

North Sydney Marist College Masterplan Green Travel Plan

Prepared for: Sydney Catholic Schools

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APPENDICES

A. TRAVEL ACCESS GUIDE



1 Introduction

1.1 Background

This report supports a Stage Significant Development (SSD) Development Application (DA) for the expansion and redevelopment of Marist Catholic College North Shore, 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). Sydney Catholic Schools is the proponent of the SSD DA.

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 21 July 2020 (SSD-10473) for the following item:

"details of travel demand management measures to minimise the impact on general traffic and bus operations, including details of a location-specific sustainable travel plan (Green Travel Plan and specific Workplace Travel Plan) and the provision of facilities to increase the non-car mode share for travel to and from the site."

This 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.

1.2 Organisational Context

Existing development on the site includes St Mary's Primary School, Marist College North Shore, St Mary's Church and Parish Centre, the former Presbytery and Monastery, as well as the two acquired terraces along Miller Street and a childcare centre known as the Jacaranda Centre.

At present, the primary and secondary schools have 1,292 enrolled students (i.e. 466 Kindergarten to Year 6, and 826 Year 7 to 12) and 120 staff. The childcare centre currently accommodates 50 children.

It is proposed to increase the school enrolments to 1,984 primary and high school students, staff numbers to 175 staff and to include a new child care centre accommodating 90 children.

A summary of the existing and proposed site provisions at the school is provided in Table 1.1.



Group	Existing Population	Proposed Future Population	Net Change
Early Learning Centre (ELC) Children	50	90	+40
Primary School Students (St Marys)	466	544	+78
High School Students (Marist)	826	1,440	+614
Total Students	1,342	2,074	+732
Staff	127	187	+60

Table 1.1: Existing and Proposed Site Provisions

This GTP has been prepared to provide a package of measures aimed at promoting sustainable travel within the school staff, students, and parents. The GTP measures will emphasise on reducing reliance on private vehicle use, especially single occupancy car travel.

1.3 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
- 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, a review of 'best practice' guidelines such as the City of Sydney 'Guide to Travel Plans' and 'The Essential Guide to Travel Planning' prepared by the United Kingdom Department of Transport, has been undertaken.

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 in order to identify and document the existing issues and opportunities relevant to site and its accessibility particularly by non-car modes. Opportunities to improve amenity, incentivise non-car travel and remove barriers to 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 North Sydney 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 challenging but would be critical particularly when considering the future redevelopment of the site.

1.4 Travel Plan Pyramid

The GTP will need to be tailored to the school to ensure appropriate measures are in place for the different users (e.g. students, staff, parents 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-oftrip facilities and limited car parking provision to encourage sustainable transport choices.

1.5 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.

1.5.1 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.

1.5.2 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.

1.5.3 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.

1.5.4 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.

1.5.5 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.

1.5.6 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.

1.6 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 accessibly 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.

Policy/Strategy	Key Aims/Objectives/Goals		
North Sydney Council			
Integrated Cycling Strategy	The objective of Council is to promote cycling as a sustainable transport option. The strategy aims to deliver an accessible, safe and connected cycle network by 2020, make cycling an attractive choice for short trips within the LGA, and increase and diversify participation in cycling (people of all ages and abilities will view cycling as a safe, everyday transport option)		
Make Your Move	'Make Your Move' is a program to encourage students to travel to/from the school by walking, scooting, skating or riding. Students are given their own 'Make Your Move' travel passport which includes a map showing preferred routes to school, footpath markings showing distances to school, and a competition to encourage participation. Currently, 'Make Your Move' program has only been implemented at Anzac Park Public School and Neutral Bay Public School. This program could also be implemented at Marist.		
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 access 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.		

Table 2.1: Summary of Policy Framework



Policy/Strategy	Key Aims/Objectives/Goals
Sydney's Cycling Future, Cycling for Everyday Transport (NSW State	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 c key focus of the strategy.
Government, 2013)	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 Facilities

The site is generally serviced by bus services operated by Sydney Buses. The nearest railway station is North Sydney station which is located approximately 1.1km south of the site.

