

# **Transport and Accessibility Impact Assessment**

## **Parramatta East Public School Upgrade**

Prepared for Department of Education (DoE)

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191969

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## Executive Summary

### Overview

This Transport and Accessibility Impact Assessment (TAIA) [has been prepared by Taylor Thomson Whitting (TTW) on behalf of the NSW Department of Education to assess the potential environmental impacts that could arise from the Parramatta East Public School (PEPS) upgrade (the Activity) at Brabyn Street, North Parramatta (the site). The works are proposed by the NSW Department of Education to meet the growth in educational demand in Collet Park precinct, and the broader North Parramatta area.

The current enrolment of the school is approximately 500 students, with an existing capacity of 638 students (including demountables). Following the proposed works, the school will facilitate up to 667 students.

### Travel Demand

Based on a survey conducted in June 2024<sup>1</sup>, the existing travel behaviour reveals a walking mode share of 35%, a bicycle mode share of 4%, a public transport mode share of 1%, and a car mode share of 60%

Two future scenarios have been outlined: a Baseline scenario, Moderate Scenario and a Reach scenario. The reach scenario aims for a significant shift in travel behaviour, setting objectives of 55% walking, 10% cycling, 5% public transport, and 30% car usage. This initiative emphasises reducing car dependency and promoting active and public transportation options. A School Transport Plan will be implemented at the school to encourage and support this shift in travel behaviour.

The mode shifts are considered achievable, as approximately 90% of students reside within a 1,200m (15-minute) walking distance from the school, indicating a highly walkable catchment area. The existing pedestrian infrastructure is already well-developed, and the project includes plans for footpath upgrades and new safe crossing facilities, enhancing the feasibility of achieving these targets.

### Pedestrian Facilities

Most streets in the surrounding area are provided with footpaths. There are currently two wombat crossings: one located to the north of the site on Albert Street East and the other to the west on Brabyn Street.

The existing pedestrian access points include a primary entry on Albert Street East and secondary access points along Brabyn Street, Webb Street, and Gaggin Street. These access points will be maintained as part of the activity.

The activity includes upgrades to the footpaths along the east side of Gaggin Street and the west side of Brabyn Street adjacent to the school. Additionally, a raised pedestrian crossing is proposed on Mason Street, at the intersection of Mason Street and Gaggin Street, to provide safe pedestrian movements to and from the south of the school.

### Cyclist

The activity includes a provision for 35 student bike parking spaces. 5 bicycle parking spaces and 1 shower/change facility for staff will also be provided.

### Bus

The activity does not include plans to modify the existing public transport network. The existing bus zone

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<sup>1</sup> The values don't add to 100% due to rounding.

outside the school on Albert Street East, as well as the nearby public bus stop areas on Victoria Road, Pennant Street and Isabella Street, will continue their existing operation upon project completion.

Due to the low travel demand forecast for the project, the current bus routes servicing the site will be sufficient to support the demand. Therefore, no additional public transport provisions or modifications to existing services are included in this activity.

#### *Service Vehicle*

The loading area has been designed to accommodate up to and including an 8.8m Medium Rigid Vehicle, as well as the 9.4m Isuzu FVY240 rear-lift truck currently used by the private waste collection contractor (BINGO). Furthermore, the loading area is also able to service a 12.5m Heavy Rigid Vehicle, however, the movement is restricted to a right-in and right-out movement at Gaggin Street.

#### *Kiss and Ride*

The existing school features two kiss-and-ride zones: one on Gaggin Street, which accommodates approximately eight vehicles at a time, and another on Albert Street East, which has a capacity for about three vehicles.

As part of the activity, a new 35-metre-long kiss and ride zone is planned along Albert Street East, designed to accommodate approximately six cars. The length/location of the kiss and ride zone is shown in the architectural plans.

#### *Staff Parking*

The proposed on-site parking arrangement consists of the existing 10-space car park and a new 21-space car park, totalling 31 parking spaces, which includes 1 accessible parking space.

Currently, the school operates with a parking rate of 1 space per 3.2 staff members, accommodating 31% of the staff. With the proposed increase in capacity, the parking rate would improve to 1 space per 1.3 staff members, serving 75% of the staff. This significant enhancement is expected to reduce reliance on on-street parking in the surrounding area. The proposed on-site parking provision is considered adequate in comparison to other approved school developments within the Parramatta Local Government Area (LGA).

#### *Traffic Assessment*

The existing school is estimated to generate approximately 244 vehicles (comprising 214 students and 30 staff) per peak period. Using the same baseline mode splits, the future school population is projected to generate a total of 325 vehicles (comprising 286 students and 39 staff) per peak period.

To analyse future traffic distribution among student locations within the school catchment, the Transport for New South Wales (TfNSW) Population Projections data has been reviewed. The analysis indicates that the additional traffic generated by the school at the signalised intersection of Victoria Road/Macarthur Street, once distributed onto the local network in accordance with expected population distribution, is negligible and will not significantly impact the road network.

Moreover, the traffic assessment represents a worst-case scenario, not accounting for any anticipated shifts away from car usage that this project aims to achieve. The project includes active transport infrastructure upgrades, as well as initiatives to enhance the walking and cycling network in the local vicinity, which are expected to encourage a mode shift. The implementation of a School Transport Plan will further promote sustainable travel behaviours, including measures to reduce reliance on private vehicle use.

A reduction in the existing car usage from 60% to 45% would result in a net-zero traffic impact on the road network between the existing and future conditions. Any progress toward reducing the car mode share would lead to a significant decrease in additional vehicle volumes.

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## Section 1 Introduction

This Transport and Accessibility Impact Assessment (TAIA) has been prepared by Taylor Thomson Whitting (TTW) on behalf of the NSW Department of Education to assess the potential environmental impacts that could arise from the Parramatta East Public School (PEPS) upgrade (the Activity) at Brabyn Street, North Parramatta (the site). The works are proposed by the NSW Department of Education to meet the growth in educational demand in Collet Park precinct, and the broader North Parramatta area.

This report has been prepared to assess and address the traffic and transport impacts of the proposed Activity and define the key traffic-related design elements of the activity. This TAIA has been prepared in support of a Review of Environmental Factors (REF).

A School Transport Plan (STP) and a Construction Traffic Management Plan (CTMP) have been prepared and included as part of this REF. These plans are considered preliminary in nature and would be finalised post-approval.

### 1.1 Summary of the Activity

The activity comprises upgrades to PEPS to provide replacement teaching facilities in place of the existing temporary and permanent facilities that are no longer fit for purpose, involving the following works:

- Site preparation and required earthworks
- Demolition of existing Buildings C, D, E and F, and associated structures including adjacent ramps and walkways
- Construction of the following:
  - A new 3-storey school building (referred to as Block R) including teaching spaces, library/administration, and staff/student amenities
  - Upgrade of soft and hard landscape and playground areas
  - A new at-grade parking area
  - Formalised waste area, with access being retained from Gaggin Street
  - Public Domain Works with upgrades to the pedestrian access south of the school, and new kiss and ride zone on Albert Street East
  - Entrance and School logo signage along the Northern Albert Street East frontage of Block R
- Refurbishment works to existing buildings
- Removal of trees as required and retention where possible
- Installation and augmentation of services and infrastructure as required

Refer to the Review of Environmental Factors prepared by Ethos Urban for a full description of works.

### 1.2 Site Description

The site is located at Brabyn Street within the City of Parramatta Local Government Area. Parramatta East Public School is located in the suburb of North Parramatta, within the City of Parramatta Local Government Area (LGA).

The site is approximately 1.5km northeast of the Parramatta CBD, and 24km west of the Sydney CBD.

The site currently comprises a single lot to make up Parramatta East Public School, referred to as **Lot 100, DP1312418**, and the land is owned by the Minister for Education and Early Learning.

The site has an area of approximately 1.782Ha, is of an irregular shape, and is bounded by Brabyn Street to the West, Albert Street East to the North, and Gaggin Street/Webb Street to the East. The project area is contained within the site and represents where the proposed works will be undertaken, with an area of approximately 1.492Ha.

An aerial image of the site is shown at Figure 1 below.



**Figure 1: Site-Aerial**  
Source: Nearmap, Ethos Urban

### 1.3 Statement of Environmental Impacts

Based on the identification of potential issues, and an assessment of the nature and extent of the impacts of the proposed activity, it is determined that:

- The extent and nature of potential impacts are low and will not have a significant impact on the locality, community and/or the environment.
- Potential impacts can be appropriately mitigated or managed to ensure that there is minimal impact on the locality, community and/or the environment.

### 1.4 Brief Site Overview

The existing school's current enrolments stands at approximately 500 primary school-aged students from Kindergarten to Year 6 and this school will be upgraded to accommodate for up to 667 students. The total site size is approximately 1.8 hectares. The site has street frontages to Brabyn Street on the west, Gaggin Street and Webb Street on the east, and Albert Street East to the north. The school is surrounded by residential properties, in a land use zone categorised as medium – high density residential.

## 1.5 Codes, Standards & References

The traffic and transport strategy for the activity has been prepared in the context of a variety of relevant codes, standards, and references listed below:

- Parramatta Development Control Plan, 2023
- Parramatta Local Environment Plan, 2023
- Australian Standards, including:
  - AS2890 – Parking facilities
  - AS1742 – Manual of uniform traffic control devices
  - AS1428 – Design for access and mobility
- Austroads Guidelines, including:
  - Guide to Traffic Management
  - Guide to Road Design
  - Guide to Road Safety
- RTA Guide to Traffic Generating Developments
- NSW Planning Guidelines for Walking and Cycling

## 1.6 Council Pre-Lodgement Assessment Requirements

The Council's Pre Lodgement-Requirements for the project set out the following requirements with regard to the assessment of Traffic and Transport.

**Table 1: Council Pre Lodgement-Requirements**

Council Pre-DA Requirements	Response
Review public domain requirements (footpath widening along Brabyn Street Gaggin Street and Albert Street E) and tree plantation along kiss and drop zone.	<p>The proposed footpath widening along Brabyn Street, Gaggin Street, and Albert Street East. The Albert Street widening is along the Kiss and Ride Zone. The proposed widening is designed to function primarily as a pedestrian waiting area, supporting kiss-and-ride activities, rather than serving as a conventional footpath alone. For this reason, the proposed width is wider than standard.</p> <p>Street tree planting in kiss-and-ride zones is typical, as evidenced by recent installations at Edmondson Park Public School (northern and western frontages) and Galungara Public School (northern frontage). These examples demonstrate the feasibility of incorporating similar planting schemes along the proposed area.</p>
Review the suitability of the pedestrian refuge island along Mason Street	<p>Swept path analysis undertaken by TTW indicates that with an assumed 2m refuge width, the maximum permissible vehicle size for the proposed section of Mason Street would be around 6m. Vehicles such as the 6.4m Small Rigid Vehicle or larger do not meet clearance requirements.</p> <p>Therefore, in place of a refuge median island, the activity is for a raised zebra crossing at the west leg of the Mason Street and Gaggin Street intersection. This facility will not impact any existing vehicle movements at this location.</p> <p>The final treatment for Mason Street is subject to further discussions with the council.</p>
Provide examples of other projects having achieved mode share targets as set out in the STP.	<p>The DoE process aims to minimise school travel impacts via the School Transport Plan (STP), which is a relatively new initiative. However, recent Term 4 2023 mode share data shared by DOE for Galungara Public School reported 36% active transport (walking, cycling) and 17% public transport usage. In addition, recent June 2024 mode share data from Carlingford West Public School reported 42% active transport (walking, cycling) and 2% public transport usage.</p> <p>Hence based on the recent data received, the target of achieving a 55% sustainable transport mode share (walking, bicycle, and public transport) for students in this TAIA can be deemed achievable.</p>

## 1.7 Consultation

This report has been prepared following consultation between the design team and relevant stakeholders, including City of Parramatta Council (CoP) and Transport for New South Wales (TfNSW). Consultation events and outcomes are identified in Table 2.

**Table 2: Consultation Summary**

Date	Attendees	Discussions	Outcomes
14 August 2024	Transport Working Group (CoP & TfNSW)	<ul style="list-style-type: none"> <li>A teleconference meeting was held with representatives from CoP and TfNSW.</li> <li>The project's general transport strategy and strategic context were introduced. The meeting discussed key transport considerations for the project, and proposed scope of transport-related works.</li> <li>Key feedback included discussion of nearby Council projects, including the Shared Path upgrade along Albert Street East.</li> <li>Council queried the scope of the proposed public domain works and the analysis undertaken to determine these works.</li> <li>Council suggested that the school could be part of a walking and cycling program with Council to encourage active travel, which DOE indicated support for.</li> <li>Council and TfNSW did not raise any concerns regarding the proposed transport works.</li> </ul>	<p>The following upgrades are proposed as a part of this activity:</p> <ul style="list-style-type: none"> <li>Footpath upgrades along the east (Gaggin Street), west (Brabyn Street) and north (Albert Street) to the school.</li> <li>A new raised pedestrian crossing on Mason Street parallel to Gaggin Street.</li> </ul>

## 1.8 Strategic Context

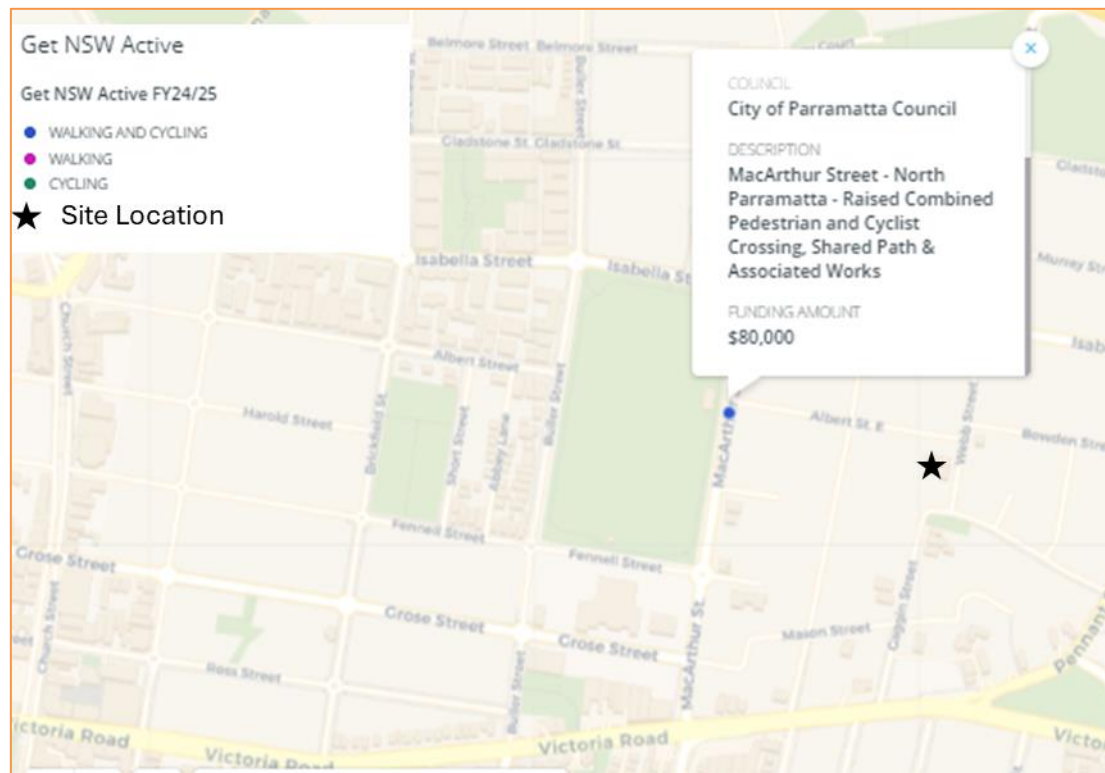
This section summarises the relevant transport programs available to school students to encourage the use of active transport modes.

