Barker College

Transport and Accessibility Impact Assessment

Prepared for:

Barker College

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The Transport Planning Partnership

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Barker College

Transport and Accessibility Impact Assessment

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APPENDICES

A. TRAFFIC SURVEYS
B. STFM GROWTH PLOTS

1 Introduction

1.1 Background

This report supports a State Significant Development Application (SSDA) submitted to the Department of Planning, Infrastructure and Environment (DPIE) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act), for the proposed redevelopment of Barker College at 91 Pacific Highway, Hornsby.

1.2 Purpose of Assessment

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

- existing traffic and parking conditions surrounding the site
- suitability of proposed parking in terms of quantum and layout
- the traffic generating characteristics of the proposed development
- suitability of proposed access arrangements for the site
- the transport impacts of the proposed development on the surrounding road network.

1.3 Secretary's Environmental Assessment Requirements

On 15 December 2021, the DPE issued the Secretary's Environmental Assessment Requirements (SEARS) for SSD-31822612. Specifically, a transport and accessibility impact assessment is required as part of the Environmental Impact Statement (EIS), in accordance with the SEARs for the proposed development.

Table 1.1 provides a summary of the relevant SEARs which relate to traffic and transport, and where these have been addressed in this report.

Table 1.1: Review of Compliance with SEARs

SEARS Transport, Traffic, Parking and Access	Report Reference
Traffic, Transport and Accessibility Provide a transport and accessibility impact assessment, which includes:	
• an analysis of the existing transport network, including the road hierarchy and any pedestrian, bicycle or public transport infrastructure, current daily and peak hour vehicle movements, and existing performance levels of nearby intersections.	Sections 2 & 4
• outlines the proposed concept development, including likely pedestrian and vehicular access arrangements (including swept path analysis of the largest vehicle and height clearances), parking arrangements and rates (including	Sections 5 & 6

SEARS Transport, Traffic, Parking and Access	Report Reference
bicycle and end-of-trip facilities), drop-off/pick-up-zone(s) and bus bays (if applicable), and provisions for servicing and loading/unloading.	
• analysis of the impacts of the proposed concept development (including justification for the methodology used), including predicted modal split, a forecast of additional daily and peak hour multimodal network flows as a result of the development (using industry standard modelling), potential queuing in drop-off/pick-up zones and bus bays during peak periods, identification of potential traffic impacts on road capacity, intersection performance and road safety (including pedestrian and cyclist conflict), and any cumulative impact from surrounding approved developments.	Sections 4, 5.4 & 7
• measures to mitigate any traffic impacts, including details of any new or upgraded infrastructure to achieve acceptable performance and safety, and the timing, viability and mechanisms (including proposed arrangements with local councils or government agencies) of delivery of any infrastructure improvements in accordance with relevant standards.	Sections 7.3.3 & 7.3.4
• measures to promote sustainable travel choices for employees, students and visitors, such as connections into existing walking and cycling networks, minimising car parking provision, encouraging car share and public transport, providing adequate bicycle parking and high-quality end-of-trip facilities, and implementing a Green Travel Plan.	Sections 2.5, 2.6, 2.7, 2.8, 9.3 & 9.4
• a preliminary operational traffic and access management plan for the concept development, including drop-off/pick-up zones, bus bays and their operations.	Section 5.4

1.4 References

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

- an inspection of the site and its surrounds
- State Environmental Planning Policy
- Hornsby Development Control Plan
- Roads and Maritime Services' Guide to Traffic Generating Developments 2002
- other documents as referenced in this report.

1.5 Report Structure

The remainder of this report is set out as follows:

- Chapter 2 examines the existing conditions surrounding the school
- Chapter 3 presents a summary of the existing school operation and parking patterns of the school
- Chapter 4 outlines the results of the travel survey of the existing school
- Chapter 5 outlines the provisions of the proposed SSDA
- Chapter 6 assesses the parking implications of the proposal
- Chapter 7 assesses the transport implications arising from the proposed development
- Chapter 8 details road safety and personal safety measures in line with CPTED

- Chapter 9 outlines travel demand management measures to minimise the impact on general traffic and bus operations
- Chapter 10 presents a summary of the traffic assessment and implications of the proposal.

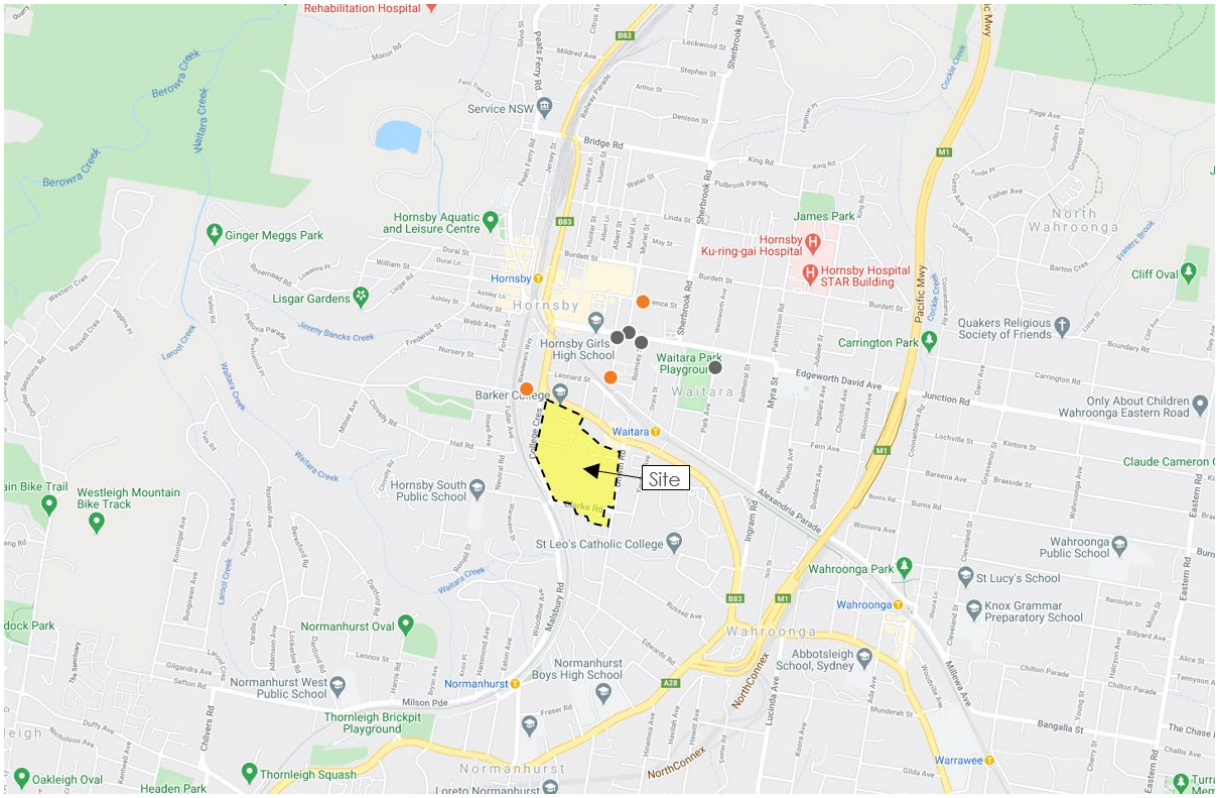
2 Existing Conditions

2.1 Site Description

The site is located at 91 Pacific Highway, Hornsby within the Hornsby Shire Council. It is bound by Pacific Highway to the north, College Crescent to the west, Unwin Road to the east and residential properties to the south. It is surrounded by a mix of residential and commercial uses.

The locational of the site is shown in Figure 2.1

Figure 2.1: Site Context



Basemap: Google Maps (accessed 17/02/2021)

2.2 Surrounding Schools

A number of public and private schools are currently present within the vicinity of Barker College. The following schools are located within 800m radial distance from the site:

- Clarke Road School
- Hornsby South Public School
- Our Lady of the Rosary Catholic Primary School

- St Leo's Catholic College
- Hornsby Girls' High School

The location of these schools is presented in Figure 2.2.

Figure 2.2: Surrounding Schools

Map Source: Nearmap

2.3 Surrounding Road Network

The site is surrounded by a network of state, regional and local roads, including Pacific Highway, College Crescent, Unwin Road and Clarke Road. A brief description of these roads is provided below.

Pacific Highway

Pacific Highway is a state road, aligned generally in the north-south direction along the central east coast of Australia. This road travels along the northern boundary of the site. It is generally configured as a two-way road with six travel lanes. Kerbside parking is permitted on both sides of the roads. Kerbside parking is permitted on some sections of both sides of the road, across a 17.1m wide road carriageway (kerb to kerb). The site is serviced by bus stops along this road.

The road has a posted speed limit of 60km/h, with 40km/h school zone restrictions that apply between 8:00am and 9:30am and between 2:30pm and 4:00pm Monday to Friday.

College Crescent

College Crescent is a regional road, aligned in the north-south direction between Pacific Highway and Clarke Road. This road travels along the western boundary of the site. It is generally configured as a two-way road with two travel lanes and two kerbside parking lanes, across a 11.4m wide road carriageway (kerb to kerb).

No speed limit signage is provided along College Crescent, which indicates a default speed limit of 50 km/h. A 40km/h school zone restriction applies between 8:00am and 9:30am and between 2:30pm and 4:00pm Monday to Friday.

Unwin Road

Unwin Road is a local road, aligned in the north-south direction between Pacific Highway and Edwards Road. This road travels along the eastern boundary of the site. It is generally configured as a two-way road with two travel lanes and two kerbside parking lanes, across an 8.8m wide road carriageway (kerb to kerb).

The road has a posted speed limit of 50km/h, with 40km/h school zone restrictions that apply between 8:00am and 9:30am and between 2:30pm and 4:00pm Monday to Friday.

Clarke Road

Clarke Road is a local road, aligned in the east-west direction between Yardley Avenue and a cul-de-sac. This road divides the site into two sections. It is generally configured as a two-way road with two travel lanes. Kerbside parking permitted on some sections of both sides of the road, across a 7.9m wide road carriageway (kerb to kerb).

The road has a posted speed limit of 50km/h, with 40km/h school zone restrictions that apply between 8:00am and 9:30am and between 2:30pm and 4:00pm Monday to Friday.

2.4 On-street Parking

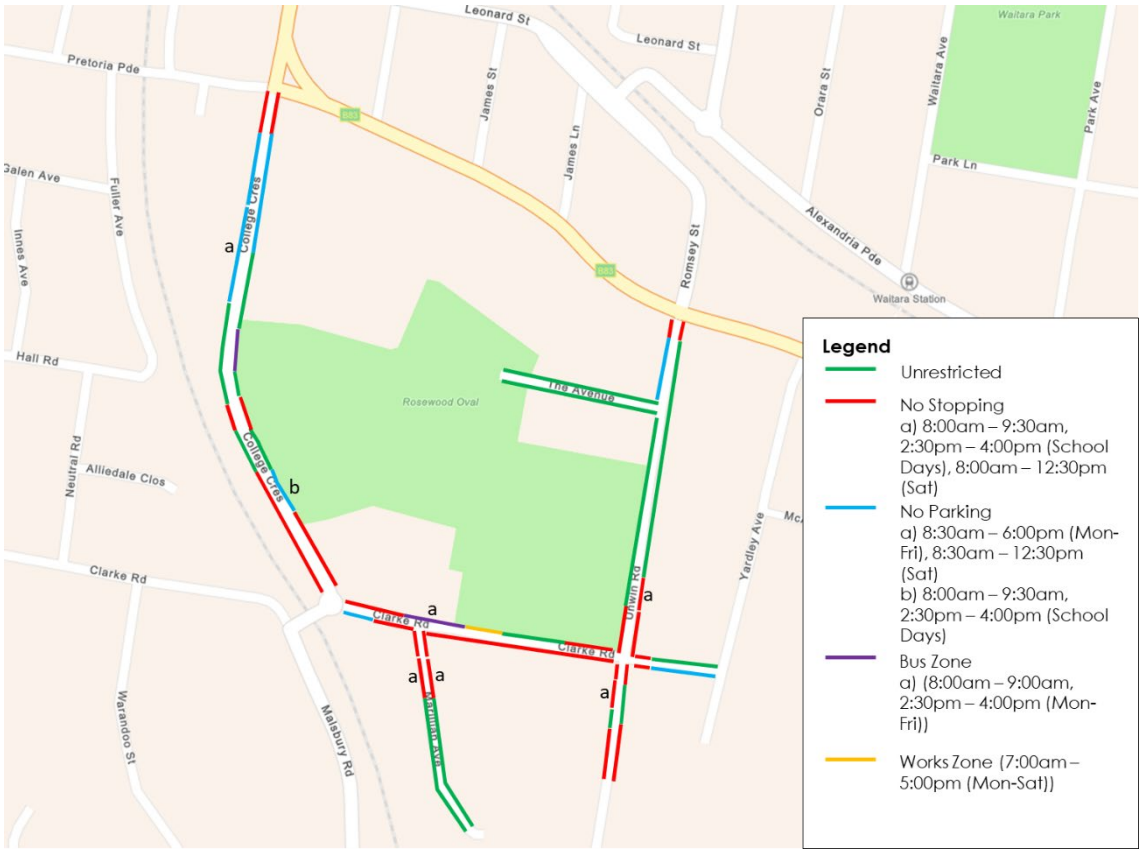
On-street parking is present on all surrounding roads within the vicinity of the site. The majority of the on-street parking are unrestricted throughout the day, whilst some of the areas have no stopping restrictions during specific time periods.

A parking inventory and occupancy survey has been carried out along the streets shown in Figure 2.3 to determine the number of available parking spaces and restrictions within the survey area. The on-street parking survey has been undertaken on Thursday, 4th February 2021 (7am-6pm) and on Saturday, 6th February 2021 (9am-5pm), simultaneous with the on-site parking survey. The survey was undertaken during school Term 1.

During the survey period, the following parking supplies are recorded:

- Thursday: 257 to 300 parking spaces
- Saturday: 266 to 300 parking spaces.

Figure 2.3: Existing On-Street Parking Restrictions



A summary of the hourly car parking occupancy during the survey period is graphically presented in Figure 2.4 and Figure 2.5.

Figure 2.4: Existing On-Street Parking Occupancy (Thursday)

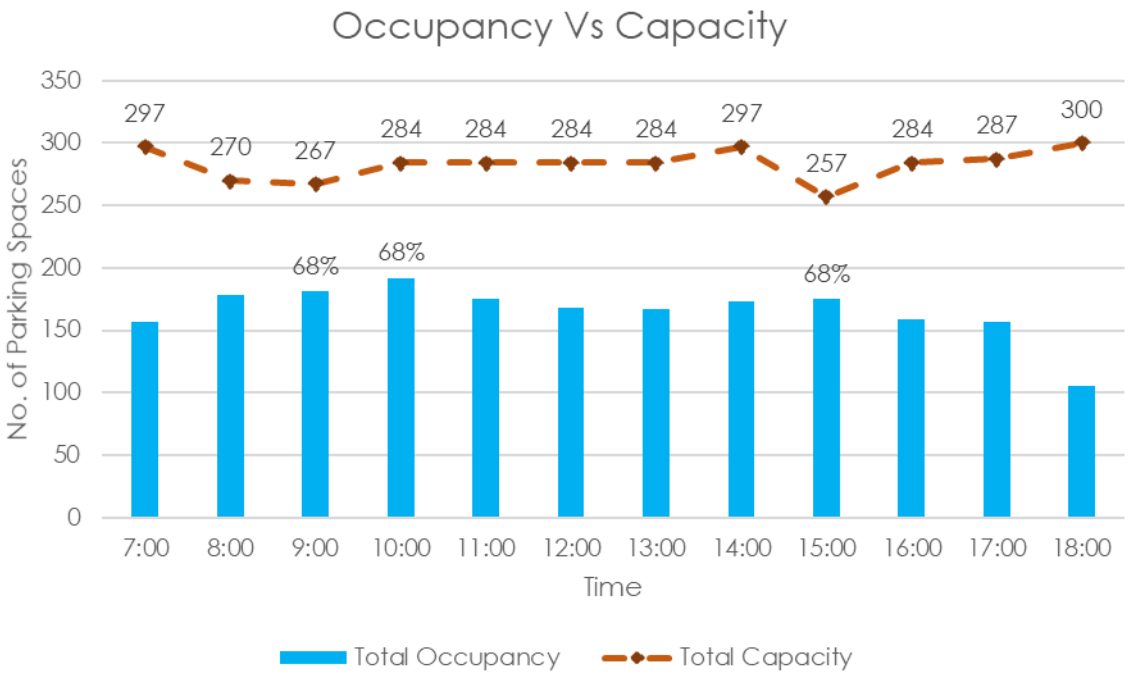
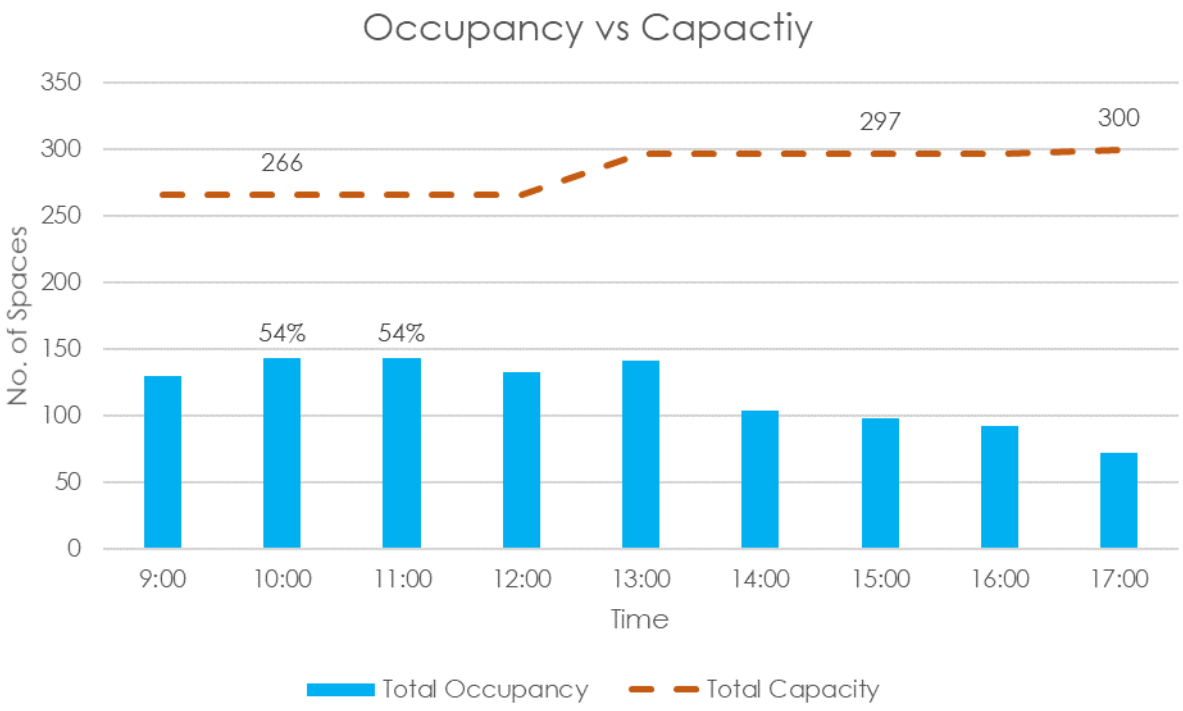


Figure 2.5: Existing On-Street Parking Occupancy (Saturday)



Based on the parking survey results presented in Figure 2.4, the peak parking accumulation on Thursday occurred from 10am-11am, with 68-percent of parking occupied. During this period, a total of 92 spaces are vacant.

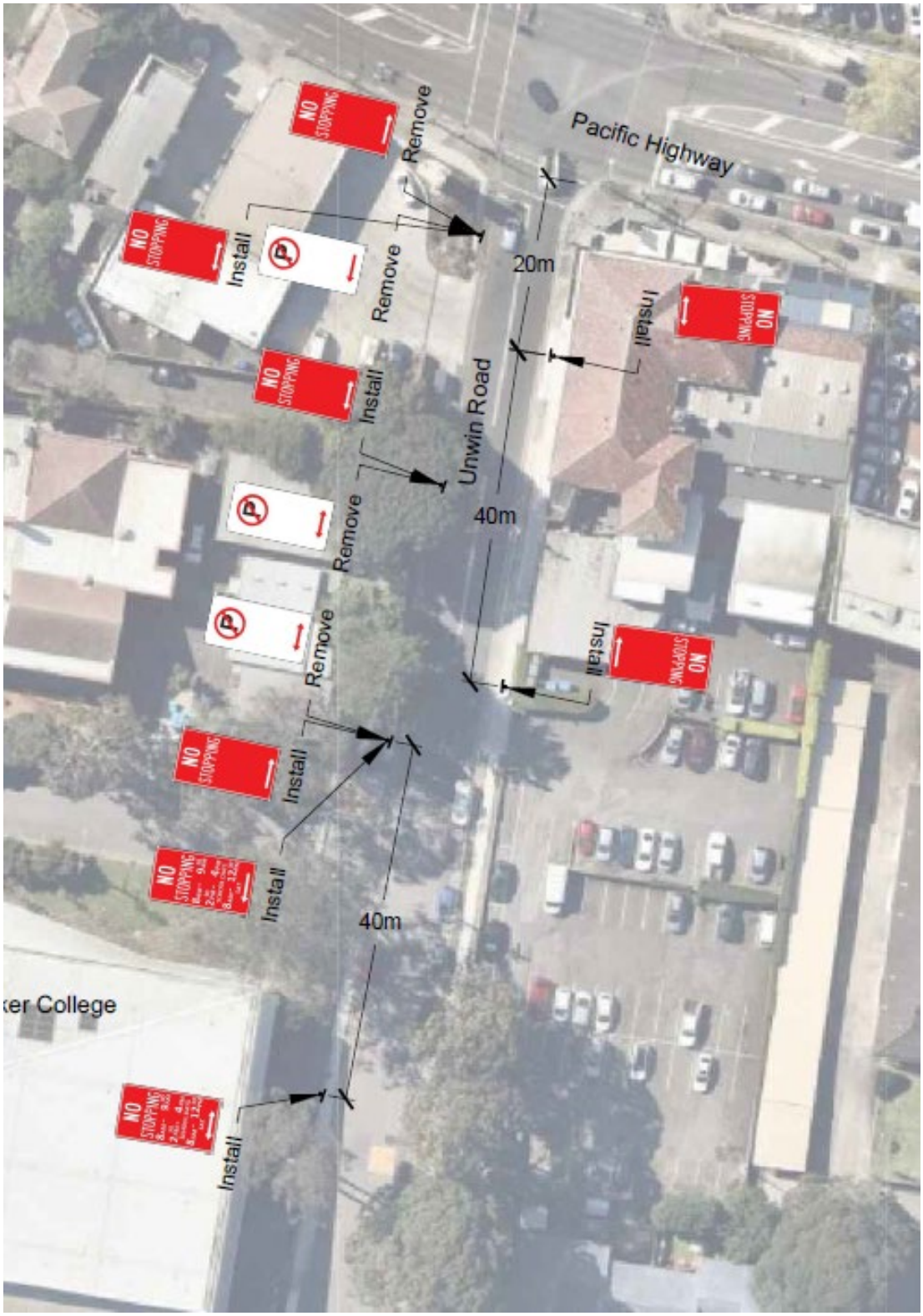
The Saturday on-street parking survey results suggest a slightly lower occupancy with approximately 54-percent of parking occupied during the busiest period (10am-12pm) and 123 spaces unoccupied.

It is noted that since the above survey, Hornsby Shire Council had modified the parking restrictions along Unwin Road. 'No Stopping' signs have been installed along Unwin Road between Pacific Highway and Clarke Road.

The 'No Stopping' signs are along the site frontage and applied from 8am-9:30am and 2:30pm-4pm during school days, and from 8am-12pm on Saturdays.

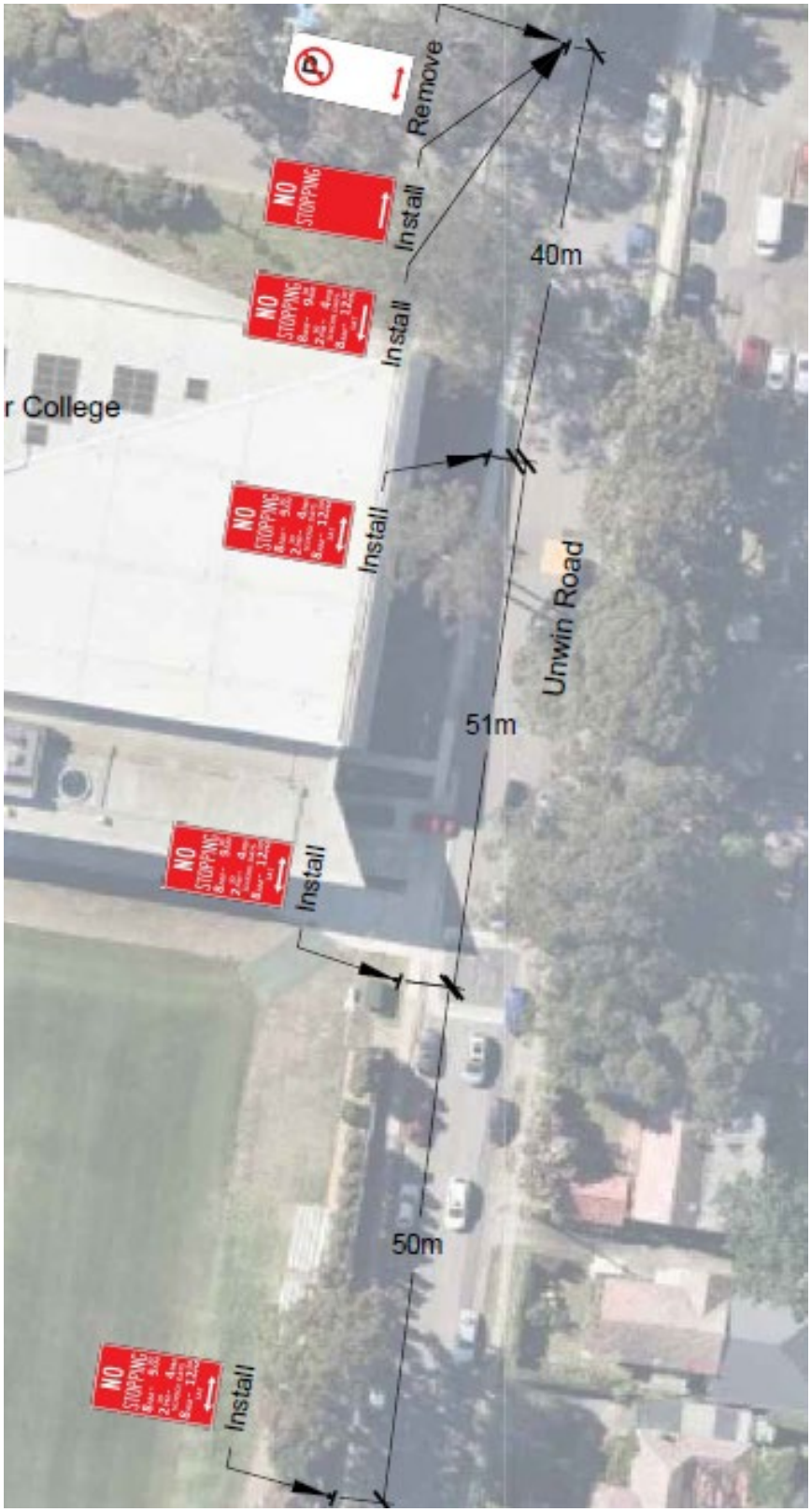
These parking restrictions are presented in Figure 2.6 to Figure 2.8.

Figure 2.6: Council Parking Restrictions along Unwin Road (Plan 1)



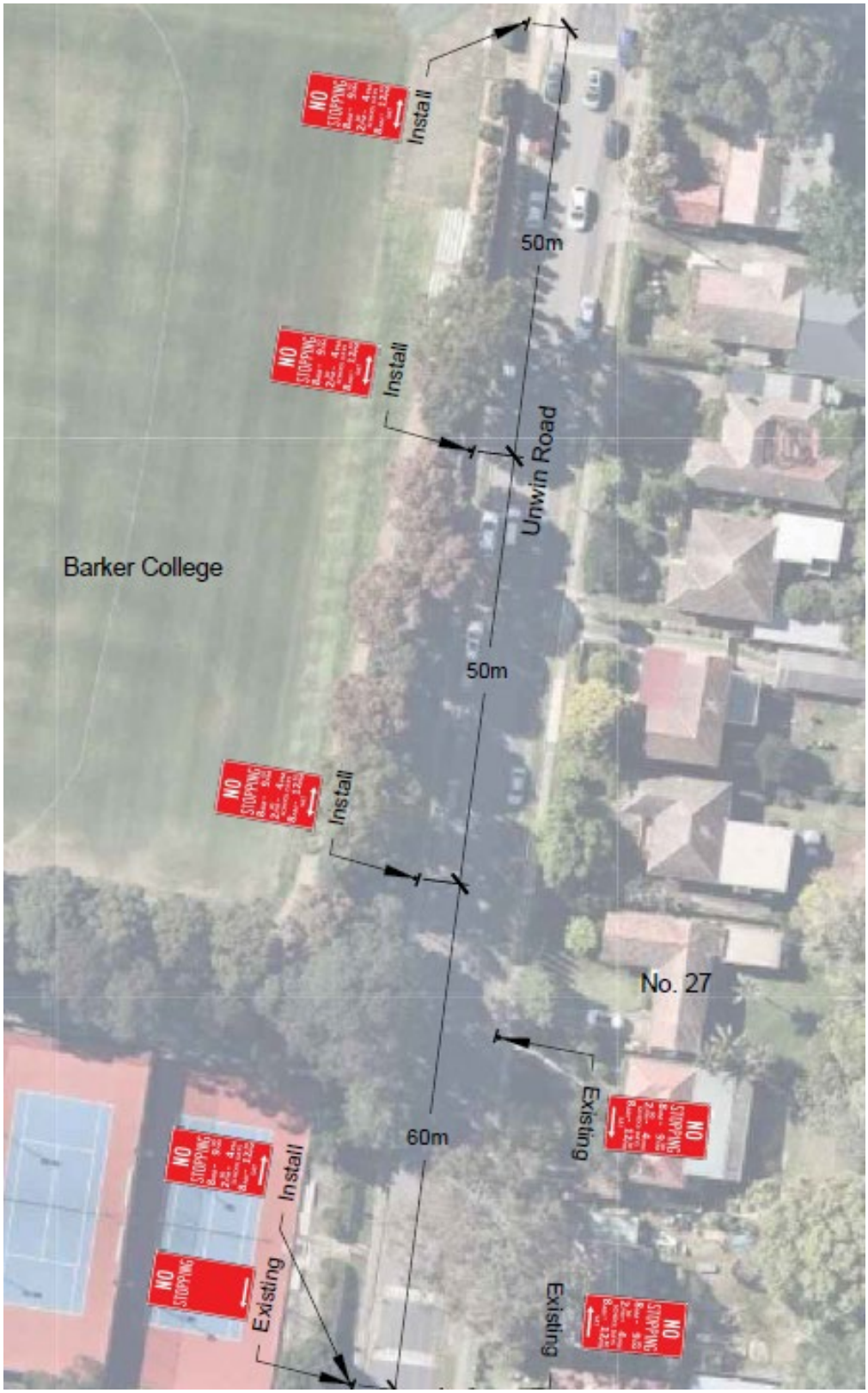
Source: Hornsby Shire Council

Figure 2.7: Council Parking Restrictions along Unwin Road (Plan 2)



Source: Hornsby Shire Council

Figure 2.8: Council Proposed Parking Restrictions along Unwin Road (Plan 3)



Source: Hornsby Shire Council

2.5 Public Transport Facilities

The site is generally served by bus services operated by Sydney Buses. The nearest railway station is Waitara Station which is located approximately 450m east of the site and Hornsby station is around 800m away.

There are bus stops located on Pacific Highway, Yardley Avenue, College Crescent, Neutral Road and Pretoria Parade, within in a 400m radius from the school. Table 2.1 and

Table 2.2 indicate the public and school transport services, associated frequencies, and closest bus stop locations.

Table 2.1: Existing Public Train and Bus Service and Associated Frequencies

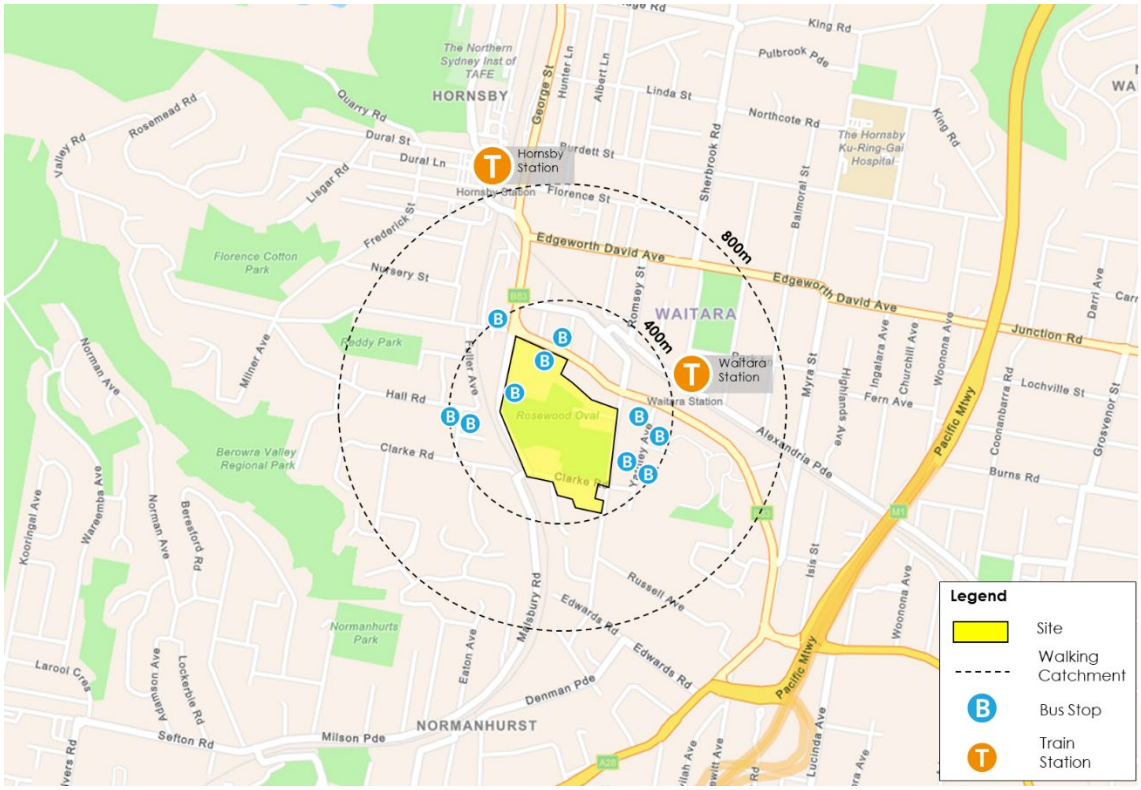
Transport Type	Route	Closest Location	Frequency
Train	T1 (North Shore & Western Line)	Waitara Station	AM peak (every 5-10mins) PM Peak (every 5-10mins)
	T9 (North Shore to Hornsby via City)	Waitara Station	AM peak (every 15 mins) PM Peak (every 10-20 mins)
Bus	587 (Hornsby to Westleigh (Loop Service))	Barker Oval, College Crescent	AM Peak (every 20-40mins) PM Peak (every 30-40mins)
	588 (Hornsby to Normanhurst West (Loop Service))	Pretoria Parade before Pacific Highway	AM Peak (every 15-50mins) PM Peak (every 15-30mins mins)
	589 (Sydney Adventist Hospital to Hornsby)	Barker College, Pacific Highway	AM Peak (every 60 mins) PM Peak (every 60 mins)
	600 (Hornsby to Parramatta)	Pacific Highway at James Street	AM Peak (every 10-20 mins) PM Peak (every 10 mins mins)

Table 2.2: Existing School Bus Services and Associated Frequencies

Transport Type	Route	Closest Location	Frequency
Bus	3002 (Castle Towers to Pacific Highway opposite Edgeworth David Avenue)	Barker College, Pacific Highway	AM peak (1 service)
	3190 (Berowra Station to Northholm Grammar School)	Pacific Highway at James Street	AM peak (1 service)
	3620 (Northholm Grammar to Berowra Station)	Barker College, Pacific Highway	PM peak (1 service)
	8024 (Barker College Junior School to Thornleigh West PS via Pennant Hills)	Barker Oval, College Crescent	AM peak (1 service)
	8067 (Hornsby Station to Normanhurst PS)	Pacific Highway at James Street	AM peak (1 service)
	8108 (Prestoria Parade after Fuller Avenue, Hornsby to Turramurra HS)	Neutral Road at Hall Road	AM peak (1 service)
	8112 (Barker College Junior School to Turramurra School HS)	Barker Oval at College Crescent	AM peak (1 service)
	9024 (Normanhurst PS to Pennant Hills Station via Thornleigh & Waitara)	Yardley Avenue at Pacific Highway	PM peak (1 service)
	9085 (Warrawee PS to Westleigh via Hornsby)	Barker College at Pacific Highway	PM peak (1 service)
	9087 (Mount St Benedict College to Hornsby Station via Westleigh)	Pretoria Parade before Pacific Highway	PM peak (1 service)
	9093 (Normanhurst PS to Hornsby Station)	Pretoria Parade before Pacific Highway	PM peak (1 service)
	9108 (Turramurra HS to Pretoria Parade before Pacific Highway, Hornsby)	Pretoria Parade before Pacific Highway	PM peak (1 service)

Figure 2.9 presents a map of the key existing bus stops within a 400m radius of the site.

