:15	26	1	**27**	0	0	**0**		0	0	**0**		
7:30 to 8:30	33	1	**34**	0	0	**0**		0	0	**0**		
7:45 to 8:45	32	1	**33**	0	0	**0**		0	0	**0**		
8:00 to 9:00	29	1	**30**	0	0	**0**		0	0	**0**		
8:15 to 9:15	34	1	**35**	0	0	**0**		0	0	**0**		
8:30 to 9:30	28	1	**29**	0	0	**0**		0	0	**0**		
AM Totals	**72**	**2**	**74**	**0**	**0**	**0**		**0**	**0**	**0**		
15:30 to 16:30	113	0	**113**	0	0	**0**		0	0	**0**		
15:45 to 16:45	104	0	**104**	0	0	**0**		0	0	**0**		
16:00 to 17:00	91	0	**91**	0	0	**0**		0	0	**0**		
16:15 to 17:15	73	0	**73**	2	0	**2**		0	0	**0**		
16:30 to 17:30	66	0	**66**	2	0	**2**		0	0	**0**		
16:45 to 17:45	71	0	**71**	3	0	**3**		0	0	**0**		
17:00 to 18:00	73	0	**73**	3	0	**3**		0	0	**0**		
17:15 to 18:15	84	0	**84**	1	0	**1**		0	0	**0**		
17:30 to 18:30	86	0	**86**	1	0	**1**		0	0	**0**		
PM Totals	**265**	**0**	**265**	**3**	**0**	**3**		**0**	**0**	**0**		

Appendix B

SIDRA Intersection Results

MOVEMENT SUMMARY

Site: Princes Hwy/ Geeves Ave - Ex AM

Network: Ex AM

Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Network Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Princes Highway													
1	L2	52	2.0	52	2.0	0.677	4.7	LOS A	2.3	16.2	0.06	0.11	48.6
2	T1	2543	2.1	2543	2.1	0.677	0.8	LOS A	4.0	28.6	0.06	0.07	49.3
Approach		2595	2.1	2595	2.1	0.677	0.9	LOS A	4.0	28.6	0.06	0.07	49.2
North: Princes Highway													
8	T1	645	7.2	645	7.2	0.371	2.4	LOS A	5.0	37.4	0.14	0.13	42.0
9	R2	62	0.0	62	0.0	0.851	56.0	LOS D	2.4	17.1	0.13	0.79	21.8
Approach		707	6.5	707	6.5	0.851	7.1	LOS A	5.0	37.4	0.14	0.19	31.0
West: Geeves Avenue													
10	L2	56	24.5	56	24.5	0.552	69.0	LOS E	3.8	31.9	0.97	0.79	17.5
12	R2	41	0.0	41	0.0	0.163	62.7	LOS E	2.5	17.5	0.92	0.73	18.7
Approach		97	14.1	97	14.1	0.552	66.3	LOS E	3.8	31.9	0.95	0.76	18.0
All Vehicles		3399	3.4	3399	3.4	0.851	4.0	LOS A	5.0	37.4	0.11	0.12	34.7

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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P3	North Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	6.0	LOS A	0.1	0.1	0.29	0.29
All Pedestrians		158	44.9	LOS E			0.74	0.74

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: Princes Hwy/ Geeves Ave - Ex PM

Network: EX PM

Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Network Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Princes Highway													
1	L2	51	0.0	51	0.0	0.066	4.3	LOS A	0.1	1.0	0.02	0.31	47.2
2	T1	1039	2.3	1039	2.3	0.329	0.5	LOS A	1.0	6.9	0.03	0.04	52.4
Approach		1090	2.2	1090	2.2	0.329	0.7	LOS A	1.0	6.9	0.03	0.05	50.8
North: Princes Highway													
8	T1	2011	1.6	2011	1.6	0.939	38.4	LOS C	17.3	122.4	0.38	0.56	7.5
9	R2	36	0.0	36	0.0	0.939	46.8	LOS D	17.3	122.4	0.27	0.49	25.3
Approach		2047	1.6	2047	1.6	0.939	38.6	LOS C	17.3	122.4	0.38	0.55	8.1
West: Geeves Avenue													
10	L2	45	11.1	45	11.1	0.368	64.4	LOS E	2.8	21.4	0.93	0.73	18.3
12	R2	96	14.6	96	14.6	1.020	187.5	LOS F	11.7	92.4	1.00	1.47	8.3
Approach		141	13.5	141	13.5	1.020	148.2	LOS F	11.7	92.4	0.98	1.23	10.0
All Vehicles		3278	2.3	3278	2.3	1.020	30.7	LOS C	17.3	122.4	0.29	0.42	10.9