### 1.8.1 Get NSW Active, Transport for NSW

The *Get NSW Active* program provides local councils with funding for projects that create safe, easy, and enjoyable walking and bike riding trips.

The FY2024/25 approved project *Get NSW Active* includes a raised combined pedestrian and cyclist crossing at the intersection of MacArthur Street and Albert Street East, North Parramatta. Design of approximately 190 metres of shared path from the raised combined crossing to the existing pedestrian crossing in Brabyn Street, fronting Parramatta East Public School.

The location of the upgrade is shown in Figure 2.



**Figure 2: Nearby Get NSW Active Projects**

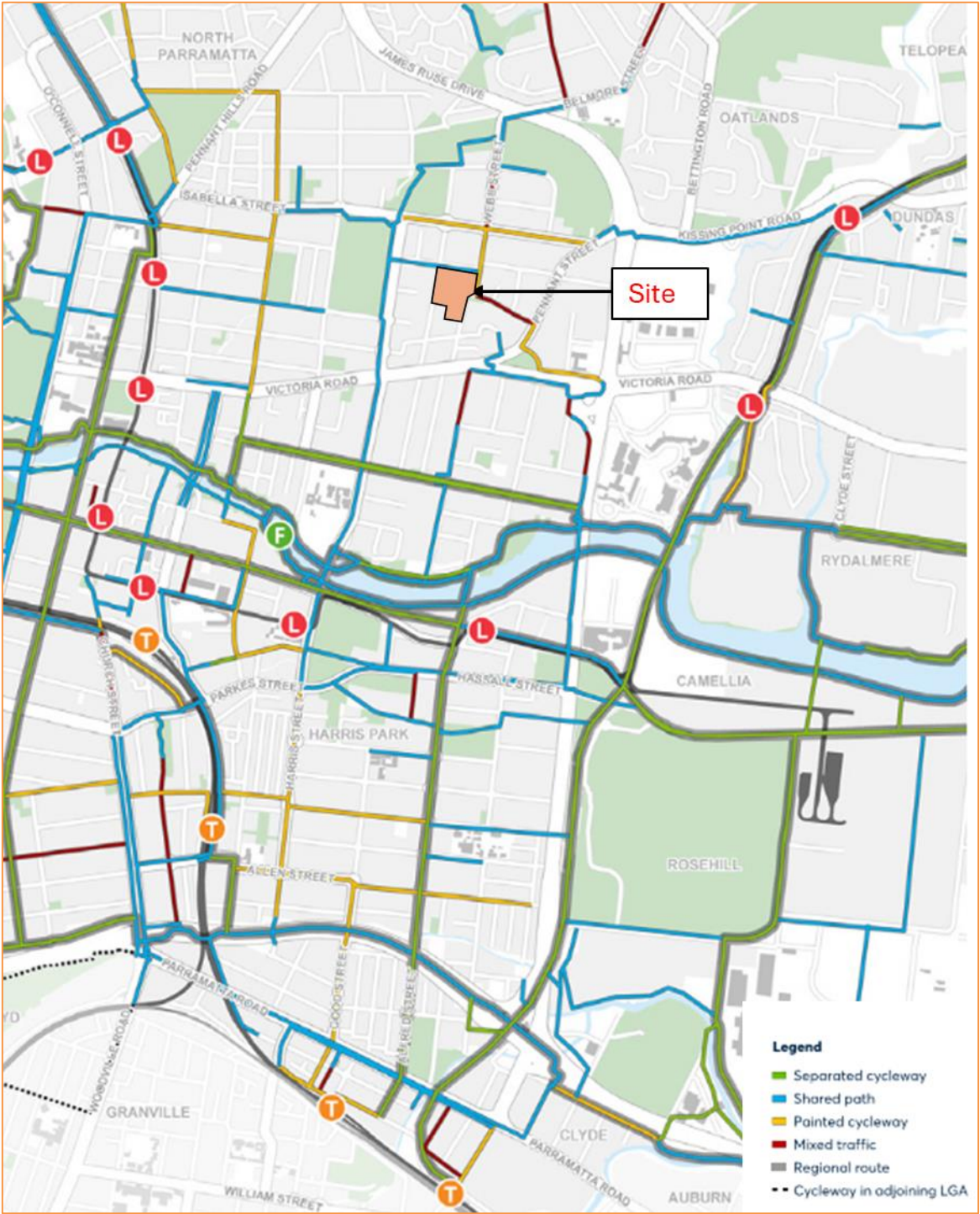
*Source: Get NSW Active, TfNSW*

### 1.8.2 Parramatta Bike Plan, City of Parramatta, 2023

The aspirations of the draft Parramatta Bike Plan 2023 are:

- To enhance the accessibility, sustainability, productivity and liveability of Parramatta
- For cycling to be safe, and perceived as a safe and attractive option for all members of the community, for those aged 8 to 80.
- To increase the proportion of people cycling in Parramatta to 5% of all trips to work, and 10% for those ending in the CBD by 2043.

Key infrastructure initiatives to grow cycling participation in Parramatta include connecting schools to the local and regional network. Within the Parramatta LGA, schools with the densest catchments have been prioritised to achieve the greatest participation.



**Figure 3: Proposed Paramatta Cycling Network**  
*Source: Draft Parramatta Bike Plan 2023*

## **Section 2      Existing Conditions**

### **2.1      The Site**

Parramatta East Public School is a primary school for students in Kindergarten to Year 6, equipped with 9 permanent teaching spaces and 21 demountable teaching spaces. In June 2024, the school recorded approximately 500 student enrolments and 47 staff (33 full-time and 14 part-time). The school offers Out of Hours School Care (OOSH) services from 7:00 – 9:15am and 3:15 – 6:00pm.

### **2.2      Site Location**

Parramatta East Public School is located within the Parramatta Council local government area (LGA), in the suburb of Parramatta in Western Sydney. The site is located approximately 24 kilometres west of the Sydney CBD, and 2km northeast of the Parramatta CBD. The school is located at Brabyn Street in Parramatta within the block bound by Brabyn Street, Gaggin Street, Webb Street and Albert Street East.

Figure 1 above shows an overview of the school and the surrounding network. The site is surrounded by residential land use.

### **2.3      Site Access**

An overview of the existing pedestrian, vehicle and emergency access points are shown in Figure 4. The school contains two pedestrian accesses on Albert Street East and one pedestrian access on Brabyn Street and Webb Street. Albert Street East contains the main pedestrian entry to the school. Gaggin Street contains the only entry points for emergency and service vehicles. The staff car park can be accessed via Brabyn Street.

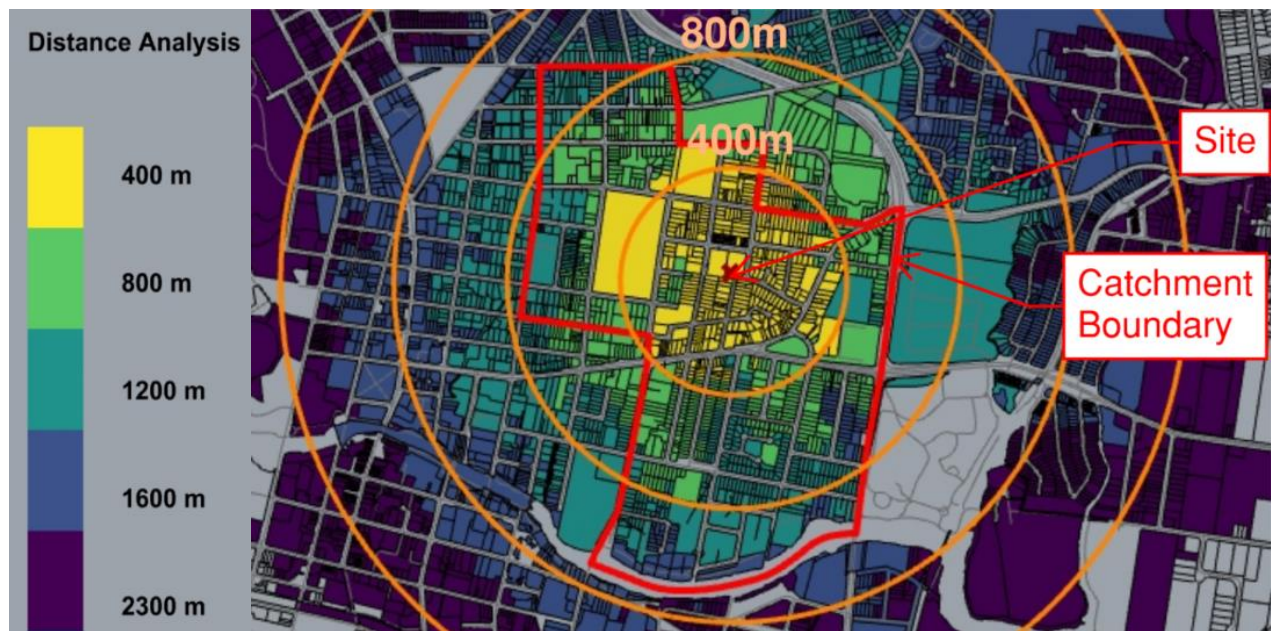


**Figure 4: Existing Site Access**  
Source: Nearmap

## 2.4 School Catchment

Figure 5 shows the Parramatta East Public School catchment and walking distance catchments for the 400m, 800m, 1200m, 1600m and 2300m walk. These are roughly equivalent to the 5-minute, 10-minute, 15-minute, 20-minute and 30-minute walk respectively.

The entirety of the residential components (i.e. excluding parks and open space) of the PEPS catchment is located within the School Student Transport Scheme (SSTS) exclusion zone. As shown in Table 3, 92.1% of students are located within a 1200m or 15-minute walk to the site.



**Figure 5: PEPS Walking Catchment**

Source: TTW

**Table 3: Student Walking Distances**

Source: TTW

Distance Bracket	Notional walking distance			Actual walking distance		
	%	Existing #	Future #	%	Existing #	Future #
1 - 400	30.6%	153	204	21.2%	106	141
401 - 800	54.0%	270	360	36.4%	182	243
801 - 1200	15.4%	77	103	34.5%	173	230
1201 - 1600	0.0%	0	0	7.9%	39	52
1601 - 2300	0.0%	0	0	0.0%	0	0
<b>Total</b>	<b>100.0%</b>	<b>500</b>	<b>667</b>	<b>100.0%</b>	<b>500</b>	<b>667</b>

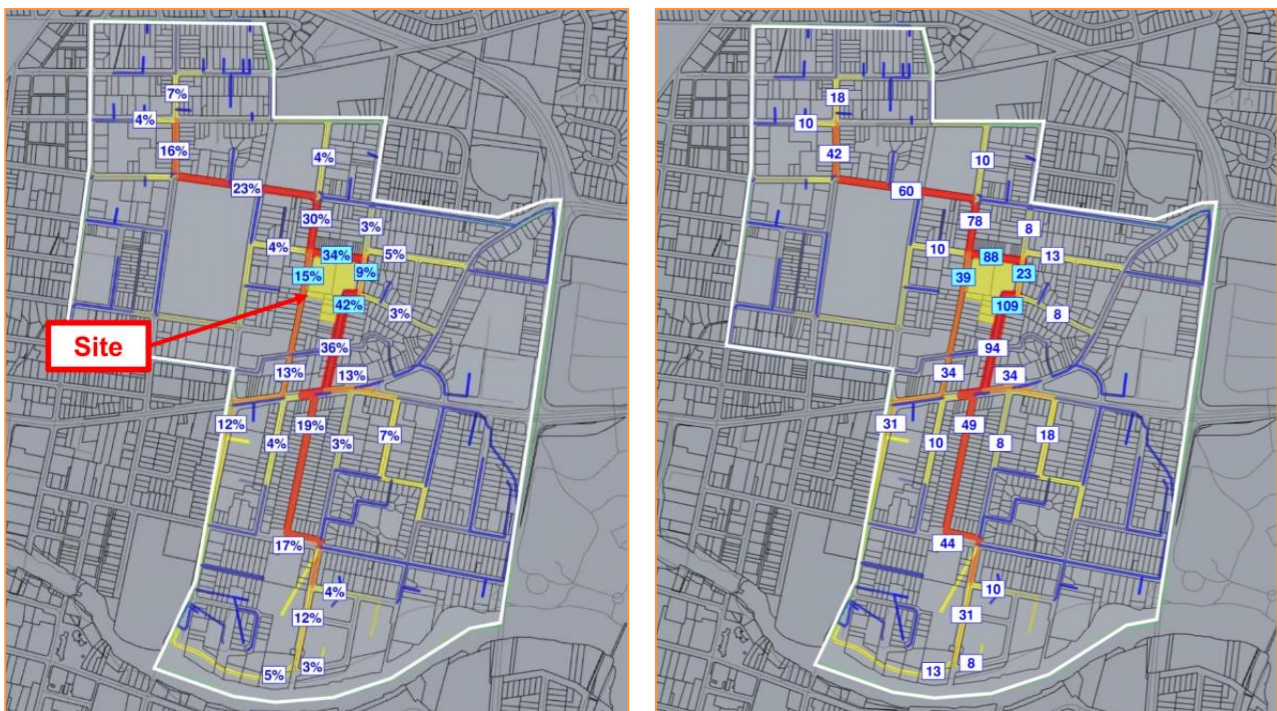
### 2.4.1 Students Per Link Analysis

As part of the catchment analysis conducted for the school, the usage along key walking routes in the catchment have been assessed. This analysis uses depersonalised student location data and analyses the shortest paths between each residence and the school site, to produce a summary of the path usage as shown

in Figure 6. The percentages shown in Figure 6 (left) have been applied to the future number of walking students (as per the existing walking mode splits outlined in Section 2.12.1) to derive the estimated usage numbers in Figure 6 (right).

Key outcomes of this analysis are as follows:

- The approximate directional split of students walking to the site is 43% from the north and 57% from the south.
- The predominant approach routes to the site are via Brabyn Street from the north and via Gaggin Street from the south.
- A reasonably significant portion of students (~45%) live to the south of Victoria Road.



