

Transport Assessment

Meriden School State Significant Development Application
10-12 Redmyre Road, Strathfield

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Appendix A: Sustainable Travel Plan Package

1 Introduction

1.1 Overview

Ason Group has been engaged by Meriden School to prepare a Transport Assessment (TA) to support a Modification Application (Mod) to State Significant Development (SSD) 9692 which provides for alterations and additions at the Meriden School, Strathfield (the School).

Works approved across the three School campuses include:

- **At the Senior School Campus** (the Senior Campus), 3-13 Margaret Street and 10-28 Redmyre Road, a new Centre of Music and Drama (CMD).
- **At the Junior School Campus** (the Junior Campus), 36 – 38 Redmyre Road, a new landscaped playground.
- **At the Lingwood Prep School Campus** (the Lingwood Campus), 16B – 16 Margaret Street, Stage 2 works including new Administration and Student Centre (A & S Centre).

The School currently also has an approved student cap of a maximum of 950 Senior School Students (20 additional students to allow for unanticipated fluctuations on a temporary basis), approved by SSD-9692.

The purpose of this Mod is to increase the permissible Senior Campus student cap by 130 students, which would require up to an additional 7 staff (the Proposal). Therefore, the key purpose of this TA is to assess the traffic and transport impacts associated with the proposed increase in student cap of 130 students (and an additional 7 staff).

1.2 Reference Documents

The School is located within the Strathfield Council Local Government Area (LGA) and the Proposal has therefore been considered against that Council's planning controls, including:

- Strathfield Consolidated Development Control Plan 2005 (DCP 2005). Note that Under Clause 11 of *State Environmental Planning Policy (State and Regional Development) 2011*, local development control plans (DCP) are excluded when assessing SSD projects. Notwithstanding this, the Council's DCP parking rate has been considered as part of the assessment.
- Strathfield Local Environmental Plan 2012 (LEP 2012).

This TA also references general access, traffic and parking guidelines, including:

- RMS (formerly RTA) *Guide to Traffic Generating Developments* (RMS Guide).
- Australian Standard 2890.1 (2004): Off-street Car Parking (AS2890.1).

Finally, Ason Group prepared a Transport Assessment to support the approved SSD-9692:

- Ason Group, *Transport Assessment, Meriden School, State Significant Development Application, 10-12 Redmyre Road, Strathfield*, Ref: 0686r01v6, 29/10/2019 (Ason Report).

It is critical to note that the assessment assumptions, traffic & travel data and methodology documented in the Ason Report for the approved development, have been adopted for assessment of this Mod. This is considered appropriate, given that the assessment was undertaken recently (2019) and has clearly been agreed and accepted following approval of SSD-9692.

2 Approved Development & Proposed Mod

2.1 Summary of Approved Development

In summary, the SSDA was approved for alterations and additions across the three School campuses, including:

- **At the Senior Campus:** Demolition of the existing music building located towards the south-western corner of the Senior Campus, and construction of a new 3-storey building (above ground) incorporating a new music academy, drama facilities, music teaching rooms, and staff facilities alongside on-site landscaping.
- **At the Junior Campus:** Demolition of the existing residential dwelling at 4 Vernon Street to make way for a new landscaped playground area; the existing access and parking arrangements at the Junior Campus will be retained.
- **At the Lingwood Campus:** Demolition of the existing single storey Business Office building and construction of a new 2-storey A & S Building, which has designed with maximum flexibility to accommodate a wide range of uses, and to adapt with the demands of the school.
- An increase of 50 students within the Senior School only to a cap of 950 students. A total of 2 additional teachers and administration staff positions will also be created if the increase in students is realised. The approval also facilitated this cap to be exceeded by up to a maximum 20 additional students to allow for unanticipated fluctuations on a temporary basis.

Each of the School campuses are shown in **Figure 1**, while reduced copies of the SSDA Site Plans prepared by Allen Jack + Cottier Architects are provided for context in **Figure 2**, **Figure 3** and **Figure 4**.



Figure 1: Precinct Diagram

Source: AJ&C Architects

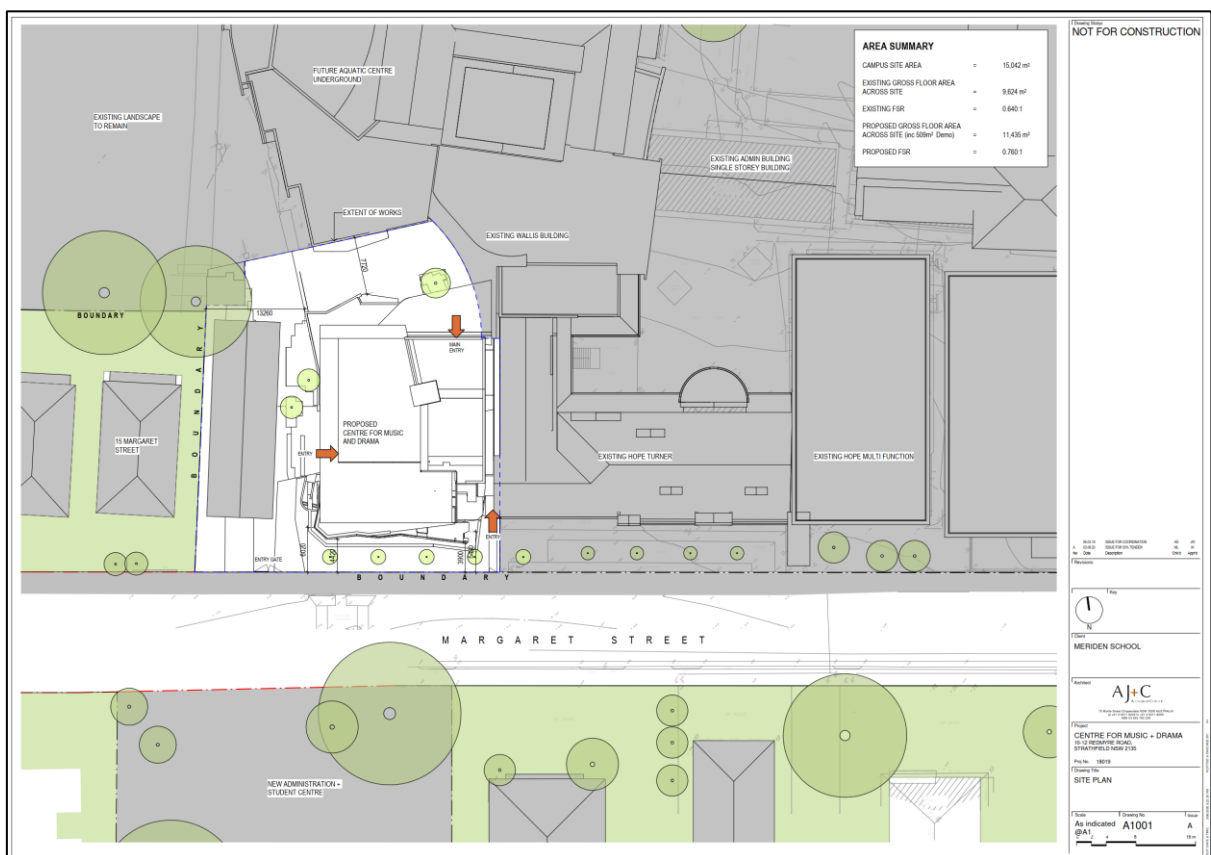


Figure 2: Senior Campus Centre for Music and Drama Layout (Site Plan)

Figure 3: Junior Campus Playground

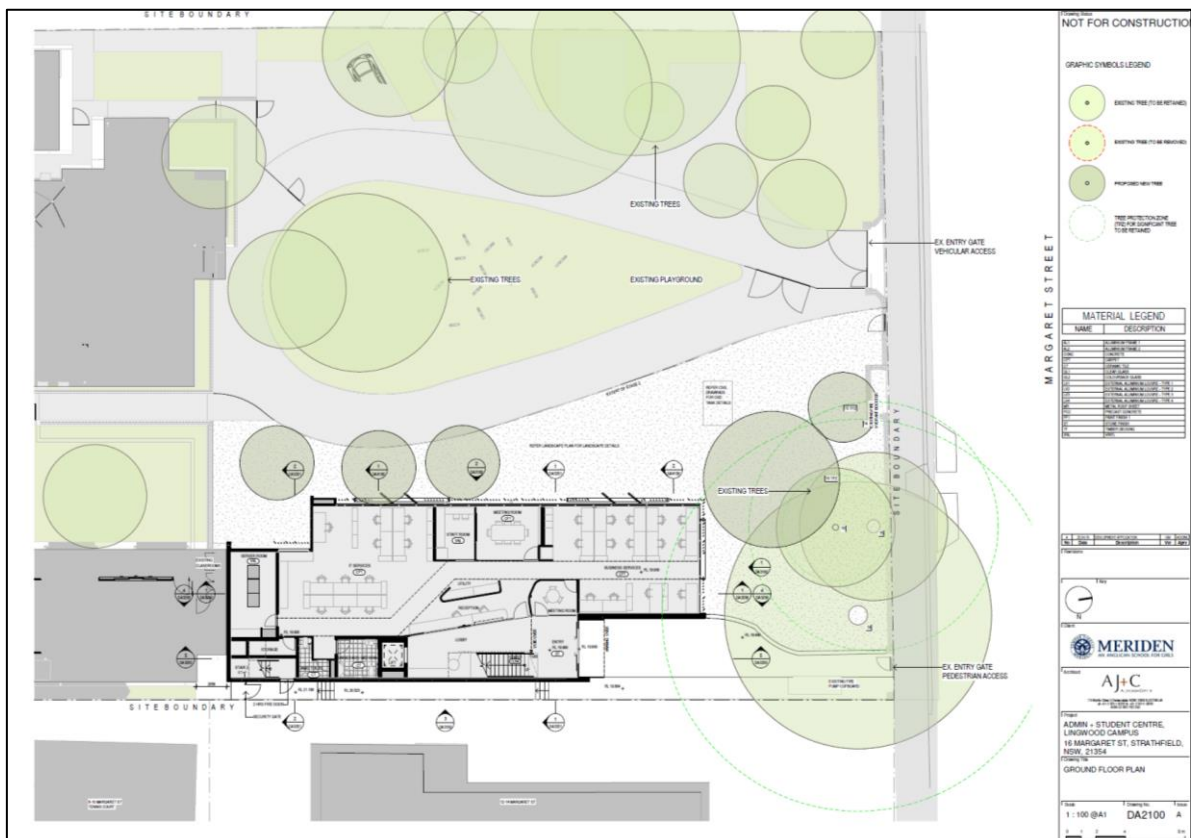


Figure 4: Admin & Student Centre Lingwood Campus Stage 2 Works

2.2 Proposed Mod

In Summary, the proposed Mod includes the following:

Retention of the existing Senior School staff common room building located along Margret Street and subsequent landscape design changes within the Senior Campus.

- Increase of additional 130 senior students.
- Up to 7 additional teachers and administration staff positions.
- Alternative pathway for 4 start green star rating for the Senior School Music and Drama Centre and Prep School Student Centre
- Minor housekeeping amendment to Condition C10.

3 Existing Site Conditions

3.1 Location

The School is located within the Strathfield Council LGA, and lies approximately 10 kilometres south-east of Parramatta and 11 kilometres west of the Sydney CBD.

The School has three campus sites in close proximity to each other. The Senior Campus is bordered by Redmyre Road to the north, Margaret Street to the south, and residential dwellings to the east and west. The Junior Campus is bordered by Vernon Street to the west, Redmyre Road to the north, Margaret Street and a health care centre to the east, and residential dwellings to the south. The Lingwood Campus is bounded by Margaret Street to the north, a health care centre to the west, and residential dwellings to the east and south.

The broader area in which the School lies is predominantly residential in nature to the south, east and west, while the Strathfield Town Centre lies to the immediate north of the School.

The School is shown in its local context in **Figure 5**, while **Figure 6** shows the key roads providing access to the School.



Figure 5: Local Site Context

Source: AJ&C Architects



Figure 6: Site and Road Hierarchy

3.2 School Population

At the time the surveys were undertaken, the School had a total student population of 1,254 students, with 424 students in the Junior School (Pre K – Year 6) and 830 students in the Senior School (Year 7 to Year 12).

The School however has capacity to accommodate up to a total of 1,550 students, including the approved 50 senior students. The approved additional 50 students have been considered in the baseline traffic generation assessment.

At the time the surveys were undertaken, the School employed a total of 242 staff, including 156 full-time staff and 86 part-time staff. This equates to a Full-Time Equivalent of 176 staff members.

3.3 School Vehicle Access

The School has the following vehicle access points:

- **Senior Campus:**
 - One two-way access driveway to the Senior Campus at the east of Margaret Street and another to the west, and;
 - A vehicular access along the west of Redmyre Road accessing green space.
- **Junior Campus:**
 - A single two-way access driveway to the Junior Campus at the west of Margaret Street, and;
 - Three (3) vehicular crossovers along Vernon Street.
- **Lingwood Campus**
 - Combined entry and exit driveway along Margaret Street.

4 Existing School Travel Characteristics

4.1 Travel Mode Survey

For the purposes of the Ason Report, Ason Group in consultation with the School prepared a short Travel Survey which was made available to all students and staff via the Survey Monkey application. The purpose of the Travel Survey was to determine key traffic and parking characteristics of existing Junior Campus and Senior Campus students and staff, including:

- Travel mode for both the arrival and departure trip;
- For those students and staff driving or being driven, car occupancy;
- Arrival and departures peak periods;
- On and off-site parking demand.

The Ason Report prepared for the SSDA provided a full summary of the survey results. Noting that this Mod relates to Senior Campus students only, the following summarises the key statistics from the responses from the Senior Campus students and staff.

The surveys were undertaken in February 2019, with approximately 63% of the existing Senior Campus students responding to the Travel Survey and 54% of the existing staff responding.

As discussed in Section 1.2, the assessment methodology of that detailed in the Ason Report has been adopted for the purposes of assessment of the Mod, this includes adoption of the findings of the school travel behaviour surveys. The surveys were undertaken during the 2018 / 2019 school year and due to the Covid-19 pandemic, current conditions would not represent normal travel conditions. Therefore, the survey data detailed in the Ason Report represents the most accurate, up to date travel data for the School.

4.2 Senior School Students

4.2.1 Senior Student Travel Mode

Figure 7 provides details of the surveyed Senior student travel modes, noting that mode choice for Senior students was generally the same for the arrival and departure trips.

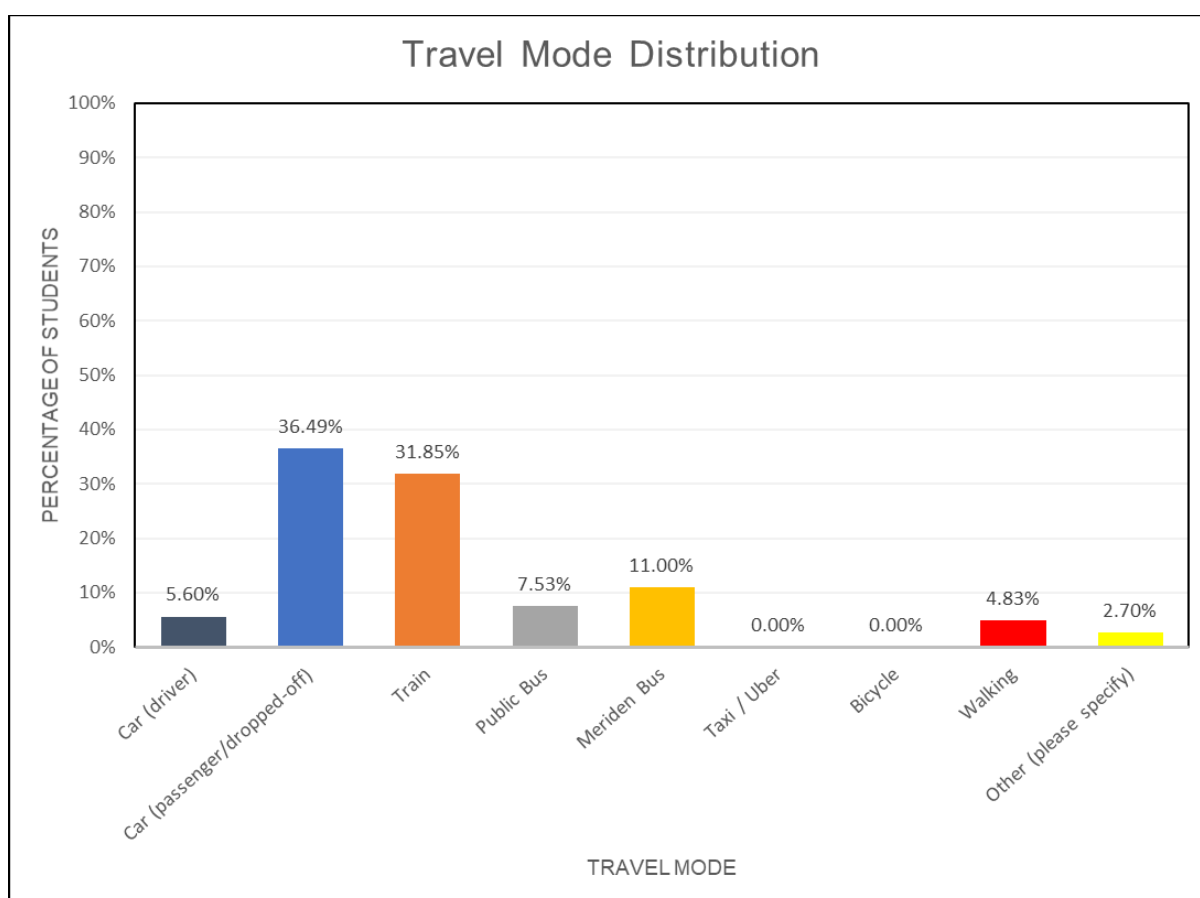


Figure 7: Student Travel Mode

As shown in **Figure 7**, there is a significantly broad distribution of travel modes amongst the Senior students.

While the surveys recorded a small proportion of student drivers (6%), it is noted that students are not allowed to drive to the School unless in exceptional circumstances where special permission is required, as stated in the School's Statement of Privileges and Responsibility, signed by students and parents.

In summary, the Senior student Travel Survey indicates that:

- Approximately 36% of Senior students are driven to / from School;
- Approximately 32% Senior students use the train (with a walk trip) for the trip to / from School; and
- A total of 58% of Senior students travel by modes other than private vehicle.

4.2.2 Senior Student Arrival and Departure Peak Periods

Figure 8 provides details of the surveyed Senior student arrival times, while **Figure 9** provides details of the surveyed Senior student departure times.

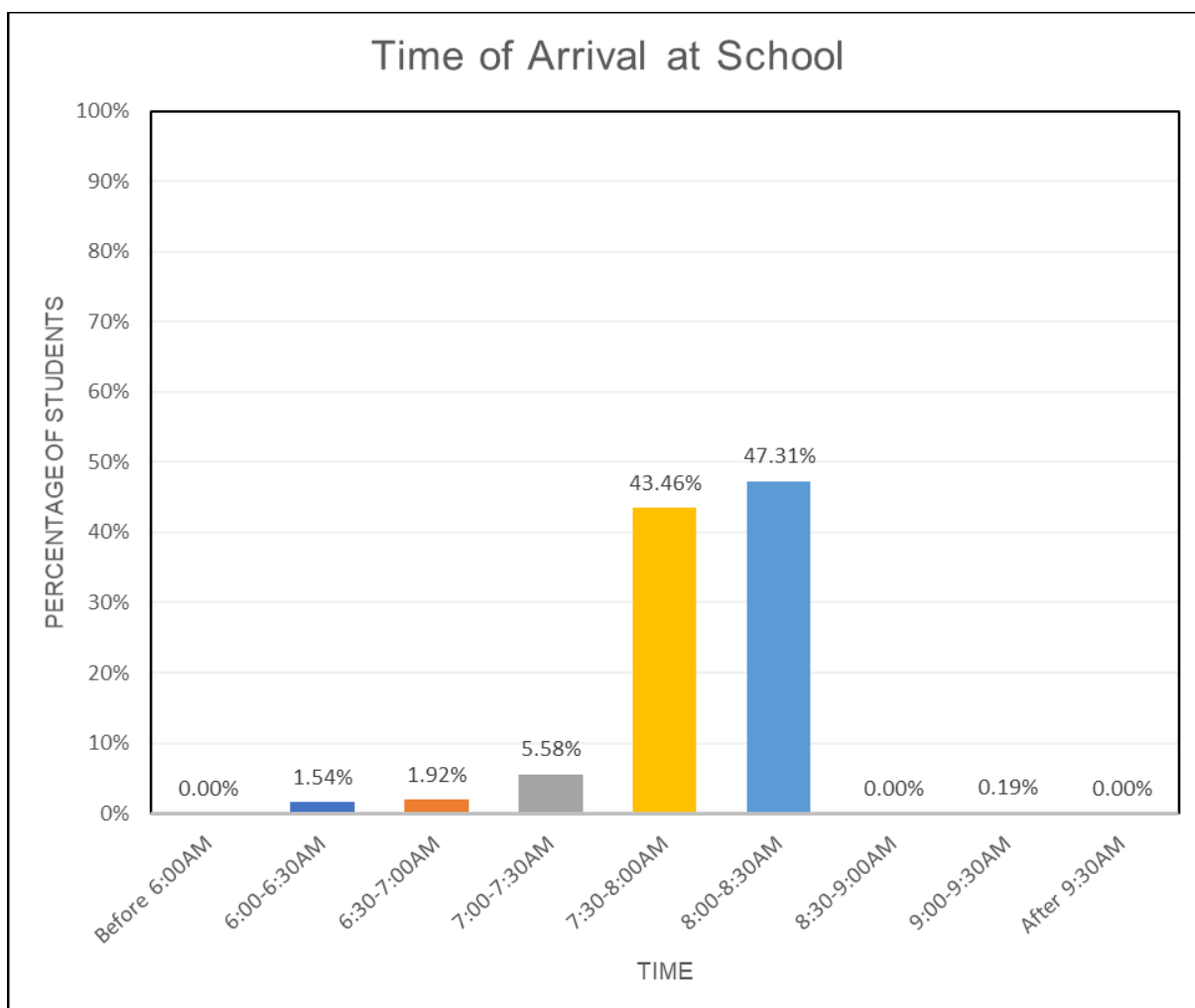


Figure 8: Senior Student Time of Arrival

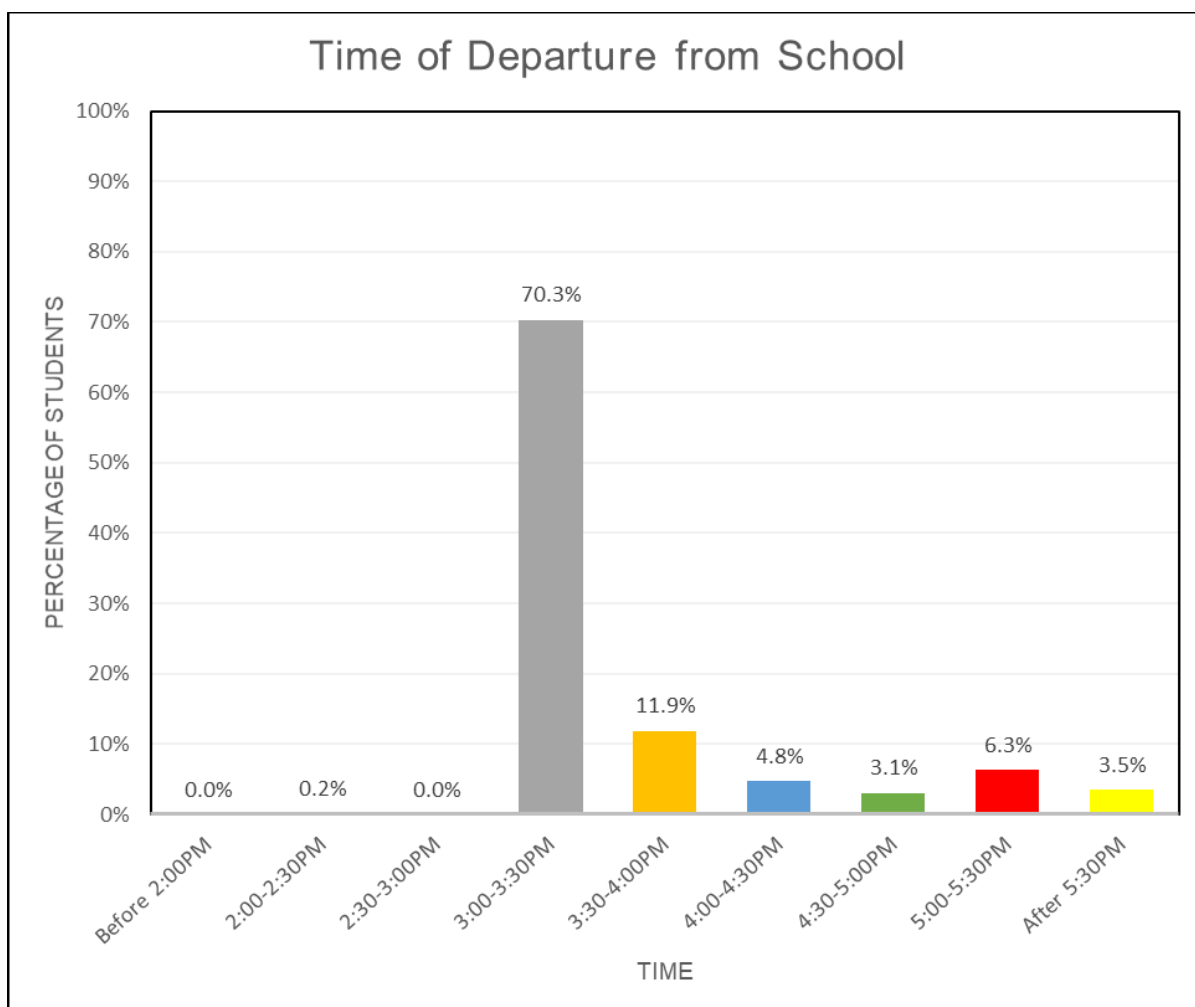


Figure 9: Senior Student Time of Departure

In summary, the Senior student Travel Survey indicates that:

- Almost all Senior students arrive at School over a 90-minute period between 7:00am and 8:30am, with the highest percentage of trips occurring in the 30-minute period 8:00am to 8:30am. The spread of arrival times in the morning peak is again largely attributed to Senior students having sports training and other activities scheduled before School starts; and
- Conversely, the majority of Senior students depart the School within the 30-minute period 3:00pm – 3:30pm, i.e. immediately after School ends.

4.3 Staff Travel Surveys

4.3.1 Staff Travel Mode

Figure 10 provides details of the surveyed Staff travel modes, noting again that mode choice for Staff was generally the same for the arrival and departure trips.

