Barker College
Green Travel Plan

Barker College
Green Travel Plan

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1 Introduction

1.1 Background

This report supports a State Significant Development Application (SSDA) for the expansion and redevelopment of Barker College, which is to be submitted to the Department of Planning, Industry and Environment (DPIE) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (the Act). EPM Projects is the proponent of the SSDA.

The Transport Planning Partnership (TTPP) has been appointed to prepare this Green Travel Plan (GTP) to respond to the Secretary's Environmental Assessment Requirements (SEARs) dated 15 December 2021 for the following item:

> *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.*

The GTP has been prepared to propose initiatives and measures that can be implemented to encourage green travel modes. This GTP is envisaged to primarily target school staff, students and parents.

1.1.1 Draft Conditions of Consent

Following review of this GTP and remaining SSDA submissions, DPIE has issued a Draft Conditions of Consent for the SSDA. As part of the consent, condition E11 has been stipulated which requires the update of this GTP prior to the issue of an Occupation Certificate (OC).

TTPP has summarised the consent condition in Table 1.1, and referenced the relevant sections of this report which it relates to, and/or the status of the specific item.

Table 1.1: Summary of Consent Conditions

Consent Condition	Status or Report Ref.
E11. Prior to the issue of the occupation certificate for the PUDO area, a Green Travel Plan (GTP), must be submitted to and approved in writing by the Planning Secretary to promote the use of active and sustainable transport modes. The plan must: (a) be prepared by a suitably qualified traffic consultant in consultation with Council and TfNSW;	Noted.
(b) be consistent with the Green Travel Plan prepared by TTPP dated 10 October 2023;	This report.
(c) include objectives and modes share targets (i.e. site and land use specific, measurable and achievable and timeframes for implementation) to define the direction and purpose of the GTP;	Section 4
(d) include specific tools and actions to help achieve the objectives and mode share targets submitted in the Green Travel Plan prepared by TTPP dated 10 October 2023;	Section 5
(e) include measures to promote and support the implementation of the plan, including financial and human resource requirements, roles and responsibilities for relevant employees involved in the implementation of the GTP; and	Section 7
(f) include details regarding the methodology and monitoring/review program to measure the effectiveness of the objectives and mode share targets of the GTP, including the frequency of monitoring and the requirement for travel surveys to identify travel behaviours of users of the development.	Section 6

1.1.2 TfNSW Requirements

This GTP has been updated following feedback received from TfNSW on Version 5 of this report, as provided in their response to the submissions letter dated 8 February 2023.

TfNSW comments and the relevant report reference addressing each item is provided in Table 1.2.

Table 1.2: TfNSW Comments on the GTP

TfNSW Comment	Report Reference/ TTPP Response
Comment: TfNSW advises that the anticipated traffic growth in the network may result in some intersections in the vicinity of the school which are already operating close to capacity and because of the proposed developments will further create impact the level of service of the surrounding local and classified road networks. As such, TfNSW recommends that to mitigate the development's impact the surrounding transport network, the Applicant will need to address the proposed Green Travel Plan (GTP) as part of the Response to Submissions (RtS). Recommendation: As part of the Response to Submissions (RtS) the Applicant should address the following matters in the GTP:	This Report.
Mode Share Target ▪ From Table 4.1 in the GTP, a 5% shift in mode is proposed from car driver to public and active transport modes is considered low. Consideration will need to be given to encouraging a greater mode shift from private vehicle to the subject site, particularly given as the school site is currently generally well served by public transport via buses and heavy rail (Waitara Rail Station is 450m east of the site, and 800m from the Hornsby Rail Station). ▪ Revised mode share targets would assist in reducing the traffic impact of the proposed development.	Section 4 It's noted that achieving a mode share shift greater than 5% is exceedingly difficult with on-site measures only. Higher mode shifts require changes to off-site conditions e.g. new transport infrastructure.
Travel Access Guide TfNSW notes the Travel Access Guide (TAG) included as an appendix in the GTP. The TAG should include separate route maps of all modes of transport. The map currently only shows the bus stops, but no indication of which routes stop at which stops. The TAG should also: ▪ Provide information encouraging students and staff about the health and wellbeing benefits of using sustainable transport, ▪ Promote to the number and location of End of Trip facilities (bike racks, showers, lockers, change rooms) and locate on map for both staff and students to make it easy and attractive for them to use. ▪ Provide times (first, last and typical headway) and stop locations for trains/ buses to and from the nearest train stations. ▪ Promote car-pooling and priority parking for those who car-pool or include paid parking as a disincentive. Provide car-pooling noticeboard for staff to know who will be car-pooling.	Appendix A. Note, bike parking has been included in the TAG, however, change room and shower facilities have been excluded as these would be included in Campus maps. Lockers and storage space is privately allocated to students and staff, and therefore, it is not suitable as an item in the TAG.
End of Trip (EoT) Facilities ▪ TfNSW recommends that the provision of bicycle spaces and EoT is monitored over time to ensure there is sufficient provision to further encourage cycling as a mode – both for students and staff. A good supply of quality EoT and bicycle parking is considered important to further encourage walking and cycling mode shares. The bicycle parking should be located at the school site at convenient locations, be safe, secured and under cover.	See Item 3 and 4 of Table 5.1, and Section 5.1.1

TfNSW Comment	Report Reference/ TTPP Response
Implementation Strategy ▪ TfNSW appreciates that the GTP has number of actions in the various sections (including Section 5.5) but recommends that these could be combined into one comprehensive Implementation Plan. ▪ The Implementation Plan should include all the initiatives and incentives within the GTP, timing and completion dates to ensure the overall effectiveness of the GTP as an implementation strategy. Each part of the Implementation Plan should be managed overall by the Travel Plan Coordinator/Steering Committee and include current communication strategies and initiatives.	See Section 7
Travel Survey ▪ TfNSW notes that Section 3 covers monitoring and undertaking annual travel surveys and that staff and student travel surveys will be undertaken but recommend that the travel survey be included as an appendix in the GTP. ▪ The survey should include questions to obtain staff, student, and visitor residential postcodes to identify the actual travel origin and destination patterns, to inform strategies that help to reduce private vehicle demand for staff, student, and visitors to get to and from the site. The Travel Survey should also be promoting any initiatives or strategies that encourage sustainable transport routes.	See Appendix B
Incentives TfNSW requests that you consider in your Implementation Plan further possible incentives both long and short term for staff to use active and public transport such as, but not limited to: ▪ School subsidised panniers or backpacks for staff committed to active travel. ▪ Salary sacrifice options for purchases of bikes or other micro-mobility options. ▪ Time in staff meetings to share tips and support for staff wanting to start cycling. ▪ Wayfinding at the school for End of Trip facilities. ▪ Incorporating a role for a school sustainable travel champion that focuses on modelling the desired behaviours and positive communication around active and public transport.	See Section 5.1 and Section 7

1.2 The Role of Travel Plans

The purpose of a green travel plan relating to an educational facility 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, this GTP encourages travel to and from the school 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.

Active transport presents a number of interrelated benefits including:

- improved health benefits for the education workforce and student body

- reduced traffic congestion, noise and air pollution caused by cars

- greater social connections with communities

- cost savings to the economy and individual.

In order to ensure that the GTP meets its intended objectives, '*best practice*' guidelines have informed the review including the City of Sydney '*Guide to Travel Plans*' and '*The Essential Guide to Travel Planning*' prepared by the United Kingdom Department of Transport.

From the above review, the key themes applicable to the GTP include:

- **Site audit and data collection:** Review of existing transport conditions, traffic surveys and travel questionnaire survey have been undertaken. This has assisted the review to identify and document the existing issues and opportunities relevant to the site and its accessibility, particularly by non-car modes. Opportunities to improve amenity, incentivise non-car travel and remove barriers to the use of sustainable transport modes are then dealt with under the Site-Specific Measures, detailed in Section 5.1.

- **Audit of Policies:** An audit of key policy documents has been undertaken to assist define the direction and purpose of the GTP, aligned with the key targets and objectives from a local and regional perspective.

- **Bicycle Parking and Car Parking Management:** This GTP provides a strategy for management of both bicycle parking and car parking moving forward, and how they interact with travel choices.

- **Local Alliances:** The development of relationships between the school and various stakeholders (such as Hornsby Shire Council and Transport for NSW) will assist the school in delivering improved transport options.

The school generates a large number of trips from various modes from staff, students and parents. Managing that travel demand in favour of sustainable modes is recognised as challenging but would be critical when considering the future redevelopment of the site.

1.3 Travel Plan Pyramid

The GTP will need to be tailored to the school to ensure appropriate measures are in place for the different users of the site (e.g. students, staff, parents, community and visitors) to promote a modal shift away from car usage.

The key elements of the GTP are shown in the Travel Plan Pyramid in Figure 1.1.

Figure 1.1: Travel Plan Pyramid
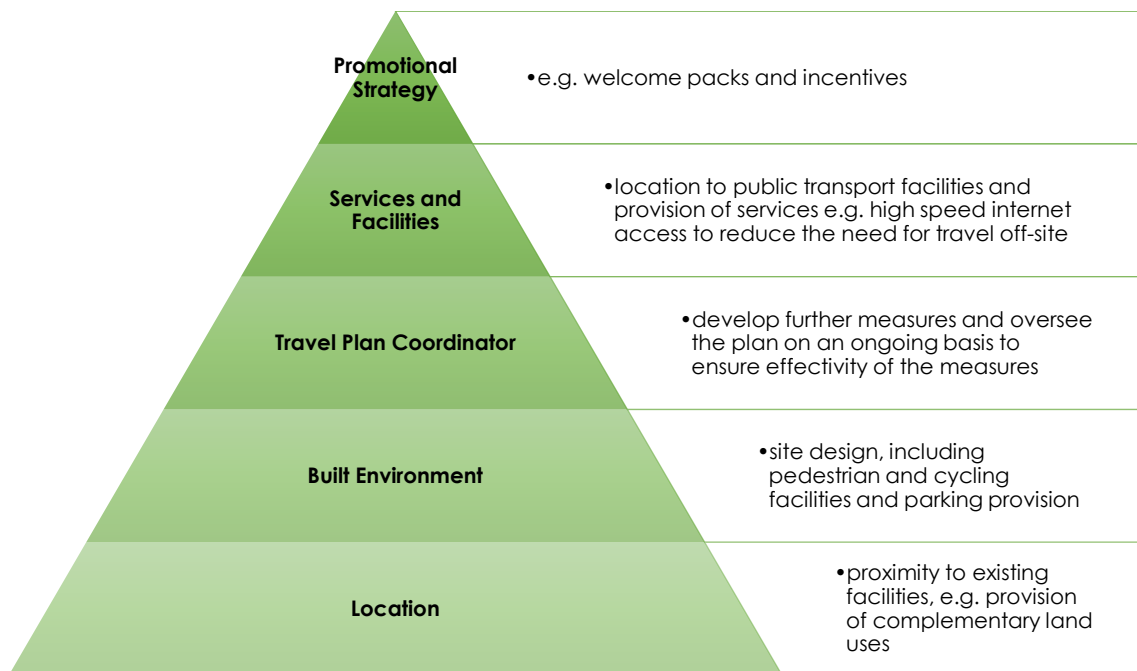
Figure 1.1 demonstrates that the key foundations to ensure the success of a GTP are:

- **Location** – i.e. proximity to existing public transport services and proximity to residential developments, such that walking or cycling becomes the natural choice.

- **Built Environment** – i.e. provision of high-quality pedestrian and cycling facilities, end-of-trip facilities and limited car parking provision to encourage sustainable transport choices.

Barker College benefits from its location near two railway stations and several bus stops with frequent transport services. Promotions and incentives to use public transport would be beneficial for a GTP implemented at this site.

However, cycling infrastructure is noted to be limited and therefore will likely be difficult to encourage as a mode of transport.

1.4 Drivers of the Travel Plan

There are a number of social, environmental and economic drivers for developing and implementing a GTP for developments as detailed below.

1.4.1 Car Parking

Car parks utilise valuable land resources and impact amenity. If the area continues to grow and there is no modal shift towards non-car transport modes, the car parking demand could increase significantly. As such, the provision of car parking must reflect the site's proximity to public transport to influence a modal shift to sustainable transport modes. Furthermore, the cost to provide parking is significant and therefore, there are strong economic imperatives to reduce car parking demand by incentivising non-car travel modes.