Figure 2.9: Transport Services within Close Proximity of the Site



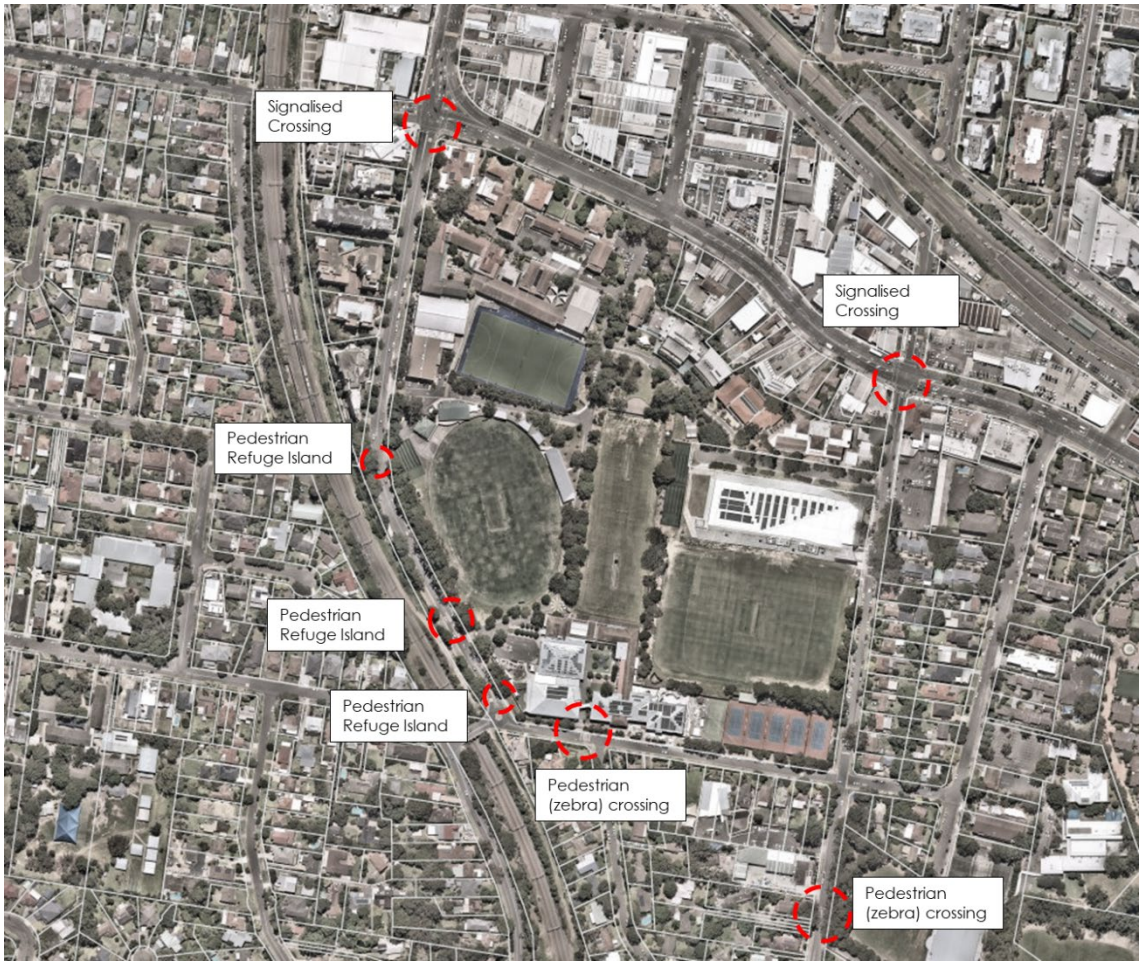
Base map source: Esri (accessed 18/02/2021)

2.6 Pedestrian Infrastructure

Well established pedestrian facilities are provided within the immediate vicinity of the site. Sealed pedestrian footpaths are provided along the site frontage, with dedicated pedestrian facilities provided along Pacific Highway, Unwin Road, College Crescent and Clarke Road. Signalised crossings, refuge islands and pedestrian (zebra) crossings are present within the site vicinity. It was observed that the signalised pedestrian crossing at Pacific Highway-College Crescent and Pacific Highway-Unwin Road intersections are well utilised during school peak drop-off and pick-up times.

The existing pedestrian facilities surrounding the site are shown in Figure 2.10.

Figure 2.10: Existing Pedestrian Facilities

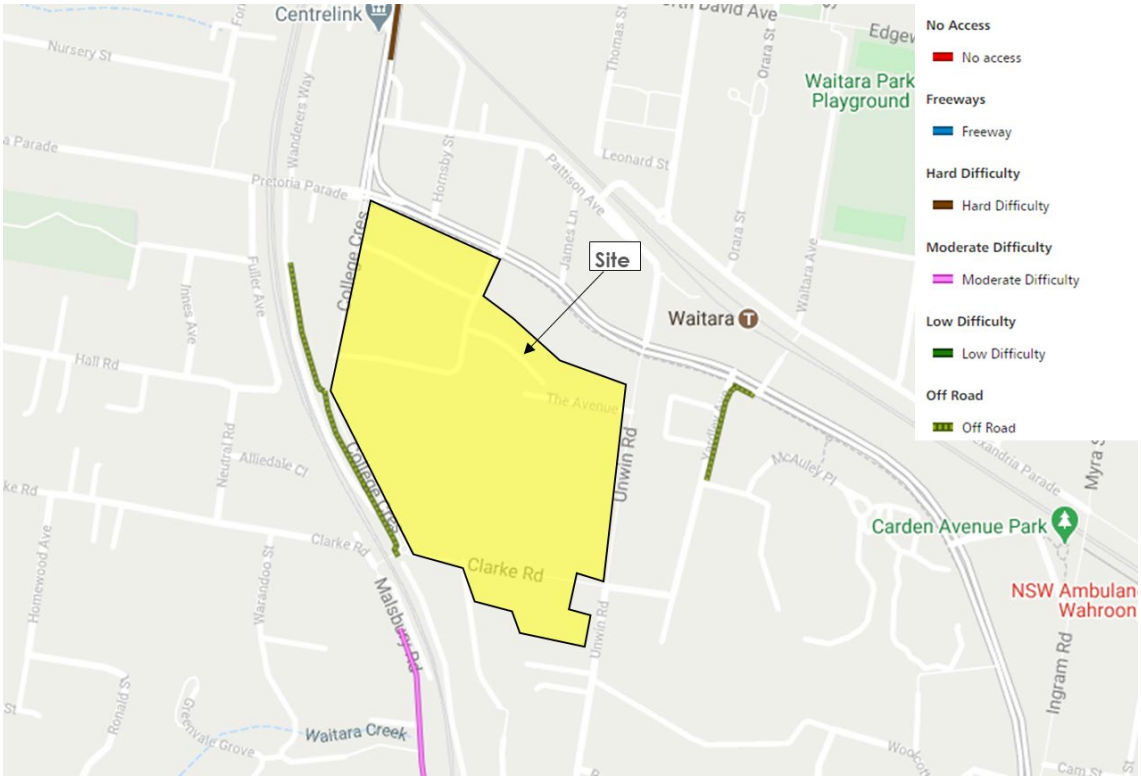


Basemap: Nearmap (accessed 18/02/2021)

2.7 Cyclist Infrastructure

The cycle routes surrounding the site is shown in Figure 2.11. Notably, there are partial off-road cycle routes along College Crescent and Yardley Avenue.

Figure 2.11: Cycle Paths within the Vicinity of the Site



Source: Cycleway Finder (accessed 3/03/2021)

2.8 Car Share Facilities

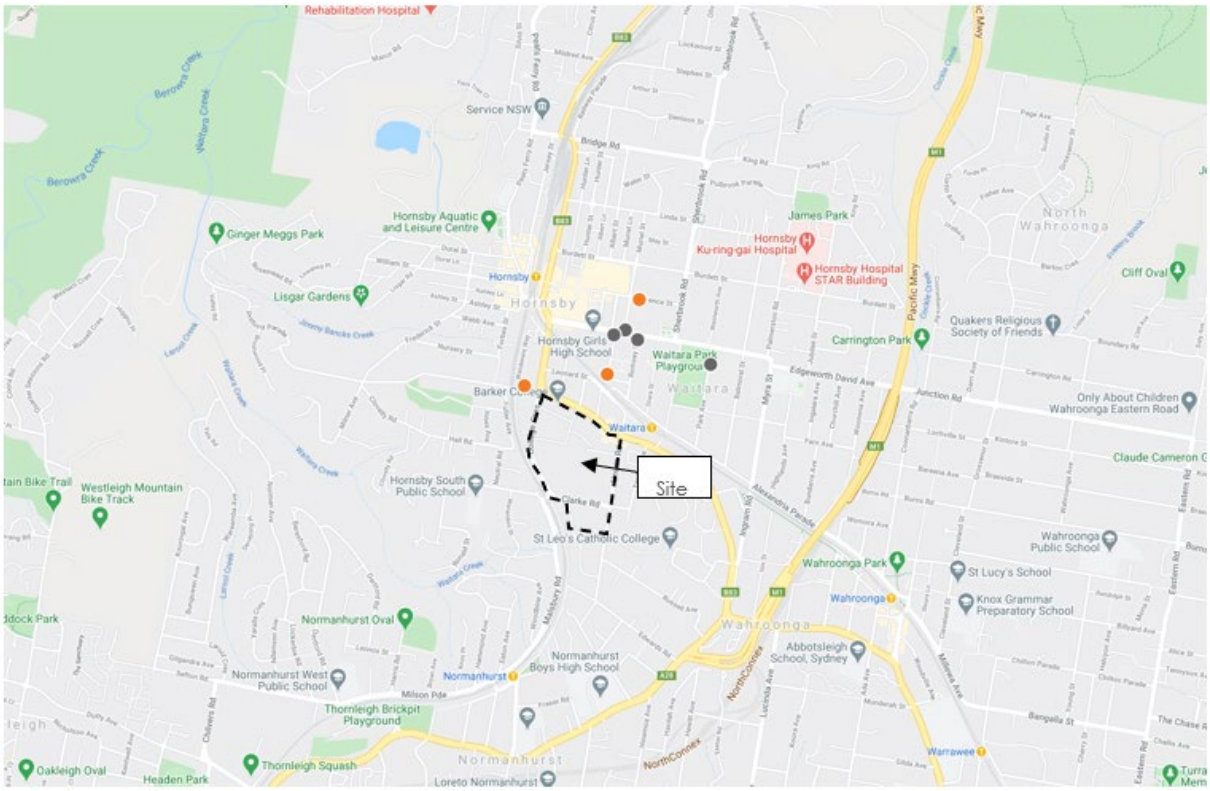
Car share schemes are a flexible, cost effective alternative to car ownership and is a convenient and reliable way for staff to use a car when they need one. GoGet is a car share company operated in Australia, with a number of vehicles available around Hornsby area.

Car share is a concept by which members join a car ownership club, choose a rate plan and pay an annual fee. The fees cover fuel, insurance, maintenance and cleaning. The vehicles are mostly sedans, but also include SUVs and station wagons. Each vehicle has a home location (referred to as a "pod") which are located either in a parking lot or on a street, typically in a highly populated urban neighbourhood. Members reserve a car via online or telephone and access the vehicle using a key card.

Notably, the City of Sydney Council has reported that "a single car share vehicle can replace up to 12 private vehicles that would otherwise compete for local parking". As such, the provision of car sharing facilities or the promotion of using existing car sharing facilities in the vicinity should be able to reduce both the parking demand for the site and the traffic generated by it.

Figure 2.12 shows the location of the existing GoGet vehicles surrounding the site.

Figure 2.12: Location of Existing GoGet Vehicles



Source: https://www.goget.com.au/ (accessed 17/02/2021)

2.9 Existing Traffic Volumes

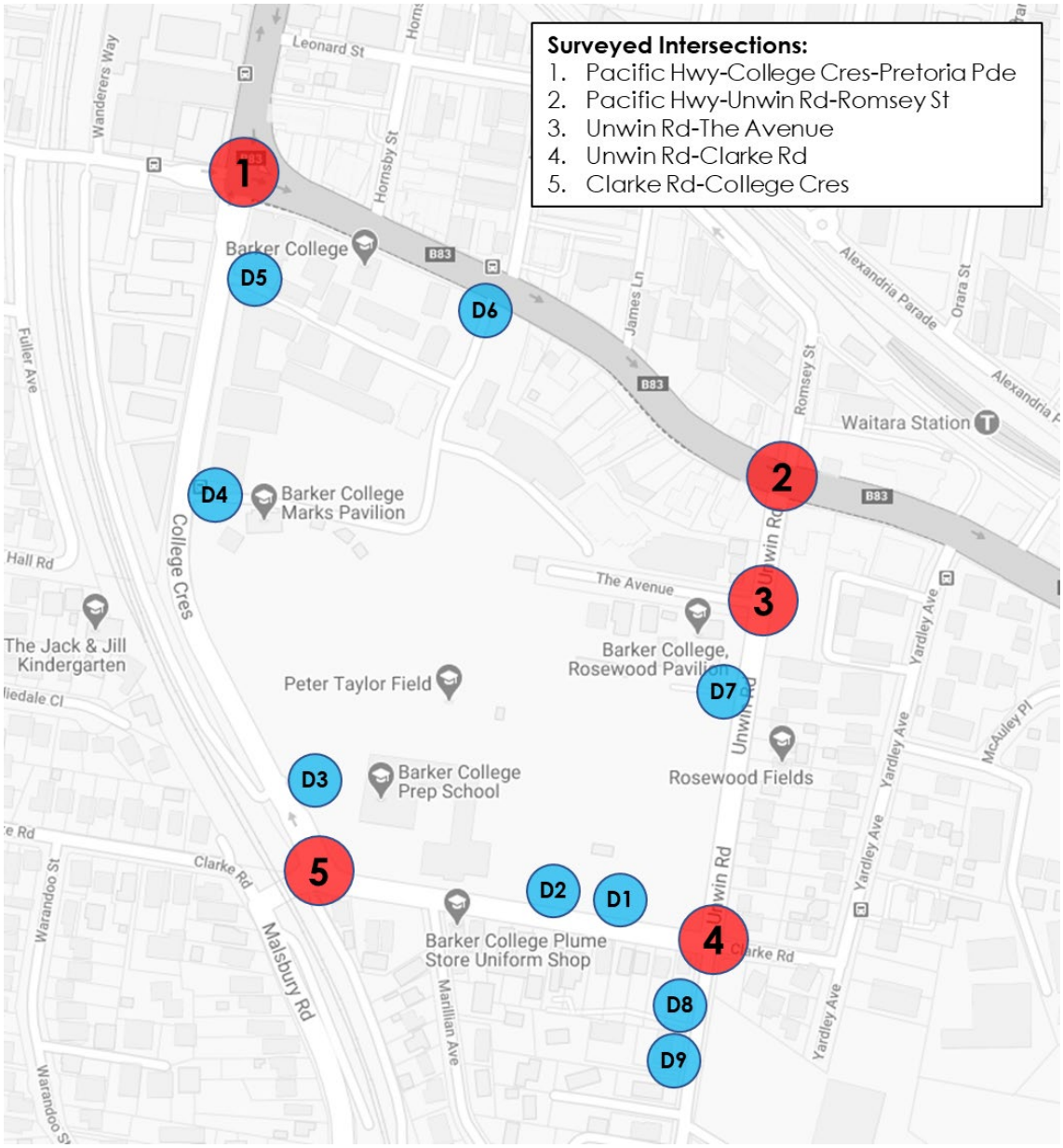
TTPP commissioned traffic count surveys on Thursday, 4th February 2021 (7am-10am, 2pm-6pm) and Saturday, 6th February 2021 (11am-3pm) at the existing site driveways and surrounding key intersections. The survey was undertaken during school Term 1.

The surveyed intersections are as follows:

- Intersection Counts
  - Pacific Highway – College Crescent – Pretoria Parade
  - Pacific Highway – Unwin Road – Romsey Street
  - Unwin Road – The Avenue
  - Unwin Road – Clarke Road
  - Clarke Road – College Crescent

The location of key intersections and driveways are shown in Figure 2.13.

Figure 2.13: Survey Locations



Map Source: Google Maps Australia

The network peak hours obtained from the intersection survey counts are identified as follows:

- Weekday AM: 7:45am to 8:45am
- Weekday PM: 2:45pm to 3:45pm
- Saturday: 12:30pm to 1:30pm

The existing peak hour traffic volumes are presented in Figure 2.14 to Figure 2.16, with the raw survey data provided Appendix A.

Figure 2.14: Existing AM Peak Traffic Volumes

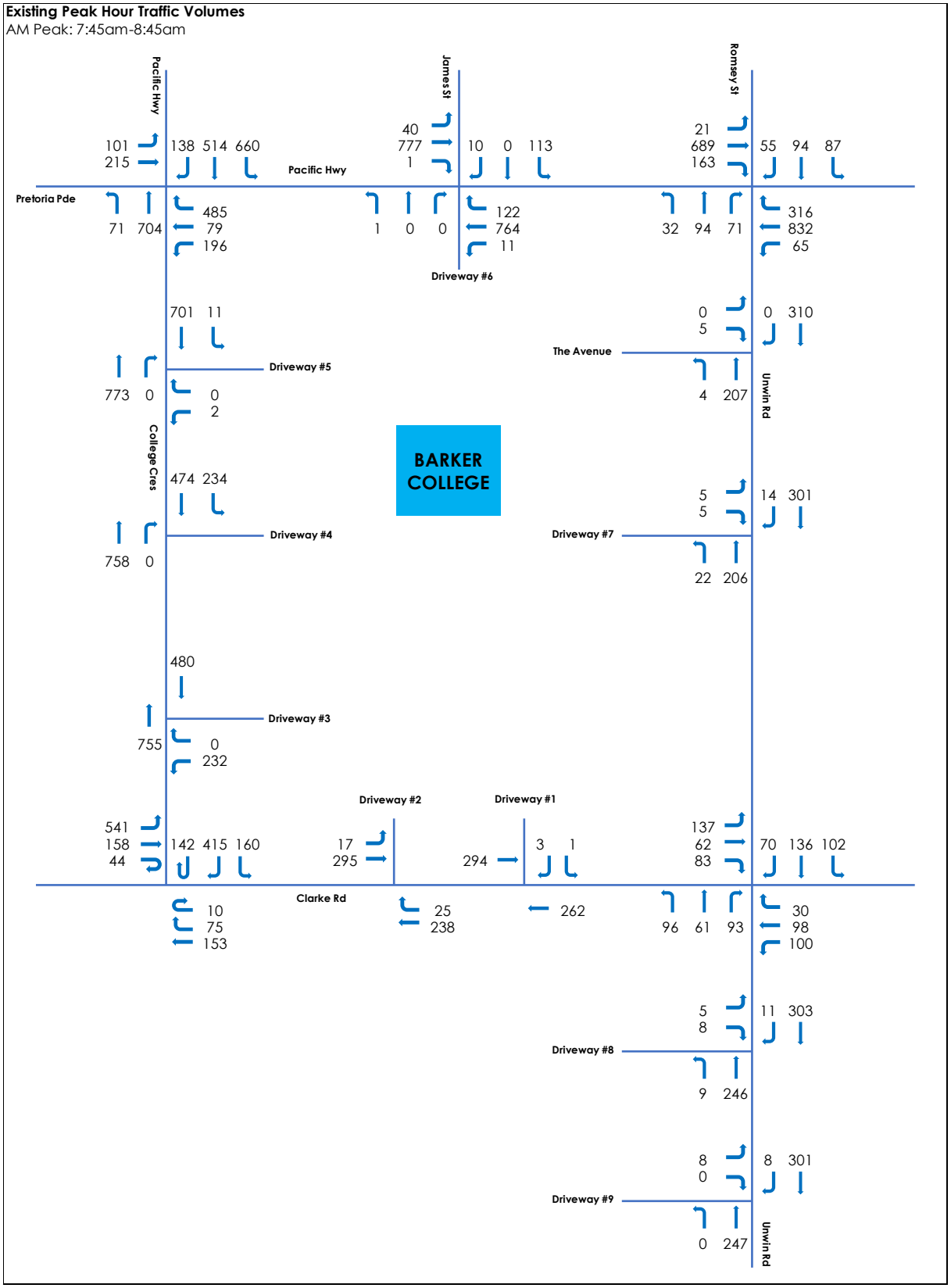


Figure 2.15: Existing PM Peak Traffic Volumes

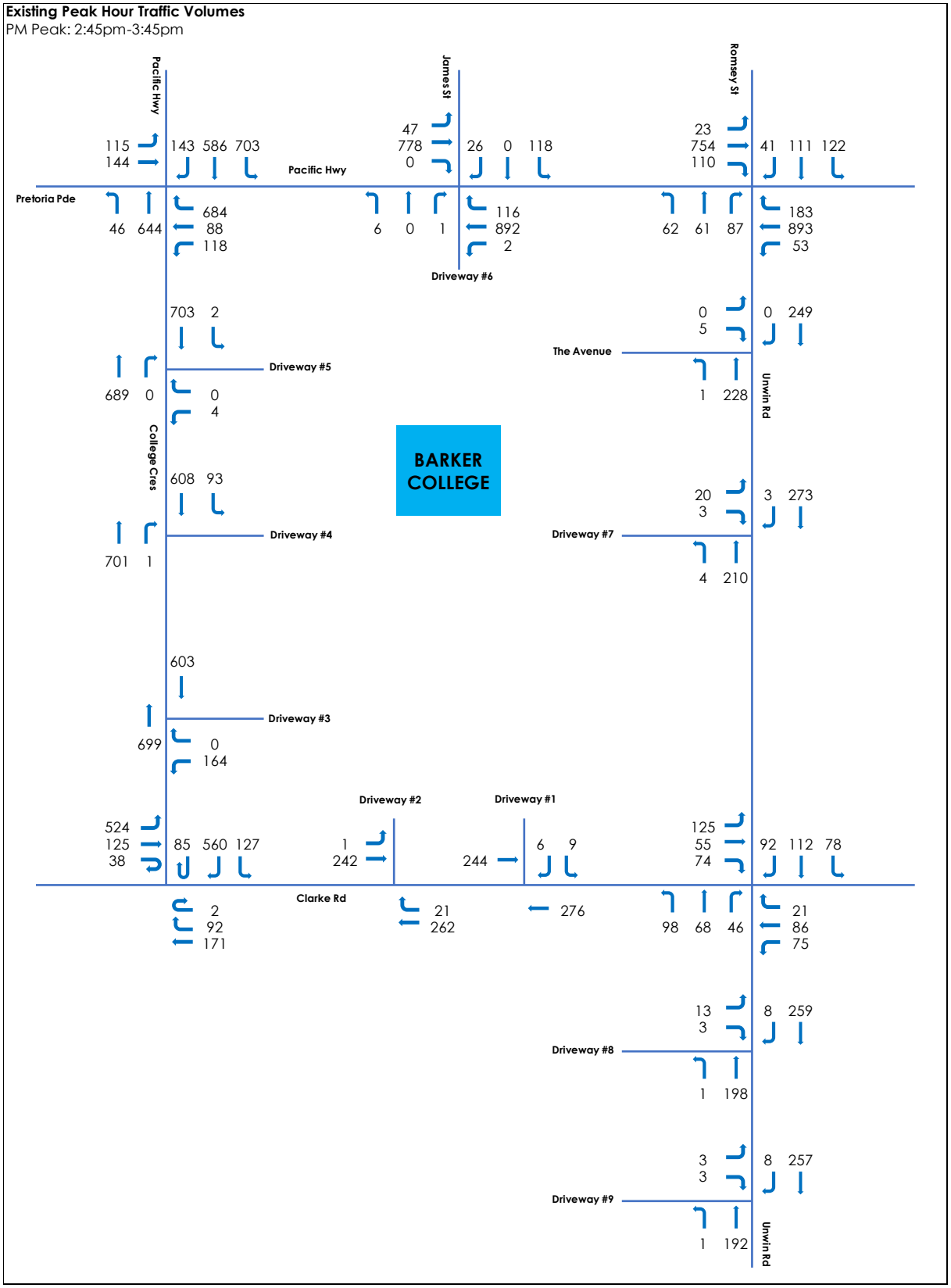
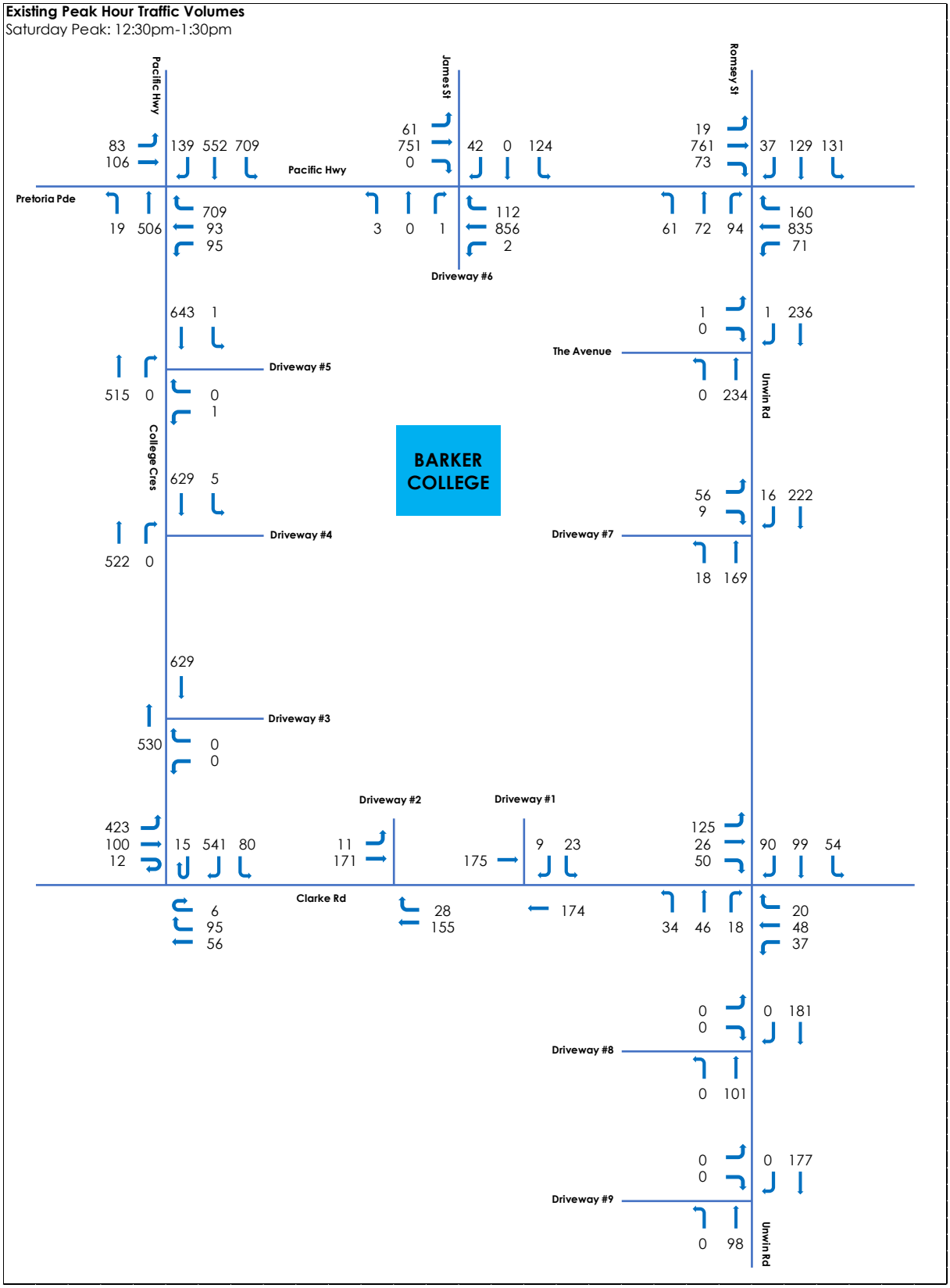


Figure 2.16: Existing Saturday Peak Traffic Volumes



2.10 Existing Intersection Performance

Intersection capacity analysis has been undertaken using SIDRA Intersection 9 modelling software to ascertain the intersection performance of the key intersections surrounding the site as outlined in Section 2.9.

2.10.1 Level of Service Criteria

Roads and Maritime Services uses level of service as a measure of performance for all intersection types operating under prevailing traffic conditions. The level of service ranges from LoS A to LoS F which is directly related to the average intersection delays experienced by traffic travelling through the intersection. LoS A to LoS D are considered to provide acceptable performance with LoS A providing better performance than LoS D. LoS D is the long-term desirable level of service. LoS E and LoS F are considered to provide unsatisfactory intersection performance.

At signalised intersections, the average delay is the volume weighted average of all movements. For roundabouts and priority (give way and stop sign) controlled intersections, the average delay relates to the worst movement.

Table 2.3 shows the criteria that SIDRA Intersection adopts in assessing the LoS.

Table 2.3: Roads and Maritime Services LoS Criteria

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

2.10.2 Existing Model Calibration

An existing traffic model has been developed using the peak hour traffic volumes presented in Figure 2.14 to Figure 2.16. The model is configured as a network to incorporate impacts of queue pushback from adjacent intersections and site access points.

Phase times obtained from site observation and survey videos have been used in developing the base models.

The models have been calibrated based on the observed traffic queue lengths on the survey date. Adjustments have been done on phase times, gap acceptance parameters and lane utilisation/capacity where necessary.

2.10.3 Modelling Results

A summary of the existing peak hour traffic modelling results is provided in Table 2.4.

Table 2.4: Existing Peak Hour Intersection Analysis Results

Intersection	Control	AM Peak (7:45am-8:45am)			PM Peak (2:45pm-3:45pm)			Saturday Peak (12:30pm-1:30pm)		
		Ave Delay (s)	LoS	95th %ile Queue Length (m)	Ave Delay (s)	LoS	95th %ile Queue Length (m)	Ave Delay (s)	LoS	95th %ile Queue Length (m)
Pacific Hwy-College Cres-Pretoria Pde	Signals	40	C	150	35	C	224	32	C	207
Pacific Hwy-Unwin Rd-Romsey St	Signals	47	D	180	39	C	184	39	C	166
Unwin Rd-The Avenue	Priority	6	A	90	6	A	0	5	A	0
Unwin Rd-Clarke Rd	Priority	14	A	16	12	A	10	10	A	4
Clarke Rd-College Cres	Roundabout	32	C	149	16	B	70	5	A	36

Sidra modelling results that the surrounding key intersections generally operate within their theoretical capacities during all modelled peak periods.

The exception is the intersection of Pacific Highway – Unwin Road, which is nearing capacity with a LoS D during the morning peak. Significant delays are experienced by northbound motorists along Unwin Road. Based on site observations, northbound queues sometimes extend up to Clarke Road in some instances, as shown in Figure 2.17.

SIDRA results of the morning peak model indicate that the northbound queues extend to south of The Avenue which is generally consistent with the observed traffic conditions.

Figure 2.17: Existing Northbound Queues on Unwin Road (AM Peak)

In addition, notable queueing has been observed along College Crescent, with southbound queues from the roundabout extending past Driveway #4 (i.e. entry driveway to drop-off/pick-up area) during the busiest periods. Figure 2.18 shows the observed queueing along College Crescent.

Although the queues on College Crescent southbound lane are long, it is a moving queue which reduces the delay of vehicles, resulting in an intersection performance of LoS C. On-site observations indicate that the vehicle queue dissipates within 30 minutes (i.e. after 8:30am) which is just after the morning school bell time.

Figure 2.18: Existing Southbound Queues on College Crescent (AM Peak)

2.11 Strategic Planning

The Hornsby Town Centre (Centre) Review project aims to develop a strategic framework to facilitate the revitalisation of the Hornsby Town Centre. This project involves strengthening of economic, employment and housing capacities of the Centre and enhancing and enhance its public domain, liveability, accessibility, safety, environmental sustainability and visual appeal through quality design and landscape outcomes.

The scope of this project is shown in Figure 2.19.

Technical studies and analysis for the project is currently being undertaken. As such, details of any proposed changes within the Centre is not yet known at this stage.

However, the overlying principles for the project include the following which may influence the traffic and transport operations of Barker College:

- Transport infrastructure that supports the vision in terms of well-located bus, train, commuter parking, cycling and pedestrian modes and linkages.
- Development over the rail line at a scale that supports the aspirations of the centre.
- A range of housing of high amenity at a variety of densities and scale to deliver greater housing diversity and housing choice, including affordable housing options.

Figure 2.19: Hornsby Town Centre Review Study Area

Map Source: Nearmap

3 Existing School Operations

3.1 Existing School Population

The existing school is approved for a population cap of 2,420 students and 339 Full Time Equivalent (FTE) staff.

3.2 School Hours

To assist with the traffic flow, the current school bell times are staggered. The existing school hours are presented below:

- Pre-K to Year 2: 8:25am to 2:45pm
- Years 3 to 6: 8:30am to 3:00pm
- Years 7 to 12: 8:20am to 3:20pm

3.3 Existing Public Transport Trip Management

There are two railway stations near the site; Waitara Station which is located approximately 450m east of the site and Hornsby station is around 800m away. Both stations provide frequent services.

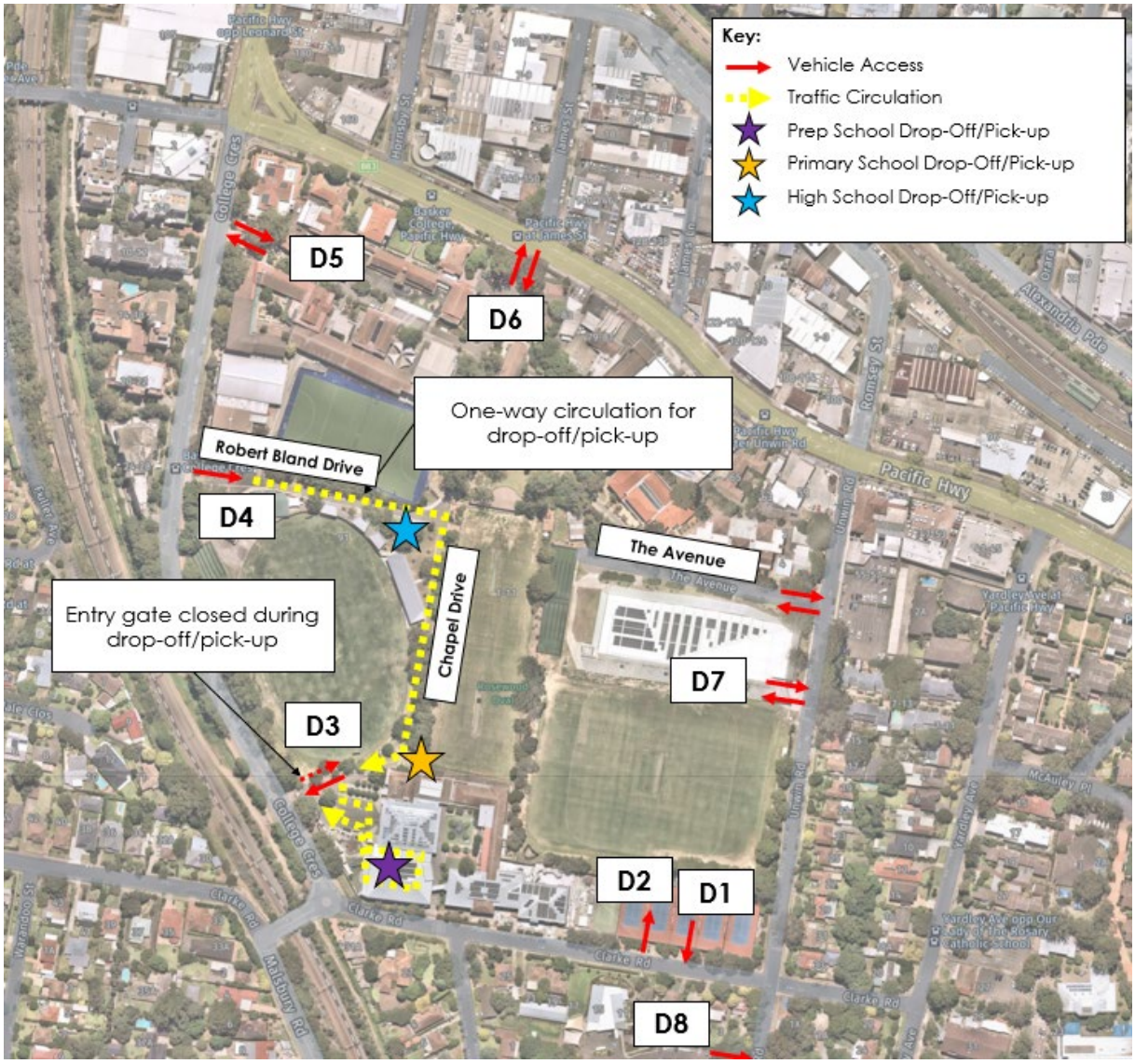
To distribute pedestrian movements and minimise patronage to either station, the school currently splits senior and junior year groups and directs them to different stations.

Pedestrian movements in and out of the school during the peaks is managed by staff positioned at the College Street and Unwin Street intersections at Pacific Highway, who are responsible for directing students to the correct station and ensuring students are crossing the signalised crossings safely.

3.4 Existing Vehicle Access Arrangements and Traffic Circulation

The existing site currently has ten vehicle access points which are located off College Crescent, Pacific Highway, Unwin Road, The Avenue and Clarke Road. The locations of existing vehicle access gates are shown in Figure 3.1.

Figure 3.1: Existing Vehicle Access and Circulation



The two driveways located off College Crescent provide access for school drop-off and pick-up activities. These driveways are marked as D3 (Centenary Gate) and D4 (Aquatic Gate) in Figure 3.1.

During the drop-off and pick-up times, the entry gate at driveway D3 is closed off, thus allowing only one-way circulation from D4 (entry) to D3 (exit).

The remaining driveways generally serve access to on-site parking areas which are mainly provided for staff use.

The driveway labelled D9 provides access to the dedicated Maintenance and Operations centre. This facility takes central deliveries for the campus, which are then distributed by school staff, as necessary.

During school drop-off and pick-up times, Robert Bland Drive/Chapel Drive is divided into two lanes, with one lane for primary and prep school drop-off/pick-up and one lane for high school drop-off/pick-up. Traffic cones are provided to separate the two circulation lanes, as shown in Figure 3.2.

Figure 3.2: Existing Drop-Off and Pick-up Arrangements

(View along Robert Bland Drive looking south)

On approach to the primary school drop off the two lanes merge into one lane due to the placement of a boom gate and associated infrastructure which reduces the available road width. The reduced width is shown in Figure 3.3. After the primary drop off the lanes diverge back into two lanes.