There are bus stops located on Miller Street and Pacific Highway within a 500m radius from the primary school and high school. Table 2.2 and Table 2.3 indicate the public and school bus services that travel between these stops and the stops located in the Northern Shore and the Northern Beaches regions. The frequency of these services are generally every 10-30 minutes.



Route Number	Description	Bus Stop Location	Frequency
150X	Manly to Milsons Point (Express Service)	North Sydney Oval, Miller Street	Every 5-15 mins
154X	Dee Why to Milsons Point (Express Service)	North Sydney Oval, Miller Street	Every 5-10 mins (AM peak
115	Chatswood to City Bridge St via North Sydney	Pacific Highway at West Street	Every 10-20 mins
200	Gore Hill to Bondi Junction	Pacific Highway at West Street	Every 20-30mins
202	Northbridge to City Bridge St via North Sydney	North Sydney Oval, Miller Street	Every 10-30 mins
203	Castlecrag to North Sydney	North Sydney Oval, Miller Street	Every 30-60 mins
207	East Lindfield to City Bridge St via North Sydney	North Sydney Oval, Miller Street	Every 10-30 mins
208	East Lindfield to City Bridge St via Northbridge & North Sydney	North Sydney Oval, Miller Street	Every 30 mins (PM)
209	East Lindfield to Milsons Point via North Sydney	North Sydney Oval, Miller Street	Every 2-15 mins (AM)
228	Clifton Gardens to Milsons Point	North Sydney Oval, Miller Street	2 services (AM)
229	Beauty Point to Milsons Point via Balmoral Heights	North Sydney Oval, Miller Street	2 services (AM) 3 services (PM)
230	Mosman Wharf to Milsons Point via North Sydney	North Sydney Oval, Miller Street	Every 5-30mins
252	Gladesville to City King Street Wharf via North Sydney	Pacific Highway at West Street	Every 20-30mins
254	Riverview to McMahons Point	Pacific Highway at West Street	Every 15-30 mins (AM Peak) Every 30-60mins (PM)
261	Lane Cove to City King Street Wharf via Longueville	Pacific Highway at West Street	Every 30 mins (Peak) Every 60 mins (Off-peak)
286	Denistone East to Milsons Point via St Leonards & North Sydney	Pacific Highway at West Street	5 services (AM)
287	Ryde to Milsons Point via St Leonards & North Sydney	Pacific Highway at West Street	6 services (AM)
290	Epping to City Erskine St via Macquarie University & North Sydney	Pacific Highway at West Street	4 services (AM) 1 service (PM)
291	Epping to McMahons Point	Pacific Highway at West Street	Every 20-30mins (Peak) Every 60mins (Off-peak)
320	Gore Hill to Mascot	Pacific Highway at West Street	Every 10 mins

Table 2.2: Existing Public Bus Service and Associated Frequencies



Route Number	Description	Bus Stop Location	Frequency
639W	North Sydney Girls High to Castlecrag	Miller Street at Carlow Street	1 service (PM)
641W	North Sydney Girls High to East Lindfield	Miller Street at Carlow Street	1 service (PM)
645W	North Sydney Girls High to Chatswood Station	Miller Street at Carlow Street	1 service (PM)
646W	Denistone East to North Sydney Boys High	Miller Street at Carlow Street	1 service (AM)
647W	Epping Station to North Sydney Boys High	Miller Street at Carlow Street	1 service (AM)
651W	North Sydney Girls High to Lane Cove West	Miller Street at Carlow Street	1 service (PM)
653W	Lane Cove Shops to North Sydney Boys High	Miller Street at Carlow Street	1 service (AM)
793N	North Sydney Girls High to Manly Wharf	Miller Street at Carlow Street	1 service (PM)
794N	North Sydney Girls High to Manly Wharf	Miller Street at Carlow Street	1 service (PM)

Table 2.3: Existing School Bus Services and Associated Frequencies

Figure 2.1 presents a map of the key existing bus stops within a 500m radius of the site.