1.4.2 Environmental Impacts

The transport sector (road, rail, air and ship) is Australia's third largest source of greenhouse gas emissions (GHG), accounting for 18 per cent of emissions in Australia in 2015 (Climate Council of Australia, 2016). Mitigating this impact is a key driver of the GTP. Within Australia, the transport sector has the highest rate of growth of GHG emissions per year having risen by 51 per cent since 1990 with private vehicles responsible for almost half of transport emissions. In comparison, travel modes such as walking and cycling have the lowest emissions while public transportation has significantly lower impact than private vehicles.

1.4.3 Health Benefits

The use of sustainable transport modes can have wide-ranging health benefits due to a corresponding reduction in greenhouse gas emissions and increase in physical activity from walking and cycling. The shift from private cars to sustainable transport "can yield much greater immediate health "co-benefits" than improving fuel and vehicle efficiencies" (World Health Organisation, 2011). The potential benefits can include reduced respiratory diseases from better air quality, prevention of heart disease, some cancers, type 2 diabetes and some obesity-related risks.

1.4.4 Social Equity

Transport has a fundamental role in supporting social equity, that is the equitable distribution of services, amenities, and opportunities. The provision of sustainable transport modes can provide a more affordable alternative to car use. As such, it offers better mobility for women, children, young people, the aged, persons with disabilities and the poor, who have less access to private vehicles, thereby enhancing social equity.

1.4.5 Staff and Student Attraction

Ease of access has a significant impact on choices of work and study. Negative experiences and costs associated with travel can reduce the competitiveness of an education facility. High quality and efficient transport systems are key to attracting and retaining staff and students. Support for active transport modes is also highly desired by employers and employees because it improves health and productivity.

1.4.6 Education and Leadership

Educational facilities would have a great number of new persons coming through the organisation each year and as such, the organisation would have a unique opportunity to educate students and staff into sustainable travel behaviours. These travel behaviours can help shape long-term travel behaviours that extend long after their completion at the organisation. Successful travel planning and education can reduce traffic impacts on the road network while potentially supporting a positive influence on local areas by raising public transport service demand and improving amenity.

1.5 Transport Objectives

The following objectives have been identified in order to achieve the vision of the GTP:

Objective 1:   Facilitate a modal shift towards more sustainable transport modes
- Improve access, safety, amenity and convenience of sustainable transport modes for travel to/from the school.
- Incentivise sustainable transport modes and establish a culture of active and public transport use.
- Limit convenience of car access and parking within the campus.

Objective 2:   Make the school a great place to study, work and visit
- Improve access and mobility within the campus to key attractions and public transport hubs and enhance the sense of place.
- Reduce the need to travel by promoting flexible learning and teaching environments.

Objective 3:   Minimise the impact of travel on the built form of the school
- Prioritise infrastructure/facility allocation and priority decisions towards more sustainable transport modes (e.g. walking and cycling).
- Facilitate more efficient use of existing assets, such as parking management/policies and guidance.

2   Existing Transport Policy Context

The review of existing relevant policy clearly demonstrates a number of themes that should inform the approach to ongoing management of transport demand, and investment in the transport network. These themes include:

- provision of high-quality local transport infrastructure and improved bike paths and networks and improving accessibility and connectivity

- address car parking issues in key locations, including residential and business districts and encouraging active transport

- create connected, liveable communities where people can walk, cycle and use public transport to promote healthier, active communities.

A summary of the existing policy framework documents is provided in Table 2.1.

Table 2.1: Summary of Policy Framework

Policy/Strategy	Key Aims/Objectives/Goals
Hornsby Shire Council	
Walking and Cycling Strategy, 2020	The Draft Walking and Cycling Strategy has been prepared to provide a framework for Council to increase participation in walking and cycling, prioritise its delivery and improve the supporting infrastructure and resourcing for these activities in the Local Government area over the next 10 years. It covers the urbanised areas for walking and cycling.
NSW State Government	
New South Wales Long Term Transport Masterplan (NSW State Government, 2012)	The NSW Long Term Transport Masterplan guide the NSW Government's transport funding priorities over the next 20 years. As part of this Plan, short- and medium-term actions will focus on a more efficient and reliable bus network to be better integrated with the wider public transport system.
Future Transport Strategy 2056	The Strategy aims to increase the mode share of public transport services and reduce the use of single occupant vehicles. The proposal will look to reduce private vehicle travel and aligning with the objectives of the Strategy.
Greater Sydney Region Plan: A Metropolis of Three Cities – Connecting People	The Greater Sydney Region Plan aims to deliver a 30-minute city where jobs, services and quality public transport spaces in easy reach of people's home. The site is well located to contribute towards creating a 30-minute city. The close proximity of the site to public transport facilities, as well as residential areas, means that students and staff can easily access the site via public transport modes or walking. The site thus aligns with the objects of the Plan in creating jobs near public transport, including education precincts, to contribute towards a 30-minute city.
Sydney's Cycling Future, Cycling for Everyday Transport (NSW State Government, 2013)	Sydney's Cycling Future has targeted the 70% of residents in NSW who have indicated that they would cycle if it were safer to do so. Based on this, improving cycling infrastructure is a key focus of the strategy. The Three Pillars of Sydney's Cycling Future include: - investing in separated cycleways - providing connected bicycle networks to major centres and transport interchanges promoting better use of our existing network; and, - engaging with our partners across government, councils, developers and bicycle users.

2.1 Summary of Existing Transport Context

2.1.1 Existing Public Transport Context

The site is generally serviced by bus services operated by Sydney Buses. The nearest railway station is Waitara Station which is located approximately 450m east of the site.

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 2.2 and

Table 2.3 indicate the public and school transport services, associated frequencies, and closest bus stop locations.

Table 2.2: 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 2.3: 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 2.1 presents a map of the key existing bus stops within a 400m radius of the site.

Figure 2.1: Transport Services within Close Proximity of the Site
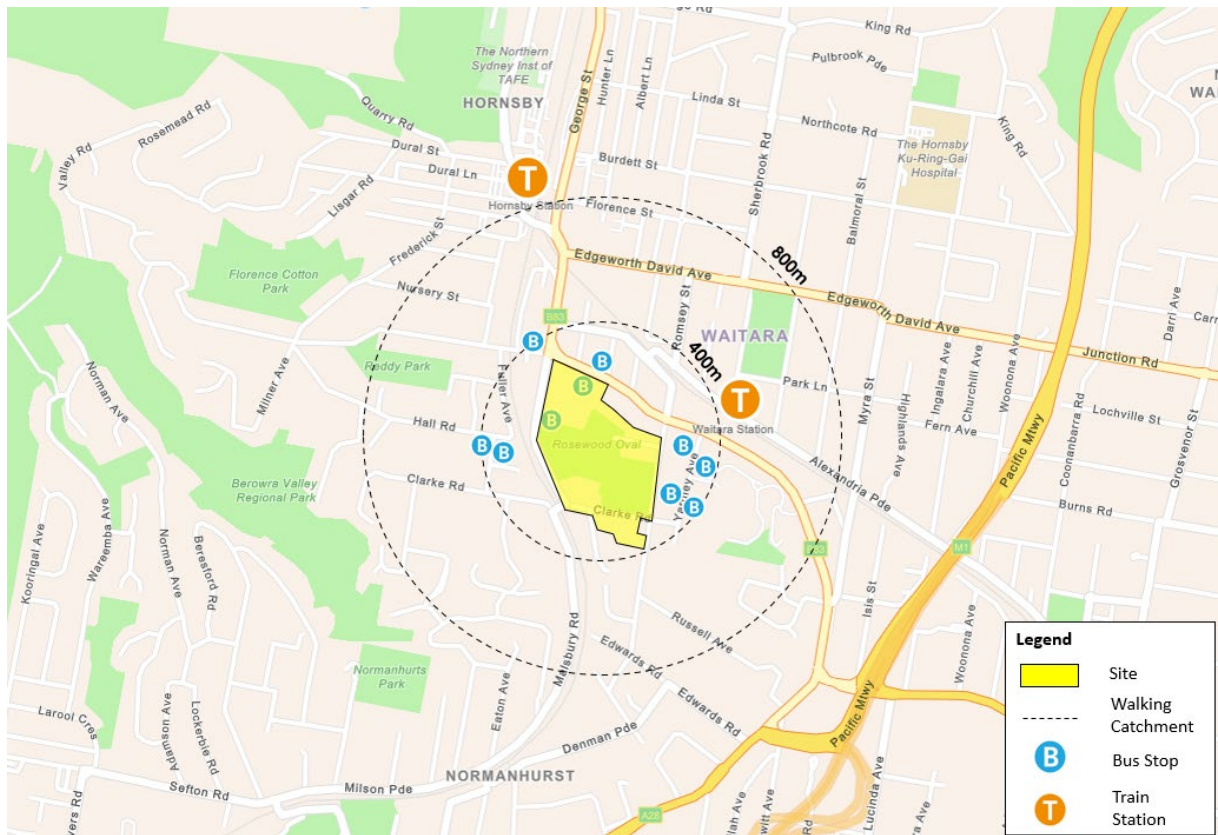
Basemap: ArcGis (accessed 18/02/2021)

2.2 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. In the form of signalised crossings, refuge islands or pedestrian (zebra) crossings. At present, these pedestrian facilities are well utilised during school peak drop-off and pick-up times.

The existing pedestrian facilities surrounding the site are shown in Figure 2.2.

Figure 2.2: Existing Pedestrian Facilities

Basemap: Nearmap (accessed 18/02/2021)

2.3 Cyclist Infrastructure

The cycle routes surrounding the site is shown in Figure 2.3. Notably, there is an off-road cycle route along College Crescent and Yardley Avenue.
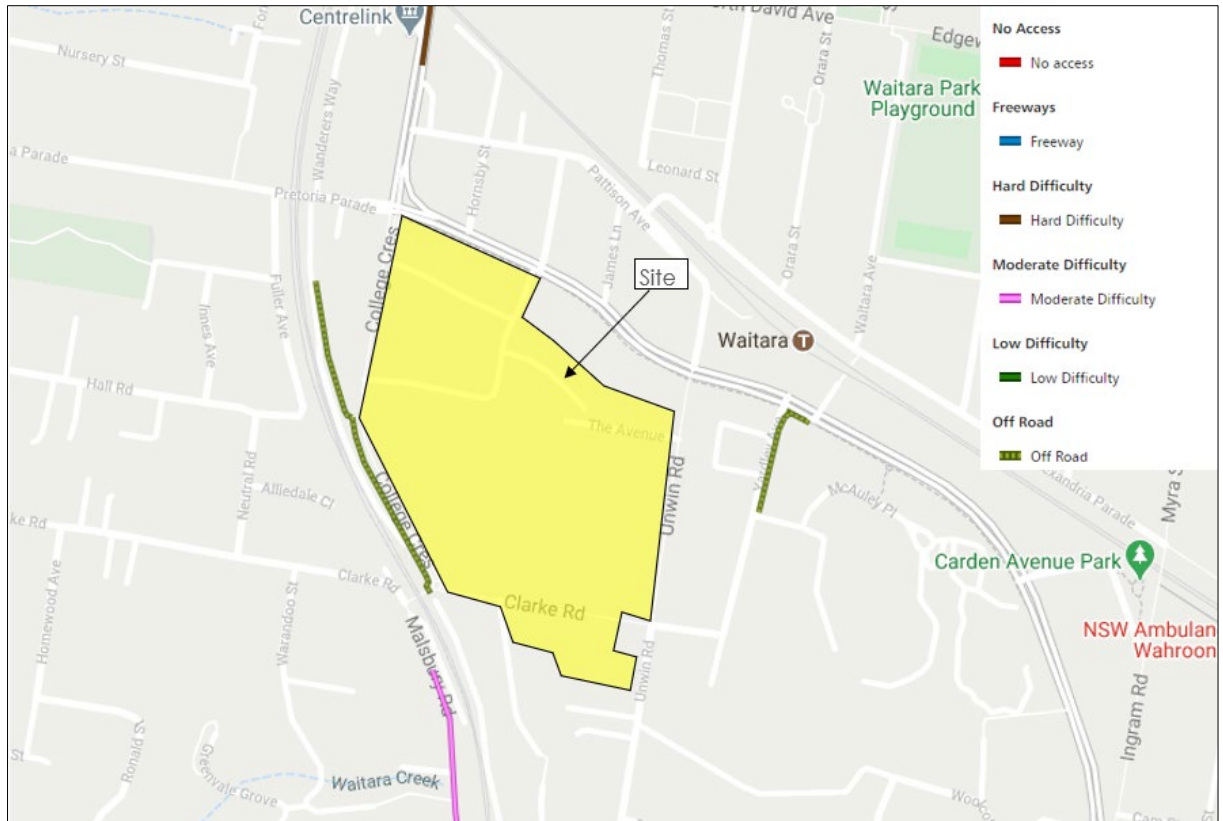
Source: Cycleway Finder (accessed 3/03/2021)

2.4 Existing Car Share Facilities

Car share schemes are a flexible, cost effective alternative to car ownership and is a convenient and reliable way for staff or students to use a car when they need one. A number of car share companies operate in Australia, with numerous companies and vehicles positioned currently within the North Sydney 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", either in a parking lot or on a street, typically in a highly populated urban neighbourhood. Members reserve a car by web or telephone and use a key card to access the vehicle.