Figure 3.3: Approach to Primary School Drop Off

3.5 Observations on School Drop Off

A summary of site observations of existing School drop-off and pick-up arrangements is provided as follows:

- The staggered start times are helpful in spreading the peak over a longer period.
- The signage introduced at D4 (Aquatic Gate) helps manage the traffic flow and direct it to the correct lanes to either drop off or avoid the queued vehicles to reach the exit at Gate D3 (Centenary Gate)
- Parents arrive for the Pre-School drop off much earlier than the 8.25 opening. The queue for the Pre-School drop off is very long and can extend back as far as the Primary school drop off. This interferes with the operation of the primary drop off.
- The primary school drop off allows one to two students to be dropped off at a time.
- This turnover in the Pre-School drop off is relatively slow compared with many other schools. It was observed that one or maybe two cars dropped off children at the same time. Combined with the delay caused by queueing from the Pre-School the primary school drop off is slow. There appeared to be much more circulatory space in which children could be dropped off and walked to the doors. Allowing for a greater drop off area for vehicles, and more staff to assist in unloading cars, would be likely to result in a higher vehicle turnover resulting in less queueing.

- The senior school drop off appears to operate well with minimal queueing on-approach to the drop off area. However, vehicles experience significant delays in exiting the school due to queuing from the primary and pre-school drop off areas.
- Vehicles exiting on to Pacific Highway via Unwin Road are delayed due to a short green time at the signals and due to pedestrians crossing during the available green time.

3.6 On-Site Car Parking Provision

The site currently provides a total of 484 car parking spaces. On-site parking facilities are mainly for staff use. There are currently no student parking facilities located within the campus.

TTPP has commissioned a parking inventory and demand survey on Thursday, 4th February 2021 (7am-6pm) and on Saturday, 6th February 2021 (9am-5pm). During the survey, a total of 376 operational car parking spaces have been counted which is less than the existing parking supply numbers provided by the School.

The substantial difference between the supplied information and the surveyed data is because of the following:

- Junior School East parking (27 spaces) was excluded since there is an on-going construction during the survey period
- Kurrajong Preparatory parking (49 spaces) was not included as the car park is closed-off to facilitate drop-off and pick-up activities
- Science Centre, Stokesleigh, Clinic, 28 Unwin Road maintenance parking areas (36 spaces) were not included as these areas are mainly used by maintenance/servicing
- other minor inconsistencies in parking numbers (10 spaces across the school).

The existing car parking breakdown as provided by the school is outlined in Table 3.1.

Table 3.1: Existing Car Parking Provision

Car Park Location	Existing Car Park Supply
Stokesleigh (not included in survey)	1*
Clinic (not included in survey)	3*
Chapel Car Park	27
Chapel Drive	6
Rosewood Centre	159
Junior School East (non-operational during survey)	26*
Tennis	78
Barker Pre School off Unwin Road	44
28 Unwin Road Maintenance (not included in survey)	4*
Kurrajong Prep (non-operational during survey)	49*
Junior School West Pick-up/Drop-off	15
Multi Purpose Hall	24
Marks Pavilion	3
Gamson Centre	20
Science Centre (not included in survey)	28*
Total	**487**
Total (Available parking supply during survey)	**376**

**Parking supply excluded from calculations*

As shown in Table 3.1, a total of 376 car parking spaces were available for staff use at the time of the survey.

The existing utilisation of on-site parking obtained from the survey is presented in Figure 3.4 and Figure 3.5.

Figure 3.4: Existing On-Site Parking Occupancy (Thursday)

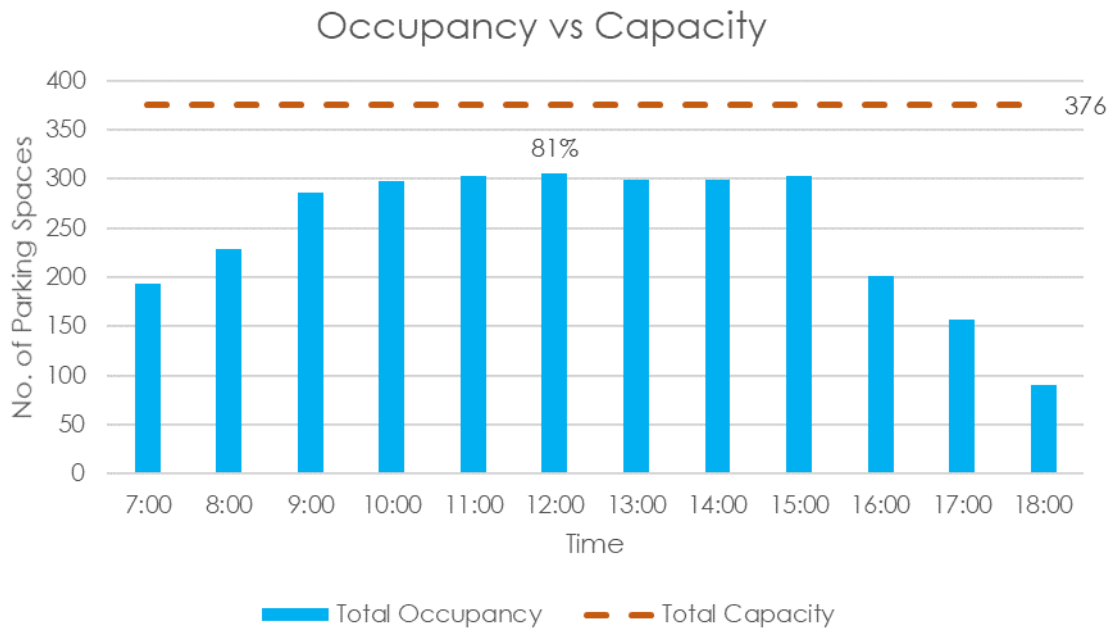
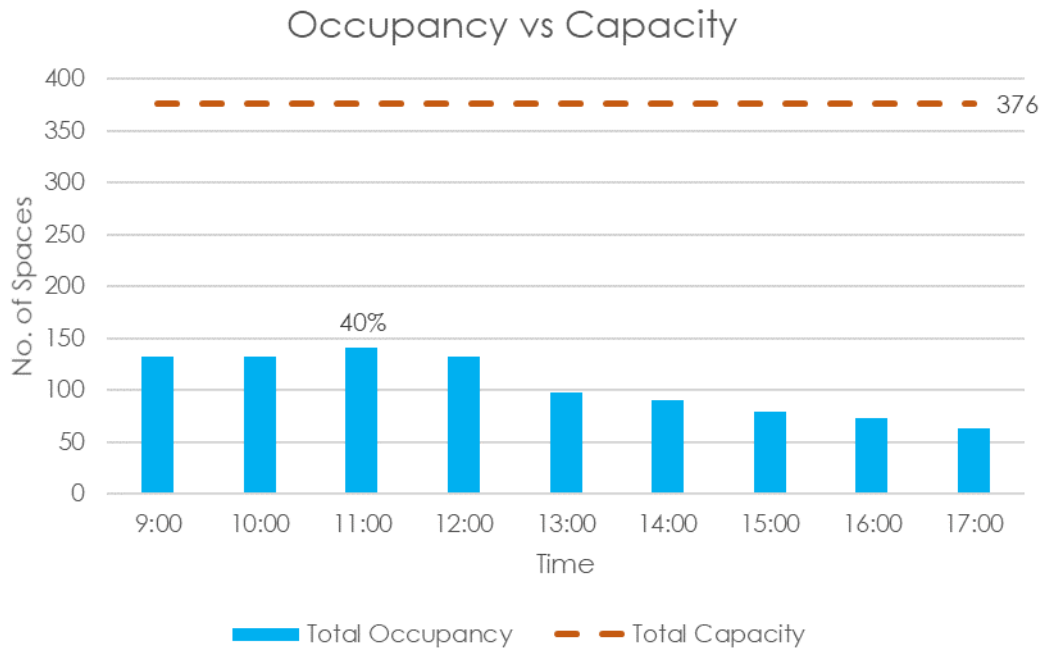


Figure 3.5: Existing On-Site Parking Occupancy (Saturday)



As shown in Figure 3.4, the on-site parking is highly utilised during the Thursday survey period. Approximately 81-85 percent of the total parking supply is occupied (306 spaces) during the busiest period (12pm-1pm). This translates to a vacancy of 70 car parking spaces.

On the contrary, lower parking utilisation has been observed from the Saturday survey results. Based on Figure 3.5, the highest parking demand is recorded from 11am-12pm, with approximately 38-percent of parking spaces occupied, with 235 spare car parking capacity.

4 Existing Travel Conditions

4.1 Travel Questionnaires

Online questionnaires were distributed to school staff and students to determine their existing travel behaviours to/from the school. A total of 1,181 responses were received from students and 276 from staff.

The ratio of completed surveys in relation to the existing school population is summarised in Table 4.1.

Table 4.1: Survey Response Rates

Group	Existing Population	No. of Survey Responses	Ratio of Survey Completion
Junior Students (K to Y6)	636	325	51%
Secondary Students (Year 7 to 12)	1,956	856	44%
Staff	506	276	55%

The sample size obtained from the survey is considered adequate for this study.

4.2 Existing Travel Mode Split

A summary of existing staff and student travel modes obtained from the survey results is provided in Table 4.2.

Table 4.2: Summary of Existing Staff and Student Travel Modes

Travel Mode	Arrival (AM)			Departure (PM)		
	Junior Students (K-Y6)	Secondary Students (Y7-12)	Staff	Junior Students (K-Y6)	Secondary Students (Y7-12)	Staff
Dropped off/Picked up by car (only passenger)	22%	11%	1%	23%	8%	1%
Dropped off/Picked up by car (with other students/staff)	36%	13%	0%	31%	6%	0%
Car driver	0%	2%	91%	1%	2%	91%
Carpool (with other students/staff)	5%	1%	0%	4%	1%	0%
Walk Only	4%	3%	4%	6%	4%	4%
Public Bus	2%	7%	1%	2%	9%	1%
School Bus	12%	8%	0%	7%	7%	0%
Train	15%	41%	2%	20%	44%	2%
Train and Bus	5%	15%	0%	5%	20%	0%
Cycle/ Scooter/ Skateboard	0%	0%	1%	0%	0%	1%
Motorcycle	0%	0%	0%	0%	0%	0%
TOTAL	**100%**	**100%**	**100%**	0%	**100%**	**100%**

The results indicate a high dependency on car usage for staff (91%). Most secondary students travel to/from school by public transport/walking (74%-84%). Most junior students travel by car (63%)

Additionally, none of the student respondents cycle to/from school and only 1% of staff travel to/from school using a bicycle.

4.3 Existing Trip Generation per Travel Mode

Based on the mode shares presented in Table 4.2 and the existing population numbers in Table 4.1, the existing student and staff trips for each travel mode have been estimated and detailed in Table 4.3.

Table 4.3: Estimated Existing Trips per Travel Mode

Travel Mode	Arrival (AM)			Departure (PM)		
	Junior Students (K-Y6) 636 students	Secondary Students (Y7-12) 1,956 students	Staff 506 staff	Junior Students (K-Y6) 636 students	Secondary Students (Y7-12) 1,956 students	Staff 506 staff
Dropped off/Picked up by car (only passenger)	142	212	3	145	148	3
Dropped off/Picked up by car (with other students/staff)	224	247	0	196	125	0
Car driver	0	32	424	4	30	424
Carpool (with other students/staff)	28	21	2	26	18	2
Walk Only	22	58	19	37	76	19
Public Bus	17	138	3	14	183	3
School Bus	74	159	2	49	134	2
Train	96	798	10	131	858	10
Train and Bus	33	286	0	33	384	0
Cycle/ Scooter/ Skateboard	0	5	3	0	0	3
Motorcycle	0	0	2	0	0	2
TOTAL	**636**	**1,956**	**466**	**635**	**1,956**	**466**

4.4 Vehicle Arrival and Departure Patterns by Car

Further to the above, car drivers and car passengers were asked what their usual arrival and departure times were to/from the school.

Figure 4.1 shows the existing arrival and departure patterns of students and staff who travel by car.

Figure 4.1: Vehicle Arrival Patterns

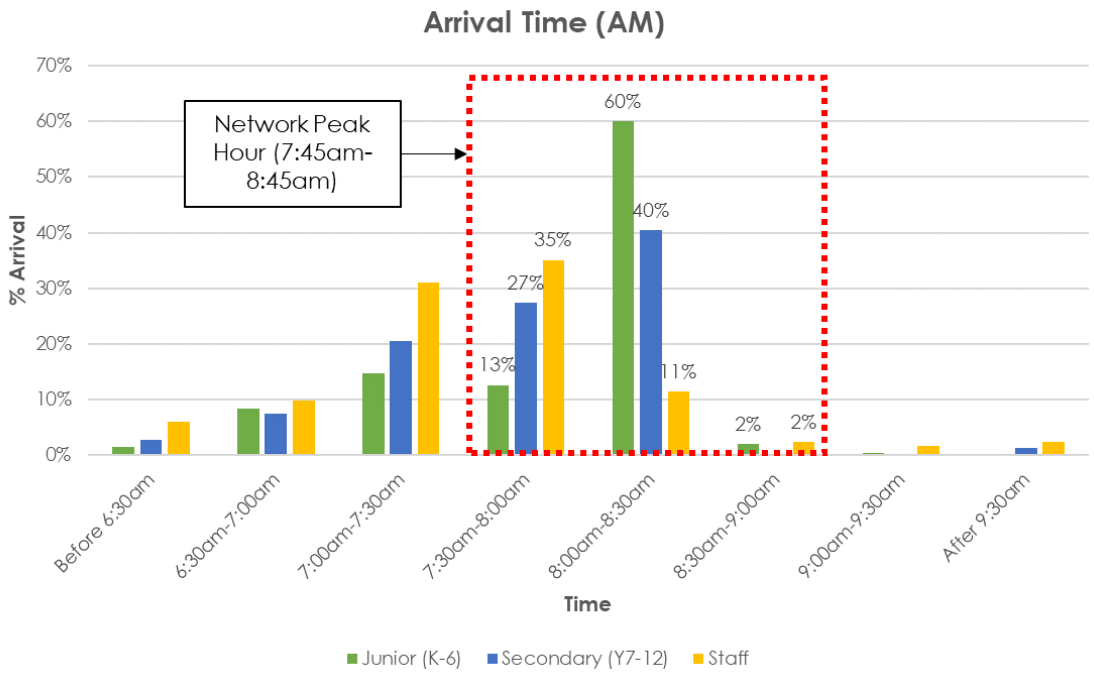


Figure 4.2: Vehicle Departure Patterns

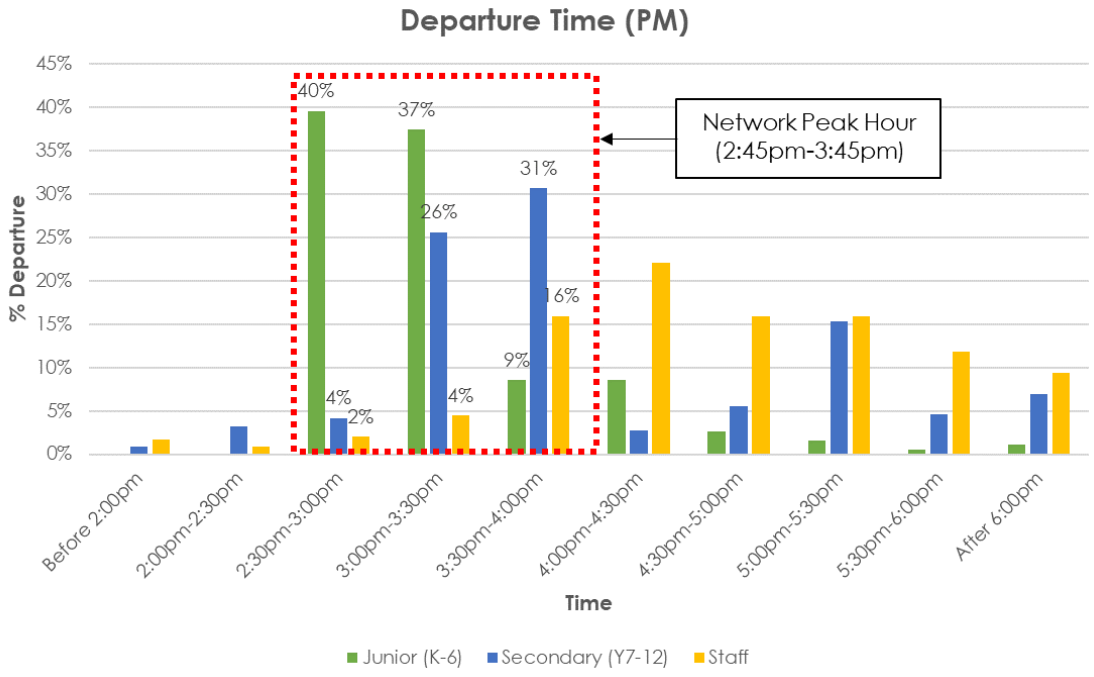


Table 4.4 indicates the proportions of vehicles which arrive and depart during the network peak hour (i.e. 7:45am-8:45am and 2:45pm-3:45pm).

It is noted that the time periods from travel questionnaire surveys are grouped into 30-minute period. For a conservative assessment, the percentage of arrival and departure within three 30-minute periods which cover the network peak hours have been included in this assessment.

Table 4.4: Peak Hour Vehicle Generation Proportions

Group	Arrival	Departure
Junior Students (K-Y6)	75%	86%
Secondary Students (Y7-12)	68%	60%
Staff	49%	22%

The results indicate that majority of the junior students (75%-86%) arrive and depart during the network peak hour. Car trips by secondary students are more staggered with 60%-68% arriving and leaving the site during peak periods. On the other hand, only 22%-49% of the staff arrive/depart during these time periods.

4.5 Car Occupancy

Based on the travel survey questionnaire results, the average car occupancy numbers of the existing school are as follows:

Table 4.5: No. of Student/Staff per Vehicle

Travel Mode	Arrival (AM)			Departure (PM)		
	Junior Students (K-Y6)	Secondary Students (Y7-12)	Staff	Junior Students (K-Y6)	Secondary Students (Y7-12)	Staff
Car Passenger	1.77	1.60	1.00	1.71	1.53	1.00
Car Driver	-	2.29	1.09	-	2.23	1.09

Note: The calculation for the above car occupancy values does not include car drivers and passengers who are not students or school staff (e.g. parents, guardians).

4.6 Existing Peak Hour Trip Generation Rate

In terms of vehicle trip rates, it should be noted that given the complexities of parking patterns of schools, it would be difficult to capture all vehicle trips to/from the schools as students, parents and staff tend to park at various locations over an extensive area. As such, the vehicle trips and associated trip rate has been estimated based on travel survey data obtained from the questionnaire survey.

On this basis, Table 4.6 presents a summary of the estimated peak hour traffic generation estimate of the school.

Table 4.6: Existing Trip Generation Rate Estimate

		Arrival (AM)			Departure (PM)		
		Junior Students (K-Y6)	Secondary Students (Y7-12)	Staff	Junior Students (K-Y6)	Secondary Students (Y7-12)	Staff
Total Survey Responses		323	848	275	321	846	275
No. of Survey Responses	Car Passenger	202	208	3	189	126	3
	Car Driver	0	14	249	2	13	249
Car Occupancy Rate	Car Passenger	1.77	1.60	1.00	1.71	1.53	1.00
	Car Driver	-	2.29	1.09	-	2.23	1.09
Estimated Trips per Mode	Car Passenger	114	130	3	110	83	3
	Car Driver	0	1	229	0	1	229
Estimated No. of Car Trips	Total car trips (one-way)	114	131	232	110	83	232
	Total car trips (two-way)	228	260	235	220	166	235
Peak Hour Car Trips	Peak hour %	75%	68%	49%	86%	60%	22%
	Peak hour car trips (two-way)	170	177	115	189	100	53
Peak Hour Vehicle Trips per student/staff		**0.53**	**0.21**	**0.42* 0.39****	**0.42* 0.39****	**0.10**	**0.19* 0.18****

**vehicles per staff headcount*
**vehicles per staff FTE*

In summary, the estimated peak hour vehicle trip generation of the existing school has been estimated as follows:

- AM Peak (7:45am-8:45am)
  - Junior Students (K-Y6) = 0.53 vehicle trips per student
  - Secondary Students (Y7-12) = 0.21 vehicle trips per student
  - Staff = 0.42 vehicle trips per staff (headcount) or 0.38 vehicle trips per staff (FTE)
- PM Peak (2:45pm-3:45pm)
  - Junior Students (K-Y6) = 0.59 vehicle trips per student
  - Secondary Students (Y7-12) = 0.10 vehicle trips per student
  - Staff = 0.19vehicle trips per staff (headcount) or 0.18 vehicle trips per staff (FTE)

4.7 Roads and Maritime Traffic Generation Studies at Schools (2014)

Roads and Maritime Services has collected recent traffic generation data from schools across NSW. A total of 22 schools were surveyed over a typical school day, including metropolitan primary and secondary schools.

Surveyed primary schools with population less than 1,000 students and secondary schools with population less than 2,000 students which are located within Sydney region have been considered as benchmark sites. Average trip generation rates from these schools have been obtained to compare the estimated Barker College trip generation rates.

Table 4.7: Comparison Vehicle Trip Generation – Primary School

Primary School	Student Population	AM Trip Rate	PM Trip Rate
Dapto Public School	615	1.19	1.09
Grays Point Public School	383	0.43	0.14
Kurnell Public School	215	0.60	0.32
St Kevin's Catholic Primary School	136	0.92	0.68
Woronora River Public School	115	0.75	0.98
Average RMS Schools		**0.78**	**0.64**
Barker College	636	**0.53**	**0.59**

Table 4.8: Comparison Vehicle Trip Generation – Secondary School

Primary School	Student Population	AM Trip Rate	PM Trip Rate
Dapto Public School	1,093	0.54	0.23
Grays Point Public School	1,128	0.72	0.16
Kurnell Public School	1,150	0.22	0.11
St Kevin's Catholic Primary School	1,250	0.16	0.15
Woronora River Public School	1,070	0.23	0.25
Average RMS Schools		0.37	0.18
Barker College	**1,956**	**0.21**	**0.10**

Table 4.7 and Table 4.8 indicate that the estimated trip generation of the existing school is less than the rates obtained from the comparable Roads and Maritime study sites.

5 Proposed Development

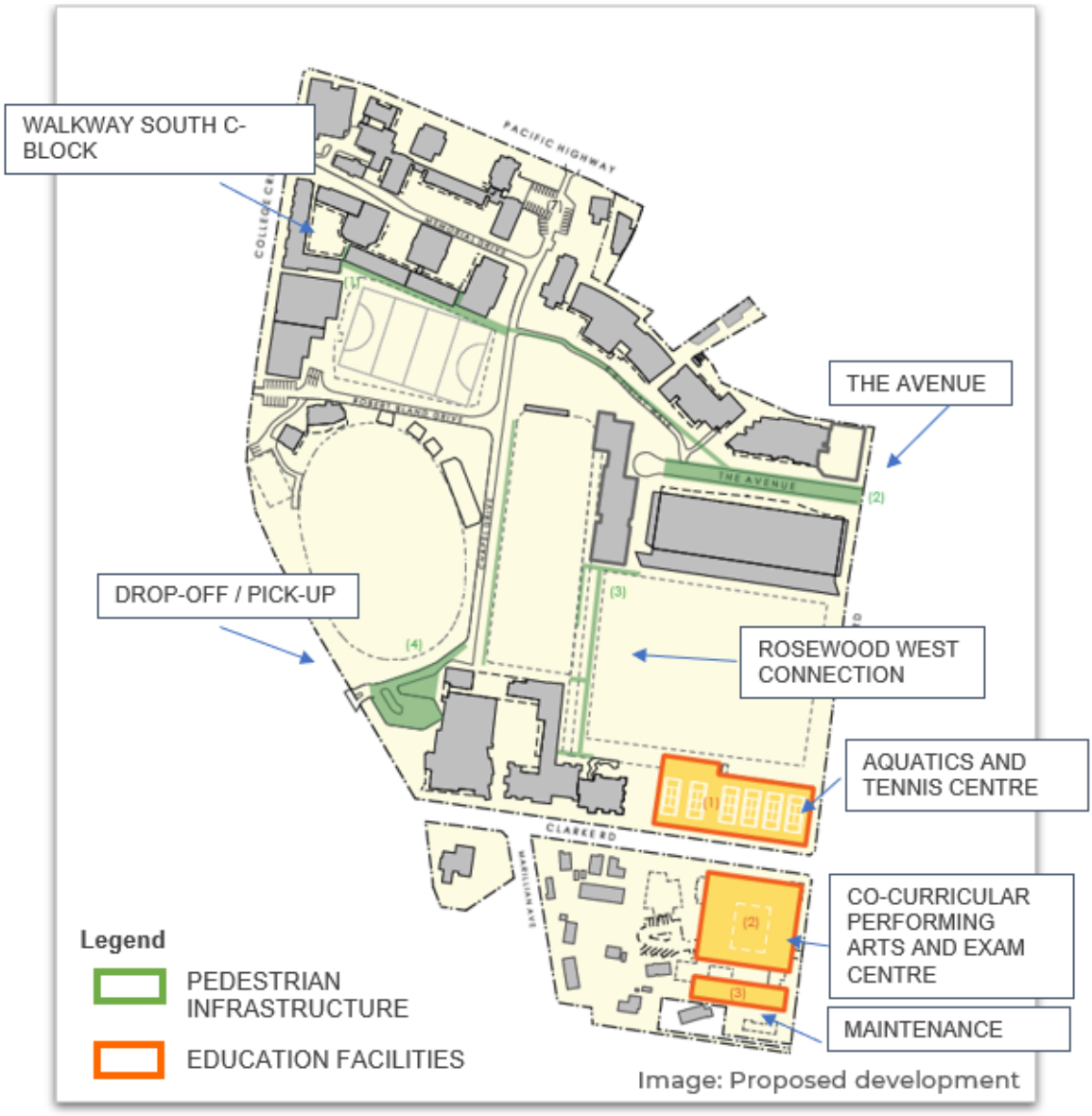
5.1 Overview of Proposed Development

The proposed redevelopment of Barker College is to be undertaken in stages involving:

- Stage 1 – Pedestrian Infrastructure Improvements
  - Improvements to the circulation arrangements for pick-up and drop-off.
  - Redevelopment of The Avenue into a public domain space improving pedestrian amenity and priority.
  - New walkway along the western side of Rosewood Field creating a new path between the Rosewood Centre and the Junior School and Tennis Courts.
  - New footpath along the eastern side of Chapel Drive that also forms as an additional drop off/ pick up area for students.
  - New covered walkway south of C-Block.
  - New pedestrian entry from Pacific Highway to the Kurrajong walk.
- Stage 2 – Development of a new Performing Arts Centre at 3-7 Unwin Road.
  - The existing at-grade car park (with 44 spaces) is to be replaced with a basement car park (with 90 car spaces).
  - Access is to be obtained off Unwin Road as per existing conditions.
- Stage 3 – Redevelopment of the Clarke Street Tennis Courts into a new Aquatics and Tennis Centre
  - The existing car park (with 78 spaces) and tennis courts is to be removed and replaced.
  - The new car park would have 32 car spaces and would be accessed off Clarke Street as per existing conditions.

The redeveloped areas are shown in Figure 5.1.

Figure 5.1: Masterplan Overview



5.2 Future School Population

The proposal also seeks to increase the number of students and staff. The anticipated increase in school population is summarised in Table 5.1.

Table 5.1: Future School Population (Year 2026)

Group	Future Population	Net from Existing
Students		
Junior Students (K-Y6)	731	+95
Secondary Students (Y7-12)	2119	+163
Student Sub-total	**2850**	**+258**
Staff (FTE)		
Teachers	262.3	+10
Non-teachers	218	+2.1
Staff Sub-total	**480.3**	**+12.1**
Staff (headcount)		
Teachers	278	+10
Non-teachers	243	+5
Staff Sub-total	**521**	**+15**

5.3 Proposed Parking Provision

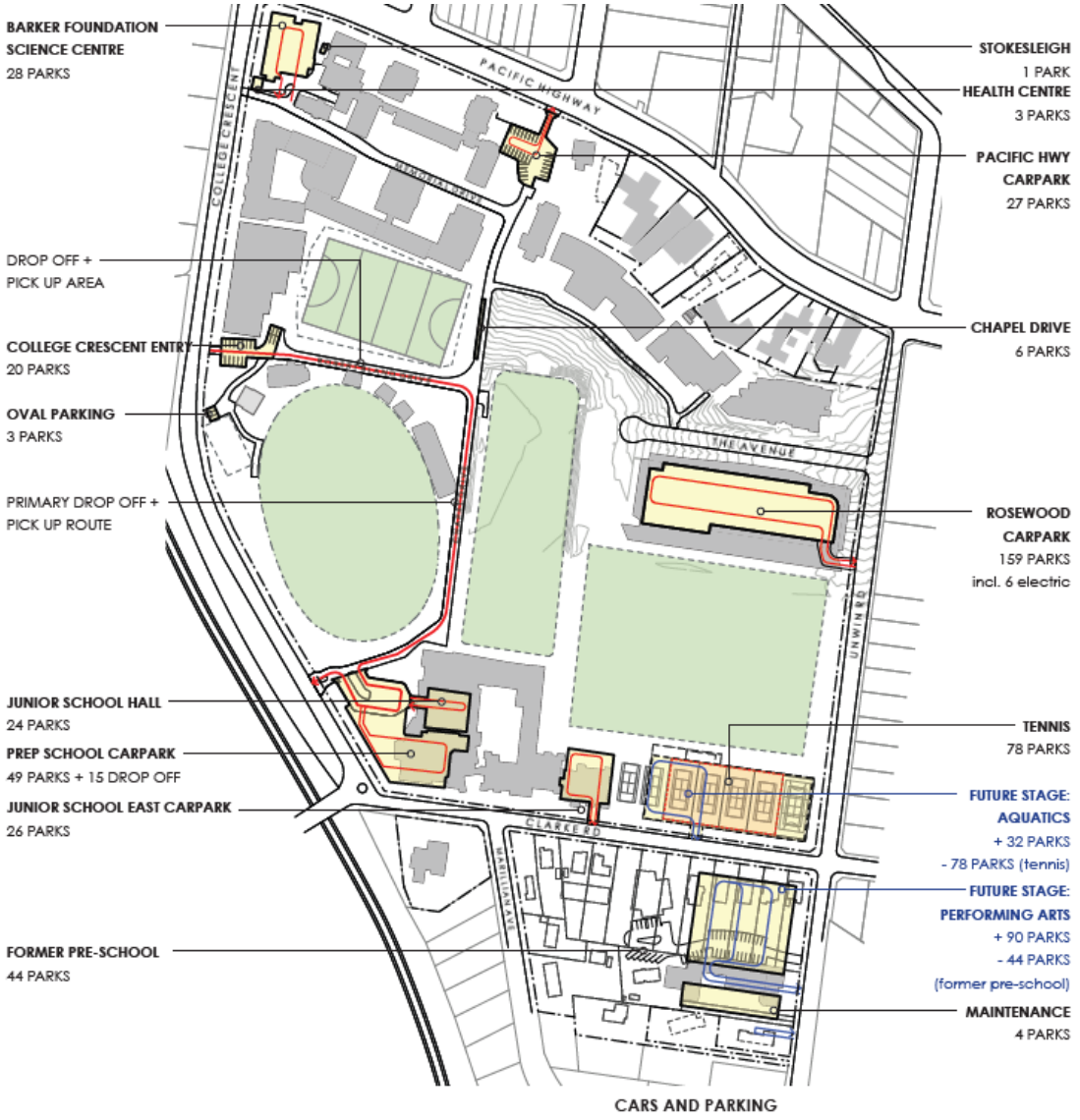
The proposed redevelopment will involve the removal of the existing tennis courts and the Pre School accessed off Unwin Road and their associated car parking. These two sites would be replaced by new buildings and car parking. The ultimate car parking provision on-site is to be retained as per the existing supply i.e. 487 spaces. The car parking supply per development stage is summarised in Table 5.2.

Table 5.2: Proposed Car Parking Provision

Car Park Location	Existing Supply	Stage 1 Supply	Stage 2 Supply	Stage 3 Supply
Stokesleigh	1	1	1	1
Clinic	3	3	3	3
Chapel Car Park	27	27	27	27
Chapel Drive	6	6	6	6
Rosewood Centre	159	159	159	159
Junior School East	26	26	26	26
Tennis	78	78	78	0
Barker Pre School off Unwin Road	44	44	0	0
28 Unwin Road Maintenance	4	4	4	4
Kurrajong Prep	49	49	49	49
Junior School West Pick-up/Drop-off	15	15	15	15
Multi Purpose Hall	24	24	24	24
Marks Pavilion	3	3	3	3
Gamson Centre	20	20	20	20
Science Centre	28	28	28	28
Stage 2 Performing Arts Centre	0	0	90	90
Stage 3 Aquatics & Tennis	0	0	0	32
Total	**487**	**487**	**533**	**487**

The existing and proposed changes are shown figuratively in Figure 5.2.

Figure 5.2: Proposed Car Parking Locations



5.4 Improvements to Drop-off and Pick-up Arrangements

Stage 1 of the development includes improvements to the existing drop off and pick up arrangements with an aim to remove some of the bottle necks that are currently present and subsequently, improve the efficiency of on-site circulation.

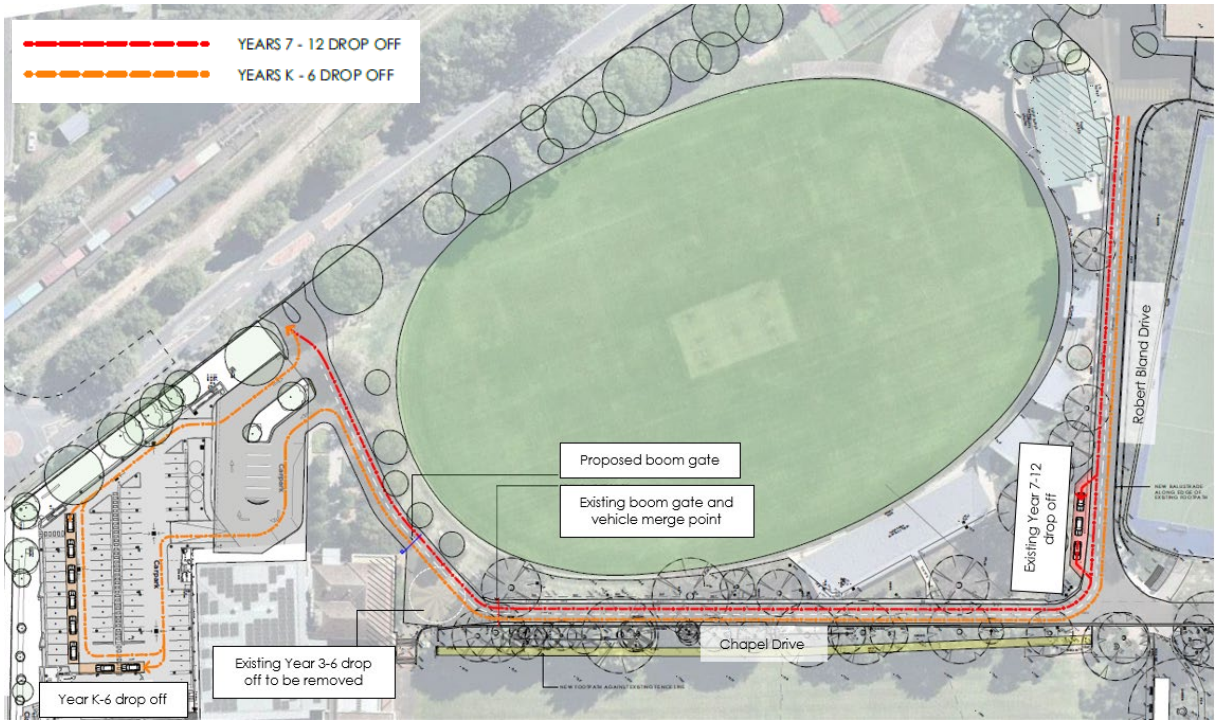
The bottle necks addressed as part of the works include:

- Relocation of the boom gate on approach to the primary drop off to enable two traffic lanes past the primary drop off and prevent the need for approaching traffic to merge into one lane. The resulting arrangement will reduce delay and improve traffic flow for Years 7 to 12 which have a separate lane of traffic.

- Enforce a one-way circulatory flow for Years K to 6, that is separate from the Year 7 to 12 flow. Primary school (years 3 to 6) traffic will continue through the pre-school car park and past the drop off area to prevent Years 3 to 6 from merging with Years 7 to 12 and thereby, minimise the number of merge points prior the exit.
- The proposed arrangement will result in two ultimate lanes of traffic which will merge at the exit point to College Crescent.

The proposed circulation is shown in Figure 5.3.

Figure 5.3: Proposed Circulation



While traffic flow internal to the site would be more efficient, delays would be present on exit with traffic requiring giving way to through traffic along College Crescent.

However, by ensuring that the site traffic is operating efficiently and smoothly, the overall vehicle delay from entry to exit would reduce and reduce the queue lengths. The proposed arrangements aims to ensure that site traffic queues are retained on-site and off the roads.

It is noted that the pre-school car park (not operational during the survey) will be reinstated post development, with parking spaces to be allocated to staff who would be instructed to arrive and depart outside of pick-up and drop-off periods. This would enable the pre-school car park aisle to be used for drop off and circulation as per Figure 5.3.

In addition to the above, the proposed management strategies are to be investigated:

- Opening the school gates earlier to enable parents who arrive early, to park/ queue on-site rather than on-street

- Further staggering school starting and finishing times. As noted in Section 3.2, there is a 5-minute stagger between the start times of Year K-2, 3-6 and 7-12. Consideration will be given to further staggering the junior school years which generate greater traffic.
- For the pick-up period, place student's name plates on car windows, to allow staff to position the relevant student at the pick-up point, for efficient pick up and flow.

6 Parking Assessment

6.1 Car Parking Requirements

The car parking requirements of the school have been assessed based on the following methods:

- Method 1: Parking requirements using Council DCP rates
- Method 2: Parking demand based on parking survey results (See Section 3.5)
- Method 3: Parking demand based on travel questionnaire survey results (See Section 4.2)

6.1.1 Method 1: Hornsby Council Development Control Plan

Hornsby Council DCP stipulates the following parking rates for educational establishments:

- 1 space per full time teacher
- 1 space per 2 students of driving age

Based on the existing population of 252 teaching staff (FTE) and 330 Year 11-12 students, the existing school requires a total of 417 spaces.

Therefore, the existing operational on-site parking supply of 376 spaces has a shortfall of 41 spaces from the DCP requirement.

However, if the parking supply at Junior School East and Kurrajong Preparatory parking areas, which are currently non-operational, are included, the total parking supply of 452 spaces satisfies the DCP requirements.