**Figure 6: Students Per Link Analysis including Percentages (left) and Demand Numbers (right)**  
Source: TTW

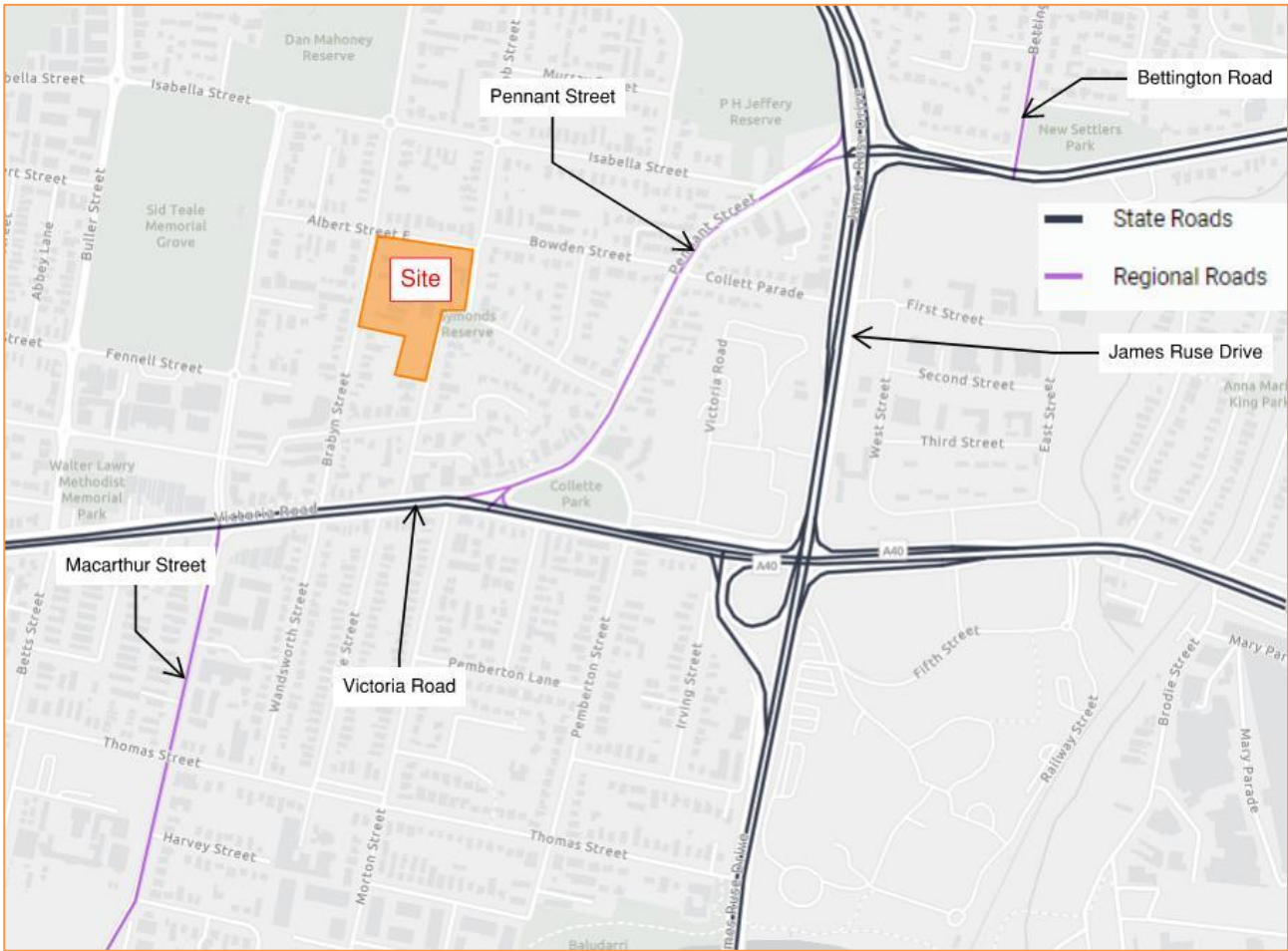
## 2.5 Road Network

The key roads in the local network are described in Table 4.

**Table 4: Local Road Network**

Road name	Classification	Speed limit	Road geometry	Parking restrictions
<b>Victoria Road</b>	State Road	60km/hr	3 lanes in each direction within a 22m carriageway	No Stopping
<b>James Ruse Drive</b>	State Road	60km/hr - 70km/hr	2-3 lanes in each direction within a 20m carriageway	No Stopping
<b>Pennant Street</b>	Regional Road	60km/hr	1 lane in each direction & parking in both directions within a 11m carriageway	Unrestricted Parking
<b>Albert Street East</b>	Local Road	50km/hr	1 lane in each direction & parking in both directions within a 10.5m carriageway	Unrestricted Parking. Along the school frontage: Accessible Parking, Bus Zone (8:45am-9:15am, 3:15pm-3:45pm during school days) and Kiss & Ride (No Parking) during school days between 8am-9:30am & 2.30pm-4pm along school frontage.
<b>Gaggin Street</b>	Local Road	50km/hr	1 lane in each direction & parking in both directions within a 9m carriageway	Unrestricted Parking and Kiss & Ride (No Parking) during school days between 8am-9:30am & 2.30pm-4pm along school frontage
<b>Webb Street</b>	Local Road	50km/hr	1 lane in each direction & parking in both directions within a 9m carriageway	Unrestricted Parking
<b>Brabyn Street</b>	Local Road	50km/hr	1 lane in each direction & parking in both directions within a 9m carriageway	Unrestricted Parking
<b>Mason Street</b>	Local Road	50km/hr	1 lane in each direction & parking in both directions within a 9m carriageway	4P & Unrestricted Parking

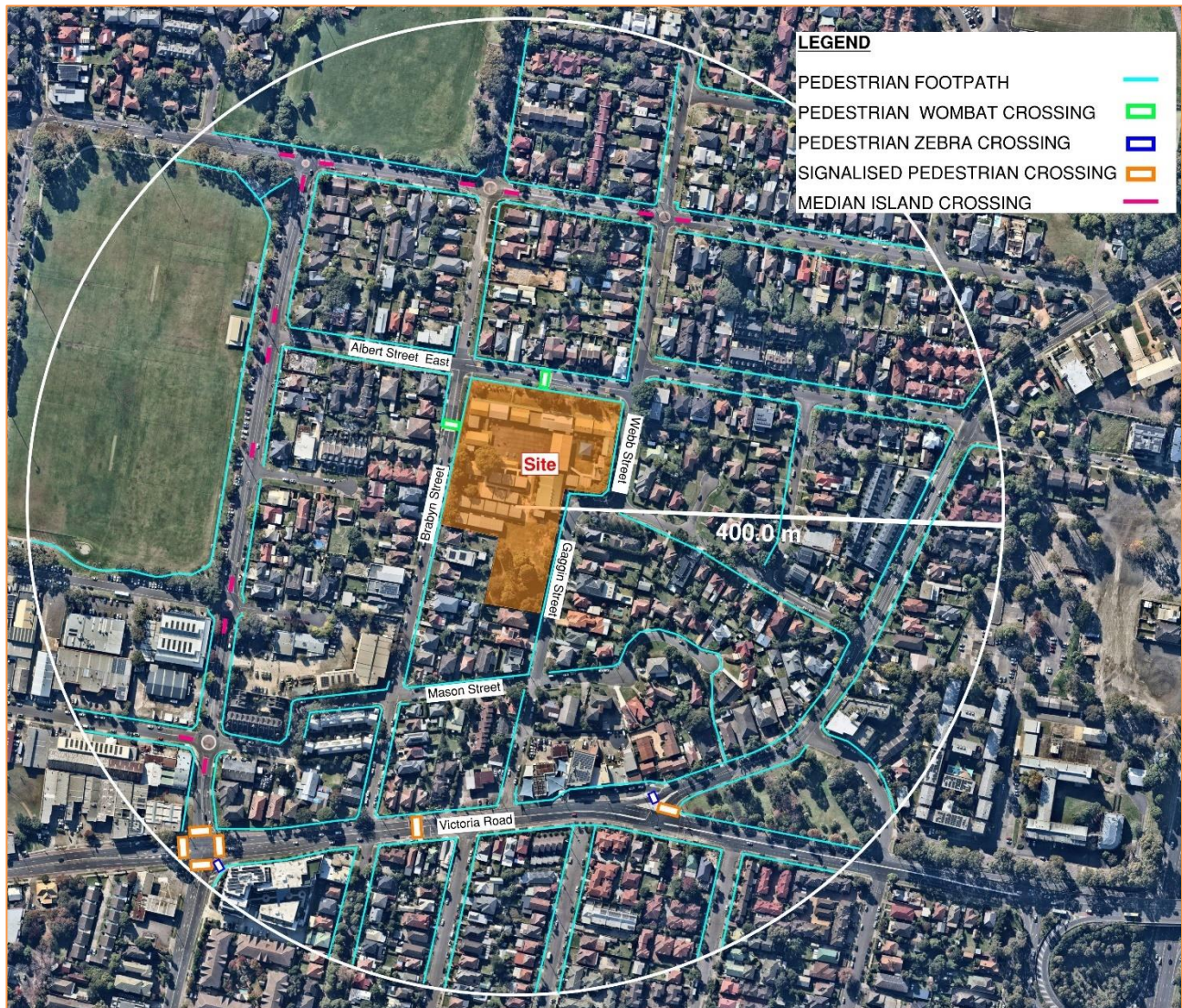
The extent of State and Regional roads in the vicinity of the site is illustrated in Figure 7.



**Figure 7: Existing Road Classification Network**  
*Source: TfNSW Road Network Classification*

## 2.6 Pedestrian Infrastructure

Figure 8 illustrates the existing pedestrian infrastructure available around the site. A 400m radius (approximately 5 minute-walk) is shown to provide context and scale of these facilities. Footpaths are currently provided along most streets in the surrounding area. There are two wombat crossings, one located north of the site on Albert Street East, and the other located west of the site on Brabyn Street. The signalised intersections along Victoria Road, allow pedestrians to safely cross the main road.



**Figure 8: Local Pedestrian Infrastructure**

Source: Nearmap

## 2.7 Cyclist Infrastructure

Currently there are very few dedicated bicycle lanes close to the site, however there are newly proposed bicycle lanes shown in the *Parramatta Bike Plan 2023*. Figure 9 shows existing and proposed cycleways and pathways around the site, including a Shared Path along Albert Street East & Macarthur Street, as well as an on-road painted cycleway on Webb Street & Isabella Street. The site falls within the vicinity of the Draft Parramatta Bike Plan 2023 which promotes accessibility for active travellers.



**Figure 9: Cycling Infrastructure**

Source: Draft Parramatta Bike Plan 2023, City of Parramatta

## 2.8 Public Transport

### 2.8.1 Bus

The bus stops within vicinity of the site are shown in Figure 10. All bus stops are approximately a 5-minute walk from the site. Table 5 shows the routes available at each stop.

**Table 5: Nearby Bus Routes**

Bus number	Bus route	Frequency
<b>Victoria Road at Brabyn Street</b>		
<b>500N</b>	Parramatta to City Hyde Park via Victoria Rd (Night Service)	Every 30 minutes
<b>501</b>	Parramatta to Central Pitt St via Victoria Rd	Every 10mins during peak hours Every 15mins during off-peak hours
<b>521</b>	Parramatta to Eastwood	Every 30mins during peak hours Every 60mins during off-peak hours
<b>523</b>	West Ryde to Parramatta	Every 30mins during peak hours Every 60mins during off-peak hours
<b>524</b>	Ryde to Parramatta via West Ryde	Every 30mins during peak hours Every 60mins during off-peak hours
<b>525</b>	Parramatta to Strathfield via Sydney Olympic Park	Every 20mins during peak hours Every 30mins during off-peak hours
<b>545</b>	Parramatta to Macquarie Park via Telopea & Eastwood	Every 10mins during peak hours Every 30mins during off-peak hours
<b>Isabella Street at Webb Street</b>		
<b>546</b>	Parramatta to Epping via Oatlands & North Rocks	Every 30mins during peak hours Every 60mins during off-peak hours
<b>552</b>	Parramatta to Oatlands	Every 60 minutes
<b>Pennant Street after Symonds Avenue</b>		
<b>545</b>	Parramatta to Macquarie Park via Telopea & Eastwood	Every 10mins during peak hours Every 30mins during off-peak hours
<b>Parramatta East Public School, Albert St, North Parramatta</b>		
<b>721W</b>	Parramatta East PS to Parramatta Station	Once (Departs school at 3:24pm)
<b>722W</b>	Parramatta Station to Parramatta East PS	Once (Arrives at school at 9:04am)

Figure 10 illustrates the location of the nearest bus stops and their walking routes to and from the site. Figure 11 conveys the relevant bus routes in the vicinity of the site.

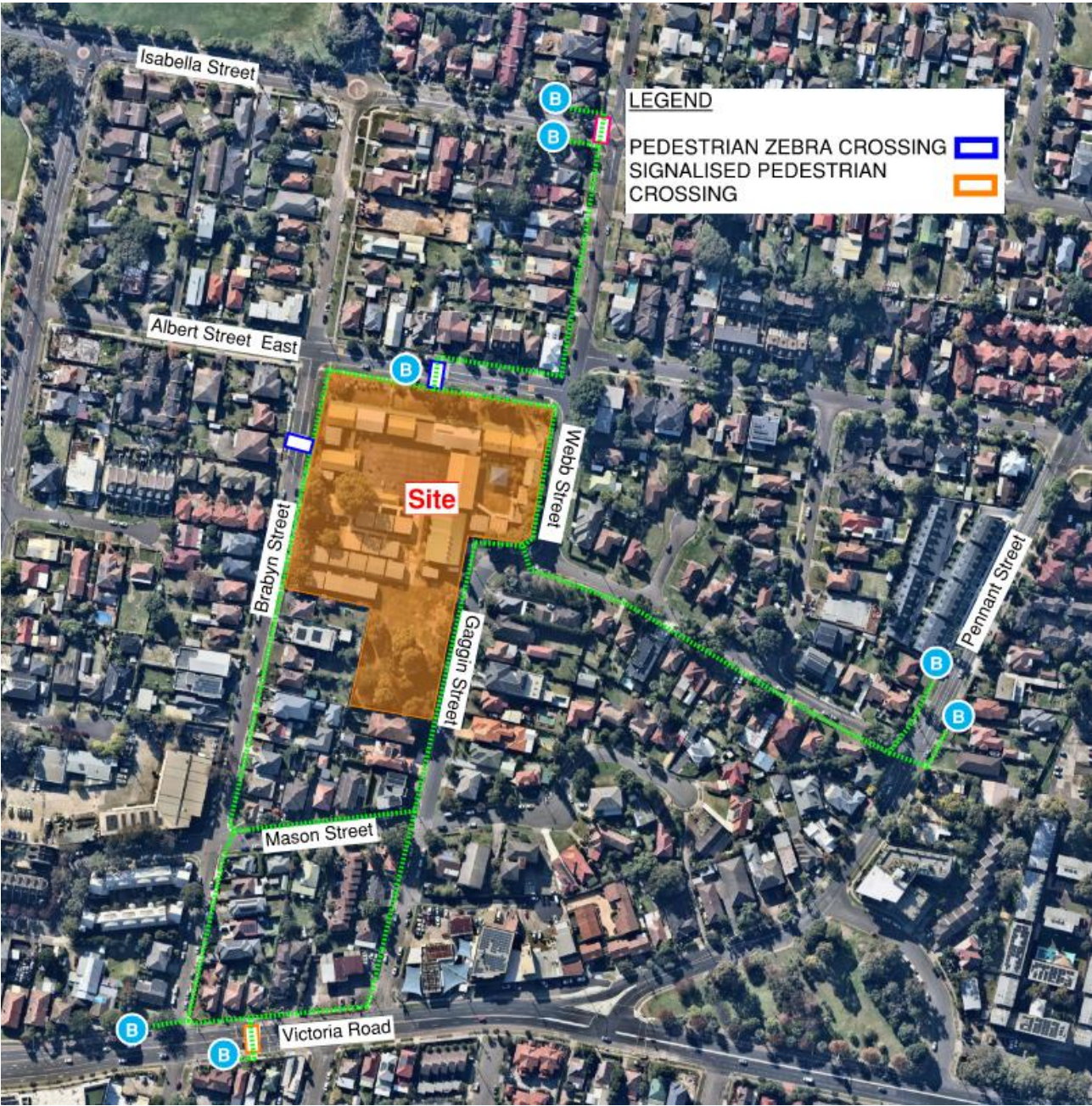


Figure 10: Nearby Bus Stops  
Source: Nearmap



**Figure 11: Local Bus Services**  
*Source: Northwest Sydney Bus Network Map, Transport for NSW*

## 2.8.2 Train

The nearest train station to the site is Parramatta station, which includes the T1 line to Emu Plains, T5 line to Richmond, and T2 line to Parramatta. The station is approximately a 30-minute walk from the site. The station can be accessed via bus route 501, 521, 525. Figure 12 illustrates Sydney Trains network map with the nearest train station highlighted.