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 2.4 shows the location of the existing car share vehicles surrounding the site.

Figure 2.4: Location of Existing GoGet Vehicles
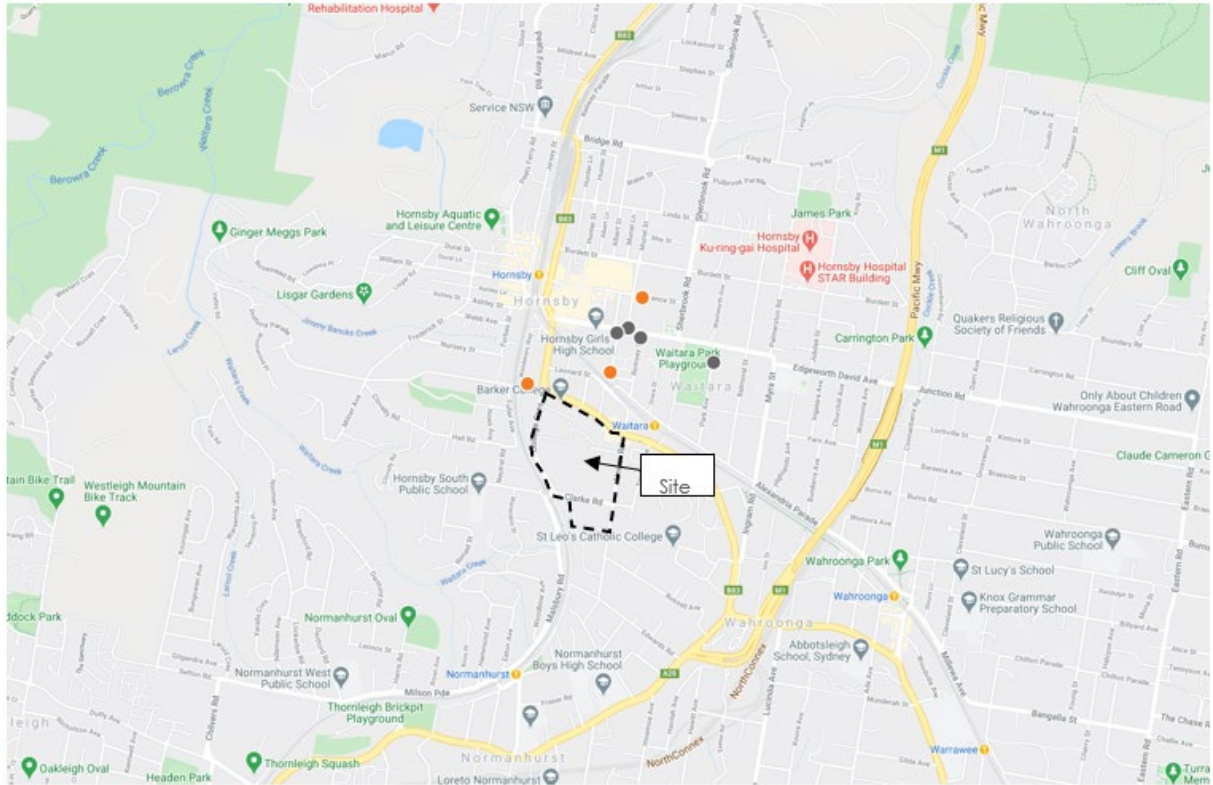
Source: https://www.goget.com.au/ (accessed 17/02/2021)

2.5 Electric Vehicles

There are currently 15-16 car spaces with EV charging facilities within Barker College.

As the usage of electric vehicles (EV) increases in popularity, Barker College aims to increase the provision of EV charging facilities on-site.

3 Existing Travel Patterns and Mode Splits

An online questionnaire was distributed to school staff and staff in March 2021 to determine their travel mode choice and behaviour. The key objective of the data collection was to understand travel behaviour of students and staff.

The ratio of completed surveys in relation to the student and staff population is shown in Table 3.1. The sample size obtained is considered adequate for this study.

Table 3.1: Survey Response Rates

Group	Existing Population	Total Number of Surveys Completed	Ratio of Completion
Barker College Primary School Students (Kindergarten to Year 2)	161	93	58%
Barker College Primary School Students (Year 3 to Year 6)	475	232	49%
Barker College High School Students (Year 7 to Year 12)	1956	856	44%
Staff	506	276	55%

A copy of the travel survey questions is provided in Appendix B.

3.1 Existing Travel Mode Splits

A summary of existing staff and student travel modes obtained from the survey results is provided in Table 3.2.

Table 3.2: Summary of Existing Staff and Student Travel Modes

Mode	Arrival (AM)				Departure (PM)			
	Primary School Students (K-2)	Primary School Students (Y3-6)	High School Students	Staff	Primary School Students (K-2)	Primary School Students (Y3-6)	High School Students	Staff
Car	74%	58%	26%	92%	87%	49%	16%	92%
Walk	6%	3%	3%	4%	11%	4%	4%	4%
Bus	16%	13%	15%	1%	0%	13%	16%	1%
Train	3%	19%	41%	2%	2%	27%	44%	2%
Train and Bus	0%	7%	15%	0%	0%	7%	20%	0%
Cycle	0%	0%	0%	1%	0%	0%	0%	1%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

The results indicate a high dependency on car usage for staff (91%) and K-2 primary students (74%-87%). There is approximately an even split between students travelling by car and students travelling by public transport/walking. Most high school students travel to/from school by public transport/walking (74%-84%).

Additionally, no students bicycle to/from school and only 1% of staff travel to/from school using a bicycle.

3.2 Staff Feedback

As part of the online questionnaire survey, staff who travelled to site by car were asked if they drive the car themselves, travelled with other school staff or are dropped off by someone who is not a staff member. The data indicated that the majority of staff 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 3.1 to Figure 3.3.

Figure 3.1: Measures to Encourage Walking/Cycling – Staff Responses
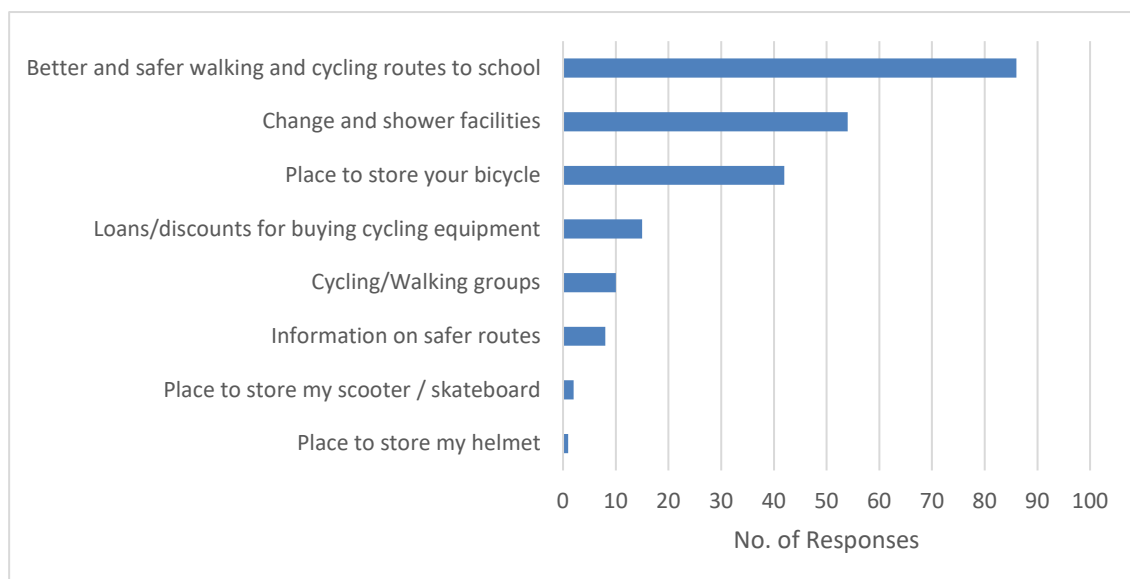
Figure 3.2: Measures to Encourage Public Transport Use – Staff Responses
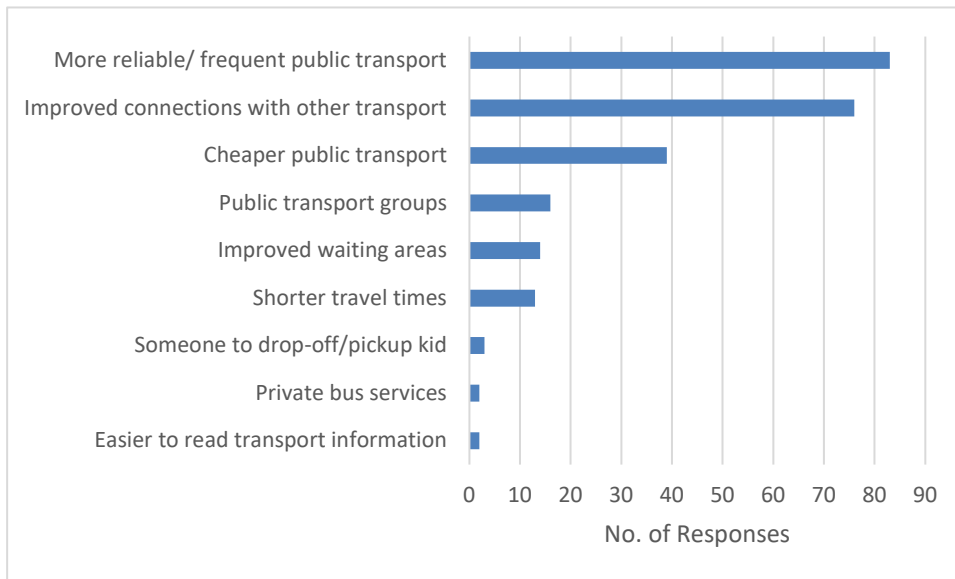
Figure 3.3: Measures to Encourage Carpooling – Staff Responses

3.3 Student Feedback

The following feedback are received from the student surveys:

- 62% of primary school students have a sibling that goes to the school.

- 43% of high school students in years 7-12 have a sibling that goes to the school.

- 60% of primary school students in years K-6 who get dropped off/picked up travelled in a car with other Barker students.

- 37% of high school students in years 7-12 who get dropped off/ picked up travelled in a car with other Barker students.

- 51% of primary school students are not interested in changing their travel choices.

- 55% of high school students are not interested 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 3.4 and Figure 3.5.