6.1.2 Method 2: Parking Demand from Parking Survey Results

As discussed in Section 3.5, there are 306 out of 376 operational parking spaces occupied during the busiest period which translates to a vacancy of 70 car parking spaces.

Based on the existing population of 468.2 staff (FTE), the existing on-site parking demand is estimated to be **0.65 parking spaces per staff** (FTE).

6.1.3 Method 3: Parking Demand from Travel Mode Survey Results

Table 4.2 indicates that a total of 91% of the staff travel to the school by car, comprising 79% of car drivers parking on-site and 12% parking on nearby streets.

Using these proportions, it is estimated that a total of 458 staff currently drive to school which results to an existing shortfall of 82 car parking spaces from the total operational parking supply of 376 spaces.

This could explain why some staff (12%) prefer to park outside the school even though the existing parking survey results suggest that there are vacant spaces on-site. It is noted that the on-site parking areas within the school are spread among numerous locations which could be time-consuming for staff to find available parking spaces. Therefore, it may be more convenient for some staff to park on surrounding streets.

6.1.4 Summary of Car Parking Requirements

The above methods have also been applied to estimate the future parking requirement of the school.

Table 6.1 provides a summary of parking requirements using the above methodologies.

Table 6.1: Summary of Car Parking Requirements

	Parking rate	Existing	Future	Net	Parking Supply Excess/Shortfall	
					Existing	Future
Provisions						
Population	-	506 staff (headcount) 252 staff teacher (FTE) 330 student of driving age	521 staff (headcount) 262 staff teacher (FTE) 330 student of driving age	+15 staff (headcount) +10 staff teacher (FTE) +0 student of driving age	-	-
Parking Supply (Operational)	-	376 [1]	487	+111		
Parking Requirements						
Opt1: DCP Rates	1 space per full time teacher + 1 space per 2 students of driving age	417 car spaces	427 car spaces	+10 car spaces	-41	+60
Opt2: Parking Demand from parking survey	0.69 space per staff (headcount)	306 car spaces	314 car spaces	+7 car spaces	+70	+173
Opt3: Parking Demand from travel mode survey	91% of staff (headcount)	458 car spaces	472 car spaces	+14 car spaces	-82	+15

[1] The operation supply refers to the parking available on the day of the survey. The non-operational car parks are anticipated to be reinstated in the future.

Table 6.1 indicates that the proposed development requires 427 spaces based on the DCP rates or 314-472 spaces based on TTPP's survey of existing operations.

The site currently accommodates 487 spaces including parking that was unavailable at the time of the survey. Allowing for these spaces to be reinstated, the site has sufficient parking to accommodate existing and proposed parking requirements.

6.2 Accessible Parking Requirements

The Building Code of Australia (BCA) require accessible car parking spaces to be provided for school developments at a rate of one space for every 100 car parking spaces or part thereof.

No increases to car parking is proposed on-site.

However, with consideration for the redeveloped car parks, it is considered that the 90 space Performing Arts Centre car park and the 32 space Tennis Court car park would be required one accessible space each.

The Hornsby Council DCP specifies accessible parking rates for educational establishments at 2-3% of proposed car parking spaces. Based on this rate, 2-3 accessible spaces are required are required for the Performing Arts Centre and one space for the Tennis Court car park.

It is proposed to provide two accessible spaces within the Performing Arts Centre and one space within the Tennis Court, which complies with BCA and DCP requirements.

6.3 Bicycle Parking Requirements

The bicycle parking requirements for the proposed development has been assessed in accordance with Council's DCP and is outlined in Table 6.2.

Table 6.2: Bicycle Parking Requirements

Land Use	Size	DCP Rate	Requirement
Educational Establishments	Est. 6 Y5-12 classes	5 racks per class (between grades 5 and 12)	30 spaces
	480 Staff FTE	1 rack per 20 full-time staff or part thereof	24 spaces

It is estimated that the proposed increase in students would result in an increase in six student classes. On this basis, a total of 54 bicycle parking spaces is required.

The existing school currently includes bicycle parking provision. As part of the Green Travel Plan (GTP) initiatives, it is proposed to monitor the parking demand of the existing provision and increase the bike parking supply on-site as the parking demand increases. The aim of the GTP is to ensure there is a minimum 20% float in the supply of bike parking compared to the demand, to ensure that staff and students are encouraged to cycle.

6.3.1 End of Trip Requirements

Additional end-of-trip bicycle facilities for the proposed development has been assessed in accordance with Council's DCP.

Table 6.3: End-of Trip Bicycle Facilities

Land Use	Size	DCP Rate	Requirement
Educational Establishments	24 Staff Bicycle Racks	1 locker per 3 staff bicycle racks	8 lockers
		1 shower cubicle with ancillary change rooms for every 10 bicycle racks	2 shower cubicles

It is understood that that several lockers, change rooms and showers are available throughout the school.

6.4 Motorcycle Parking Requirements

The DCP specifies motorcycle parking requirements for all buildings that provide on-site parking at the rate of 1 motorcycle space per 50 car parking spaces.

Additional car parking is not proposed to the site.

However, with consideration for the redeveloped car parking (equating to 122 new spaces), 2-3 motorbike spaces is required based on the above rate.

7 Traffic Assessment

This section outlines the traffic assessment associated with the proposed development in future stages. For a conservative assessment, the additional traffic associated with the proposed development has been estimated assuming that there would be no modal shift away from car (or other mode).

It is however noted that travel demand strategies are proposed to be implemented at the school, as detailed in Section 9 and Green Travel Plan, which aim to influence the way people move to/from the school to encourage sustainable travel and reduce traffic and parking impacts within communities. Such measures could facilitate a modal shift away from car and an increased uptake in more sustainable transport options.

7.1 Traffic Generation

By applying the vehicle trip generation rates in Table 4.6, the net additional peak hour traffic associated with the proposed development is estimated in Table 7.1.

Table 7.1: Additional Peak Hour School Traffic Generation Estimate

Group	Net Increase in Population	AM Trip Rate	PM Trip Rate	AM Peak Trips (veh/hr)			PM Peak Trips (veh/hr)		
				In	Out	Two Way	In	Out	Two Way
Junior Students (K-Y6)	+72	0.53	0.59	19	19	38	21	21	42
Secondary Students (Y7-12)	+96	0.21	0.10	10	10	20	5	5	9
Staff	+12	0.39	0.18	5	0	5	0	2	2
Total				**34**	**29**	**63**	**26**	**28**	**53**

Table 7.1 indicates that the proposal is expected to generate an additional 63vph and 53vph during the AM and PM peak periods, respectively.

7.2 Traffic Distribution

As part of the travel questionnaire survey, staff and students were asked where they currently reside. The responses from car users have been assessed to determine the likely routes that they take to travel to/from the school. The location of school gates has also been considered in assuming the likely vehicle routes.

Figure 7.1 and Figure 7.2 present the assumed the key directional distribution of development trips by using the above methodology.

Figure 7.1: Trip Distribution – Inbound

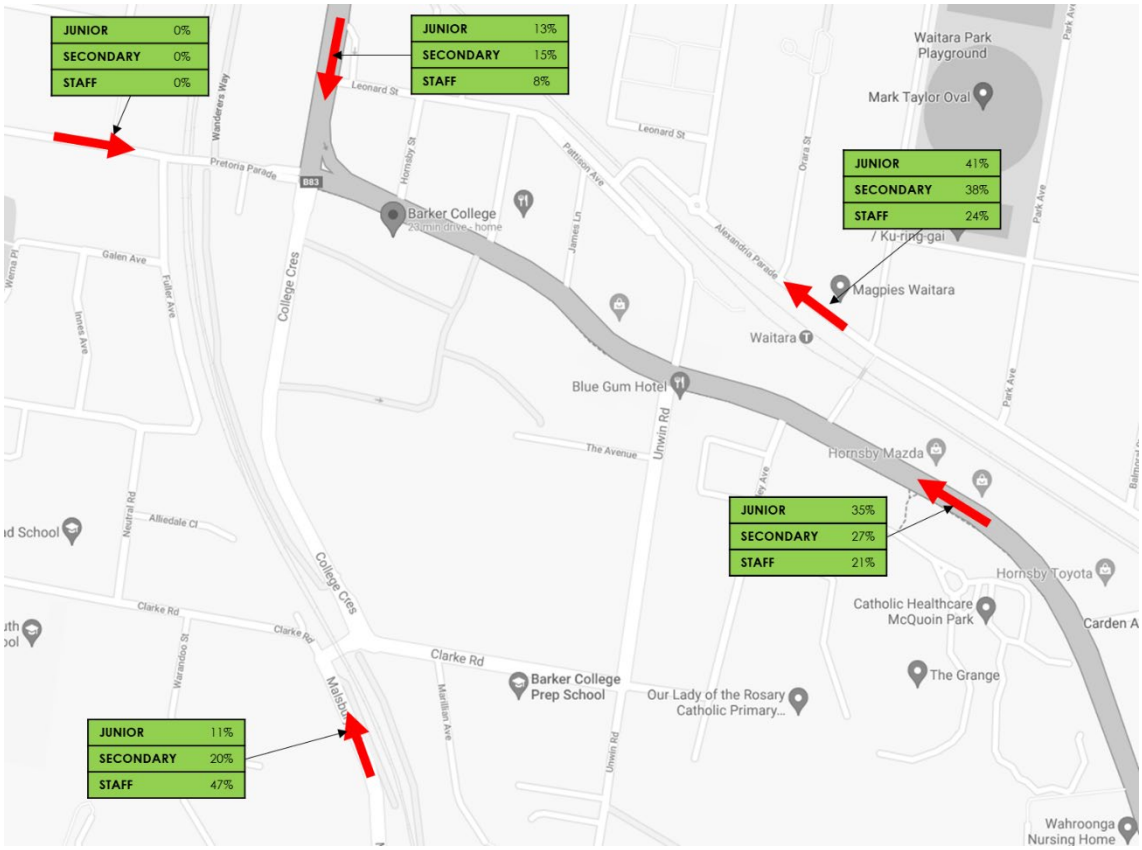
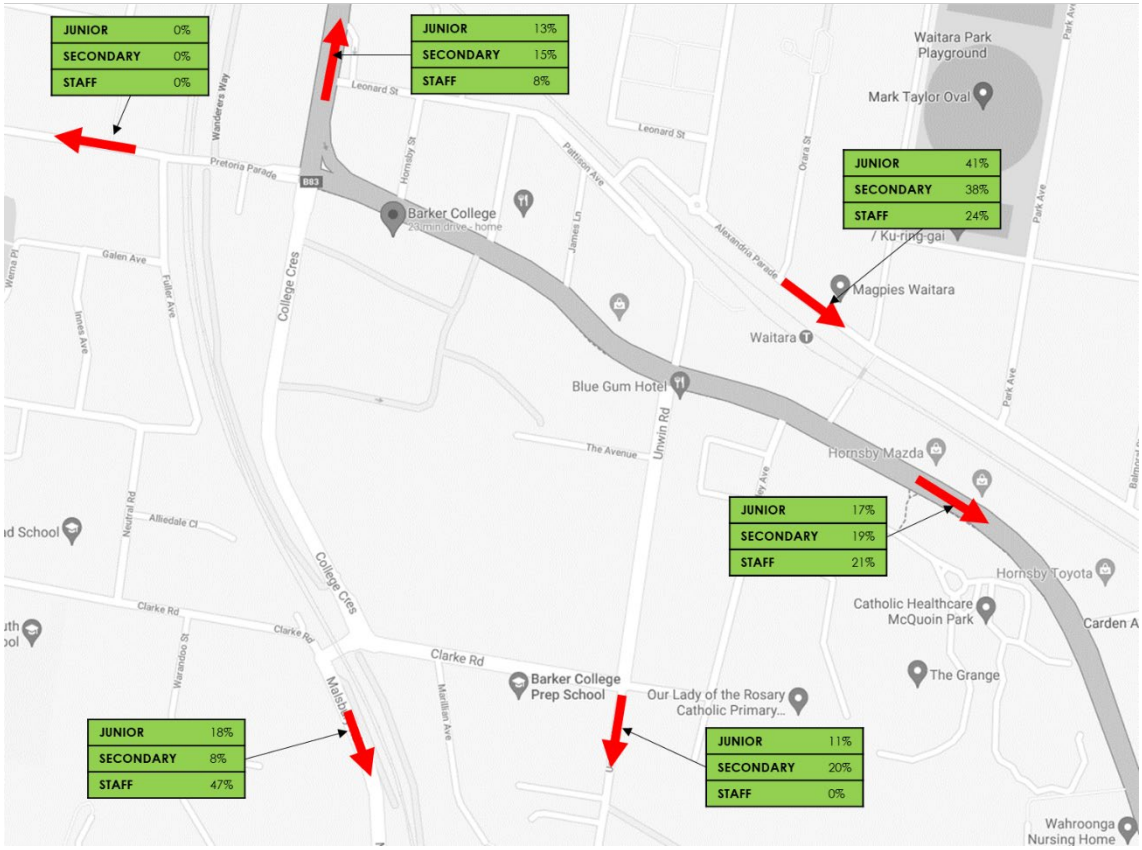


Figure 7.2: Trip Distribution – Outbound



7.3 Modelling Results

7.3.1 Existing Conditions plus Development

The post development traffic volumes for the existing year are presented in Figure 7.3 and Figure 7.4.

Figure 7.3: Existing plus Development – AM Peak

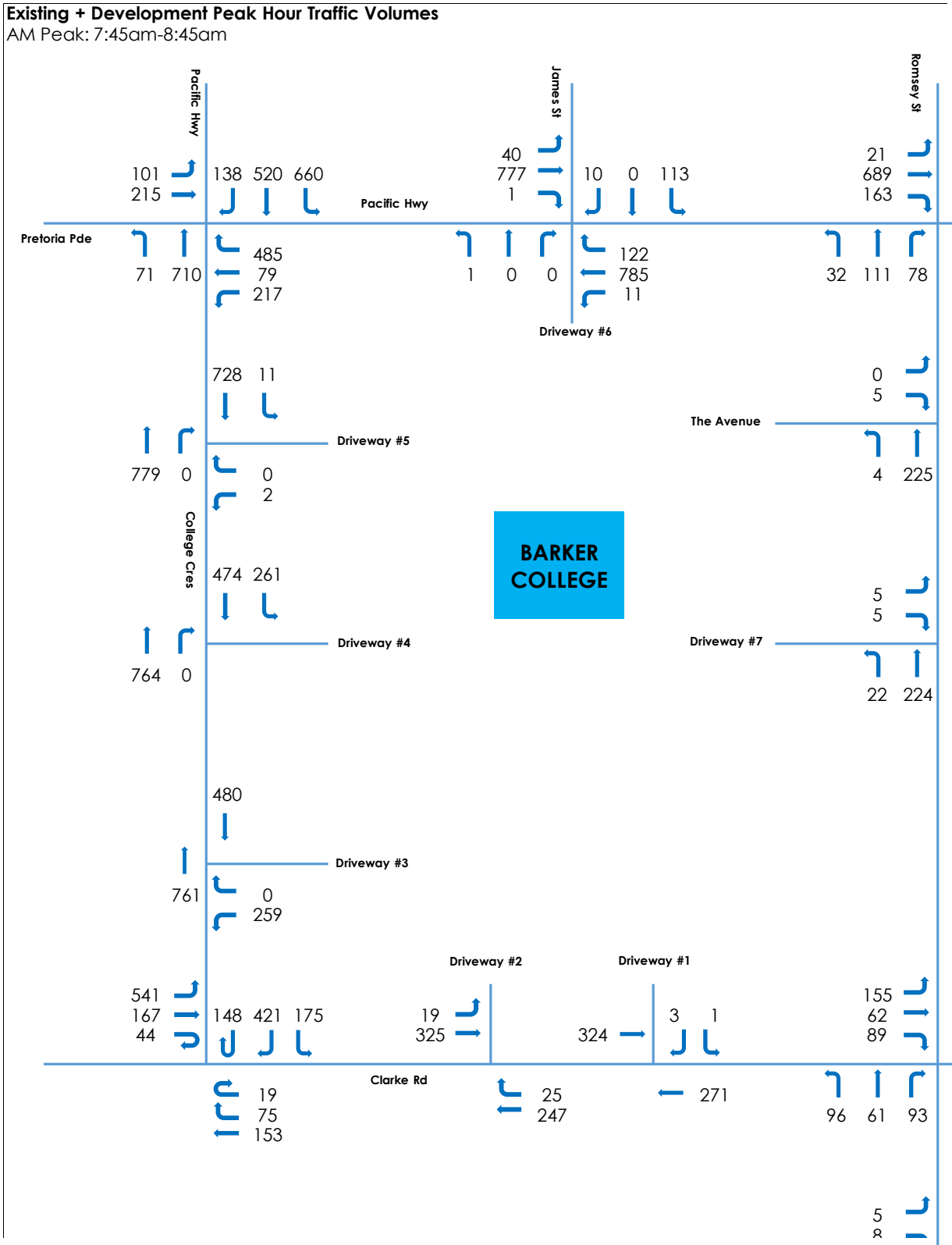
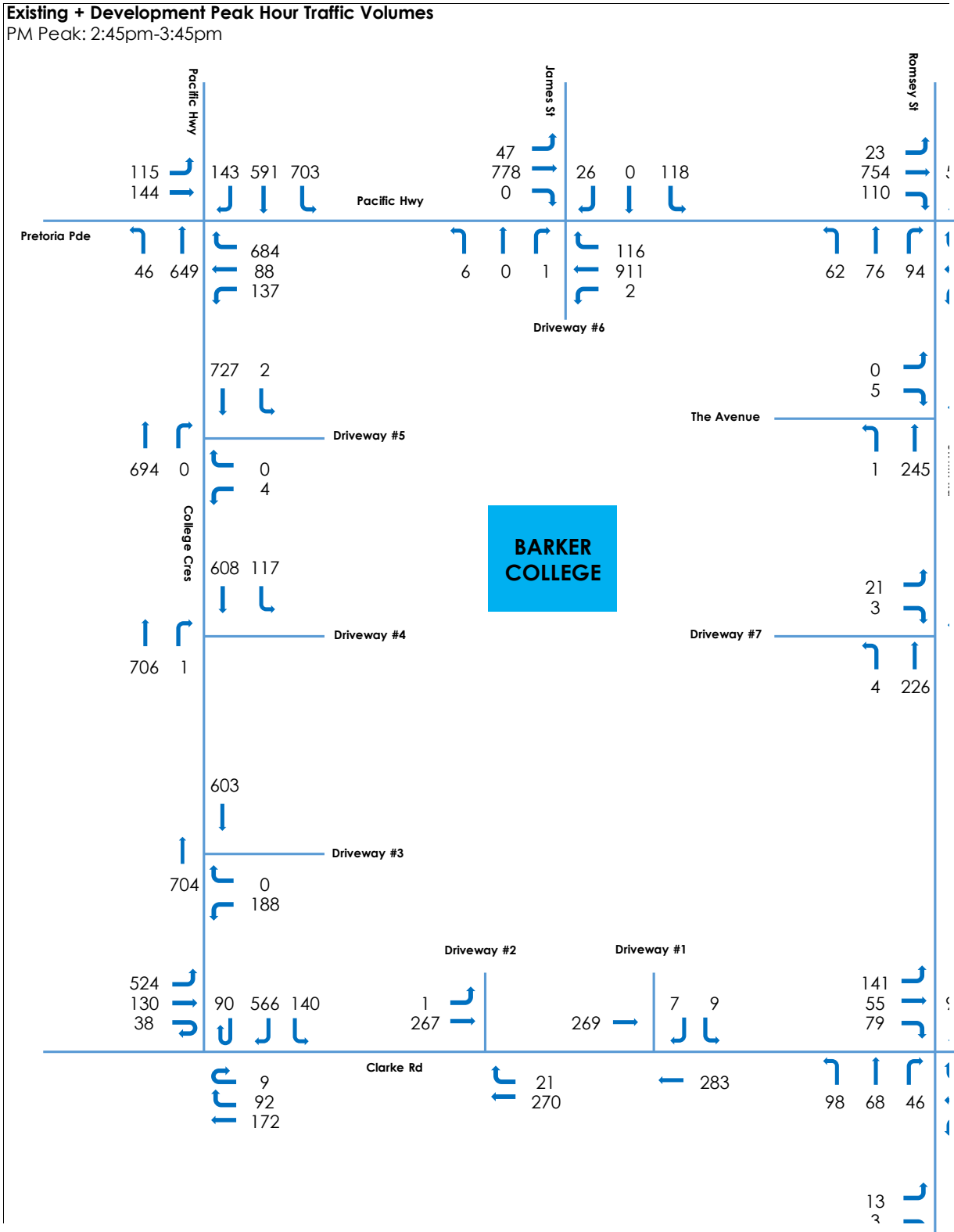


Figure 7.4: Existing plus Development – PM Peak



A comparison between the modelling results of the existing year with and without the proposed development during the AM and PM peaks is provided in Table 7.4 and Table 7.5, respectively.

Table 7.2: Year 2021 AM Peak Hour Intersection Analysis Results

Intersection	Control	Existing (Year 2021)			Existing + Development		
		Ave Delay (s)	LoS	95th %ile Queue Length (m)	Ave Delay (s)	LoS	95th %ile Queue Length (m)
Pacific Hwy-College Cres-Pretoria Pde	Signals	40	C	150	40	C	152
Pacific Hwy-Unwin Rd-Romsey St	Signals	47	D	180	60	E	184
Unwin Rd-The Avenue	Priority	6	A	90	6	A	90
Unwin Rd-Clarke Rd	Priority	14	A	16	15	B	18
Clarke Rd-College Cres	Roundabout	32	C	149	64	E	149

Table 7.3: Year 2021 PM Peak Hour Intersection Analysis Results

Intersection	Control	Existing (Year 2021)			Existing + Development		
		Ave Delay (s)	LoS	95th %ile Queue Length (m)	Ave Delay (s)	LoS	95th %ile Queue Length (m)
Pacific Hwy-College Cres-Pretoria Pde	Signals	35	C	224	36	C	228
Pacific Hwy-Unwin Rd-Romsey St	Signals	39	C	184	48	D	188
Unwin Rd-The Avenue	Priority	6	A	0	6	A	29
Unwin Rd-Clarke Rd	Priority	12	A	10	12	A	12
Clarke Rd-College Cres	Roundabout	16	B	70	17	B	84

The results in Table 7.4 and Table 7.5 indicate that the development of the school will have a minor impact to traffic, with minor increases to delay. The exception is at the intersection of Clarke Road and College Crescent and the intersection of Pacific Highway and Unwin Road, where there is expected to be an increase in delay by 32 seconds and 13 seconds in the AM peak period respectively while both intersections would operate at LoS E.

During the PM peak, there would be an increase to average delay by 9 seconds and the intersection would operate at LoS D.

7.3.2 Future Conditions (Year 2026 Opening Year)

The increase in student numbers is expected to occur gradually, with the student cap reached by 2026. As such the Year 2026 has been modelled.

The future base model has been developed by applying the background growth figures up to Year 2026. The applied future traffic growth rates have been extracted from Transport for NSW's Sydney Strategic Traffic Forecasting Model (STFM), which indicates significant growth in traffic along Unwin Road and Pacific Highway. The STFM model takes into account approved proposed developments in the surrounding area including key commercial or residential developments as well as significant public infrastructure projects.

The AM peak growth factors are shown in Figure 7.5, which shows a 9.1% per annum growth for northbound traffic and 3.5% per annum growth for southbound traffic, along Unwin Road.

Figure 7.5: AM Peak STFM Growth 2020 to 2026

This is a significant growth in traffic and is expected to be related to the proposed NorthConnex development, which has an interchange some 1-1.5km to the south-east. The STFM growth plots adopted in this assessment are presented in Appendix B.

The net traffic associated with the proposed school expansion presented in Table 7.1 has been distributed to the network and added to the future base model. The modelled future traffic volumes are presented in Figure 7.6 to Figure 7.9.

Figure 7.6: Future Base Traffic Volumes – AM Peak

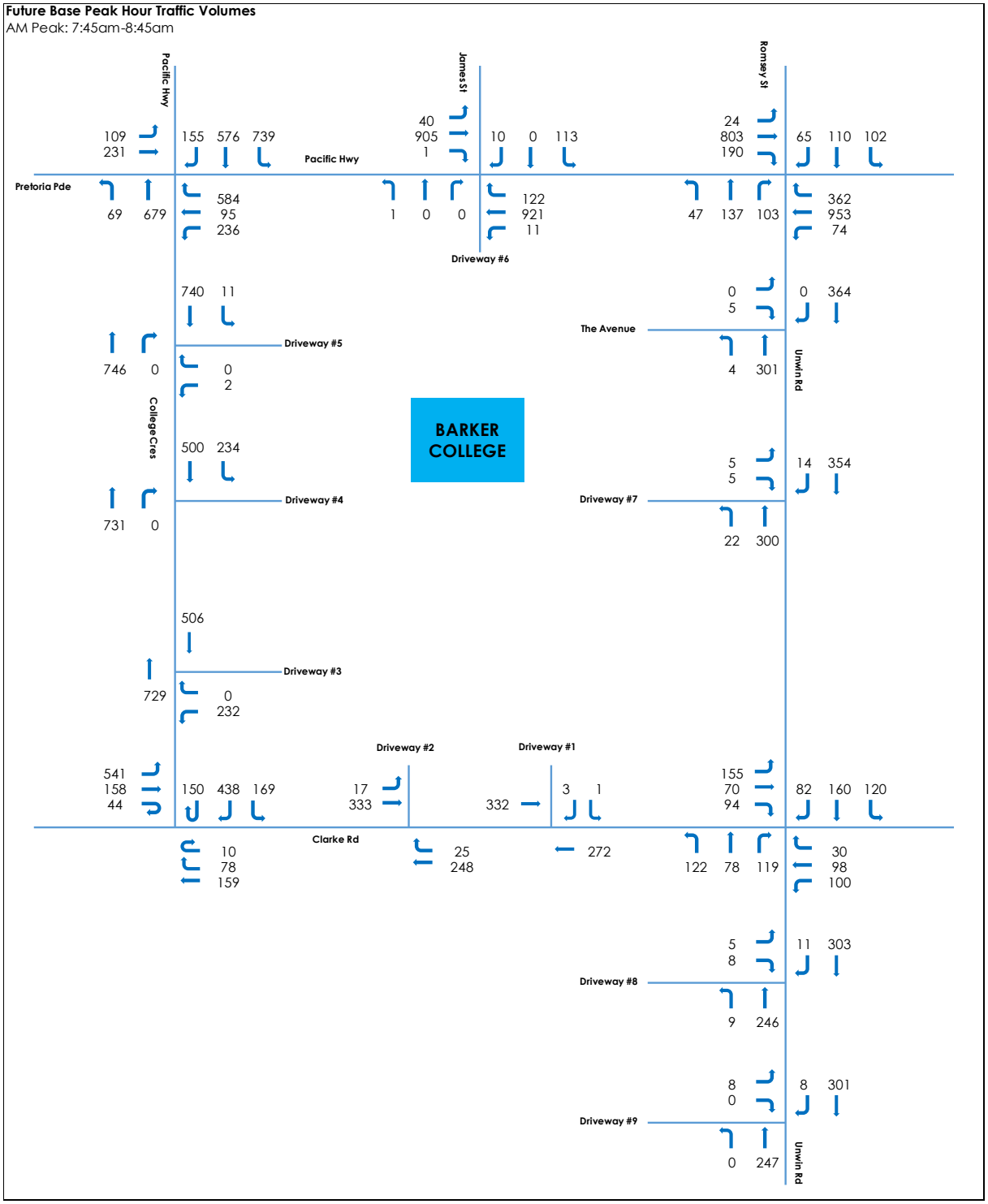


Figure 7.7: Future Base Traffic Volumes – PM Peak

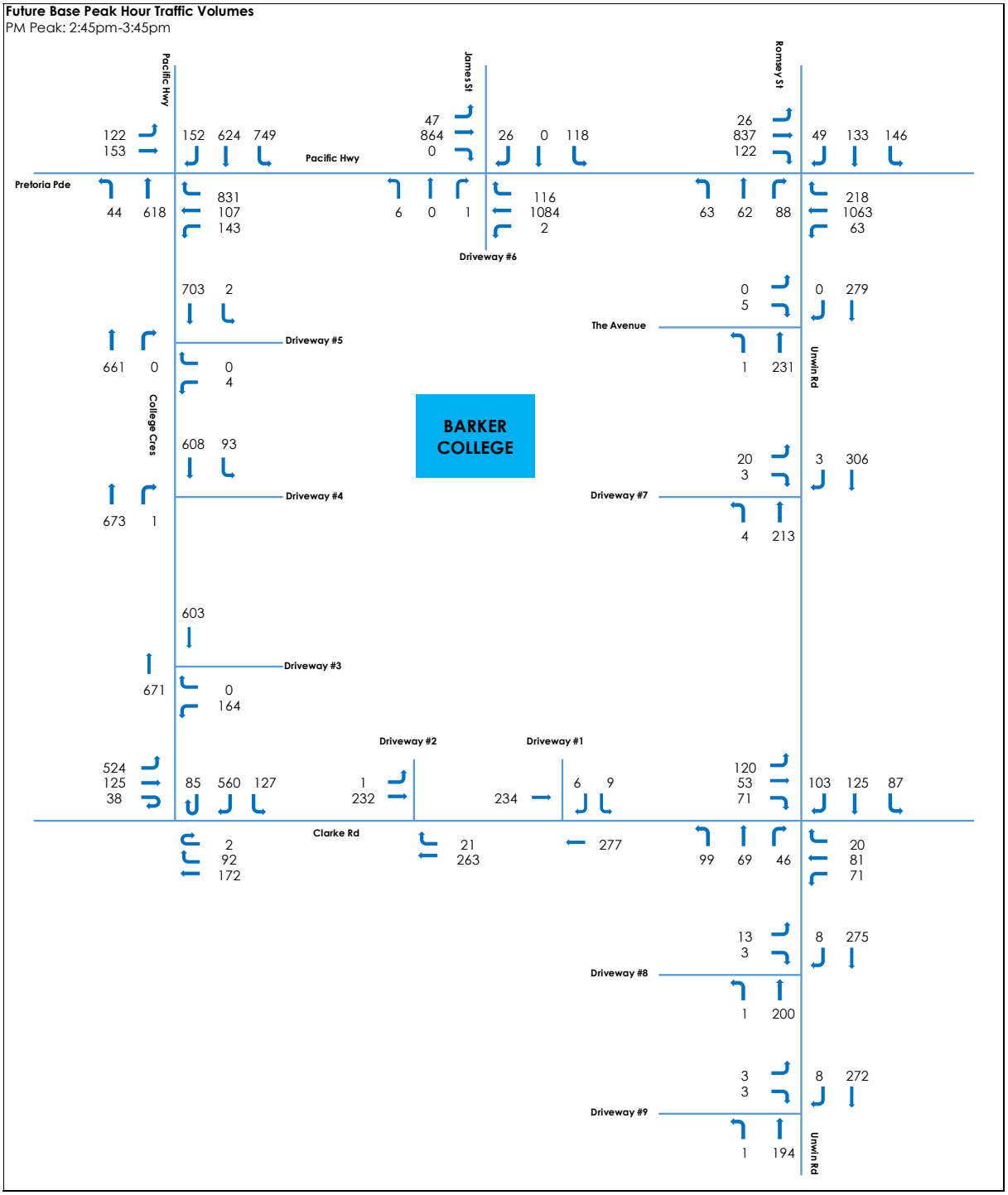


Figure 7.8: Future Base + Development Traffic Volumes – AM Peak

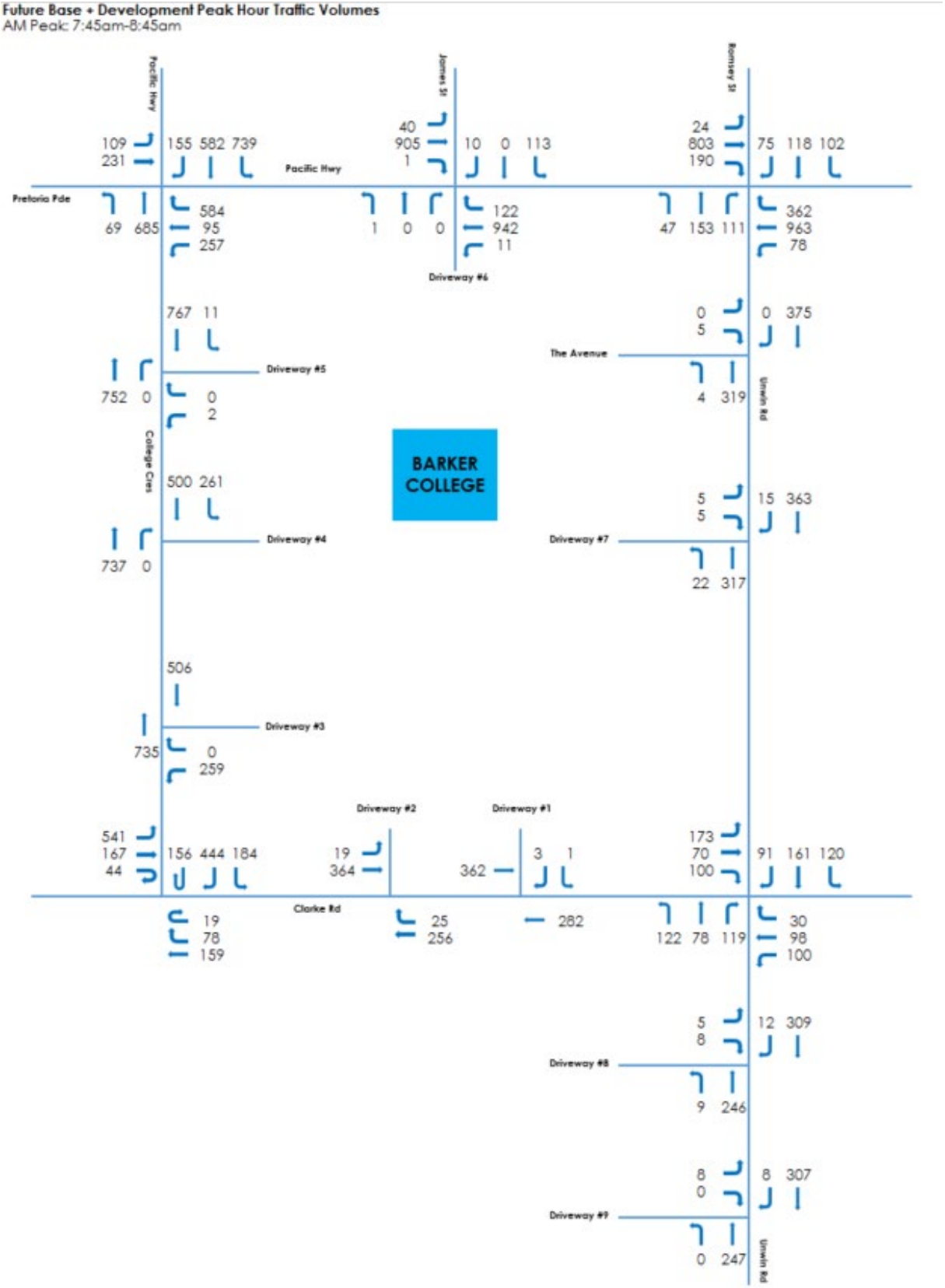
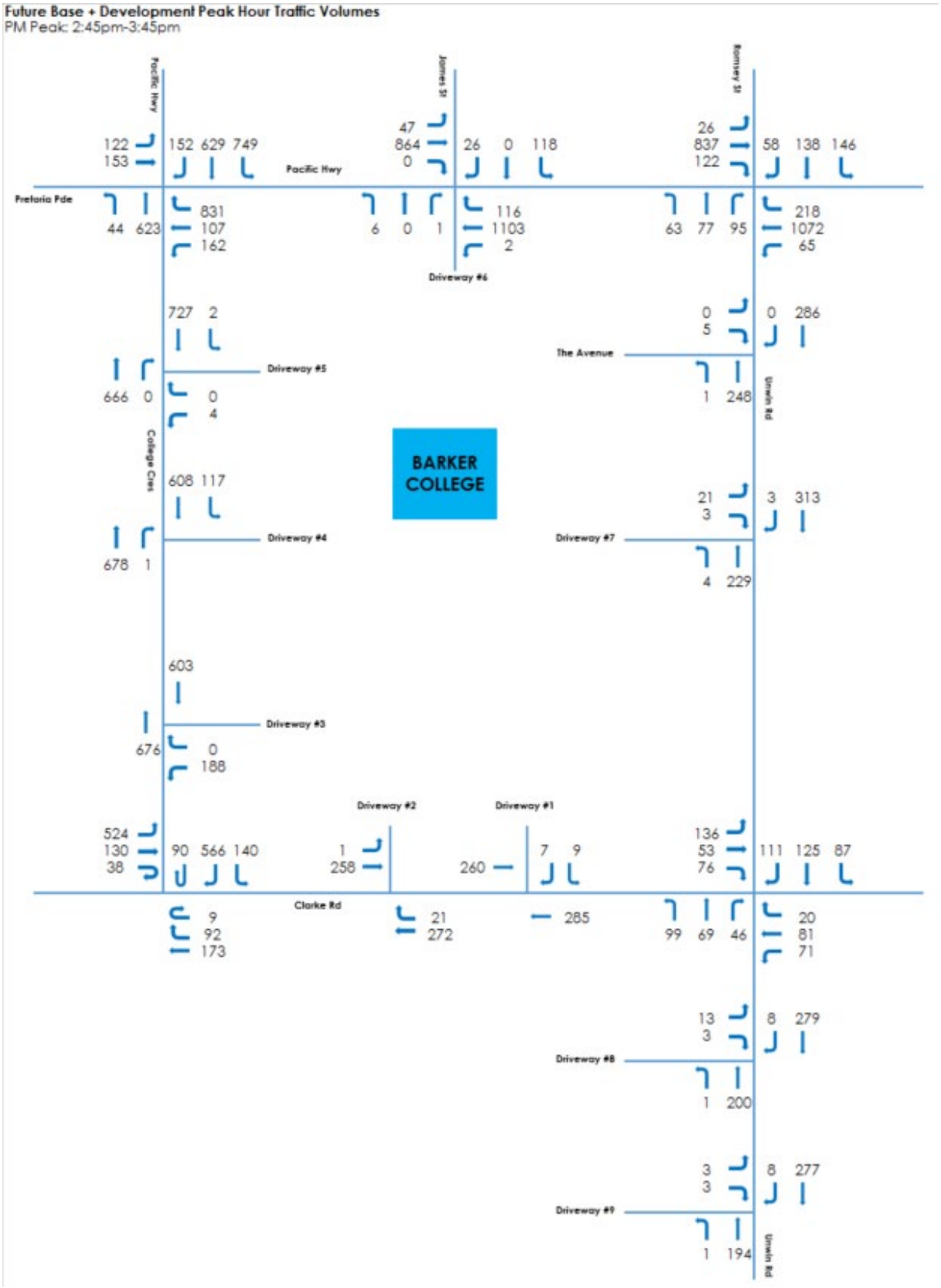


Figure 7.9: Future Base + Development Traffic Volumes – PM Peak



A comparison between the modelling results of Year 2026 with and without the proposed development scenarios during the AM and PM peaks is provided in Table 7.4 and Table 7.5, respectively.