Figure 2.1: Public Transport Facilities within Close Proximity of Site



Source: Google Maps Australia

Bus occupancy data has been obtained from Transport for NSW collected on Thursday, 20 February 2020 to understand existing capacities of buses arriving at the following bus stops within the immediate vicinity of the site during typical conditions (i.e. pre-COVID school term).

- Along Miller Street, in front of North Sydney Oval Bus Stops 206049 and 206018
- Along Pacific Highway, north of West Street Bus stops 206025 and 206029

The data indicate the occupancy of buses into ranges of 20%. The bus occupancy data collected from buses arriving at the above stops during peak school periods (i.e. 8:00am to 10:00am in AM peak and 2:00pm to 4:00pm in PM peak) have been used in this assessment.

Table 2.4: Bus Occupancy Data

Time Period	0% to 20% Occupancy	21% to 40% Occupancy	41% to 60% Occupancy
AM Period	59%	33%	8%
PM Period	76%	21%	3%

Source: Transport for NSW Bus Opal Assignment Model – data collected on 20 February 2020

Based on the bus occupancy data, existing bus loads within the immediate vicinity of the site currently operate below capacity, with maximum occupancy of 60%. Majority of the buses arriving at the selected stops have up to 20% occupancy. As such, the existing bus facilities within the immediate vicinity of the site currently have spare capacity for any additional bus trips generated by the school.

2.1.2 Future Transport Facilities

The NSW Government is implementing a new a new standalone, 66-kilometre railway line from Epping to Bankstown via Chatswood. The Sydney Metro City & Southwest rapid transit railway line was approved in January 2017 and is currently under construction.

It will include a new line between Epping to Sydenham via St Leonards, and will convert the existing railway line between Sydenham and Bankstown to Metro standards.

The Metro has an anticipated opening of 2024. Following opening, the Metro is anticipated to provide rail services every four minutes during the peak and 15 minutes off-peak.

Victoria Cross Station will be delivered as part of this project and will be located beneath Miller Street to the north of the Pacific Highway between McLaren Street and south of Berry Street. This is approximately 400 metres (a 5-minute walk) from the subject site and is expected to significantly add to the already provisioned public transport amenities in the area.



2.2 Pedestrian and Cyclist 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 Miller Street, Carlow Street and Ridge Street in the form of signalised crossings or pedestrian (zebra) crossings. At present, these pedestrian facilities are well utilised during school peak drop off and pick up times.

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



Figure 2.2: Existing Pedestrian Facilities

The proposed site would include improved permeability for pedestrians as shown in Figure 2.3.





Figure 2.3: Pedestrian Connectivity and Key Access Points

2.3 Cyclist Infrastructure

The surrounding area is well serviced by cycling routes. Notably, a separated bidirectional cycleway is provided on Ridge Street, along the southern boundary of the site. The cycleway connects to a wider network of off-road and on-road cycle routes in the area.

West Street has been determined as a road with high bicycle use, and a potential future bicycle route is being considered. This will provide connectivity to a wider network in the area.

The existing and potential future cycle network is shown in Figure 2.4.





Figure 2.4: Cycle Paths within the Vicinity of the Site

2.3.1 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. GoGet is a car share company operated in Australia, with numerous vehicles positioned 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.

In addition, GoGet allows those staff to travel to the school by non-car modes but use GoGet to do their midday trip.

Figure 2.2 shows the location of the existing GoGet vehicles surrounding the site.





Figure 2.5: Location of Existing GoGet Vehicles

Source: https://www.goget.com.au/, accessed 25/11/2020



3 Existing Travel Patterns and Modes Splits

An online questionnaire was distributed to school staff and students in late-October 2020 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
St Marys Catholic Primary School Students (Kindergarten to Year 2)	466	199	79%
St Marys Catholic Primary School Students (Year 3 to Year 6)	466	167	/ 7%
Marist College North Shore Students	826	240	29%
Staff	120	90	75%

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.