Figure 3.4: Measures to Encourage Walking/Cycling/Public Transport Use – Student Responses
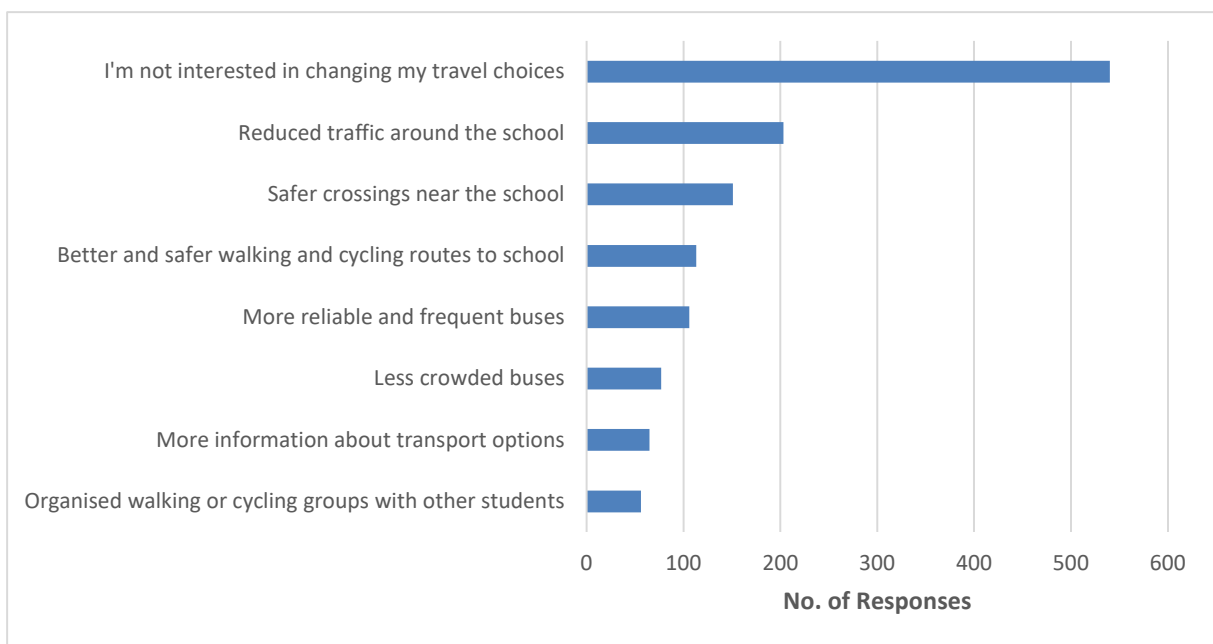

Figure 3.5: Measures to Encourage Carpooling – Student Responses
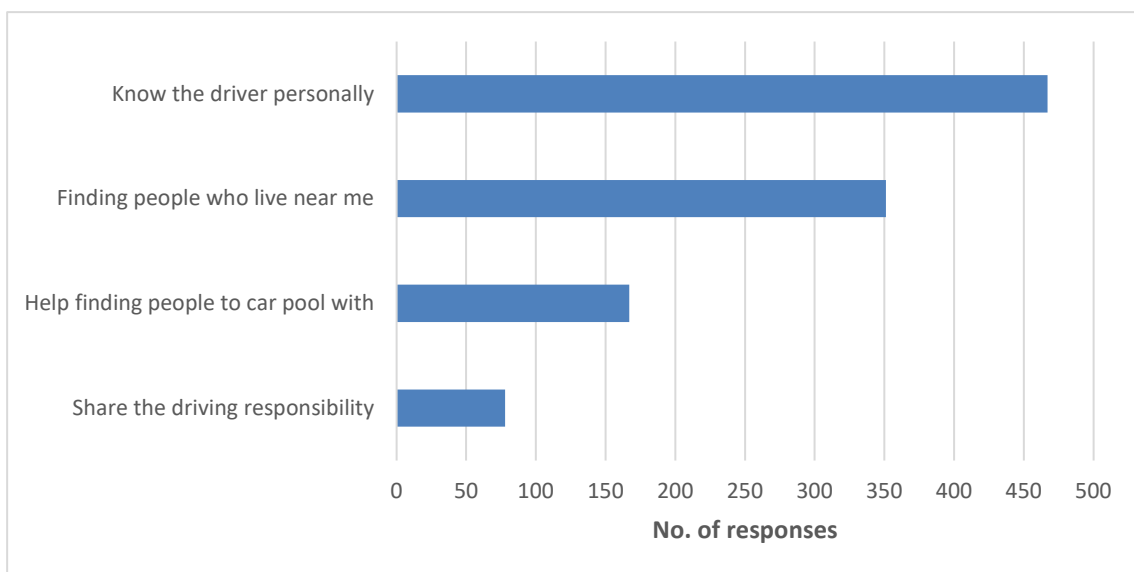
3.4 Other Key Findings

Other key findings from the survey questionnaire are as follows:

- The top five locations (LGA) which staff travel from/to the site are as follows:
  - ‣ Thornleigh
  - ‣ Hornsby
  - ‣ Turramurra
  - ‣ Normanhurst
  - ‣ Mount Colah

- The top five locations (suburb) which students travel from/to the site are as follows:
  - ‣ Wahroonga
  - ‣ Turramurra
  - ‣ Pymble
  - ‣ Hornsby
  - ‣ St Ives

Taking the above into consideration, TTPP notes the following salient points from the survey:

- Providing better and safer walking and cycling routes to school could encourage staff to switch travel mode to active transport.

- Staff are willing to carpool if they know the driver personally and if they can get help with finding people to carpool with.

- Students are willing to carpool if they could travel with friends or someone that they know. This means increased education and promotion of carpooling within students and parents need to be carried out to incentivise carpooling. There may need to be considerations for the School coordinating carpooling of parents with students for child protection reasons.

- Employees at Barker College are under a Code of Conduct and travelling with students alone and unauthorised is a breach.

- Increasing the frequency of bus services, particularly during the school peak period, to provide reliable and dedicated bus services to/from the school could encourage staff and students to use public transport. This however would need to be discussed with TfNSW.

The findings of this survey questionnaire have been used as a basis to develop the site-specific measures to encourage a modal shift away from private vehicles. This is further detailed in Section 5.

4 Mode Share Targets

The aim of the GTP is to encourage a safe modal shift away from private vehicles by implementing measures that influence the travel patterns of staff and students. To ensure that the GTP is having the desired effect, the implementation of the GTP would be regularly monitored. The success of the GTP is measured by setting modal share targets and identifying the measures and actions that have the greatest impact.

The results of the existing staff and student modal splits indicate that car mode share (including drop offs) is generally as follows:

- Staff: 91%

- Primary school students: 63%

- Secondary school students: 26%.

It is noted that a modal shift of up to 5 per cent is typically considered to be a significant achievement (based on knowledge of local and international GTPs, and as stated by experts in Land Environment Court proceedings).

On this basis, an initial mode shift of 5 per cent is proposed for the short term (i.e. post occupation of the proposed development).

However, a long term 'aspirational ' goal of 10% is also proposed, for each revision of the GTP to aim towards.

4.1 Short Term - Proposed Mode Share Targets

The 'short term' refers to one-year after initial occupation of the proposed development, that is, by the first GTP undertaken post occupation.

On this basis, a summary of the existing and projected 'short term' modal splits for each user type is provided in Table 4.1 and Table 4.2**Error! Reference source not found.** *Error! Reference source not found..* In our view, these proposed modal split targets are considered realistic, and a significant achievement based on our previous experience at similar developments, subject to the implementation of green travel strategies and initiatives.

Table 4.1: Existing and Projected Modal Splits – AM Arrivals

Travel Mode	Existing Modal Splits			Proposed Modal Splits		
	Junior Students (K-Y6)	Secondary Students (Y7-12)	Staff	Junior Students (K-Y6)	Secondary Students (Y7-12)	Staff

Travel Mode					
Dropped off/Picked up by car (only passenger)	22%	11%	1%	19%	8%	1%
Dropped off/Picked up by car (with other students/staff)	36%	13%	0%	34%	11%	0%
Car driver	0%	2%	91%	0%	2%	86%
Carpool (with other students/staff)	5%	1%	0%	5%	1%	0%
Walk Only	4%	3%	4%	4%	3%	4%
Public Bus	2%	7%	1%	2%	7%	3%
School Bus	12%	8%	0%	13%	9%	0%
Train	15%	41%	2%	17%	43%	4%
Train and Bus	5%	15%	0%	6%	16%	0%
Cycle/ Scooter/ Skateboard	0%	0%	1%	1%	1%	2%
Motorcycle	0%	0%	0%	0%	0%	0%
TOTAL	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 4.2: Existing and Projected Modal Splits – PM Departures

Travel Mode	Existing Modal Splits			Proposed Modal Splits		
	Junior Students (K-Y6)	Junior Students (K-Y6)	Junior Students (K-Y6)	Junior Students (K-Y6)	Secondary Students (Y7-12)	Staff

Dropped off/Picked up by car (only passenger)	23%	8%	1%	20%	5%	1%
Dropped off/Picked up by car (with other students/staff)	31%	6%	0%	29%	4%	0%
Car driver	1%	2%	91%	1%	2%	86%
Carpool (with other students/staff)	4%	1%	0%	4%	1%	0%
Walk Only	6%	4%	4%	6%	4%	4%
Public Bus	2%	9%	1%	2%	9%	3%
School Bus	7%	7%	0%	8%	8%	0%
Train	20%	44%	2%	22%	46%	4%
Train and Bus	5%	20%	0%	6%	21%	0%
Cycle/ Scooter/ Skateboard	0%	0%	1%	1%	1%	2%
Motorcycle	0%	0%	0%	0%	0%	0%
TOTAL	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

The above represents a modal shift of some 5% from car travel based on existing travel modes to/from the school.

4.2 Long Term - Proposed Mode Share Targets

The 'long term' refers to aspirational mode share targets that the future GTPs for the site will aim for. The GTP is to be revised regularly as part of the monitoring and management strategy (as discussed in Section 6), with each update reaching for a higher target than that already achieved. A long term modal shift of up to 10% is proposed.

On this basis, a summary of the existing and projected 'long term' modal splits for each user type is provided in Table 4.3 and Table 4.4.

Table 4.3: Existing and Projected Modal Splits – AM Arrivals

Travel Mode	Existing Modal Splits			Proposed Modal Splits		
	Junior Students (K-Y6)	Secondary Students (Y7-12)	Staff	Junior Students (K-Y6)	Secondary Students (Y7-12)	Staff

Travel Mode						
Dropped off/Picked up by car (only passenger)	22%	11%	1%	16%	5%	1%
Dropped off/Picked up by car (with other students/staff)	36%	13%	0%	32%	9%	0%
Car driver	0%	2%	91%	0%	2%	81%
Carpool (with other students/staff)	5%	1%	0%	5%	1%	0%
Walk Only	4%	3%	4%	4%	3%	4%
Public Bus	2%	7%	1%	2%	7%	5%
School Bus	12%	8%	0%	14%	10%	0%
Train	15%	41%	2%	18%	44%	6%
Train and Bus	5%	15%	0%	7%	17%	0%
Cycle/ Scooter/ Skateboard	0%	0%	1%	2%	2%	3%
Motorcycle	0%	0%	0%	0%	0%	0%
TOTAL	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 4.4: Existing and Projected Modal Splits – PM Departures

Travel Mode	Existing Modal Splits			Proposed Modal Splits		
	Junior Students (K-Y6)	Junior Students (K-Y6)	Junior Students (K-Y6)	Junior Students (K-Y6)	Secondary Students (Y7-12)	Staff

Dropped off/Picked up by car (only passenger)	23%	8%	1%	17%	2%	1%
Dropped off/Picked up by car (with other students/staff)	31%	6%	0%	27%	2%	0%
Car driver	1%	2%	91%	1%	2%	81%
Carpool (with other students/staff)	4%	1%	0%	4%	1%	0%
Walk Only	6%	4%	4%	6%	4%	4%
Public Bus	2%	9%	1%	2%	9%	5%
School Bus	7%	7%	0%	9%	9%	0%
Train	20%	44%	2%	25%	47%	6%
Train and Bus	5%	20%	0%	7%	22%	0%
Cycle/ Scooter/ Skateboard	0%	0%	1%	2%	2%	3%
Motorcycle	0%	0%	0%	0%	0%	0%
TOTAL	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

The above represents a modal shift of some 10% from car travel based on existing travel modes to/from the school.

4.3 Case Study – Brisbane Active School Travel Programme

In 2004, Brisbane City Council implemented an Active School Travel (AST) programme at various schools to implement a number of initiatives to reduce the number of car trips made to and from Brisbane Schools.

Based on this programme, a summary of the key successes between 2008 and 2009 are as follows:

- 24.8 per cent decrease in car trips

- 19.1 per cent increase in students walking to the school

- 3.1 per cent increase in students cycling to school

- 2.5 per cent increase in students carpooling with other families.

The key initiatives implemented include:

- **Walking Wheeling Wednesday** – a weekly campaign to encourage students to actively travel to school every Wednesday. This enabled a 'spill over' effect where students chose to actively travel to school for the whole week.

- **Park and Stride** – encourage students who have no alternative but to be driven to school to walk part of the way. A site was selected within a 5-10 minutes walking

distance from the school and parents were encouraged to drop their children off there. This assisted to alleviate congestion experienced around the school gates.

- **Walking School Bus** – group of children walking to and/or from school with trained and approved Walk Leaders from the school community. This walking route include key bus stop to pick up and drop off children along the route as required.