Table 7 summarises the frequency of trains from Parramatta station.



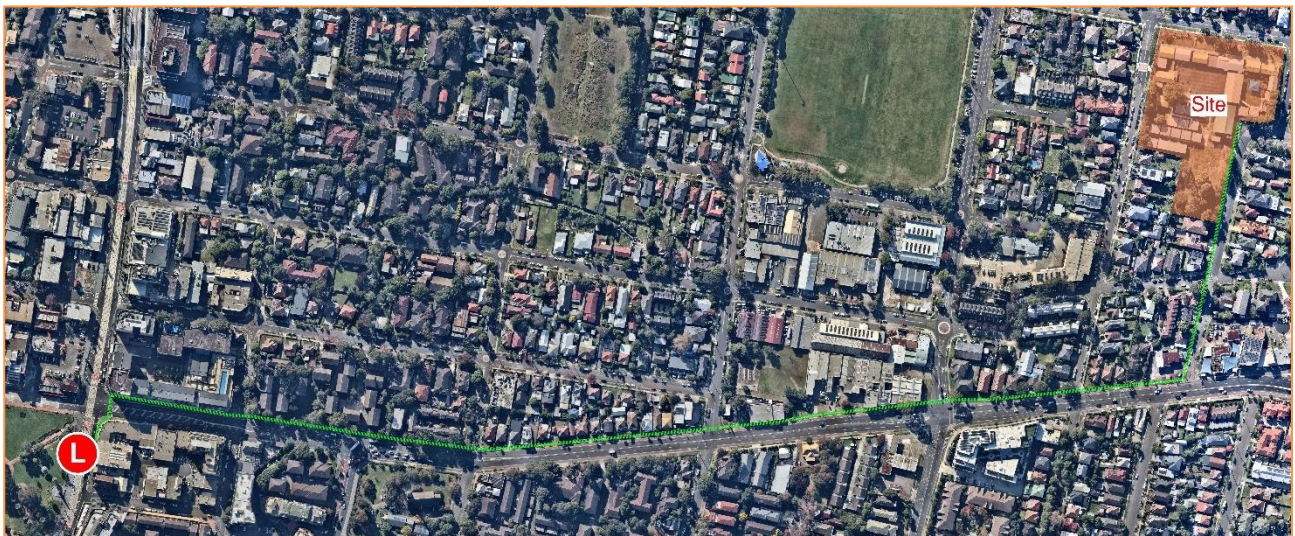
**Figure 12: Sydney Trains Network Map**  
Source: Sydney Trains

**Table 6: Frequency of Train Services**  
*Peak times: Approximately 6:30am – 10am, 3pm - 7pm*

Train line	Train route	Frequency from Parramatta station
T1	North Shore	Every 7 minutes during peak hours Every 15 minutes during off-peak hour
	Western Line	Every 5 minutes during peak hours Every 15 minutes during off-peak hour
T2	Inner West & Leppington Line	Every 15 minutes during peak hours Every 30 minutes during off-peak hour
T5	Cumberland Line	Every 30 minutes during peak hours Every 30 minutes during off-peak hour

### 2.8.3 Light Rail

When the Parramatta Light Rail (PLR) opens in 2024, the nearest light rail station to the site is the Prince Alfred Square station. The station is approximately a 20-minute walk from the site. Figure 13 illustrates the location of the site in relation to the light rail line. Figure 14 illustrates the upcoming PLR network map with the nearest station highlighted. The approved Stage 2 of the PLR will connect north and south of the Parramatta River directly to the Parramatta CBD, and then to Sydney Olympic Park.



**Figure 13: Walking Route from Light Rail Station to Site**  
*Source: Nearmap*

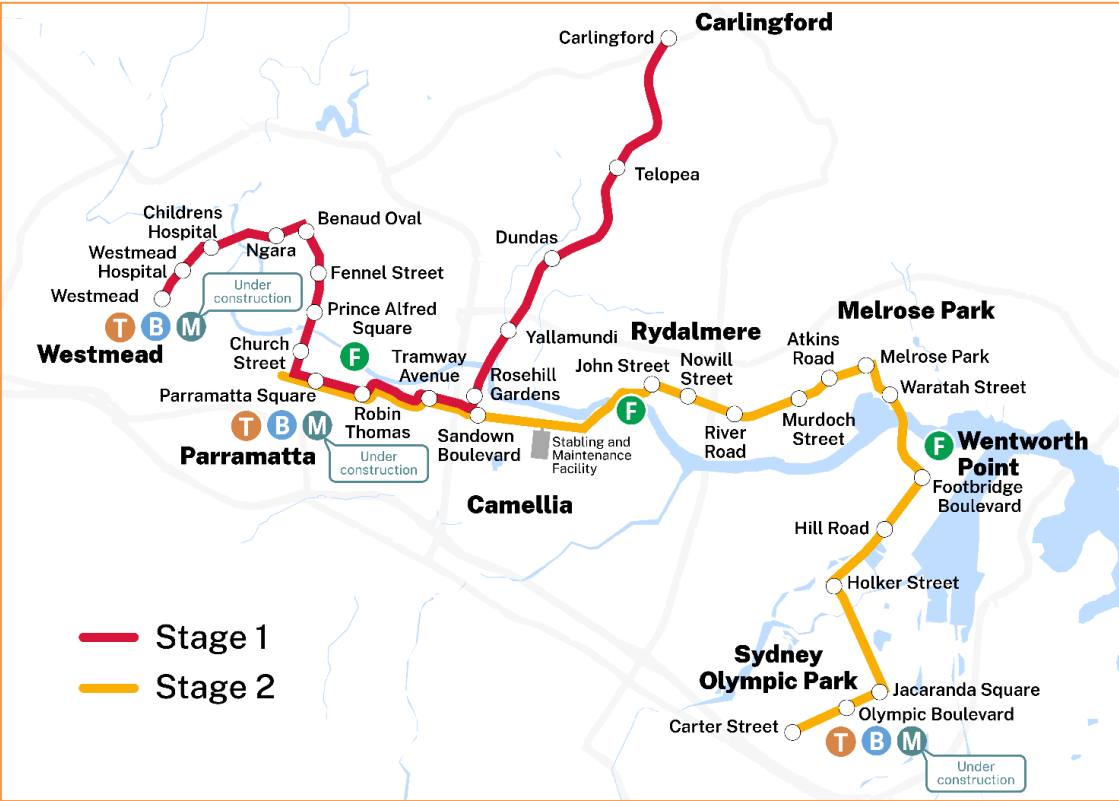


Figure 14: PLR Network Map  
Source: Parramatta Light Rail

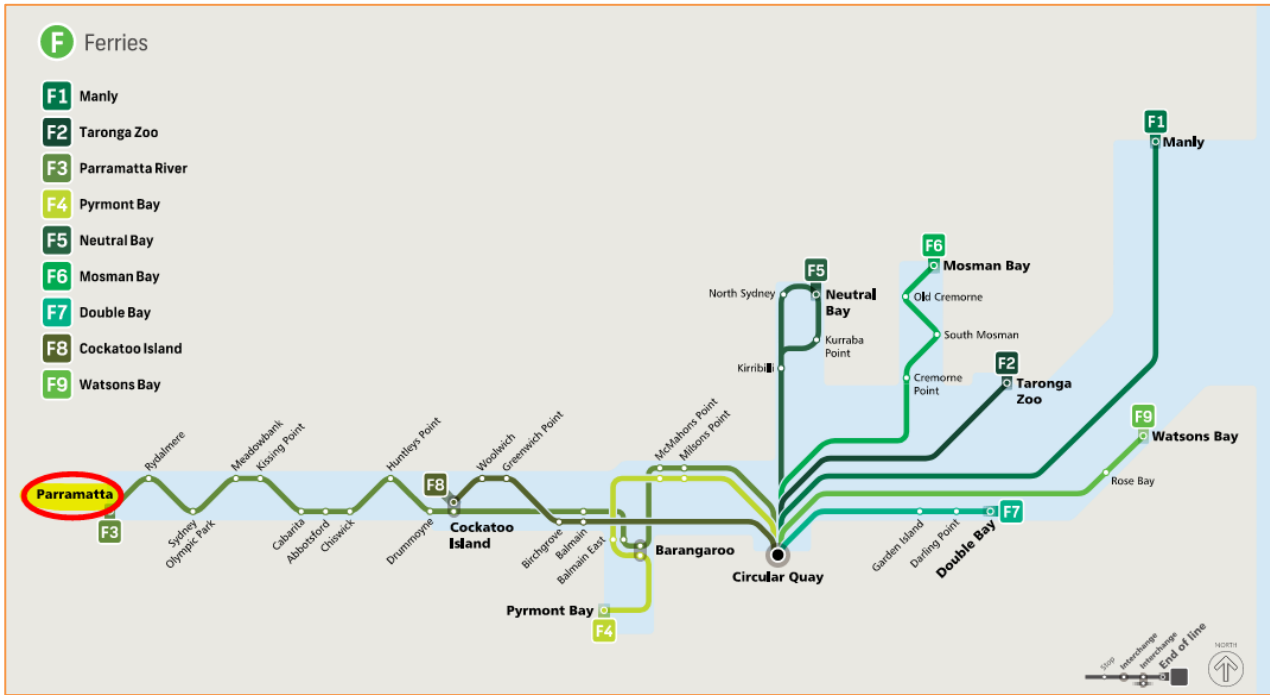
2.8.4 Ferry

The nearest wharf to the site is the Parramatta Wharf, on the Parramatta River route. The wharf is approximately a 20-minute walk from the site. The wharf can be accessed via bus route 501, 521, 524, 525. These bus routes take approximately 3-5 minutes between the wharf and the school.

Table 7 summarises the frequency of ferries at Parramatta Wharf. Figure 15 illustrates the Sydney ferry wharf network map with the nearest wharf highlighted.

Table 7: Parramatta Wharf Ferry Line

Ferry line	Ferry route	Frequency from Parramatta station
F3	Parramatta River	Every 30 minutes during peak hours Every 60 minutes during off-peak hour

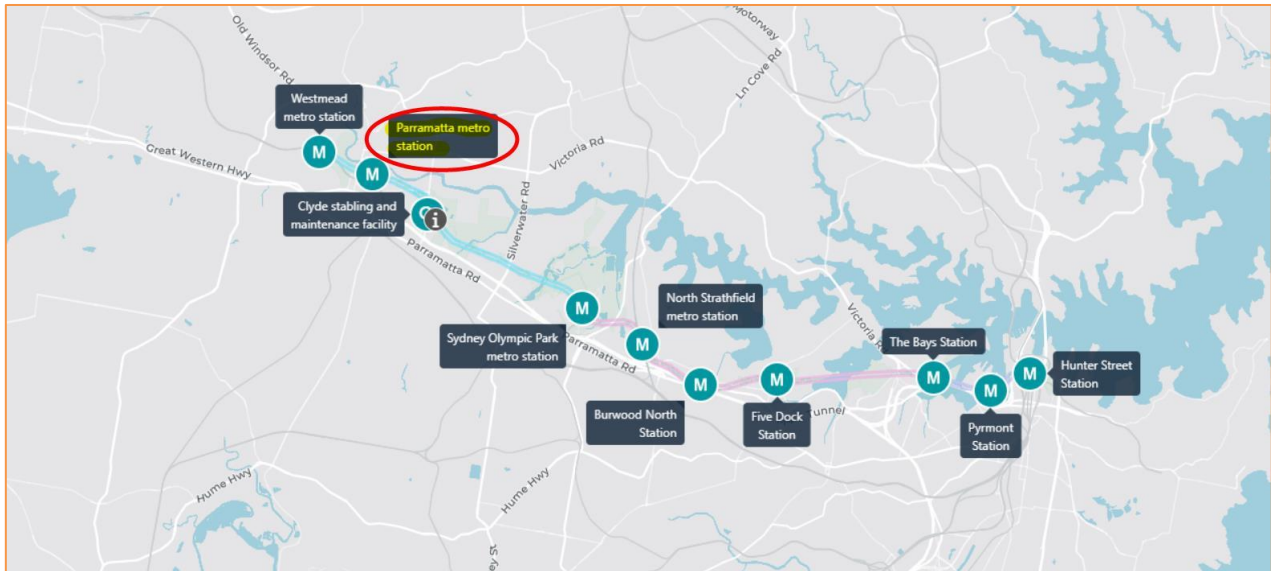


**Figure 15: Ferry Network Map**  
*Source: Transport for NSW*

## 2.8.5 Metro

With the ongoing Sydney Metro West project, the nearest metro station to the site will soon be Parramatta station on the Westmead line. The station is approximately a 30-minute walk from the site. The station can be accessed via bus route 501, 524, 525. These bus routes will take approximately 7-10 minutes between the station and the school.

Figure 16 illustrates the upcoming Sydney Metro West network map with the nearest station highlighted.



**Figure 16: Metro Network Map**

*Source: Transport for NSW*

## 2.9 Service and Loading

The existing entry points for emergency and service vehicles are on the east side of the school, on Gaggin Street, as shown in Figure 17. Council waste collection operates on Webb Street, with the standard 240L bins wheeled out onto the street for kerbside collection. In addition, private contractors (BINGO) empty the 400L bins at the on-site waste area on Gaggin Street. The 9.4m long rear-lift waste BINGO truck, reverses into the site from Gaggin Street. The second entry point on Gaggin Street is likely used for emergency and occasional maintenance access.



**Figure 17: Existing Emergency and Service Vehicles Entry Points**

Source: Nearmap

## 2.10 Pick up and Drop Off

PEPS currently operates with 2 on-street kiss & ride zones. The existing on-street kiss & ride zones are located on Albert Street East and Gaggin Street. Albert Street East provides capacity for approximately 3 vehicles at one time, whilst Gaggin Street provides capacity for approximately 8 vehicles at one time. All kiss & ride zones are unsupervised in the morning. The supervision of kiss & ride on Gaggin Street commences at 3:20pm. The supervision end when the students are collected typically after 10-15 minutes. For this process, there is a staff member stationed at the kiss & ride zone and another in the school marshalling area, who communicate via phone/walkie talkie. Parents and carers display a 3-digit number on their windshields, which will be visible to staff members when they arrive at the K&R zone. The staff member at the K&R zone will then relay the numbers of the first 2-3 vehicles to the staff member at the marshalling area. In the marshalling area, this staff

member will announce the numbers, allowing students to exit the school site and proceed to their parent or carer's car.

Albert Street East's kiss & ride zone is unsupervised as it is not the designated kiss and ride zone for the school.

Both kiss and ride zones are signposted 'No Parking' zone between 8:00-9:30am and 2:30-4:00pm. South of the kiss and ride zone on Gaggin Street, there is a 5-minute parking restriction from 8am-9.30am and 2.30pm –4pm during school days.

Furthermore, there is an existing accessible kiss & ride zone along Albert Street which is shown in Figure 18.



**Figure 18: Existing Accessible Kiss & Ride**

## 2.11 Parking Facilities

### 2.11.1 On-Site Parking

The existing PEPS staff car park can be accessed via Brabyn Street. The parking layout and entry point is shown in Figure 19. The capacity is approximately 10 spaces. The car park is often full, with cars being parked wherever there is space, and not necessarily within the outlined car park spaces.



**Figure 19: Existing PEPS Car Park**  
*Source: Nearmap*

2.11.2 On-Street Parking

A variety of restricted and unrestricted on-street car parking is generally available in all sides of the site. Figure 20 shows the current on-street parking restrictions within a 400m radius in the surrounding streets.