		Arrival (AM)		Departure (PM)		
Mode	Primary School Students	High School Students	Staff	Primary School Students	High School Students	Staff
Car	72%	26%	90%	66%	13%	90%
Walk	16%	9%	2%	22%	11%	3%
Bus	5%	47%	1%	4%	50%	0%
Train	0%	4%	2%	1%	7%	2%
Train and Bus	1%	11%	0%	1%	17%	0%
Cycle	3%	0%	0%	3%	0%	0%
Other	3%	3%	5%	3%	2%	5%
Total	100%	100%	100%	100%	100%	100%

Table 3.2: Summary of Existing Staff and Student Travel Modes



The results indicate a high dependency on car usage for staff (90%) and primary students (66%-72%), despite the site's proximity to a number of bus services. Notwithstanding, majority of the high school students travel to/from the school by public transport (63%-75%), mostly using public buses.

A significant number of students also walk to travel between school and their place or residence. However, there is a minimal population who use bicycle to travel to/from the school.

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 by themselves, travelled other school staff or is being dropped off by someone who is not a staff.



Figure 3.1: Method of Car Travel – Staff Arrival





Figure 3.2: Method of Car Travel – Staff Departure

Based on Figure 3.1 and Figure 3.2, majority of the staff who travel by car drive to the site by themselves, with no passengers (90% to 93%). Only a small proportion of the 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:

- 32% of the staff respondents would consider catching public transport to work if a school bus will be provided to nearby suburbs and train stations
- 32% of the staff respondents would be willing to carpool with other staff
- 46% 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 3.3: Measures to Encourage Walking/Cycling – Staff Responses



Figure 3.4: Measures to Encourage Public Transport Use – Staff Responses







Figure 3.5: Measures to Encourage Carpooling – Staff Responses

3.3 Student Feedback

The following feedback are received from the student surveys:

- 60% of primary school students have a sibling that goes to the school
- 26% of high school students have a sibling that goes to the school
- 55% of primary school students who get dropped off/picked up travelled in a car with other Marist students
- 20% of high school students who get dropped off/picked up travelled in a car with other Marist students
- 27% of primary school students are not interested in changing their travel choices
- 33% 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 3.6 and Figure 3.7



Figure 3.6: Measures to Encourage Walking/Cycling/Public Transport Use – Student Responses



Figure 3.7: 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:
 - Northern Beaches
 - Ryde
 - Willoughby
 - North Sydney



- Inner West
- The top five locations (suburb) which students travel from to the site are as follows:
 - North Sydney
 - Lane Cove
 - Cammeray
 - Willoughby
 - Mosman

The locations of where staff and students travel from are shown figuratively in Figure 3.8, Figure 3.9 and Figure 3.10.

Figure 3.8: Staff Responses by Postcode







Figure 3.9: Marist College Student Responses by Postcode





Figure 3.10: St Marys Primary Student Responses by Postcode

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

- Distance between the school and place of residence is the main factor affecting the staff choice of travel mode
- Notably, primary students live relatively closer which is also supported by the mode share survey where a higher percentage of primary students are walking and cycling than high school students or staff
- Increasing the use of carpooling may be challenging for staff as they generally come from various locations within Sydney. However, staff are willing to carpool if such facilities (e.g. free parking) are to be provided.
- 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 and to reduce single vehicle occupancy trips.
- Increasing the frequency of bus services, particularly during the school peak period, to
 provide good, reliable 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 sitespecific 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 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: 90%
- primary school students: 66% to 72%
- secondary school students: 13% to 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 20% 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. 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.