- **Car Pooling** – encourage families to reduce the number of car trips from one family to provide some time and cost saving benefits by not having to do the 'school run' every day.

- **RACQ 'Streets Ahead; Road Safety Program'** – RACQ officers would visit schools to teach students how to be safe pedestrians and passengers. This presentation is interactive and engaging to encourage children to practice correct road safety behaviours, making it easier for them to learn how to be safe road users in real-life situations.

- **Public Transport Orientation** – this is an activity to educate students how to use buses safely and how to behave safely at bus stops. This motivated some parents to allow their children to use public transport to school.

- **Bike Skills Training** – offered to students to improve their cycling competency, cycling confidence, safely cross the road, understand road rules and demonstrate to their parents they have attained sufficient skills to allow them to cycle to/from the school.

- **Bike Cage Construction** – provision of secure bike storage areas to alleviate student's and parent's fear of bicycle theft and/or vandalism.

- **Active Travel Maps** – specific active travel maps for each school to detail public transport services in the area, cycle and walking routes.

- **Road Star and Assembly Presentations** – a mascot who appears at launch events and school assemblies to promote active travel.

- **Adopt a Cop** – an initiative to pair a school up with their own police officer. This was found to provide reassurance to parents to allow their child to actively travel.

- **Active School Travel (AST) E-News** – a monthly newsletter to detail best practice models for initiatives and publishes the Walking Wheeling Wednesday statistics allowing schools to compare results and achievements.

- **Legacy Program** – provide schools with an additional two years of support in further developing and maintaining their travel plan.

A comprehensive evaluation was undertaken at the end of each year which highlights both successes and areas for improvement.

The above successful initiatives have been considered as part of this GTP.

5   Methods of Encouraging Modal Shift

To achieve the objectives of the GTP, measures will be put in place to influence the travel patterns to/from the site, with a view to encouraging modal shift away from cars.

5.1 Site-specific Measures

Table 5.1: Site Specific Measures

Item	Description of Measure
1. Limited on-site car parking provision	Reducing, scheduling or limiting on-site car parking provision and introducing strict car parking policies to manage car parking allocation with the site. It is recommended that the number of staff allocated parking spaces be reduced to remove the "convenience" away from car travel, which was identified as one of the main reasons for driving to the site.
2. Designated carpool only spaces in centrally managed car parks (Priority Parking)	It is recommended that designated carpool only parking spaces be provided within the site to encourage carpooling within the campus. In order to use the designated carpool only spaces, a pre-booking system will be required. Security will be required to patrol these spaces to ensure appropriate use and compliance with relevant car park policies.
3. Bicycle Parking	It is proposed to provide 38 new bicycle parking spaces on-site, near change rooms and shower facilities. The provision of bicycle parking is based on mode share analysis as discussed in Section 5.1.2. Following occupation, bike parking provision is to be amended based on bike parking demand. It is understood that there are sufficient student lockers and staff offices within the existing site to accommodate the storage of cycling gear. Post occupation, the travel survey should include a query to confirm if existing storage options are suitable. Bicycle parking locations will need to be posted on public transport noticeboards and/or the school website to ensure staff, students and visitors are aware of the existing cycling facilities.
4. Monitoring of Bicycle Parking	The bike parking demand is to be regularly monitored (e.g. once a month). The parking demand data is to be analysed as part of the regular GTP updates, and additional parking is to be provided, as required, with an aim to provide a 20% float in the parking supply above the parking demand.
5. Monitor EV charging facilities	There are currently 15-16 car spaces with EV charging facilities within Barker College. The use of these facilities would be monitored, with an aim to provide more as required.
6. Walking Groups / Walking School Bus	Staff will be encouraged to walk by implementing a '10,000 steps per day initiative'. This involves providing staff with trackers that measure the number of steps they have walked. Staff members who have achieved the 10,000-step goal over a set period could be rewarded with a free gym membership or similar. Similar program is also recommended for students where students who achieved 10,000 steps in three consecutive days for example. A trained and approved Walk Leader from the school community should be employed to walk a group of children to and/or from school. This walking route should include key bus stop to pick up and drop off children along the route as required.
7. Bicycle User Groups	A cycling group should be established to familiarise themselves with the nearby bicycle routes and allow people to enjoy cycling with the company of others. This will also teach beginner cyclists the necessary skills required whilst cycling on-road. It will be necessary that a staff member

Item	Description of Measure
	be appointed to oversee and organise all bicycle events and communication regularly to promote cycling.
8. Public Transport User Groups	The school can organise a buddy system between senior students and junior students to travel via bus or train together. This would increase safety on public transport and parents would be more confident in letting their children to travel by trains or buses.
9. Public Transport Noticeboards	Public transport noticeboards should be provided at key locations and on the school's website to make staff, students and visitors more aware of the alternative transport options available. The format of the noticeboards will be based upon the travel access guide (see Appendix A).
10. Provision of showers, changing rooms and lockers	End of trip facilities such as lockers and shower facilities should be provided to staff and students to encourage more staff and students to walk and cycle to the school. Teachers would be able to utilise their office desk space and students will be allocated with personal lockers. Identify any dedicated staff common areas to encourage this type of arrival to support access and readiness for teaching and other professional roles. The locations of the end-of-trip facilities should be included as part of the travel access guide posted at key locations on noticeboards, distributed via email regularly etc. This will enable staff and students to store their teaching material/resources in a safe and secure location.
11. Public Transport Incentives/Discounts	Eligibility details for public and private transport concessions, bus services and other public transport information should be posted on school noticeboards/ website and will be emailed to students.
12. Online carpooling forum	A carpooling forum should be developed on the school staff and student portal to encourage students and staff to travel in groups. The forum should provide a platform for people travelling on the same route to site to find each other and form groups. Existence of the forum should be advertised at information points/ noticeboards within the school, social media and/or on the Transport Access Guide (TAG). In addition to this, social events should go hand in hand with this approach to promote social interaction between the staff or parents to reduce social barriers which may deter them from carpooling with others.
13. Provide well-lit and safe pedestrian and cyclist facilities within the campus	It is recommended for all internal pedestrian and cycle facilities within the school be reviewed and upgraded with better lighting and with more security patrol (e.g. cctv) to encourage more staff and students to walk/cycle to the site. In addition, it is recommended for a liaison officer to be appointed to lobby Council and other government agencies to improve existing and/or provide more pedestrian and cyclist facilities on all approaching routes and pedestrian paths to and from the site.
14. Wayfinding signage	There should be appropriate wayfinding signage provided on the various walking/ cycling routes around the school. Wayfinding signage should also be provided within the school grounds.
15. Road Safety Awareness presentations	It is recommended that regular presentations be held during school assemblies to promote active travel and generate interest and excitement amongst the staff and students. This presentation should also help students to understand the road rules, as well as teach them how to be safe road users in real-life situations.
16. Discuss Active Travel Tips in Staff Meetings	The topic of sustainable travel should be discussed in staff meetings. Staff can share their choice of active travel routes with each other. This discussion may entice more staff to walk/cycle to work.
17. Park and Stride Programme	It is recommended that the school consider implementing a Park and Stride programme to encourage parents to drive their children to an off-site location and walk to the school to alleviate traffic congestion on surrounding residential streets. This measure would need to be formally appraised to ensure it is safe, designated and is not impacting residential or business quiet enjoyment.

Item	Description of Measure
18. Learn to Ride Programme	It is recommended that the school organise Learn to Ride programme to offer lessons for students in learning how to ride a bicycle in a safe and responsible manner. It will be a fun and interactive learning experience for students to develop their riding skills, knowledge and confidence.
19. School Mobile App	It is recommended to 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.
20. Subsidised Backpacks	Staff could be provided with subsidised backpacks to encourage active travel. This would allow them to easily carry their belongings to/from work.
21. Salary Sacrifice for Bike Purchases	Staff should be given the option to salary sacrifice if a bike is purchased. This would also be a monetary benefit and would encourage staff to invest in a bike.
22. Travel Champion	A school sustainable travel champion should be nominated. This person's duties would involve actively modelling these behaviours and communicating different strategies to staff and students.

5.1.1 Bicycle Parking Provision

As noted in item 4 of Table 5.1, bicycle parking is to be provided such that the parking supply is at least at a 'float of 20%' above the parking demand, to encourage cycling to the site.

Prior to occupation, this demand is not known. As such, the initial base parking supply is suggested to based on the target mode, which proposed to be 1% for students and 2% for staff.

Based on this, the proposed development should provide a total of 38 bicycle spaces as summarised in Table 5.2.

Table 5.2: Bike Parking Requirement

Proposed Population	Existing Mode Share	Targe Mode Share	Number of Bike Spaces Required
Junior Students (731 students)	0%	1%	7 cycles
High School Students (2,119 students)	0%	1%	21 cycles
Staff (480 staff)	1%	2%	10 cycles
Total			**38 cycles**

Following occupation, regularly monitoring of the bike parking demand should be undertaken to ensure there is sufficient bike parking on-site to accommodate the existing parking demand and also, encourage cycling in others.

Bike parking will be provided throughout the Barker College Campus, with a total of 38 spaces. The locations are listed as follows and shown indicatively in the TAG in Appendix A.

- 6 within the north-east corner of the site, near Rosewood Centre
- 6 north of the site, near the staff club
- 6 near the existing Gamson Centre pool
- 6 within the proposed Aquatic and Tennis Court car park
- 6 within the Junior School and Kurrajong car park
- 8 within the proposed Performing Arts Centre/ Maintenance buildings.

5.2 Off-site measures

The school will consult with Hornsby Council and/or TfNSW with a view to implementing several off-site measures to improve the transport connections to and from site including:

- improved cycling and pedestrian facilities between the school and Hornsby Station and Waitara Station.
- provision of additional car share facilities within the site surrounds
- discussions with TfNSW to provide additional school bus services and more frequent services to/from the campus, particularly during the school peak period.

5.3 Transport Access Guide

The information provided within the GTP will be provided to students and staff in the form of a package of easy-to-understand travel information known as a Transport Access Guide (TAG).

TAGs provide customised travel information for people travelling to and from a particular site using sustainable forms of transport – walking, cycling and public transport. It provides a simple quick visual look at a location making it easy to see the relationship of site to train stations, wharfs, bus stops and walking and cycling routes.

Such TAGs encourage the use of non-vehicle mode of transport and can reduce associated greenhouse gas emissions and traffic congestion while improving health through active transport choices.

They can take many forms from a map printed on the back of business cards or brochures. Best practice suggests that the information should be as concise, simple and site centred as possible and where possible provided on a single side/sheet. If instructions are too complex, people are likely to ignore them.

This TAG is to be available for pick up at various locations within the campus such as, at front entrances and noticeboards.

A draft TAG has been prepared for the site and is provided in Appendix A.

5.4 Information and Communication

Several opportunities exist to provide students and staff with information about nearby transport options. Connecting students and staff with information will help to facilitate journey planning and increase their awareness of convenient and inexpensive transport options which support change in travel behaviour.

Transport NSW info

▪ Bus, train and ferry routes, timetables and journey planning are provided by Transport for New South Wales through their Transport Info website:

http://www.transportnsw.info/

Cycleway Finder

▪ The Roads and Maritime Services provides a map with detailed cycling route information to encourage people of all levels of experience to travel by bicycle:

http://www.rms.nsw.gov.au/maps/cycleway_finder

SkoolBag

▪ The 'Skoolbag' mobile app could be adopted which will provide more easily accessible information to students and parents. An extension to the mobile app could include an instant messaging service for parents to facilitate quick trip-planning and real-time communication.

Similarly, phone apps such as TripView display Sydney public transport timetable data and shows a summary view showing current and subsequent services, as well as a full timetable viewer. This timetable data is stored on mobile devices, so it can be used remotely.

Connecting students and staff via social media may provide a platform to informally pilot new programs or create travel-buddy networks and communication.

The above web links and any social media platforms are to be included within the GTP/TAG.

6 Management and Monitoring of the Plan

6.1 Management

There is no standard methodology for the implementation and management of a GTP however the GTP will be monitored to ensure that it is achieving the desired benefits. The mode share targets set out in Section 4 are used in this regard to ensure there is an overall goal in the management of the GTP.

The monitoring of the GTP will require annual travel questionnaire surveys to be undertaken with a focus to establish travel patterns including mode share of trips to and from the site. These surveys should be undertaken every year for the first three years post occupation.