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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	64.3	LOS F	0.2	0.2	0.96	0.96
P3	North Full Crossing	50	64.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	50	5.7	LOS A	0.1	0.1	0.29	0.29
All Pedestrians		150	44.8	LOS E			0.73	0.73

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: Princes Hwy/ Geeves Ave - 2021 Base AM

Network: 2021 Base AM

Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Network Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total 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: Princes Highway													
1	L2	52	2.0	51	2.0	0.699	4.8	LOS A	2.4	16.8	0.07	0.11	48.6
2	T1	2595	2.1	2589	2.1	0.699	0.8	LOS A	4.4	31.6	0.07	0.07	49.0
Approach		2646	2.1	2641[N1]	2.1	0.699	0.9	LOS A	4.4	31.6	0.07	0.08	49.0
North: Princes Highway													
8	T1	659	7.2	659	7.2	0.379	2.4	LOS A	5.2	38.7	0.15	0.13	41.9
9	R2	62	0.0	62	0.0	0.880	67.7	LOS E	2.9	20.3	0.16	0.82	19.5
Approach		721	6.6	721	6.6	0.880	8.0	LOS A	5.2	38.7	0.15	0.19	29.2
West: Geeves Avenue													
10	L2	56	24.5	56	24.5	0.589	70.2	LOS E	3.8	32.4	0.97	0.81	17.3
12	R2	41	0.0	41	0.0	0.163	62.7	LOS E	2.5	17.5	0.92	0.73	18.7
Approach		97	14.1	97	14.1	0.589	67.0	LOS E	3.8	32.4	0.95	0.78	17.9
All Vehicles		3464	3.4	3459[N1]	3.4	0.880	4.2	LOS A	5.2	38.7	0.11	0.12	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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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	South Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P3	North Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	6.0	LOS A	0.1	0.1	0.29	0.29
All Pedestrians		158	44.9	LOS E			0.74	0.74

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: Princes Hwy/ Geeves Ave - 2021 Base PM

Network: 2021 Base PM

Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Network Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Princes Highway													
1	L2	51	0.0	51	0.0	0.070	4.3	LOS A	0.1	1.0	0.02	0.29	47.4
2	T1	1060	2.3	1060	2.3	0.349	0.5	LOS A	1.1	7.6	0.03	0.04	52.3
Approach		1111	2.2	1111	2.2	0.349	0.7	LOS A	1.1	7.6	0.03	0.05	50.8
North: Princes Highway													
8	T1	2052	1.6	2052	1.6	0.968	63.4	LOS E	17.3	122.4	0.73	0.99	4.8
9	R2	36	0.0	36	0.0	0.968	67.9	LOS E	17.3	122.4	0.42	0.73	20.3
Approach		2088	1.6	2088	1.6	0.968	63.5	LOS E	17.3	122.4	0.73	0.98	5.2
West: Geeves Avenue													
10	L2	45	11.1	45	11.1	0.368	64.4	LOS E	2.8	21.4	0.93	0.73	18.3
12	R2	96	14.6	96	14.6	1.020	187.5	LOS F	11.7	92.4	1.00	1.47	8.3
Approach		141	13.5	141	13.5	1.020	148.2	LOS F	11.7	92.4	0.98	1.23	10.0
All Vehicles		3340	2.3	3340	2.3	1.020	46.2	LOS D	17.3	122.4	0.51	0.69	7.7

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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	64.3	LOS F	0.2	0.2	0.96	0.96
P3	North Full Crossing	50	64.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	50	5.7	LOS A	0.1	0.1	0.29	0.29
All Pedestrians		150	44.8	LOS E			0.73	0.73

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: Princes Hwy/ Geeves Ave - 2021 Base AM + Dev