Figure 20: On-Street Parking Restrictions  
Source: Nearmap

## 2.12 Travel Mode

### 2.12.1 Travel Mode Survey Data

A travel mode survey was distributed and open from Wednesday 20th June 2024 to Wednesday 2nd July 2024 for staff and students at Parramatta East Public School. Online staff surveys were distributed to all staff and completed individually. The online student survey was distributed to all classroom teachers to undertake e.g. the teacher would read out the question and record the number of students who raised their hand.

39 staff responses were received (for approximately 40 full-time equivalent staff at the time of the survey), and 18 class responses were received for the student hands up survey. The quantity and response rate for both user groups are considered high enough to provide accurate summaries of school travel behaviour.

Data for students is shown in Table 8 and for staff in Table 9. The fully detailed results of the travel mode survey are shown in Appendix A.

**Table 8: PEPS Student Travel Mode Data**

Travel mode	AM	PM	Average <sup>2</sup>
Bus	1%	1%	1%
Car	62%	58%	60%
Scooter/Skateboard	2%	3%	3%
Bicycle	1%	1%	1%
Walked only	34%	37%	35%
Total	100%	100%	100%

**Table 9: PEPS Staff Travel Mode Data**

Travel mode	AM	PM	Average
Bus	0%	2%	1%
Car (park on-site)	34%	34%	34%
Car (park nearby)	56%	56%	56%
Carpool with another staff member	4%	4%	4%
Bicycle	2%	2%	2%
Walked only	4%	2%	3%
Total	100%	100%	100%

<sup>2</sup> Values may not add to 100% due to rounding

2.12.2 Census Travel Data

Method of Travel to Work (MTWP) data from the Australian Bureau of Statistics (ABS) Census provides an estimate of travel modes to and from the local area as defined by Statistical Area Level 2 (SA2) zones. The site is located within SA2 zone ‘North Parramatta’ as illustrated in Figure 21.

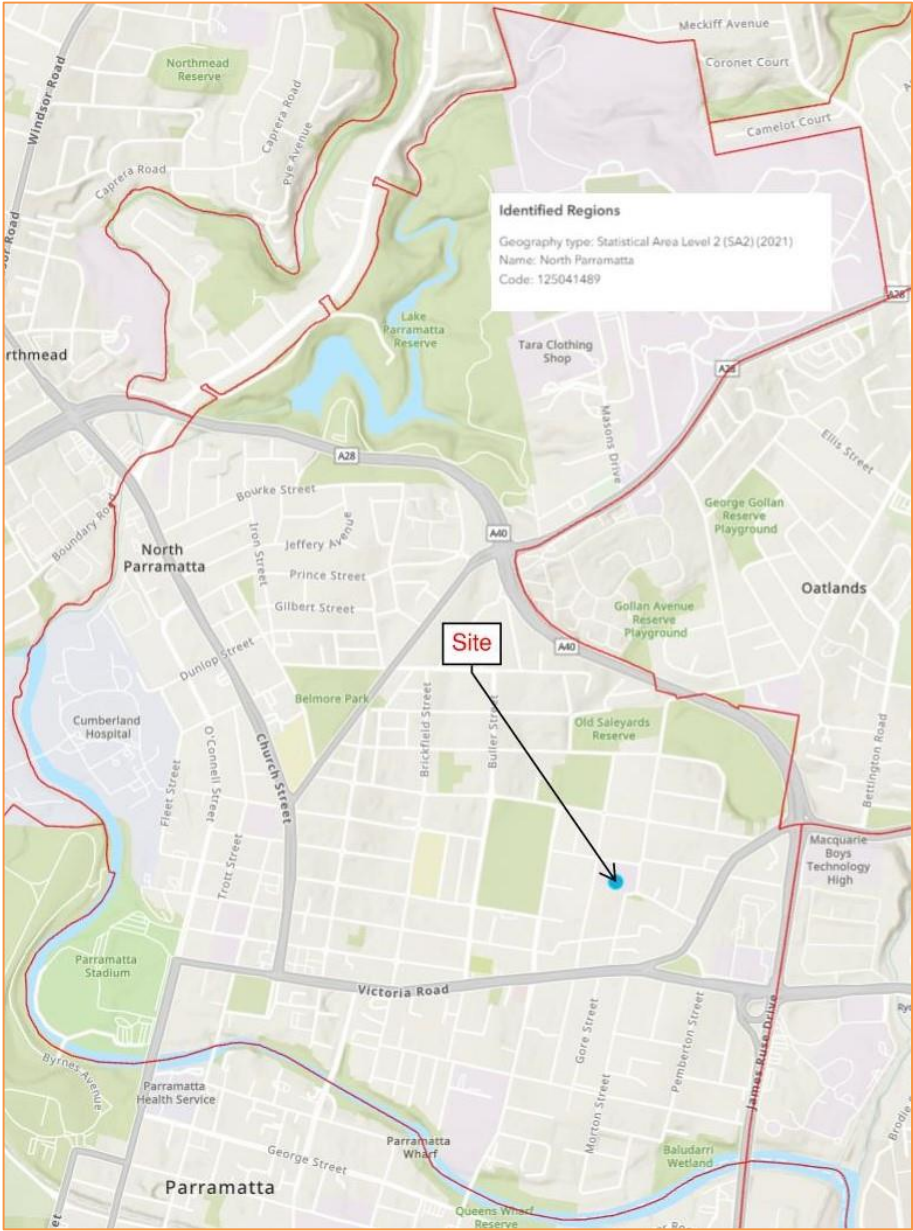


Figure 21: Statistical Area of Site  
Source: ABS

Responses for “worked at home”, “did not go to work”, and “mode not stated” have been excluded from this analysis. The census travel data is summarised in Table , for this SA2 zone as both a place of work (i.e., travelling from somewhere else to North Parramatta) and as a place of residence (i.e. travelling from North Parramatta to somewhere else).

**Table 10: Census Travel Data**

*Note: Values may not add to totals shown due to rounding*

*Source: ABS*

Travel mode	2016		2021	
	Place of Work	Place of Residence	Place of Work	Place of Residence
<b>Train</b>	9%	24%	6%	11%
<b>Bus</b>	4%	8%	2%	5%
<b>Ferry</b>	0%	0%	0%	0%
<b>Tram</b>	0%	0%	0%	0%
<b>Taxi</b>	0%	0%	0%	1%
<b>Car, as driver</b>	76%	52%	79%	65%
<b>Car, as passenger</b>	5%	4%	5%	5%
<b>Truck</b>	1%	0%	0%	1%
<b>Motorbike/scooter</b>	1%	1%	1%	1%
<b>Bicycle</b>	0%	1%	0%	1%
<b>Other Mode</b>	0%	0%	1%	1%
<b>Walked only</b>	4%	10%	6%	9%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Table 11: Categorised Census Data**

Travel mode	2016		2021	
	Place of Work	Place of Residence	Place of Work	Place of Residence
<b>Public Transport</b>	13%	32%	8%	16%
<b>Active Transport</b>	4%	11%	7%	11%
<b>Private Vehicle</b>	83%	57%	85%	73%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

The census travel data shows that:

- The majority of the population commute via private vehicle, which is the most popular mode of travel for both workers and residents.
- In both cases where workers were travelling to North Parramatta and residents travelling from North Parramatta, train was the second most popular option from the 2016 census data and was followed by carpooling for workers, and bus for residents.
- However, from the 2021 census data, for workers travelling to North Parramatta, train and walking was the second most popular option and was closely followed by carpooling, and then bus. For residents travelling from North Parramatta, train was the second most popular option, followed by bus and carpooling.

- The use of public transport decreased from 2016 to 2021. However, it is acknowledged that data in 2021 was collected during the COVID-19 pandemic, when travelling via public transport was minimal and so the results for 2021 may be skewed because of this.
- The use of private vehicles and active transport increased from 2016 to 2021.

## **2.13 Other Site Conditions and Observations**

Observations of the existing site were undertaken during a morning and afternoon peak period in June 2024, with the key findings noted as follows:

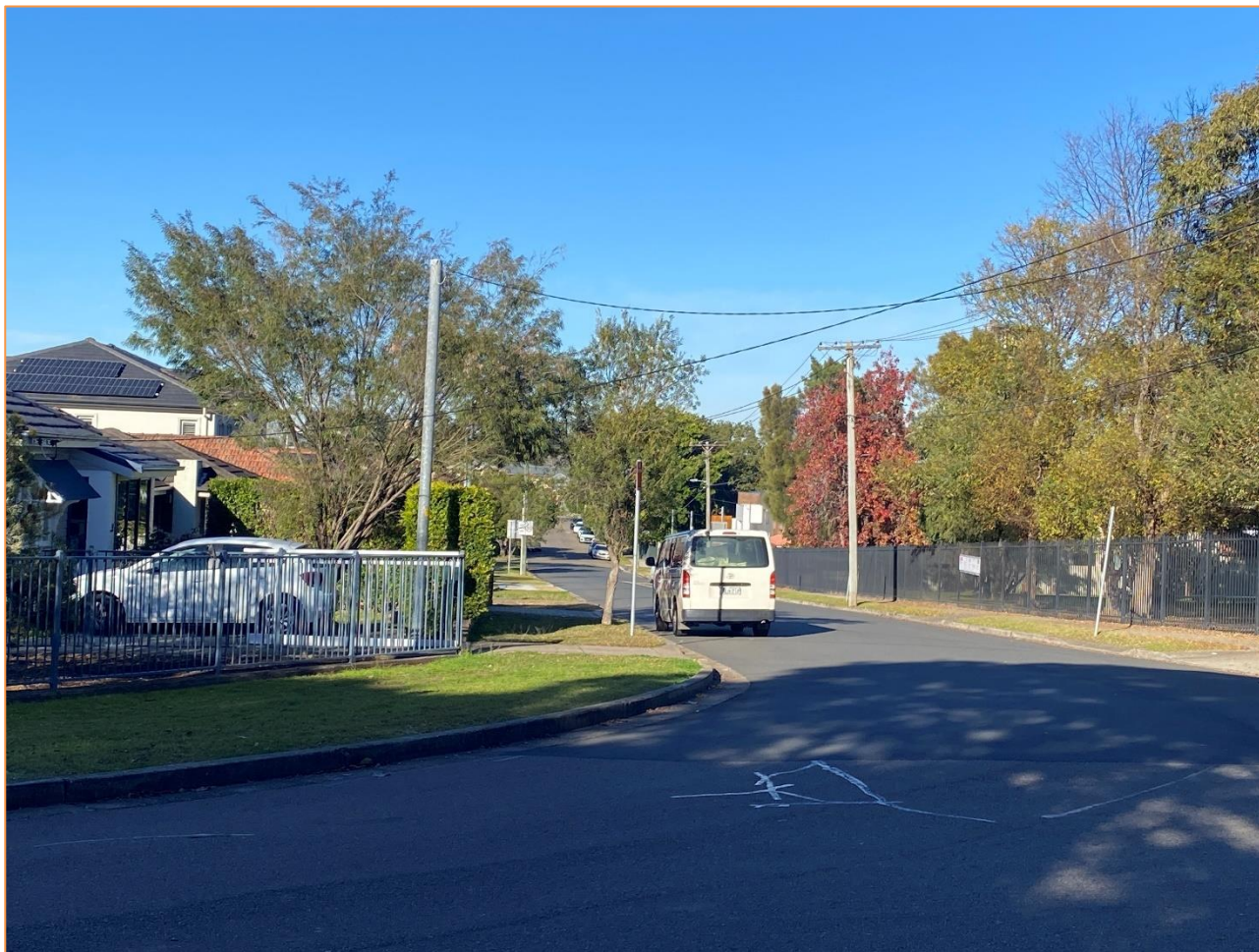
### **Morning Peak Period (27/06/2024)**

- The observed activity levels at the Albert Street East kiss & ride area were minimal.
- Pedestrians were observed to come from several directions, mostly from the northeast on Gaggin St and few others coming from the west (towards Oval) and northwest (Brabyn St).
- It was observed that a large number of parents park their vehicles and walk students into the school. The parking locations observed were on Albert St East towards the Oval, Webb St, Symonds Ave, Gaggin St (non-school side + further down past the K&R zone).
- Following the morning school bell, it was observed that on-street parking significantly cleared out, with lots of spare capacity (as shown in Figure 22).
- Unrestricted parking on Brabyn St was observed to be almost near capacity, suggesting the possibility of staff parking on this street.
- The Gaggin Street kiss & ride area experienced an average usage of approximately 3 to 4 cars at any given time, with a peak of up to 6 cars. This activity did not impact the through traffic along Gaggin Street.

### **Afternoon Peak Period (25/06/2024)**

- Parents started arriving at the school a few minutes before the 3:15pm bell time.
- The vehicles started arriving at the kiss and ride zone at 3:00pm and the bay was near capacity by 3:10pm.
- The kiss & ride queue on Gaggin Street briefly obstructed through traffic for 2 to 3 minutes. However, the queues fully cleared afterward, with only a minimal number of cars remaining in the zone about 3 minutes after the start of the kiss & ride activity.
- Similar to the morning peak, a large number of parents park their vehicles nearby and walk into the school to meet their children.
- Following the afternoon school bell, it was observed that on-street parking significantly cleared out, within 10 minutes.
- Congestion and confusion were present due to adjacent zones of No Parking & 5-min Parking. Some parents were observed to be waiting in the 5-minute parking zone designated for kiss-and-ride, where other vehicles were parked while parents entered the school to pick up their children.
- Pedestrian activity was observed on Gaggin St, with some families walking down to the Victoria Rd signalised pedestrian crossing.
- Pedestrian activity was also present on Albert Street East and Brabyn Street, with all pedestrians utilising the zebra crossings.
- Several pedestrians, including parents with their children, were observed crossing Gaggin Street outside the loading bay driveway crossover, raising safety concerns.
- Several cars were observed to have stopped in the no parking zone on Albert Street East (about 4x vehicles in total, waiting for up to 10 mins)
- No queuing or congestion was observed on Albert Street East or Brabyn Street (including at intersections)
- No cyclists were present, however, a few kids were riding scooters

- The 721 School Bus arrived at 3:26pm and picked up around 4 students



**Figure 22: Gaggin Street at 9:22 am (Post Morning School Bell)**

*Source: TTW*



**Figure 23: Gaggin Street Kiss and Drop Activity**  
*Source: TTW*

## Section 3 Proposed Works

### 3.1 Description of Works

The activity comprises upgrades to PEPS to provide replacement teaching facilities in place of the existing temporary and permanent facilities that are no longer fit for purpose, involving the following works:

- Site preparation and required earthworks
- Demolition of existing Buildings C, D, E and F, and associated structures including adjacent ramps and walkways
- Construction of the following:
  - A new 3-storey school building (referred to as Block R) including teaching spaces, library/administration, and staff/student amenities
  - Upgrade of soft and hard landscape and playground areas
  - A new at-grade parking area
  - Formalised waste area, with access being retained from Gaggin Street
  - Public Domain Works with upgrades to the pedestrian access south of the school, and new kiss and ride zone on Albert Street East
  - Entrance and School logo signage along the Northern Albert Street East frontage of Block R
- Refurbishment works to existing buildings
- Removal of trees as required and retention where possible
- Installation and augmentation of services and infrastructure as required.

The overall proposed site plan is illustrated in Figure 24.