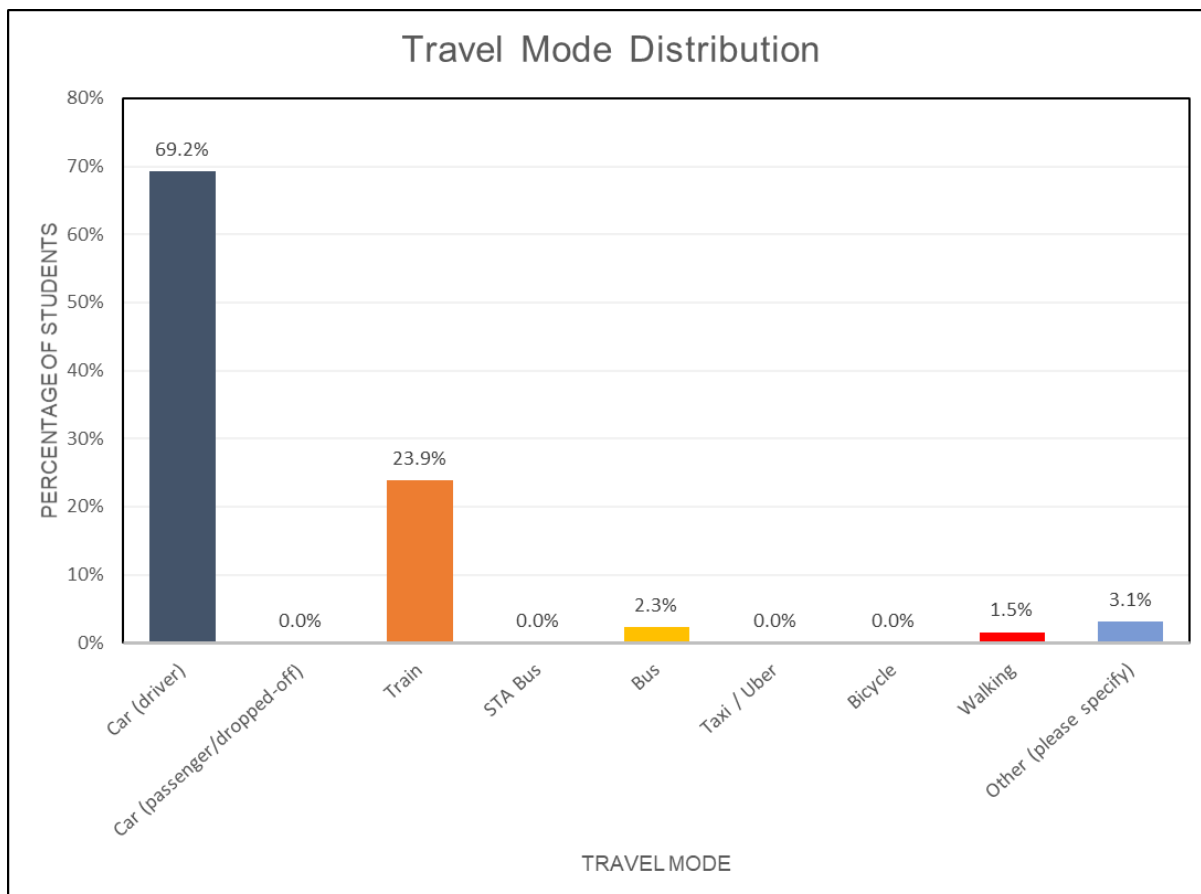


Figure 10: Staff Travel Mode

In summary, the Staff Travel Survey indicates that:

- Approximately 69% of Staff drive to / from the School; and
- Approximately 31% of Staff use alternative forms of transport to travel to / from the School.

4.3.2 Staff Arrival and Departure Peaks

Figure 11 provides details of the surveyed Staff arrival times, while **Figure 12** provides details of the surveyed Staff departure times.

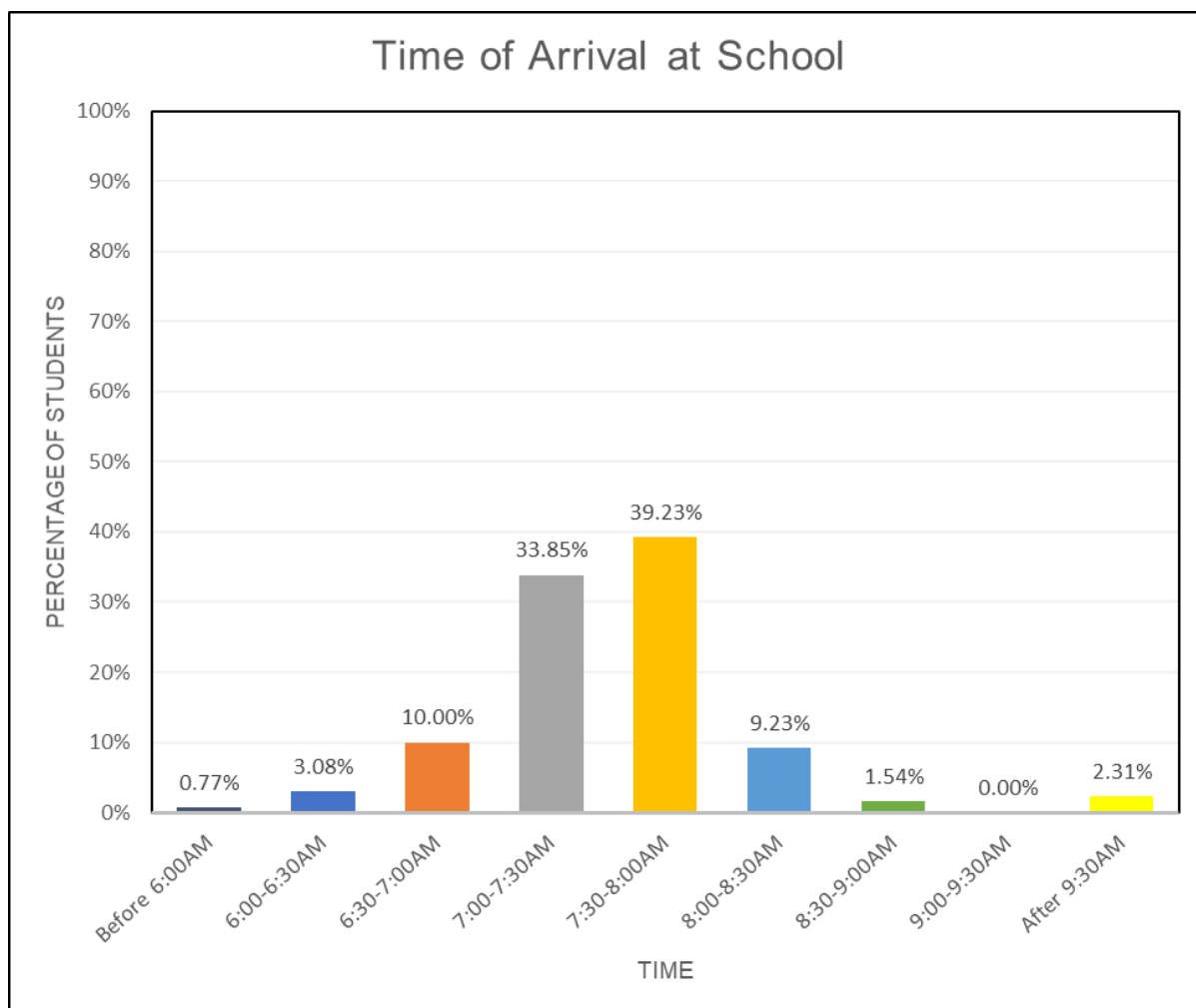


Figure 11: Staff Time of Arrival

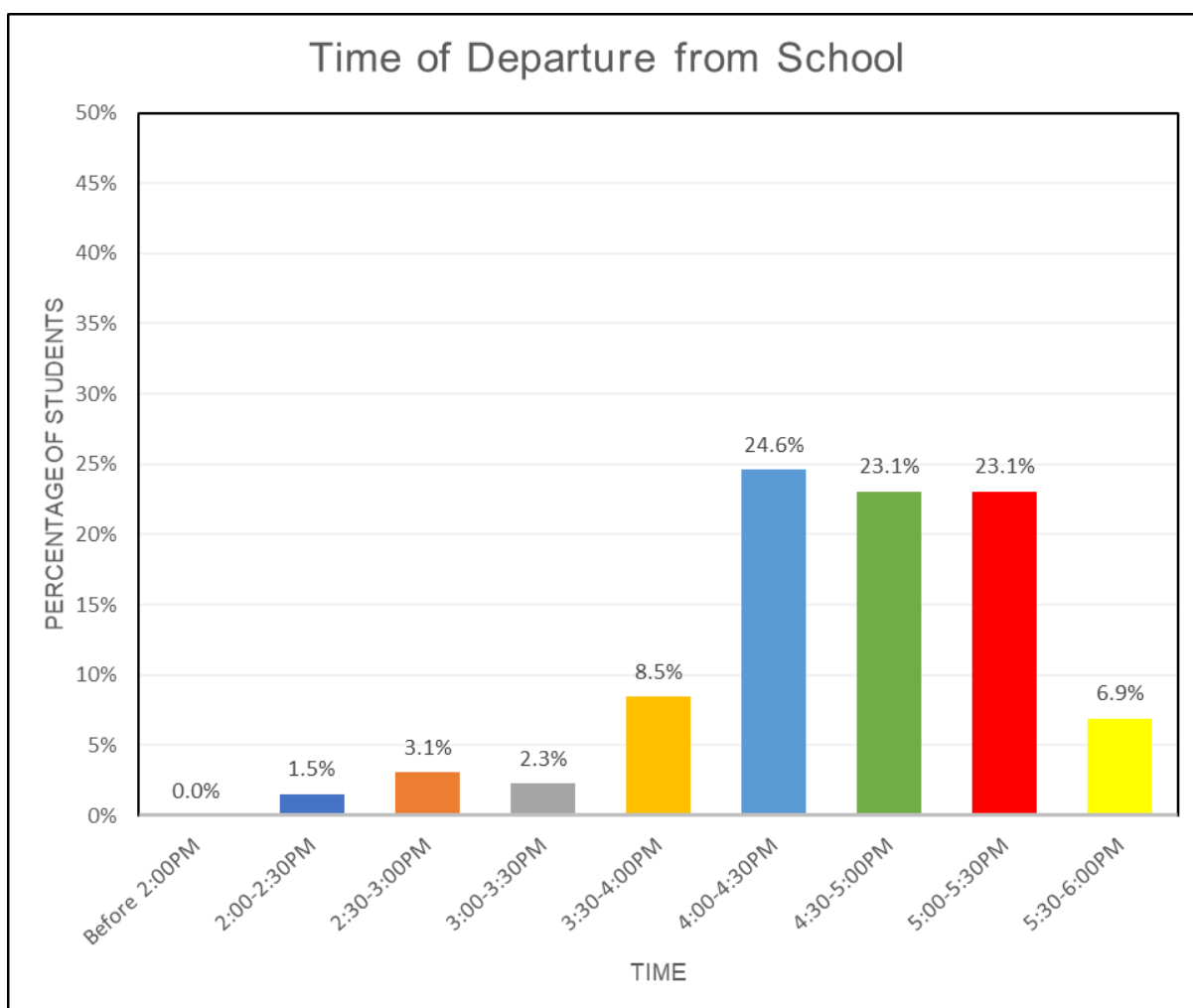


Figure 12: Staff Time of Departure

In summary, the Staff Travel Survey indicates that:

- Staff arrive and depart the School during earlier and later periods (respectively) than students; and
- The Staff arrival and departure profiles are distributed over significantly broader periods than students.

4.4 Travel Mode Summary

With reference to sections above, **Table 1** provides a summary of existing travel modes for all students and staff at the School.

Table 1: Existing Mode Share Summary

Travel Mode	Existing Mode Share of Senior Students	Existing Mode Share of Staff
Vehicle driver	6%	69%
Dropped Off	36%	0%
Taxi / Uber	0%	0%
Train	32%	24%
STA Bus	7%	2%
Meriden School Bus	11%	N/A
Bicycle	0%	0%
Walk	5%	2%
Other mode	3%	3%

4.5 Existing School Traffic Generation

With reference to the Ason Report, it was found that the AM peak hour generation of the School occurs during the hour between 7:30am – 8:30am, while the PM peak hour generation of the School occurs during the hour between 3:00pm – 4:00pm.

Further, the Ason Report found that, during the identified School peak hours, the School was generating the following traffic flows (based on surveyed information):

- AM Peak Hour:
 - 519 arrival trips; and
 - 400 departure trips.
- PM Peak Hour:
 - 423 arrival trips; and
 - 366 departure trips.

Subsequent to the approved SSDA, the Ason Report found that the additional 50 students would generate the following additional trips:

- AM Peak: 59 trips (31 arrivals / 28 departures)
- PM Peak: 51 trips (25 arrivals / 26 departures)

With reference to above, the total traffic generation of the School is expected to be:

- AM Peak Hour:
 - 550 arrival trips; and
 - 428 departure trips.
- PM Peak Hour:
 - 448 arrival trips; and
 - 392 departure trips.

4.6 Trip Distribution

The Ason Report found that, generally, 50% of the school associated trips are distributed to / from the Senior School Kiss and Ride facility on the northern side of Margaret Street (see **Figure 13** below), while the other 50% related to Junior campus Kiss and Ride facilities located on the southern side of Margaret Street and Vernon Street.

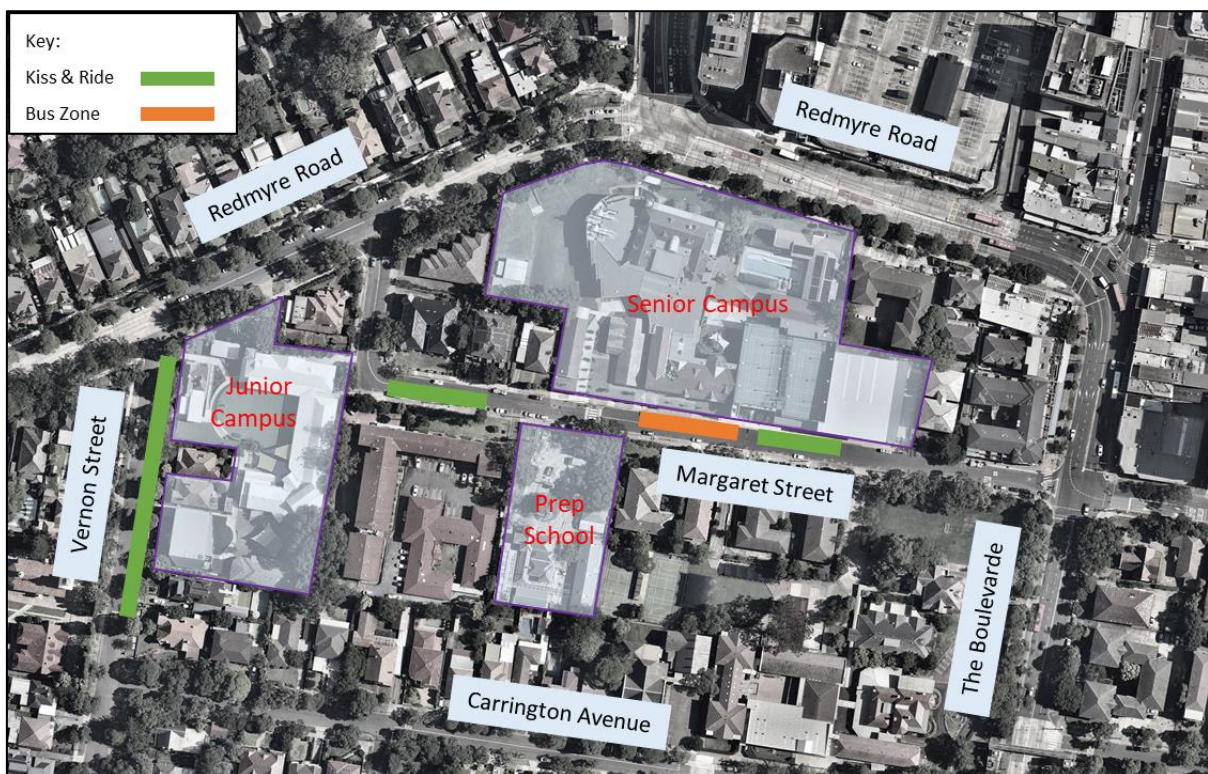


Figure 13: Meriden School Kiss & Ride Zones and Bus Zone

4.7 Car Parking

The School currently provides 105 car parking spaces across the three School campuses. These parking spaces are reserved for staff and visitors only. Students are specifically not allowed to drive to School and required special permission to do so in exceptional circumstances. Therefore, there is no car parking allocated to students.

5 Existing Road Network

5.1 Road Hierarchy

The key roads in the vicinity of the School are shown **Figure 6** and are summarised below:

- **Redmyre Road:** Redmyre Road is a RMS State Road (MR668) north of the School that provides a connection between The Boulevard and Chalmers Road in an east-west direction. It generally provide 3 traffic lanes of traffic in each direction along the northern frontage of the School before tapering back to 1 traffic lane in each direction along the western School frontage, with on-street parking also provided on both sides of the road.

Redmyre Road has a posted speed limit of 50km/hr outside of school peak periods, where School Zone restrictions reduce the speed limit to 40km/hr.

- **Margaret Street:** Margaret Street is a local road that generally runs in an east-west direction between the School campuses, linking The Boulevard and Morwick Street to the east with Redmyre Road to the west. It provides a 1 traffic lane in each direction, and restricted on-street parking on both sides of the road. A mid-block pedestrian crossing linking the Northern Campus with the Junior Campus and Lingwood Campus to the south is located immediately adjacent to the Lingwood Campus.

Margaret Street has a posted speed limit of 50km/hr outside of school peak periods, where School Zone restrictions reduce the speed limit to 40km/hr.

- **Vernon Street:** Vernon Street is a local road that generally runs in a north-south direction along the Junior Campus' western frontage. It provides 1 traffic lane in each direction, and on-street parking on both sides of the road.

Vernon Street has a posted speed limit of 50km/hr outside of school peak periods, where School Zone restrictions reduce the speed limit to 40km/hr.

- **Carrington Avenue:** Carrington Avenue is a local road that generally runs in an east-west direction to the south of the School, connecting to Vernon Street and the Boulevard. Its eastern end provides direct pedestrian links to pedestrian bridge crossing The Boulevard. It has a posted speed limit of 50km/hr outside of school peak periods, where School Zone restrictions reduce the speed limit to 40km/hr. It provides 1 traffic lane in each direction, and on-street parking on both sides of the road.

- **Morwick Street:** Morwick Street is a RMS regional road (SR2027) that runs in an east-west direction to the east of the School, connecting The Boulevard and Margaret Street via a signalised intersection before terminating to the east at the Wentworth Road & Railway Parade intersection.

It generally provides 2 traffic lanes in each direction, and restricted parking on both sides of the road.

- **The Boulevard:** The Boulevard is a RMS State Road (MR668) that generally runs in a north-south direction to the east of the School, connecting Margaret Street and Redmyre Road with the Strathfield Town Centre (and Strathfield Station). It generally provides 2 traffic lanes in each direction. The Boulevard carries approximately 20,700 vehicles per day both ways. A key pedestrian bridge (for School students) provides access over The Boulevard between Russell Street and Carrington Avenue.
- **Raw Square:** Raw Square is a RMS State Road (MR668) that generally runs in a north-south direction north of the Site, connecting Leicester Avenue and Everton Road to north with Redmyre Road to the south, and provides a key linkage between Strathfield and the A44 and M4 motorways via the rail underpass.

5.2 Intersection Analysis

5.2.1 SIDRA Model

The key intersections have been assessed using the SIDRA intersection model; a SIDRA Network model has been employed for the adjacent intersections of Raw Square & Redmyre Road and Margaret Street & Redmyre Road to model a more accurate depiction of the existing local road network, while the intersection of The Boulevard & Morwick Road & Margaret Road has been assessed as an isolated intersection.

The SIDRA model provides the following key performance measures:

- **Degree of Saturation (DOS):** DOS is defined as the ratio of demand (arrival) flow to capacity.
- **Average Vehicle Delay (AVD):** AVD (or average delay per vehicle in seconds) also provides a measure of the operational performance of an intersection, and is used to determine an intersection's Level of Service (see below). For signalised intersections and roundabouts, the AVD reported relates to the average of all vehicle movements through the intersection, while for priority intersections, the AVD reported is that for the movement with the highest AVD.
- **Level of Service (LOS):** LOS is a comparative measure that provides an indication of the operating performance of an intersection based on AVD. For signalised and roundabout intersections, LOS is based on the average delay to all vehicles, while at priority-controlled intersections LOS is based on the worst approach delay.

Table 2 provides a summary of RMS LOS parameters.

Table 2: RMS Level of Service Summary

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

5.2.2 Baseline Intersection Operations

The Ason Report concluded that, subsequent to the additional traffic flows following the approved SSDA becoming operational, that the key intersections in the vicinity of the School would be expected to operate as reported in **Table 3**. This forms the baseline on which the Mod has been assessed against.

Table 3: “Baseline” Intersection Performance (Surveyed plus Approved Development)

Intersection	Control Type	Period	DOS	AVD	LOS
Raw Square / Redmyre Road	Signals	AM	0.726	29.1	C
		PM	0.625	26.5	C
The Boulevard / Morwick Road / Margaret Road	Signals	AM	0.560	13.7	B
		PM	0.616	15.0	B
Margaret Street / Redmyre Road	Priority	AM	0.366	14.9	B
		PM	0.304	9.0	A

With reference to **Table 3**, the key intersections all operate with satisfactorily LOS, DOS and AVD.

6 Public & Active Transport

6.1 Public Transport

The School is well serviced by local public and active transport services and infrastructure, as shown in **Figure 14** and detailed in sections below.

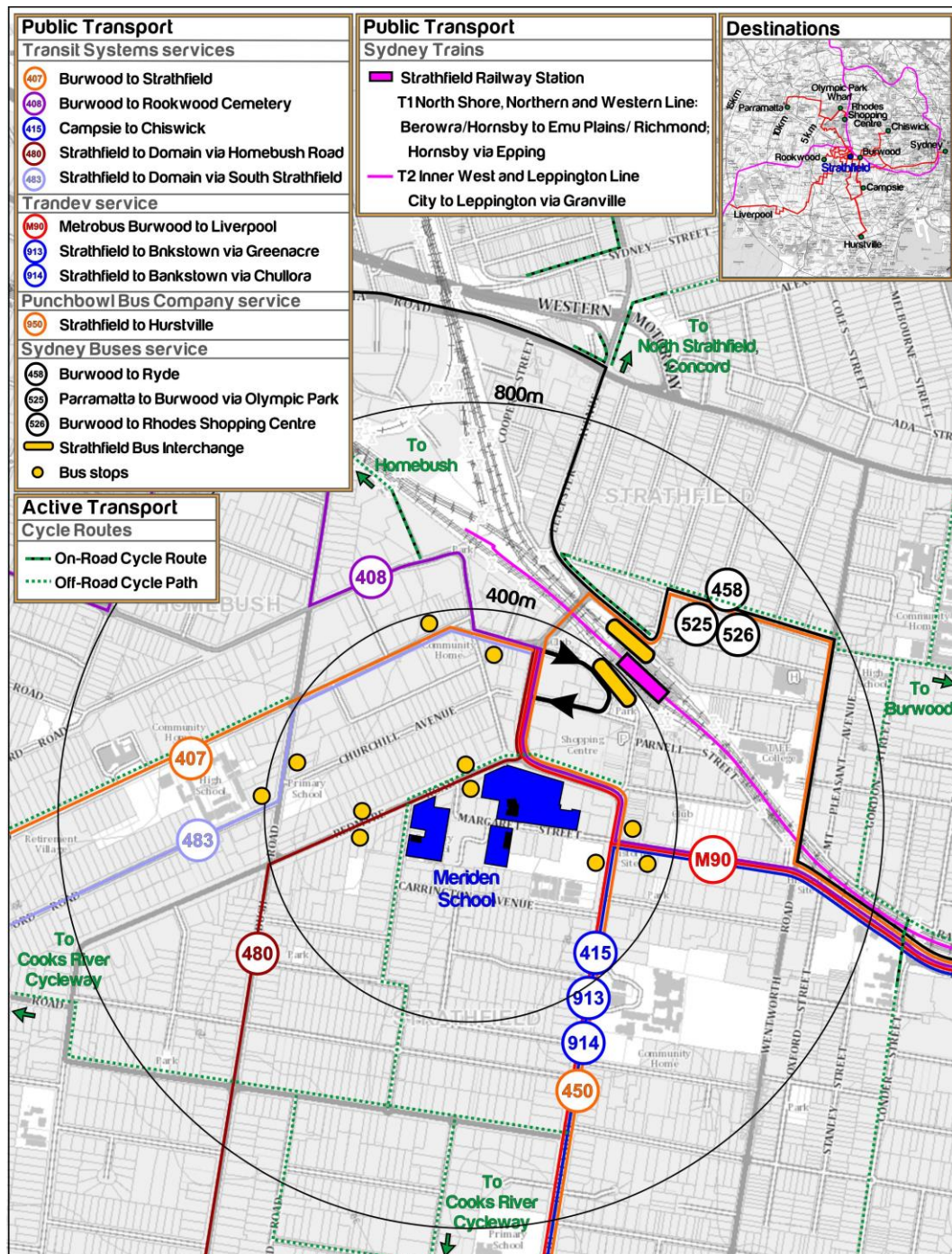


Figure 14: Public Transport Network

6.2 Railway Services

The Public Transport Guidelines state that train services influence the travel mode choice of areas within 800 metres walk (approximately 10 minutes) of a train station. In this regard, Strathfield Station is located approximately 200m – 400m to the north of the School (based on the different campuses). Strathfield Station is a major rail hub that provides the following frequent services:

- **Sydney Trains Services:**
 - T1 North Shore, Northern & Western Line;
 - T2 Inner West & Leppington Line;
 - T3 Bankstown Line;
 - T7 Olympic Park Line.
- **Intercity Trains Services:**
 - BMT – Blue Mountain Line;
 - CCN – Central Coast & Newcastle Line;
 - North Coast NSW;
 - North West NSW;
 - Western NSW.

6.3 Public Bus Services

The Public Transport Guidelines state that bus services influence the travel mode choices of areas within 400 metres walk (approximately 5 minutes) of a bus stop. In this regard, bus stops are located within 400 metres walking distance from the School in Redmyre Road, The Boulevard, Albert Road and near Strathfield Station, as shown in **Figure 14**. A major bus interchange is also located at Strathfield Station providing an accessible location to transfer to different buses services (and between rail and bus).

There are twelve bus routes within walking distance of the School, which are listed in **Table 4** below.