Network: 2021 Base AM +Dev

Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Network Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total 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: Princes Highway													
1	L2	60	2.0	60	2.0	0.700	4.8	LOS A	2.4	17.0	0.07	0.12	48.5
2	T1	2595	2.1	2588	2.1	0.700	0.8	LOS A	4.4	31.7	0.07	0.08	48.9
Approach		2655	2.1	2648 N1	2.1	0.700	0.9	LOS A	4.4	31.7	0.07	0.08	48.8
North: Princes Highway													
8	T1	659	7.2	659	7.2	0.379	2.4	LOS A	5.3	39.6	0.15	0.13	41.6
9	R2	66	0.0	66	0.0	0.943	97.5	LOS F	4.5	31.8	0.28	0.93	15.3
Approach		725	6.5	725	6.5	0.943	11.1	LOS A	5.3	39.6	0.16	0.21	24.8
West: Geeves Avenue													
10	L2	66	24.5	66	24.5	0.770	77.1	LOS F	4.9	41.4	0.99	0.93	16.3
12	R2	73	0.0	73	0.0	0.573	64.2	LOS E	4.5	31.8	0.94	0.76	18.4
Approach		139	11.7	139	11.7	0.770	70.4	LOS E	4.9	41.4	0.96	0.84	17.3
All Vehicles		3519	3.4	3512 N1	3.4	0.943	5.8	LOS A	5.3	41.4	0.12	0.13	30.5

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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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	South Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P3	North Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	6.0	LOS A	0.1	0.1	0.29	0.29
All Pedestrians		158	44.9	LOS E			0.74	0.74

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: Princes Hwy/ Geeves Ave - 2021 Base PM + Dev

Network: 2021 Base PM +Dev

Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Network Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Princes Highway													
1	L2	69	0.0	69	0.0	0.075	4.3	LOS A	0.2	1.1	0.02	0.37	46.8
2	T1	1060	2.3	1060	2.3	0.373	0.5	LOS A	1.2	8.4	0.03	0.04	52.1
Approach		1129	2.2	1129	2.2	0.373	0.7	LOS A	1.2	8.4	0.03	0.06	50.1
North: Princes Highway													
8	T1	2052	1.6	2052	1.6	0.981	76.7	LOS F	17.3	122.4	0.85	1.16	4.0
9	R2	42	0.0	42	0.0	0.981	81.7	LOS F	17.3	122.4	0.57	0.93	17.9
Approach		2094	1.6	2094	1.6	0.981	76.8	LOS F	17.3	122.4	0.84	1.15	4.4
West: Geeves Avenue													
10	L2	49	11.1	49	11.1	0.485	64.6	LOS E	3.1	23.4	0.94	0.73	18.3
12	R2	108	14.6	108	14.6	1.144	375.5	LOS F	20.6	162.3	1.00	1.92	4.5
Approach		157	13.5	157	13.5	1.144	278.5	LOS F	20.6	162.3	0.98	1.55	5.9
All Vehicles		3380	2.3	3380	2.3	1.144	60.7	LOS E	20.6	162.3	0.58	0.81	6.3

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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	64.3	LOS F	0.2	0.2	0.96	0.96
P3	North Full Crossing	50	64.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	50	5.7	LOS A	0.1	0.1	0.29	0.29
All Pedestrians		150	44.8	LOS E			0.73	0.73

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: Princes Hwy/ Geeves Ave - 2021 Base AM + Dev + New Layout

Network: 2021 Base AM +Dev + New Layout

Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Network Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total 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: Princes Highway													
1	L2	60	2.0	60	2.0	0.700	4.8	LOS A	2.4	17.0	0.07	0.12	48.5
2	T1	2595	2.1	2588	2.1	0.700	0.8	LOS A	4.4	31.7	0.07	0.08	48.9
Approach		2655	2.1	2648 N1	2.1	0.700	0.9	LOS A	4.4	31.7	0.07	0.08	48.8
North: Princes Highway													
8	T1	659	7.2	659	7.2	0.379	2.4	LOS A	5.3	39.6	0.15	0.13	41.6
9	R2	66	0.0	66	0.0	0.943	97.5	LOS F	4.5	31.8	0.28	0.92	15.4
Approach		725	6.5	725	6.5	0.943	11.1	LOS A	5.3	39.6	0.16	0.21	24.8
West: Geeves Avenue													
10	L2	66	24.5	66	24.5	0.618	71.6	LOS F	4.6	39.3	0.99	0.83	17.1
12	R2	73	0.0	73	0.0	0.144	62.5	LOS E	2.2	15.4	0.92	0.73	18.7
Approach		139	11.7	139	11.7	0.618	66.8	LOS E	4.6	39.3	0.95	0.78	17.9
All Vehicles		3519	3.4	3512 N1	3.4	0.943	5.6	LOS A	5.3	39.6	0.12	0.13	30.8