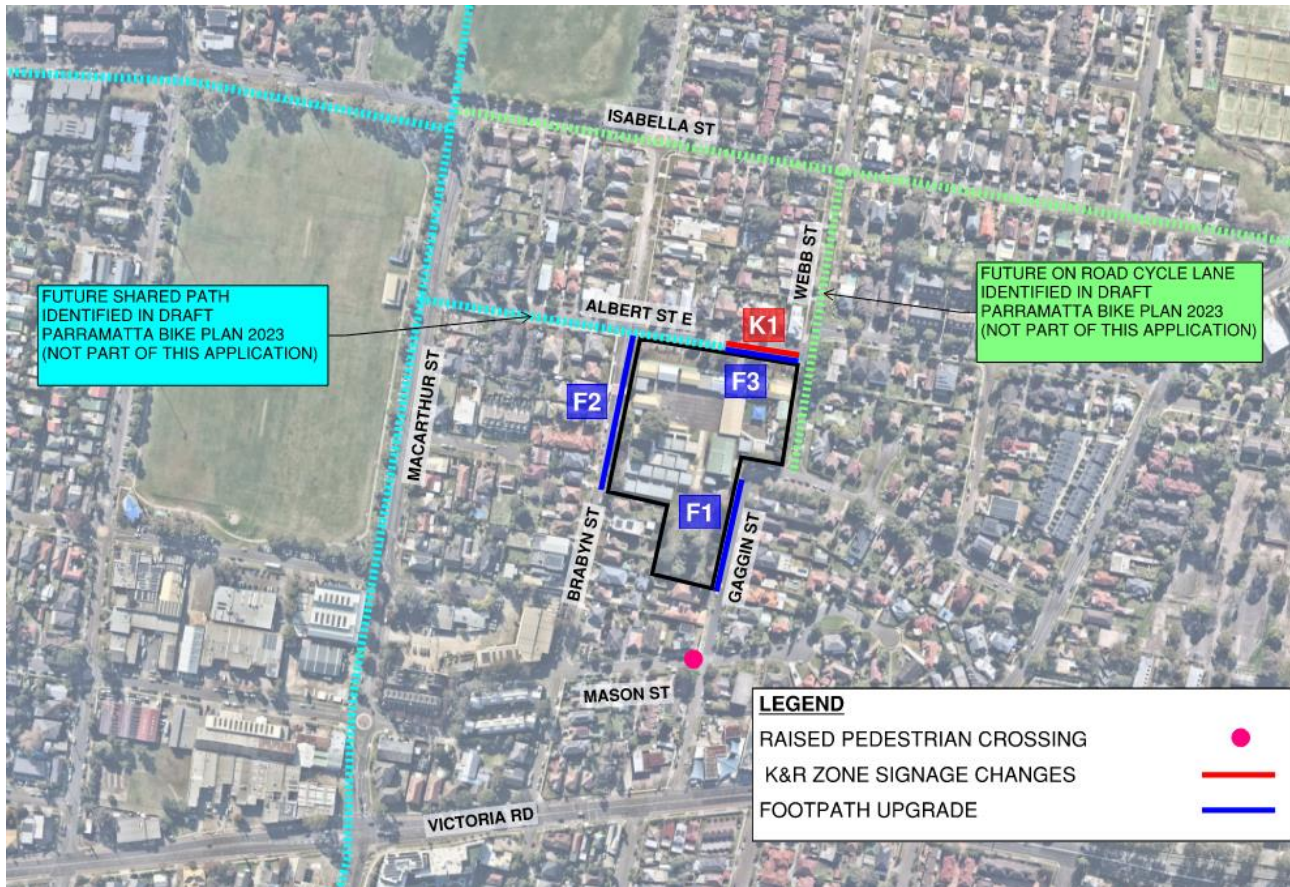


**Figure 24: Proposed Site Plan**  
Source: JDH Architects

### 3.2 Public Domain Works

An overall plan showing the proposed public domain works is illustrated in Figure 25. The scope of public domain works includes the following. It should be noted that the proposed works are subject to further discussion with Council.

- Footpath widening works to each of the school frontages, including:
  - Brabyn Street along the school frontage
  - Gaggin Street outside the formal kiss & ride zone
  - Albert Street E outside the proposed new kiss & ride zone
- New raised pedestrian crossing on Mason Street
- Signage changes to provide a secondary kiss & ride zone on Albert Street East



**Figure 25: Proposed Public Domain Works**

Source: TTW

### 3.3 Student & Staff Numbers

The existing and proposed student and staff numbers are summarised in Table 12. The school provided the current enrolment numbers as of June 2024, which was approximately 500 students. However, the existing capacity is for 638 students which includes demountables. Following the proposed works, the school will be facilitate for up to 667 students.

**Table 12: Proposed Activity Capacity**

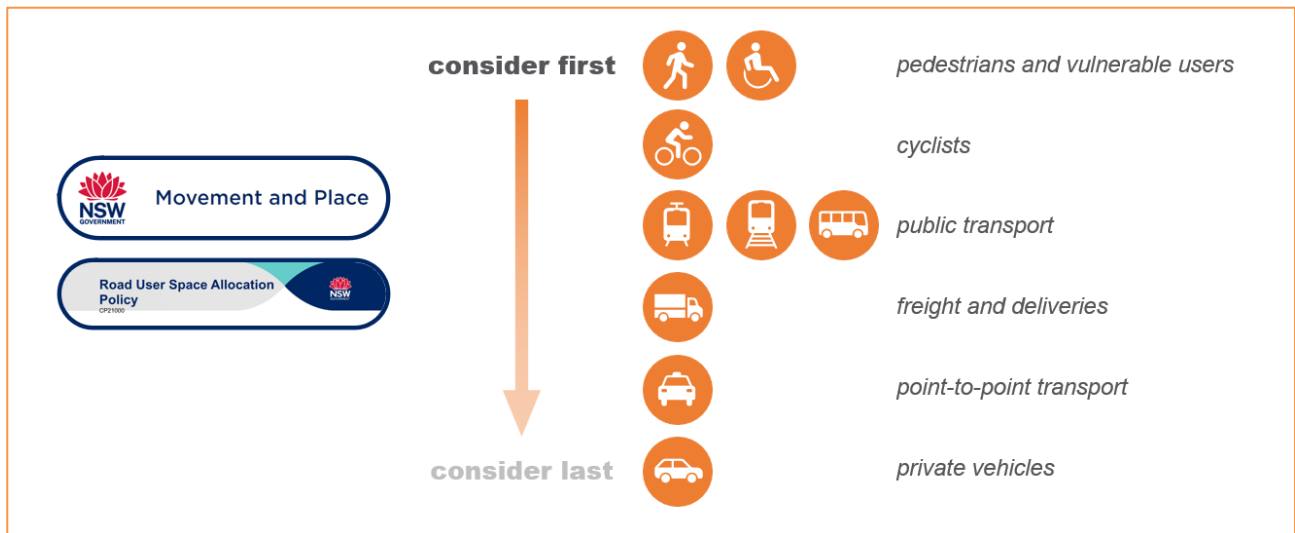
Travel mode	Existing Enrolment	Proposed Capacity
Students	500	667
Staff <sup>3</sup>	32	41

<sup>3</sup> FTE (full-time equivalent) staff number is used as per the *Calculating Staffing Numbers for Capital Works Projects* (DOE, 2020)

## Section 4 Travel Demands

### 4.1 Transport Hierarchy

The transport strategy for the project is designed as a sustainable transport strategy, prioritising non-vehicle modes such as active transport (i.e. walking, cycling) and public transport and discouraging private vehicle travel (including kiss & ride and car parking). This hierarchy is illustrated in Figure 26.



**Figure 26: Sustainable Transport Hierarchy**

Source: TfNSW

This strategy is consistent with NSW Government policy, specifically the Road User Space Allocation Policy, and is applied across all current DOE projects.

### 4.2 Travel Scenarios

The projected travel mode splits for students and staff travelling to school are presented for two different post-development scenarios including **baseline**, **moderate** and **reach** mode splits. The **existing** mode split scenario and travel demands are also presented for reference and comparison. The mode split scenarios are summarised as follows:

- **Existing** – existing travel splits applied to existing student and staff numbers
- **Baseline** – existing travel splits applied to future student and staff numbers
- **Moderate**– moderate travel splits applied to future student and staff numbers
- **Reach** – reach travel splits applied to future student and staff numbers

Table 13 summarises the existing, baseline, moderate and reach mode splits for each different mode of transport and for both students and staff. Table 14 shows the projected travel demand numbers by applying the mode splits to the student and staff populations (refer to Section 3.1 for further detail regarding future student and staff numbers).

**Table 13: Mode Share Scenarios**

Travel mode	Students				Staff			
	Existing	Baseline	Moderate	Reach	Existing	Baseline	Moderate	Reach
Walk	35%	35%	45%	55%	3%	3%	5%	10%
Bike/scooter	4%	4%	7%	10%	2%	2%	3%	5%
Bus	1%	1%	3%	5%	1%	1%	10%	20%
Car (passenger)	60%	60%	45%	30%	0%	0%	7%	15%
Car (driver)	-	-	-	-	94%	94%	75%	50%
Total	100%	100%	100%	100%	100%	100%	100%	100%

**Table 14: Travel Demand Projections**

Travel mode	Students				Staff			
	Existing	Baseline	Moderate	Reach	Existing	Baseline	Moderate	Reach
Walk	178	237	300	367	1	1	2	4
Bike / scooter	18	23	47	67	1	1	1	2
Bus	5	7	20	33	0	0	4	8
Car (passenger)	300	400	300	200	0	0	3	6
Car (driver)	-	-	-	-	30	39	31	21
Total	500	667	667	667	32	41	41	41

#### 4.2.1 Existing Scenario

The existing scenario mode splits have been calculated based on existing travel data collected at Parramatta East Public School. The students and staff at the school were surveyed in June 2024, and the results of this survey are summarised in more detail in Section 2.12.1.

#### 4.2.2 Baseline Scenario

The baseline scenario adopts the existing mode splits outlined above and applies them to the future post-development student and staff numbers. This scenario represents the baseline for travel behaviour at the school as per existing conditions, with no consideration of the intended shift away from private vehicle use.

It is expected that this project will be able to achieve more ambitious travel mode splits with less focus on car travel and a greater uptake in active and public transport, due to the improved infrastructure works proposed at the site and the implementation of a School Transport Plan.

#### 4.2.3 Moderate Scenario

The project is seeking to align with the NSW Government's Sustainable Transport Hierarchy, with the goal of reducing private vehicle usage (including kiss & ride) and giving priority to active and public transport.

The moderate scenario mode splits reflect this strategy by aiming for an uptake in active and public transport, and reductions in car travel. These moderate mode splits depart reasonably from the existing scenario, but they are seen as achievable due to the following:

- Highly walkable catchment intake area, with approximately 90% of students residing within a 1,200m (15-minute) walk from school (refer to Section 2.4 for catchment walking analysis).
- Good existing pedestrian infrastructure in the local network, as well as several footpath upgrades and new safe crossing facilities proposed as part of this project.
  - In addition, Council has identified several future improvements to the cycling network, including a Shared Path on Albert St East along the school frontage.
- Proposed on-site bike parking for students and staff as well as end-of-trip facilities for staff.
- Proximity to the Victoria Road bus corridor, with bus services connecting the school to Parramatta station (to broader train and future metro transport networks) in 10 minutes.
- Consideration of JTW data (refer to Section 2.12.2), including a mode split of 5% for carpooling and 76% for car as driver, which is already a reasonably significant departure from the existing staff mode splits.

These mode share targets are achievable, as they reflect similar margins of improvement seen in the recent June 2024 data from Carlingford West Public School. This mode share data reported 42% active transport (walking, cycling) and 2% public transport usage. Hence based on the recent actual data received, the target of achieving a 55% sustainable transport mode share (walking, bicycle, and public transport) for students in this TAIA can be deemed achievable.

However, these targets are not expected to be fully achieved immediately but will progress gradually as the school population grows over time, and with the implementation of a School Transport Plan.

#### **4.2.4 Reach Scenario**

The long-term, more ambitious mode split scenario focuses on achieving a substantial increase in active transport modes, such as walking and cycling, supported by enhanced infrastructure and policies that encourage sustainable travel. This shift is expected to result in a significant reduction in private car usage, alleviating congestion and contributing to environmental and health benefits.

# Section 5Pedestrians

## 5.1 Demands

Future pedestrian volumes have been calculated in Section 4.2 and are summarised in Table 15 for reference.

Table 15: Summary of Pedestrian Travel Demands

Pedestrians	Existing		Baseline		Moderate		Reach	
	Mode Split	Volume	Mode Split	Volume	Mode Split	Volume	Mode Split	Volume
Students	36%	178	36%	237	45%	300	55%	367
Staff	3%	1	3%	1	5%	2	10%	4

## 5.2 Proposal

The existing pedestrian access points will be retained at the following locations across the site:

- The main access point on Albert Street East
- Other access points on Brabyn Street, Webb Street and Gaggin Street

The proposed pedestrian works as outlined in Section 3 include:

- Footpath upgrades along the east (Gaggin Street), west (Brabyn Street) and north (Albert Street) to the school.
- A new raised pedestrian crossing on Mason Street parallel to Gaggin Street will be provided, with the location outlined in Figure 27 below.

It is noted that the public domain works will be subject to separate Section 138 approvals outside this application.



**Figure 27: Proposed Raised Pedestrian Crossing Location**

Source: TTW

## 5.3 Analysis

### 5.3.1 Pedestrian Crossing Warrants

#### Estimated Pedestrian Volumes

Based on the analysis of the student catchment intake area and the students per link analysis (refer to Section 2.4), the estimated pedestrian volume at the Mason Street / Gaggin Street proposed raised pedestrian crossing based on the baseline mode splits is a maximum of 94 pedestrians in the travel period.

This pedestrian value is for each of the morning and afternoon travel periods, so would occur at least twice per day. Considering the potential mode shift towards increased sustainable transport (walking) under the moderate and reach targets, the proposed crossing location is deemed suitable.

#### Pedestrian Crossing Guidelines (TfNSW)

In relation to pedestrian volume demands at the proposed raised pedestrian crossing, the Pedestrian Crossing Guideline issued by TfNSW (dated 13 September 2022) notes:

*Local governments may choose to use TfNSW's warrants outlined in the Supplement to Australian Standard AS 1742.10-2009. However, the threshold of combined pedestrian and vehicle volumes required by the TfNSW warrants may be difficult to achieve on local or sub arterial roads.*

As an alternate to the TfNSW warrants, councils may use the following pedestrian demand calculation:

- *In each of two separate one-hour periods in a typical day, the pedestrian flow per hour (P) crossing the road is, or is expected to be, equal to or greater than 20.*
- *Children and elderly or mobility impaired pedestrians count as two pedestrians.*

As shown above, the expected trip generation at the proposed raised pedestrian crossings would substantially exceed (by an order of magnitude) the 20 pedestrians per hour threshold. The proposed crossing location is therefore deemed suitable.

### **Pedestrian Crossing Guidelines (City of Parramatta)**

However, the 'Guidelines for the installation of pedestrian crossing facilities on local roads,' issued by City of Parramatta (dated 13 January 2021) outlines essential recommendations, which indicate that:

- The guidelines from TfNSW for continuous footpath treatments highlight the importance of managing vehicle traffic to support pedestrian safety. The specification that a maximum of 45 vehicles per hour is required underlines a threshold for when pedestrian crossings or continuous footpaths are considered feasible.
- The City of Parramatta should utilise the pedestrian volume guidelines from VicRoads instead of TfNSW, as these guidelines can effectively demonstrate pedestrian demand and support the goal of enhancing walking environments.

The requirement of a minimum 20 pedestrians per hour crossing the road, for the selection of a raised pedestrian crossing, is achieved as shown by the baseline mode splits above, therefore the proposed crossing location is considered suitable. Additionally, pedestrian demand is expected to gradually increase beyond the baseline as the moderate and reach mode share targets are achieved.