Table 7.4: Year 2026 AM Peak Hour Intersection Analysis Results

Intersection	Control	Year 2026 Future Base			Year 2026 Future Base + Development		
		Ave Delay (s)	LoS	95th %ile Queue Length (m)	Ave Delay (s)	LoS	95th %ile Queue Length (m)
Pacific Hwy-College Cres-Pretoria Pde	Signals	42	C	183	42	C	183
Pacific Hwy-Unwin Rd-Romsey St	Signals	106	F	219	124	F	223
Unwin Rd-The Avenue	Priority	6	A	90	6	A	90
Unwin Rd-Clarke Rd	Priority	22	B	35	24	B	47
Clarke Rd-College Cres	Roundabout	57	E	149	100	F	149

Table 7.5: Year 2026 PM Peak Hour Intersection Analysis Results

Intersection	Control	Year 2026 Future Base			Year 2026 Future Base + Development		
		Ave Delay (s)	LoS	95th %ile Queue Length (m)	Ave Delay (s)	LoS	95th %ile Queue Length (m)
Pacific Hwy-College Cres-Pretoria Pde	Signals	39	C	265	39	C	272
Pacific Hwy-Unwin Rd-Romsey St	Signals	52	D	237	61	E	267
Unwin Rd-The Avenue	Priority	6	A	4	6	A	38
Unwin Rd-Clarke Rd	Priority	12	A	10	12	A	11
Clarke Rd-College Cres	Roundabout	15	B	69	16	B	82

Table 7.4 and Table 7.5, indicates that the surrounding network would generally operate well by the year 2026, except for the intersections of Pacific Highway – Unwin Road – Romsey Street and Clarke Road – College Crescent. Both these intersections would be at capacity from background traffic growth alone. Notably, TfNSW's STFM model indicates a growth of 9.1% per annum growth in traffic along Unwin Street which is significant.

The development of the site would have a relatively minor impact on the road network compared to background traffic increases.

7.3.3 Mitigation Measures

The following mitigation measures could be considered:

- Increase the capacity of the Unwin Road approach, by widening it and allowing two approach lanes to Pacific Highway. This would allow a separate left lane and reduce delay on the right and through movements.
- Allowance of a longer green time at the Unwin Street approach to Pacific Highway. This would have to be investigated following consultation with TfNSW, who may not be open to adjustment of cycle times along Pacific Highway.
- A new egress off Clarke Road or Unwin Road to ease the pressure on the southbound movement along College Crescent (this would be more helpful if Unwin Road were also upgraded).

As a sensitivity analysis and to understand the feasibility of improving the intersection operation, the impact of widening Unwin Road has been investigated using the SIDRA modelling software. A 60m through and left turn bay was added to the Unwin Road approach to Pacific Highway, with signal phasing times retained as per existing conditions. The results of the modelling are presented in Table 7.6 and Table 7.7.

Table 7.6: 2021 AM Mitigation Measures

Intersection	Control	Existing + Development			Existing + Development + Upgrade		
		Ave Delay (s)	LoS	95th %ile Queue Length (m)	Ave Delay (s)	LoS	95th %ile Queue Length (m)
Pacific Hwy-College Cres-Pretoria Pde	Signals	40	C	152	40	C	152
Pacific Hwy-Unwin Rd-Romsey St	Signals	60	E	184	36	C	184
Unwin Rd-The Avenue	Priority	6	A	90	6	A	10
Unwin Rd-Clarke Rd	Priority	15	B	18	15	B	18
Clarke Rd-College Cres	Roundabout	64	E	149	66	E	149

Table 7.7: 2026 AM Mitigation Measures

Intersection	Control	Year 2026 + Development			Year 2026 + Development + Upgrade		
		Ave Delay (s)	LoS	95th %ile Queue Length (m)	Ave Delay (s)	LoS	95th %ile Queue Length (m)
Pacific Hwy-College Cres-Pretoria Pde	Signals	42	C	183	42	C	183
Pacific Hwy-Unwin Rd-Romsey St	Signals	124	F	223	63	E	223
Unwin Rd-The Avenue	Priority	6	A	90	6	A	90
Unwin Rd-Clarke Rd	Priority	24	B	47	18	B	26
Clarke Rd-College Cres	Roundabout	100	F	149	106	F	149

The intersection of Unwin Road and Pacific Highway is operating a LoS D under existing conditions (without development) which means it is nearing capacity. The upgrade of Unwin Road to provide a second left turn and through short bay, would improve the operation of the intersection, under existing conditions, with it being a LoS C with development.

However, in the year 2026, this upgrade would not be sufficient to accommodate the background traffic growth, especially along Unwin Street resulting from the proposed NorthConnex project.

The modelling results indicate that the intersection of Unwin Road and Pacific Highway, would be over capacity, with or without the proposed development, by the year 2026. The analysed mitigation measure was insufficient to mitigate the problem and additionally, would require the acquisition of property to implement which may render the solution impractical.

Consultation with TfNSW has been undertaken to confirm the reliability of the STFM data and the forecasted 9.1% per annum growth rate along Unwin Road. TfNSW was not able to provide further information in this regard.

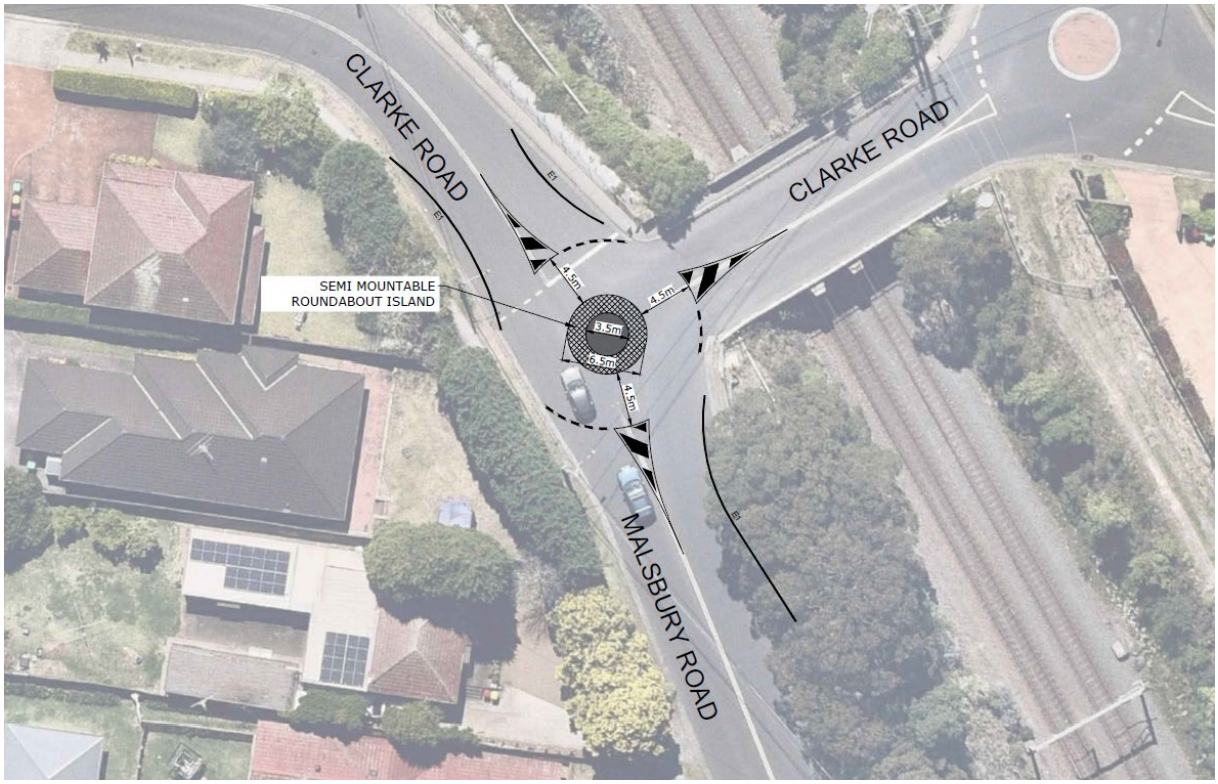
7.3.4 Other Measures

Based on site observations, vehicle delay and queueing at the intersection of Clarke Road and College Crescent, can be affected by downstream congestion at the intersection of Malsbury Road and Clarke Road.

Notable queues were observed at the right turn from the eastern leg to the northern leg of the intersection, (which generates traffic from Pacific Highway to other schools located to the east along Clarke Road e.g. Hornsby South Public School) and is required to give way to northbound traffic.

A suggested measure to improve priority for this movement is to convert the intersection to a roundabout controlled intersection. A concept layout of a roundabout at this location is presented in Figure 7.10.

Figure 7.10: Roundabout Concept at Clarke Rd and Malsbury Road



7.4 Public Transport Impact

The public transport trip generation has been calculated based on the existing mode shares in Table 4.2, and is summarised in Table 7.8.

Table 7.8: Public Transport Trip Generation (Existing Mode Share)

Group	Net Increase in Population	AM Mode Share	PM Mode Share	AM Trips	AM Trips
Junior Students (K-Y6)	+72	34%	34%	+25	+25
Secondary Students (Y7-12)	+96	71%	80%	+68	+77
Staff	+12	3%	3%	<1	<1
Total				**93**	**102**

Table 7.8 indicates that the future increase in student and staff may result in an increase of up to 102 persons per peak hour catching public transport. This includes public buses, school buses and trains.

This level of person increase to public transport is minor. The site is serviced by four school buses, four public buses running every 10-15 minutes and trains running every 5-15 minutes. Therefore, it is expected that the development would generate around 2-4 additional persons per public transport service.

8 Road and Personal Safety (CPTED Principles)

A number of potential design measures should be considered to maintain road and pedestrian safety in accordance with the Crime Prevention Through Environmental Design (CPTED) principles of surveillance, access control and space and activity management.

The following design measures should be considered as part of the proposed development:

- Ensure appropriate lighting is provided especially at pedestrian access points, parking areas and footpaths,
- Proposed safety signage in different languages around designated drop-off and pick-up areas to enhance awareness for a larger audience and thus mitigate the risk of any safety issues around the schools,
- Trim or remove foliage blocking sight lines and ensure there is minimal obstruction to lines of sight near key pedestrian facilities and pedestrian access points,
- Consider the implementation of Closed Circuit Television (CCTV) where practical to maximise surveillance opportunities out of school hours,
- Install boom gates, ticketed entry or other access control devices to regulate and restrict vehicle movements to/from the schools for authorised personnel only,
- Ensure security is provided at pedestrian access points to the school to reduce opportunities for perpetrators to enter the school undetected,
- Ensure regular maintenance is in place including rubbish removal, graffiti remove, repair of light fixtures, trimming of vegetation and/or regular patrols, where feasible, and
- All staff should undergo crime awareness training to identify any potential suspicious behaviour and reporting procedures within or near the schools.

9 Travel Demand Measures

9.1 Introduction

Travel demand management is a term for strategies to encourage a modal shift from single occupant private vehicle trips and influence the way people move to/from a site to deliver better environmental outcomes to encourage sustainable travel and reduce traffic and parking impacts within communities.

A key element of travel demand management is the preparation of a Green Travel Plan (GTP). The primary purpose of GTPs at schools is to encapsulate a strategy for managing travel demand that embraces the principles of sustainable transport whilst recognising the unique context of travel planning at education facilities. In its simplest form, GTPs encourage travel using transport modes that have low environmental impacts, for example active transport modes including walking, cycling, public transport, and encourages better management of car use.

In the case of GTPs for schools, this is of vital importance as schools are often located in local residential areas which can negatively impact local traffic and parking amenity during the concentrated peak periods of school pick up and drop off times. Furthermore, on-site car parking is often a luxury as schools cannot afford to apportion limited land resources due to teaching space and play space requirements.

Therefore, the implementation of a GTP would assist manage travel demand at the school, particularly with consideration to the future expansion of the school. It is expected that the

GTP document would target staff and parents at the school.

9.2 School Feedback

9.2.1 Staff Feedback

As part of the online questionnaire survey, staff who travelled to site by car were asked if they drive the car by themselves, travelled other school staff or is being dropped off by someone who is not a staff. The data indicated that the majority of staff who travel by car drive to the site by themselves, with no passengers (91%). No staff drive or carpool to the site with another staff member.

Staff were also asked if they would consider alternative form of transport. The following feedback was received:

- 42% of the staff respondents would consider catching public transport to work if a school bus is provided to nearby suburbs and train stations

- 33% of the staff respondents would be willing to carpool with other staff
- 61% of the staff respondents would consider alternative form of transport, even occasionally

A summary of some of the key features that staff would like to see more to encourage walking, cycling, public transport and carpool is presented in Figure 3.3 to Figure 3.5.

Figure 9.1: Measures to Encourage Walking/Cycling – Staff Responses

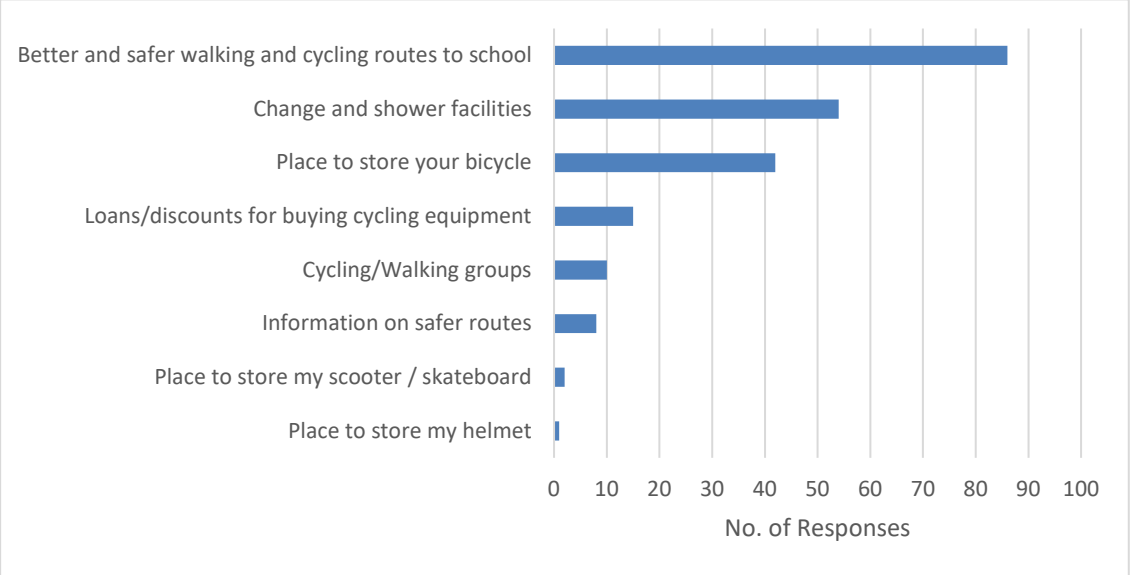


Figure 9.2: Measures to Encourage Public Transport Use – Staff Responses

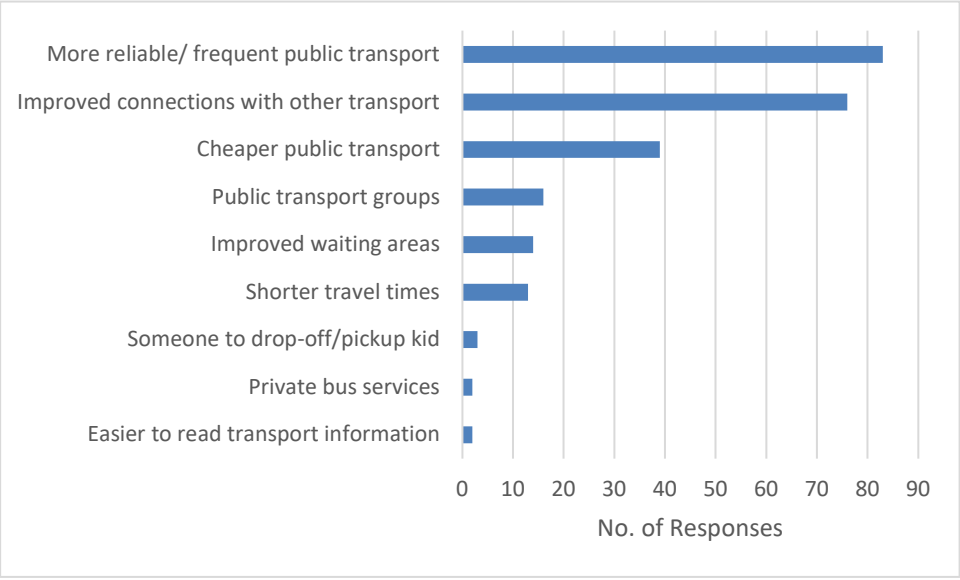


Figure 9.3: Measures to Encourage Carpooling – Staff Responses

9.2.2 Student Feedback

The following feedback are received from the student surveys:

- 62% of junior students have a sibling that goes to the school.
- 43% of secondary students have a sibling that goes to the school.
- 60% of junior students who get dropped off/picked up travelled in a car with other Barker students.
- 37% of secondary students who get dropped off/ picked up travelled in a car with other Barker students.
- 51% of junior students are not keen in changing their travel choices.
- 55% of secondary students are not keen in changing their travel choices.

Students were also asked what would encourage them to use alternate mode of transport. A summary of some of the key features that students would like to see more to encourage walking, cycling and public transport and carpool is presented in Figure 9.4 and Figure 9.5.

Figure 9.4: Measures to Encourage Walking/Cycling/Public Transport Use – Student Responses

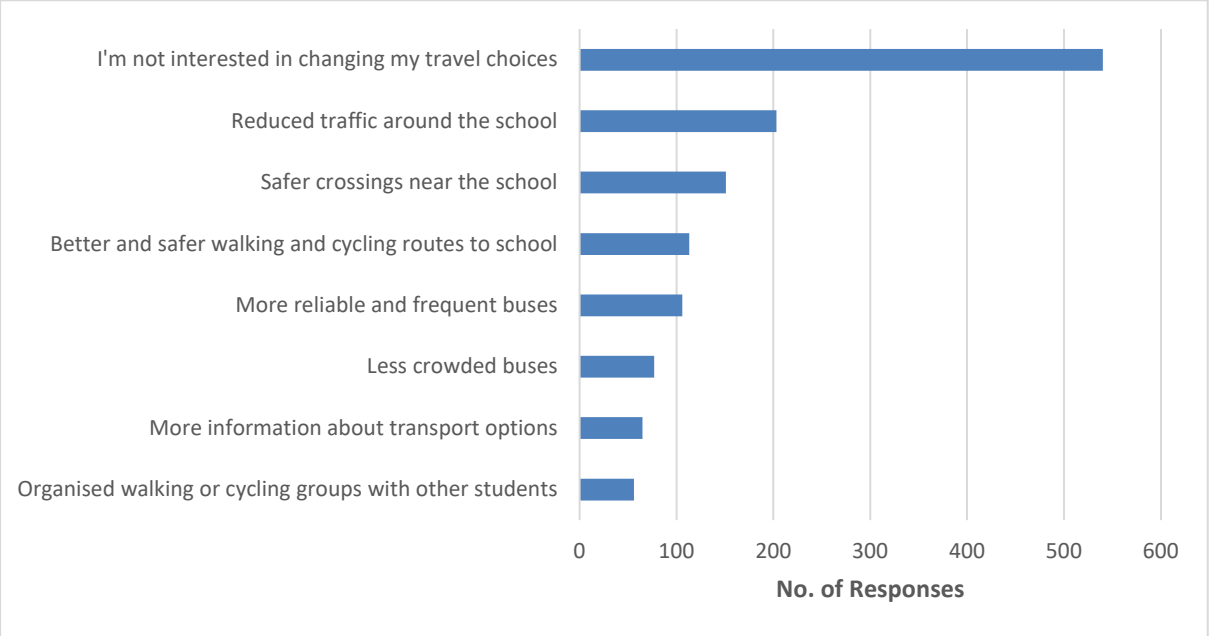
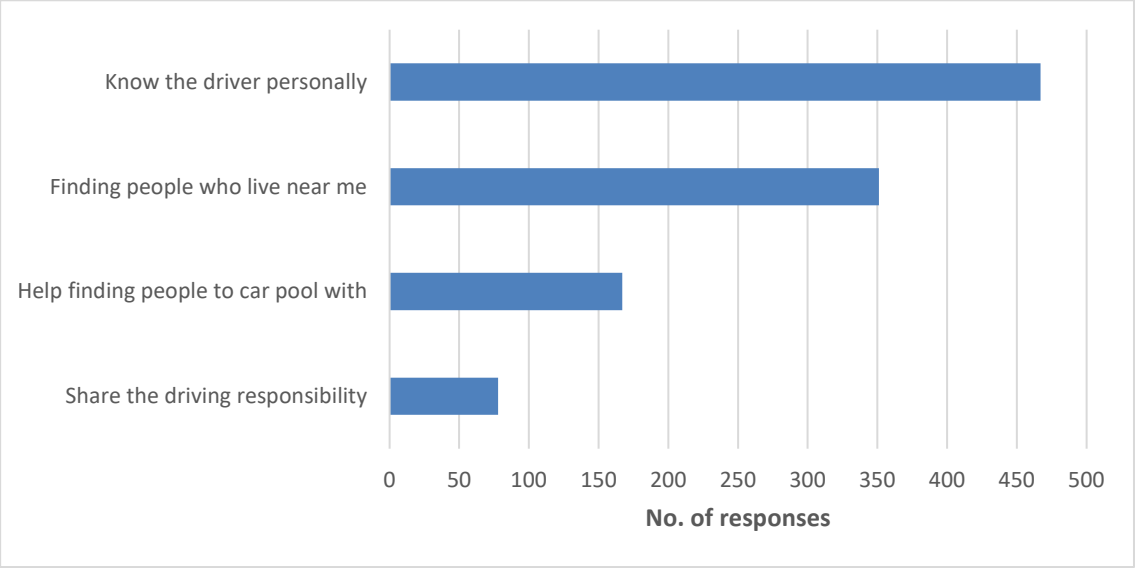


Figure 9.5: Measures to Encourage Carpooling – Student Responses



9.3 Green Travel Plan Initiatives

Based on the above, the following general travel strategies have been considered for implementation in the GTP to encourage more sustainable travel:

- Do not increase on-site car parking provision and introduce strict car parking policies to manage car parking allocation with the site
- Could organise a carpool system/registry or promote car-pooling apps which could reduce single private vehicle car trips to and from the school. Currently, the car

occupancy rate for staff is approximately one staff member per vehicle therefore this is an opportunity to increase this rate. Promotion of carpooling forums would need to be carried out as part of staff inductions. In addition to this, social events will go hand in hand with this approach to promote social interaction between the staff to reduce social barriers which may deter staff from carpooling with other staff members.

- Similarly, a carpooling forum could be developed on the student/ parent portal to encourage students to travel in groups. The forum will provide a platform for people travelling on the same route to site to find each other and form groups. Existence of the forum will be advertised on noticeboards within the School, via the school newsletter and social media, and/or on the School's Transport Access Guide (TAG).
- Provision of public transport timetable, car share vehicle locations and cycle maps on noticeboards to make staff more aware of alternative transport options
- Organise a walking/cycling group, or similar, to promote walking/use of bicycles of staff and students living in the same area
- Organise lessons to teach students and staff to ride a bike and learn road rules, and road safety
- Provision of appropriate uniform for students to ride to school
- Provision of bicycle parking and end-of-trip facilities including shower and changing rooms as well as bicycle infrastructure and bicycle repair tools
- Arrange activities and promotions to encourage staff and students to use public transport
  - hosting and participating on active travel events such as Ride2Work Day and National Bike Week
  - provision of Opal card or GoGet car share discounts or incentives
  - affiliation to local bicycle retailer and service centre to provide discounts for staff and students
- Develop or use a mobile application which can be used as a platform to communicate with parents and students regarding changes in travel plans and conditions. The school could utilise 'SkoolBag' app which is Australia's leading school communication app. An extension to the mobile app could include an instant messaging service for parents to facilitate quick trip-planning, real-time communication and real-time public transport information.
- Provision of shuttle bus to Hornsby Station to increase public transport access and provide direct connection to the bus interchange.

9.3.1 Staggering Arrival and Departure Times

At present, primary and secondary start and finish times are staggered. However, it may be desirable to further stagger both start and finish times for multiple year groups. Staggering

drop off and pick up times for school children can help alleviate congestion during peak periods. It is therefore recommended that the start and finish times be amended for some year groups to assist distribute school related trips during school drop off and pick-up times.

In addition to this, schemes can also be easily implemented by the schools through the School News Bulletin (or similar) to provide parents with a general guideline as to what time they should drop off and pick up their child for each year group. This however may raise some concerns for parents who have more than one child in different year group at the school.

Further detailed consultation with staff and students/parents would need to be conducted to understand if amending the existing start and finish times are viable. It may become necessary that an "after class" room be established with a supervising teacher to accommodate any students who are waiting for their sibling in a different year group at the school.

A more detailed Green Travel Plan has been prepared as part of the SSDA package of works. It is however envisaged that that any consent of the approval would require a commitment to prepare an Operational Transport Management Plan prior to Construction Certificate to outline the proposed traffic management measures to be implemented at the school, including mode share targets and proposed travel strategies to reduce private vehicle trips.

9.4 Monitoring of the GTP

For the GTP to be effective, it is recommended that the GTP be monitored on a regular basis, (e.g. yearly for a period of three years following completion), through travel surveys, staff meetings, parent consultations or similar. Travel surveys would show how staff, students and parents travel to/from the site and assist identify whether the proposed initiatives and measures outlined in the GTP are effective or are required to be replaced or modified to ensure that the best outcomes are achieved. Regular consultation with staff, students and parents would also be beneficial to help understand people's reasons for travelling the way they do and help identify any potential barriers to change their travel behaviours.

In order to ensure successful implementation of the GTP, a Travel Plan Coordinator (TPC) should be appointed to oversee the measures and resultant impacts of the GTP.

10 Conclusion

This study details our assessment of the traffic and transport implications associated with the proposed redevelopment of Barker College. The key findings of this report are presented below.

- The proposal redevelopment will include, pedestrian infrastructure improvements, and development of a new Performing Arts Centre at 3-7 Unwin Road and redevelopment of the Clarke Street Tennis Courts into a new Aquatics and Tennis Centre.
- The development also proposes to increase the site's population to 2,850 students and 430 FTE staff.
- The redevelopment will involve improvements to the drop off and pick circulation arrangements, with an aim to mitigate existing bottle necks on-site. Access points to the site from the public road network is to be retained as per existing conditions.
- The redevelopment will involve the removal of existing car parking and construction of new car parking. The end state development will have a net impact to the site's existing parking supply.
- The car parking supply on the existing site (487 spaces) exceeds the DCP requirement for the proposed development 427 spaces. It also exceeds the parking requirement of the proposed site based on the parking demand calculated from the survey data of parking and student/ staff travel behaviour.
- The proposed redevelopment is to generate an increase in 63 vehicles per hour in the morning and 53 vehicles per hour in the afternoon peak periods.
- SIDRA modelling indicates that the proposed development traffic will increase delay to the intersections of Clarke Road – College Crescent and Pacific Highway-Unwin Road, in the current year, with these two intersections at capacity. Remaining intersections will continue to operate well.
- In the opening year (2026), general background traffic will result in the intersections of Clarke Road – College Crescent and Pacific Highway-Unwin Road to be over capacity with a LoS F, even without the development traffic.
- However, the traffic generated by the proposed school development would have a minor impact to the surrounding road network, relative to the substantial development and growth expected in the area.
- Potential mitigation measures that are to be investigated to reduce impact include:
  - Increase the capacity of the Unwin Road approach to Pacific Highway by allowing a longer green time following consultation with TfNSW.
  - Increase the capacity of the Unwin Road approach to Pacific Highway by widening the road and providing an auxiliary lane.

- Upgrading the intersection of Clarke Road and Malsbury Road to a roundabout to improve the efficiency of this intersection and minimise the impact from vehicle queues extending to College Crescent.

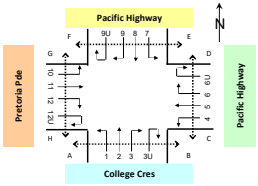
- A Green Travel Plan and Workplace Travel Plan is to be implemented on-site with an aim to reduce car share as a mode of travel. A 5% shift in mode is proposed from car to sustainable transport modes such as public transport, walking and cycling. Measures proposed as part of the travel plan include:
  - Limiting car parking provision on-site to reduce the opportunity and convenience of driving
  - Organising a car pool system/registry to assist Staff and parents
  - Organising walking/ cycling groups to promote those living near each other's to walk and cycle together
  - Organising cycling classes to teach road safety and safe on-road cycling practices
  - Provision of secure bicycle parking facilities and end of trip facilities
  - Develop or use a mobile application which can be used as platform to communicate with parents and students regarding changes in travel plans and conditions e.g. the existing SkoolBag app.

Appendix A

Traffic surveys

Job No. : N6158
Client : TTPP
Suburb : Barker College
Location : 1. Pacific Highway / College Cres / Pretoria Pde

Day/Date : Thu, 4th Feb 2021
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



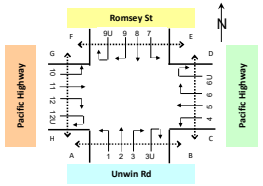
MATRIX Traffic and Transport Data

Approach	College Cres																Pacific Highway															
Direction	Direction 1 (Left Turn)				Direction 2 (Through)				Direction 3 (Right Turn)				Direction 3U (U Turn)				Direction 4 (Left Turn)				Direction 5 (Through)				Direction 6 (Right Turn)				Direction 6U (U Turn)			
Time Period	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total
7:00 to 8:00	37	0	0	**37**	469	4	0	**473**	0	0	0	**0**	0	0	0	**0**	184	3	2	**189**	50	2	0	**52**	367	38	10	**415**	0	0	0	**0**
7:15 to 8:15	53	0	0	**53**	559	2	0	**561**	0	0	0	**0**	0	0	0	**0**	230	2	6	**238**	49	2	0	**51**	354	39	12	**405**	0	0	0	**0**
7:30 to 8:30	67	0	0	**67**	630	2	1	**633**	0	0	0	**0**	0	0	0	**0**	220	1	6	**227**	65	3	0	**68**	366	39	17	**422**	0	0	0	**0**
7:45 to 8:45	71	0	0	**71**	699	3	2	**704**	0	0	0	**0**	0	0	0	**0**	189	1	6	**196**	76	3	0	**79**	423	43	19	**485**	0	0	0	**0**
8:00 to 9:00	65	0	0	**65**	746	4	3	**753**	0	0	0	**0**	0	0	0	**0**	115	1	4	**120**	83	2	0	**85**	469	50	20	**539**	0	0	0	**0**
8:15 to 9:15	48	0	0	**48**	761	4	3	**768**	0	0	0	**0**	0	0	0	**0**	55	1	0	**56**	82	2	1	**85**	505	47	18	**570**	0	0	0	**0**
8:30 to 9:30	36	0	0	**36**	692	4	3	**699**	0	0	0	**0**	0	0	0	**0**	44	1	0	**45**	66	1	1	**68**	527	45	17	**589**	0	0	0	**0**
8:45 to 9:45	20	0	0	**20**	644	7	2	**653**	0	0	0	**0**	0	0	0	**0**	37	4	0	**41**	54	1	1	**56**	514	49	15	**578**	0	0	0	**0**
9:00 to 10:00	16	1	0	**17**	587	6	1	**594**	0	0	0	**0**	0	0	0	**0**	37	4	0	**41**	46	1	1	**48**	476	50	13	**539**	0	0	0	**0**
AM Totals	**118**	**1**	**0**	**119**	**1,802**	**14**	**4**	**1,820**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**336**	**8**	**6**	**350**	**179**	**5**	**1**	**185**	**1,312**	**138**	**43**	**1,493**	**0**	**0**	**0**	**0**
14:00 to 15:00	35	0	0	**35**	424	2	1	**427**	0	0	0	**0**	0	0	0	**0**	135	1	0	**136**	83	0	0	**83**	512	43	5	**560**	0	0	0	**0**
14:15 to 15:15	36	1	0	**37**	486	2	1	**489**	0	0	0	**0**	0	0	0	**0**	146	2	2	**150**	76	1	0	**77**	539	39	11	**589**	0	0	0	**0**
14:30 to 15:30	40	1	0	**41**	551	3	1	**555**	0	0	0	**0**	0	0	0	**0**	141	1	4	**146**	83	1	0	**84**	607	26	10	**643**	0	0	0	**0**
14:45 to 15:45	44	2	0	**46**	636	5	3	**644**	0	0	0	**0**	0	0	0	**0**	109	3	6	**118**	87	1	0	**88**	646	22	16	**684**	0	0	0	**0**
15:00 to 16:00	36	2	0	**38**	607	4	3	**614**	0	0	0	**0**	0	0	0	**0**	96	3	6	**105**	95	1	0	**96**	727	28	22	**777**	0	0	0	**0**
15:15 to 16:15	31	1	0	**32**	595	5	5	**605**	0	0	0	**0**	0	0	0	**0**	105	2	4	**111**	98	0	0	**98**	760	27	17	**804**	0	0	0	**0**
15:30 to 16:30	22	1	0	**23**	573	5	5	**583**	0	0	0	**0**	0	0	0	**0**	115	2	2	**119**	97	0	0	**97**	782	33	19	**834**	0	0	0	**0**
15:45 to 16:45	19	0	0	**19**	567	4	4	**575**	0	0	0	**0**	0	0	0	**0**	116	0	0	**116**	96	0	0	**96**	796	33	18	**847**	0	0	0	**0**
16:00 to 17:00	19	0	0	**19**	561	3	3	**567**	0	0	0	**0**	0	0	0	**0**	119	0	0	**119**	93	0	0	**93**	790	24	16	**830**	0	0	0	**0**
16:15 to 17:15	25	0	0	**25**	545	2	2	**549**	0	0	0	**0**	0	0	0	**0**	118	0	1	**119**	111	0	1	**112**	762	17	19	**798**	0	0	0	**0**
16:30 to 17:30	32	0	0	**32**	562	2	3	**567**	0	0	0	**0**	0	0	0	**0**	108	0	1	**109**	121	0	1	**122**	753	15	20	**788**	0	0	0	**0**
16:45 to 17:45	34	0	0	**34**	522	1	2	**525**	0	0	0	**0**	0	0	0	**0**	97	0	1	**98**	124	0	1	**125**	744	16	17	**777**	0	0	0	**0**
17:00 to 18:00	32	0	0	**32**	516	1	2	**519**	0	0	0	**0**	0	0	0	**0**	82	0	1	**83**	136	0	1	**137**	747	14	23	**784**	0	0	0	**0**
PM Totals	**122**	**2**	**0**	**124**	**2,108**	**10**	**9**	**2,127**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**432**	**4**	**7**	**443**	**407**	**1**	**1**	**409**	**2,776**	**109**	**66**	**2,951**	**0**	**0**	**0**	**0**