Table 4: Public Bus Services

Bus Number	Route
407	Burwood to Strathfield
408	Burwood to Rookwood Cemetery
415	Campsie to Chiswick
480	Strathfield to Domain via Homebush Road
483	Strathfield to Domain via South Strathfield
M90	Metrobus Burwood to Liverpool
913	Strathfield to Bankstown via Greenacre
914	Strathfield to Bankstown via Chullora
950	Strathfield to Hurstville
458	Burwood to Ryde
525	Parramatta to Burwood via Olympic Park
526	Burwood to Rhodes Shopping Centre

With reference to Table 4, it is clear that the School has excellent access to bus services, noting that Routes 480, 415, 913, 914 and 450 operate via the Redmyre Road and The Boulevard bus stops in in close proximity to the School.

6.4 School Bus Services

The School currently provides private school bus services for its students which operate along the following routes:

- Drummoyne – Russell Lea - Five Dock – Canada Bay - Concord
- Concord – Breakfast Point - Cabarita
- Balmain – Rozelle – Leichhardt – Dulwich Hill
- Summer Hill – (Trinity Grammar)
- Woolwich – Hunters Hill – Gladesville – Putney - Rhodes
- Illawong – Padstow Heights – Beverly Hills
- Taren Point – Miranda – Sylvania – Blakehurst
- Hurstville – Beverly Hills

These bus services typically arrive at the School at around 8.00am and depart the School between 3:20pm and 3:30pm every weekday. School bus pick-up and set-down zones are located along the

northern side of Margaret Street, with Junior escorted across the pedestrian crossing to the bus marshalling area north of the bus zone within the Senior Campus.

6.5 Pedestrian Accessibility

The areas surrounding the School are well serviced in terms of pedestrian infrastructure with footpaths available on both sides of roads near the School. **Figure 15** details the key pedestrian crossings; **Figure 16** showcases the pedestrian routes between campuses, and **Figure 17** details the pedestrian desired routes to transport options.



Figure 15: Key Pedestrian Road Crossings

Table 5 details the key pedestrian crossings around the vicinity of the Site in reference to **Figure 15**.

Table 5: Pedestrian Crossings

Number Reference	Location	Pedestrian Crossing Description
1	Redmyre Road / Raw Square	Signalised crossing on western and northern leg with pedestrian refuge island
2	Redmyre Road / The Boulevarde	Signalised crossing on western and northern leg with pedestrian refuge islands
3	The Boulevarde / Margaret Street / Morwick Street	Signalised crossing on southern and western leg / zebra crossing on western leg with pedestrian island
4	The Boulevarde / Russell Street / Carrington Avenue	Pedestrian Bridge crossing The Boulevarde / zebra crossing through Russell Street / Unsignalised crossing through Carrington Avenue
5	Vernon Street / Redmyre Road	Unsignalised crossing through Vernon Street
6	Margaret Road / Redmyre Road	Unsignalised crossing through Margaret Street with pedestrian refuge island
7	Margaret Road	Mid-block pedestrian crossing
8	Carrington Avenue	Mid-block pedestrian crossing

Pedestrian access is provided by footpaths along Margaret Street, Redmyre Road, The Boulevarde, Raw Square and the majority of roads within the Strathfield Town Centre. These footpaths are generous in width, especially at Margaret Street with footpath widths of up to 2.5m provided on both sides of the road. Footpaths near the Strathfield Town Centre are wide and well-integrated into the street amenities to handle large pedestrian volumes.

Signalised crossings near the vicinity of the school are available at the following key intersections:

- Redmyre Road / Raw Square
- Redmyre Road / The Boulevarde
- The Boulevarde / Morwick Street / Margaret Street

These first two intersections mentioned above have staged crossings with pedestrian islands at the centre of the major road. The Boulevarde / Morwick Street / Margaret Street intersection consists of two signalised crossing at the south and west legs and a zebra crossing with a pedestrian island along Margaret Street.

A key mid-block pedestrian crossing is located at Margaret Street which links the southern Lingwood Campus and Junior Campus to the northern Senior Campus. A crossing supervisor attends this pedestrian crossing during the peak pick-up and set-down school periods. Pedestrian movements along Margaret Street and Vernon Street are further supervised by the School's personnel during the School's peak arrival and departure periods.

The intersection at Redmyre Road / Margaret Street provides a pedestrian refuge island at the Margaret Street leg. A pedestrian bridge is also provided over The Boulevard, located between Russell Street and Carrington Avenue, providing a safe pedestrian access without interacting with vehicles.

The following figures detail the desired pedestrian routes between campuses and to and from the campuses.

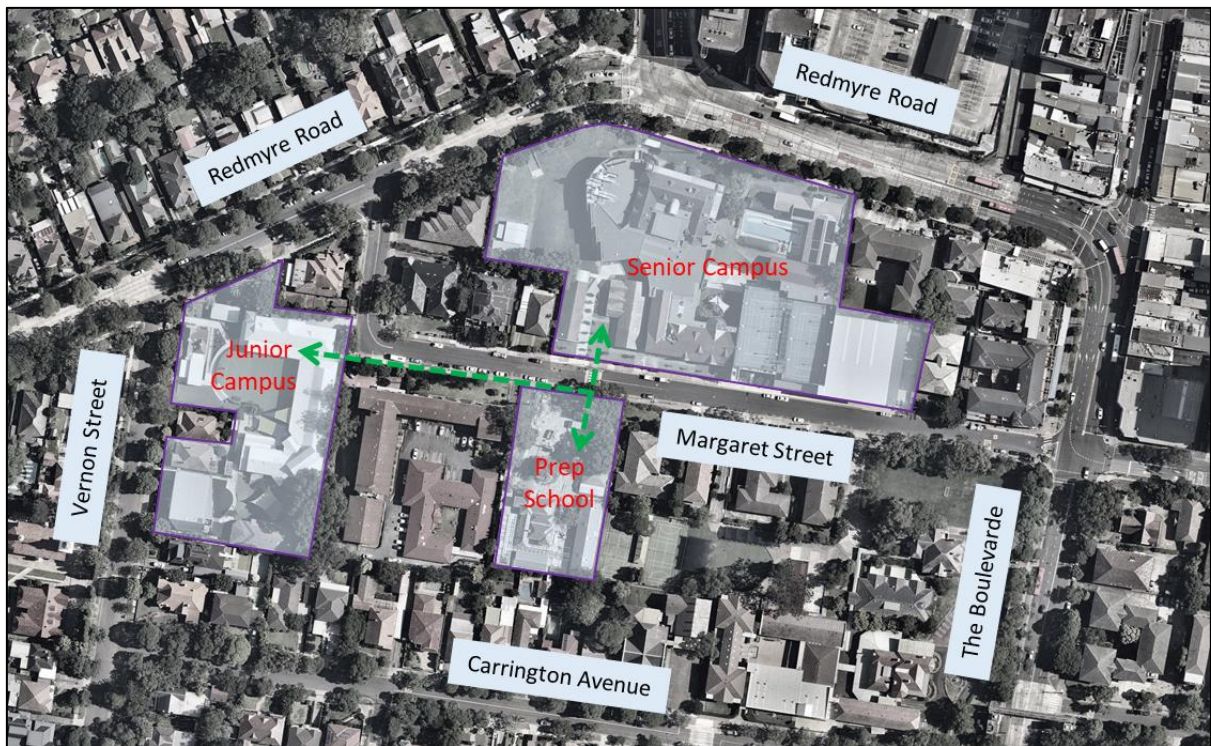


Figure 16: Desired Pedestrian Routes between Campuses



Figure 17: Desired Pedestrian Routes

6.6 Cycle Routes

There are currently limited dedicated cycling facilities and routes that directly connects with the School. The existing Strathfield Council Cycling Map details local bike routes to the south and north-west of the Site. The Bay-to-Bay route, located to the west of the School, includes off road sections along Cooks River which runs generally in a north-south direction. The existing cycling route is detailed in **Figure 18**. Strathfield Council intends to improve the cycling facilities and routes in the future as detailed in their Active Travel Plan Report. The proposed bicycle network is showcased in **Figure 19** and identifies Redmyre Road as part of the local network (on road).

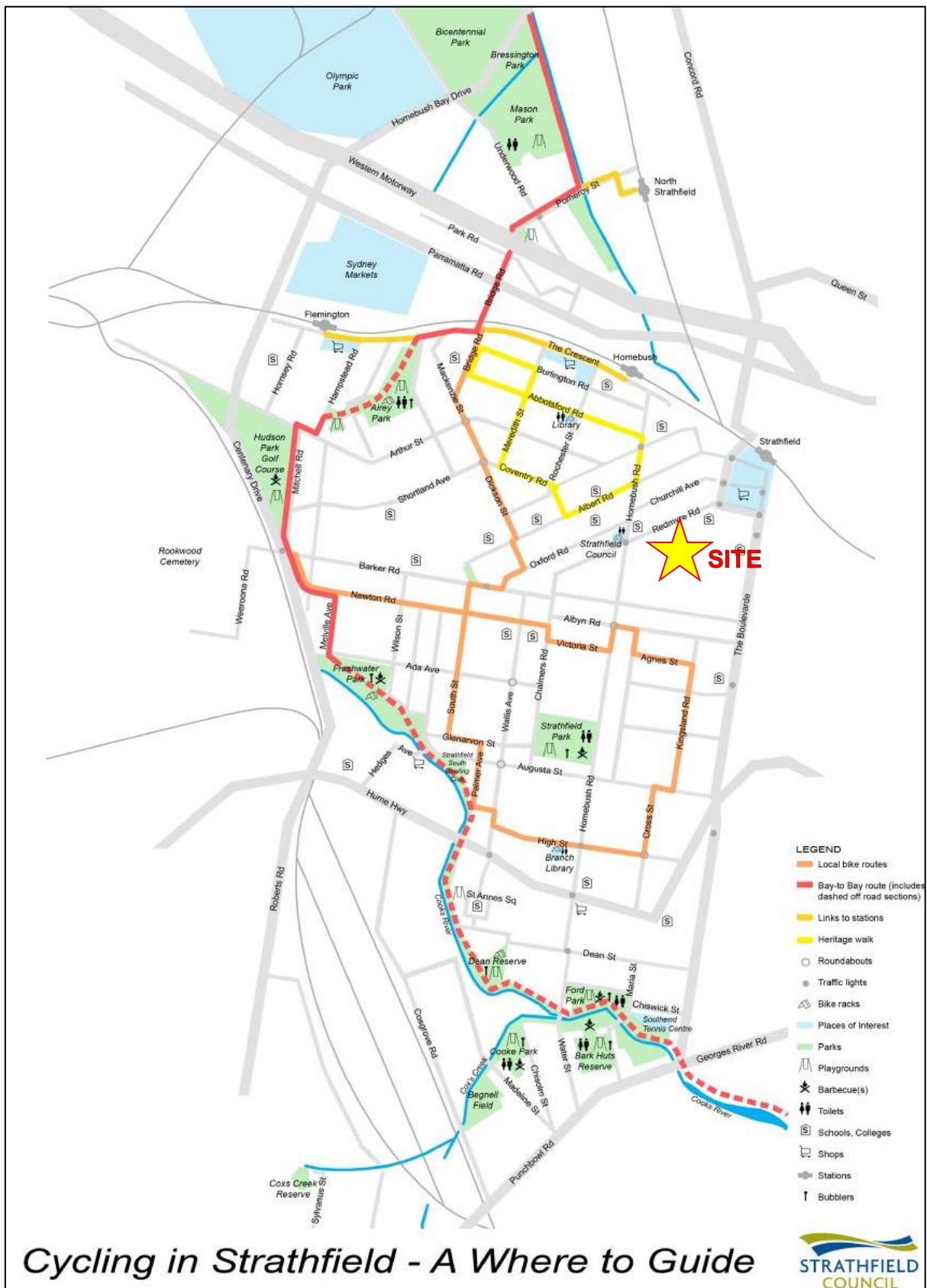


Figure 18: Existing Strathfield Cycling Routes

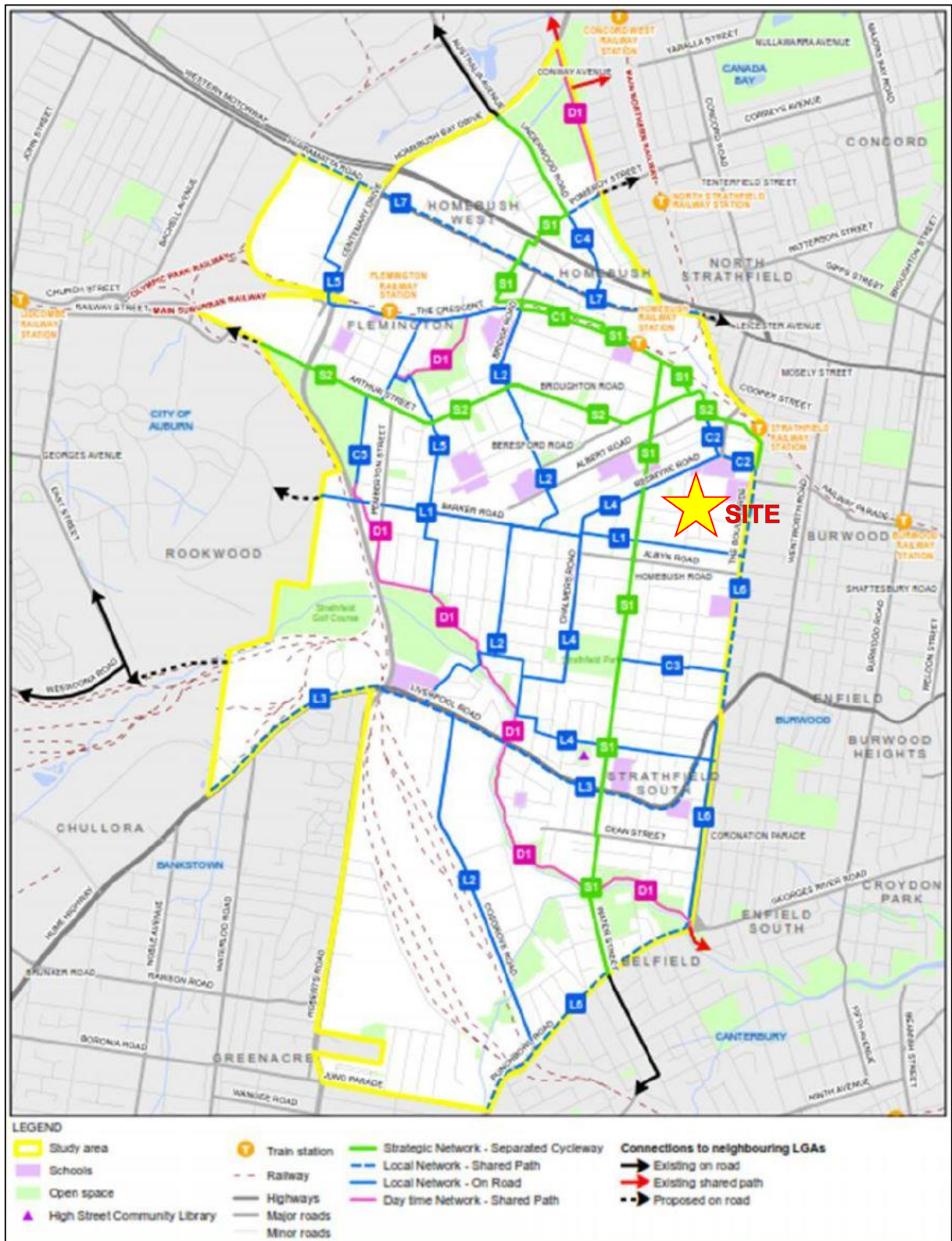


Figure 19: Proposed Strathfield Cycling Routes

7 School Pedestrian and Traffic Management

7.1 Morning Drop-off Periods

Meriden private school buses arrive at the School between 8:00am to 8:20am. The buses first drop Senior Campus students at Margaret Street at the bus zone before continuing towards Vernon Street for Junior Campus students to disembark at the Kiss and Ride zone along Vernon Street.

Kiss and Drop students are to arrive via The Boulevard to access the Margaret Street Kiss and Drop zones or to access the Vernon Street Kiss and Drop zones via Redmyre Road. Students will be able to walk directly to their respective campuses along the footpaths. **Figure 20** demonstrates the pick-up / drop-off zones and the bus zone. School personnel manage the mid-block pedestrian crossing along Margaret Street to ensure students have the right of way and pedestrian safety. School personnel also manage the Kiss and Ride Zone for the Junior Campus to ensure students head straight into School grounds on arrival.

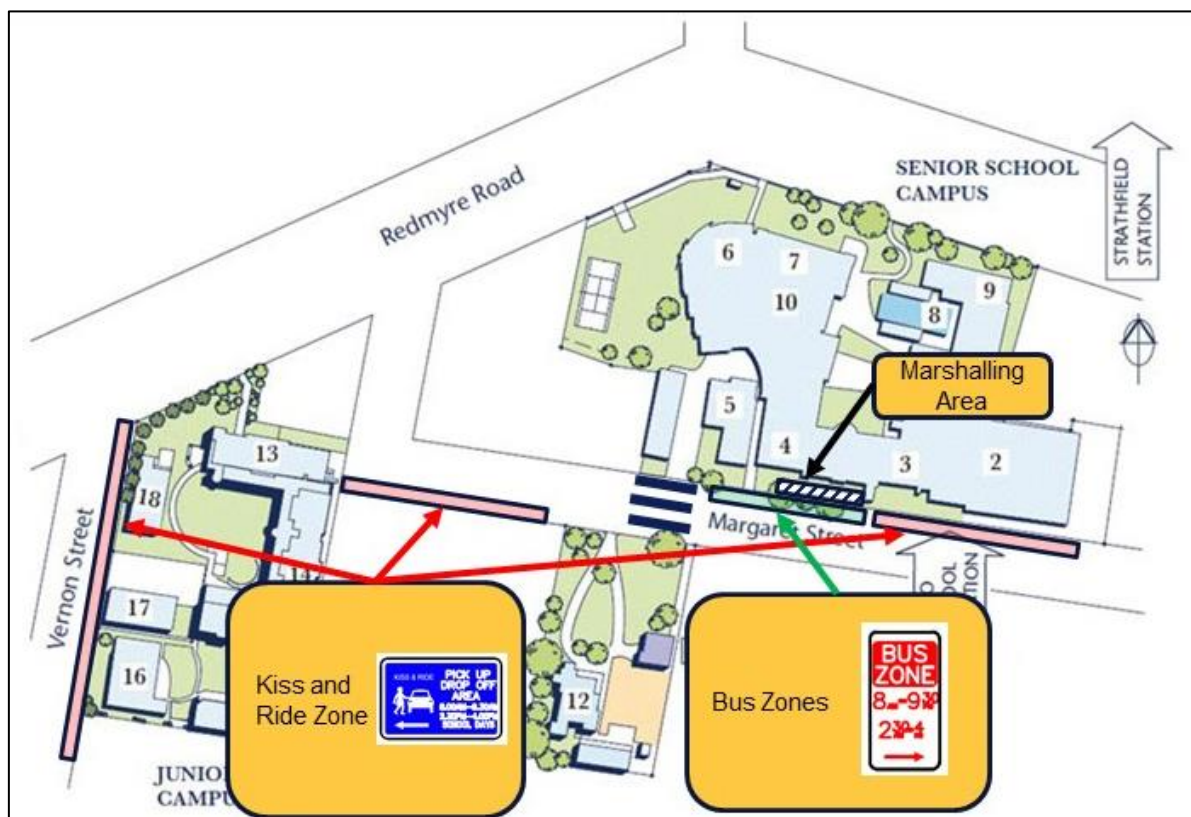


Figure 20: School Traffic Management Signs and Zones

7.2 Afternoon Pick-up Periods

During afternoon pick-up periods, traffic and pedestrian activities intensify between 2:50PM to 3:30PM.

Four buses would be waiting at the bus zone at the start of the afternoon peak period. Junior Campus students catching buses will be escorted from their campus, across the pedestrian crossing, to the marshalling zone at the Senior School Campus as depicted in Figure 20. School personnel control the mid-block pedestrian crossing along Margaret Street to ensure students have the right of way while crossing the street. Students at the marshalling zone would then board their respective buses and buses will leave promptly at 3:20PM. The remaining buses would arrive immediately, and students would board these buses by 3:30PM before the bus departs.

Afternoon Kiss and Ride student management operates from within the School Campus and are intended for Pre-School and Junior School students. Students would wait within School boundaries and wait for staff stationed at the roadside to communicate back to the school grounds via radio when their lift arrives at the Kiss and Ride zone. The student is then escorted out to their respective vehicle. Parents are to display their child's name on their dashboard to increase the efficiency of the pick-up operation. Pre-school and Junior Campus afternoon pick-up times are staggered to reduce the peak afternoon traffic around Meriden School.

7.3 On-Site Observations

Although managed efficiently, vehicle queuing for pick-ups often spills onto Redmyre Road and The Boulevard as parents queue up to pick up their children. The pick-up queues along Redmyre Road can often block through traffic flows due to the provision of a single lane in both direction on Redmyre Road as parents line up to turn left or right into Vernon Street or Margaret Street. Our observations note that the arrival of the 3:20PM School Buses at Margaret Street can cause significant standstill and queuing along Margaret Street and Redmyre Road for approximately 2 to 3 minutes while the fleet of buses wait for the earlier school buses to finish boarding and leave.

Nevertheless, these peak pick-up and drop-off conditions only last for a short period of time from 3.05pm to 3.20pm and traffic conditions quickly clear and return to prior traffic conditions. These conditions are typical of the after school period where a large number of students all depart at similar times.

7.4 Movement between Campuses

Students move between campuses during operational School hours. Senior Campus students are required to sign out prior to escorting themselves to the Junior Campus for co-curricular activities (for example, music lessons and practice). Junior Campus students would also use the Senior Campus'

facilities during school hours. However, Junior Campus students would move in class groups and be escorted by teaching staff.

8 Parking Requirements

8.1 Relevant Controls

Under Clause 11 of *State Environmental Planning Policy (State and Regional Development) 2011*, local authority development control plans are excluded when assessing SSD projects.

It is noted therefore, that the overarching controls for the Site are provided within *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* (Education SEPP). However, in the absence of specific controls for parking provided within the Education SEPP, Council's DCP has been considered. Specifically, Section 3.9, Part I, *Provision of Off-Street Parking Facilities* of the DCP, which provides parking rates for Primary and Secondary Schools. The following details the DCP parking rates:

- Primary and Secondary Schools 1 space per 1.5 staff; plus
1 space per 10 pupils in Year 11 and 12.

As discussed, students are not permitted to drive to School, therefore the adoption of parking requirements for students is not appropriate for this Proposal. This is a consistent approach with the approved SSD, and has therefore already been accepted by the Department of Planning, Industry and Environment (DPIE).

In relation staff requirements, the Proposal could require up to an additional 7 staff members and therefore would require a maximum of 5 parking spaces. This aligns with what the additional demand would be under the existing car travel mode share for staff, which currently represents 69% (or 5 staff of the maximum 7 anticipated as a result of the Mod).

8.2 Approach to Parking Provision

It is not proposed to provide any further parking on-site as part of the Mod. State Government policy currently actively seeks to promote alternative modes of transport and reduce single-use private vehicle usage, with the overall aim of which is to reduce congestion and thus reduce emissions, improve air quality, and provide better environments for communities.

Restrictive approaches to car parking can assist in achieving these aims and objectives, especially when paired with Green Travel Plans (GTP). The location of the Site, in close proximity to a number of bus stops, as well as the Strathfield Bus Interchange and Strathfield train station, means that it is strategically well positioned to achieve this.

It is noted that a Sustainable Travel Plan Package (staff GTP and student GTP) was developed as part of SSD-9692 and will be implemented as part a Condition associated with the SSD Consent.

The Sustainable Travel Plan Package has been updated as part of this Mod (provided as **Appendix A**). As detailed in Appendix A, the overall aim is to reduce staff travel by private vehicles to 55%. Given that travel by public and active transport to the School is currently only recorded as 28%, increasing travel by non-car modes to 40% is a key goal of the GTP (which aligns with State government aims and objectives). Further, it is clear that this level of travel behaviour change is achievable for a Site which is well connected to the public transport network.

Based on the existing staff (full-time and part-time), there is a FTE of 176 staff members. Therefore, on the basis of a 55% mode share for staff travel under the GTP, it is anticipated that a maximum total of 102 staff members will require car parking when taking account of the approved SSD (2 staff members) and the proposed Mod (up to 7 staff). Therefore, this demand can be accommodated by the existing 105 car parking spaces on Site.

Vehicular demand generated by the School will be monitored regularly as part of the Sustainable Travel Package, with annual monitoring to be conducted through the use of travel surveys. This will include providing an up to date understanding of parking utilisation at the School. Therefore, any changes to the parking provision, or to the measures to reduce demand provided within the GTP, can be conducted as required.

The School's approach to car parking provision aims to totally restrict students from driving to School entirely; as well as seeking to reduce the volume of staff that would also seek to drive to School. This approach, which reduces traffic generation and encourages the use of non-car travel, is entirely appropriate to a Site so well located in regard to public transport and pedestrian infrastructure.

It is not anticipated that the Mod would impact on existing parking provision (with the additional staff encouraged to travel by other modes right from the start of their employment at the School). Thus, it is concluded that the proposed Mod is supportable on car parking grounds.

9 Traffic Assessment

9.1 Traffic Generation

9.1.1 Proposed School Population Increase

As discussed, the Mod proposes to increase the student cap by 130 students, with 7 additional staff.

9.1.2 Student Trip Generation

Considering the increase in student capacity of 130 students, and accounting for a reasonable car occupancy (i.e. more than 1 student per car) as reported in the Travel Surveys, the resulting vehicles would generate an arrival trip and a departure trip.

With further reference to the Travel Surveys, of the Senior Campus generated trips, 91% are generated in the AM School peak hour and 82% are generated PM School peak hour. Application of this trip generation rate to the additional 130 student results in 118 student trips during the AM School Peak and 107 student trips during the PM School Peak.

As discussed in Section 4.2, the School does not allow students to drive to school, with additional vehicle trips resulting from drop-off / pick-up trips only. Therefore, the modal splits recorded by the 2019 surveys have been modified to account for this.

The resulting additional trips in the AM School peak hour are summarised in **Table 6**. It is noted that drop-off / pick-up trips result in 2 additional trips with parents / guardians / carers dropping-off / picking-up a child off / from school and leaving again.

Table 6: Additional Senior Student Trips Morning Peak Hour

AM	Yr 7 - 12	118	Car Occupancy	AM Arrival	AM Departure
Vehicle driver	0%	0			
Dropped Off	37%	44	1.6	28	28
Taxi / Uber	0%	0			
Train	34%	40			
STA Bus	8%	9			
Meriden Bus	12%	14			
Bicycle	0%	0			
Walk	6%	7			
Other mode	3%	4			
	100%	118		28	28

As can be seen, there would be a total of 44 additional students being dropped-off at the School during the morning peak hour. Taking account of the car occupancy, this equates to an additional 56 vehicle trips (28 arrivals / 28 departures).