### **5.3.2 Sight Line Analysis**

To confirm the suitability of the proposed crossing location, analysis of available sight lines has been undertaken, attached at Appendix C. This analysis demonstrates that sufficient sight lines are available at Mason Street and along Gaggin Street, subject to installation of regulatory No Stopping distances.

The assessment considers the sightlines required for both 50km/h (current signposted speed limit) and 30km/h speeds, to represent the travel speeds for vehicles approaching straight to the crossing and vehicles approaching around a bend, respectively. The Austroads Guide to Road Design Part 4A requires Approach Sight Distance (ASD) of the following:

- 30km/h speed → 27m ASD
- 50km/h speed → 55m ASD

Realistically, it is expected that vehicles will approach the crossing at a speed of 30km/h or less, particularly when approaching from Gaggin Street and needing to slow to turn onto Mason Street, and due to the crossing being raised and approachable at low speeds only.

Considering this, suitable sightlines of 27m are achieved on all approaches to the proposed pedestrian crossing, as demonstrated in Appendix C.

## Section 6 Cyclists

### 6.1 Demands

Future cyclist volumes have been calculated in Section 4.2 and are summarised in Table 16 for reference.

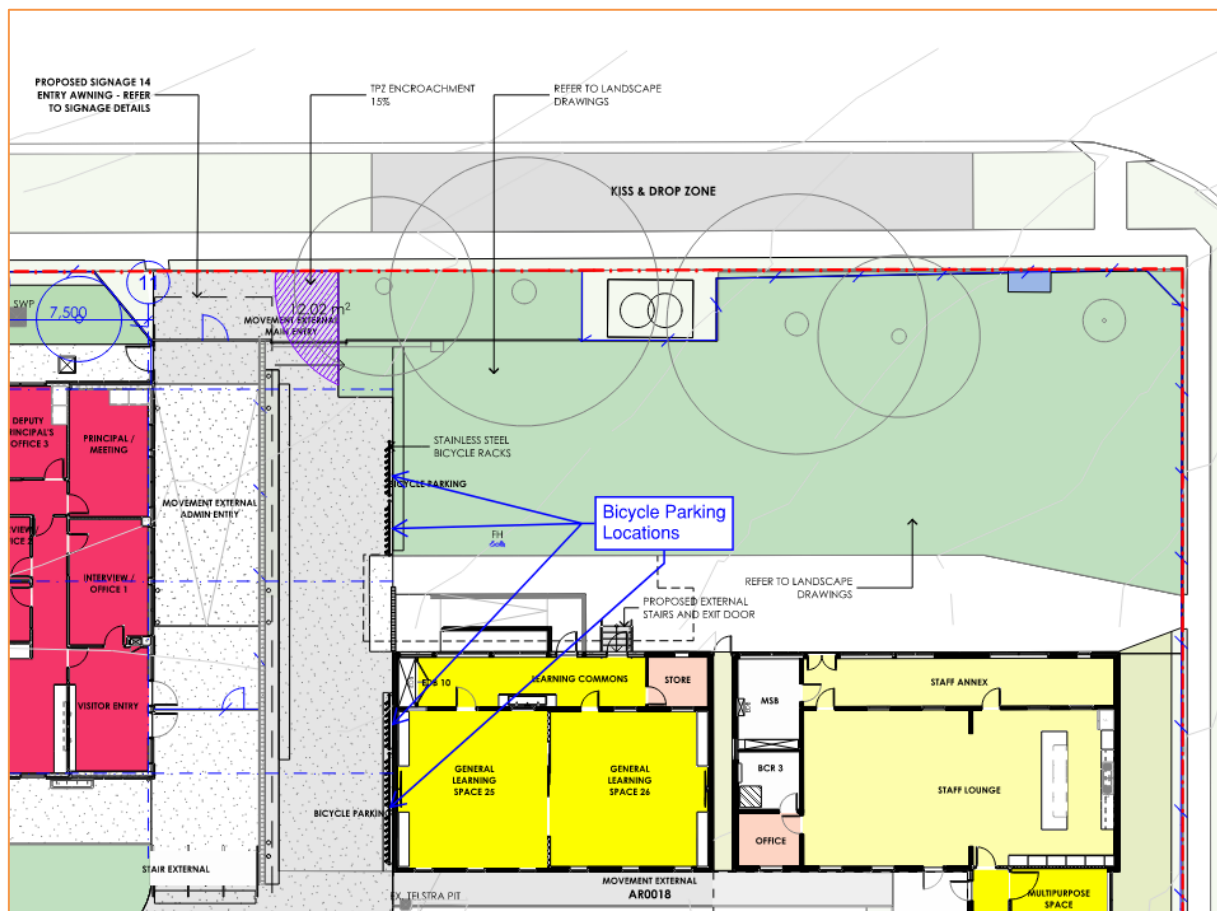
**Table 16: Summary of Cyclist Travel Demands**

<u>Cyclists</u>	Existing		Baseline		Moderate		Reach	
	Mode Split	Volume	Mode Split	Volume	Mode Split	Volume	Mode Split	Volume
<b>Students</b>	4%	18	4%	23	7%	47	10%	67
<b>Staff</b>	2%	1	2%	1	3%	1	5%	2

### 6.2 Proposal

#### 6.2.1 Student Cyclist Facilities

The activity includes a provision for 35 student bike parking spaces. The location of the bicycle facilities is provided in Figure 28.



**Figure 28: Proposed Bike Parking Locations**  
Source: JDH Architects

### 6.2.2 Staff Bicycle Facilities

5 bicycle parking spaces and 1 shower/change facility for staff will be provided. The location of the bicycle parking facility is provided in Figure 28, and the shower/change facility will be provided in Block R.

## 6.3 Analysis

The Parramatta DCP provides the following bicycle rates for educational establishments:

- *1 space per 10 staff, plus 1 space per 10 students over year 4*

The DCP would result in a requirement for approximately 20 bicycle parking spaces for students (assuming year groups are equally numbered) and 5 bicycle parking spaces for staff.

However, in order to promote sustainable transport, bicycle parking will be provided to cater to at least 5% of the total students which equates to a total of 35 bicycle parking spaces for students. Furthermore, the provision of 35 bike parking spaces would exceed the bicycle demand for the redeveloped school based on the anticipated future baseline mode split. Also, 5 bike racks for staff will be provided which would meet the DCP minimum requirements for staff. Additionally based on DOE guidelines schools should provide storage for 10% of walking mode share for scooters and helmets. This equates to a total of 24 storage spaces for helmets and scooters for the redeveloped school based on the baseline mode share.

## Section 7      Public Transport

### 7.1      Demands

Future bus volumes have been calculated in Section 4.2 and are summarised in Table 17.

Table 17: Summary of Bus Travel Demands

<u>Bus Users</u>	Existing		Baseline		Moderate		Reach	
	Mode Split	Volume	Mode Split	Volume	Mode Split	Volume	Mode Split	Volume
Students	1%	5	1%	7	3%	20	5%	33
Staff	1%	0	1%	0	10%	4	20%	8

### 7.2      Proposal

The proposed school does not include plans to modify the existing public transport network. The existing bus zone outside the school on Albert Street East, as well as the nearby public bus stop areas on Victoria Road, Pennant Street and Isabella Street, will continue their existing operation upon project completion.

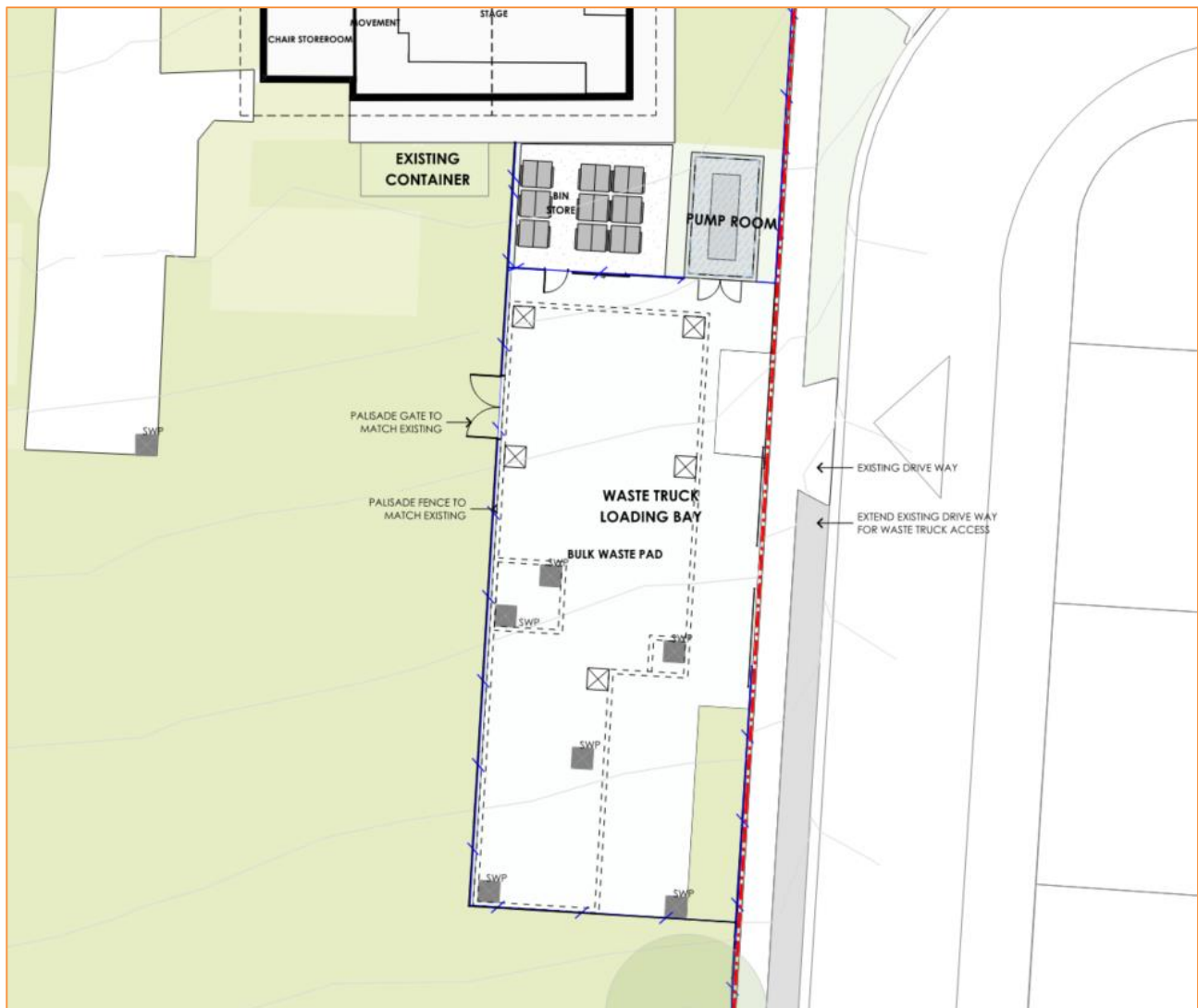
### 7.3      Analysis

Due to the low travel demands forecast for the activity, the current bus routes servicing the site will be sufficient in supporting the demand. Therefore, no additional public transport provisions or modifications to existing services are included in this activity.

## Section 8 Loading and Servicing

### 8.1 Proposal

The proposed loading area for service vehicles and waste collection is provided at the southeast of the site, which can be accessed via Gaggin Street. Figure 29 shows the proposed loading area.



**Figure 29: Proposed Loading Area**  
*Source: JDH Architects*

### 8.2 Analysis

The loading area has been designed to accommodate up to and including an 8.8m Medium Rigid Vehicle, as well as the 9.4m Isuzu FVY240 rear-lift truck currently used by the private waste collection contractor (BINGO).

Furthermore, the loading area is also able to service a 12.5m Heavy Rigid Vehicle with vehicles entering and exiting in a forward direction, however, the HRV movement is restricted to a right-in from Gaggin Street (North) and right out onto Gaggin Street (South) only. The movements for the BINGO truck and MRV are not subject to any approach or movement restrictions for vehicles entering and exiting in a forward direction.

Swept path analysis for the loading dock and service vehicle area is provided in Appendix B.

## Section 9 Kiss & Ride

### 9.1 Demands

Future kiss & ride volumes have been calculated in Section 4.2 and are summarised in Table 18 for reference.

Table 18: Summary of Kiss & Ride Travel Demands

Kiss & ride	Existing		Baseline		Moderate		Reach	
	Mode Split	Volume	Mode Split	Volume	Mode Split	Volume	Mode Split	Volume
Students	60%	300	60%	400	45%	300	30%	200

### 9.2 Proposal

The existing school consists of two kiss & ride zones, including one on Gaggin Street which provides capacity for approximately eight vehicles at one time, and one on Albert Street East which provides capacity for approximately three vehicles.

As a part of the proposed activity, a new 35m long kiss & ride zone is proposed along Albert Street East with a capacity for approximately 6 cars.

### 9.3 Analysis

TTW observed the existing kiss & ride operation during the morning and afternoon peak on the 25<sup>th</sup> and 27<sup>th</sup> of June 2024, to have been well stored in the available spaces and minimal queues formed. The existing kiss & ride zone on Albert Street East was observed to have minimal activity, with no queues forming or congestion issues caused. At the main kiss & ride zone on Gaggin Street, the queue extended past the kiss & ride zone for a maximum of 1 – 2 cars, which cleared within about a minute. Overall, no existing congestion or queueing issues were observed at the kiss & ride zones.

Therefore, following the introduction of a proposed additional kiss & ride zone on Albert Street East, it is expected that the additional kiss & ride demands will be comfortably accommodated.

It is important to note that the travel demands outlined in Table 18 considers the worst-case scenario resulting in the largest kiss & ride demand, which occurs for the **baseline** mode split scenario. Therefore, this assessment does not consider any shift towards the **moderate and reach** mode split, which this project is aiming for through the provision of active transport infrastructure and implementation of a School Transport Plan. Achievement of the moderate and reach mode splits would result in a substantial reduction in kiss & ride demands as outlined in Table 19. A reduction in car usage from 60% to 45% would see a net zero increase in kiss & ride demand.

Table 19: Comparison of Kiss & Ride Demands Based on Mode Share

Kiss & ride demands	Student number	Mode split	Demand	Change from existing
Existing	500	60%	300	N/A
Baseline	667	60%	400	+100
Moderate	667	45%	300	No change
Reach	667	30%	200	-100

The new kiss-and-ride zone on Albert Street East will result in a loss of 6 on-street parking spaces for a three-hour period each day. However, these spaces will be available for parking outside the designated kiss-and-

ride hours. The impact of this loss is mitigated by the proposed addition of a staff car park, which accommodates the anticipated increase in staff numbers. As a result, the overflow of staff parking is expected to decrease from 20 to 8 cars, representing a reduction of 12 cars using on-street parking compared to the current situation. Additionally, a high-level review using aerial imagery indicates that there is sufficient spare capacity in surrounding kerbside parking areas near the school to accommodate any remaining demand.