	Existing Arrival (AM) Modal Splits			Proposed Arrival (AM) Modal S		
Mode	Primary School Students	High School Students	Staff	Primary School Students	High School Students	Staff
Car	72%	26%	90%	67%	21%	85%
Walk	16%	9%	2%	17%	10%	3%
Bus	5%	47%	1%	6%	48%	3%

Table 4.1: Existing and Projected (Short Term) Modal Splits – AM Arrivals



Train	0%	4%	2%	1%	5%	4%
Train and Bus	1%	11%	0%	2%	12%	0%
Cycle	3%	0%	0%	4%	1%	0%
Other	3%	3%	5%	3%	3%	5%
Total	100%	100%	100%	100%	100%	100%

Note: Red = reduced mode share, green = increased mode share

Table 4.2: Existing and Projected (Short Term) Modal Splits – PM Departures

	Existing Departure Modal Splits			Proposed Departure Modal Splits		
Mode	Primary School Students	High School Students	Staff	Primary School Students	High School Students	Staff
Car	66%	13%	90%	61%	8%	85%
Walk	22%	11%	3%	23%	12%	4%
Bus	4%	50%	0%	5%	51%	2%
Train	1%	7%	2%	2%	8%	4%
Train and Bus	1%	17%	0%	2%	18%	0%
Cycle	3%	0%	0%	4%	1%	0%
Other	3%	2%	5%	3%	2%	5%
Total	100%	100%	100%	100%	100%	100%

Note: Red = reduced mode share, green = increased mode share

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

A 2% increase in train use is estimated however the future mode split is anticipated to be higher due to the opening of the future Sydney Metro Victoria Cross Station.

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 20% 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.



	Existing Arrival (AM) Modal Splits			Proposed Arrival (AM) Modal Splits		
Mode	Primary School Students	High School Students	Staff	Primary School Students	High School Students	Staff
Car	72%	26%	90%	52%	6%	70%
Walk	16%	9%	2%	21%	10%	3%
Bus	5%	47%	1%	7%%	50%	4%
Train	0%	4%	2%	3%	12%	8%
Train and Bus	1%	11%	0%	1%	12%	0%
Cycle	3%	0%	0%	13%	7%	10%
Other	3%	3%	5%	3%	3%	5%
Total	100%	100%	100%	100%	100%	100%

Table 4.3: Existing and Projected (Long Term) Modal Splits – AM Arrivals

Note: Red = reduced mode share, green = increased mode share

Table 4.4: Existing and Projected (Long Term) Modal Splits – PM Departures

	Existing	Departure Modal S	splits	Proposed Departure Modal Splits		
Mode	Primary School Students	High School Students	Staff	Primary School Students	High School Students	Staff
Car	66%	13%	90%	46%	0%	70%
Walk	22%	11%	3%	27%	12%	4%
Bus	4%	50%	0%	6%	52%	3%
Train	1%	7%	2%	4%	11%	8%
Train and Bus	1%	17%	0%	1%	18%	0%
Cycle	3%	0%	0%	13%	5%	10%
Other	3%	2%	5%	3%	2%	5%
Total	100%	100%	100%	100%	100%	100%

Note: Red = reduced mode share, green = increased mode share

The above represents a modal shift of some 20% from car travel based on existing travel modes to/from the school, except for high school students in the PM which only account for 13% of the existing mode share relating to car travel. The future car mode share for high students is, therefore, zero percent for the PM peak periods.

4.3 Proposed Mode Trip Generation

Table 4.3 summarises the anticipated net additional site traffic generation for each mode associated with the proposed school redevelopment under the existing mode splits (assuming no mode shifts) and proposed 'short term' mode share targets (as outlined in Table 4.1 and Table 4.2). These additional figures are based upon the net additions from the existing school population.

	Arrival (AM)			Departure (PM)		
Mode	Primary School Students (+78)	High School Students (+614)	Staff (+67)	Primary School Students (+78)	High School Students (+614)	Staff (+67)
Car	52	130	57	47	46	57
Walk	13	62	2	18	73	3
Bus	5	295	2	4	316	1
Train	1	32	3	1	50	3
Train and Bus	1	75	0	1	111	0
Cycle	3	6	0	3	6	0
Other	3	14	3	4	12	3
Total	78	614	67	78	614	67

Table 4.5: Estimated Person Trips for Each Mode (with Modal Shift)

As indicated previously, the above modal split targets, in our view, are considered realistic and a significant achievement.