The resulting additional trips in the PM School peak hour are summarised in **Table 7**.

Table 7: Additional Student Trips Afternoon Peak Hour: Senior Campus

PM	Yr 7 - 12	107	Car Occupancy	PM Arrival	PM Departure
Vehicle driver	0%	0			
Picked Up	37%	40	1.6	25	25
Taxi / Uber	0%	0			
Train	34%	36			
STA Bus	8%	9			
Meriden Bus	12%	13			
Bicycle	0%	0			
Walk	6%	6			
Other mode	3%	3			
	100%	107		25	25

As can be seen, there would be a total of 40 additional students being dropped-off at the School during the afternoon peak hour. Taking account of the car occupancy, this equates to an additional 50 vehicle trips (25 arrivals / 25 departures).

9.1.3 Staff Trip Generation

With further reference to the Travel Surveys, of the staff generated trips, 48% are generated in the AM School peak hour 11% are generated PM School peak hour. As discussed in Section 4, the School

peak hours correspond with road network peak in the morning period, and in the afternoon, is largely consistent (3:15-4:15pm for road network peak).

Therefore, it is clear that staff departures are outside of the peak hour for the road network in the vicinity of the Site.

The resulting additional trips associated with the 7 staff in the AM peak hour are summarised in **Table 8**.

Table 8: Additional Staff Trips

Mode	%	Total	AM	PM
Vehicle driver	69%	5	2	1
Dropped Off	0%	0	0	0
Taxi / Uber	0%	0	0	0
Train	24%	2	1	0
STA Bus	2%	0	0	0
Meriden Bus	N/A	-	-	-
Bicycle	0%	0	0	0
Walk	2%	0	0	0
Other mode	3%	0	0	0
	100%	7	3	1

As can be seen, there would be a total of 3 additional staff trips during the morning peak hour, and 1 trip during the afternoon peak hour.

9.1.4 Total Trip Generation

Therefore, the total traffic generation increase from the development would be:

- AM Peak: 59 trips (31 arrivals / 28 departures)
- PM Peak: 51 trips (25 arrivals / 26 departures)

The daily trip generation (arrivals and departures) of the Proposal would approximately be some 294 trips spread out across the day and across different transport modes such as private vehicles, public and active transport modes.

The following section will detail the trip distributions of these additional trips.

9.2 Trip Distribution

With reference to sections above, the assignment of these additional trips to the key intersections is shown in **Figure 21** and **Figure 22**. Traffic has been split based on the position of the senior pick-up/drop-off area and on-site observations. As such, the majority of senior student traffic would enter via the Margaret Street / Redmyre Road intersection to access the senior pick-up/drop-off area. Traffic entering and exiting the Margaret Street / Redmyre Road intersection have been split similarly with the existing traffic flows.

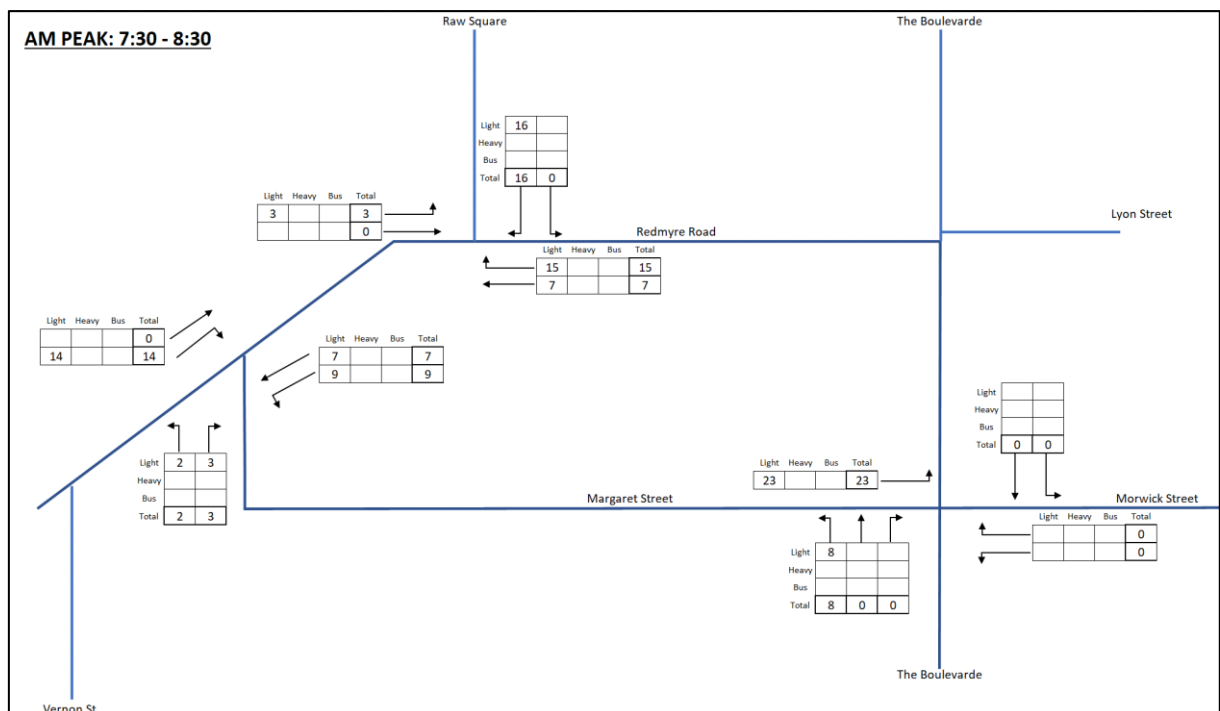


Figure 21: Additional Traffic Generation: AM Peak

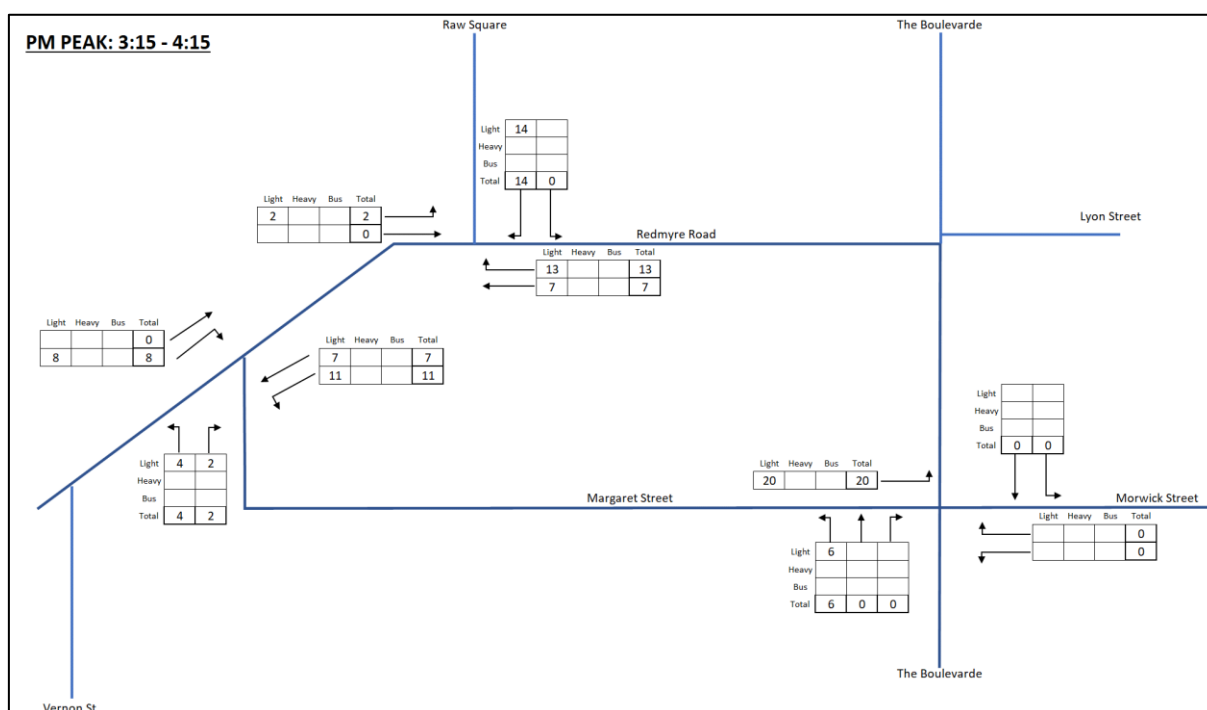


Figure 22: Additional Traffic Generation: PM Peak

9.3 Future Intersection Performance

The operation of the key intersection further to the introduction of the Proposal's traffic flows has again been assessed using the SIDRA model. The results of the assessment are summarised in **Table 9**.

Table 9: Base + Development Intersection Performance Comparison

Intersection	Scenario	Period	Degree of Saturation	Average Delay	LOS
Raw Square / Redmyre Road	Baseline	AM	0.726	29.1	C
		PM	0.625	26.5	C
	With Dev	AM	0.749	29.6	C
		PM	0.642	26.8	C
The Boulevard / Morwick Road / Margaret Road	Baseline	AM	0.560	13.7	B
		PM	0.616	15.0	B
	With Dev	AM	0.560	13.6	B
		PM	0.616	15.0	B
Margaret Street / Redmyre Road	Baseline	AM	0.366	14.9	B
		PM	0.304	9.0	A
	With Dev	AM	0.396	17.9	B
		PM	0.286	7.2	A

The SIDRA analysis illustrates that the network would be capable of accommodating the trips generated by the Proposal. With reference to **Table 9**, the SIDRA analysis indicates that the future LoS for the assessed intersections will remain consistent with the baseline operation. Notwithstanding, there are minimal increases to 'degree of saturation' and 'average delay' in the AM peak and PM peak hours.

With reference to sections above, it has been concluded that the operation of the key intersections further to the Proposal is not significantly different to existing intersection operations. As such, the Proposal is supportable from a traffic impact perspective.

10 Conclusions

The key findings of this Transport Assessment (TA) are:

- Ason Group has been engaged by Meriden School to prepare a Transport Assessment (TA) to support a Modification (Mod) to State Significant Development (SSD) 9692 which provides for alterations and renovations at the Meriden School, Strathfield (the School).
- The objective of the Mod is to provide for a student increase of 130 Senior students (and 7 staff members) within the Senior School only.
- The School is well integrated with the public transport network, with the Strathfield Station and a number of bus routes serving the area within 400m of the School.
- The School has an established Pedestrian and Traffic Management Plan which ensures safe and efficient drop-off and pick-up of students across all three campuses. Notably, there is a staff member patrolling the pedestrian crossing during peak periods to escort students safely across Margaret Street. Further, staff utilise radio communication to ensure Junior School students leave the Campus ground when their lift has arrived.
- On-site observations noted that the drop-off and pick-up periods operated efficiently and safely. Queuing on the surrounding road, specially Margaret Street does occur during peak periods. However, this is observed to last for the short peak periods before and after School and typically last for 15-20 minutes.
- As there is a nominal increase in staff (up to 7) expected as a result of the Mod, no additional parking is proposed. Based on Council's DCP, the Mod would only result in a minor requirement of 5 additional parking spaces.

The School's approach to car parking provision aims to totally restrict students from driving to School entirely; as well as seeking to reduce the volume of staff that would also seek to drive to School. This approach, which reduces traffic generation and encourages the use of non-car travel, is entirely appropriate to a Site so well located in regard to public transport and pedestrian infrastructure

It is not anticipated that the Mod would impact on existing parking provision (with the additional staff encouraged to travel by other modes right from the start of their employment at the School). Thus, it is concluded that the proposed Mod is supportable on car parking grounds.

- Traffic demand analysis indicates that the Proposal would result in 59 additional vehicle trips on the surrounding road network during morning evening peak hour and 51 trips in the afternoon peak hour.
- SIDRA Intersection analysis indicates that the key intersections assessed would continue to operate with consistent Degree of Saturation, Average Vehicle Delay, and – importantly – Level of Service would remain unchanged. The analysis demonstrates that the net traffic generation volumes are of

a sufficiently low order that once distributed across the surrounding road network, the impacts of these volumes at the key intersections would be negligible and the intersections would operate as currently occurs. Therefore, no infrastructure upgrades or mitigation measures are required as a result of the Proposal.

- **Appendix A** provides an updated Sustainable Travel Plan which details measures that can be implemented to encourage the use of alternative modes of transport for both students and staff to increase non-car travel to the School.

In summary, the Proposal is supportable on traffic planning grounds and will not result in any adverse impacts on the surrounding road network or the availability of on-street parking.

Appendix A

Sustainable Travel Plan Package

Green Travel Plan

Meriden School, SSD-9692 Modification
10-12 Redmyre Road, Strathfield

Ref: 0686r07
2 September 2020

Document Control

Project No: P0686

Project: Meriden School SSD Mod – GTP and WTP

Client: Meriden School

File Reference: 0686r07v1 GTP Meriden School Mod, Issue I

Revision History

Revision	Date	Details	Author	Approved by
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Appendices

- Appendix A: Workplace Travel Plan
- Appendix B: Transport Access Guide
- Appendix C: Sample Travel Mode Questionnaire Form

1 Introduction

1.1 Purpose

Ason Group has been engaged by Meriden School to prepare a Sustainable Travel Plan (STP) package that includes a Green Travel Plan (GTP) and a Workplace Travel Plan (WTP) in relation to Meriden School, Strathfield (the Site). It is noted that the WTP which is to be developed as part of the STP package for the School is provided as **Appendix A** and has been designed to complement this GTP, with a specific focus on staff travel.

This STP package was provided in response to Key Issue 7 of the Secretary's Environmental Assessment Requirements (SEARs) of SSD-9692, dated 22 November 2018, which states:

“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.”

SSD-9692 has since been approved and a Modification (Mod) is now sought to increase the student cap at the Senior School by 130 students.

This GTP is intended to develop a package of site-specific measures to promote and maximise the use of sustainable travel modes, including walking, cycling, public transport and car sharing. In this regard, this plan sets out objectives and strategies to assist the Department of Planning and Environment (DPE) in achieving its goal to improve sustainability. It includes a review of existing transport choices and sets targets so that the effective implementation of the GTP can be assessed. These targets are to be realistic but ambitious enough to initiate substantive behavioural change to achieve the desired outcomes. The Plan shall be reviewed regularly as part of an ongoing review to ensure it remains relevant and reflective of current conditions.

In preparing this GTP, Ason Group has referenced the following key planning documents that are relevant to development at the Site:

- Future Transport Strategy 2056, TfNSW, March 2018.
- A Plan for Growing Sydney, Department of Planning & Environment, December 2014.
- NSW Long Term Transport Master Plan, TfNSW, December 2012
- Our Greater Sydney 2056: Eastern City District Plan, Greater Sydney Commission, March 2018
- Sydney's Walking Future, TfNSW, December 2013

- Sydney's Cycling Future, TfNSW, December 2013
- Sydney's Bus Future, TfNSW, December 2013
- Strathfield Consolidated Development Control Plan (SCDCP 2005)
- Strathfield Local Environmental Plan (2012)
- An Active Travel Plan for Strathfield (2016)

This GTP would ensure that the School achieves a reduction in travel by car. Further consultation with Council, TfNSW and D&PE will be required to refine this GTP which will be implemented in response to Condition of Consent E9, associated with the Development Consent.

1.2 Site Location

The Site is located at Meriden School, 10-12 Redmyre Road, Strathfield and lies approximately 10 kilometres south-east of Parramatta and 11 kilometres west of the Sydney CBD. The School has three campus sites in close proximity to each other. **Figure 1** shows the three campuses in its local context and **Figure 2** shows the key roads providing access to the School.

It is located within the Local Government Authority of Strathfield Council.



Figure 1: Local Site Context

Source: AJ&C Architects



Figure 2: Site and Road Hierarchy

2 Strategic Planning Context

2.1 Future Transport 2056 Strategy

Future Transport 2056 Strategy is an overarching strategy, supported by a suite of plans to achieve a 40-year vision for the state-wide transport system. The strategy suggests that it is essential to encourage people to use active and public transport through the following methods:

- Expanding public transport networks, and
- Integrating walking and cycling networks

2.2 NSW Long Term Transport Master Plan

The NSW Long Term Transport Master Plan is a NSW Government document which seeks to guide transport decision making for the next 20 years. The report also supports the Government's A Plan for Growing Sydney. It integrates land use planning, infrastructure provision and transport planning across all modes of transport. The master plan includes a range of actions for road, rail, ferries, light rail, cycling and walking.

2.3 Our Greater Sydney 2056: Eastern City District Plan

The Eastern City District Plan aims to improve the District's lift style and environment assets. One of the potential direction indicators is the Expanded Greater Sydney Green Grid, which will provide green links to support walking, cycling and community access to open space.

In this regard, this plan indicates the potential improvements of the active and public transport infrastructure near Meriden School in the future. As presented in **Figure 3** Meriden School is adjoining to Green Grid Opportunities, and there is potential opportunity for Green Grid to expand through the Site.

2.4 Sydney's Bus Future 2013

Sydney's Bus Future has been developed to deliver simpler, faster and better bus services for customers, and attract more customers to use bus services throughout Sydney. A 3-tiered network will operate with each level delivering a defined level of service, consistency and reliability throughout Sydney. 13 rapid bus routes and 20 major suburban bus routes are proposed to strengthen connections between key town centres, which will ultimately improve travel times to Meriden School.

2.5 Sydney's Walking Future 2013

Getting people in Sydney to walk more through actions that make it a more convenient, better connected and safer mode of transport. The basis of Sydney's walking future is to promote the benefits of walking through additional infrastructure, technologies and good policy which will ultimately benefit Meriden School

2.6 Sydney's Cycling Future 2013

The basis of Sydney's cycling future is getting people in Sydney to cycle more through providing a more convenient, better connected and safer mode of transport. The NSW Government will focus on completing links within a 5-kilometre catchment of major centres in the short term and expand to a 10-kilometre catchment in the longer term. Meriden School is currently located within the 5km bicycle riding catchment from major activity centres and existing cycleways.

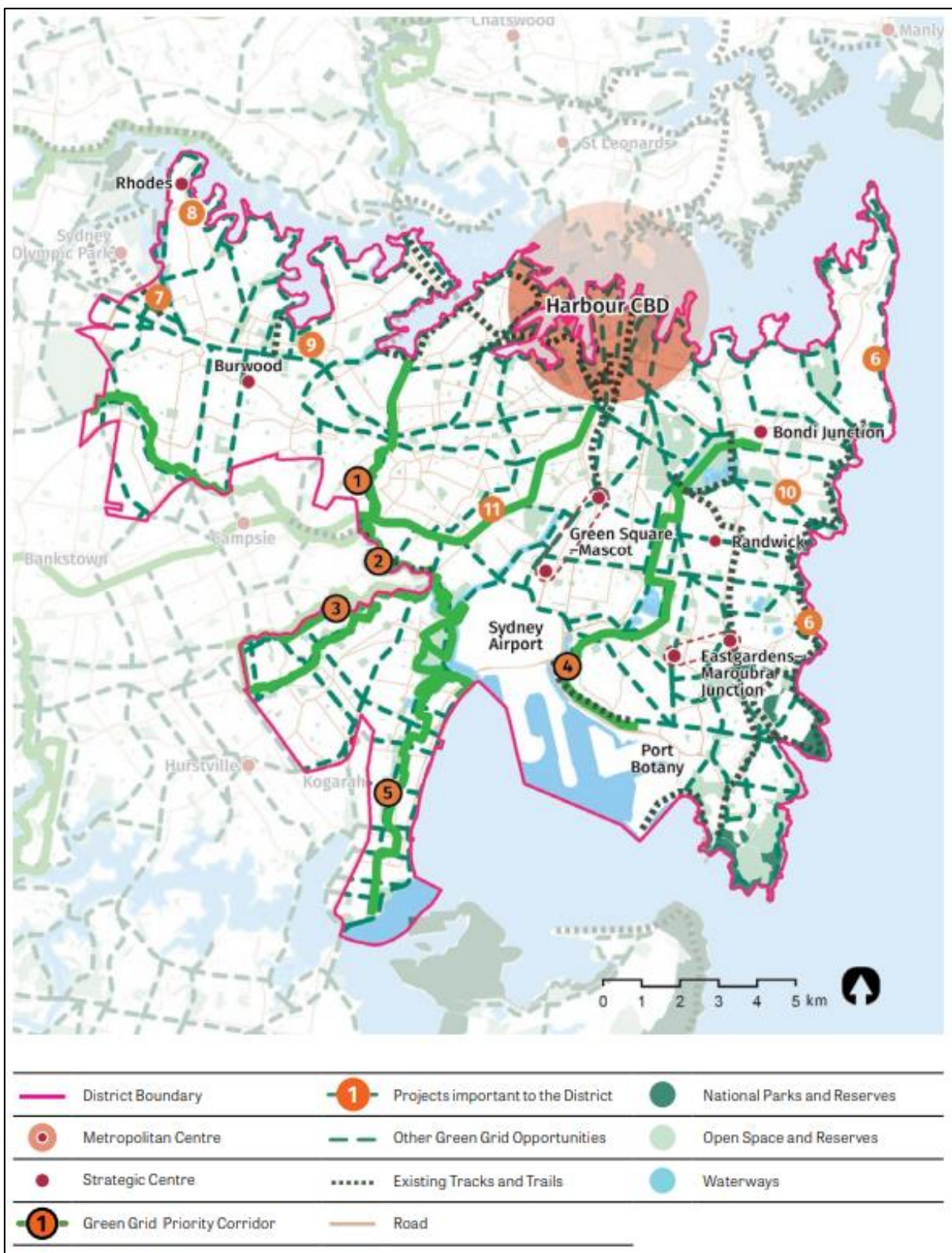


Figure 3: Eastern City Green Grid opportunities

3 Site Audit & Data Collection

3.1 Approved Development & Site Facilities

The approved development relates to alterations and additions across the three school campuses. Each of the School campuses are shown in **Figure 4**, while reduced copies of the SSDA Site Plans prepared by Allen Jack + Cottier Architects are provided for context in **Figure 5**, **Figure 6** and **Figure 7**.



Figure 4: Precinct Diagram

Source: AJ&C Architects

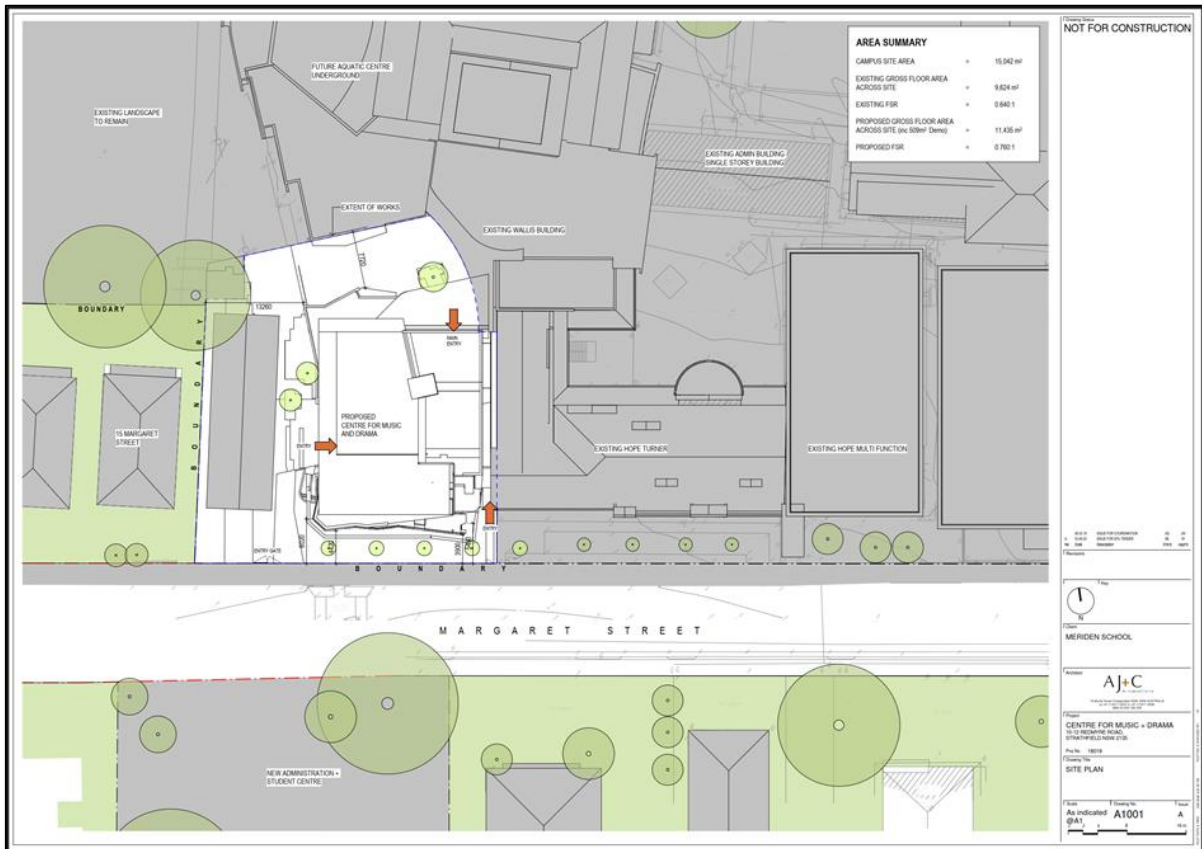


Figure 5: Senior Campus Centre for Music and Drama Layout (Site Plan)



Figure 6: Junior Campus Playground

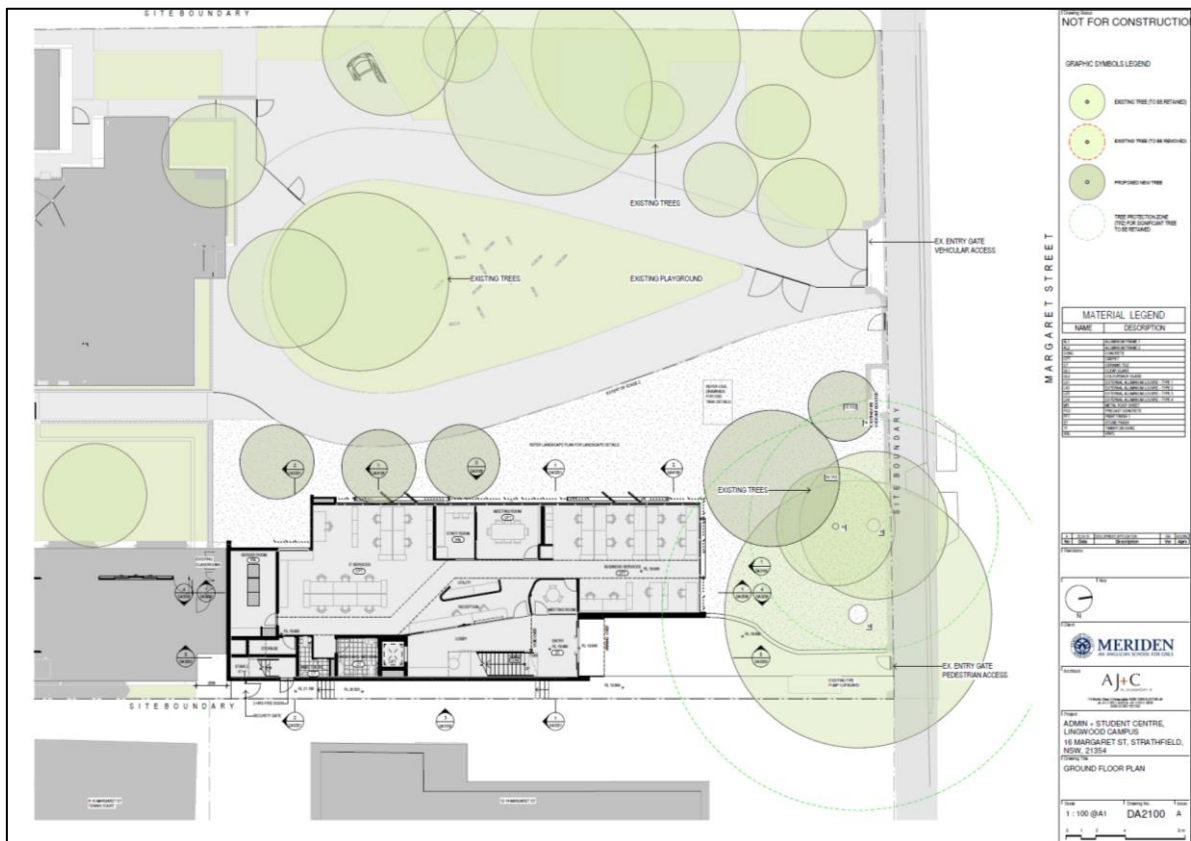


Figure 7: Admin & Student Centre Lingwood Campus Stage 2 Works

Key details for each building area are summarised below:

- **At the Senior Campus:** Demolition of the existing music building located towards the south-western corner of the Senior Campus, and construction of a new 3-storey building (above ground) incorporating a new music academy, drama facilities, music teaching rooms, and staff facilities alongside on-site landscaping.
- **At the Junior Campus:** Demolition of the existing residential dwelling at 4 Vernon Street to make way for a new landscaped playground area; the existing access and parking arrangements at the Junior Campus will be retained.
- **At the Lingwood Campus:** Demolition of the existing single storey Business Office building and construction of a new 2-storey A & S Building, to be designed with maximum flexibility to accommodate a wide range of uses, and to adapt with the demands of the school.