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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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	South Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P3	North Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	6.0	LOS A	0.1	0.1	0.29	0.29
All Pedestrians		158	44.9	LOS E			0.74	0.74

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: Princes Hwy/ Geeves Ave - 2021 Base PM + Dev + New Layout

Network: 2021 Base PM +Dev + New Layout

Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Network Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total 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: Princes Highway													
1	L2	69	0.0	69	0.0	0.079	4.3	LOS A	0.2	1.2	0.02	0.35	46.9
2	T1	1060	2.3	1060	2.3	0.394	0.5	LOS A	1.3	9.2	0.03	0.05	51.9
Approach		1129	2.2	1129	2.2	0.394	0.7	LOS A	1.3	9.2	0.03	0.06	50.0
North: Princes Highway													
8	T1	2052	1.6	2052	1.6	0.982	77.8	LOS F	17.3	122.4	0.86	1.17	4.0
9	R2	42	0.0	42	0.0	0.982	82.7	LOS F	17.3	122.4	0.58	0.95	17.8
Approach		2094	1.6	2094	1.6	0.982	77.9	LOS F	17.3	122.4	0.85	1.17	4.3
West: Geeves Avenue													
10	L2	49	11.1	49	11.1	0.221	64.6	LOS E	3.1	23.4	0.94	0.74	18.3
12	R2	108	14.6	108	14.6	0.513	69.9	LOS E	3.7	28.9	0.97	0.78	17.4
Approach		157	13.5	157	13.5	0.513	68.3	LOS E	3.7	28.9	0.96	0.77	17.6
All Vehicles		3380	2.3	3380	2.3	0.982	51.7	LOS D	17.3	122.4	0.58	0.78	7.2

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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	64.3	LOS F	0.2	0.2	0.96	0.96
P3	North Full Crossing	50	64.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	50	5.7	LOS A	0.1	0.1	0.29	0.29
All Pedestrians		150	44.8	LOS E			0.73	0.73

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: Princes Hwy/ Bryant St - 2021 Base AM + Dev

Network: 2021 Base AM +Dev

Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Network Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total 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: Princes Highway													
8	T1	2622	2.1	2622	2.1	0.659	2.9	LOS A	17.2	122.4	0.19	0.23	52.1
9	R2	166	4.1	166	4.1	0.659	8.4	LOS A	7.9	56.5	0.19	0.36	45.8
Approach		2788	2.2	2788	2.2	0.659	3.3	LOS A	17.2	122.4	0.19	0.23	51.4
East: Bryant Street													
10	L2	131	0.8	131	0.8	0.356	29.7	LOS C	5.8	43.4	0.56	0.68	27.8
12	R2	49	15.2	49	15.2	0.356	63.1	LOS E	5.8	43.4	0.94	0.78	23.3
Approach		180	4.8	180	4.8	0.356	38.9	LOS C	5.8	43.4	0.67	0.71	26.0
North: Princes Highway													
1	L2	4	0.0	4	0.0	0.123	48.9	LOS D	3.0	22.3	0.81	0.64	28.7
2	T1	591	6.7	591	6.7	0.617	49.0	LOS D	17.5	129.5	0.92	0.78	15.0
Approach		595	6.7	595	6.7	0.617	49.0	LOS D	17.5	129.5	0.92	0.78	15.2
All Vehicles		3563	3.1	3563	3.1	0.659	12.7	LOS A	17.5	129.5	0.34	0.35	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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P3	South Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P4	East Full Crossing	53	44.9	LOS E	0.2	0.2	0.80	0.80
P1	North Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		158	57.8	LOS E			0.91	0.91