Approach	Pacific Highway																Pretoria Pde																Crossing Pedestrians							
Direction	Direction 7 (Left Turn)				Direction 8 (Through)				Direction 9 (Right Turn)				Direction 9U (U Turn)				Direction 10 (Left Turn)				Direction 11 (Through)				Direction 12 (Right Turn)				Direction 12U (U Turn)											
Time Period	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	B to A	A to B	D to C	C to D	F to E	E to F	H to G	G to H	Total
7:00 to 8:00	594	24	12	**630**	483	1	7	**491**	87	3	3	**93**	1	0	0	**1**	63	3	3	**69**	207	0	0	**207**	0	0	0	**0**	0	0	0	**0**	19	142	45	13	0	0	25	73	**517**
7:15 to 8:15	657	34	10	**701**	550	0	7	**557**	79	3	2	**84**	0	0	0	**0**	74	3	2	**79**	228	0	0	**228**	0	0	0	**0**	0	0	0	**0**	19	230	178	13	0	0	31	139	**610**
7:30 to 8:30	656	35	10	**701**	541	1	4	**546**	106	0	2	**108**	0	0	0	**0**	86	3	1	**90**	232	0	0	**232**	0	0	0	**0**	0	0	0	**0**	16	342	263	16	0	0	30	220	**887**
7:45 to 8:45	616	35	9	**660**	511	1	2	**514**	138	0	0	**138**	0	0	0	**0**	98	2	1	**101**	215	0	0	**215**	0	0	0	**0**	0	0	0	**0**	13	329	258	18	0	0	31	208	**857**
8:00 to 9:00	583	42	8	**633**	481	2	1	**484**	181	1	1	**183**	1	0	0	**1**	107	0	1	**108**	199	0	0	**199**	0	0	0	**0**	0	0	0	**0**	19	244	239	11	0	0	29	171	**713**
8:15 to 9:15	523	46	8	**577**	427	4	0	**431**	185	1	2	**188**	1	0	0	**1**	112	0	3	**115**	168	0	0	**168**	0	0	0	**0**	0	0	0	**0**	20	155	110	11	0	0	34	107	**437**
8:30 to 9:30	501	47	8	**556**	395	5	0	**400**	174	2	2	**178**	2	0	0	**2**	132	0	3	**135**	138	1	0	**139**	0	0	0	**0**	0	0	0	**0**	18	30	19	13	0	0	33	21	**134**
8:45 to 9:45	497	52	10	**559**	380	6	0	**386**	139	2	2	**143**	2	0	0	**2**	116	0	4	**120**	113	1	0	**114**	0	0	0	**0**	0	0	0	**0**	16	13	18	13	0	0	29	19	**108**
9:00 to 10:00	508	46	11	**565**	362	8	1	**371**	102	1	1	**104**	1	0	0	**1**	107	0	4	**111**	101	3	0	**104**	0	0	0	**0**	0	0	0	**0**	6	13	7	15	0	0	27	12	**80**
AM Totals	**1,685**	**112**	**31**	**1,828**	**1,326**	**11**	**9**	**1,346**	**370**	**5**	**5**	**380**	**3**	**0**	**0**	**3**	**277**	**3**	**8**	**288**	**507**	**3**	**0**	**510**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**44**	**399**	**291**	**39**	**0**	**0**	**81**	**256**	**1,110**
14:00 to 15:00	637	46	11	**694**	524	7	4	**535**	126	4	2	**132**	1	0	0	**1**	57	2	1	**60**	110	1	1	**112**	0	0	0	**0**	0	0	0	**0**	18	10	15	16	0	0	12	14	**85**
14:15 to 15:15	651	46	11	**708**	512	8	7	**527**	130	5	1	**136**	1	0	0	**1**	80	2	1	**83**	130	1	1	**132**	0	0	0	**0**	0	0	0	**0**	24	11	17	18	0	1	15	18	**104**
14:30 to 15:30	663	38	13	**714**	549	10	7	**566**	134	5	1	**140**	1	0	0	**1**	99	2	2	**103**	140	0	0	**140**	0	0	0	**0**	0	0	0	**0**	72	15	17	120	0	1	54	23	**302**
14:45 to 15:45	656	34	13	**703**	564	13	9	**586**	136	5	2	**143**	2	0	0	**2**	111	1	3	**115**	142	2	0	**144**	0	0	0	**0**	0	0	0	**0**	111	21	19	258	0	1	77	29	**516**
15:00 to 16:00	623	32	12	**667**	578	11	6	**595**	132	1	1	**134**	1	0	0	**1**	106	1	3	**110**	128	2	0	**130**	0	0	0	**0**	0	0	0	**0**	113	22	31	267	0	1	82	31	**547**
15:15 to 16:15	623	29	11	**663**	615	8	5	**628**	128	0	1	**129**	1	0	0	**1**	99	2	4	**105**	113	2	0	**115**	0	0	0	**0**	0	0	0	**0**	111	28	29	266	0	0	83	32	**549**
15:30 to 16:30	593	31	11	**635**	622	6	5	**633**	130	0	1	**131**	2	0	0	**2**	99	1	3	**103**	98	2	0	**100**	0	0	0	**0**	0	0	0	**0**	63	27	40	176	0	0	44	36	**386**
15:45 to 16:45	565	31	9	**605**	608	4	2	**614**	136	1	1	**138**	2	0	0	**2**	94	1	3	**98**	93	0	0	**93**	0	0	0	**0**	0	0	0	**0**	30	21	43	42	0	1	34	31	**202**
16:00 to 17:00	596	30	11	**637**	610	2	4	**616**	146	1	2	**149**	3	0	0	**3**	96	1	3	**100**	92	0	0	**92**	0	0	0	**0**	0	0	0	**0**	32	21	34	46	0	1	26	27	**187**
16:15 to 17:15	582	24	13	**619**	626	4	3	**633**	173	1	2	**176**	3	0	0	**3**	95	1	3	**99**	97	0	0	**97**	0	0	0	**0**	0	0	0	**0**	57	18	42	78	0	1	33	26	**255**
16:30 to 17:30	614	18	11	**643**	650	5	4	**659**	177	2	3	**182**	4	1	0	**5**	86	1	3	**90**	108	0	0	**108**	0	0	0	**0**	0	0	0	**0**	71	19	31	84	0	1	36	26	**268**
16:45 to 17:45	617	19	12	**648**	662	4	4	**670**	182	2	3	**187**	4	1	0	**5**	93	1	2	**96**	100	0	0	**100**	0	0	0	**0**	0	0	0	**0**	71	25	24	87	0	0	28	30	**265**
17:00 to 18:00	568	15	11	**594**	640	4	2	**646**	183	3	2	**188**	3	1	0	**4**	93	1	3	**97**	96	0	0	**96**	0	0	0	**0**	0	0	0	**0**	71	23	24	75	0	0	26	39	**258**
PM Totals	**2,424**	**123**	**45**	**2,592**	**2,352**	**24**	**16**	**2,392**	**587**	**9**	**7**	**603**	**8**	**1**	**0**	**9**	**352**	**5**	**10**	**367**	**426**	**3**	**1**	**430**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**234**	**76**	**104**	**404**	**0**	**2**	**146**	**111**	**1,077**

Job No. : N6158
Client : TTPP
Suburb : Barker College
Location : 2 Pacific Highway / Unwin Rd / Romsey St

Day/Date : Thu, 4th Feb 2021
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



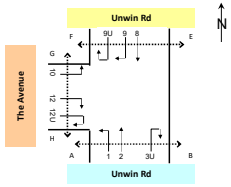
MATRIX Traffic and Transport Data

Approach	Unwin Rd																Pacific Highway															
Direction	Direction 1 (Left Turn)				Direction 2 (Through)				Direction 3 (Right Turn)				Direction 3U (U Turn)				Direction 4 (Left Turn)				Direction 5 (Through)				Direction 6 (Right Turn)				Direction 6U (U Turn)			
Time Period	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total
7:00 to 8:00	42	1	0	**43**	76	1	0	**77**	70	1	0	**71**	0	0	0	**0**	68	0	0	**68**	640	45	11	**696**	181	3	1	**185**	0	0	0	**0**
7:15 to 8:15	44	0	0	**44**	78	1	0	**79**	73	1	0	**74**	0	0	0	**0**	76	1	0	**77**	711	46	15	**772**	208	4	3	**215**	0	0	0	**0**
7:30 to 8:30	42	0	0	**42**	83	0	0	**83**	78	0	0	**78**	0	0	0	**0**	79	1	0	**80**	756	47	19	**822**	281	6	3	**290**	0	0	0	**0**
7:45 to 8:45	32	0	0	**32**	94	0	0	**94**	70	0	1	**71**	0	0	0	**0**	63	2	0	**65**	762	49	21	**832**	306	7	3	**316**	0	0	0	**0**
8:00 to 9:00	31	0	0	**31**	94	0	0	**94**	62	1	2	**65**	0	0	0	**0**	54	2	0	**56**	744	51	23	**818**	297	6	2	**305**	0	0	0	**0**
8:15 to 9:15	31	0	0	**31**	101	1	0	**102**	57	2	2	**61**	0	0	0	**0**	42	1	0	**43**	683	51	20	**754**	282	5	0	**287**	0	0	0	**0**
8:30 to 9:30	26	0	0	**26**	81	1	0	**82**	48	2	2	**52**	0	0	0	**0**	32	1	0	**33**	623	43	18	**684**	228	3	0	**231**	0	0	0	**0**
8:45 to 9:45	26	0	0	**26**	62	1	1	**64**	44	2	1	**47**	0	0	0	**0**	26	0	0	**26**	618	51	16	**685**	188	4	0	**192**	0	0	0	**0**
9:00 to 10:00	19	0	0	**19**	64	1	1	**66**	43	1	0	**44**	0	0	0	**0**	24	0	0	**24**	550	55	14	**619**	170	5	0	**175**	0	0	0	**0**
AM Totals	**92**	**1**	**0**	**93**	**234**	**2**	**1**	**237**	**175**	**3**	**2**	**180**	**0**	**0**	**0**	**0**	**146**	**2**	**0**	**148**	**1,934**	**151**	**48**	**2,133**	**648**	**14**	**3**	**665**	**0**	**0**	**0**	**0**
14:00 to 15:00	53	0	0	**53**	52	1	0	**53**	54	1	0	**55**	0	0	0	**0**	51	3	0	**54**	685	47	7	**739**	106	4	0	**110**	0	0	0	**0**
14:15 to 15:15	56	0	0	**56**	50	0	0	**50**	68	1	0	**69**	0	0	0	**0**	55	3	0	**58**	728	43	14	**785**	138	2	1	**141**	0	0	0	**0**
14:30 to 15:30	49	0	1	**50**	62	0	0	**62**	73	1	0	**74**	0	0	0	**0**	63	1	0	**64**	811	30	16	**857**	160	0	1	**161**	0	0	0	**0**
14:45 to 15:45	61	0	1	**62**	61	0	0	**61**	86	1	0	**87**	0	0	0	**0**	53	0	0	**53**	849	26	18	**893**	181	1	1	**183**	0	0	0	**0**
15:00 to 16:00	67	0	1	**68**	61	0	0	**61**	82	1	0	**83**	0	0	0	**0**	40	0	0	**40**	896	29	21	**946**	189	2	1	**192**	0	0	0	**0**
15:15 to 16:15	74	0	1	**75**	74	1	0	**75**	80	1	0	**81**	0	0	0	**0**	35	0	0	**35**	936	27	16	**979**	197	2	0	**199**	0	0	0	**0**
15:30 to 16:30	77	0	0	**77**	72	2	0	**74**	86	0	0	**86**	0	0	0	**0**	31	0	0	**31**	904	32	14	**950**	189	4	0	**193**	0	0	0	**0**
15:45 to 16:45	71	0	0	**71**	86	2	0	**88**	83	0	0	**83**	0	0	0	**0**	36	0	0	**36**	916	34	16	**966**	179	5	0	**184**	0	0	0	**0**
16:00 to 17:00	62	0	0	**62**	90	2	0	**92**	101	0	0	**101**	0	0	0	**0**	46	0	0	**46**	932	23	17	**972**	188	4	0	**192**	0	0	0	**0**
16:15 to 17:15	57	0	0	**57**	89	1	0	**90**	100	0	0	**100**	0	0	0	**0**	59	0	0	**59**	900	20	20	**940**	171	4	0	**175**	0	0	0	**0**
16:30 to 17:30	49	0	0	**49**	87	0	0	**87**	106	0	0	**106**	0	0	0	**0**	76	0	0	**76**	900	19	23	**942**	171	2	0	**173**	0	0	0	**0**
16:45 to 17:45	51	0	0	**51**	88	0	0	**88**	103	0	0	**103**	0	0	0	**0**	84	0	0	**84**	863	16	20	**899**	174	0	0	**174**	0	0	0	**0**
17:00 to 18:00	49	0	0	**49**	93	0	0	**93**	86	0	0	**86**	0	0	0	**0**	85	0	0	**85**	849	16	24	**889**	161	1	0	**162**	0	0	0	**0**
PM Totals	**231**	**0**	**1**	**232**	**296**	**3**	**0**	**299**	**323**	**2**	**0**	**325**	**0**	**0**	**0**	**0**	**222**	**3**	**0**	**225**	**3,362**	**115**	**69**	**3,546**	**644**	**11**	**1**	**656**	**0**	**0**	**0**	**0**

Approach	Romsey St																Pacific Highway																Crossing Pedestrians								
Direction	Direction 7 (Left Turn)				Direction 8 (Through)				Direction 9 (Right Turn)				Direction 9U (U Turn)				Direction 10 (Left Turn)				Direction 11 (Through)				Direction 12 (Right Turn)				Direction 12U (U Turn)												
Time Period	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	B to A	A to B	D to C	C to D	F to E	E to F	H to G	G to H	Total
7:00 to 8:00	70	3	0	**73**	68	1	0	**69**	36	1	2	**59**	0	0	0	**0**	21	0	0	**21**	693	27	12	**732**	72	0	0	**72**	1	0	0	**1**	36	15	1	0	10	209	6	206	**483**
7:15 to 8:15	89	2	0	**91**	88	1	0	**89**	42	0	5	**47**	0	0	0	**0**	24	0	0	**24**	712	30	13	**755**	102	2	0	**104**	0	0	0	**0**	68	16	0	0	11	414	11	416	**936**
7:30 to 8:30	85	1	0	**86**	89	1	0	**90**	54	0	5	**59**	0	0	0	**0**	21	0	0	**21**	713	35	13	**761**	141	2	0	**143**	0	0	0	**0**	72	22	0	0	16	422	16	434	**982**
7:45 to 8:45	87	0	0	**87**	93	1	0	**94**	50	0	5	**55**	0	0	0	**0**	21	0	0	**21**	645	33	11	**689**	161	2	0	**163**	1	0	0	**1**	75	25	0	0	16	408	19	419	**962**
8:00 to 9:00	81	0	0	**81**	88	0	0	**88**	46	1	3	**50**	0	0	0	**0**	24	0	0	**24**	617	41	11	**669**	163	2	0	**165**	1	0	0	**1**	70	23	0	0	16	232	21	244	**606**
8:15 to 9:15	69	2	0	**71**	63	0	0	**63**	46	1	0	**47**	0	0	0	**0**	25	0	0	**25**	581	48	9	**638**	138	1	0	**139**	2	0	0	**2**	28	22	0	0	20	31	19	38	**158**
8:30 to 9:30	74	2	0	**76**	63	0	0	**63**	40	1	0	**41**	0	0	0	**0**	28	0	0	**28**	540	46	8	**594**	93	2	0	**95**	2	0	0	**2**	18	13	0	0	15	19	16	16	**97**
8:45 to 9:45	70	2	0	**72**	45	0	0	**45**	37	1	0	**38**	0	0	0	**0**	35	1	0	**36**	544	55	11	**610**	67	2	0	**69**	1	0	0	**1**	15	10	0	0	13	17	13	16	**84**
9:00 to 10:00	80	2	0	**82**	45	0	0	**45**	37	0	0	**37**	0	0	0	**0**	27	1	0	**28**	529	52	11	**592**	54	2	0	**56**	1	0	0	**1**	11	8	0	0	13	15	11	16	**74**
AM Totals	**231**	**5**	**0**	**236**	**201**	**1**	**0**	**202**	**119**	**2**	**5**	**126**	**0**	**0**	**0**	**0**	**72**	**1**	**0**	**73**	**1,839**	**120**	**34**	**1,993**	**289**	**4**	**0**	**293**	**3**	**0**	**0**	**3**	**117**	**46**	**1**	**0**	**39**	**456**	**38**	**466**	**1,163**
14:00 to 15:00	93	6	0	**99**	116	2	0	**118**	42	1	1	**44**	0	0	0	**0**	15	0	0	**15**	655	51	12	**718**	118	0	0	**118**	0	0	0	**0**	8	9	0	0	16	7	18	18	**76**
14:15 to 15:15	108	6	0	**114**	127	1	0	**128**	42	2	1	**45**	0	0	0	**0**	17	0	0	**17**	659	50	13	**722**	127	0	0	**127**	0	0	0	**0**	13	14	0	0	59	9	87	22	**204**
14:30 to 15:30	113	6	0	**119**	118	1	0	**119**	34	1	3	**38**	0	0	0	**0**	20	0	0	**20**	701	39	15	**755**	130	0	0	**130**	0	0	0	**0**	34	79	0	0	129	17	86	94	**439**
14:45 to 15:45	118	4	0	**122**	111	0	0	**111**	35	2	4	**41**	0	0	0	**0**	23	0	0	**23**	706	36	12	**754**	110	0	0	**110**	0	0	0	**0**	40	172	0	0	277	21	232	96	**838**
15:00 to 16:00	119	4	0	**123**	102	0	0	**102**	41	2	3	**46**	0	0	0	**0**	26	2	0	**28**	706	34	13	**753**	96	0	0	**96**	0	0	0	**0**	40	175	0	0	290	30	241	96	**872**
15:15 to 16:15	112	3	0	**115**	91	1	0	**92**	42	1	3	**46**	0	0	0	**0**	22	2	0	**24**	719	32	12	**763**	89	0	0	**89**	0	0	0	**0**	35	174	0	0	252	33	174	93	**761**
15:30 to 16:30	112	2	0	**114**	105	1	0	**106**	52	2	1	**55**	0	0	0	**0**	21	2	0	**23**	682	36	11	**729**	77	0	0	**77**	0	0	0	**0**	19	119	0	0	208	27	212	18	**603**
15:45 to 16:45	119	0	0	**119**	111	1	0	**112**	53	1	0	**54**	0	0	0	**0**	23	3	0	**26**	654	35	11	**700**	83	1	0	**84**	1	0	0	**1**	13	35	0	0	66	29	70	16	**229**
16:00 to 17:00	131	3	0	**134**	115	1	0	**116**	55	2	0	**57**	0	0	0	**0**	19	1	0	**20**	672	36	11	**719**	93	1	0	**94**	1	0	0	**1**	16	59	0	0	56	18	66	14	**229**
16:15 to 17:15	133	3	0	**136**	126	0	0	**126**	66	2	0	**68**	0	0	0	**0**	17	1	0	**18**	652	28	12	**692**	109	1	0	**110**	1	0	0	**1**	20	101	0	0	76	16	118	12	**343**
16:30 to 17:30	133	3	0	**136**	126	0	0	**126**	64	1	1	**66**	0	0	0	**0**	18	1	0	**19**	676	19	11	**706**	130	1	0	**131**	1	0	0	**1**	18	111	0	0	107	18	121	15	**390**
16:45 to 17:45	126	3	0	**129**	130	0	0	**130**	65	1	1	**67**	0	0	0	**0**	16	0	0	**16**	679	19	12	**710**	132	0	0	**132**	0	0	0	**0**	19	110	0	0	101	13	114	11	**368**
17:00 to 18:00	106	0	0	**106**	131	0	0	**131**	58	0	1	**59**	0	0	0	**0**	16	0	0	**16**	619	15	11	**645**	115	0	0	**115**	0	0	0	**0**	16	97	0	0	106	17	118	10	**364**
PM Totals	**449**	**13**	**0**	**462**	**464**	**3**	**0**	**467**	**196**	**5**	**5**	**206**	**0**	**0**	**0**	**0**	**76**	**3**	**0**	**79**	**2,652**	**136**	**47**	**2,835**	**422**	**1**	**0**	**423**	**1**	**0**	**0**	**1**	**80**	**340**	**0**	**0**	**468**	**72**	**443**	**138**	**1,541**

Job No. : N6158
Client : TTPP
Suburb : Barker College
Location : 3 Unwin Rd / The Avenue

Day/Date : Thu, 4th Feb 2021
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



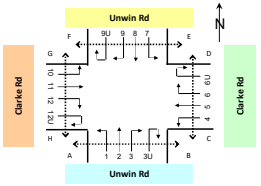
MATRIX Traffic and Transport Data

Approach	Unwin Rd											
Direction	Direction 1 (Left Turn)				Direction 2 (Through)					Direction 3U (U Turn)		
Time Period	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total		Lights	Heavies	Buses	Total
7:00 to 8:00	9	1	0	10	201	3	0	204		0	0	0	0
7:15 to 8:15	5	2	0	7	219	2	0	221		0	0	0	0
7:30 to 8:30	5	1	0	6	217	0	0	217		0	0	0	0
7:45 to 8:45	3	1	0	4	206	0	1	207		0	0	0	0
8:00 to 9:00	4	1	0	5	197	0	2	199		0	0	0	0
8:15 to 9:15	4	0	0	4	182	2	2	186		0	0	0	0
8:30 to 9:30	3	0	0	3	148	2	2	152		0	0	0	0
8:45 to 9:45	6	0	0	6	129	2	2	133		0	0	0	0
9:00 to 10:00	8	0	0	8	122	2	1	125		0	0	0	0
AM Totals	**21**	**2**	**0**	**23**	**520**	**5**	**3**	**528**		**0**	**0**	**0**	**0**
14:00 to 15:00	9	0	0	9	164	1	0	165		1	0	0	1
14:15 to 15:15	5	0	0	5	189	1	0	190		1	0	0	1
14:30 to 15:30	2	0	0	2	200	0	1	201		1	0	0	1
14:45 to 15:45	1	0	0	1	227	0	1	228		1	0	0	1
15:00 to 16:00	1	0	0	1	227	1	1	229		0	0	0	0
15:15 to 16:15	0	0	0	0	237	1	1	239		0	0	0	0
15:30 to 16:30	0	0	0	0	248	2	0	250		0	0	0	0
15:45 to 16:45	0	0	0	0	249	2	0	251		0	0	0	0
16:00 to 17:00	0	0	0	0	267	1	0	268		0	0	0	0
16:15 to 17:15	0	0	0	0	267	1	0	268		0	0	0	0
16:30 to 17:30	0	0	0	0	258	0	0	258		0	0	0	0
16:45 to 17:45	1	0	0	1	256	0	0	256		0	0	0	0
17:00 to 18:00	2	0	0	2	251	0	0	251		0	0	0	0
PM Totals	**12**	**0**	**0**	**12**	**909**	**3**	**1**	**913**		**1**	**0**	**0**	**1**

Approach	Unwin Rd												The Avenue												Crossing Pedestrians								
Direction	Direction 8 (Through)				Direction 9 (Right Turn)				Direction 9U (U Turn)				Direction 10 (Left Turn)				Direction 12 (Right Turn)				Direction 12U (U Turn)				B to A	A to B		F to E	E to F	H to G	G to H	
Time Period	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total									
7:00 to 8:00	202	1	0	203	0	0	0	0	3	0	0	3	0	0	0	0	5	0	0	5	0	0	0	0	0	2		2	3	52	9	68
7:15 to 8:15	262	3	0	265	0	0	0	0	3	0	0	3	0	0	0	0	5	0	0	5	0	0	0	0	0	3		2	1	73	23	102
7:30 to 8:30	305	3	0	308	0	0	0	0	2	0	0	2	0	0	0	0	8	0	0	8	0	0	0	0	1	4		2	5	97	28	137
7:45 to 8:45	307	3	0	310	0	0	0	0	2	0	0	2	0	0	0	0	5	0	0	5	0	0	0	0	1	4		2	5	93	30	135
8:00 to 9:00	298	2	0	300	0	0	0	0	0	0	0	0	1	0	0	1	9	0	0	9	0	0	0	0	1	3		1	6	72	27	110
8:15 to 9:15	239	0	0	239	0	1	0	1	0	0	0	0	1	0	0	1	7	0	0	7	0	0	0	0	1	2		0	6	46	19	74
8:30 to 9:30	176	1	0	177	1	1	0	2	0	0	0	0	1	0	0	1	4	0	0	4	0	0	0	0	0	1		0	2	18	14	35
8:45 to 9:45	133	1	0	134	1	1	0	2	0	0	0	0	1	0	0	1	5	0	0	5	0	0	0	0	0	0		0	2	12	13	27
9:00 to 10:00	117	1	0	118	1	1	0	2	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0		0	1	8	9	18
AM Totals	**617**	**4**	**0**	**621**	**1**	**1**	**0**	**2**	**3**	**0**	**0**	**3**	**1**	**0**	**0**	**1**	**18**	**0**	**0**	**18**	**0**	**0**	**0**	**0**	**1**	**5**		**3**	**10**	**132**	**45**	**196**
14:00 to 15:00	258	4	0	262	0	0	0	0	1	0	0	1	1	0	0	1	10	0	0	10	0	0	0	0	4	2		3	1	18	11	39
14:15 to 15:15	272	3	0	275	0	0	0	0	1	0	0	1	0	0	0	0	11	1	0	12	0	0	0	0	4	1		4	2	37	18	66
14:30 to 15:30	275	1	0	276	0	0	0	0	0	0	0	0	0	0	0	0	10	1	0	11	0	0	0	0	4	0		6	4	43	30	87
14:45 to 15:45	249	0	0	249	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	0	0	0	0	3	2		12	6	46	45	114
15:00 to 16:00	215	0	0	215	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2		9	7	40	44	102
15:15 to 16:15	201	1	0	202	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		8	6	23	36	75
15:30 to 16:30	199	1	0	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		9	4	18	23	56
15:45 to 16:45	201	2	0	203	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		8	1	11	18	38
16:00 to 17:00	221	2	0	223	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0		15	2	15	21	54
16:15 to 17:15	242	1	0	243	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	2		34	5	23	85	151
16:30 to 17:30	274	1	0	275	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	4	5		41	8	31	98	187
16:45 to 17:45	285	0	0	285	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	4	5		42	12	45	96	204
17:00 to 18:00	268	0	0	268	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	8		42	10	41	107	211
PM Totals	**962**	**6**	**0**	**968**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**2**	**2**	**0**	**0**	**2**	**11**	**1**	**0**	**12**	**0**	**0**	**0**	**0**	**8**	**12**		**69**	**20**	**114**	**183**	**406**

Job No. : N6158
Client : TTPP
Suburb : Barker College
Location : 4. Unwin Rd / Clarke Rd

Day/Date : Thu, 4th Feb 2021
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



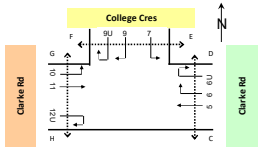
MATRIX Traffic and Transport Data

Approach	Unwin Rd																Clarke Rd															
Direction	Direction 1 (Left Turn)				Direction 2 (Through)				Direction 3 (Right Turn)				Direction 3U (U Turn)				Direction 4 (Left Turn)				Direction 5 (Through)				Direction 6 (Right Turn)				Direction 6U (U Turn)			
Time Period	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total
7:00 to 8:00	45	1	0	**46**	92	1	0	**93**	54	0	2	**56**	0	0	0	**0**	40	1	0	**41**	48	0	1	**49**	44	0	0	**44**	0	0	0	**0**
7:15 to 8:15	64	1	0	**65**	96	2	0	**98**	78	0	2	**80**	0	0	0	**0**	63	1	0	**64**	67	0	2	**69**	45	0	0	**45**	0	0	0	**0**
7:30 to 8:30	80	3	0	**83**	78	1	1	**80**	97	0	1	**98**	0	0	0	**0**	92	0	0	**92**	86	0	3	**89**	42	0	0	**42**	0	0	0	**0**
7:45 to 8:45	92	4	0	**96**	59	1	1	**61**	92	0	1	**93**	0	0	0	**0**	98	1	1	**100**	95	0	3	**98**	30	0	0	**30**	0	0	0	**0**
8:00 to 9:00	81	3	1	**85**	59	1	2	**62**	86	0	1	**87**	0	0	0	**0**	97	1	1	**99**	91	0	4	**95**	20	0	0	**20**	0	0	0	**0**
8:15 to 9:15	70	3	1	**74**	56	0	2	**58**	65	0	0	**65**	0	0	0	**0**	77	1	3	**81**	79	0	3	**82**	22	0	0	**22**	0	0	0	**0**
8:30 to 9:30	51	1	1	**53**	54	0	1	**55**	42	0	1	**43**	0	0	0	**0**	53	2	3	**58**	53	0	2	**55**	28	0	0	**28**	0	0	0	**0**
8:45 to 9:45	40	0	1	**41**	63	0	2	**65**	28	0	1	**29**	0	0	0	**0**	44	1	3	**48**	35	0	1	**36**	26	0	0	**26**	0	0	0	**0**
9:00 to 10:00	36	0	0	**36**	59	0	1	**60**	23	0	1	**24**	0	0	0	**0**	44	2	3	**49**	28	0	0	**28**	24	0	0	**24**	0	0	0	**0**
AM Totals	**162**	**4**	**1**	**167**	**210**	**2**	**3**	**215**	**163**	**0**	**4**	**167**	**0**	**0**	**0**	**0**	**181**	**4**	**4**	**189**	**167**	**0**	**5**	**172**	**88**	**0**	**0**	**88**	**0**	**0**	**0**	**0**
14:00 to 15:00	45	1	0	**46**	61	1	0	**62**	35	0	1	**36**	1	0	0	**1**	45	1	2	**48**	48	0	0	**48**	15	0	0	**15**	0	0	0	**0**
14:15 to 15:15	67	1	1	**69**	68	1	0	**69**	44	0	1	**45**	1	0	0	**1**	69	1	2	**72**	74	1	0	**75**	17	0	0	**17**	0	0	0	**0**
14:30 to 15:30	77	2	2	**81**	66	0	0	**66**	45	0	0	**45**	0	0	0	**0**	75	0	4	**79**	88	1	0	**89**	23	0	0	**23**	0	0	0	**0**
14:45 to 15:45	95	1	2	**98**	68	0	0	**68**	45	0	1	**46**	0	0	0	**0**	72	0	3	**75**	85	1	0	**86**	21	0	0	**21**	0	0	0	**0**
15:00 to 16:00	97	1	2	**100**	68	1	0	**69**	44	0	1	**45**	0	0	0	**0**	69	0	3	**72**	84	1	0	**85**	19	0	0	**19**	0	0	0	**0**
15:15 to 16:15	73	1	1	**75**	65	1	0	**66**	37	0	1	**38**	0	0	0	**0**	54	0	3	**57**	71	1	0	**72**	14	0	0	**14**	0	0	0	**0**
15:30 to 16:30	67	0	0	**67**	67	2	0	**69**	32	0	2	**34**	0	0	0	**0**	48	0	2	**50**	59	1	0	**60**	16	0	0	**16**	0	0	0	**0**
15:45 to 16:45	47	0	0	**47**	63	2	0	**65**	29	0	1	**30**	0	0	0	**0**	45	0	2	**47**	62	1	0	**63**	19	0	0	**19**	0	0	0	**0**
16:00 to 17:00	44	0	0	**44**	58	1	0	**59**	21	0	2	**23**	0	0	0	**0**	49	0	2	**51**	63	1	0	**64**	25	0	0	**25**	0	0	0	**0**
16:15 to 17:15	40	0	0	**40**	58	1	0	**59**	21	0	2	**23**	0	0	0	**0**	51	0	2	**53**	54	1	0	**55**	34	0	0	**34**	0	0	0	**0**
16:30 to 17:30	42	0	0	**42**	45	0	0	**45**	32	0	2	**34**	0	0	0	**0**	56	0	2	**58**	53	1	0	**54**	28	0	0	**28**	0	0	0	**0**
16:45 to 17:45	44	0	0	**44**	45	0	0	**45**	32	0	2	**34**	0	0	0	**0**	66	0	2	**68**	60	1	0	**61**	26	0	0	**26**	0	0	0	**0**
17:00 to 18:00	40	0	0	**40**	57	0	0	**57**	29	0	1	**30**	0	0	0	**0**	60	0	2	**62**	56	1	0	**57**	19	0	0	**19**	0	0	0	**0**
PM Totals	**226**	**2**	**2**	**230**	**244**	**3**	**0**	**247**	**129**	**0**	**5**	**134**	**1**	**0**	**0**	**1**	**223**	**1**	**9**	**233**	**251**	**3**	**0**	**254**	**78**	**0**	**0**	**78**	**0**	**0**	**0**	**0**

Approach	Unwin Rd																Clarke Rd																Crossing Pedestrians								
Direction	Direction 7 (Left Turn)				Direction 8 (Through)				Direction 9 (Right Turn)				Direction 9U (U Turn)				Direction 10 (Left Turn)				Direction 11 (Through)				Direction 12 (Right Turn)				Direction 12U (U Turn)											
Time Period	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	B to A	A to B	D to C	C to D	F to E	E to F	H to G	G to H	Total
7:00 to 8:00	40	0	0	**40**	72	1	0	**73**	44	0	0	**44**	0	0	0	**0**	169	3	0	**172**	37	0	2	**39**	44	0	0	**44**	0	0	0	**0**	3	2	3	5	10	3	5	3	**34**
7:15 to 8:15	57	1	0	**58**	102	2	0	**104**	61	0	0	**61**	0	0	0	**0**	176	2	0	**178**	43	0	3	**46**	61	0	0	**61**	0	0	0	**0**	3	0	5	4	14	8	11	3	**48**
7:30 to 8:30	80	1	0	**81**	128	2	0	**130**	69	0	0	**69**	0	0	0	**0**	170	0	0	**170**	56	0	7	**63**	73	0	0	**73**	0	0	0	**0**	3	4	4	6	16	12	15	2	**62**
7:45 to 8:45	101	1	0	**102**	134	2	0	**136**	70	0	0	**70**	0	0	0	**0**	137	0	0	**137**	55	0	7	**62**	82	1	0	**83**	0	0	0	**0**	2	4	8	5	20	12	17	1	**69**
8:00 to 9:00	107	1	0	**108**	131	1	0	**132**	64	0	0	**64**	0	0	0	**0**	111	0	0	**111**	61	0	5	**66**	72	2	0	**74**	0	0	0	**0**	1	5	7	5	17	13	17	5	**70**
8:15 to 9:15	93	0	0	**93**	100	0	0	**100**	50	0	0	**50**	0	0	0	**0**	85	2	0	**87**	56	0	4	**60**	53	3	0	**56**	0	0	0	**0**	2	7	5	6	13	7	14	5	**59**
8:30 to 9:30	71	0	0	**71**	66	0	0	**66**	42	1	0	**43**	0	0	0	**0**	59	2	0	**61**	45	0	0	**45**	40	4	0	**44**	0	0	0	**0**	1	4	4	3	10	3	12	8	**45**
8:45 to 9:45	45	0	0	**45**	50	0	0	**50**	37	1	0	**38**	0	0	0	**0**	57	2	0	**59**	41	0	0	**41**	42	5	0	**47**	0	0	0	**0**	1	4	0	3	2	2	7	8	**27**
9:00 to 10:00	36	0	0	**36**	42	0	0	**42**	35	1	0	**36**	1	0	0	**1**	50	2	0	**52**	30	1	0	**31**	36	4	0	**40**	0	0	0	**0**	1	3	1	3	2	1	6	4	**21**
AM Totals	**183**	**1**	**0**	**184**	**245**	**2**	**0**	**247**	**143**	**1**	**0**	**144**	**1**	**0**	**0**	**1**	**330**	**5**	**0**	**335**	**128**	**1**	**7**	**136**	**152**	**6**	**0**	**158**	**0**	**0**	**0**	**0**	**5**	**10**	**11**	**13**	**29**	**17**	**28**	**12**	**125**
14:00 to 15:00	70	1	0	**71**	140	2	0	**142**	70	1	0	**71**	0	0	0	**0**	79	0	0	**79**	38	0	0	**38**	54	1	0	**55**	0	0	0	**0**	0	0	2	2	9	10	1	2	**26**
14:15 to 15:15	79	0	0	**79**	130	3	0	**133**	78	1	0	**79**	1	0	0	**1**	100	0	0	**100**	43	0	3	**46**	65	1	0	**66**	0	0	0	**0**	7	0	2	9	15	20	3	5	**61**
14:30 to 15:30	84	0	0	**84**	122	1	0	**123**	91	1	0	**92**	1	0	0	**1**	117	0	1	**118**	44	0	4	**48**	74	0	0	**74**	0	0	0	**0**	9	0	3	10	16	20	3	10	**71**
14:45 to 15:45	78	0	0	**78**	111	1	0	**112**	92	0	0	**92**	1	0	0	**1**	124	0	1	**125**	51	0	4	**55**	74	0	0	**74**	0	0	0	**0**	9	2	5	11	23	15	6	14	**85**
15:00 to 16:00	64	0	0	**64**	94	1	0	**95**	88	0	0	**88**	1	0	0	**1**	125	0	1	**126**	39	0	4	**43**	66	0	0	**66**	0	0	0	**0**	9	2	5	11	15	15	8	14	**79**
15:15 to 16:15	60	0	0	**60**	95	0	0	**95**	82	1	0	**83**	0	0	0	**0**	129	0	1	**130**	42	0	1	**43**	56	0	0	**56**	0	0	0	**0**	2	2	5	7	9	5	10	11	**51**
15:30 to 16:30	53	0	0	**53**	100	0	0	**100**	78	1	0	**79**	0	0	0	**0**	132	0	0	**132**	37	0	0	**37**	67	0	0	**67**	0	0	0	**0**	0	4	4	6	7	7	11	8	**47**
15:45 to 16:45	43	0	0	**43**	105	1	0	**106**	75	1	0	**76**	0	0	0	**0**	147	0	0	**147**	33	0	0	**33**	84	0	0	**84**	0	0	0	**0**	0	2	1	4	1	7	8	4	**27**
16:00 to 17:00	50	0	0	**50**	116	1	0	**117**	79	1	0	**80**	0	0	0	**0**	148	0	0	**148**	35	1	0	**36**	81	0	0	**81**	0	0	0	**0**	0	2	1	6	1	6	11	4	**31**
16:15 to 17:15	53	0	0	**53**	136	1	0	**137**	92	0	0	**92**	0	0	0	**0**	144	0	0	**144**	31	1	0	**32**	87	0	0	**87**	0	0	0	**0**	0	3	3	4	2	6	6	7	**31**
16:30 to 17:30	66	0	0	**66**	154	1	0	**155**	119	0	0	**119**	0	0	0	**0**	147	0	0	**147**	37	1	0	**38**	83	0	0	**83**	0	0	0	**0**	1	1	8	5	7	5	5	8	**40**
16:45 to 17:45	75	0	0	**75**	155	0	0	**155**	121	0	0	**121**	0	0	0	**0**	137	0	0	**137**	35	1	0	**36**	69	0	0	**69**	0	0	0	**0**	1	2	10	4	10	4	6	9	**46**
17:00 to 18:00	66	0	0	**66**	150	0	0	**150**	114	0	0	**114**	0	0	0	**0**	139	0	0	**139**	36	0	0	**36**	69	0	0	**69**	0	0	0	**0**	3	3	15	5	12	2	3	8	**51**
PM Totals	**250**	**1**	**0**	**251**	**500**	**4**	**0**	**504**	**351**	**2**	**0**	**353**	**1**	**0**	**0**	**1**	**491**	**0**	**1**	**492**	**148**	**1**	**4**	**153**	**270**	**1**	**0**	**271**	**0**	**0**	**0**	**0**	**12**	**7**	**23**	**24**	**37**	**33**	**23**	**28**	**187**

Job No. : N6158
Client : TTPP
Suburb : Barker College
Location : 5. Clarke Rd / College Cres

Day/Date : Thu, 4th Feb 2021
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