3.2 Proposed Mod

In Summary, the proposed Mod includes the following:

Retention of the existing Senior School staff common room building located along Margret Street and subsequent landscape design changes within the Senior Campus.

- Increase of additional 130 senior students.
- Up to 7 additional teachers and administration staff positions.
- Alternative pathway for 4 start green star rating for the Senior School Music and Drama Centre and Prep School Student Centre
- Minor housekeeping amendment to Condition C10.

3.3 School Population

3.3.1 Existing Population

At the time the surveys were undertaken, the School had a total student population of 1,254 students, with 424 students in the Junior School (Pre K – Year 6) and 830 students in the Senior School (Year 7 to Year 12).

The School however has capacity to accommodate up to a total of 1,550 students, including the approved 50 senior students. The approved additional 50 students have been considered in the baseline traffic generation assessment.

At the time the surveys were undertaken, the School employed a total of 242 staff, including 156 full-time staff and 86 part-time staff. This equates to a Full-Time Equivalent of 176 staff members.

3.3.2 Proposed Population

The proposed Mod will result in the increase of 130 students within the Senior School only.

Up 7 additional teachers and administration staff positions will also be created as a result of the proposed development. This is an increase of the school's current total capacity from approximately 1,550 students to approximately 1,680 students and a total of 251 staff across all three campuses.

3.4 Travel Mode Survey

Ason Group in consultation with the School prepared a short Travel Survey which was made available to all students and staff via the Survey Monkey application. The purpose of the Travel Survey was to determine key traffic and parking characteristics of existing students and staff, including:

- Travel mode for both the arrival and departure trip;

- For those students and staff driving or being driven, car occupancy;
- Arrival and departures peak periods;
- On and off-site parking demand.

As the School has both Senior and Junior students, separate surveys were undertaken to reflect the different travel characteristics for each, noting that younger students have a greater reliance on pick-up / drop-off trips.

Approximately 55% of the existing students responded to the Travel Survey; the results are discussed in sections below.

It is noted that the results of the staff survey are provided within the WTP provided as Appendix A.

3.5 Junior School Students

3.5.1 Junior Student Travel Mode

Figure 8 provides a summary of the surveyed travel modes for Junior students, noting that mode choice for Junior students was generally the same for the arrival and departure trips.

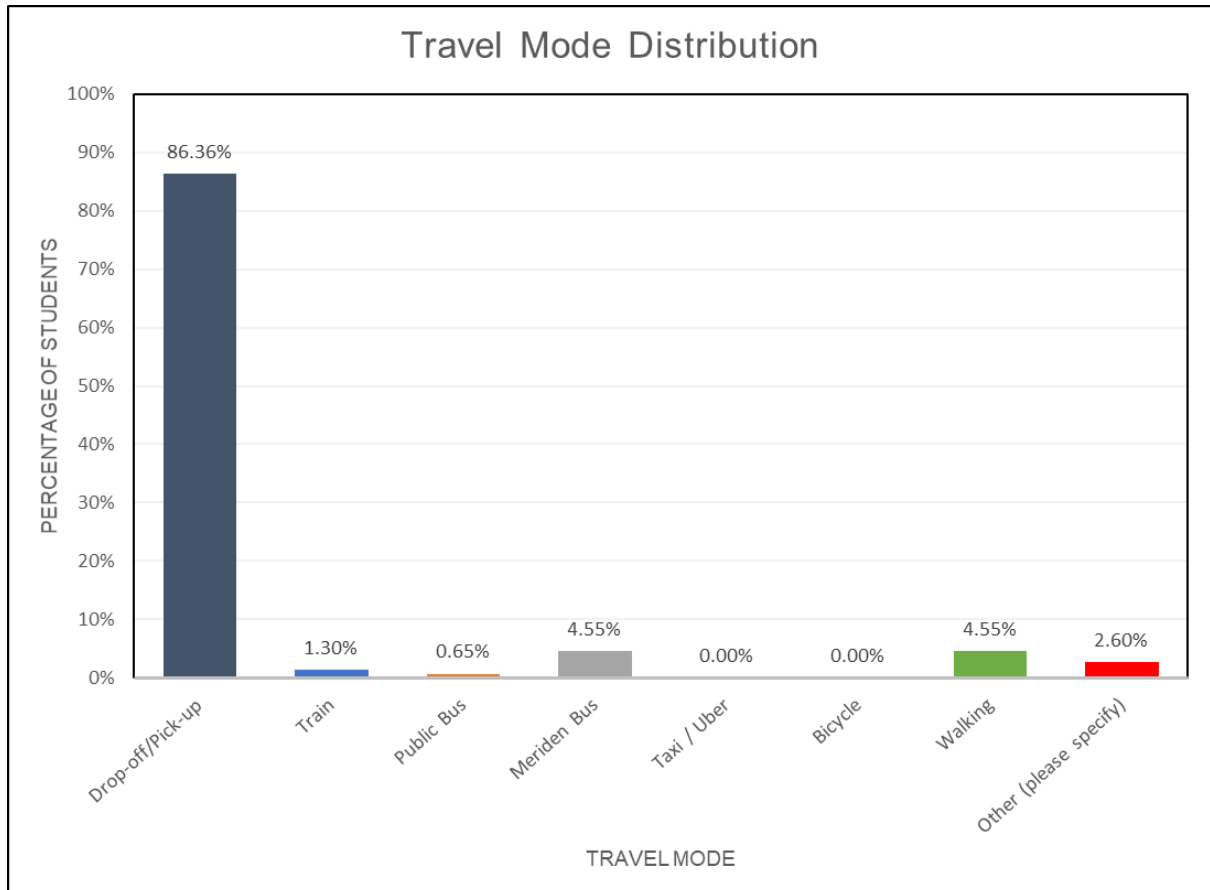


Figure 8: Junior Student Travel Mode

The Travel Survey reports 2.6% of Junior students with a travel mode as 'other'; based on a review of the survey information, it is apparent that this response was generally provided by those undertaking multi-modal trips, namely a car to a bus stop, then a Meriden School bus to finish the trip. Importantly, such trips would not generally include a private vehicle trip to/from the School itself.

In summary, the Junior student Travel Survey indicates that:

- Almost all Junior students are driven to / from School (approximately 86% of Junior students); and
- The next most popular forms of transport are the Meriden (private) Bus and walking, with approximately 4.6% of students using these modes to travel to/from the School.

3.6 Senior School Students

3.6.1 Senior Student Travel Mode

Figure 9 provides details of the surveyed Senior student travel modes, noting again that mode choice for Senior students was generally the same for the arrival and departure trips.

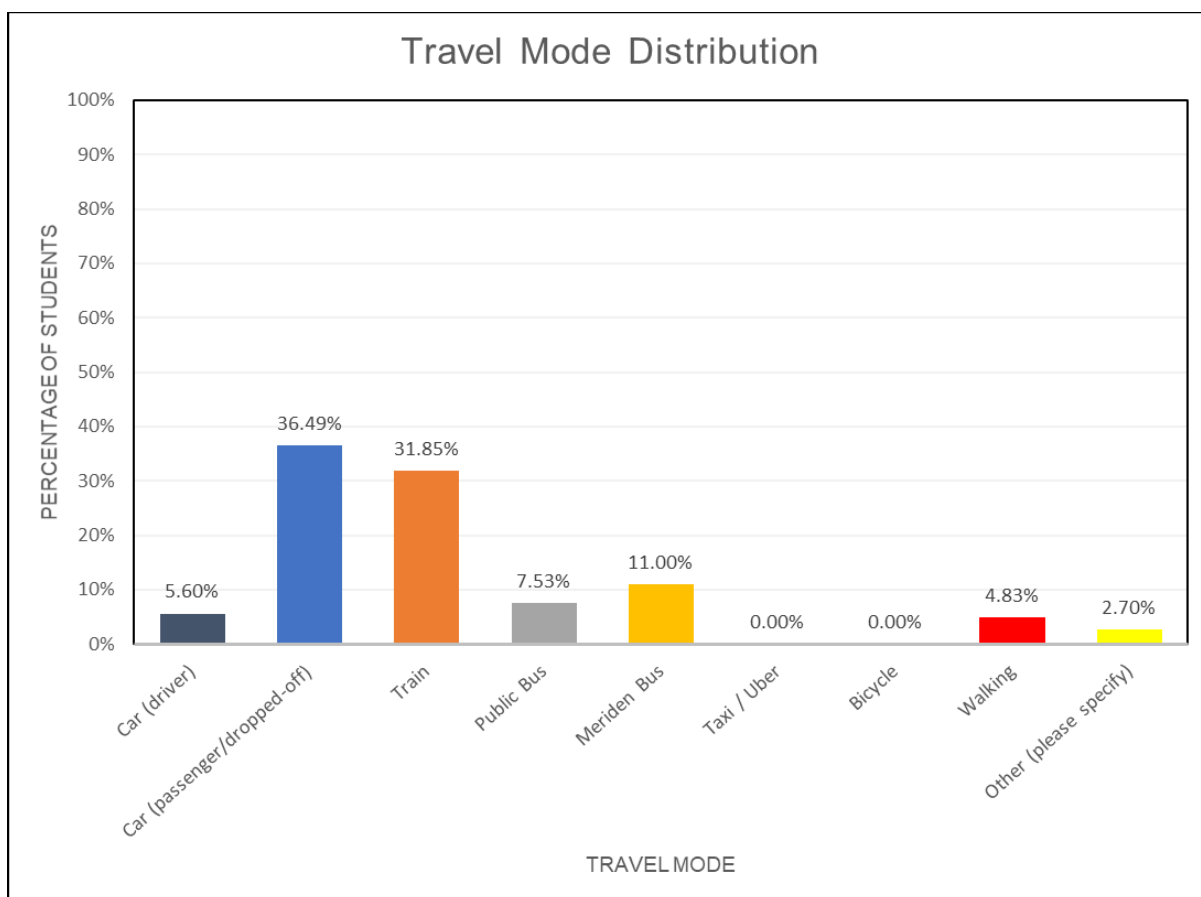


Figure 9: Student Travel Mode

As shown in **Figure 9**, there is a significantly broader distribution of travel modes amongst the Senior Students when compared to the Junior Students.

While the surveys recorded a small proportion of student drivers (6%), it is noted that students are not allowed to drive to the School unless in exceptional circumstances where special permission is required, as stated in the School's Statement of Privileges and Responsibility, signed by students and parents.

In summary, the Senior Student Travel Survey indicates that:

- Approximately 36% of Senior students are driven to / from School;
- Approximately 32% Senior students use the train (with a walk trip) for the trip to / from School; and
- A total of 58% of Senior students travel by modes other than private vehicle.

3.7 Travel Mode Summary

With reference to the results of the Travel Survey, **Table 1** provides a summary of existing travel modes for all students and staff at the School.

Table 1: Existing Mode Share Summary

Travel Mode	Existing Mode Share of Junior Students	Existing Mode Share of Senior Students	Existing Mode Share of Staff
Vehicle driver	N/A	6%	69%
Dropped Off	86%	36%	0%
Taxi / Uber	0%	0%	0%
Train	1%	32%	24%
STA Bus	1%	7%	2%
Meriden School Bus	5%	11%	N/A
Bicycle	0%	0%	0%
Walk	5%	5%	2%
Other mode	2%	3%	3%

Application of the Travel Survey results to the school's existing population results in the following **Table 2**, which provides a breakdown of existing travel modes for all students and staff.

Table 2: Existing Population Mode Share Summary

Travel Mode	Existing Mode Share of Junior School Students		Existing Mode Share of Senior School Students		Existing Mode Share of Staff	
	%	Number	%	Number	%	Number
Vehicle driver	N/A	N/A	6%	50	69%	167
Dropped Off	86%	365	36%	299	0%	0
Taxi / Uber	0%	0	0%	0	0%	0
Train	1%	4	32%	266	24%	58
STA Bus	1%	4	7%	58	2%	5
Meriden School Bus	5%	21	11%	91	N/A	0
Bicycle	0%	2	0%	0	0%	0
Walk	5%	21	5%	42	2%	5
Other mode	2%	8	3%	25	3%	7
Total	100%	424	100%	830	100%	242

3.8 Car Occupancy

With reference to the Travel Survey information outlined in sections above, this GTP specifically references the following detail:

- **Car Occupancy:** For students travelling to the School by car, how many students per vehicle.

This is because reducing journeys by car is difficult to influence for students. The School actively discourages students from driving to School themselves, hence the number that drive is already low. And for Junior School students being dropped-off by a parent is a necessity in most circumstances. Thus, not only is it necessary for a target to aim to increase journeys by non-car modes, but also a key objective of this specific GTP is to increase the amount of shared car trips.

In this regard, the Travel Surveys found that the average car occupancy for students was approximately 1.5 students per vehicle, with Senior students having a slightly higher car occupancy (1.6 students per vehicle) than the Junior students (1.4 per vehicle).

3.9 Traffic Generation

Taking the above into consideration provides the vehicle movements (to and from) generated by the number of staff and students at the School:

- Junior School Students: 521 vehicles per day
- Senior School Students: 436 vehicle movements per day
- Staff: 334 vehicle movements per day
- Total: 1,291 vehicle movements per day.

Table 3 summarises the daily 2-way flow in terms of vehicle trips per head of staff and students (FTE).

Table 3: Vehicle Trips per Head

Year	Combined FTE Total	Total Trips	Trips per Head
2019	1,406	1,291	0.918

3.10 Car Parking

The School currently provides 105 car parking spaces across the Senior and Junior campuses.

3.11 Surrounding Public Transport Services

3.11.1 Rail Services

The *Integrated Public Transport Service Planning Guidelines*, Sydney Metropolitan Area (TfNSW, December 2013), states that train services influence the travel mode choices of areas within 800 metres walking distance (approximately 10 minutes) of a train station. In this regard, Strathfield Station is located approximately 200m – 400m to the north of the School (based on the different campuses). Strathfield Station is a major rail hub that provides the following frequent services:

Table 4: Train Frequencies

Line – Station ¹	Eastbound	Westbound	Total
<i>T1 Line: Strathfield Station</i>			
Morning Peak Hour (6AM-9AM)	33	21	54
Evening Peak Hour (3PM-6PM)	35	29	64
<i>T2 Line: Strathfield Station</i>			
Morning Peak Hour (6AM-9AM)	30	25	55
Evening Peak Hour (3PM-6PM)	25	29	54
<i>T9 Line: Strathfield Station</i>			
Morning Peak Hour (6AM-9AM)	20	19	39
Evening Peak Hour (3PM-6PM)	20	19	39

In addition to the regular suburban trains, the station is also frequented by express trains that arrive approximately every 15 minutes. There are two express services that stop at Strathfield station, the BMT and the CCN. Therefore, the two-way frequencies of this express service are approximately 16 express services an hour.

The above table demonstrates that Strathfield railway station is well serviced in peak periods with trains arriving approximately every 2-3 minutes per direction.



Figure 10: Suburban Rail Network

3.11.2 Public Bus

The Public Transport Guidelines state that bus services influence the travel mode choices of areas within 400 metres walk (approximately 5 minutes) of a bus stop. In this regard, bus stops are located within 400 metres walking distance from the School in Redmyre Road, The Boulevarde, Albert Road and near Strathfield Station, as shown in **Figure 11**. A major bus interchange is also located at Strathfield Station providing an accessible location to transfer to different buses services (and between rail and bus).

There are twelve bus routes within walking distance of the School, which are listed in **Table 5** below.

Table 5: Public Bus Services

Bus Number	Route	Average Weekday Service Frequency
407	Burwood to Strathfield	AM peak - 30 min PM peak - 30 min
408	Burwood to Rookwood Cemetery	AM peak – 1 hour PM peak – 1 hour
415	Campsie to Chiswick	AM peak – 20-30 min PM peak – 20-30 min
480	Strathfield to Domain via Homebush Road	AM peak – 20-30 min PM peak – 20-30 min
483	Strathfield to Domain via South Strathfield	AM peak – 20-30 min PM peak – 20-30 min
M90	Metrobus Burwood to Liverpool	AM peak – 10-15 min PM peak – 10-15 min
913	Strathfield to Bankstown via Greenacre	AM peak – 1 hour PM peak – 1 hour
914	Strathfield to Bankstown via Chullora	AM peak - 30 min PM peak - 30 min
450	Strathfield to Hurstville	AM peak - 15 min PM peak - 15 min
458	Burwood to Ryde	AM peak - 30 min PM peak - 30 min
525	Parramatta to Burwood via Olympic Park	AM peak – 20-30 min PM peak – 20-30 min
526	Burwood to Rhodes Shopping Centre	AM peak – 15-30 min PM peak – 15-30 min

With reference to Table 5, it is clear that the School has excellent access to bus services, noting that Routes 480, 415, 913, 914 and 450 operate via the Redmyre Road and The Boulevarde bus stops in in close proximity to the School.

It can be seen that the bus stops within the vicinity of the Site have numerous connections throughout Sydney. An overview of the bus routes in close proximity to the Site is detailed in **Figure 11**.

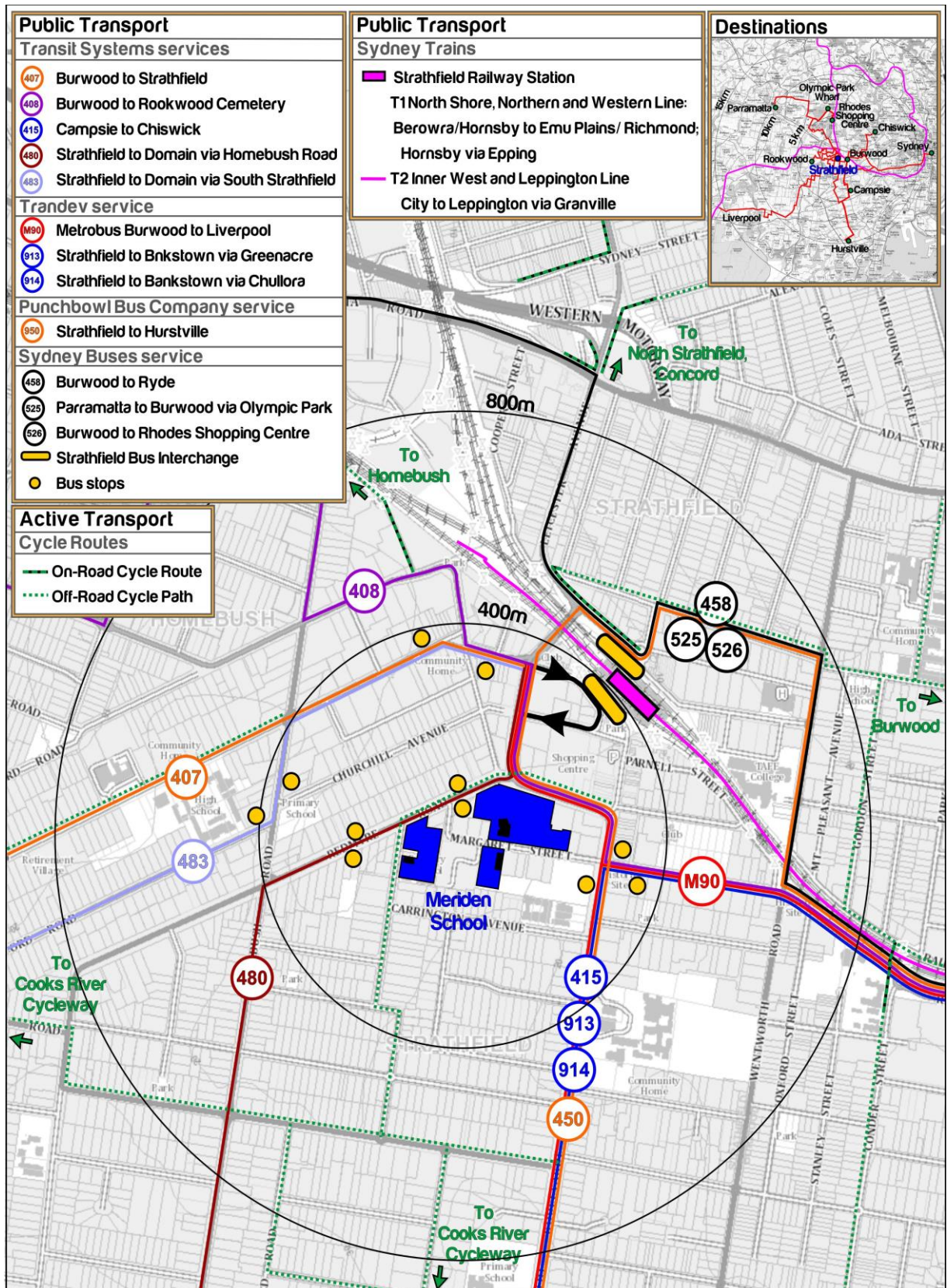


Figure 11: Public Transport Network

3.11.3 School Bus Services

The School currently provides private school bus services for its students which operate along the following routes:

- Drummoyne – Russell Lea - Five Dock – Canada Bay - Concord
- Concord – Breakfast Point - Cabarita
- Balmain – Rozelle – Leichhardt – Dulwich Hill
- Summer Hill – (Trinity Grammar)
- Woolwich – Hunters Hill – Gladesville – Putney - Rhodes
- Illawong – Padstow Heights – Beverly Hills
- Taren Point – Miranda – Sylvania – Blakehurst
- Hurstville – Beverly Hills

These bus services typically arrive at the School at around 8.00am and depart the School between 3:20pm and 3:30pm every weekday. School bus pick-up and set-down zones are located along the northern side of Margaret Street, with Junior escorted across the pedestrian crossing to the bus marshalling area north of the bus zone within the Senior Campus.

3.12 Pedestrian and Cycling Network

The areas surrounding the School are well serviced in terms of pedestrian infrastructure with footpaths available on both sides of roads near the School. **Figure 12** details the key pedestrian crossings and **Figure 13** details the pedestrian desired routes to transport options.