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

MOVEMENT SUMMARY

Site: Princes Hwy/ Bryant St - 2021 Base PM + Dev

Network: 2021 Base PM +Dev

Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Network Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total 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: Princes Highway													
8	T1	975	2.8	975	2.8	0.601	2.0	LOS A	7.1	51.1	0.13	0.12	54.7
9	R2	223	2.0	223	2.0	0.635	60.0	LOS E	14.4	102.4	1.00	1.03	20.9
Approach		1198	2.6	1198	2.6	0.635	12.8	LOS A	14.4	102.4	0.30	0.29	37.7
East: Bryant Street													
10	L2	300	2.5	300	2.5	0.824	65.5	LOS E	15.6	111.7	0.96	0.94	18.1
12	R2	89	0.0	89	0.0	0.824	75.7	LOS F	12.4	87.6	1.00	0.93	21.5
Approach		389	2.0	389	2.0	0.824	67.8	LOS E	15.6	111.7	0.97	0.94	19.0
North: Princes Highway													
1	L2	43	0.0	43	0.0	0.792	33.0	LOS C	26.1	185.2	0.84	0.80	34.3
2	T1	1841	1.7	1841	1.7	0.792	25.2	LOS B	46.3	329.0	0.84	0.79	23.6
Approach		1884	1.7	1884	1.7	0.792	25.4	LOS B	46.3	329.0	0.84	0.79	24.0
All Vehicles		3472	2.0	3472	2.0	0.824	25.8	LOS B	46.3	329.0	0.67	0.63	26.4

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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P3	South Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P4	East Full Crossing	53	15.1	LOS B	0.1	0.1	0.47	0.47
P1	North Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		158	47.9	LOS E			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: Princes Hwy/ Bay St/ Sevenways/ Tramway Arc - 2021 Base AM + Dev

Network: 2021 Base AM +Dev

Princes / Bay / Seven / Tramway
Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Network Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total 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: Princes Highway													
1b	L3	104	7.2	104	7.2	0.890	55.5	LOS D	39.4	287.6	0.93	1.02	21.6
1	L2	11	100.0	11	100.0	0.890	60.8	LOS E	39.4	287.6	0.93	1.02	11.0
2	T1	2456	2.0	2456	2.0	0.890	33.9	LOS C	63.1	448.8	0.94	0.93	18.2
Approach		2571	2.6	2571	2.6	0.890	35.0	LOS C	63.1	448.8	0.94	0.93	18.2
East: Bay Street													
4	L2	27	4.0	27	4.0	0.152	52.6	LOS D	3.4	24.5	0.84	0.73	19.0
4a	L1	306	3.2	306	3.2	0.686	57.0	LOS E	17.0	122.2	0.95	0.82	18.6
5	T1	9	100.0	9	100.0	0.187	92.6	LOS F	0.7	8.9	0.99	0.68	9.0
Approach		343	5.9	343	5.9	0.686	57.6	LOS E	17.0	122.2	0.95	0.81	17.8
North: Princes Highway													
7	L2	55	25.0	55	25.0	0.083	6.0	LOS A	0.4	2.9	0.10	0.39	38.6
8	T1	583	0.0	583	0.0	0.407	2.2	LOS A	3.7	25.7	0.11	0.11	53.2
9a	R1	107	0.0	107	0.0	0.983	99.7	LOS F	8.8	61.8	1.00	0.98	9.6
Approach		745	1.8	745	1.8	0.983	16.5	LOS B	8.8	61.8	0.24	0.26	31.3
SouthWest: The Seven Ways													
30a	L1	235	3.2	235	3.2	1.302	326.1	LOS F	38.2	274.7	1.00	1.48	2.6
32a	R1	401	3.2	401	3.2	0.852	76.3	LOS F	15.4	110.9	1.00	0.96	14.9
32b	R3	75	1.4	75	1.4	0.342	66.9	LOS E	4.7	33.5	0.95	0.77	17.8
Approach		711	3.0	711	3.0	1.302	157.9	LOS F	38.2	274.7	0.99	1.11	7.4
All Vehicles		4369	2.8	4369	2.8	1.302	53.6	LOS D	63.1	448.8	0.83	0.84	14.9

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 is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P2	East Full Crossing	53	12.0	LOS B	0.1	0.1	0.42	0.42
P3	North Full Crossing	53	55.9	LOS E	0.2	0.2	0.89	0.89
P4	West Full Crossing	53	35.1	LOS D	0.1	0.1	0.84	0.84
P8	SouthWest Full Crossing	53	21.2	LOS C	0.1	0.1	0.55	0.55
All Pedestrians		263	37.7	LOS D			0.73	0.73

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: Princes Hwy/ Bay St/ Sevenways/ Tramway Arc - 2021 Base PM + Dev