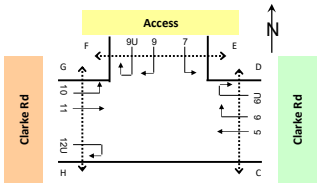
MATRIX Traffic and Transport Data

Approach	Clarke Rd											
Direction	Direction 5 (Through)				Direction 6 (Right Turn)				Direction 6U (U Turn)			
Time Period	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total
7:00 to 8:00	58	0	1	59	27	0	0	27	0	0	0	0
7:15 to 8:15	89	0	3	92	46	0	0	46	5	1	0	6
7:30 to 8:30	131	0	3	134	64	1	1	66	7	1	0	8
7:45 to 8:45	151	0	2	153	71	2	2	75	8	2	0	10
8:00 to 9:00	158	0	4	162	69	2	2	73	8	2	0	10
8:15 to 9:15	142	0	2	144	58	2	2	62	4	1	0	5
8:30 to 9:30	106	1	2	109	38	1	1	40	2	1	0	3
8:45 to 9:45	77	1	2	80	29	0	0	29	1	0	0	1
9:00 to 10:00	68	1	0	69	27	0	0	27	1	0	0	1
AM Totals	**284**	**1**	**5**	**290**	**123**	**2**	**2**	**127**	**9**	**2**	**0**	**11**
14:00 to 15:00	88	2	0	90	40	0	0	40	0	0	0	0
14:15 to 15:15	127	3	1	131	64	0	0	64	0	0	0	0
14:30 to 15:30	146	3	2	151	77	1	0	78	1	0	0	1
14:45 to 15:45	167	2	2	171	91	1	0	92	2	0	0	2
15:00 to 16:00	188	1	2	191	93	1	0	94	2	0	0	2
15:15 to 16:15	165	3	1	169	69	1	0	70	3	0	0	3
15:30 to 16:30	162	3	0	165	61	0	0	61	4	0	0	4
15:45 to 16:45	155	3	0	158	49	0	0	49	4	0	0	4
16:00 to 17:00	150	3	0	153	52	0	0	52	4	0	0	4
16:15 to 17:15	151	1	0	152	56	0	0	56	6	0	0	6
16:30 to 17:30	164	1	0	165	66	0	0	66	4	0	0	4
16:45 to 17:45	162	1	0	163	71	0	0	71	3	0	0	3
17:00 to 18:00	155	1	0	156	66	0	0	66	3	0	0	3
PM Totals	**581**	**7**	**2**	**590**	**251**	**1**	**0**	**252**	**9**	**0**	**0**	**9**

Approach	College Cres												Clarke Rd												Crossing Pedestrians						
Direction	Direction 7 (Left Turn)				Direction 9 (Right Turn)				Direction 9U (U Turn)				Direction 10 (Left Turn)				Direction 11 (Through)				Direction 12U (U Turn)										
Time Period	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	Lights	Heavies	Buses	Total	D to C	C to D	F to E	E to F	H to G	G to H	Total
7:00 to 8:00	121	4	1	126	400	2	8	410	60	0	0	60	449	4	0	453	158	0	1	159	20	0	0	20	0	1	9	5	0	0	15
7:15 to 8:15	147	3	3	153	410	1	8	419	96	0	0	96	468	2	0	470	176	0	2	178	25	0	0	25	0	1	28	13	0	0	42
7:30 to 8:30	156	0	6	162	397	2	5	404	133	0	0	133	522	1	0	523	181	0	2	183	33	0	0	33	0	1	43	14	0	0	58
7:45 to 8:45	154	0	6	160	410	2	3	415	142	0	0	142	540	1	0	541	156	0	2	158	44	0	0	44	1	0	42	14	1	0	58
8:00 to 9:00	118	0	5	123	425	2	1	428	108	1	0	109	578	1	1	580	140	0	1	141	47	0	0	47	1	0	42	23	1	0	67
8:15 to 9:15	82	3	3	88	428	2	0	430	68	1	0	69	633	1	1	635	115	0	0	115	45	0	0	45	1	0	25	21	1	0	48
8:30 to 9:30	46	3	0	49	428	3	0	431	23	1	0	24	598	2	2	602	98	1	0	99	33	0	0	33	1	0	11	22	1	0	35
8:45 to 9:45	30	4	0	34	384	5	0	389	9	1	0	10	595	7	2	604	83	1	0	84	20	0	0	20	0	0	7	19	0	0	26
9:00 to 10:00	26	5	0	31	336	5	1	342	9	0	0	9	553	7	1	561	63	1	0	64	12	0	0	12	0	0	4	9	0	0	13
AM Totals	**265**	**9**	**6**	**280**	**1,161**	**9**	**10**	**1,180**	**177**	**1**	**0**	**178**	**1,580**	**12**	**2**	**1,594**	**361**	**1**	**2**	**364**	**79**	**0**	**0**	**79**	**1**	**1**	**55**	**37**	**1**	**0**	**95**
14:00 to 15:00	91	1	1	93	437	7	2	446	41	0	0	41	399	2	1	402	96	0	0	96	19	0	0	19	0	0	6	11	0	0	17
14:15 to 15:15	100	1	3	104	443	8	3	454	51	0	0	51	455	3	1	459	111	0	0	111	23	0	0	23	0	0	14	28	0	0	42
14:30 to 15:30	122	0	5	127	500	10	4	514	75	0	0	75	498	4	1	503	113	0	0	113	28	0	0	28	0	0	18	36	0	0	54
14:45 to 15:45	120	1	6	127	538	14	8	560	85	0	0	85	515	6	3	524	125	0	0	125	38	0	0	38	0	0	18	35	0	0	53
15:00 to 16:00	108	1	5	114	574	12	8	594	66	0	0	66	513	5	3	521	109	0	0	109	33	0	0	33	0	0	14	31	0	0	45
15:15 to 16:15	94	1	3	98	556	9	9	574	59	0	0	59	498	5	5	508	120	0	0	120	35	0	0	35	0	0	7	14	0	0	21
15:30 to 16:30	97	1	1	99	566	7	8	581	51	0	0	51	479	5	5	489	114	0	0	114	29	0	0	29	0	0	5	11	0	0	16
15:45 to 16:45	127	0	0	127	558	4	3	565	57	0	0	57	483	4	4	491	106	0	0	106	23	0	0	23	0	0	4	8	0	0	12
16:00 to 17:00	117	0	0	117	557	2	4	563	62	0	0	62	465	3	3	471	110	1	0	111	22	0	0	22	0	0	3	7	0	0	10
16:15 to 17:15	136	0	0	136	577	4	4	585	72	0	0	72	464	2	2	468	99	1	0	100	18	0	0	18	0	0	3	14	0	0	17
16:30 to 17:30	128	0	0	128	602	4	5	611	78	0	0	78	441	2	3	446	108	1	0	109	24	0	0	24	0	0	1	14	0	0	15
16:45 to 17:45	102	0	0	102	617	4	5	626	58	0	0	58	433	1	2	436	113	1	0	114	20	0	0	20	0	0	3	14	0	0	17
17:00 to 18:00	108	0	0	108	600	4	3	607	54	0	0	54	417	1	2	420	108	0	0	108	15	0	0	15	0	0	4	13	0	0	17
PM Totals	**424**	**2**	**6**	**432**	**2,168**	**25**	**17**	**2,210**	**223**	**0**	**0**	**223**	**1,794**	**11**	**9**	**1,814**	**423**	**1**	**0**	**424**	**89**	**0**	**0**	**89**	**0**	**0**	**27**	**62**	**0**	**0**	**89**

Job No. : N6158
Client : TTPP
Suburb : Barker College
Location : D1. Clarke Rd

Day/Date : Thu, 4th Feb 2021
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



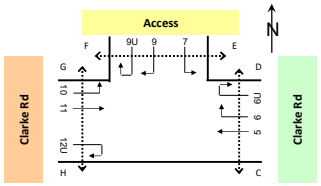
MATRIX Traffic and Transport Data

Approach				Clarke Rd								
Direction				Direction 5 (Through)			Direction 6 (Right Turn)			Direction 6U (U Turn)		
Time Period				Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total
7:00	to	8:00		133	2	**135**	0	0	**0**	0	0	**0**
7:15	to	8:15		189	4	**193**	0	0	**0**	0	0	**0**
7:30	to	8:30		231	7	**238**	0	0	**0**	1	0	**1**
7:45	to	8:45		254	8	**262**	0	0	**0**	1	0	**1**
8:00	to	9:00		237	9	**246**	0	0	**0**	1	0	**1**
8:15	to	9:15		198	7	**205**	0	0	**0**	1	0	**1**
8:30	to	9:30		147	5	**152**	0	0	**0**	1	0	**1**
8:45	to	9:45		109	3	**112**	0	0	**0**	2	0	**2**
9:00	to	10:00		95	1	**96**	0	0	**0**	2	0	**2**
AM Totals				**465**	**12**	**477**	**0**	**0**	**0**	**3**	**0**	**3**
14:00	to	15:00		161	2	**163**	0	0	**0**	2	0	**2**
14:15	to	15:15		216	4	**220**	0	0	**0**	2	0	**2**
14:30	to	15:30		254	6	**260**	0	0	**0**	2	0	**2**
14:45	to	15:45		272	4	**276**	0	0	**0**	1	0	**1**
15:00	to	16:00		269	4	**273**	0	0	**0**	1	0	**1**
15:15	to	16:15		227	4	**231**	0	0	**0**	1	0	**1**
15:30	to	16:30		206	2	**208**	0	0	**0**	0	0	**0**
15:45	to	16:45		187	2	**189**	0	0	**0**	0	0	**0**
16:00	to	17:00		188	2	**190**	0	0	**0**	0	0	**0**
16:15	to	17:15		189	1	**190**	0	0	**0**	0	0	**0**
16:30	to	17:30		216	1	**217**	0	0	**0**	0	0	**0**
16:45	to	17:45		226	1	**227**	0	0	**0**	1	0	**1**
17:00	to	18:00		212	1	**213**	0	0	**0**	1	0	**1**
PM Totals				**830**	**9**	**839**	**0**	**0**	**0**	**4**	**0**	**4**

Approach				Access									Clarke Rd									Crossing Pedestrians						
Direction				Direction 7 (Left Turn)			Direction 9 (Right Turn)			Direction 9U (U Turn)			Direction 10 (Left Turn)			Direction 11 (Through)			Direction 12U (U Turn)									
Time Period				Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	D to C	C to D	F to E	E to F	H to G	G to H	Total
7:00	to	8:00		1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	258	5	**263**	0	0	**0**	0	0	11	10	1	0	**22**
7:15	to	8:15		1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	289	6	**295**	0	0	**0**	1	1	18	20	2	0	**42**
7:30	to	8:30		3	0	**3**	1	0	**1**	0	0	**0**	0	0	**0**	305	8	**313**	0	0	**0**	1	2	28	38	2	0	**71**
7:45	to	8:45		3	0	**3**	1	0	**1**	0	0	**0**	0	0	**0**	285	9	**294**	0	0	**0**	1	2	27	42	2	0	**74**
8:00	to	9:00		5	0	**5**	3	0	**3**	0	0	**0**	0	0	**0**	240	8	**248**	0	0	**0**	1	2	27	40	2	0	**72**
8:15	to	9:15		4	0	**4**	4	0	**4**	0	0	**0**	0	0	**0**	192	9	**201**	0	0	**0**	0	1	20	33	1	0	**55**
8:30	to	9:30		2	0	**2**	3	0	**3**	0	0	**0**	0	0	**0**	138	6	**144**	0	0	**0**	1	0	11	14	1	0	**27**
8:45	to	9:45		2	0	**2**	4	0	**4**	0	0	**0**	0	0	**0**	109	6	**115**	0	0	**0**	3	1	5	9	0	0	**18**
9:00	to	10:00		0	0	**0**	2	0	**2**	0	0	**0**	0	0	**0**	91	6	**97**	0	0	**0**	3	2	4	7	0	0	**16**
AM Totals				**6**	**0**	**6**	**5**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**589**	**19**	**608**	**0**	**0**	**0**	**4**	**4**	**42**	**57**	**3**	**0**	**110**
14:00	to	15:00		3	0	**3**	3	0	**3**	0	0	**0**	0	0	**0**	169	1	**170**	0	0	**0**	3	1	12	12	1	1	**30**
14:15	to	15:15		5	0	**5**	4	0	**4**	0	0	**0**	0	0	**0**	203	4	**207**	0	0	**0**	0	2	25	18	1	1	**47**
14:30	to	15:30		5	0	**5**	4	0	**4**	0	0	**0**	0	0	**0**	229	5	**234**	0	0	**0**	0	1	26	19	1	1	**48**
14:45	to	15:45		9	0	**9**	6	0	**6**	0	0	**0**	0	0	**0**	237	7	**244**	0	0	**0**	0	2	32	20	0	1	**55**
15:00	to	16:00		12	0	**12**	8	0	**8**	0	0	**0**	0	0	**0**	215	7	**222**	0	0	**0**	1	2	24	16	0	0	**43**
15:15	to	16:15		20	0	**20**	10	0	**10**	0	0	**0**	0	0	**0**	203	4	**207**	0	0	**0**	1	1	11	12	0	0	**25**
15:30	to	16:30		24	0	**24**	11	0	**11**	0	0	**0**	0	0	**0**	213	2	**215**	0	0	**0**	3	3	10	10	0	0	**26**
15:45	to	16:45		19	0	**19**	11	0	**11**	0	0	**0**	0	0	**0**	247	0	**247**	0	0	**0**	3	2	3	6	2	0	**16**
16:00	to	17:00		20	0	**20**	12	0	**12**	0	0	**0**	0	0	**0**	246	1	**247**	0	0	**0**	2	4	3	6	2	1	**18**
16:15	to	17:15		17	0	**17**	9	0	**9**	0	0	**0**	0	0	**0**	255	1	**256**	0	0	**0**	2	4	8	5	2	1	**22**
16:30	to	17:30		21	0	**21**	9	0	**9**	0	0	**0**	0	0	**0**	248	1	**249**	0	0	**0**	3	2	8	8	2	1	**24**
16:45	to	17:45		23	0	**23**	9	0	**9**	0	0	**0**	0	0	**0**	217	1	**218**	0	0	**0**	5	4	12	10	0	1	**32**
17:00	to	18:00		21	0	**21**	5	0	**5**	0	0	**0**	0	0	**0**	221	0	**221**	0	0	**0**	5	7	12	14	2	1	**41**
PM Totals				**56**	**0**	**56**	**28**	**0**	**28**	**0**	**0**	**0**	**0**	**0**	**0**	**851**	**9**	**860**	**0**	**0**	**0**	**11**	**14**	**51**	**48**	**5**	**3**	**132**

Job No. : N6158
Client : TTPP
Suburb : Barker College
Location : D2. Clarke Rd

Day/Date : Thu, 4th Feb 2021
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



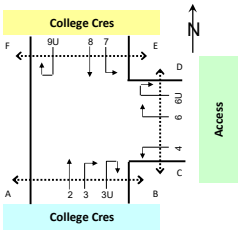
MATRIX Traffic and Transport Data

Approach		Clarke Rd								
Direction		Direction 5 (Through)			Direction 6 (Right Turn)			Direction 6U (U Turn)		
Time Period		Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total
7:00 to 8:00		98	2	**100**	35	0	**35**	0	0	**0**
7:15 to 8:15		152	4	**156**	36	0	**36**	0	0	**0**
7:30 to 8:30		202	7	**209**	31	0	**31**	0	0	**0**
7:45 to 8:45		230	8	**238**	25	0	**25**	0	0	**0**
8:00 to 9:00		228	9	**237**	11	0	**11**	0	0	**0**
8:15 to 9:15		195	7	**202**	6	0	**6**	0	0	**0**
8:30 to 9:30		146	5	**151**	3	0	**3**	0	0	**0**
8:45 to 9:45		108	3	**111**	3	0	**3**	0	0	**0**
9:00 to 10:00		94	1	**95**	2	0	**2**	0	0	**0**
AM Totals		**420**	**12**	**432**	**48**	**0**	**48**	**0**	**0**	**0**
14:00 to 15:00		147	2	**149**	18	0	**18**	0	0	**0**
14:15 to 15:15		198	4	**202**	22	0	**22**	0	0	**0**
14:30 to 15:30		235	6	**241**	22	0	**22**	2	0	**2**
14:45 to 15:45		258	4	**262**	21	0	**21**	2	0	**2**
15:00 to 16:00		270	4	**274**	6	0	**6**	2	0	**2**
15:15 to 16:15		235	4	**239**	1	0	**1**	2	0	**2**
15:30 to 16:30		217	2	**219**	0	0	**0**	0	0	**0**
15:45 to 16:45		197	2	**199**	0	0	**0**	1	0	**1**
16:00 to 17:00		199	2	**201**	0	0	**0**	1	0	**1**
16:15 to 17:15		199	1	**200**	0	0	**0**	1	0	**1**
16:30 to 17:30		226	1	**227**	0	0	**0**	1	0	**1**
16:45 to 17:45		237	1	**238**	0	0	**0**	0	0	**0**
17:00 to 18:00		218	1	**219**	0	0	**0**	0	0	**0**
PM Totals		**834**	**9**	**843**	**24**	**0**	**24**	**3**	**0**	**3**

Approach	Access									Clarke Rd									Crossing Pedestrians						
Direction	Direction 7 (Left Turn)				Direction 9 (Right Turn)			Direction 9U (U Turn)			Direction 10 (Left Turn)			Direction 11 (Through)			Direction 12U (U Turn)									
Time Period	Lights	Heavies	Total		Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	D to C	C to D	F to E	E to F	H to G	G to H	Total
7:00 to 8:00	0	0	**0**		0	0	**0**	0	0	**0**	16	0	**16**	258	5	**263**	0	0	**0**	0	0	10	10	1	0	**21**
7:15 to 8:15	0	0	**0**		0	0	**0**	0	0	**0**	22	0	**22**	289	6	**295**	0	0	**0**	0	0	18	22	1	0	**41**
7:30 to 8:30	0	0	**0**		0	0	**0**	0	0	**0**	21	0	**21**	305	8	**313**	0	0	**0**	0	1	27	38	1	1	**68**
7:45 to 8:45	0	0	**0**		0	0	**0**	0	0	**0**	17	0	**17**	285	10	**295**	0	0	**0**	0	1	27	41	1	1	**71**
8:00 to 9:00	0	0	**0**		0	0	**0**	0	0	**0**	15	0	**15**	241	8	**249**	0	0	**0**	0	1	27	39	1	1	**69**
8:15 to 9:15	0	0	**0**		0	0	**0**	0	0	**0**	9	0	**9**	192	9	**201**	0	0	**0**	0	1	20	32	1	2	**56**
8:30 to 9:30	0	0	**0**		0	0	**0**	0	0	**0**	4	0	**4**	138	6	**144**	0	0	**0**	0	1	12	15	1	2	**31**
8:45 to 9:45	0	0	**0**		0	0	**0**	0	0	**0**	3	0	**3**	109	5	**114**	0	0	**0**	0	1	6	11	1	2	**21**
9:00 to 10:00	0	0	**0**		0	0	**0**	0	0	**0**	1	0	**1**	89	6	**95**	0	0	**0**	0	1	5	9	1	3	**19**
AM Totals	**0**	**0**	**0**		**0**	**0**	**0**	**0**	**0**	**0**	**32**	**0**	**32**	**588**	**19**	**607**	**0**	**0**	**0**	**0**	**2**	**42**	**58**	**3**	**4**	**109**
14:00 to 15:00	0	0	**0**		0	0	**0**	0	0	**0**	3	0	**3**	169	1	**170**	0	0	**0**	0	2	14	15	1	3	**35**
14:15 to 15:15	0	0	**0**		0	0	**0**	0	0	**0**	4	0	**4**	202	4	**206**	0	0	**0**	0	2	28	19	2	3	**54**
14:30 to 15:30	0	0	**0**		0	0	**0**	0	0	**0**	3	0	**3**	227	5	**232**	0	0	**0**	0	2	32	21	5	1	**61**
14:45 to 15:45	0	0	**0**		0	0	**0**	0	0	**0**	1	0	**1**	235	7	**242**	0	0	**0**	3	1	37	18	5	3	**67**
15:00 to 16:00	0	0	**0**		0	0	**0**	0	0	**0**	1	0	**1**	213	7	**220**	0	0	**0**	3	0	29	14	4	3	**53**
15:15 to 16:15	0	0	**0**		0	0	**0**	0	0	**0**	0	0	**0**	202	4	**206**	0	0	**0**	3	0	15	12	3	3	**36**
15:30 to 16:30	0	0	**0**		0	0	**0**	0	0	**0**	0	0	**0**	214	2	**216**	0	0	**0**	3	0	11	9	1	3	**27**
15:45 to 16:45	0	0	**0**		0	0	**0**	0	0	**0**	0	0	**0**	246	0	**246**	0	0	**0**	0	0	4	6	4	0	**14**
16:00 to 17:00	0	0	**0**		0	0	**0**	0	0	**0**	0	0	**0**	247	1	**248**	0	0	**0**	1	0	4	4	4	0	**13**
16:15 to 17:15	0	0	**0**		0	0	**0**	0	0	**0**	0	0	**0**	256	1	**257**	0	0	**0**	2	4	12	5	5	4	**32**
16:30 to 17:30	0	0	**0**		0	0	**0**	0	0	**0**	0	0	**0**	246	1	**247**	0	0	**0**	2	4	12	9	4	4	**35**
16:45 to 17:45	0	0	**0**		0	0	**0**	0	0	**0**	0	0	**0**	219	1	**220**	0	0	**0**	3	4	14	9	1	5	**36**
17:00 to 18:00	0	0	**0**		0	0	**0**	0	0	**0**	0	0	**0**	220	0	**220**	0	0	**0**	3	5	14	10	4	7	**43**
PM Totals	**0**	**0**	**0**		**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**4**	**849**	**9**	**858**	**0**	**0**	**0**	**7**	**7**	**61**	**43**	**13**	**13**	**144**

Job No. : N6158
Client : TTPP
Suburb : Barker College
Location : D3. College Cres

Day/Date : Thu, 4th Feb 2021
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



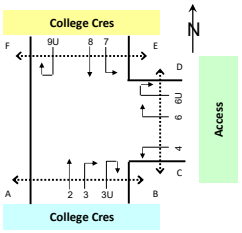
MATRIX Traffic and Transport Data

Approach	College Cres									Access								
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
7:00 to 8:00	536	4	**540**	0	0	**0**	0	0	**0**	66	2	**68**	0	0	**0**	0	0	**0**
7:15 to 8:15	607	2	**609**	0	0	**0**	0	0	**0**	140	2	**142**	0	0	**0**	0	0	**0**
7:30 to 8:30	712	3	**715**	0	0	**0**	0	0	**0**	218	0	**218**	0	0	**0**	0	0	**0**
7:45 to 8:45	750	5	**755**	0	0	**0**	0	0	**0**	232	0	**232**	0	0	**0**	0	0	**0**
8:00 to 9:00	752	7	**759**	0	0	**0**	0	0	**0**	178	1	**179**	0	0	**0**	0	0	**0**
8:15 to 9:15	757	7	**764**	0	0	**0**	1	0	**1**	101	1	**102**	0	0	**0**	0	0	**0**
8:30 to 9:30	661	7	**668**	0	0	**0**	1	0	**1**	23	1	**24**	0	0	**0**	0	0	**0**
8:45 to 9:45	633	10	**643**	0	0	**0**	1	0	**1**	2	1	**3**	0	0	**0**	0	0	**0**
9:00 to 10:00	589	8	**597**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**
AM Totals	**1,877**	**19**	**1,896**	**0**	**0**	**0**	**1**	**0**	**1**	**244**	**3**	**247**	**0**	**0**	**0**	**0**	**0**	**0**
14:00 to 15:00	482	3	**485**	0	0	**0**	0	0	**0**	72	0	**72**	0	0	**0**	0	0	**0**
14:15 to 15:15	567	4	**571**	0	0	**0**	0	0	**0**	117	0	**117**	0	0	**0**	0	0	**0**
14:30 to 15:30	651	6	**657**	0	0	**0**	0	0	**0**	170	0	**170**	0	0	**0**	0	0	**0**
14:45 to 15:45	689	10	**699**	0	0	**0**	0	0	**0**	164	0	**164**	0	0	**0**	0	0	**0**
15:00 to 16:00	666	9	**675**	0	0	**0**	0	0	**0**	116	0	**116**	0	0	**0**	0	0	**0**
15:15 to 16:15	625	11	**636**	0	0	**0**	0	0	**0**	74	0	**74**	0	0	**0**	0	0	**0**
15:30 to 16:30	588	10	**598**	0	0	**0**	0	0	**0**	53	0	**53**	0	0	**0**	0	0	**0**
15:45 to 16:45	585	8	**593**	0	0	**0**	0	0	**0**	99	0	**99**	0	0	**0**	0	0	**0**
16:00 to 17:00	580	6	**586**	0	0	**0**	0	0	**0**	104	0	**104**	0	0	**0**	0	0	**0**
16:15 to 17:15	589	4	**593**	0	0	**0**	0	0	**0**	121	0	**121**	0	0	**0**	0	0	**0**
16:30 to 17:30	585	5	**590**	0	0	**0**	0	0	**0**	117	0	**117**	0	0	**0**	0	0	**0**
16:45 to 17:45	566	3	**569**	0	0	**0**	0	0	**0**	69	0	**69**	0	0	**0**	0	0	**0**
17:00 to 18:00	538	3	**541**	0	0	**0**	0	0	**0**	63	0	**63**	0	0	**0**	0	0	**0**
PM Totals	**2,266**	**21**	**2,287**	**0**	**0**	**0**	**0**	**0**	**0**	**355**	**0**	**355**	**0**	**0**	**0**	**0**	**0**	**0**

Approach	College Cres									Crossing Pedestrians						
Direction	Direction 7 (Left Turn)			Direction 8 (Through)			Direction 9U (U Turn)									
Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	B to A	A to B	D to C	C to D	F to E	E to F	Total
7:00 to 8:00	0	0	**0**	521	13	**534**	0	0	**0**	0	0	12	6	0	0	**18**
7:15 to 8:15	0	0	**0**	517	13	**530**	0	0	**0**	0	0	31	11	0	0	**42**
7:30 to 8:30	0	0	**0**	471	13	**484**	0	0	**0**	0	0	49	20	1	0	**70**
7:45 to 8:45	0	0	**0**	469	11	**480**	0	0	**0**	0	0	50	22	1	0	**73**
8:00 to 9:00	0	0	**0**	468	8	**476**	0	0	**0**	0	0	42	24	1	0	**67**
8:15 to 9:15	0	0	**0**	470	8	**478**	0	0	**0**	0	1	20	19	1	0	**41**
8:30 to 9:30	0	0	**0**	465	7	**472**	0	0	**0**	0	1	3	9	0	0	**13**
8:45 to 9:45	0	0	**0**	419	10	**429**	0	0	**0**	0	1	3	6	0	0	**10**
9:00 to 10:00	0	0	**0**	382	12	**394**	0	0	**0**	0	1	4	4	0	0	**9**
AM Totals	**0**	**0**	**0**	**1,371**	**33**	**1,404**	**0**	**0**	**0**	**0**	**1**	**58**	**34**	**1**	**0**	**94**
14:00 to 15:00	0	0	**0**	503	11	**514**	0	0	**0**	0	0	12	9	0	0	**21**
14:15 to 15:15	0	0	**0**	482	16	**498**	0	0	**0**	0	0	12	26	0	0	**38**
14:30 to 15:30	0	0	**0**	533	20	**553**	0	0	**0**	0	0	13	27	0	0	**40**
14:45 to 15:45	0	0	**0**	574	29	**603**	1	0	**1**	0	0	14	27	0	0	**41**
15:00 to 16:00	0	0	**0**	624	26	**650**	1	0	**1**	0	0	16	22	0	0	**38**
15:15 to 16:15	0	0	**0**	634	21	**655**	1	0	**1**	0	1	21	7	0	0	**29**
15:30 to 16:30	0	0	**0**	661	16	**677**	1	0	**1**	0	1	22	19	1	0	**43**
15:45 to 16:45	0	0	**0**	650	7	**657**	0	0	**0**	0	1	15	20	1	0	**37**
16:00 to 17:00	0	0	**0**	641	6	**647**	0	0	**0**	0	1	12	17	1	0	**31**
16:15 to 17:15	0	0	**0**	669	8	**677**	0	0	**0**	0	0	16	15	1	0	**32**
16:30 to 17:30	0	0	**0**	693	10	**703**	0	0	**0**	0	0	15	2	0	0	**17**
16:45 to 17:45	0	0	**0**	708	9	**717**	0	0	**0**	0	0	16	1	0	0	**17**
17:00 to 18:00	0	0	**0**	692	7	**699**	0	0	**0**	0	0	15	3	0	0	**18**
PM Totals	**0**	**0**	**0**	**2,460**	**50**	**2,510**	**1**	**0**	**1**	**0**	**1**	**55**	**51**	**1**	**0**	**108**

Job No. : N6158
Client : TTPP
Suburb : Barker College
Location : D4. College Cres

Day/Date : Thu, 4th Feb 2021
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



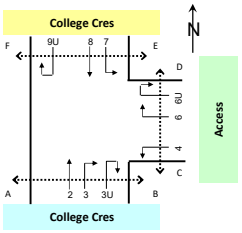
MATRIX Traffic and Transport Data

Approach	College Cres									Access								
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
7:00 to 8:00	527	4	**531**	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
7:15 to 8:15	602	2	**604**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
7:30 to 8:30	707	3	**710**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
7:45 to 8:45	753	5	**758**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
8:00 to 9:00	758	7	**765**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
8:15 to 9:15	758	7	**765**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
8:30 to 9:30	664	7	**671**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
8:45 to 9:45	636	10	**646**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**
9:00 to 10:00	588	8	**596**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**
AM Totals	**1,873**	**19**	**1,892**	**1**	**0**	**1**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
14:00 to 15:00	474	3	**477**	2	0	**2**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
14:15 to 15:15	560	4	**564**	2	0	**2**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
14:30 to 15:30	638	5	**643**	2	0	**2**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
14:45 to 15:45	691	10	**701**	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
15:00 to 16:00	661	9	**670**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
15:15 to 16:15	628	11	**639**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**
15:30 to 16:30	593	11	**604**	0	0	**0**	0	0	**0**	2	0	**2**	0	0	**0**	0	0	**0**
15:45 to 16:45	586	8	**594**	0	0	**0**	0	0	**0**	2	0	**2**	0	0	**0**	0	0	**0**
16:00 to 17:00	582	6	**588**	0	0	**0**	0	0	**0**	2	0	**2**	0	0	**0**	0	0	**0**
16:15 to 17:15	582	4	**586**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**
16:30 to 17:30	584	5	**589**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
16:45 to 17:45	561	3	**564**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
17:00 to 18:00	541	3	**544**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
PM Totals	**2,258**	**21**	**2,279**	**2**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**

Approach	College Cres									Crossing Pedestrians						
Direction	Direction 7 (Left Turn)			Direction 8 (Through)			Direction 9U (U Turn)									
Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	B to A	A to B	D to C	C to D	F to E	E to F	Total
7:00 to 8:00	131	0	**131**	520	13	**533**	0	0	**0**	0	2	12	27	0	1	**42**
7:15 to 8:15	224	0	**224**	528	15	**543**	0	0	**0**	0	1	23	24	0	1	**49**
7:30 to 8:30	252	0	**252**	486	13	**499**	0	0	**0**	0	0	29	32	0	1	**62**
7:45 to 8:45	234	0	**234**	463	11	**474**	0	0	**0**	0	1	28	36	2	1	**68**
8:00 to 9:00	140	0	**140**	463	8	**471**	0	0	**0**	0	1	22	34	4	0	**61**
8:15 to 9:15	41	0	**41**	453	6	**459**	0	0	**0**	0	1	11	28	4	0	**44**
8:30 to 9:30	5	0	**5**	444	6	**450**	0	0	**0**	0	1	6	20	4	2	**33**
8:45 to 9:45	2	0	**2**	414	9	**423**	0	0	**0**	0	0	11	14	4	4	**33**
9:00 to 10:00	1	0	**1**	380	12	**392**	0	0	**0**	0	0	11	16	2	4	**33**
AM Totals	**272**	**0**	**272**	**1,363**	**33**	**1,396**	**0**	**0**	**0**	**0**	**3**	**45**	**77**	**6**	**5**	**136**
14:00 to 15:00	153	0	**153**	509	11	**520**	0	0	**0**	3	1	13	8	2	0	**27**
14:15 to 15:15	169	0	**169**	496	18	**514**	0	0	**0**	3	1	14	15	0	0	**33**
14:30 to 15:30	180	0	**180**	539	20	**559**	0	0	**0**	3	4	23	23	0	1	**54**
14:45 to 15:45	92	1	**93**	578	30	**608**	0	0	**0**	1	3	30	21	4	1	**60**
15:00 to 16:00	52	1	**53**	617	26	**643**	0	0	**0**	1	3	32	22	8	1	**67**
15:15 to 16:15	85	1	**86**	634	19	**653**	0	0	**0**	1	3	38	19	8	1	**70**
15:30 to 16:30	86	1	**87**	648	16	**664**	0	0	**0**	1	0	29	15	8	0	**53**
15:45 to 16:45	94	0	**94**	638	6	**644**	0	0	**0**	0	0	17	16	4	5	**42**
16:00 to 17:00	91	0	**91**	630	6	**636**	0	0	**0**	2	2	18	13	0	6	**41**
16:15 to 17:15	60	0	**60**	665	8	**673**	0	0	**0**	2	2	23	11	0	10	**48**
16:30 to 17:30	57	0	**57**	689	10	**699**	0	0	**0**	2	3	23	10	2	11	**51**
16:45 to 17:45	50	0	**50**	697	9	**706**	0	0	**0**	4	4	24	13	3	10	**58**
17:00 to 18:00	33	0	**33**	683	7	**690**	0	0	**0**	2	2	25	12	3	9	**53**
PM Totals	**329**	**1**	**330**	**2,439**	**50**	**2,489**	**0**	**0**	**0**	**8**	**8**	**88**	**55**	**13**	**16**	**188**

Job No. : N6158
Client : TTPP
Suburb : Barker College
Location : D5. College Cres

Day/Date : Thu, 4th Feb 2021
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



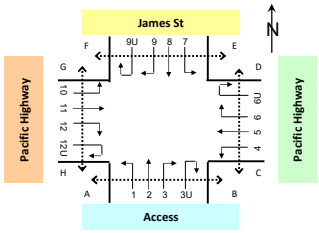
MATRIX Traffic and Transport Data

Approach	College Cres									Access								
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
7:00 to 8:00	517	4	**521**	0	0	**0**	0	0	**0**	7	0	**7**	0	0	**0**	0	0	**0**
7:15 to 8:15	609	2	**611**	0	0	**0**	0	0	**0**	7	0	**7**	0	0	**0**	0	0	**0**
7:30 to 8:30	704	3	**707**	0	0	**0**	0	0	**0**	5	0	**5**	0	0	**0**	0	0	**0**
7:45 to 8:45	768	5	**773**	0	0	**0**	0	0	**0**	2	0	**2**	0	0	**0**	0	0	**0**
8:00 to 9:00	785	7	**792**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**
8:15 to 9:15	776	7	**783**	0	0	**0**	0	0	**0**	0	1	**1**	0	0	**0**	0	0	**0**
8:30 to 9:30	693	7	**700**	0	0	**0**	0	0	**0**	2	1	**3**	0	0	**0**	0	0	**0**
8:45 to 9:45	638	9	**647**	0	0	**0**	0	0	**0**	2	1	**3**	0	0	**0**	0	0	**0**
9:00 to 10:00	588	8	**596**	0	0	**0**	0	0	**0**	3	1	**4**	0	0	**0**	0	0	**0**
AM Totals	**1,890**	**19**	**1,909**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**1**	**12**	**0**	**0**	**0**	**0**	**0**	**0**
14:00 to 15:00	480	3	**483**	0	0	**0**	0	0	**0**	2	0	**2**	0	0	**0**	0	0	**0**
14:15 to 15:15	555	4	**559**	0	0	**0**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**
14:30 to 15:30	623	5	**628**	0	0	**0**	0	0	**0**	2	0	**2**	0	0	**0**	0	0	**0**
14:45 to 15:45	679	10	**689**	0	0	**0**	0	0	**0**	4	0	**4**	0	0	**0**	0	0	**0**
15:00 to 16:00	652	9	**661**	0	0	**0**	0	0	**0**	8	0	**8**	0	0	**0**	0	0	**0**
15:15 to 16:15	628	11	**639**	0	0	**0**	0	0	**0**	10	0	**10**	0	0	**0**	0	0	**0**
15:30 to 16:30	598	11	**609**	0	0	**0**	0	0	**0**	9	0	**9**	0	0	**0**	0	0	**0**
15:45 to 16:45	590	8	**598**	0	0	**0**	0	0	**0**	8	0	**8**	0	0	**0**	0	0	**0**
16:00 to 17:00	580	6	**586**	0	0	**0**	0	0	**0**	4	0	**4**	0	0	**0**	0	0	**0**
16:15 to 17:15	576	4	**580**	0	0	**0**	0	0	**0**	2	0	**2**	0	0	**0**	0	0	**0**
16:30 to 17:30	585	5	**590**	0	0	**0**	0	0	**0**	4	0	**4**	0	0	**0**	0	0	**0**
16:45 to 17:45	559	3	**562**	0	0	**0**	0	0	**0**	3	0	**3**	0	0	**0**	0	0	**0**
17:00 to 18:00	547	3	**550**	0	0	**0**	0	0	**0**	3	0	**3**	0	0	**0**	0	0	**0**
PM Totals	**2,259**	**21**	**2,280**	**0**	**0**	**0**	**0**	**0**	**0**	**17**	**0**	**17**	**0**	**0**	**0**	**0**	**0**	**0**

Approach	College Cres									Crossing Pedestrians						
Direction	Direction 7 (Left Turn)			Direction 8 (Through)			Direction 9U (U Turn)									
Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	B to A	A to B	D to C	C to D	F to E	E to F	Total
7:00 to 8:00	19	0	**19**	643	14	**657**	0	0	**0**	0	0	91	8	2	0	**101**
7:15 to 8:15	22	0	**22**	747	16	**763**	0	0	**0**	0	0	209	11	2	1	**223**
7:30 to 8:30	19	0	**19**	739	13	**752**	0	0	**0**	0	0	395	11	2	1	**409**
7:45 to 8:45	11	0	**11**	690	11	**701**	0	0	**0**	0	0	383	13	2	1	**399**
8:00 to 9:00	8	1	**9**	592	7	**599**	0	0	**0**	0	1	320	14	1	1	**337**
8:15 to 9:15	5	1	**6**	484	4	**488**	0	0	**0**	0	1	199	12	0	0	**212**
8:30 to 9:30	5	1	**6**	431	5	**436**	0	0	**0**	0	1	4	10	0	0	**15**
8:45 to 9:45	4	1	**5**	413	9	**422**	0	0	**0**	0	1	5	8	0	0	**14**
9:00 to 10:00	4	1	**5**	392	11	**403**	0	0	**0**	0	0	5	6	0	2	**13**
AM Totals	**31**	**2**	**33**	**1,627**	**32**	**1,659**	**0**	**0**	**0**	**0**	**1**	**416**	**28**	**3**	**3**	**451**
14:00 to 15:00	3	0	**3**	654	12	**666**	0	0	**0**	2	0	7	12	0	0	**21**
14:15 to 15:15	3	0	**3**	660	19	**679**	0	0	**0**	2	0	8	16	0	1	**27**
14:30 to 15:30	3	0	**3**	698	22	**720**	0	0	**0**	2	0	12	102	0	1	**117**
14:45 to 15:45	2	0	**2**	672	31	**703**	0	0	**0**	1	0	12	126	0	1	**140**
15:00 to 16:00	1	0	**1**	673	26	**699**	0	0	**0**	0	0	12	126	0	1	**139**
15:15 to 16:15	1	0	**1**	719	19	**738**	0	0	**0**	0	0	15	121	0	0	**136**
15:30 to 16:30	1	0	**1**	738	15	**753**	0	0	**0**	0	0	13	35	0	1	**49**
15:45 to 16:45	1	0	**1**	724	6	**730**	0	0	**0**	0	0	14	13	0	1	**28**
16:00 to 17:00	1	0	**1**	732	6	**738**	0	0	**0**	1	0	14	24	0	4	**43**
16:15 to 17:15	1	0	**1**	744	8	**752**	0	0	**0**	1	0	12	37	0	4	**54**
16:30 to 17:30	1	0	**1**	757	10	**767**	0	0	**0**	1	0	8	52	0	3	**64**
16:45 to 17:45	1	0	**1**	763	9	**772**	0	0	**0**	1	0	7	55	0	3	**66**
17:00 to 18:00	0	0	**0**	723	7	**730**	0	0	**0**	0	0	7	43	0	0	**50**
PM Totals	**5**	**0**	**5**	**2,782**	**51**	**2,833**	**0**	**0**	**0**	**3**	**0**	**40**	**205**	**0**	**5**	**253**