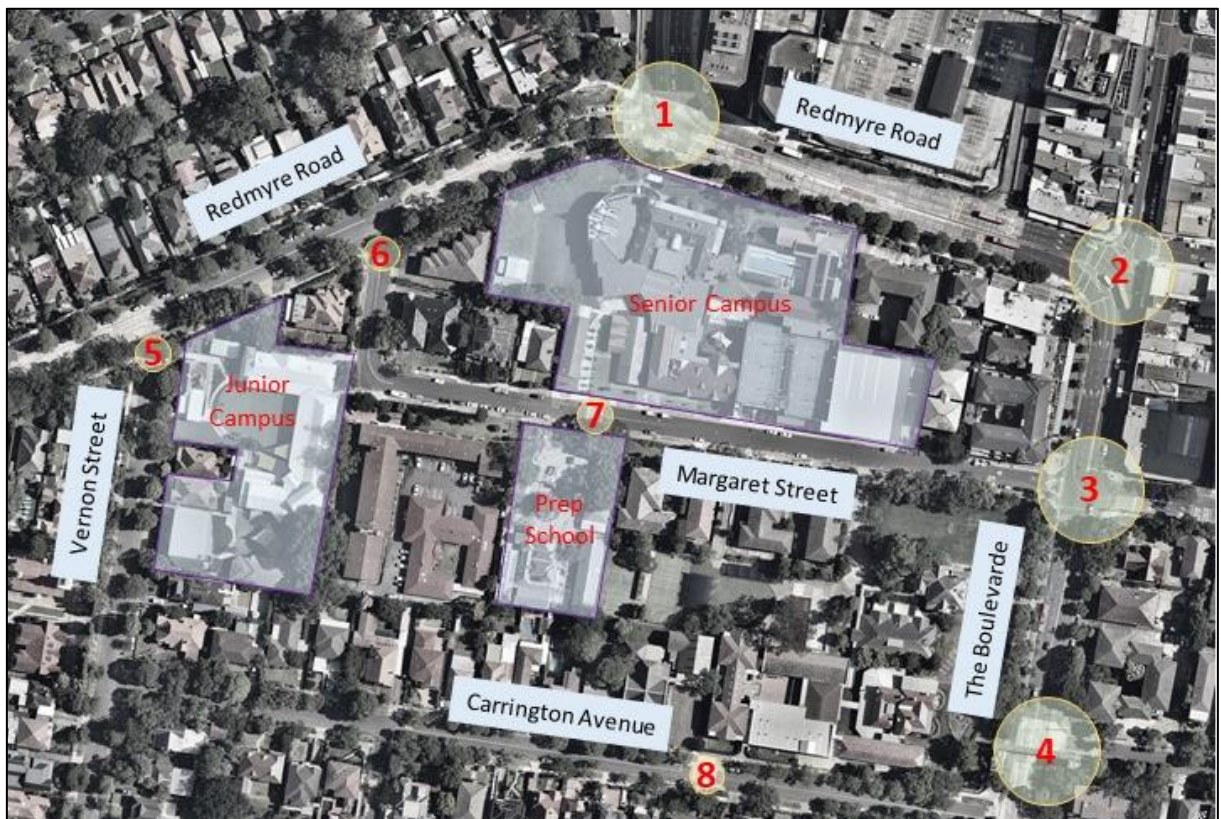


Figure 12: Key Pedestrian Road Crossings

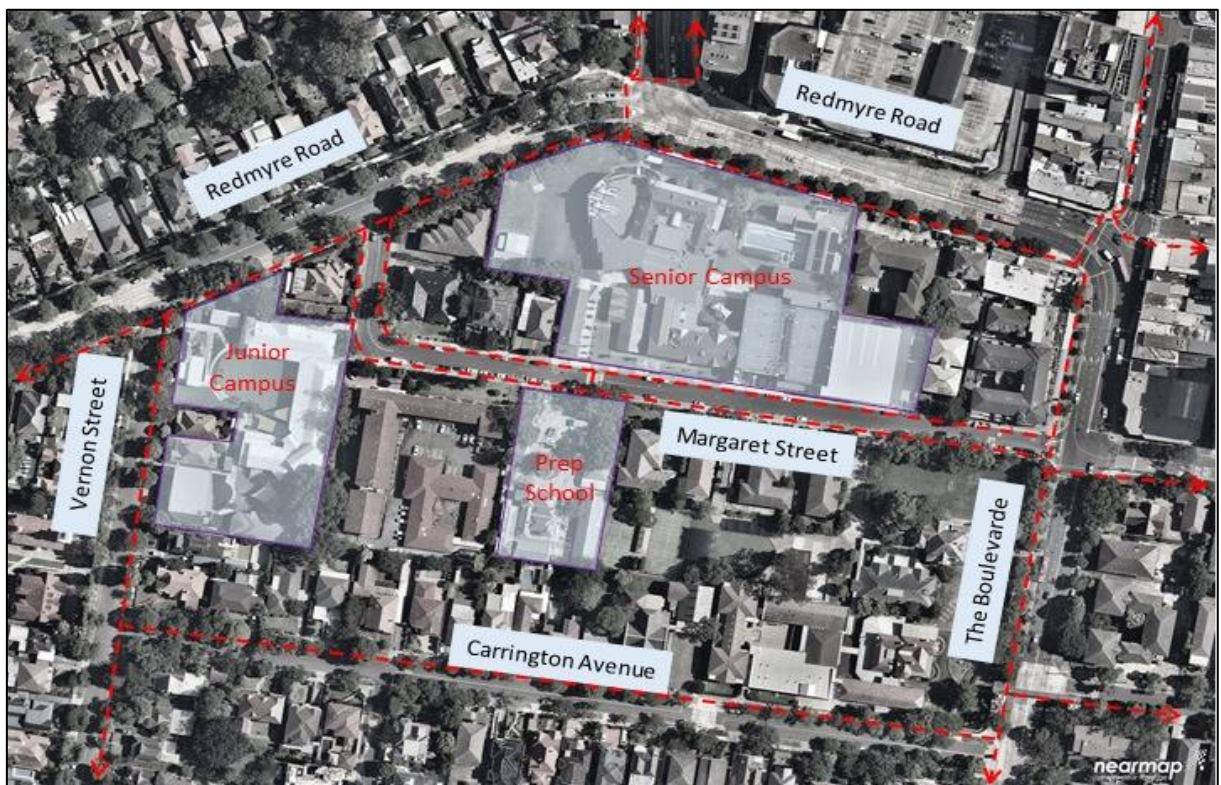


Figure 13: Desired Pedestrian Routes

An existing Cycle Path Map for Strathfield Council Area is included in **Figure 14**. Even though currently there are no direct connections from the Site to existing cycling system in Strathfield, the Active Travel Plan for Strathfield (2016) has proposed an on-road bicycle route (L4) along Redmyre Road and a shared path route (L6) along The Boulevarde. These proposed bicycle routes will connect the Site to the Strathfield Town Centre, Homebush and Flemington train stations, which are serviced by T1, T2 T3 and T7 train lines. A map of proposed bicycle network in Strathfield is included in **Figure 15**.

As presented in the existing Cycle Path Map for Strathfield Council Area, there are no existing public bicycle racks provided in close proximity to the Site.

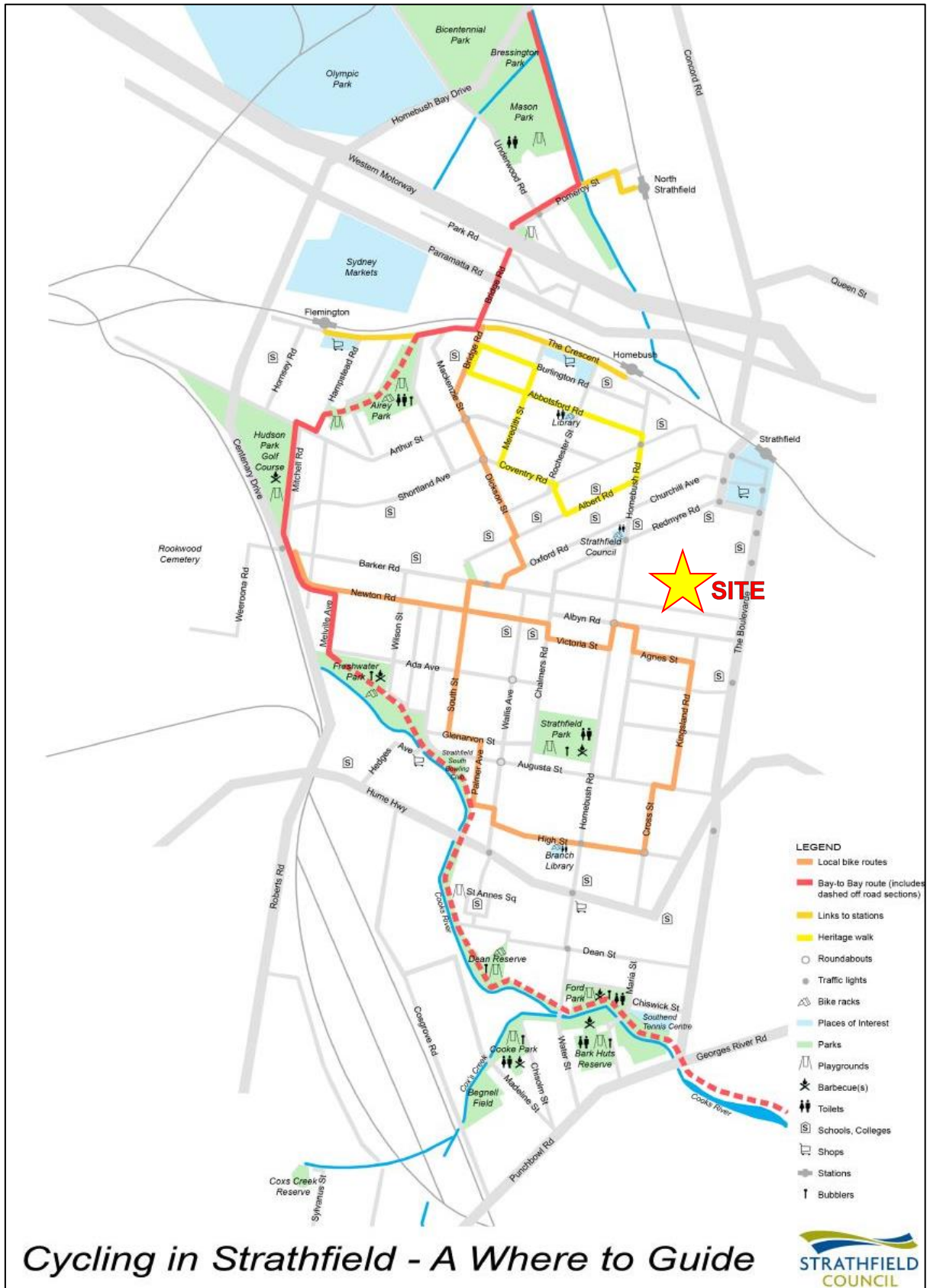


Figure 14: Existing Strathfield Cycling Routes

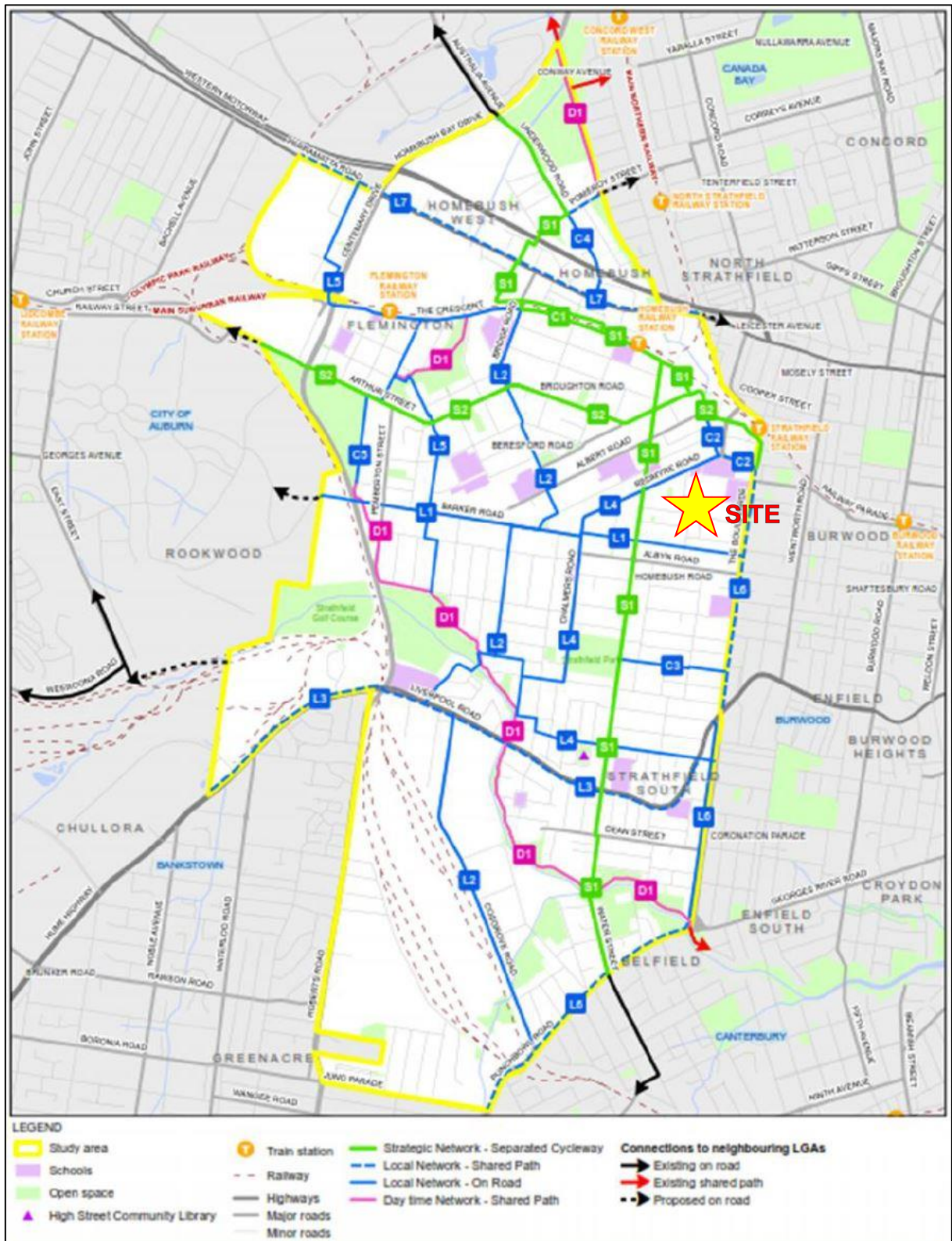


Figure 15: Proposed Strathfield Cycling Routes

4 Objectives & Targets

4.1 Objectives

The primary objectives of this GTP are to:

- Reduce the environmental footprint of the development
- Promote the use of 'sustainable transport' modes such walking and cycling, particularly for short-medium distance journeys and public transport
- Reduce reliance on the use of private vehicles for all journeys
- Encourage higher vehicle occupancy rates
- Create a safe and healthy environment during pick up and drop off times
- Encourage a healthier, happier and more active social culture

Having regard for the above, this Plan adopts the following movement hierarchy with priority given to 'active transport' followed by mass public transport and lastly the use of cars and other private vehicles.

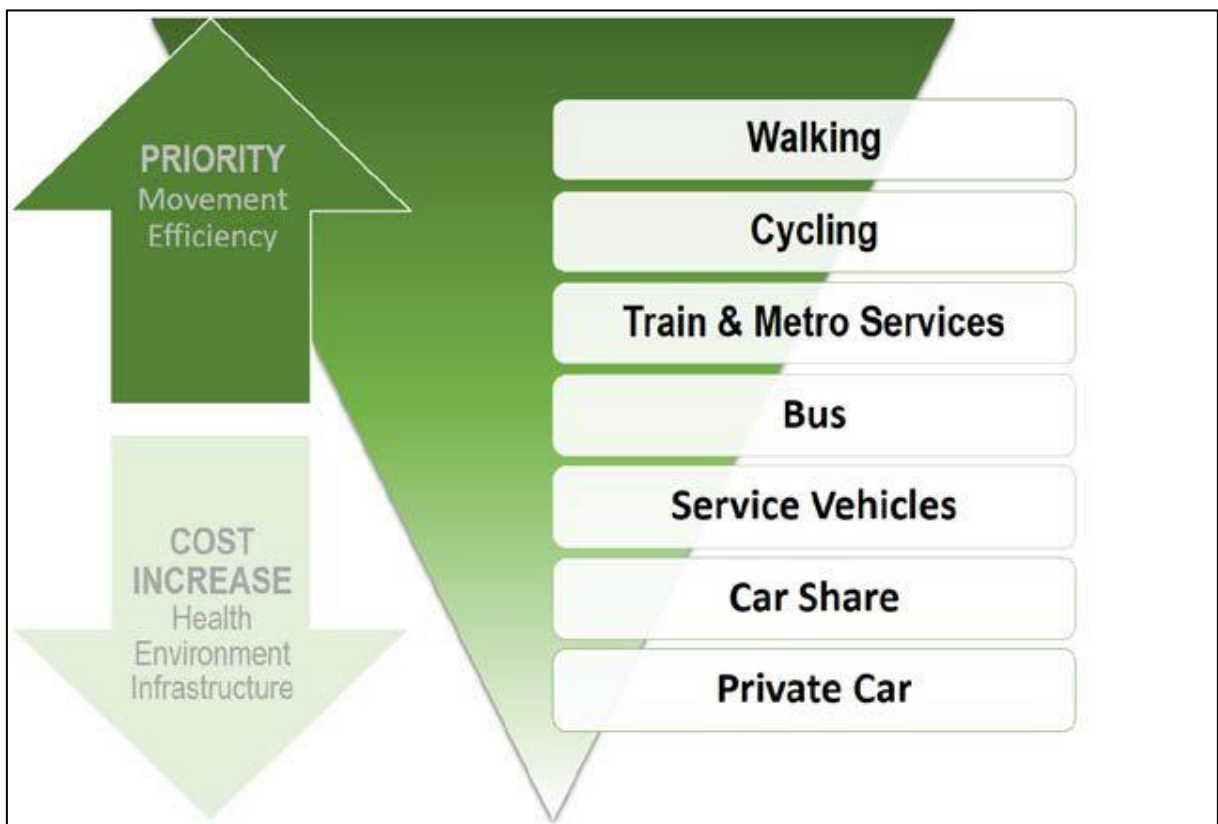


Figure 16: Movement Hierarchy

4.2 Travel Plan Targets

The overall target of the STP package is to decrease car trips per head associated with the School. The below travel mode share targets are a way of achieving this overall target.

It is important to note that students exhibit different travel behaviours based on their age group. As such, for younger Junior School Students, a higher priority is to focus on boosting higher vehicle occupancy per student while for older Senior School Students will be to encourage travel by non-car modes to and from school.

The Proposed mode share targets for the Junior School are provided as **Table 6**.

Table 6: Junior School Mode Share Targets

Travel Mode	Existing Mode Share of Junior Students	Proposed Mode Share	Relative Change
Vehicle driver	N/A	N/A	N/A
Dropped Off	86%	80%	-6%
Taxi / Uber	0%	0%	-
Train	1%	3%	+2%
STA Bus	1%	1%	-
Meriden School Bus	5%	9%	+4%
Bicycle	0%	0%	-
Walk	5%	5%	-
Other mode	2%	2%	-

The Proposed mode share targets for the Senior School are provided as **Table 7**.

Table 7: Senior School Mode Share Targets

Travel Mode	Existing Mode Share of Senior Students	Proposed Mode Share	Relative Change
Vehicle driver	6%	0%	-6%
Dropped Off	36%	30%	-6%
Taxi / Uber	0%	0%	-
Train	32%	35%	+3%
STA Bus	7%	11%	+4%
Meriden School Bus	11%	14%	+3%
Bicycle	0%	1%	+1%
Walk	5%	6%	+1%
Other mode	3%	3%	-

Senior School Students should continue to develop their independence to travel to and from the School campuses without parental assistance. These mode share targets are realistic, yet ambitious to allow Senior Students to understand sustainable travel and play an active role in reducing congestion and CO2 emissions. With the close proximity of train and bus networks, it is considered feasible to encourage students to shift to these alternative modes and reduce reliance on private vehicles.

Measures and strategies to achieve these targets are discussed in **Section 5**.

5 Action Plan

5.1 Student Green Travel Action Plan Measures

A separate set of specific actions has been developed in response to the different needs required by students. The School will undertake a review of the Action Plan and implement as best they can to achieve each action item. **Table 8** also identifies the body responsible for each action.

Table 8: Green Travel Action Plan Measures

Item No.	Action / Description	Responsibility
1. General		
1.1	Establish a campus transport coordinator which is to manage student transport demands for their respective campuses	School
1.2	Preparation and maintenance of a Green Travel Plan	School
1.3	Provide 'Travel Welcome Pack' for new students and their parents via emails and newsletter, highlighting alternate modes of transport other than use of a private vehicle.	School
1.4	Review of GTP as a regular item on the agenda for the School.	School
2. Walking and Cycling		
2.1	Improve cycle connectivity on surrounding roads	Council
2.2	Promote participation in the Ride to School Day activity	School
2.3	Provide clearly signposted cycle parking within the Site	School
2.4	Provision of footpaths on local roads in accordance with Strathfield Council DCP	Council
2.5	In accordance with the 1% cycling mode share target, appropriate cycle parking shall be provided within the Site	School
2.6	Walking buses to provide drop-off in the immediate vicinity of the school in safe locations.	School
2.7	School challenges that reward students for taking active transport to and from school.	School
2.8	Free active travel breakfast for students who choose to cycle or walk to school as part of an event or club.	School
2.9	Running a cycling training course to promote and teach cycling skills.	School
3. Public Transport		
3.1	Provide increased public transport services in response to increased development within the surrounding area	TfNSW / Council
3.2	Update the GTP to reflect changes to any train and bus routes and service times	School
3.3	Travel information and maps on notice boards	School
3.4	Promote responsible behavior and anti-bullying policies for public transport	School
3.3	Undertake a review to promote initiatives for students using public transport.	School

4. Car Share

4.1	Establish a car-pooling program to help parents and students find someone to share in their daily drive to School	School
4.2	Students encouraged to use a shared car (e.g. GoGet) to reduce the need for individuals to drive to School.	School

5.2 Communications Strategy

5.2.1 Welcome Packs

New parents and students shall be provided with a 'welcome pack' as part of the School induction process which includes the GTP and other information in relation to sustainable transport choices. This pack shall include a copy of the GTP as well as general information regarding the health and social benefits of active transport. Advice on where to find further information should also be included such as links to Sydney Cycleways website (<http://www.sydneycycleways.net>).

5.2.2 Accurate Transport Information

In addition to these 'welcome packs', a copy of the Travel Access Guide (TAG) shall be emailed to all staff, parents and students. This TAG can be found in **Appendix B**. The TAG shall be presented in a form that is reflective of the commitment to achieving positive transport objectives. The TAG is not to be presented on loose paper.

5.2.3 Newsletters

School newsletters will be emailed to every student, staff and parents every fortnight. Any new travel arrangements or green travel promotions can be broadcasted on this medium for up-to-date information.

6 Governance & Support

6.1 Travel Plan Coordinator

A representative from the School shall be responsible for:

- Implementation and promotion of the GTP actions
- Monitoring the effectiveness of the GTP (refer to monitoring requirements outlined in Section 7) and ongoing maintenance of the Plan
- Provide advice in relation to transport-related subjects to staff, parents, students and visitors, as required.
- Liaise with external parties (i.e. Council, public transport and car share operators) in relation to Travel Plan matters.

This role does not necessarily require full-time position; however, it shall be clearly designated among the key responsibilities of the estate management.

6.2 Resourcing

It is not anticipated that the maintenance of this GTP will have significant ongoing cost implications and shall be reviewed every 12 months by the School.

7 Monitoring & Review Process

7.1 Plan Maintenance

This Plan shall be subject to ongoing review and will be updated accordingly. Regular reviews will be undertaken by the on-site coordinator, as required. As a minimum, review of the GTP shall occur at a 2-year frequency, however an annual review would be preferred.

Key considerations regarding the review of the GTP shall be:

- Updating baseline conditions to reflect any changes to the transport environment in the vicinity of the site such as changes to bus services, new cycle routes etc. In this regard, review of the GTP may be undertaken on a more frequent basis.
- Tracking progress against proposed travel mode targets
- To identify any shortfalls and develop an updated action plan to address issues
- To ensure travel mode targets are updated (if necessary) to ensure they remain realistic but also ambitious.

7.2 Travel Mode Audit Requirements

Travel mode surveys will be undertaken to determine the proportion of persons travelling to/from the site by each transport mode. This will be in the form of annual travel mode questionnaire surveys to be completed by all persons attending the site, as far as practicable. A sample of a typical travel mode questionnaire form is included in **Appendix C**.

A physical survey recording the mode of travel for all employees entering and exiting the site shall be undertaken following a year of operation to establish a reliable baseline data set from which to base future iterations of this GTP. Subsequent surveys will primarily rely on the questionnaire survey methodology to reduce the costs associated with this data collection.

Appendix A

Workplace Travel Plan (WTP)

Workplace Travel Plan

Meriden School, SSD-9692 Modification Application
10-12 Redmyre Road, Strathfield

Ref: 0686r04v3
2 September 2020

Document Control

Project No: P0686

Project: Meriden School SSD Mod – GTP and WTP

Client: Meriden School

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Revision	Date	Details	Author	Approved by
-	204/08/2020	Issue	V. Cheng	R. Butler-Madden
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Appendix B: Transport Access Guide

Appendix C: Sample Travel Mode Questionnaire Form

1 Introduction

1.1 Purpose

Ason Group has been engaged by Meriden School to prepare a Sustainable Travel Plan (STP) package that includes a Green Travel Plan (GTP) and a Workplace Travel Plan (WTP) in relation to the development for Stage 1, Meriden School, Strathfield (the Site). This document relates to the specific the WTP which should be considered in conjunction with the GTP also provided as part of the wider STP package.

The STP package is provided in response to Key Issue 7 of the Secretary's Environmental Assessment Requirements (SEARs) of SSD 9692, dated 22 November 2018, which states:

“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.”

SSD-9692 has since been approved and a Modification (Mod) is now sought to increase the student cap at the Senior School by 130 students.

This WTP is intended to develop a package of site-specific measures to promote and maximise the use of sustainable travel modes, including walking, cycling, public transport and car sharing. In this regard, this plan sets out objectives and strategies to assist the Department of Planning and Environment (DPE) in achieving its goal to improve sustainability. It includes a review of existing transport choices and sets targets so that the effective implementation of the WTP can be assessed. These targets are to be realistic but ambitious enough to initiate substantive behavioural change to achieve the desired outcomes. The Plan shall be reviewed regularly as part of an ongoing review to ensure it remains relevant and reflective of current conditions.

In preparing this GTP, Ason Group has referenced the following key planning documents that are relevant to development at the Site:

- Future Transport Strategy 2056, TfNSW, March 2018.
- A Plan for Growing Sydney, Department of Planning & Environment, December 2014.
- NSW Long Term Transport Master Plan, TfNSW, December 2012
- Our Greater Sydney 2056: Eastern City District Plan, Greater Sydney Commission, March 2018
- Sydney's Walking Future, TfNSW, December 2013

- Sydney's Cycling Future, TfNSW, December 2013
- Sydney's Bus Future, TfNSW, December 2013
- Strathfield Consolidated Development Control Plan (SCDCP 2005)
- Strathfield Local Environmental Plan (2012)
- An Active Travel Plan for Strathfield (2016)

This WTP would ensure that the School achieves an overall reduction in travel by car. Further consultation with Council, TfNSW and D&PE will be required to refine this WTP which will be implemented in response to Condition of Consent E9, associated with the Development Consent.

1.2 Site Location

The Site is located at Meriden School, 10-12 Redmyre Road, Strathfield and lies approximately 10 kilometres south-east of Parramatta and 11 kilometres west of the Sydney CBD. The School has three campus sites in close proximity to each other. **Figure 1** shows the three campuses in its local context and **Figure 2** shows the key roads providing access to the School.

It is located within the Local Government Authority of Strathfield Council.



Figure 1: Local Site Context

Source: AJ&C Architects



Figure 2: Site and Road Hierarchy

2 Site Audit & Data Collection

2.1 Approved Development & Site Facilities

The approved development relates to alterations and additions across the three school campuses. Each of the School campuses are shown in **Figure 3**, while reduced copies of the SSDA Site Plans prepared by Allen Jack + Cottier Architects are provided for context in **Figure 4**, **Figure 5** and **Figure 6**.