The implementation of the GTP will need a formal Travel Plan Co-ordinator (TPC), who will have responsibility for developing, implementing and monitoring the GTP. The TPC will be an appointed staff member or an independent expert.

It will also be necessary to provide feedback to students and staff to ensure that they can see the benefits of sustainable transport.

There are several keys to the development and implementation of a successful GTP. These include:

- **Communication** – Good communication are an essential part of the GTP. It will be necessary to explain the reason for adopting the plan, promote the benefits available and provide information about the alternatives to driving alone.

- **Commitment** – GTPs involve changing established habits or providing the motivation for people to choose a travel mode other than relying on private vehicles. To achieve co-operation, it is essential to promote positively the wider objectives and benefits of the plan. This commitment includes the provision of the necessary resources to implement the plan, beginning with the introduction of the 'carrots' or incentives for changing travel modes from Day 1 of staff induction/student enrolment.

- **Consensus** – It will be necessary to obtain broad support for the introduction of the plan from the staff and students.

Once the plan has been adopted, it is essential to maintain interest in the scheme. Each new initiative in the plan will need to be publicised and marketing of the project as a whole will be important.

6.2 Remedial Actions

A continuous review will take place to identify remedial actions should the modal share targets not be achieved. At this stage, the following measures are proposed both as discrete measures and those being proposed as part of the redevelopment of the site:

- increased bicycle parking
- increased/ improved changing facilities/lockers
- improve pedestrian paths/ wayfinding signage within the site
- increase use of car share.

6.3 Consultation

The results of the GTP will be communicated with students, staff and to the wider community via the school website and/or noticeboards and newsletters.

As such, it is recommended that a summary letter is produced presenting the results of the survey every year for the first three years post occupation. This letter/report can be appended to the GTP.

Communication to students, staff and wider community may be carried out in a similar form by public display of the GTP on the school website and/or noticeboards. Alternatively, a news article on the matter could be included on the website and/or noticeboards and newsletters.

7 Implementation Plan

7.1 Green Travel Plan Working Party

It is recommended that a committee known as the Green Travel Plan working party be set up to implement programs and initiatives within the school to promote increased use of public transport services and car-pooling opportunities. Such a working party may include staff and student representatives and active community/council representatives who could contribute to the process.

7.2 Actions

A summary of the key strategy and framework action table is shown in Table 7.1. It should be noted that this framework action table will be updated as required. However, it is stressed that the availability of the suggested strategies from Day 1 on the term and/or during staff induction procedures is a key factor in influencing travel patterns.

Table 7.1: Framework Action Table

Strategy/Action	Objective	Responsibility	Timescale	Frequency of Completion
Limited on-site car parking	1, 3	School	Prior to Occupation	-
Introduce designated carpool only spaces	1	School/ TPC	Prior to Occupation	-
Review car parking policy and limit car parking allowances	1, 3	School/ TPC	Ongoing	Annual
Advocate existing car sharing facilities nearest the school	1, 2	School / TPC	Ongoing	Annual
Provide additional public car sharing facilities	3	Council	Ongoing	-
Establish a carpooling online forum for staff and students to register and establish social/ "meet and greet" events to promote social interaction and carpooling	1, 2	TPC	Post Occupation	-
Provide showers, changing rooms, drying rooms and lockers within the site which are easily accessible and near buildings/classes	1, 2, 3	School	Prior to Occupation	-
Provide secure bicycle parking	1, 2, 3	School	Prior to Occupation	-
Public transport incentives/ discounts	1	School	Ongoing	Monthly
Wayfinding signage	1, 2, 3	School/ Council	Prior to Occupation	-
Discuss active travel tips in staff meetings	1, 2	School	Ongoing	Monthly
Regularly monitor the bicycle parking demand	1, 2, 3	School/ TPC	Ongoing	Monthly
Regularly monitor EV charging facilities	1, 2, 3	School/ TPC	Ongoing	
Subsidised backpacks	1	School	Ongoing	-
Salary sacrifice for bike purchases	1	School	Ongoing	-
Travel champion to communicate active travel strategies	1, 2	TPC	Post Occupation	Every Term
Establish Walking Groups / Walking School Bus and Bicycle User Groups with associated online forums	1, 2, 3	TPC	Ongoing	Weekly
Provide public transport noticeboard at key locations within the site in the form of a travel access guide. This will also be posted on the school's website and included as part of all student enrolments and during staff induction.	1, 2	School / TPC	Post Occupation	-
Provide well-lit and safe pedestrian and cyclist facilities within the campus	1, 2, 3	School / Council	Prior to Occupation	-

Strategy/Action	Objective	Responsibility	Timescale	Frequency of Completion
Provide well-lit and safe pedestrian and cyclist facilities on all pedestrian and cyclist routes to and from the site	1, 2, 3	Council / TfNSW	NA	-
Establish Road Safety Awareness presentations	1, 2	School / TPC	Post Occupation	Annual
Park and Stride Programme	1, 2	School / TPC	Post Occupation	Bi-Annual
Learn to Ride Programme	1, 2, 3	School / TPC	Post Occupation	Bi-Annual
Development/Use of Mobile App	1, 2, 3	School / TPC	Ongoing	-
Ongoing review of the GTP to introduce additional measures as required	1, 2, 3	TPC	Ongoing	Annual

8   Conclusion

It is recommended that travel surveys be conducted each year for a period of three years after completion, to highlight both successes and areas for improvement.

The findings of these surveys should be reported every year after the recommended green travel initiatives have been adopted to measure the effectiveness of these measures. This GTP would need to be updated accordingly to reflect the findings of the updated travel surveys.

If required, additional measures may be required to achieve the modal split targets and to achieve the long-term aspiration of reduced car use.

Appendix A

Travel Access Guide

Barker College
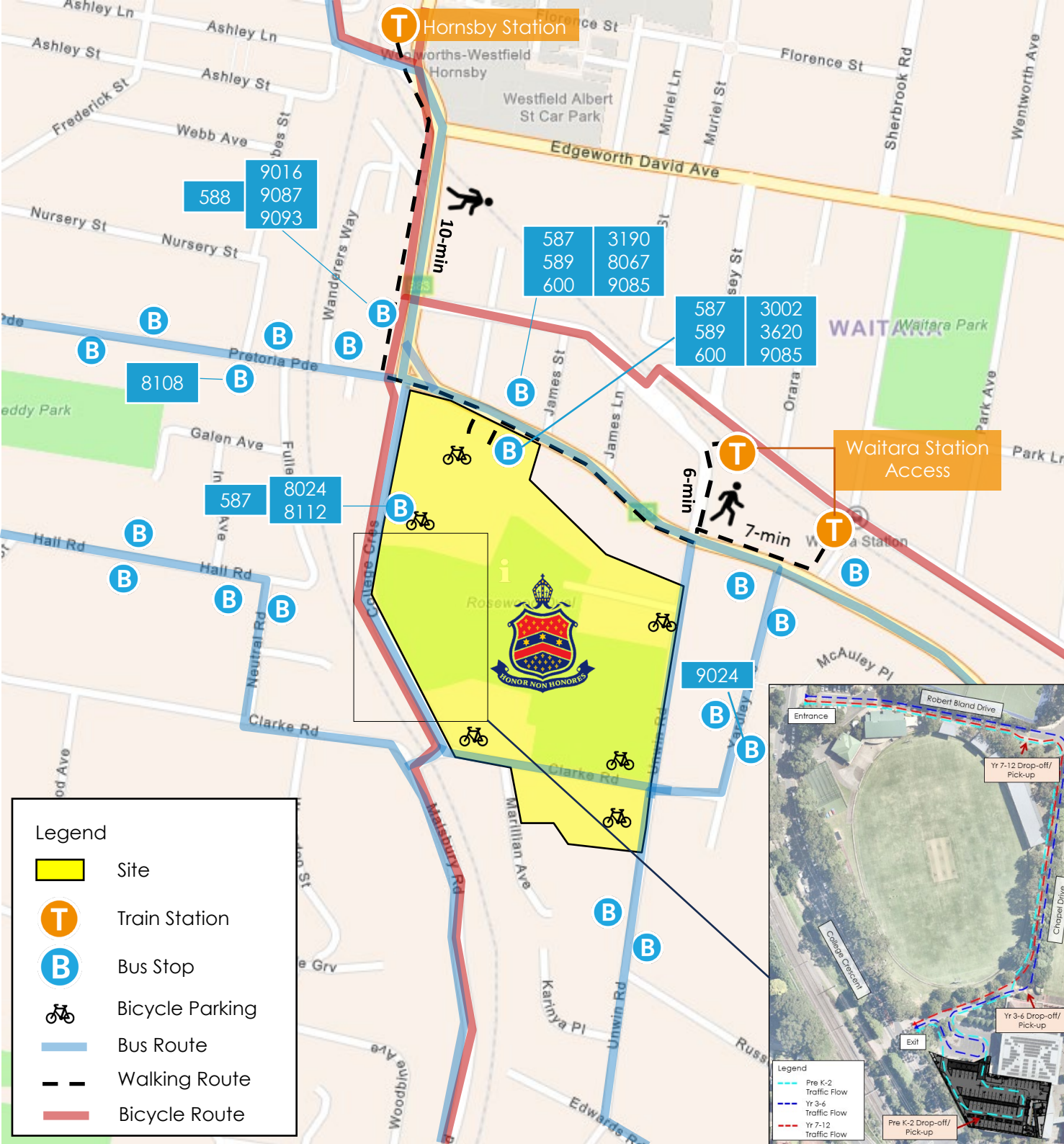
Use active and public transport to get around!

Public Transport Information

Map labels

- T Hornsby Station
- Waitara Station Access
- T Waitara Station
- WAITARA
- Waitara Park
- Woolworths-Westfield Hornsby
- Westfield Albert St Car Park
- 10-min
- 6-min
- 7-min

Bus route numbers shown on map
- 588
- 9016 / 9087 / 9093
- 587 / 589 / 600
- 3190 / 8067 / 9085
- 587 / 589 / 600
- 3002 / 3620 / 9085
- 8108
- 587
- 8024 / 8112
- 9024
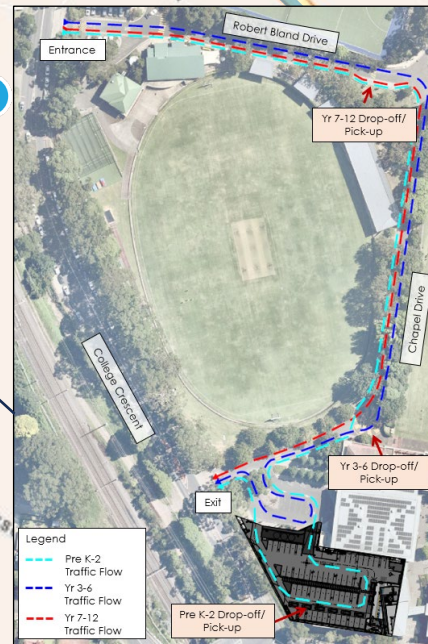
Legend

- Site
- T Train Station
- B Bus Stop
- Bicycle Parking
- Bus Route
- Walking Route
- Bicycle Route

Inset map legend

- Pre K-2 Traffic Flow
- Yr 3-6 Traffic Flow
- Yr 7-12 Traffic Flow
- Entrance
- Exit
- Robert Bland Drive
- Yr 7-12 Drop-off/Pick-up
- Yr 3-6 Drop-off/Pick-up
- Pre K-2 Drop-off/Pick-up
- College Crescent
- Chapel Drive
- McAuley Pl

Transport Access Guide

Public/School Bus Services

Bus Stops are located on Pacific Highway, Pretoria Parade, College Crescent, Yardley Avenue and Neutral Road within a 400m radius of Barker College. These stops are serviced by the following routes.