Network: 2021 Base PM +Dev

Princes / Bay / Seven / Tramway
Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Network Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Princes Highway													
1b	L3	110	60.0	110	60.0	0.205	20.6	LOS B	3.4	37.0	0.58	0.74	30.2
1	L2	7	100.0	7	100.0	0.205	25.3	LOS B	3.4	37.0	0.58	0.74	12.6
2	T1	918	2.8	918	2.8	0.868	57.1	LOS E	36.3	260.2	0.97	0.97	12.4
Approach		1035	9.6	1035	9.6	0.868	53.0	LOS D	36.3	260.2	0.93	0.95	13.9
East: Bay Street													
4	L2	52	5.8	52	5.8	0.199	55.9	LOS D	4.1	29.9	0.87	0.75	18.0
4a	L1	348	0.9	348	0.9	0.896	75.4	LOS F	25.2	177.6	0.99	1.01	15.3
5	T1	10	100.0	10	100.0	0.148	88.9	LOS F	0.7	9.0	0.98	0.69	9.1
Approach		410	3.9	410	3.9	0.896	73.3	LOS F	25.2	177.6	0.98	0.97	15.1
North: Princes Highway													
7	L2	66	13.6	66	13.6	0.852	41.1	LOS C	13.6	97.9	0.89	0.86	16.4
8	T1	1705	1.8	1705	1.8	0.852	21.4	LOS B	13.8	97.9	0.71	0.68	27.6
9a	R1	348	1.5	348	1.5	0.852	48.3	LOS D	13.7	97.9	0.97	0.90	17.0
9	R2	4	100.0	4	100.0	0.852	52.7	LOS D	13.7	97.9	0.97	0.90	9.0
Approach		2123	2.3	2123	2.3	0.852	26.5	LOS B	13.8	97.9	0.76	0.72	24.4
SouthWest: The Seven Ways													
30a	L1	190	0.5	190	0.5	0.215	19.0	LOS B	5.6	39.7	0.63	0.71	26.1
32a	R1	327	0.6	327	0.6	0.744	59.5	LOS E	14.6	102.8	0.94	0.83	17.9
32b	R3	142	2.9	142	2.9	0.297	46.9	LOS D	7.4	53.3	0.81	0.79	22.3
Approach		659	1.1	659	1.1	0.744	45.1	LOS D	14.6	102.8	0.82	0.78	20.1
All Vehicles		4227	4.0	4227	4.0	0.896	40.4	LOS C	36.3	260.2	0.83	0.81	19.1

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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
The results of iterative calculations indicate a somewhat unstable solution. See the Diagnostics section in the Detailed Output report.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	50	58.6	LOS E	0.2	0.2	0.92	0.92
P2	East Full Crossing	50	17.0	LOS B	0.1	0.1	0.49	0.49
P3	North Full Crossing	50	46.5	LOS E	0.2	0.2	0.82	0.82
P4	West Full Crossing	50	46.5	LOS E	0.2	0.2	0.82	0.82
P8	SouthWest Full Crossing	50	49.0	LOS E	0.2	0.2	0.84	0.84
All Pedestrians		250	43.5	LOS E			0.78	0.78

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.

Melbourne

A Level 25, 55 Collins Street
PO Box 24055
MELBOURNE VIC 3000
P +613 9851 9600
E melbourne@gta.com.au

Brisbane

A Level 4, 283 Elizabeth Street
BRISBANE QLD 4000
GPO Box 115
BRISBANE QLD 4001
P +617 3113 5000
E brisbane@gta.com.au

Adelaide

A Suite 4, Level 1, 136 The Parade
PO Box 3421
NORWOOD SA 5067
P +618 8334 3600
E adelaide@gta.com.au

Townsville

A Level 1, 25 Sturt Street
PO Box 1064
TOWNSVILLE QLD 4810
P +617 4722 2765
E townsville@gta.com.au

Sydney

A Level 6, 15 Help Street
CHATSWOOD NSW 2067
PO Box 5254
WEST CHATSWOOD NSW 1515
P +612 8448 1800
E sydney@gta.com.au

Canberra

A Tower A, Level 5,
7 London Circuit
Canberra ACT 2600
P +612 6243 4826
E canberra@gta.com.au

Gold Coast

A Level 9, Corporate Centre 2
Box 37, 1 Corporate Court
BUNDALL QLD 4217
P +617 5510 4800
F +617 5510 4814
E goldcoast@gta.com.au

Perth

A Level 2, 5 Mill Street
PERTH WA 6000
P +618 6169 1000
E perth@gta.com.au