4.4 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 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 education 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 or 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

It is recommended that the school implement the following on-site measures to encourage more sustainable travel use as outlined in Table 5.1.

Table	5.1:	Site	Specific	Measures
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	Item	Description of Measure
1.	Limited on-site car parking provision	Reducing 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. A booking/reservation system is recommended to ensure that staff only drive to work with the sure knowledge that there will be a car space available for them. Priority may be given to staff members who live in areas not easily accessible by public transport.
2.	Designated carpool only spaces in centrally managed car parks	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 recommended that additional secure bicycle parking facilities within the campus, particularly near buildings be provided. It is suggested to provide at least 100 bicycle parking spaces to accommodate the future population. 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.	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 be rewarded with a discount coupon at the school canteen. 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.
5.	Bicycle User Groups	A cycling group would need to 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 be appointed to oversee and organise all bicycle events and communication regularly to promote cycling.
6.	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.


ltem		Description of Measure		
7.	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).		
8.	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. The locations of the end-of-trip facilities will need to 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.		
9.	Public Transport Incentives/Discounts	Eligibility details for Opal Card concessions, bus services and other public transport information will be posted on school noticeboards/ website and will be emailed to students. It is recommended that the school provide public transport fare subsidy to staff to encourage staff to use public transport more.		
10.	Interest free loan scheme for travel by bus, rail and bicycle	Depending on the effectiveness of the other "soft-measures", it may be necessary that staff be provided with pre-loaded Opal cards during their staff induction so that travel patterns can be influenced from Day 1. Furthermore, the school should investigate interest free loan schemes for staff and students for travel by bus, rail and bicycle (e.g. purchasing bicycles for staff and/or a \$50 pre-loaded opal card under an interest free loan scheme).		
11.	Online carpooling forum	A carpooling forum will be developed on the school staff and student portal to encourage students and staff 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 at information points/ noticeboards within the school, social media and/or on the Transport Access Guide (TAG). In addition to this, social events will 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.		
12.	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, especially between the school and future Victoria Cross Station.		
13.	Road Safety Awareness presentations	It is recommended that regular presentations be held during school assemblies to promote active travel and generate interest and exciting 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.		
14.	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 however need to be discussed with Council.		
15.	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.		



Item	Description of Measure		
16. 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.		
17. Make Your Move	It is recommended that the school participate with Council's 'Make Your Move' program to encourage students to travel to/from the school by walking, scooting, skating or riding. Currently, 'Make Your Move' program has only been implemented at Anzac Park Public School and Neutral Bay Public School. This program could also be implemented at Marist.		
18. Sustainable travel in the school curriculum	It is recommended that students are involved in the implementation of the green travel plan. It could be included in the school curriculum as an assignment or project on sustainable travel. By creating understanding on the importance of sustainable travel and the impact it can have to health and the environment, students are more likely to embrace sustainable travel options.		

5.2 Off-site Measures

The school will consult with North Sydney 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 future Sydney Metro Victoria Cross 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.



5.5 Promotions and Rewards

Raising awareness and promoting upcoming initiatives will be critical to ensuring the success of initiatives. If students and staff don't know about an initiative, they will not participate. As such, it is recommended that a monthly or semester newsletter be prepared which contains details of future events and/or an event calendar.

A staff specific email/newsletter would be prepared detailing additional initiatives for staff only e.g. update of car share vehicles near the site, memberships, public transport discounts etc.

Providing rewards is also a good way to promote certain events and incentivise the participation of events. For example, providing pancakes or a sausage sizzle at the end of an event (e.g. to participants of 'Ride to School Day') or to promoting the walking and cycling groups (while handing out pamphlets which describe what the walking and cycling groups do).

5.6 Actions

A summary of the key strategy and framework action table is shown in Table 5.2. 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.