Bus Route	Frequency
587	AM Peak (every 20-40mins) PM Peak (every 30-40mins)
588	AM Peak (every 15-50mins) PM Peak (every 15-30mins mins)
589	AM & PM Peaks (every 60 mins)
600	AM Peak (every 10-20 mins) PM Peak (every 10 mins mins)
3002	AM peak (1 service)
3190	AM peak (1 service)
3620	PM peak (1 service)
8024	AM peak (1 service)
8067	AM peak (1 service)
8108	AM peak (1 service)
8112	AM peak (1 service)
9016	PM peak (1 service)
9024	PM peak (1 service)
9085	PM peak (1 service)
9087	PM peak (1 service)
9093	PM peak (1 service)

- For more information on public and school bus services, visit:

https://transportnsw.info/travel-info/ways-to-get-around/bus#/

Private Bus Services

Barker College provides the following dedicated bus services:

- Northern Beaches Route
- Bayview Route
- Narrabeen Route
- Terry Hills Route
- Lower North Shore Route
- Northbridge Route
- Balgowlah Route
- Arcadia Route

For more information on Barker College bus routes and timetables, visit:

https://www.barker.college/enrolments/getting-to-barker

Train

Waitara Station is located 400m south-east (6-minute walk) from the site and Hornsby Station is located 700m north-west (10-minute walk). It is serviced by T1 (North Shore & Western Line) and the T9 (Northern Line) at the frequencies mentioned below:

- T1 – Every 5-10 minutes during the AM and PM peaks
- T9 – Every 15 minutes during the AM peak and every 10-20 minutes during the PM peak

Drop-off/ Pick-up

Drop-off and pick-up activities will take place on school grounds, with access provided off College Crescent.

Walking

Journey Times:

6 minutes to Waitara Station

10 minutes to Hornsby Station

14 minutes to Westfield Hornsby

Staff Car Parking

Priority parking is given to those who carpool and share rides with colleagues. Talk to reception for the carpooling staff list.

Cycling

Visit https://www.hornsby.nsw.gov.au/lifestyle/sports-and-recreation/biking/road-cycling to download the city's cycling route map.

See Campus map for shower facilities/ change rooms.

Did you know?

- According to the Heart Foundation walking for an average of 30 minutes a day can lower the risk of heart disease, stroke and diabetes by 30 to 40 percent.
- Healthdirect mentions that cycling uses several muscle groups at the same time. Your legs to move the pedals, your core to keep you balanced and your arms to hold up your body and steer the bike.

Plan your trip using

- Sydney's Trip Planning Tool at https://transportnsw.info/
- Google directions at http://maps.google.com.au/directions
- The mobile app, Trip View, which provides live train and bus timetables

Appendix B

Travel Survey Questionnaire

Please read the following before starting the survey.

Barker College is undertaking a survey to understand the travel behaviour of staff . The survey should take 5 minutes.

Thank you for your participation.

To begin the survey, click Next.

1. Are you a full-time or part-time employee?

- ◯ Full-time (more than 20 hours per week)
- ◯ Part-time (20 hours or less per week)

2. If part-time, please select the days you normally work.

- ☐ Monday
- ☐ Tuesday
- ☐ Wednesday
- ☐ Thursday
- ☐ Friday

3. Which suburb did you travel from to get to work ?

[▲▼]

[   ]

4. How do you normally travel to school?
(select one answer that relates to your main travel method)

- ◯ Drove a car and parked on-site
- ◯ Drove a car and parked nearby
- ◯ Car Passenger (driver stayed)
- ◯ Dropped Off (driver did not stay)
- ◯ Public bus
- ◯ Walk (including skateboard or scooter)
- ◯ Rode a bicycle
- ◯ Drove a motorcycle / motorscooter
- ◯ Other (please specify)

[   ]

5. If you travelled by bus, what bus number did you catch?

6. If you rode a bicycle, where did you park your bike?

7. If you arrived by car (as a driver), how many other staff members were in the car with you?

○ 0 (e.g. just you in the car)   ○ 4

○ 1 (e.g. you drove and had one passenger)   ○ 5

○ 2 (e.g. you drove and had 2 passengers)   ○ More than 5

○ 3 (e.g. you drove and had 3 passengers)

8. If you arrived by car (as a driver), what is your main reason for choosing this travel method?

○ Dropping off/picking up my child(ren)

○ Need the car to drive elsewhere before school (e.g. sport, work, an appointment)

○ Need the car to drive elsewhere after school (e.g. sport, work, an appointment)

○ Health reasons

○ Convenience

○ Lack of alternatives (e.g. no bus service or no footpath)

○ Other (please specify)

9. If you parked, please indicate which area you parked in? (See school parking map below)

○ College Crescent

○ Clarke Road

○ Unwin Road

○ Marillian Avenue

○ The Avenue

○ A (Gamson Centre Car Park)

○ B (Chapel Car Park)

○ C (Rosewood Centre Car Park)

○ D (Prep School Car Park)

○ E (Clarke Road Tennis Courts Car Park)

○ F (Creative & Performing Arts Centre Car Park)

○ Other (please specify road name and nearest intersecting street if known)

[   ]

School Parking Map

Legend

A	Gamson Centre Car Park
B	Chapel Car Park
C	Rosewood Centre Car Park
D	Prep School Car Park
E	Clarke Rd Tennis Courts Car Park
F	Creative & Performing Arts Centre Car Park

10. If you were dropped off by car (i.e. driver did not park), how many other staff passengers were in the car?

○ 0 (i.e. just me)

○ 1 (i.e. me and 1 other passenger)

○ 2 (i.e. me and 2 other passengers)

○ 3

○ 4

○ More than 4

11. If you were dropped off by car (i.e. driver did not park), where were you dropped off? (See School Drop-off Map below)

○ Along College Crescent

○ Along Clarke Road

○ Along Unwin Road

○ Along Marillian Avenue

○ A (Pre School Car Park)

○ B (Junior School Drop-off)

○ C (Senior School Drop-off)

○ Not Applicable. I don't get dropped off.

○ Other (please specify)

School Drop-off Map

Legend

Drop-off Route
A Pre School Car Park
B Junior School Drop off
C Senior School Drop off

12. What time did you arrive at school on the survey day?

- ◯ Before 6:30am
- ◯ 6:30am-7:00am
- ◯ 7:00am-7:30am
- ◯ 7:30am-8:00am
- ◯ 8:00am-8:30am
- ◯ 8:30am-9:00am
- ◯ 9:00am-9:30am
- ◯ After 9:30am

13. What time will you or did you leave school on the survey day?

- ◯ Before 2:00pm
- ◯ 2:00pm-2:30pm
- ◯ 2:30pm-3:00pm
- ◯ 3:00pm-3:30pm
- ◯ 3:30pm-4:00pm
- ◯ 4:00pm-4:30pm
- ◯ 4:30pm-5:00pm
- ◯ 5:00pm-5:30pm
- ◯ 5:30pm-6:00pm
- ◯ After 6:00pm

14. Did you leave the school ground at any time during school hours for any other purposes (e.g. lunch)?

○ Yes
○ No

15. If you answered "Yes" in the previous question, how did you leave the school?
(select one answer that relates to your main travel method)

○ Drove a car

○ Picked-Up/Dropped-Off by Car

○ Public bus

○ Walk (including skateboard or scooter)

○ Rode a bicycle

○ Drove a motorcycle / motorscooter

16. Which of the following measures would encourage you to walk or cycle to work? (If you already walk or cycle, what measures would you like to see more?)
Please tick no more than two.

☐ Better and safer walking and cycling routes to school

☐ Change and shower facilities

☐ Place to store your bicycle

☐ Information on safer routes

☐ Loans/discounts for buying cycling equipment

☐ Cycling/Walking groups so I can ride/walk with other staff

☐ Place to store my helmet

☐ Place to store my scooter / skateboard

☐ Other (please specify)

[   ]

17. Which of the following measures would encourage you to use public transport on your journey to work? (If you already use public transport, what measures would you like to see more?)
Please tick no more than two

☐ Cheaper public transport

☐ More reliable public transport

☐ Improved waiting areas

☐ Easier to read transport information

☐ Improved connections with other transport

☐ Public transport groups so I can catch a bus with other staff

☐ Other (please specify)

[   ]

18. If a bus was provided to your suburb, would you consider catching public transport to work?

○ Yes

○ No

○ NA. I already travel by bus to go to work

19. Would you be prepared to car pool with other staff?

○ Yes

○ No

○ NA. I already carpool with other staff

20. Which of the following measures would encourage you to car pool? (If you already car pool, what measures would you like to see more)
Please tick no more than two.

☐ Help finding people to car pool with

☐ Reduced parking costs

☐ Know the driver personally

☐ Free parking

☐ Share the driving responsibility (e.g. I drive once or twice a week)

☐ Secure parking facilities

☐ Other (please specify)

21. If you already drive to work, would you consider trying an alternative form of transport - even occasionally?

○ Yes

○ No

○ Not applicable. I don't drive to work.

Thank you for completing the survey!

22. If you have any comments or suggestions about traffic, parking, footpath and bicycle conditions around the school, please let us know.

Barker College - Students (Year 3 to 12)

Barker College is interested in finding out how you normally travel to school.

This information will help us identify how we can better improve traffic conditions around the School. The survey should take no more than 5 minutes.

Thank you for your participating.

To begin survey, press Next.

Barker College - Students (Year 3 to 12)

1. What year are you in?

○ Year 3   ○ Year 8

○ Year 4   ○ Year 9

○ Year 5   ○ Year 10

○ Year 6   ○ Year 11

○ Year 7   ○ Year 12

2. How do you travel to school in the morning?
(Choose your main method of travel)

○ Dropped off by car (only passenger)   ○ Public Bus

○ Dropped off by car (with siblings)   ○ Train

○ I drive my own vehicle   ○ Train and Bus

○ Carpool (with other students)   ○ Cycle/ Scooter/ Skateboard

○ Walk Only

○ Other (please specify)

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_____
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3. How do you travel home after school finishes?
(Choose your main method of travel)

○ Picked up by car (only passenger)   ○ Public Bus

○ Picked up by car (with siblings)   ○ Train

○ I drive my own vehicle   ○ Train and Bus

○ Carpool (with other students)   ○ Cycle/ Scooter/ Skateboard

○ Walk Only

○ Other (please specify)

[   ]

4. What is your main reason for travelling this way? Please select one answer only.

○ Helps reduce traffic around the school   ○ Easier for my parents

○ It is fast   ○ It is fun

○ It is healthy and keeps me fit   ○ Makes me feel grown up

○ It is safest   ○ Distance

○ I can travel with my friends   ○ My parents prefer this

○ Better for the environment

○ Other (please specify)

[   ]

5. Which suburb did you travel from?

[⇕]

[   ]

6. If you catch the train, which station do you catch the train from?

◯ Hornsby Station

◯ Waitara Station

◯ Other

◯ Other (please specify)

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┌─────────────────────────────────────────────────────┐
│                                                     │
└─────────────────────────────────────────────────────┘
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Barker College - Students (Year 3 to 12)

7. Do you have a brother or sister that goes to this school?

◯ Yes

◯ No

8. If Yes, how many siblings (brothers or sisters) do you have that go to this school?

◯ 1 sibling   ◯ 3 siblings

◯ 2 siblings   ◯ More than 3 siblings

9. Do you travel to school with your brother or sister?

◯ Yes

◯ No

Barker College - Students (Year 3 to 12)

10. If you travelled by bus, what bus number did you catch?

○ I don't travel by bus

○ Barker Bus

○ Bus Number

[   ]

Barker College - Students (Year 3 to 12)

11. If you were dropped off/ picked up with another student at the school, how many students were in the car?

○ 2 students (including me)   ○ 5 students

○ 3 students   ○ More than 5 students

○ 4 students   ○ Not Applicable. I don't travel by car

12. If you were dropped off/ picked up, please indicate where you were dropped off/ picked up. (See School Drop-off Map below)

○ Along College Crescent   ○ A (Pre School Car Park)

○ Along Unwin Road   ○ B (Junior School Drop Off)

○ Along Clarke Road   ○ C (Senior School Drop Off)

○ Along Marillian Avenue   ○ Not Applicable. I don't get dropped off.