Figure 3: Precinct Diagram

Source: AJ&C Architects

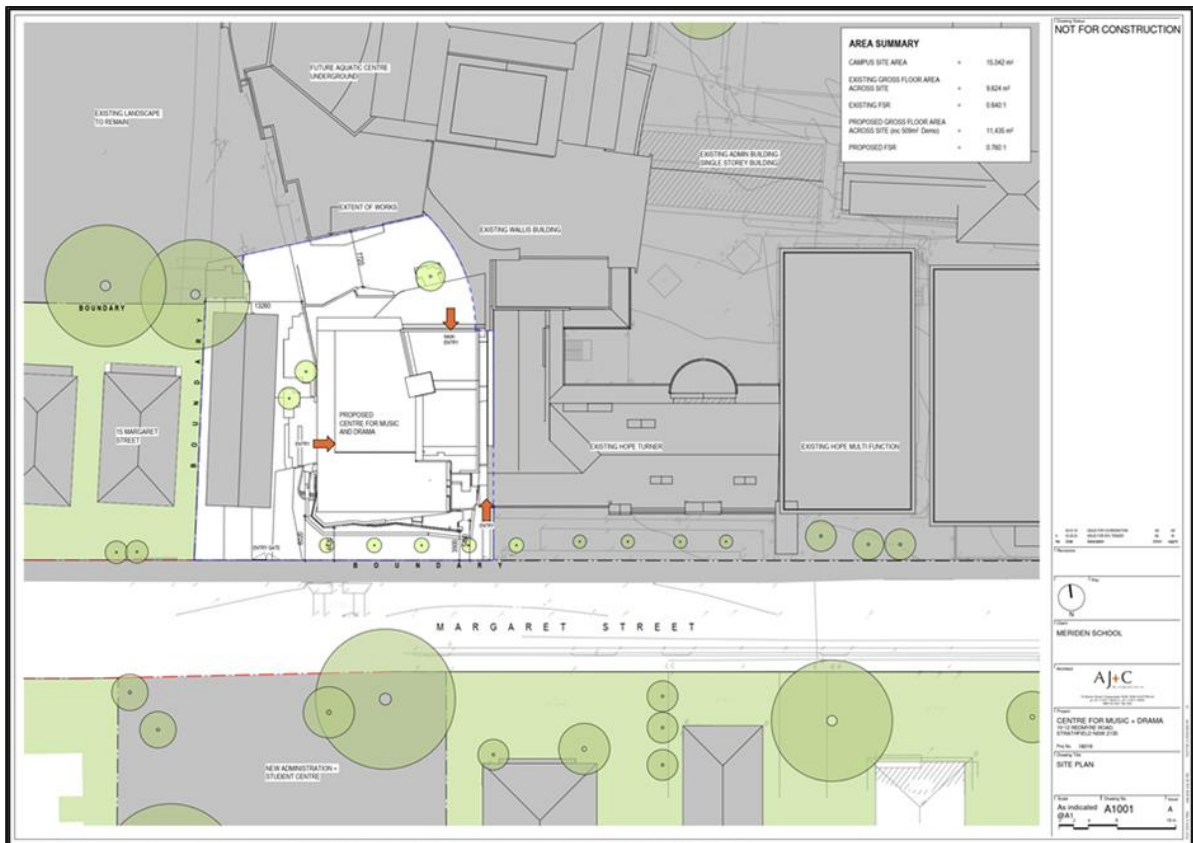


Figure 4: Senior Campus Centre for Music and Drama Layout (Site Plan)



Figure 5: Junior Campus Proposed Playground

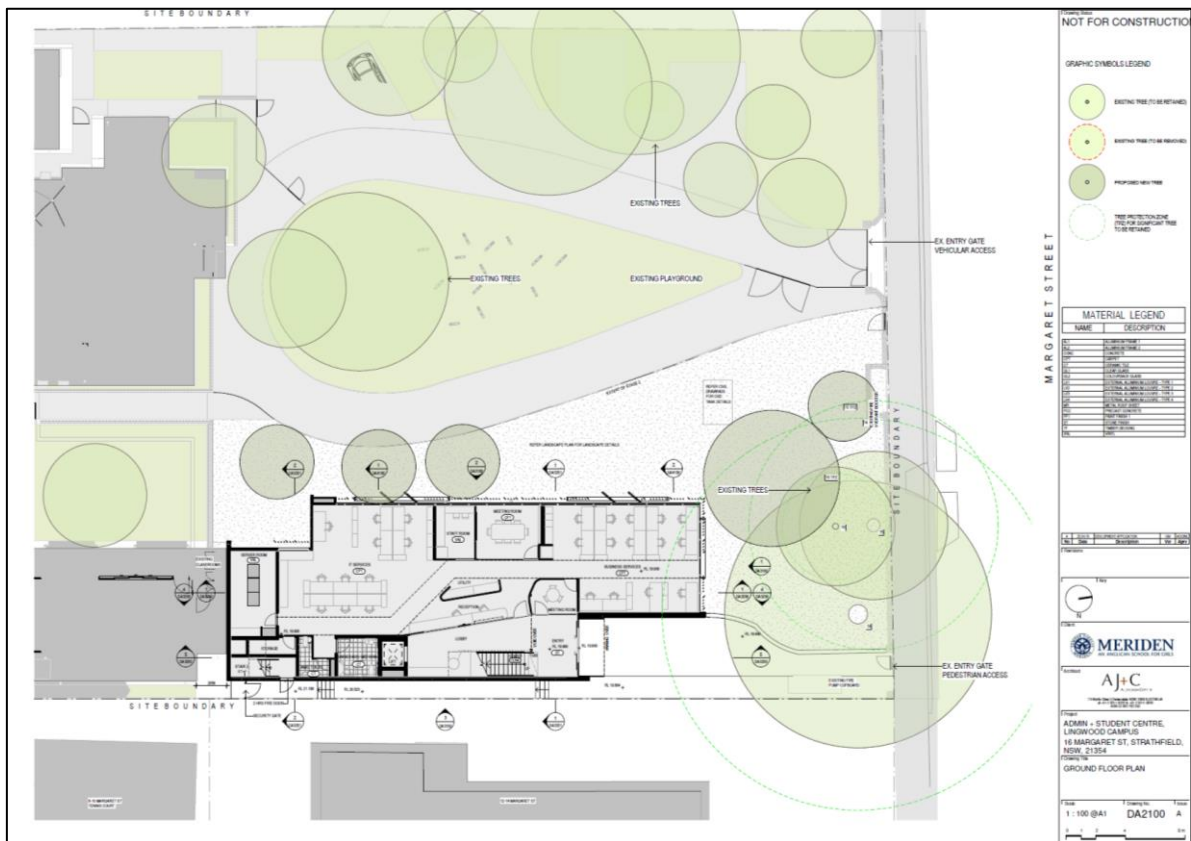


Figure 6: Admin & Student Centre Lingwood Campus Proposed Stage 2 Works

Key details for each building area are summarised below:

- **At the Senior Campus:** Demolition of the existing music building located towards the south-western corner of the Senior Campus, and construction of a new 3-storey building (above ground) incorporating a new music academy, drama facilities, music teaching rooms, and staff facilities alongside on-site landscaping.
- **At the Junior Campus:** Demolition of the existing residential dwelling at 4 Vernon Street to make way for a new landscaped playground area; the existing access and parking arrangements at the Junior Campus will be retained.
- **At the Lingwood Campus:** Demolition of the existing single storey Business Office building and construction of a new 2-storey A & S Building, to be designed with maximum flexibility to accommodate a wide range of uses, and to adapt with the demands of the school.

2.2 Proposed Mod

In Summary, the proposed Mod includes the following:

Retention of the existing Senior School staff common room building located along Margret Street and subsequent landscape design changes within the Senior Campus.

- Increase of additional 130 senior students.
- Up to 7 additional teachers and administration staff positions.
- Alternative pathway for 4 start green star rating for the Senior School Music and Drama Centre and Prep School Student Centre
- Minor housekeeping amendment to Condition C10.

2.3 School Population

2.3.1 Existing Population

At the time the surveys were undertaken, the School had a total student population of 1,254 students, with 424 students in the Junior School (Pre K – Year 6) and 830 students in the Senior School (Year 7 to Year 12).

The School however has capacity to accommodate up to a total of 1,550 students, including the approved 50 senior students. The approved additional 50 students have been considered in the baseline traffic generation assessment.

At the time the surveys were undertaken, the School employed a total of 242 staff, including 156 full-time staff and 86 part-time staff. This equates to a Full-Time Equivalent of 176 staff members.

2.3.2 Proposed Population

The proposed development will result in the increase of 130 students within the Senior School only.

Up 7 additional teachers and administration staff positions will also be created as a result of the proposed development. This is an increase of the school's current total capacity from approximately 1,550 students to approximately 1,680 students and a total of 251 staff across all three campuses.

2.4 Travel Mode Survey

Ason Group in consultation with the School prepared a short Travel Survey which was made available to all students and staff via the Survey Monkey application. The purpose of the Travel Survey was to determine key traffic and parking characteristics of existing students and staff, including:

- Travel mode for both the arrival and departure trip;

- For those students and staff driving or being driven, car occupancy;
- Arrival and departures peak periods;
- On and off-site parking demand.

Noting that the specific focus of this WTP is staff travel, the results of the School Survey have been documented in the GTP. Approximately 54% of the existing 242 staff responded to the Travel Survey; the results are discussed below.

2.5 Staff Travel Survey Results

2.5.1 Staff Travel Mode

Figure 7 provides details of the surveyed Staff travel modes, noting again that mode choice for Staff was generally the same for the arrival and departure trips.

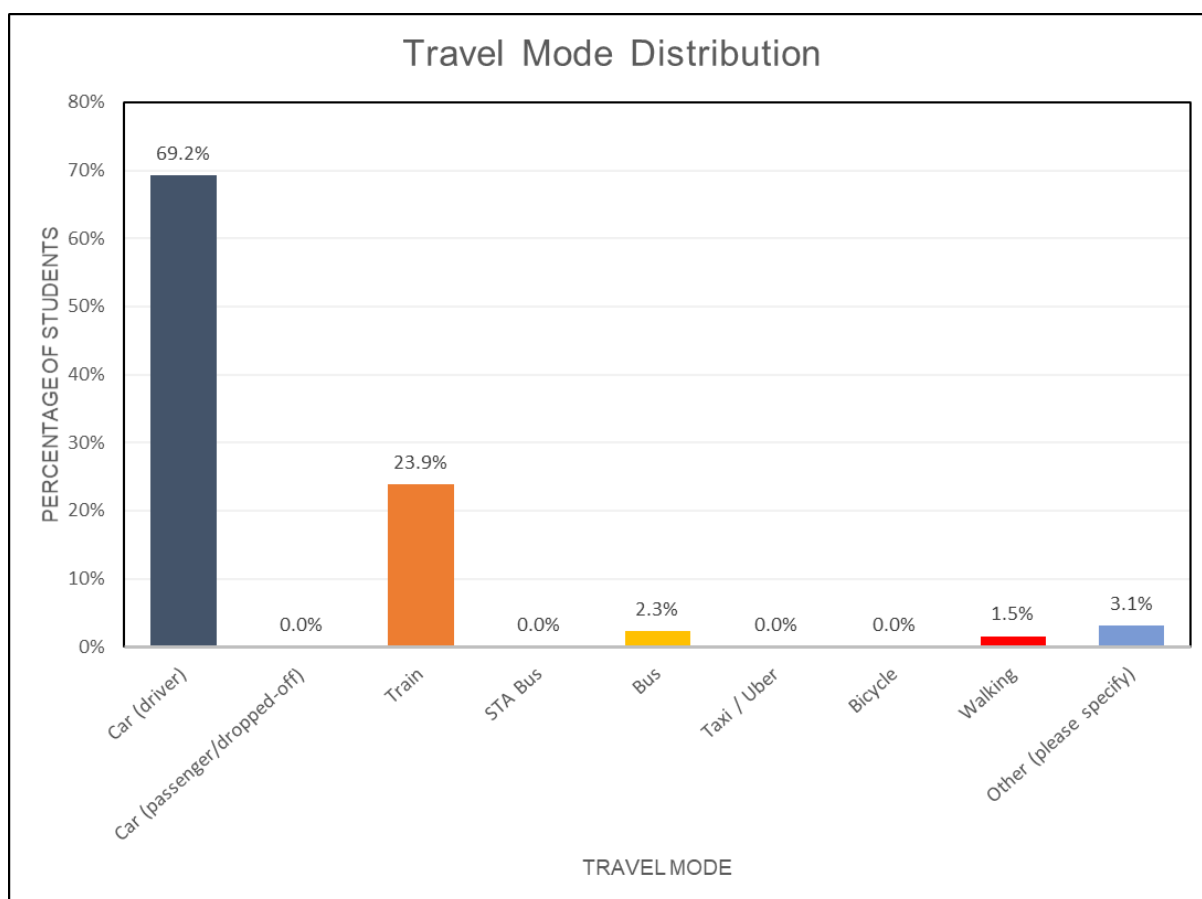


Figure 7: Staff Travel Mode

In summary, the Staff Travel Survey indicates that:

- Approximately 69% of Staff drive to / from the School; and
- Approximately 31% of Staff use alternative forms of transport to travel to / from the School.

Application of the Travel Survey results to the school's existing staff population results in the following **Table 1**, which provides a breakdown of existing travel modes for all staff. As can be seen, a significant number of staff currently drive to work.

Table 1: Existing Population Mode Share Summary

Travel Mode	Existing Mode Share of Staff	
	%	Number
Vehicle driver	69%	167
Dropped Off	0%	0
Taxi / Uber	0%	0
Train	24%	58
STA Bus	2%	5
Meriden School Bus	N/A	0
Bicycle	0%	0
Walk	2%	5
Other mode	3%	7
Total	100%	242

2.6 Traffic Generation

Taking into consideration the result of the Travel Surveys provides the vehicle movements (to and from) generated by the number of staff at the School:

- Staff: 334 vehicle movements per day.

The Travel Surveys illustrated that all staff who travel to the Site by car travel as sole car drivers. Therefore, a key aspect which needs to change is the level of car sharing which occurs.

2.7 Car Parking

The School currently provides 98 car parking spaces across the Senior and Junior campuses. Further to the completion of Lingwood Campus Stage 1 works, an additional 8 parking spaces will be provided on the Lingwood Campus; a total of 106 parking spaces would therefore be provided across the three School campuses.

2.8 Surrounding Public Transport Services

2.8.1 Rail Services

The *Integrated Public Transport Service Planning Guidelines*, Sydney Metropolitan Area (TfNSW, December 2013), states that train services influence the travel mode choices of areas within 800 metres walking distance (approximately 10 minutes) of a train station. In this regard, Strathfield Station is located approximately 200m – 400m to the north of the School (based on the different campuses). Strathfield Station is a major rail hub that provides the following frequent services:

Table 2: Train Frequencies

Line – Station ¹	Eastbound	Westbound	Total
<i>T1 Line: Strathfield Station</i>			
Morning Peak Hour (6AM-9AM)	33	21	54
Evening Peak Hour (3PM-6PM)	35	29	64
<i>T2 Line: Strathfield Station</i>			
Morning Peak Hour (6AM-9AM)	30	25	55
Evening Peak Hour (3PM-6PM)	25	29	54
<i>T9 Line: Strathfield Station</i>			
Morning Peak Hour (6AM-9AM)	20	19	39
Evening Peak Hour (3PM-6PM)	20	19	39

In addition to the regular suburban trains, the station is also frequented by express trains that arrive approximately every 15 minutes. There are two express services that stop at Strathfield station, the BMT and the CCN. Therefore, the two-way frequencies of this express service are approximately 16 express services an hour.

The above table demonstrates that Strathfield railway station is well serviced in peak periods with trains arriving approximately every 2-3 minutes per direction.



Figure 8: Suburban Rail Network

2.8.2 Public Bus

The Public Transport Guidelines state that bus services influence the travel mode choices of areas within 400 metres walk (approximately 5 minutes) of a bus stop. In this regard, bus stops are located within 400 metres walking distance from the School in Redmyre Road, The Boulevard, Albert Road and near Strathfield Station, as shown in **Figure 9**. A major bus interchange is also located at Strathfield Station providing an accessible location to transfer to different buses services (and between rail and bus).

There are twelve bus routes within walking distance of the School, which are listed in **Table 3** below.

Table 3: Public Bus Services

Bus Number	Route	Average Weekday Service Frequency
407	Burwood to Strathfield	AM peak - 30 min PM peak - 30 min
408	Burwood to Rookwood Cemetery	AM peak – 1 hour PM peak – 1 hour
415	Campsie to Chiswick	AM peak – 20-30 min PM peak – 20-30 min
480	Strathfield to Domain via Homebush Road	AM peak – 20-30 min PM peak – 20-30 min
483	Strathfield to Domain via South Strathfield	AM peak – 20-30 min PM peak – 20-30 min
M90	Metrobus Burwood to Liverpool	AM peak – 10-15 min PM peak – 10-15 min
913	Strathfield to Bankstown via Greenacre	AM peak – 1 hour PM peak – 1 hour
914	Strathfield to Bankstown via Chullora	AM peak - 30 min PM peak - 30 min
450	Strathfield to Hurstville	AM peak - 15 min PM peak - 15 min
458	Burwood to Ryde	AM peak - 30 min PM peak - 30 min
525	Parramatta to Burwood via Olympic Park	AM peak – 20-30 min PM peak – 20-30 min
526	Burwood to Rhodes Shopping Centre	AM peak – 15-30 min PM peak – 15-30 min

With reference to Table 3, it is clear that the School has excellent access to bus services, noting that Routes 480, 415, 913, 914 and 450 operate via the Redmyre Road and The Boulevard bus stops in in close proximity to the School.

It can be seen that the bus stops within the vicinity of the Site have numerous connections throughout Sydney. An overview of the bus routes in close proximity to the Site is detailed in **Figure 9**.

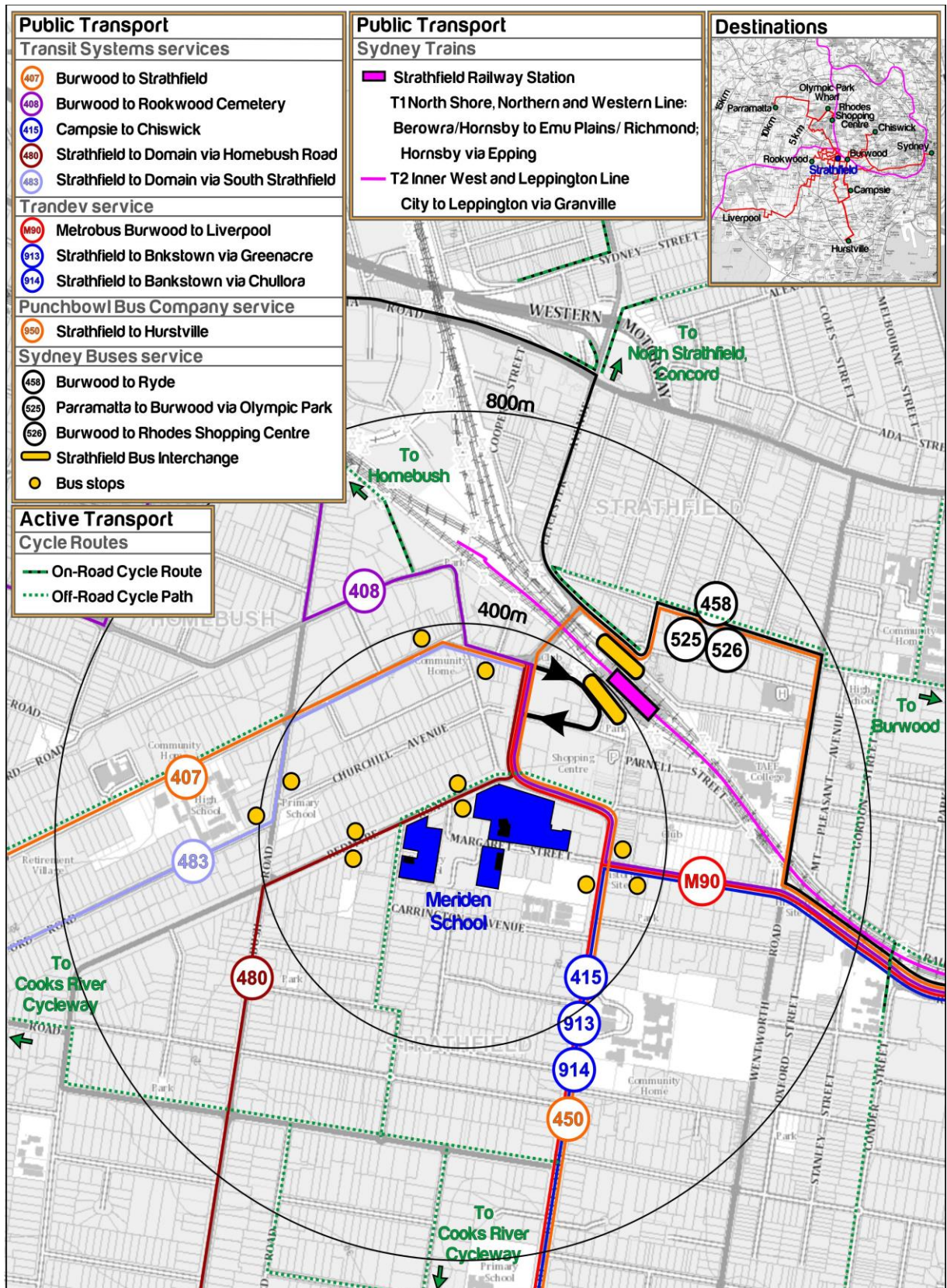


Figure 9: Public Transport Network

2.9 Pedestrian and Cycling Network

The areas surrounding the School are well serviced in terms of pedestrian infrastructure with footpaths available on both sides of roads near the School. **Figure 10** details the key pedestrian crossings and **Figure 11** details the pedestrian desired routes to transport options.

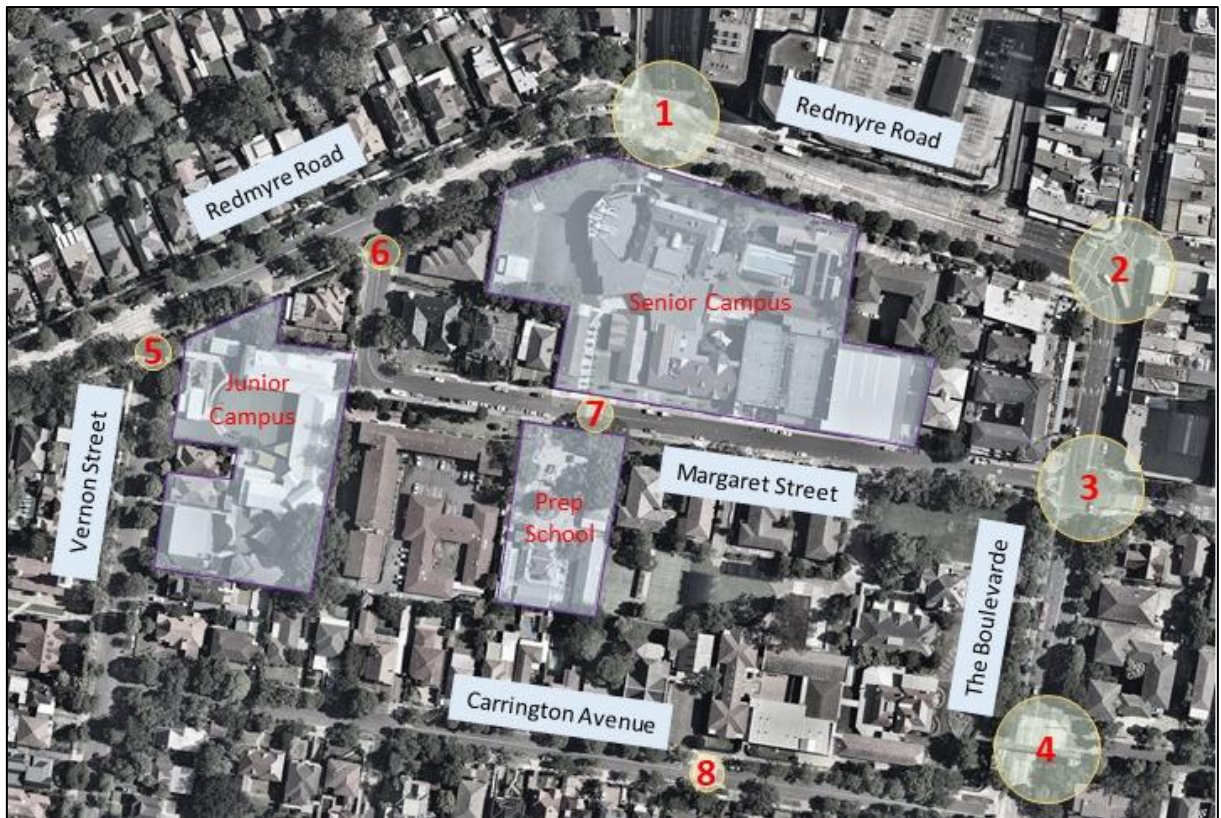


Figure 10: Key Pedestrian Road Crossings

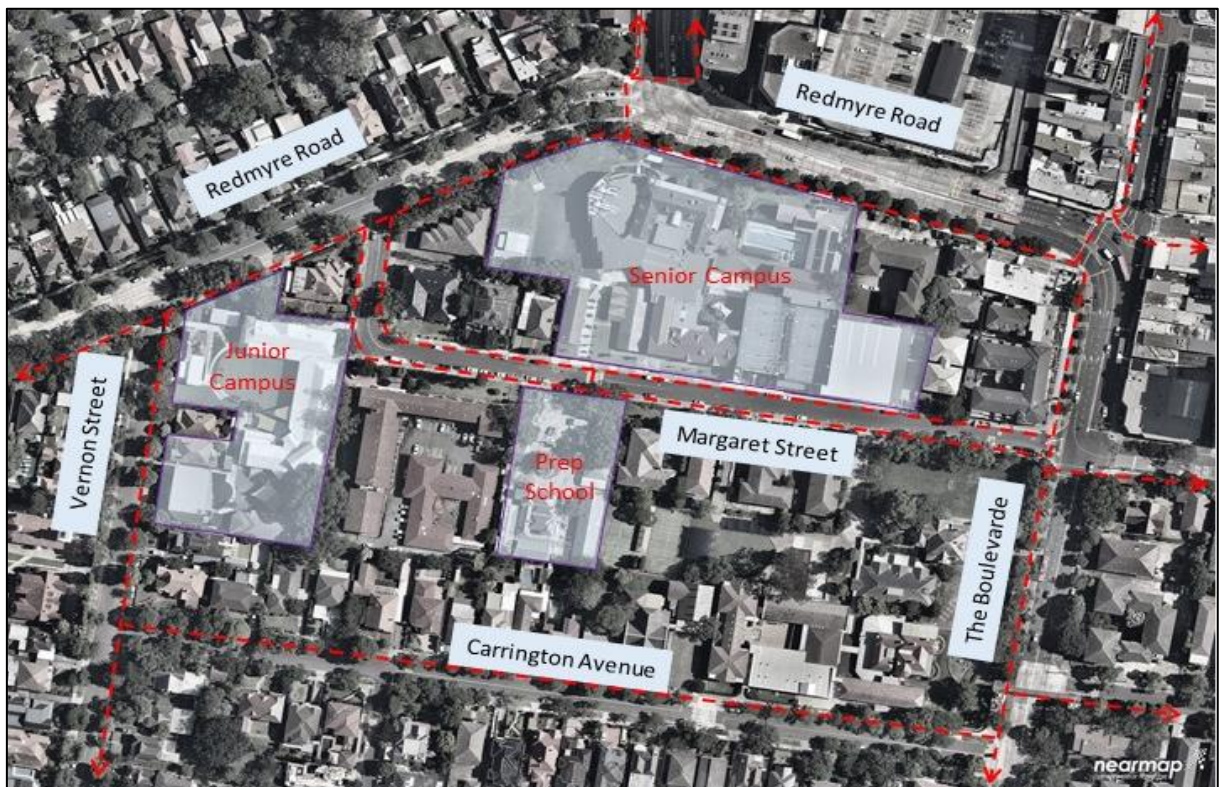


Figure 11: Desired Pedestrian Routes

An existing Cycle Path Map for Strathfield Council Area is included in **Figure 12**. Even though currently there are no direct connections from the Site to existing cycling system in Strathfield, the Active Travel Plan for Strathfield (2016) has proposed an on-road bicycle route (L4) along Redmyre Road and a shared path route (L6) along The Boulevard. These proposed bicycle routes will connect the Site to the Strathfield Town Centre, Homebush and Flemington train stations, which are serviced by T1, T2 T3 and T7 train lines. A map of proposed bicycle network in Strathfield is included in **Figure 13**.