Job No. : N6158
Client : TTPP
Suburb : Barker College
Location : D6. Pacific Highway / James St

Day/Date : Thu, 4th Feb 2021
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



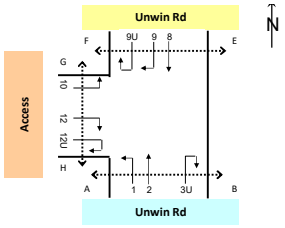
MATRIX Traffic and Transport Data

Approach	Access												Pacific Highway											
Direction	Direction 1 (Left Turn)			Direction 2 (Through)			Direction 3 (Right Turn)			Direction 3U (U Turn)			Direction 4 (Left Turn)			Direction 5 (Through)			Direction 6 (Right Turn)			Direction 6U (U Turn)		
Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total
7:00 to 8:00	1	0	1	0	0	0	2	0	2	0	0	0	12	0	12	583	59	642	75	2	77	2	0	2
7:15 to 8:15	1	0	1	0	0	0	0	0	0	0	0	0	13	0	13	640	65	705	108	3	111	5	0	5
7:30 to 8:30	1	0	1	0	0	0	0	0	0	0	0	0	12	0	12	651	71	722	123	2	125	5	0	5
7:45 to 8:45	1	0	1	0	0	0	0	0	0	0	0	0	11	0	11	688	76	764	121	1	122	5	0	5
8:00 to 9:00	1	0	1	0	0	0	0	0	0	0	0	0	7	0	7	667	77	744	129	2	131	5	0	5
8:15 to 9:15	1	0	1	0	0	0	0	0	0	0	0	0	5	0	5	630	70	700	105	2	107	3	0	3
8:30 to 9:30	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	615	61	676	83	3	86	2	0	2
8:45 to 9:45	1	0	1	0	0	0	0	0	0	0	0	0	2	0	2	577	66	643	82	3	85	3	0	3
9:00 to 10:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	528	68	596	73	3	76	5	0	5
AM Totals	**3**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**19**	**0**	**19**	**1,778**	**204**	**1,982**	**277**	**7**	**284**	**12**	**0**	**12**
14:00 to 15:00	5	0	5	0	0	0	1	0	1	0	0	0	1	0	1	708	52	760	84	2	86	3	0	3
14:15 to 15:15	8	0	8	0	0	0	1	0	1	0	0	0	2	0	2	746	54	800	89	3	92	4	0	4
14:30 to 15:30	8	0	8	0	0	0	1	0	1	0	0	0	2	0	2	800	48	848	98	1	99	5	0	5
14:45 to 15:45	6	0	6	0	0	0	1	0	1	0	0	0	2	0	2	843	49	892	115	1	116	4	0	4
15:00 to 16:00	5	1	6	0	0	0	0	0	0	0	0	0	2	0	2	894	56	950	122	1	123	3	0	3
15:15 to 16:15	1	1	2	0	0	0	1	0	1	0	0	0	0	0	0	941	48	989	119	0	119	2	0	2
15:30 to 16:30	3	1	4	0	0	0	1	0	1	0	0	0	0	0	0	943	48	991	114	1	115	2	0	2
15:45 to 16:45	5	1	6	1	0	1	2	0	2	0	0	0	0	0	0	952	49	1,001	105	2	107	4	0	4
16:00 to 17:00	4	0	4	2	0	2	2	0	2	0	0	0	0	0	0	962	39	1,001	103	3	106	5	0	5
16:15 to 17:15	5	0	5	2	0	2	1	0	1	0	0	0	0	0	0	954	38	992	101	6	107	5	0	5
16:30 to 17:30	3	0	3	2	0	2	2	0	2	0	0	0	0	0	0	936	38	974	106	5	111	5	0	5
16:45 to 17:45	3	0	3	1	0	1	1	0	1	0	0	0	0	0	0	904	36	940	95	4	99	3	0	3
17:00 to 18:00	5	0	5	0	0	0	3	0	3	0	0	0	0	0	0	894	39	933	83	3	86	2	0	2
PM Totals	**19**	**1**	**20**	**2**	**0**	**2**	**6**	**0**	**6**	**0**	**0**	**0**	**3**	**0**	**3**	**3,458**	**186**	**3,644**	**392**	**9**	**401**	**13**	**0**	**13**

Approach	James St												Pacific Highway												Crossing Pedestrians								
Direction	Direction 7 (Left Turn)			Direction 8 (Through)			Direction 9 (Right Turn)			Direction 9U (U Turn)			Direction 10 (Left Turn)			Direction 11 (Through)			Direction 12 (Right Turn)			Direction 12U (U Turn)											
Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	B to A	A to B	D to C	C to D	F to E	E to F	H to G	G to H	Total
7:00 to 8:00	78	2	80	0	0	0	20	0	20	0	0	0	34	3	37	728	37	765	1	0	1	0	0	0	114	23	0	1	11	16	0	4	169
7:15 to 8:15	94	5	99	0	0	0	13	0	13	0	0	0	38	0	38	797	44	841	1	0	1	0	0	0	286	25	2	3	10	17	0	5	348
7:30 to 8:30	93	5	98	0	0	0	10	0	10	0	0	0	38	0	38	789	46	835	1	0	1	0	0	0	331	30	5	5	8	19	0	5	403
7:45 to 8:45	108	5	113	0	0	0	10	0	10	0	0	0	40	0	40	733	44	777	1	0	1	0	0	0	330	34	5	5	5	18	0	5	402
8:00 to 9:00	129	5	134	0	0	0	14	0	14	0	0	0	43	0	43	681	51	732	0	0	0	0	0	0	244	27	6	5	6	19	0	4	311
8:15 to 9:15	119	2	121	0	0	0	17	0	17	0	0	0	46	0	46	606	55	661	0	0	0	0	0	0	64	27	5	4	3	21	0	4	128
8:30 to 9:30	120	1	121	0	0	0	30	0	30	0	0	0	52	0	52	561	56	617	0	0	0	0	0	0	17	14	2	3	7	25	0	2	70
8:45 to 9:45	110	4	114	0	0	0	30	0	30	0	0	0	48	0	48	539	65	604	0	0	0	0	0	0	12	10	6	5	10	21	1	2	67
9:00 to 10:00	96	7	103	0	0	0	29	0	29	0	0	0	58	1	59	539	60	599	0	0	0	0	0	0	14	10	7	4	9	19	1	3	67
AM Totals	**303**	**14**	**317**	**0**	**0**	**0**	**63**	**0**	**63**	**0**	**0**	**0**	**135**	**4**	**139**	**1,948**	**148**	**2,096**	**1**	**0**	**1**	**0**	**0**	**0**	**372**	**60**	**13**	**10**	**26**	**54**	**1**	**11**	**547**
14:00 to 15:00	91	3	94	0	0	0	35	1	36	0	0	0	40	1	41	698	62	760	1	0	1	1	0	1	16	7	4	4	15	10	1	3	60
14:15 to 15:15	95	4	99	0	0	0	31	2	33	0	0	0	37	1	38	731	61	792	0	0	0	1	0	1	15	8	3	5	18	10	1	3	63
14:30 to 15:30	93	2	95	0	0	0	22	1	23	1	0	1	38	1	39	751	52	803	0	0	0	1	0	1	51	78	3	5	27	14	1	3	182
14:45 to 15:45	115	3	118	0	0	0	25	1	26	1	0	1	46	1	47	729	49	778	0	0	0	0	0	0	63	105	3	8	70	18	2	3	272
15:00 to 16:00	121	3	124	0	0	0	25	1	26	1	0	1	44	0	44	693	46	739	0	0	0	0	0	0	67	109	2	8	79	26	1	0	292
15:15 to 16:15	120	1	121	0	0	0	33	0	33	1	0	1	46	0	46	682	44	726	0	0	0	0	0	0	72	118	1	7	80	27	2	2	309
15:30 to 16:30	118	3	121	0	0	0	43	0	43	0	0	0	45	0	45	650	47	697	0	0	0	0	0	0	47	51	0	6	70	31	5	3	213
15:45 to 16:45	105	3	108	0	0	0	45	0	45	0	0	0	39	0	39	624	43	667	0	0	0	0	0	0	31	32	3	3	28	33	5	3	138
16:00 to 17:00	96	4	100	0	0	0	41	0	41	0	0	0	35	0	35	665	44	709	0	0	0	0	0	0	31	29	3	2	19	22	7	3	116
16:15 to 17:15	105	5	110	0	0	0	44	0	44	0	0	0	32	0	32	661	38	699	0	0	0	0	0	0	48	56	10	6	19	26	6	2	173
16:30 to 17:30	112	3	115	0	0	0	45	0	45	0	0	0	42	0	42	685	29	714	0	0	0	0	0	0	43	61	13	5	20	28	4	1	175
16:45 to 17:45	114	3	117	0	0	0	44	0	44	0	0	0	44	0	44	684	29	713	0	0	0	0	0	0	43	58	12	10	15	28	3	2	171
17:00 to 18:00	111	2	113	0	0	0	49	0	49	0	0	0	45	0	45	622	25	647	0	0	0	0	0	0	41	61	12	9	15	28	1	2	169
PM Totals	**419**	**12**	**431**	**0**	**0**	**0**	**150**	**2**	**152**	**1**	**0**	**1**	**164**	**1**	**165**	**2,678**	**177**	**2,855**	**1**	**0**	**1**	**1**	**0**	**1**	**155**	**206**	**21**	**23**	**128**	**86**	**10**	**8**	**637**

Job No. : N6158
Client : TTPP
Suburb : Barker College
Location : D7. Unwin Rd

Day/Date : Thu, 4th Feb 2021
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



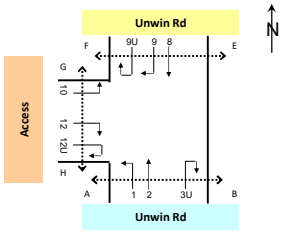
MATRIX Traffic and Transport Data

Approach	Unwin Rd								
Direction	Direction 1 (Left Turn)			Direction 2 (Through)				Direction 3U (U Turn)	
Time Period	Lights	Heavies	Total	Lights	Heavies	Total		Lights	Heavies	Total
7:00 to 8:00	72	0	72	212	4	216		1	0	1
7:15 to 8:15	64	0	64	228	4	232		0	0	0
7:30 to 8:30	52	0	52	229	1	230		0	0	0
7:45 to 8:45	22	0	22	204	2	206		0	0	0
8:00 to 9:00	7	0	7	190	3	193		0	0	0
8:15 to 9:15	8	0	8	173	4	177		0	0	0
8:30 to 9:30	7	0	7	137	4	141		0	0	0
8:45 to 9:45	6	0	6	130	4	134		0	0	0
9:00 to 10:00	4	0	4	125	3	128		0	0	0
AM Totals	**83**	**0**	**83**	**527**	**10**	**537**		**1**	**0**	**1**
14:00 to 15:00	5	0	5	152	1	153		0	0	0
14:15 to 15:15	4	0	4	181	1	182		1	0	1
14:30 to 15:30	4	0	4	195	1	196		1	0	1
14:45 to 15:45	4	0	4	209	1	210		1	0	1
15:00 to 16:00	0	0	0	207	2	209		1	0	1
15:15 to 16:15	1	0	1	204	2	206		0	0	0
15:30 to 16:30	2	0	2	214	2	216		0	0	0
15:45 to 16:45	2	0	2	222	2	224		0	0	0
16:00 to 17:00	5	0	5	226	1	227		0	0	0
16:15 to 17:15	4	0	4	233	1	234		0	0	0
16:30 to 17:30	3	0	3	215	0	215		0	0	0
16:45 to 17:45	4	0	4	212	0	212		1	0	1
17:00 to 18:00	1	0	1	222	0	222		1	0	1
PM Totals	**11**	**0**	**11**	**807**	**4**	**811**		**2**	**0**	**2**

Approach	Unwin Rd									Access						Crossing Pedestrians					
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	B to A	A to B	F to E	E to F	H to G	G to H	Total
7:00 to 8:00	167	1	168	38	0	38	0	0	0	4	0	4	1	0	1	0	0	0	10	1	0	4	51	9	75
7:15 to 8:15	229	3	232	37	0	37	0	0	0	4	0	4	4	0	4	0	0	0	9	2	1	3	66	18	99
7:30 to 8:30	288	3	291	26	0	26	0	0	0	4	0	4	4	0	4	0	0	0	5	4	3	4	79	21	116
7:45 to 8:45	298	3	301	14	0	14	0	0	0	5	0	5	5	0	5	0	0	0	2	4	4	5	67	22	104
8:00 to 9:00	297	2	299	8	0	8	2	0	2	2	0	2	4	0	4	0	0	0	3	3	4	4	50	19	83
8:15 to 9:15	241	0	241	4	0	4	3	0	3	2	0	2	1	0	1	0	0	0	4	2	3	3	32	16	60
8:30 to 9:30	171	1	172	5	0	5	3	0	3	3	0	3	1	0	1	0	0	0	3	0	1	1	16	12	33
8:45 to 9:45	132	1	133	4	0	4	3	0	3	2	0	2	0	0	0	0	0	0	3	1	0	0	11	11	26
9:00 to 10:00	114	1	115	4	0	4	2	0	2	3	0	3	0	0	0	0	0	0	1	1	0	0	8	7	17
AM Totals	**578**	**4**	**582**	**50**	**0**	**50**	**4**	**0**	**4**	**9**	**0**	**9**	**5**	**0**	**5**	**0**	**0**	**0**	**14**	**5**	**4**	**8**	**109**	**35**	**175**
14:00 to 15:00	279	4	283	5	0	5	2	0	2	6	0	6	3	0	3	0	0	0	0	0	8	9	8	5	30
14:15 to 15:15	285	4	289	4	0	4	2	0	2	8	0	8	3	0	3	0	0	0	0	0	9	13	23	10	55
14:30 to 15:30	294	2	296	3	0	3	2	0	2	14	0	14	2	0	2	0	0	0	0	3	8	12	29	22	74
14:45 to 15:45	272	1	273	3	0	3	1	0	1	20	0	20	3	0	3	0	0	0	0	3	8	13	28	33	85
15:00 to 16:00	233	1	234	1	0	1	0	0	0	31	0	31	8	0	8	0	0	0	1	3	6	7	29	33	79
15:15 to 16:15	222	1	223	1	0	1	0	0	0	36	0	36	11	0	11	0	0	0	1	3	4	3	17	28	56
15:30 to 16:30	217	1	218	1	0	1	1	0	1	36	0	36	14	0	14	0	0	0	1	0	1	1	14	16	33
15:45 to 16:45	210	2	212	1	0	1	3	0	3	31	0	31	16	0	16	0	0	0	1	2	1	0	11	12	27
16:00 to 17:00	235	2	237	1	0	1	3	0	3	32	0	32	12	0	12	0	0	0	1	2	1	1	15	14	34
16:15 to 17:15	272	1	273	2	0	2	3	0	3	32	0	32	12	0	12	0	0	0	1	7	12	1	18	54	93
16:30 to 17:30	319	1	320	2	0	2	2	0	2	34	0	34	13	0	13	0	0	0	2	7	13	4	23	63	112
16:45 to 17:45	330	0	330	3	0	3	1	0	1	34	0	34	11	0	11	0	0	0	2	6	13	7	26	63	117
17:00 to 18:00	308	0	308	2	0	2	1	0	1	27	0	27	11	0	11	0	0	0	1	6	16	6	22	64	115
PM Totals	**1,055**	**7**	**1,062**	**9**	**0**	**9**	**6**	**0**	**6**	**96**	**0**	**96**	**34**	**0**	**34**	**0**	**0**	**0**	**3**	**11**	**31**	**23**	**74**	**116**	**258**

Job No. : N6158
Client : TTPP
Suburb : Barker College
Location : D8. Unwin Rd

Day/Date : Thu, 4th Feb 2021
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



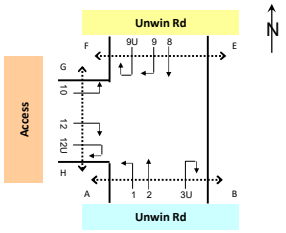
MATRIX Traffic and Transport Data

Approach	Unwin Rd											
Direction	Direction 1 (Left Turn)			Direction 2 (Through)						Direction 3U (U Turn)		
Time Period	Lights	Heavies	Total	Lights	Heavies	Total				Lights	Heavies	Total
7:00 to 8:00	3	0	3	186	3	189				0	0	0
7:15 to 8:15	7	0	7	238	5	243				0	0	0
7:30 to 8:30	9	0	9	252	7	259				0	0	0
7:45 to 8:45	9	0	9	238	8	246				0	0	0
8:00 to 9:00	8	0	8	226	9	235				0	0	0
8:15 to 9:15	4	0	4	189	6	195				0	0	0
8:30 to 9:30	2	0	2	147	4	151				0	0	0
8:45 to 9:45	1	0	1	129	4	133				0	0	0
9:00 to 10:00	2	0	2	115	2	117				0	0	0
AM Totals	**13**	**0**	**13**	**527**	**14**	**541**				**0**	**0**	**0**
14:00 to 15:00	2	0	2	139	3	142				0	0	0
14:15 to 15:15	2	0	2	171	4	175				0	0	0
14:30 to 15:30	1	0	1	178	4	182				0	0	0
14:45 to 15:45	1	0	1	195	3	198				0	0	0
15:00 to 16:00	0	0	0	193	4	197				0	0	0
15:15 to 16:15	0	0	0	166	3	169				0	0	0
15:30 to 16:30	1	0	1	156	3	159				0	0	0
15:45 to 16:45	2	0	2	130	3	133				0	0	0
16:00 to 17:00	2	0	2	115	3	118				0	0	0
16:15 to 17:15	2	0	2	111	3	114				0	0	0
16:30 to 17:30	2	0	2	112	2	114				0	0	0
16:45 to 17:45	3	0	3	114	2	116				0	0	0
17:00 to 18:00	3	0	3	114	2	116				0	0	0
PM Totals	**7**	**0**	**7**	**561**	**12**	**573**				**0**	**0**	**0**

Approach	Unwin Rd									Access						Crossing Pedestrians										
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	B to A	A to B		F to E	E to F	H to G	G to H	Total
7:00 to 8:00	152	1	153	3	1	4	1	0	1	3	1	4	1	0	1	0	0	0	1	0		0	0	12	9	22
7:15 to 8:15	209	2	211	12	1	13	1	0	1	2	1	3	2	0	2	0	0	0	1	0		1	5	28	11	46
7:30 to 8:30	276	2	278	13	0	13	1	0	1	6	0	6	8	0	8	0	0	0	0	0		6	9	37	18	70
7:45 to 8:45	298	5	303	11	0	11	1	0	1	5	0	5	8	0	8	0	0	0	0	0		6	11	38	24	79
8:00 to 9:00	284	5	289	11	0	11	0	0	0	6	0	6	8	0	8	0	0	0	0	0		6	12	39	26	83
8:15 to 9:15	228	7	235	2	0	2	0	0	0	5	0	5	7	0	7	0	0	0	0	0		5	7	30	24	66
8:30 to 9:30	156	9	165	1	0	1	0	0	0	1	0	1	1	0	1	0	0	0	0	1		0	3	21	19	44
8:45 to 9:45	125	8	133	1	0	1	1	0	1	2	0	2	1	0	1	0	0	0	0	1		1	1	18	13	34
9:00 to 10:00	109	8	117	2	0	2	1	0	1	2	0	2	0	0	0	0	0	0	0	1		2	0	13	7	23
AM Totals	**545**	**14**	**559**	**16**	**1**	**17**	**2**	**0**	**2**	**11**	**1**	**12**	**9**	**0**	**9**	**0**	**0**	**0**	**1**	**1**		**8**	**12**	**64**	**42**	**128**
14:00 to 15:00	230	6	236	9	0	9	0	0	0	4	0	4	4	0	4	0	0	0	0	0		1	2	10	6	19
14:15 to 15:15	255	7	262	11	0	11	0	0	0	10	0	10	6	0	6	0	0	0	0	1		5	3	26	21	56
14:30 to 15:30	263	5	268	8	0	8	0	0	0	11	0	11	5	0	5	0	0	0	0	1		5	3	28	29	66
14:45 to 15:45	254	5	259	8	0	8	0	0	0	13	0	13	3	0	3	0	0	0	0	1		6	3	28	34	72
15:00 to 16:00	224	5	229	8	0	8	0	0	0	13	0	13	2	0	2	0	0	0	0	1		5	3	24	31	64
15:15 to 16:15	199	4	203	5	0	5	0	0	0	7	0	7	2	0	2	0	0	0	0	0		1	5	9	16	31
15:30 to 16:30	211	3	214	6	0	6	0	0	0	9	0	9	3	0	3	0	0	0	0	0		4	5	8	11	28
15:45 to 16:45	228	3	231	6	0	6	0	0	0	9	0	9	3	0	3	0	0	0	0	0		3	5	6	8	22
16:00 to 17:00	244	3	247	2	0	2	1	0	1	10	0	10	4	0	4	0	0	0	0	0		4	4	9	6	23
16:15 to 17:15	271	3	274	3	0	3	2	0	2	12	0	12	4	0	4	0	0	0	0	0		5	2	9	9	25
16:30 to 17:30	287	3	290	7	0	7	3	0	3	8	0	8	4	0	4	0	0	0	0	0		3	2	10	10	25
16:45 to 17:45	285	2	287	6	0	6	3	0	3	11	0	11	4	0	4	0	0	0	0	0		4	2	10	10	26
17:00 to 18:00	270	2	272	10	0	10	2	0	2	14	0	14	3	0	3	0	0	0	0	0		3	2	7	10	22
PM Totals	**968**	**16**	**984**	**29**	**0**	**29**	**3**	**0**	**3**	**41**	**0**	**41**	**13**	**0**	**13**	**0**	**0**	**0**	**0**	**1**		**13**	**11**	**50**	**53**	**128**

Job No. : N6158
Client : TTPP
Suburb : Barker College
Location : D9. Unwin Rd

Day/Date : Thu, 4th Feb 2021
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



MATRIX Traffic and Transport Data

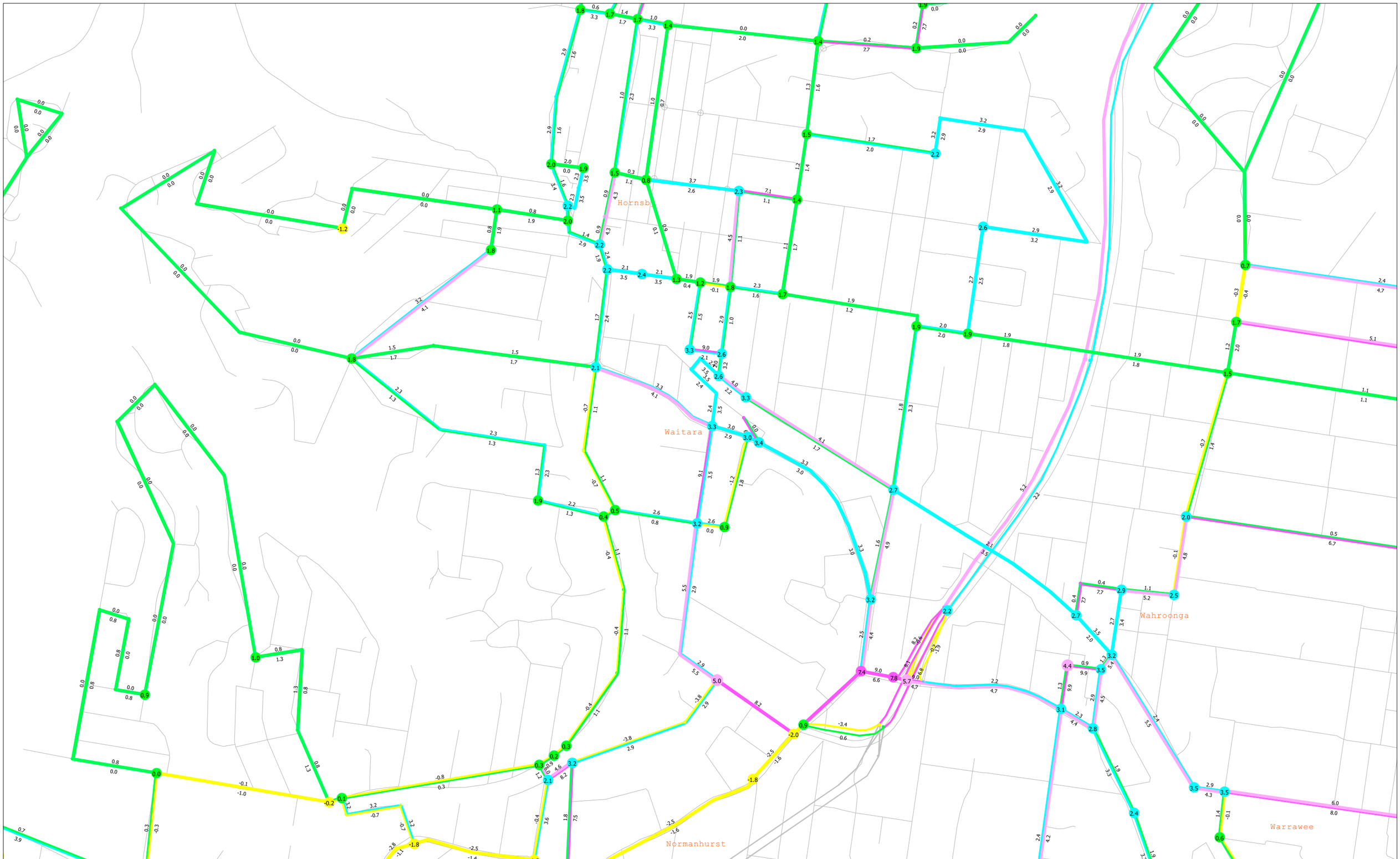
Approach	Unwin Rd											
Direction	Direction 1 (Left Turn)			Direction 2 (Through)						Direction 3U (U Turn)		
Time Period	Lights	Heavies	Total	Lights	Heavies	Total				Lights	Heavies	Total
7:00 to 8:00	1	0	**1**	180	3	**183**				2	0	**2**
7:15 to 8:15	0	0	**0**	235	4	**239**				1	0	**1**
7:30 to 8:30	0	0	**0**	256	6	**262**				0	0	**0**
7:45 to 8:45	0	0	**0**	241	6	**247**				0	0	**0**
8:00 to 9:00	1	0	**1**	227	7	**234**				0	0	**0**
8:15 to 9:15	1	0	**1**	186	5	**191**				0	0	**0**
8:30 to 9:30	1	0	**1**	139	3	**142**				0	0	**0**
8:45 to 9:45	1	0	**1**	118	4	**122**				0	0	**0**
9:00 to 10:00	0	0	**0**	105	2	**107**				0	0	**0**
AM Totals	**2**	**0**	**2**	**512**	**12**	**524**				**2**	**0**	**2**
14:00 to 15:00	0	1	**1**	131	1	**132**				0	0	**0**
14:15 to 15:15	0	1	**1**	162	2	**164**				0	0	**0**
14:30 to 15:30	0	1	**1**	171	3	**174**				0	0	**0**
14:45 to 15:45	0	1	**1**	189	3	**192**				0	0	**0**
15:00 to 16:00	0	0	**0**	186	3	**189**				0	0	**0**
15:15 to 16:15	0	0	**0**	164	2	**166**				0	0	**0**
15:30 to 16:30	0	0	**0**	154	2	**156**				0	0	**0**
15:45 to 16:45	0	0	**0**	130	2	**132**				0	0	**0**
16:00 to 17:00	0	0	**0**	116	3	**119**				0	0	**0**
16:15 to 17:15	0	0	**0**	111	3	**114**				0	0	**0**
16:30 to 17:30	0	0	**0**	110	2	**112**				0	0	**0**
16:45 to 17:45	0	0	**0**	112	2	**114**				0	0	**0**
17:00 to 18:00	0	0	**0**	111	2	**113**				0	0	**0**
PM Totals	**0**	**1**	**1**	**544**	**9**	**553**				**0**	**0**	**0**

Approach	Unwin Rd									Access						Crossing Pedestrians									
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	B to A	A to B		F to E	E to F	H to G	G to H	Total
7:00 to 8:00	141	0	**141**	10	1	**11**	1	0	**1**	10	0	**10**	0	0	**0**	0	0	**0**	3	10		0	0	15	17	**45**
7:15 to 8:15	198	1	**199**	9	1	**10**	1	0	**1**	8	1	**9**	0	0	**0**	0	0	**0**	8	20		0	0	30	17	**75**
7:30 to 8:30	271	1	**272**	11	1	**12**	0	0	**0**	7	1	**8**	0	0	**0**	0	0	**0**	14	30		0	0	34	20	**98**
7:45 to 8:45	297	4	**301**	7	1	**8**	0	1	**1**	7	1	**8**	0	0	**0**	0	0	**0**	12	38		0	0	33	26	**109**
8:00 to 9:00	278	5	**283**	11	0	**11**	1	1	**2**	6	1	**7**	0	0	**0**	0	0	**0**	18	35		1	0	36	27	**117**
8:15 to 9:15	223	7	**230**	11	0	**11**	1	1	**2**	6	0	**6**	0	0	**0**	0	0	**0**	15	25		1	0	27	26	**94**
8:30 to 9:30	147	9	**156**	7	0	**7**	1	1	**2**	7	0	**7**	0	0	**0**	0	0	**0**	9	13		1	0	20	21	**64**
8:45 to 9:45	115	7	**122**	9	1	**10**	1	0	**1**	10	0	**10**	0	0	**0**	0	0	**0**	9	7		1	0	18	14	**49**
9:00 to 10:00	103	7	**110**	5	1	**6**	1	0	**1**	9	0	**9**	0	0	**0**	0	0	**0**	3	4		0	0	13	8	**28**
AM Totals	**522**	**12**	**534**	**26**	**2**	**28**	**3**	**1**	**4**	**25**	**1**	**26**	**0**	**0**	**0**	**0**	**0**	**0**	**24**	**49**		**1**	**0**	**64**	**52**	**190**
14:00 to 15:00	214	4	**218**	17	2	**19**	1	0	**1**	10	2	**12**	0	1	**1**	0	0	**0**	2	4		0	0	12	6	**24**
14:15 to 15:15	245	4	**249**	16	3	**19**	2	0	**2**	7	2	**9**	1	1	**2**	0	0	**0**	25	15		0	0	26	18	**84**
14:30 to 15:30	258	4	**262**	13	1	**14**	2	0	**2**	4	1	**5**	1	1	**2**	0	0	**0**	26	20		0	0	28	26	**100**
14:45 to 15:45	253	4	**257**	7	1	**8**	3	0	**3**	3	0	**3**	2	1	**3**	0	0	**0**	26	21		0	0	26	30	**103**
15:00 to 16:00	227	4	**231**	1	1	**2**	4	0	**4**	1	1	**2**	2	0	**2**	0	0	**0**	26	18		0	0	22	27	**93**
15:15 to 16:15	202	4	**206**	0	0	**0**	3	0	**3**	0	1	**1**	1	0	**1**	0	0	**0**	4	7		0	0	9	15	**35**
15:30 to 16:30	210	3	**213**	0	0	**0**	3	0	**3**	0	1	**1**	1	0	**1**	0	0	**0**	3	2		0	0	8	11	**24**
15:45 to 16:45	227	3	**230**	0	0	**0**	2	0	**2**	0	1	**1**	0	0	**0**	0	0	**0**	1	2		0	0	5	8	**16**
16:00 to 17:00	246	3	**249**	0	0	**0**	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**	1	1		0	0	8	6	**16**
16:15 to 17:15	271	3	**274**	0	0	**0**	2	0	**2**	0	0	**0**	0	0	**0**	0	0	**0**	1	3		0	0	8	9	**21**
16:30 to 17:30	289	3	**292**	0	0	**0**	3	0	**3**	0	0	**0**	0	0	**0**	0	0	**0**	2	5		0	0	9	9	**25**
16:45 to 17:45	284	2	**286**	1	0	**1**	5	0	**5**	0	0	**0**	0	0	**0**	0	0	**0**	3	6		0	0	10	10	**29**
17:00 to 18:00	267	2	**269**	1	0	**1**	4	0	**4**	1	0	**1**	0	0	**0**	0	0	**0**	3	6		0	0	7	10	**26**
PM Totals	**954**	**13**	**967**	**19**	**3**	**22**	**10**	**0**	**10**	**12**	**3**	**15**	**2**	**1**	**3**	**0**	**0**	**0**	**32**	**29**		**0**	**0**	**49**	**49**	**159**

Appendix B

STFM Growth Plots

ROAD TRAFFIC GROWTH (%YR, 2HRSPK) LINKS & INTERSECTIONS

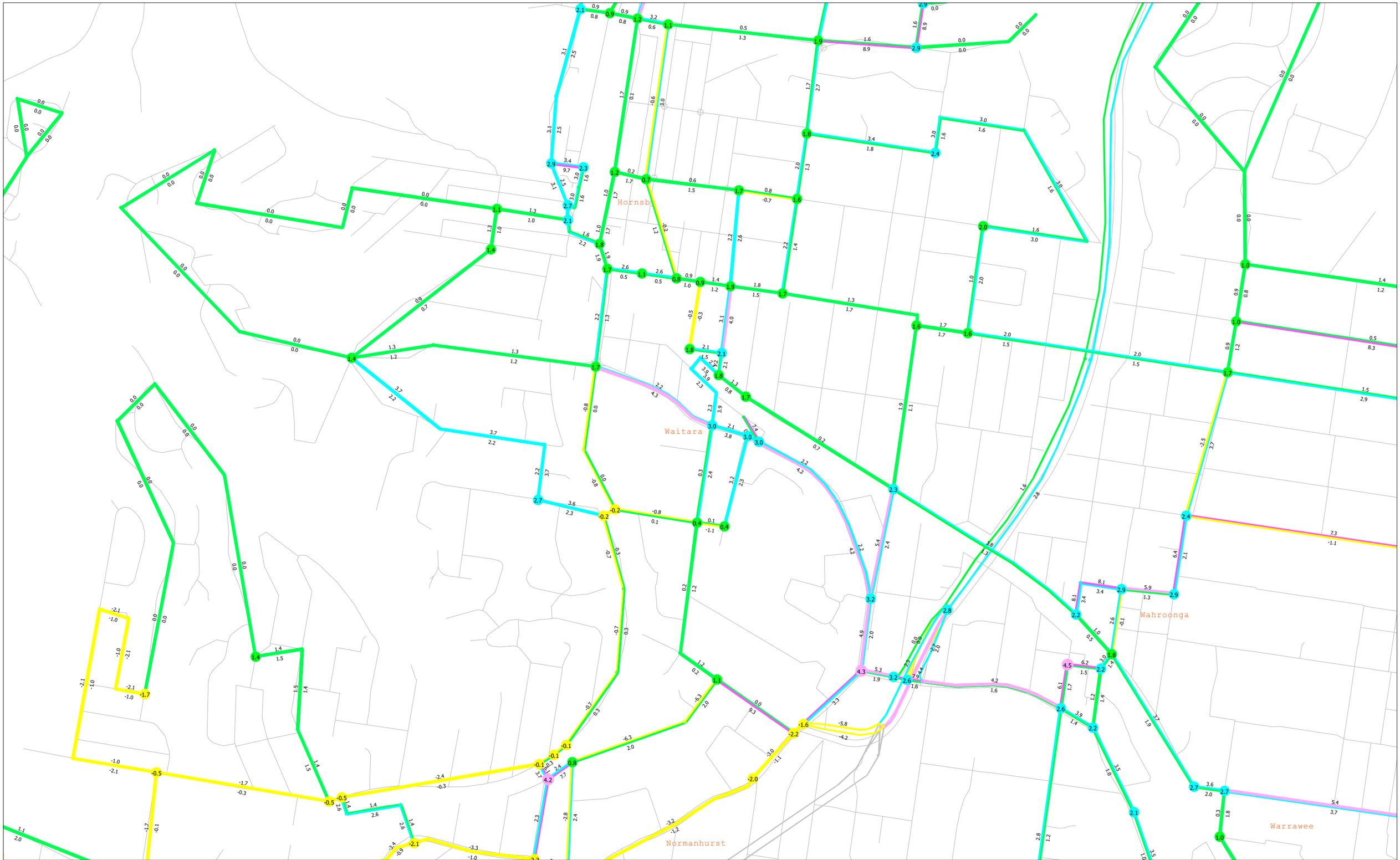


SYDNEY GMA STRATEGIC TRAFFIC FORECASTING MODEL(STFM)
Scenario 2026: 2026 ROAD NETWORK MODEL(TZP19STMV3.8FMMV7.1)-7-9AM(mf34)
2021-04-13 14:51

Growth(YR):

<0
<2.00
2.01-4.00
4.01-6.00
>6.00
New Links=999

ROAD TRAFFIC GROWTH (%YR, 2HRSPK) LINKS & INTERSECTIONS



SYDNEY GMA STRATEGIC TRAFFIC FORECASTING MODEL(STFM)
Scenario 20260: 2026 ROAD NETWORK MODEL(TZP19STMV3.8FMMV7.1)-4-6PM(mf54)
2021-04-13 14:51

Growth(YR):

- <0
- <2.00
- 2.01-4.00
- 4.01-6.00
- >6.00
- New Links=999

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