Strategy/Action	Objective	Responsibility	Timescale
Limited on-site car parking	1, 3	School	Completion
Introduce designated carpool only spaces	1	School	Completion
Review car parking policy and limit car parking allowances	1, 3	School	Annually
Advocate existing car sharing facilities nearest the school	1, 2	School / TPC	Ongoing
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	Ongoing
Provide showers, changing rooms, drying rooms and lockers within the site which are easily accessible and near buildings/classes	1, 2, 3	School	Completion
Provide secure bicycle parking	1, 2, 3	School	Completion
Establish Walking Groups / Walking School Bus and Bicycle User Groups with associated online forums	1, 2, 3	TPC	Ongoing
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	Ongoing

Table 5.2: Framework Action Table



Strategy/Action	Objective	Responsibility	Timescale
Provide interest free loan scheme for travel by bus, rail and bicycle and public transport incentives/discounts (e.g. \$50 pre- loaded opal cards for staff)	1, 2	School / TPC	Ongoing
Provide well-lit and safe pedestrian and cyclist facilities within the campus	1, 2, 3	School / Council	Ongoing
Provide well-lit and safe pedestrian and cyclist facilities between the school and future Sydney Metro station	1, 2, 3	Council / TfNSW	Completion
Establish monthly Road Safety Awareness presentations	1, 2	School / TPC	Ongoing
Park and Stride Programme	1, 2	School / TPC	Ongoing
Learn to Ride Programme	1, 2, 3	School / TPC	Ongoing
Development/Use of Mobile App	1, 2, 3	School / TPC	Ongoing
'Make Your Move' programme	1, 2, 3	School / TPC / Council	Ongoing
Sustainable travel in the school curriculum	1, 2, 3	School	Ongoing
Ongoing review of the GTP to introduce additional measures as required	1, 2, 3	TPC	Ongoing

*TPC = Travel Plan Coordinator



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 cooperation, 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 (GoGet).

6.3 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.

The working party may also involve giving key persons responsibility for a specific initiatives, i.e. a 'champion' or 'leader' for the initiative. As a starting point, a champion for the following could be considered:

- walking and cycling champion
 - responsible for walking and cycling initiatives such as 'Learn to Ride' or 'Park and Stride' programs, monitoring bike parking demand etc.
- car sharing champion
 - responsible for promoting commercial car share vehicles and car pooling
- public transport champion
 - responsible for promoting public transport initiatives and raising awareness on bus routes and timetables,
- education and curriculum
 - responsible for identifying and preparing opportunities to include sustainable travel in the school curriculum.

All champions should be encouraged to promote GTP initiatives in the school newsletter/emails and raise awareness on the health and environmental benefits of sustainable travel.

The GTP Working Party would be overseen by the TPC.



6.4 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 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





Car share facilities are available on site. Car share vehicles are also available on West Street, Miller Street and Walker Street.

Visit GoGet website (<u>https://www.goget.com.au</u>) to find and book cars.

Transport Information

Plan your trip using:

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



Bus Services

Bus stops are located on Miller Street and Pacific Highway within a 400m radius from the Campus.

Bus stops on Miller Street are serviced by:

- school routes (639W, 641W, 645W, 646W, 647W, 651W, 653W, 793N, 794N) and
- public bus routes (150X, 154X, 202, 203, 207, 208, 209, 228, 229, 230).

Bus stops on Pacific Highway are serviced by:

public bus routes (115, 200, 252, 254, 261, 286, 287, 290, 291, 320).

The frequency of these services are generally every 10-30 minutes.



Journey Times:

12 minutes to North Sydney Station 9 minutes to Greenwood Plaza



The surrounding area is well serviced by cycling routes. A separated cycleway is provided on Ridge Street.

Bicycle parking is provided at the Carlow Street car park for student and staff use.

Visit: <u>www.northsydney.nsw.gov.au/</u> <u>Transport_Parking/Cycling/Cycling_Map</u> to download the city's cycling route map.



Rail Services

North Sydney Train Station is located approximately 1 km (12-min. walk) south of the site.

Future Victoria Cross Metro Station will be located about 400m (5-min. walk) from the site.

The Transport Planning Partnership Suite 402 Level 4, 22 Atchison Street St Leonards NSW 2065

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