As presented in the existing Cycle Path Map for Strathfield Council Area, there are no existing public bicycle racks provided in close proximity to the Site.

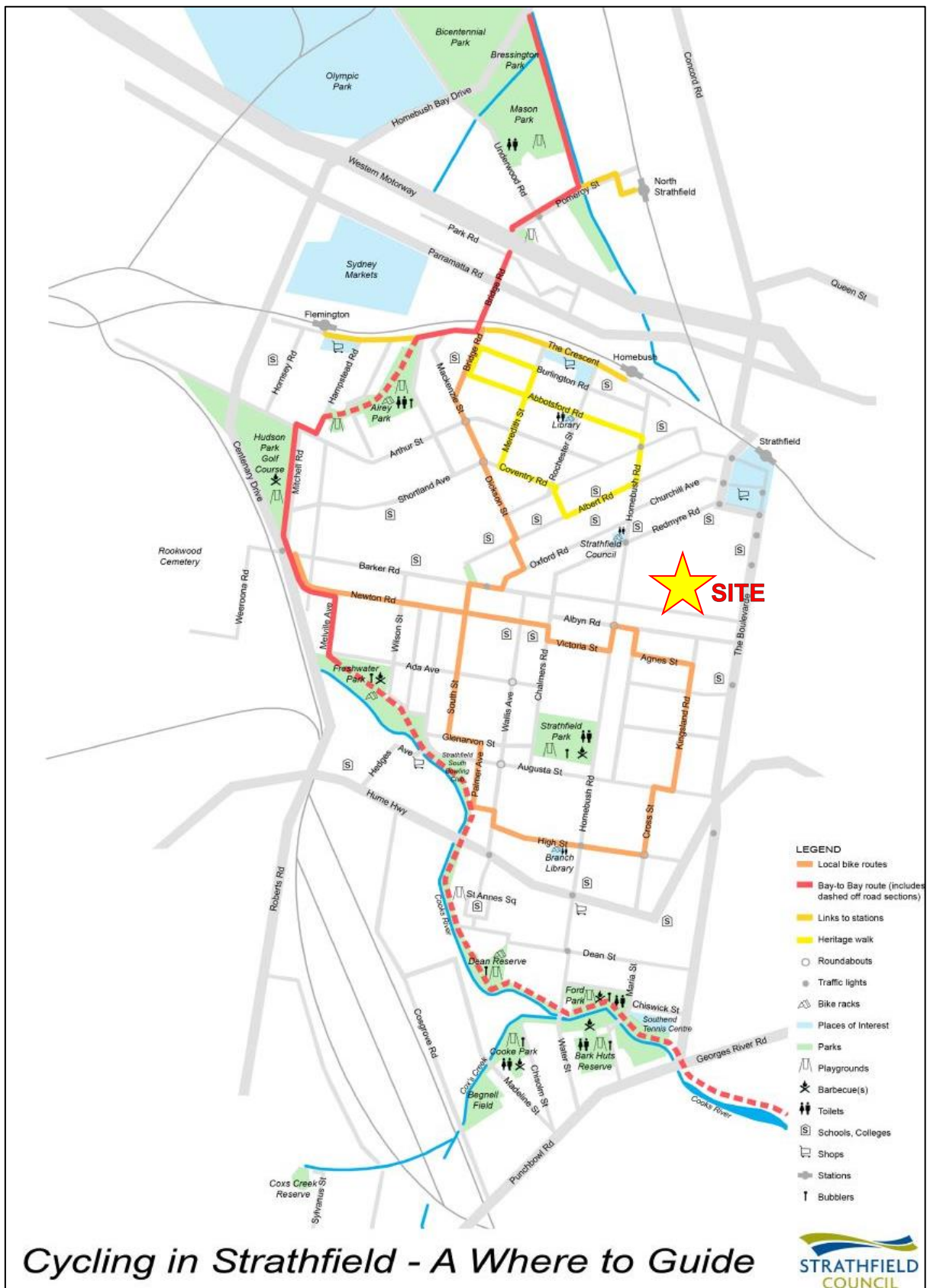


Figure 12: Existing Strathfield Cycling Routes

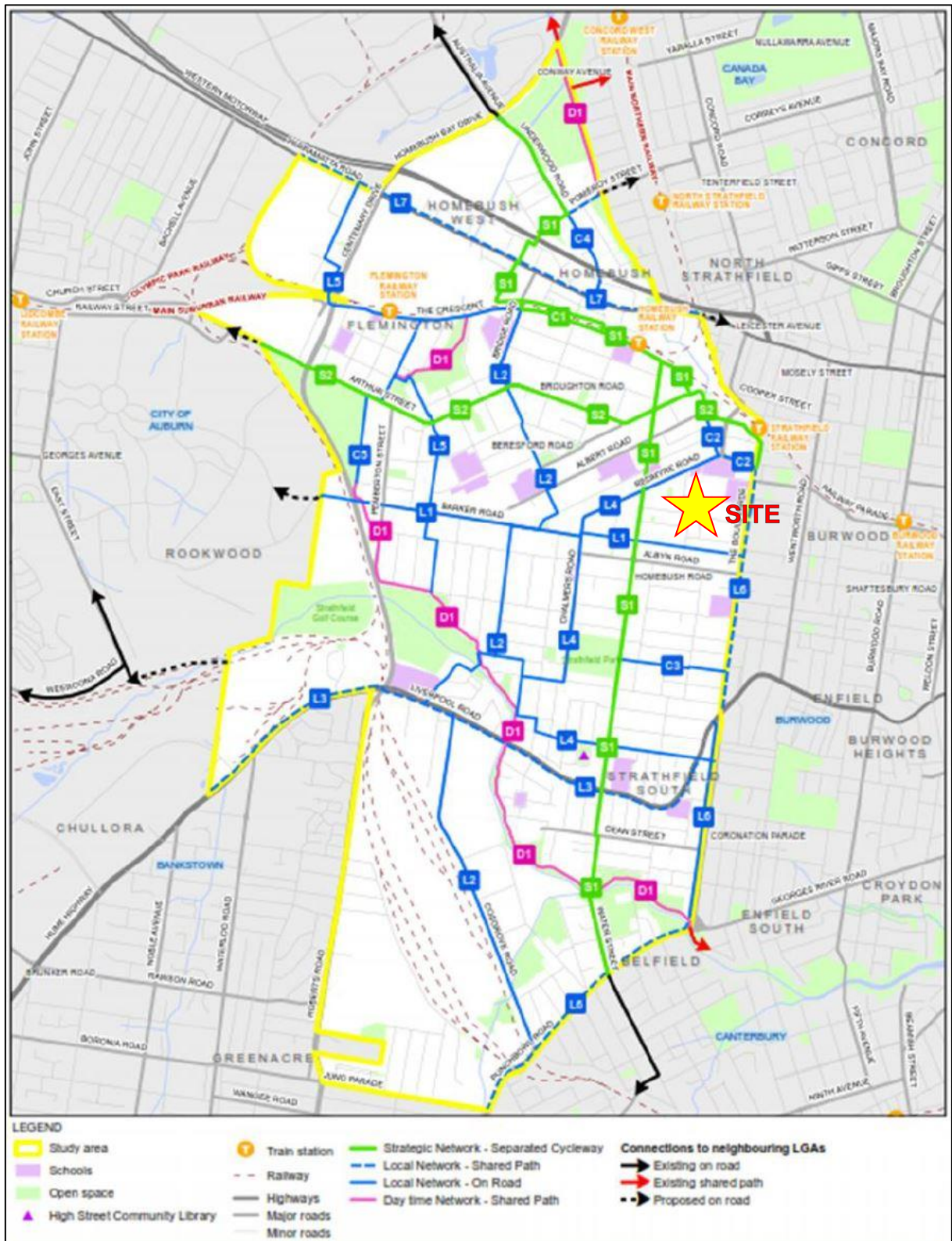


Figure 13: Proposed Strathfield Cycling Routes

3 Objectives & Targets

3.1 Objectives

The primary objectives of this WTP are to:

- Reduce the environmental footprint of the development
- Promote the use of 'sustainable transport' modes such walking and cycling, particularly for short-medium distance journeys and public transport
- Reduce reliance on the use of private vehicles for all journeys
- Encourage higher vehicle occupancy rates
- Create a safe and healthy environment during pick up and drop off times
- Encourage a healthier, happier and more active social culture

Having regard for the above, this Plan adopts the following movement hierarchy with priority given to 'active transport' followed by mass public transport and lastly the use of cars and other private vehicles.

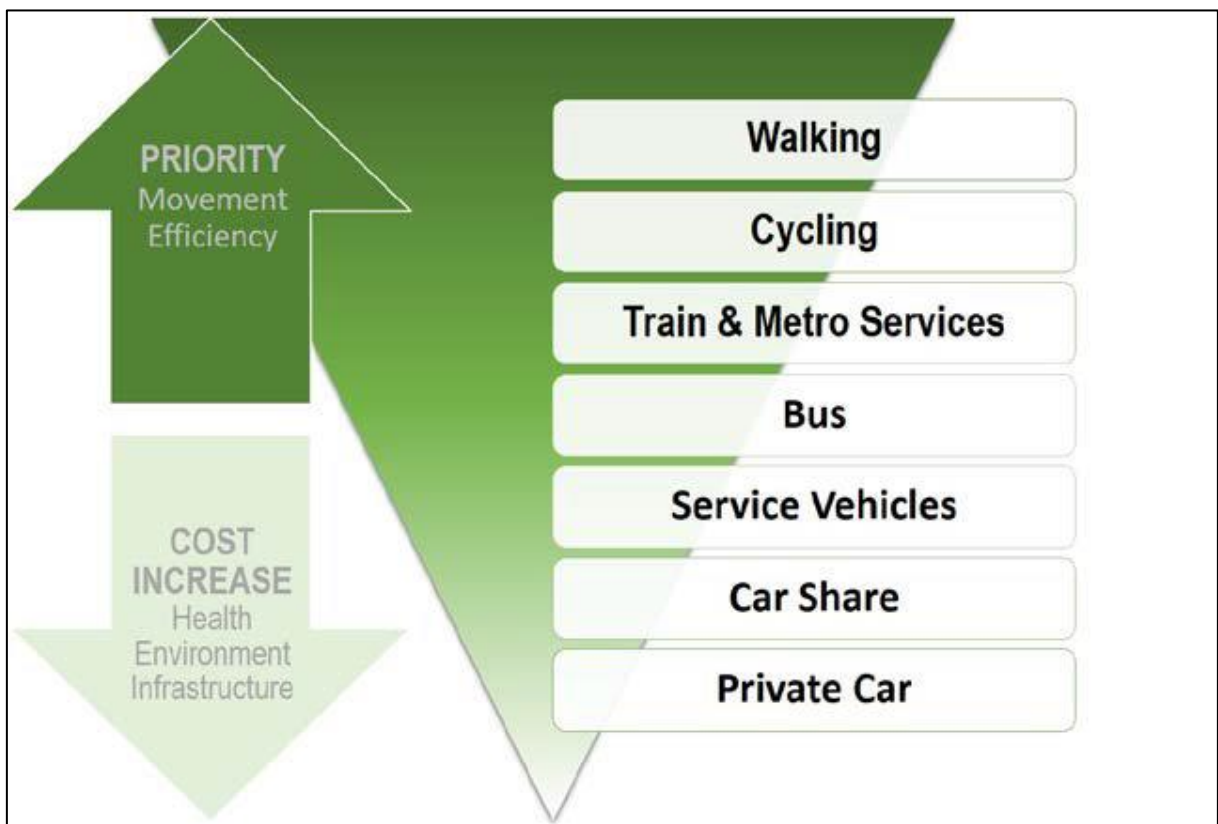


Figure 14: Movement Hierarchy

3.2 Travel Plan Targets

It is well documented that restrictive car parking policy is beneficial to encouraging a travel behavioural change. Therefore the overall target for the STP package is to ensure that the parking provision (following completion of the proposed development) at the School is maintained at the existing level. To ensure that this overall target is achieved, mode share targets have been identified to ensure that sole car travel to the Site is discouraged, which in turn would decrease the demand for car parking.

With the above in mind, the proposed mode share targets for staff members are outlined in **Table 4**.

Table 4: Staff Mode Share Targets

Travel Mode	Existing Mode Share of Staff	Proposed Mode Share	Relative Change
Vehicle driver	69%	55%	-14%
Dropped Off	0%	2%	+2%
Taxi / Uber	0%	0%	-
Train	24%	30%	+6%
STA Bus	2%	7%	+5%
Bicycle	0%	1%	+1%
Walk	2%	2%	-
Other mode	3%	3%	-

The proposed mode share targets have been developed by considering the likelihood of increase of each travel mode, with a specific push to encourage ride sharing between staff members.

Measures and strategies to achieve these targets are discussed in **Section 4**.

4 Action Plan

4.1 Workplace Travel Action Plan Measures

The following specific actions have been identified to aid achievement of the targets outlined in Section 3.2 for staff members. The School will undertake a review of the Action Plan and implement as best they can to achieve each action item. **Table 5** also identifies the body responsible for each action.

Table 5: Workplace Travel Action Plan Measures

Item No.	Action / Description	Responsibility
1. General		
1.1	Establish a campus transport coordinator which is to manage staff transport demands for their respective campuses	School
1.2	Preparation and maintenance of Workplace Travel Plan	School
1.3	Provide 'Travel Welcome Pack' for newly employed staff, highlighting alternate modes of transport other than use of a private vehicle.	School
1.4	Review of WTP as a regular item on the agenda for the School.	School
2. Walking and Cycling		
2.1	Improve cycle connectivity on surrounding roads	Council
2.2	Promote participation in the National Ride2Work Day activity	School
2.3	Provide clearly signposted cycle parking within the Site	School
2.4	Provision of footpaths on local roads in accordance with Strathfield Council DCP	Council
2.5	In accordance with the 1% cycling mode share target, ensure that appropriate bicycle parking spaces and End of Trip Facilities are provided within the Site	School
2.6	Running a cycling skills course to promote and teach cycling skills.	School
3. Public Transport		
3.1	Provide increased public transport services in response to increased development within the surrounding area	TfNSW / Council
3.2	Update the WTP to reflect changes to any train and bus routes and service times	School
3.3	Undertake a review to promote initiatives for staff using public transport.	School
3.4	Provision of Opal Cards with Credit for a period of free rides to increase public transport travel.	School
3.5	Public transport for School business travel to promote the mode as the first preference for staff travel.	School
4. Car Share		
4.1	Review initiatives for staff using car sharing services. This may include (but not limited to) the provision of 'pods' provided in closer proximity to the School	School
4.2	Facilitate engagement between staff with a view to encourage ride sharing for those staff that do require the use of private vehicles	School
4.3	Establish a car-pooling program to help staff find someone to share in their daily drive to School	School

Bicycle parking spaces will be provided on-site to support the Action Plan. Additional bicycle parking spaces may be recommended in the future; however, this would be subject to further review as part of the ongoing WTP maintenance which is discussed further below.

To encourage ride sharing between staff (to assist with Item 4.2 identified in Table 5), business management may consider the signposting of desirable parking spaces close to building entrances for use by vehicles with multiple occupants.

4.2 Communications Strategy

4.2.1 Welcome Packs

New staff shall be provided with a 'welcome pack' as part of the School induction process which includes the WTP and other information in relation to sustainable transport choices. This pack shall include a copy of the WTP as well as general information regarding the health and social benefits of active transport. Advice on where to find further information should also be included such as links to Sydney Cycleways website (<http://www.sydneycycleways.net>).

4.2.2 Accurate Transport Information

In addition to these 'welcome packs', a copy of the Travel Access Guide (TAG) shall be emailed to all staff. This TAG can be found in **Appendix B**. The TAG shall be presented in a form that is reflective of the commitment to achieving positive transport objectives. The TAG is not to be presented on loose paper.

4.2.3 Newsletters

School newsletters will be emailed to all staff every fortnight. Any new travel arrangements or green travel promotions can be broadcasted on this medium for up-to-date information.

5 Governance & Support

5.1 Travel Plan Coordinator

A representative from the School shall be responsible for:

- Implementation and promotion of the WTP action
- Monitoring the effectiveness of the WTP (refer to monitoring requirements outlined in Section 6) and ongoing maintenance of the Plan
- Provide advice in relation to transport-related subjects to staff and visitors, as required.
- Liaise with external parties (i.e. Council, public transport and car share operators) in relation to Travel Plan matters.

This role does not necessarily require full-time position; however, it shall be clearly designated among the key responsibilities of the estate management.

5.2 Resourcing

It is not anticipated that the maintenance of this WTP will have significant ongoing cost implications and shall be reviewed every 12 months by the School.

6 Monitoring & Review Process

6.1 Plan Maintenance

This Plan shall be subject to ongoing review and will be updated accordingly. Regular reviews will be undertaken by the on-site coordinator, as required. As a minimum, review of the WTP shall occur at a 2-year frequency, however an annual review would be preferred.

Key considerations regarding the review of the WTP shall be:

- Updating baseline conditions to reflect any changes to the transport environment in the vicinity of the site such as changes to bus services, new cycle routes etc. In this regard, review of the WTP may be undertaken on a more frequent basis.
- Tracking progress against proposed travel mode targets
- To identify any shortfalls and develop an updated action plan to address issues
- To ensure travel mode targets are updated (if necessary) to ensure they remain realistic but also ambitious.

6.2 Travel Mode Audit Requirements

Travel mode surveys will be undertaken to determine the proportion of persons travelling to/from the site by each transport mode. This will be in the form of annual travel mode questionnaire surveys to be completed by all persons attending the site, as far as practicable. A sample of a typical travel mode questionnaire form is included in **Appendix C**.

A physical survey recording the mode of travel for all employees entering and exiting the site shall be undertaken following a year of operation to establish a reliable baseline data set from which to base future iterations of this WTP. Subsequent surveys will primarily rely on the questionnaire survey methodology to reduce the costs associated with this data collection.

Appendix B

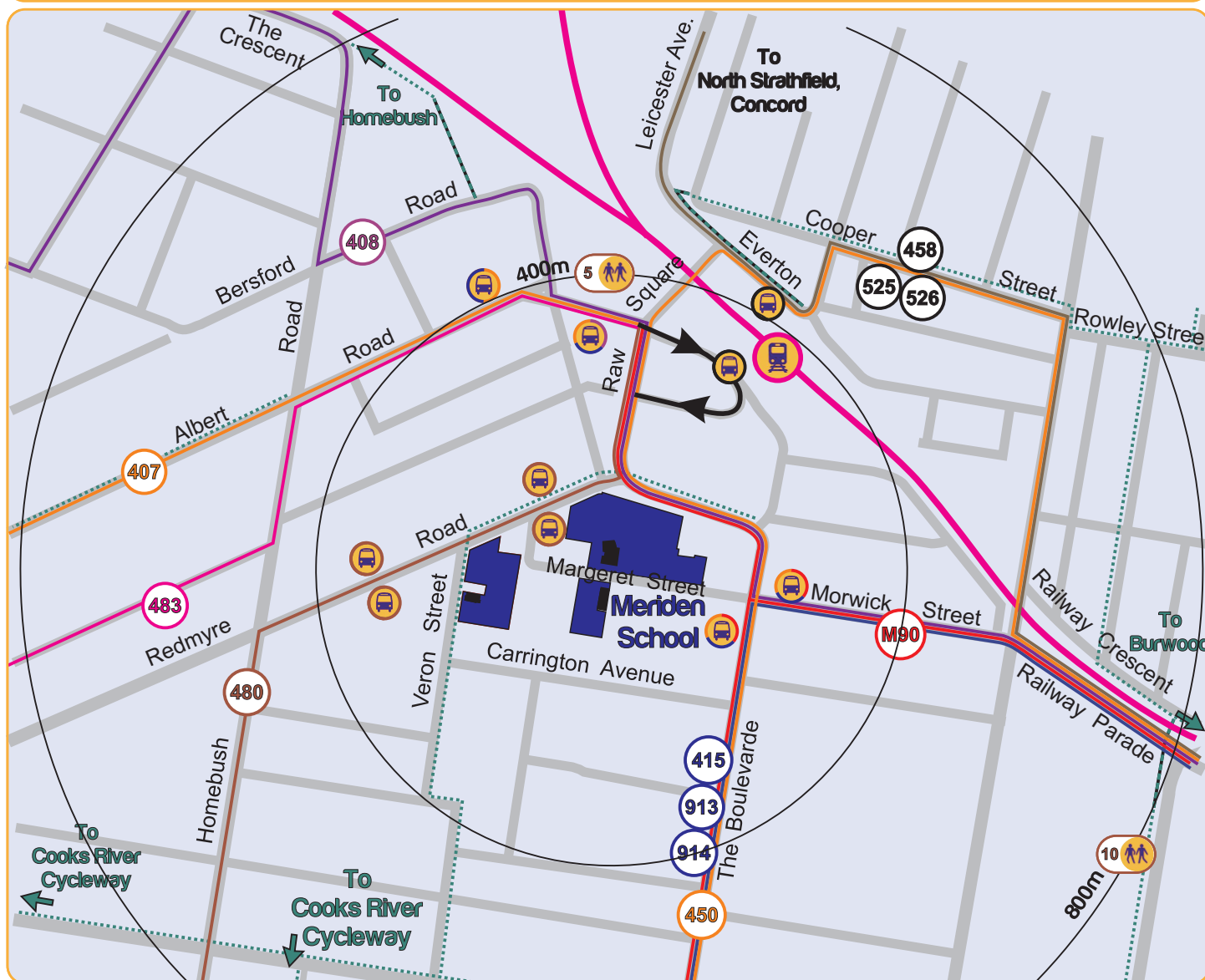
Transport Access Guide (TAG)

Travel Access Guide: Meriden School, Strathfield

Prepared by

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Public Transport - Sydney Buses

Route No.	Route Description	Earliest - Latest service / Frequency (minutes)	
		Monday to Friday	Saturday
407	Burwood to Strathfield	06:30 - 20:00 / 30	08:00 - 19:00 / 60
415	Campsie to Chiswick	05:30 - 20:20 / 30	07:00 - 19:50 / 30
480	Strathfield to Domain via Homebush Road	09:15 - 21:30 / 20-30	09:16 - 16:15 / 30
483	Strathfield to Domain via South Strathfield	06:00 - 00:00 / 20	07:20 - 23:10 / 30-60

Transdev bus services

M90	Metrobus Burwood to Liverpool	05:50 - 22:50 / 10-15/30	08:00 - 23:10 / 20
913	Strathfield to Bankstown via Greenacre	06:10 - 17:40 / 60	—
914	Strathfield to Bankstown via Chullora	06:10 - 19:30 / 30	—

Punchbowl Bus Company bus services

400	Strathfield to Hurstville	06:00 - 22:00 / 15/30	07:40 - 16:45 / 30
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Sydney Buses services

405	Burwood to Ryde	05:40 - 23:40 / 30	05:45 - 23:45 / 20-30
525	Parramatta to Burwood via Olympic Park	06:00 - 00:00 / 30	07:50 - 22:40 / 30
526	Burwood to Rhodes Shopping Centre	05:45 - 22:40 / 30	08:00 - 00:00 / 30

Public Transport - Sydney Trains

	Strathfield Train Station	Earliest - Latest service / Frequency (minutes)	
		Monday to Friday	Saturday
T1 Western North Shore Line T2 Inner West Leppington T9 Northern Line Central Coast Newcastle Line Blue Mountains Line		04:15 - 01:30 / 10-20	04:40 - 01:30 / 10-20
		04:15 - 01:30 / 10-20	04:40 - 01:30 / 10-20
		04:15 - 01:30 / 10-20	04:40 - 01:30 / 10-20
		04:50 - 00:30 / 30-60	06:30 - 00:40 / 30-60
		05:30 - 02:00 / 30-60	04:40 - 01:30 / 30 60

Active Transport

- On road cycle route
- Off-Road Shared Path

June 2019

Appendix C

Sample Travel Mode Questionnaire Form

Instructions for Surveyor(s)

1. The Survey Form (over page) should be completed by EVERY PERSON attending the site on a particular day.
2. This survey should be completed SEPARATELY for EACH TRIP undertaken

Travel Mode Questionnaire Survey Form

Date:

Approximate Time:

Q1. Are you one of / parent of the following?

- | | |
|---|---|
| ☐ School staff | ☐ Other (Please specify) |
| ☐ Junior Student | |
| ☐ Senior Student | |
| ☐ Prep Student | |

Q2. How did you travel to / from School today?

- | | |
|---------------------------------------|--|
| ☐ Walked only | ☐ Car share vehicle |
| ☐ Bicycle only | ☐ Motorcycle / scooter |
| ☐ Train | ☐ Car (dropped off/picked up) |
| ☐ Public Bus | ☐ Car (as driver) |
| ☐ Meriden Bus | ☐ Other (Please specify) |
| ☐ Taxi/Uber | |

Q3. If you drove/driven to School today, how many other students/staff are normally in the car with you (excluding you)?

- | | |
|----------------------------|---|
| ☐ 0 | ☐ 4+ |
| ☐ 1 | ☐ Other (Please specify) |
| ☐ 2 | |
| ☐ 3 | |

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