○ Other (please specify)

[   ]

School Drop-off Map
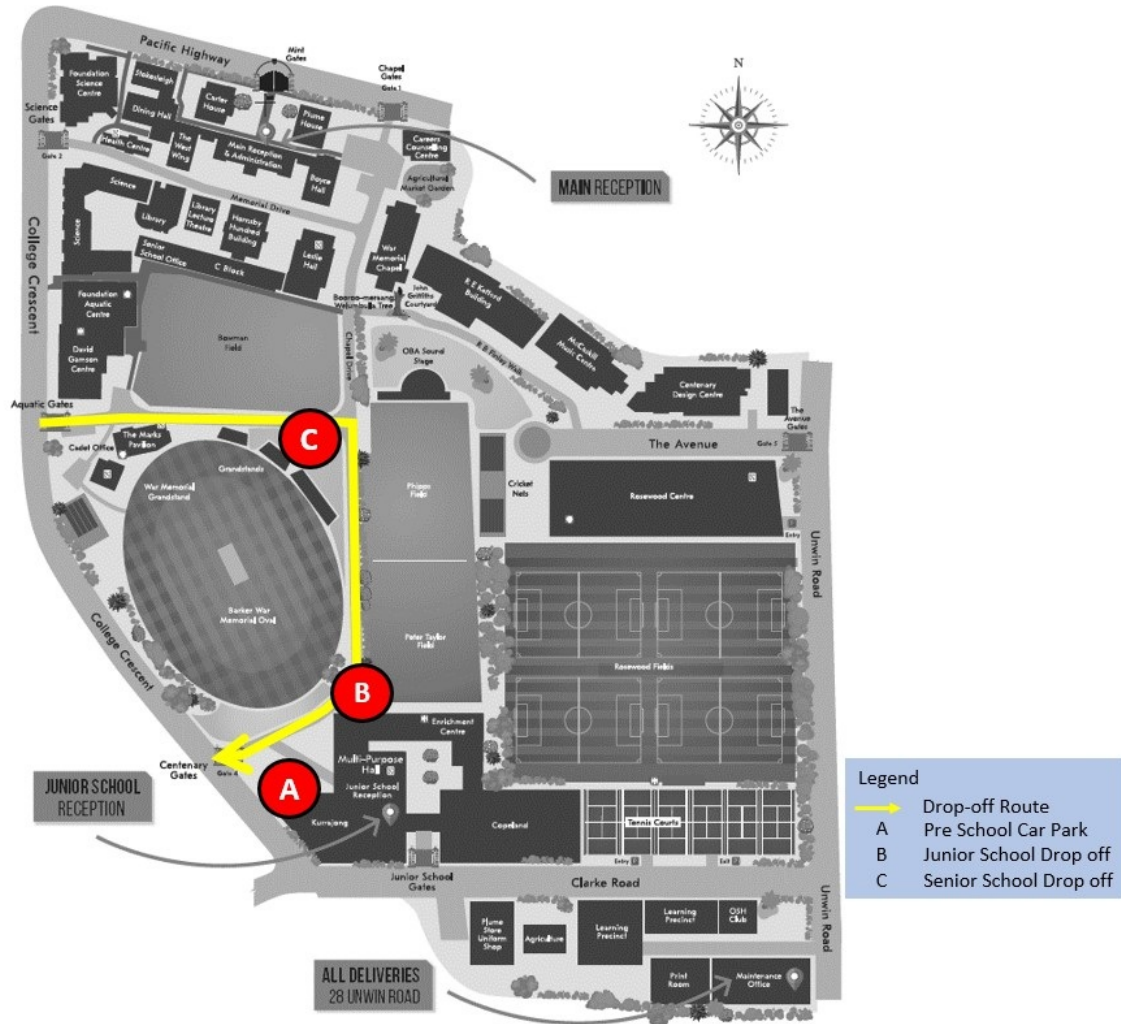
13. If you drove the car with another student at the school, how many students were in the car? (Only answer this if you are in Year 12 and the driver of the car)

○ 2 students (including me)

○ 3 students (including me)

○ 4 students (including me)

○ 5 students (including me)

○ More than 5 (including me)

○ Not applicable. I don't travel to school

14. If you parked, please indicate which area you parked in? (See School Parking Map below)

○ College Crescent

○ Clarke Road

○ Unwin Road

○ Marillian Avenue

○ The Avenue

○ A (Rosewood Centre Car Park)

○ B (Prep School Car Park)

○ Other (please specify)

School Parking Map

Barker College - Students (Year 3 to 12)

15. What time did you arrive at school today?

○ Before 6:30am   ○ 8:00am-8:30am

○ 6:30am-7:00am   ○ 8:30am-9:00am

○ 7:00am-7:30am   ○ 9:00am-9:30am

○ 7:30am-8:00am   ○ After 9:30am

16. What time will you leave school today?

○ Before 2:00pm   ○ 4:00pm-4:30pm

○ 2:00pm-2:30pm   ○ 4:30pm-5:00pm

○ 2:30pm-3:00pm   ○ 5:00pm-5:30pm

○ 3:00pm-3:30pm   ○ 5:30pm-6:00pm

○ 3:30pm-4:00pm   ○ After 6:00pm

Barker College - Students (Year 3 to 12)

17. How can we encourage you to walk, cycle or catch the bus to school? Or, what would you like to see more of? Please choose no more than two answers.

☐ Better and safer walking and cycling routes to school

☐ Reduced traffic around the school

☐ Safer crossings near the school

☐ More reliable and frequent buses

☐ More information about transport options

☐ Less crowded buses

☐ Organised walking or cycling groups with other students

☐ I'm not interested in changing my travel choices

18. If you are driven to school, would you be prepared to car pool with other students?

○ Yes

○ No

○ I already car pool with other students

19. Which of the following would encourage you to car pool? (If you already car pool, what measures would you like to see more). Please choose no more than two answers.

☐ Help finding people to car pool with   ☐ Know the driver personally

☐ Finding people who live near me   ☐ Share the driving responsibility (e.g. I drive once or twice a week)

☐ Other (please specify)

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20. If you travel to the school by car, would you consider trying an alternative form of transport - even occasionally?

○ Yes

○ No

○ I don't travel by car

21. If Barker College provided a school bus that stopped at surrounding suburbs, would you consider catching this bus to school?

○ Yes

○ No

○ There is already a school bus that goes to my suburb

22. If you have any comments or suggestions about traffic and parking conditions around the School, please let us know.

Thank you for completing the survey.

Barker College - Students (Prep to Year 2)

Barker College is trying to find out how you normally travel to school.

This information will help us identify how we can better improve traffic conditions around the school. The survey should take no more than 5 minutes.

Thank you for your participating.

To begin survey, press Next.

1. What year are you in?

○ Kindergarten

○ Year 1

○ Year 2

2. How do you travel from home to school?

Walk Only	Bus	Train
Cycle	Only me	With my brother/ sister
With other students		

3. How do you travel home after school finishes?
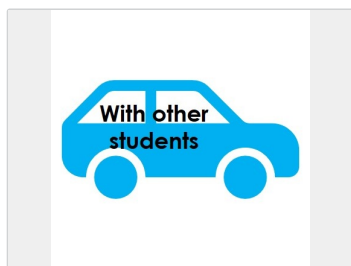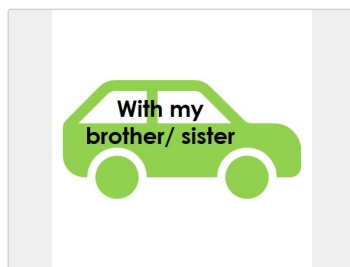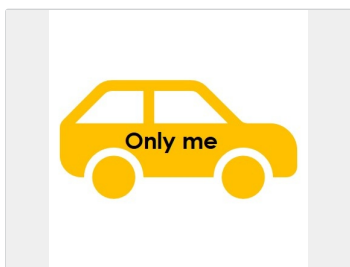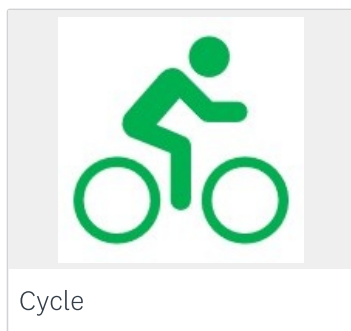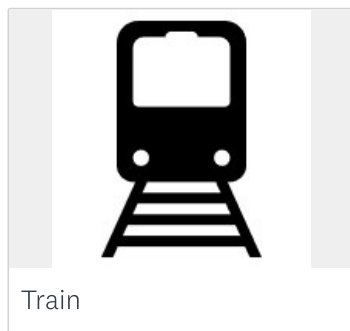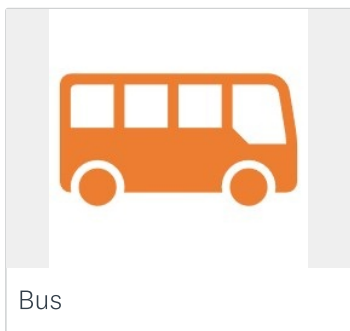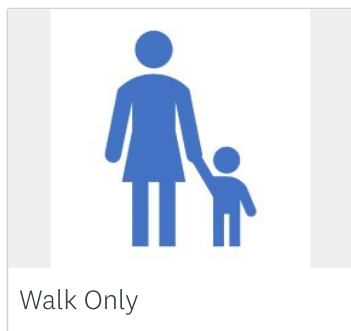
Walk Only	School Bus	Train
Cycle	Only me	With my brother/ sister
With other students		
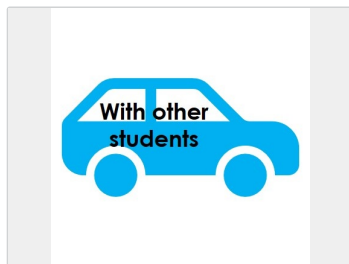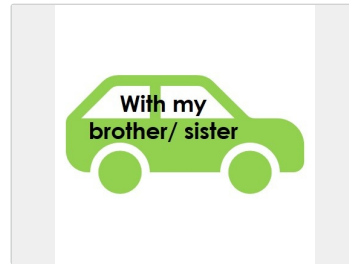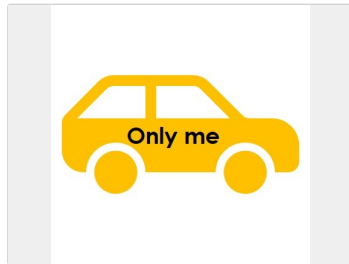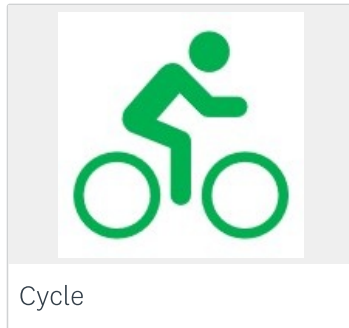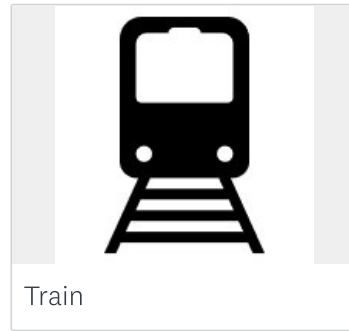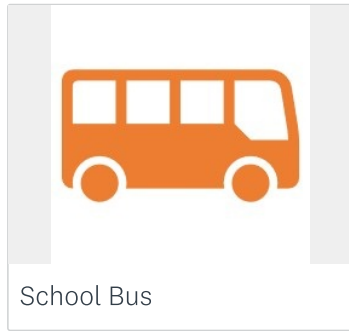
4. What suburb is your house?

[dropdown]

[   ]

5. If you catch the train, which station do you catch the train from?

○ Hornsby Station

○ Waitara Station

○ Other

Barker College - Students (Prep to Year 2)

6. Do you have a brother or sister that goes to this school?

○ Yes

○ No

7. If Yes, how many altogether (brothers or sisters) do you have that go to this school?

○ 1 sibling   ○ 3 siblings

○ 2 siblings   ○ More than 3 siblings

8. Do you travel to school with your brother or sister?

○ Yes

○ No

Barker College - Students (Prep to Year 2)

9. If you arrived by car with another student at the school, how many students were in the car?

○ 2 students (including me)   ○ 5 students

○ 3 students   ○ More than 5 students

○ 4 students   ○ I did not arrive with other students

10. If you arrived by car, please show where your parent/guardian parked the car or dropped you off.

○ School drop off area along College Crescent

○ Other (please specify)

Barker College - Students (Prep to Year 2)

11. What time do you arrive at school?

○ Before 6:30am

○ 6:30am-7:00am

○ 7:00am-7:30am

○ 7:30am-8:00am

○ 8:00am-8:30am

○ 8:30am-9:00am

○ 9:00am-9:30am

○ After 9:30am

12. What time do you leave school?

○ Before 2:00pm

○ 2:00pm-2:30pm

○ 2:30pm-3:00pm

○ 3:00pm-3:30pm

○ 3:30pm-4:00pm

○ 4:00pm-4:30pm

○ 4:30pm-5:00pm

○ After 5:00pm

Barker College - Students (Prep to Year 2)

Thank you for completing the survey.