## Section 10 Car Parking

### 10.1 Demands

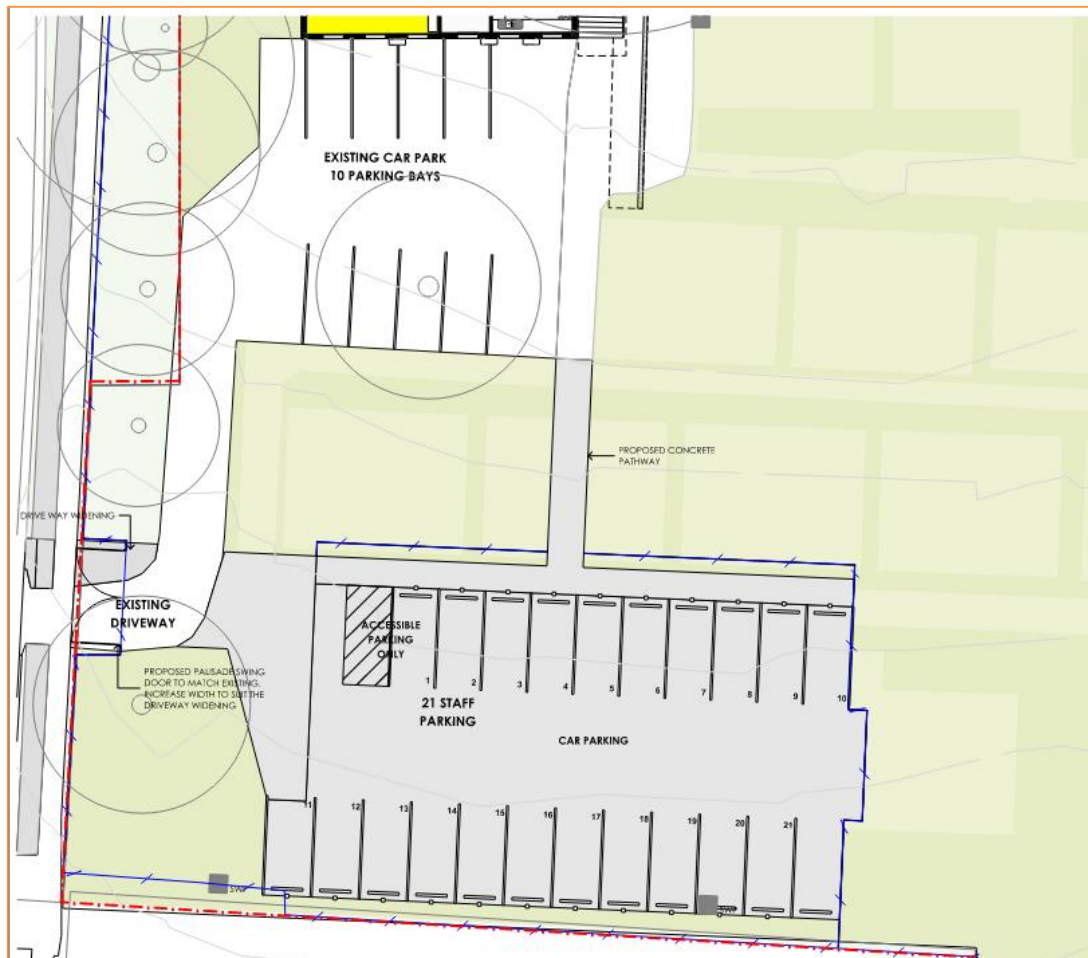
Existing and future car parking demands have been calculated in Section 4.2, and are summarised in Table 20 for reference. As shown, the expected car parking demand generated by the future school redevelopment would be **39 vehicles** (+9 extra cars) at baseline mode splits, and **31 vehicles** (+1 extra car) at moderate mode splits, and **21 vehicles** at reach mode splits, resulting in a **reduction of 9 cars** from the existing demand.

Table 20: Car Parking Demands

Car parking demands	Staff number	Mode split	Demand
Existing	32	94%	30
Baseline	41	94%	39
Moderate	41	75%	31
Reach	41	50%	21

### 10.2 Proposal

The proposed on-site car parking arrangement is made up of the existing 10-space car park, plus a new 21-space car park, totalling to 31 parking spaces (including 1 accessible parking space). The layout of the two car parks is illustrated in Figure 30.



**Figure 30: Existing & Proposed On-Site Car Parks**  
Source: JDH Architects

## 10.3 Analysis

### 10.3.1 DCP Requirements

The Parramatta Development Control Plan (DCP) does not contain specific parking rates for schools, but outlines the following requirement in relation to educational establishments:

*“Required parking to be confirmed through a traffic and transport impact assessment. The assessment must demonstrate the development will not result in any adverse impacts on on-street parking in surrounding residential areas.”*

Given this, the following Section 10.3.2 provides a site-specific assessment of the car parking demands of the proposed future school operations, and discussion of any impact to on-street parking in the local area.

### 10.3.2 Adequacy of Proposal

In terms of car parking rates, the existing school operates with 1 space per 3.2 staff members (or, for 31% of staff). The proposed increase of parking capacity to 31-space on-site spaces would improve this, by providing 1 space per 1.3 staff (or, for 75% of staff). This is a significant improvement and would result in much less usage of on-street parking in the local area. This level of on-site car parking provision is considered adequate considering other approved school developments within the Parramatta LGA (e.g. Pendle Hill High School Transport and Accessibility Impact Assessment (SSD 9579147, TTW, 2021) details a parking provision of approximately 1 space per 1.8 staff member (or, for 55% of staff)). Furthermore, Westmead Catholic

Community Education Campus Transport & Accessibility Impact Assessment (SSD 10383, ttp,2021) proposed to provide approximately 1 space per 2 staff members (or, for 50% of staff). Carlingford West Public School (CWPS) and Cumberland High School (CHS) collectively known as the Cumberland Cluster project (SSD, 43065987, TTW, 2023), also details a parking provision of 1 space per 2 staff members (or, for 50% of staff).

Regarding usage of on-street parking, Table 21 summarises the estimated spillover to on-street parking for the existing and future school operations. For the existing scenario, as outlined in Table 21, the car parking demand is for 30 parking spaces. The current car park operates with formal capacity for 10 spaces, meaning the remaining 20 vehicles would park in the streets surrounding the school.

As demonstrated in Table 21, the estimated spillover to on-street parking is significantly reduced following the construction of the proposed additional 21-space car park. For future staff numbers at baseline mode splits (94% car driver), the spillover is reduced from 20 cars to 8 cars. Therefore, the proposed car parking provision results in a reduction in the usage of on-street parking by about 12 cars, which is a significant improvement from existing operations. Hence the loss of 6 car parking spaces due to a new kiss and ride zone on Albert Street East, will be offset due to the proposed addition of car parking spaces.

As progress is made towards the moderate and reach mode splits to reduce private vehicle usage, this spillover would reduce, and the car parking demand could be fully accommodated on-site for a target mode split of 75% driving.

**Table 21: Impacts to On-Street Parking**

	Staff number	Car driver mode split	Car parking demand	On-site capacity	Spillover to on-street
<b>Existing</b>	32	94%	30	10	<b>20</b>
<b>Baseline</b>	41	94%	39	31	<b>8</b>
<b>Moderate</b>	41	75%	31	31	<b>0</b>
<b>Reach</b>	41	50%	21	31	<b>0</b>

## 10.4 Design

### 10.4.1 Car Parking

Car parking has been designed in accordance with AS2890.1:2004. Key design parameters for 90-degree angled parking include:

- Classification: Class 1 (all-day employee parking) or higher
  - *Note: Higher classes are typically only required for higher turnover usage and would not be required for this use class, however does have a narrower aisle width (with wide space) which can be a useful design option to consider*
- Parking space width: 2.4m or higher
- Aisle width: 6.2m (or as required by class)
- Parking space length: 5.4m
- Gradient: 1:20 (5%) maximum

### 10.4.2 Vehicular Access:

- The site is accessed via Brabyn Street, classified as a local road, and the driveway access is therefore categorised as Category 1 (low volume) in accordance with AS2890.1:2004. For Category 1 access, reduced combined widths are permissible, with a minimum width of 3m.
- The proposed access driveway has a combined width of 6.3m, but it accommodates only one-way movement between the driveway and the aisle. According to AS2890.1, two-way vehicle movement is recommended for driveways with 30 or more vehicle movements per hour (both in and out) during peak times. However, the one-way arrangement is deemed acceptable in this case, as the proposed car park includes only 21 staff parking spaces. Also, staff arrivals and departures are typically concentrated in the morning and evening, respectively, ensuring that traffic flow is primarily unidirectional.

Swept path analysis for the new car park and vehicle access point is provided in Appendix B.

## 10.5 Operation

The proposed car park would be controlled by a sliding gate at the entry point to act as the out-of-hours secure perimeter.

## 10.6 Accessible Parking

The Building Code of Australia (BCA) defines accessible parking requirements as a portion of total capacity depending on the land use. The BCA and Accessibility Report prepared by Philip Chun defines the activity as a class 9b facility. In accordance with Section D4D6 of the BCA, accessible parking for this classification is required at a rate of 1 space for every 100 car parking spaces or part thereof (1%). The activity is required to provide a minimum of 1 accessible parking spaces.

The proposed design provides 1 accessible space in the proposed car park, complying with the BCA.

There is also an existing provision of accessible kiss & ride, as detailed in Section 2.10.

## Section 11 Traffic Conditions

### 11.1 Traffic Generation

Future travel demands for car usage for students and staff have been calculated in Section 4.2 and are summarised in Table 22 and Table 23, respectively. As shown in the following tables, a vehicle occupancy rate has been applied, which has been calculated based on the results of the travel mode surveys undertaken at the school (refer to Section 2.12).

**Table 22: Summary of Student Vehicle Volumes**

Traffic generation	Baseline		Moderate	Reach
	Existing		Future	
Student number	500	667	667	667
Mode split	60%	60%	45%	30%
Car demand	300	400	300	200
Vehicle occupancy	1.4 students / car	1.4 students / car	1.4 students / car	1.4 students / car
Vehicle volume	214	<b>286</b>	214	143
Change from existing	N/A	<b>+72</b>	+0	<b>-71</b>

**Table 23: Summary of Staff Vehicle Volumes**

Traffic generation	Baseline		Moderate	Reach
	Existing		Future	
Staff number (FTE) <sup>4</sup>	32	41	41	41
Mode split	94%	94%	75%	50%
Car demand	30	39	31	21
Vehicle occupancy	1 staff member / car	1 staff member / car	1 staff member / car	1 staff member / car
Vehicle volume	30	<b>39</b>	31	21
Change from existing	N/A	<b>+9</b>	+1	-9

As shown in Table 22 and Table 23, the existing school is estimated to generate approximately 244 vehicles (214 students + 30 staff). Applying these same baseline mode splits to the future school population, the total traffic generation is expected to be 325 vehicles (286 students + 39 staff).

Therefore, the proposed future school would result in 81 **additional** vehicle volumes as summarised in Table 24).

<sup>4</sup> FTE (full-time equivalent) staff number is used as per the *Calculating Staffing Numbers for Capital Works Projects* (DOE, 2020)

**Table 24: Comparison of Existing and Future Baseline Vehicle Volumes**

	Student vehicles	Staff vehicles	Total traffic generation
<b>Existing</b>	214	30	244
<b>Future <u>baseline</u></b>	286	39	325
<b>Change from existing</b>	<b>+72</b>	<b>+9</b>	<b>+81</b>

The moderate target mode splits are also shown in Table 22 and Table 23, which demonstrate a reduction in car usage and the resulting traffic generation. Comparing the existing traffic generation to these moderate mode share scenario, the total vehicle volumes result in essentially a net zero traffic generation i.e. the proposed school would result in a negligible increase to vehicle volumes to the network if the moderate mode splits are achieved. This is summarised below in Table 25.

**Table 25: Comparison of Existing and Future Moderate Vehicle Volumes**

	Student vehicles	Staff vehicles	Total traffic generation
<b>Existing</b>	214	30	244
<b>Future <u>moderate target</u></b>	214	31	245
<b>Change from existing</b>	<b>+0</b>	<b>+1</b>	<b>+1</b>

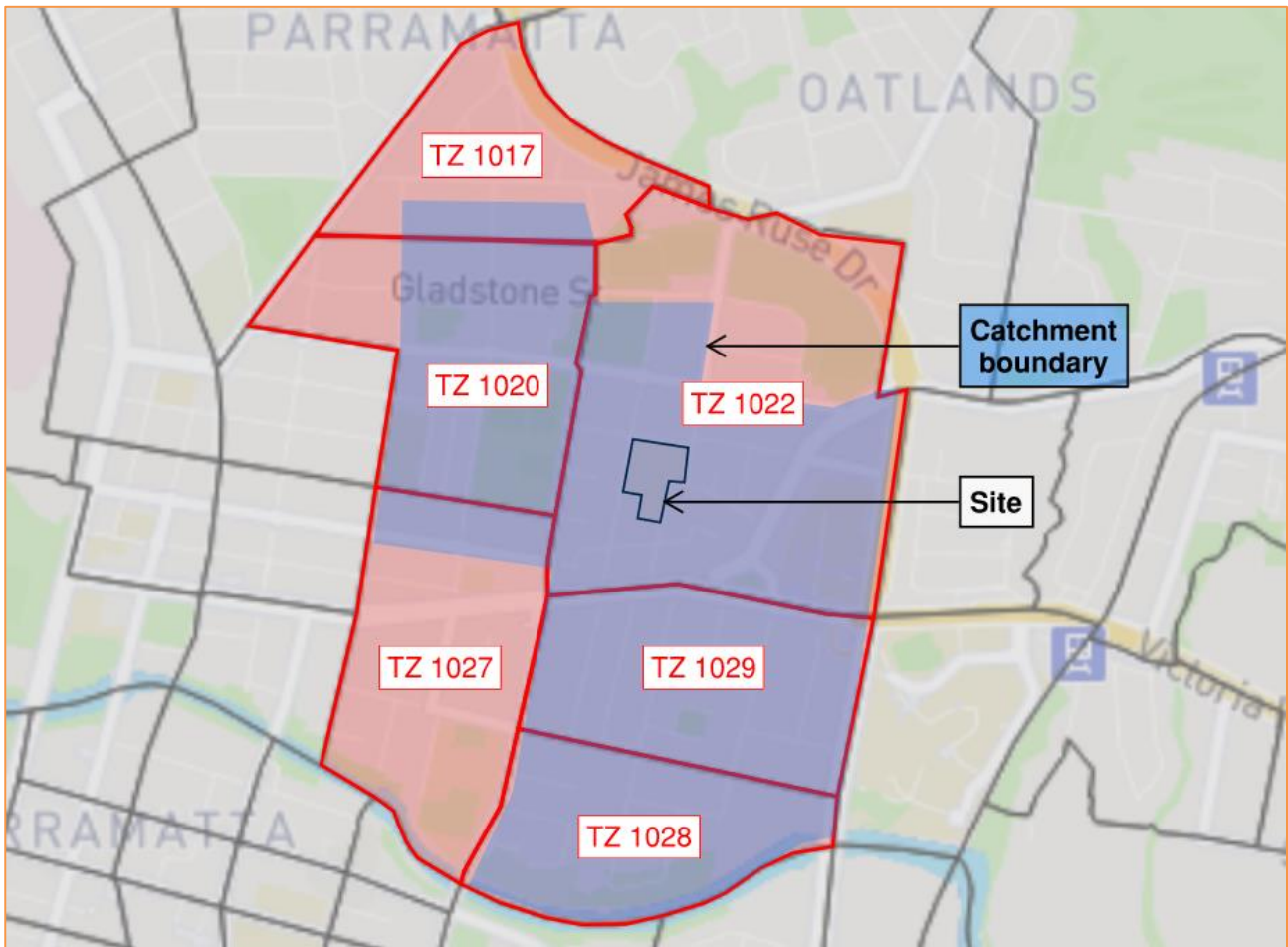
Table 26 shows that comparing the existing traffic generation to the reach targets, the total vehicle volume will result in a reduction in the vehicle volume in the network.

**Table 26: Comparison of Existing and Future Reach Vehicle Volumes**

	Student vehicles	Staff vehicles	Total traffic generation
<b>Existing</b>	214	30	244
<b>Future <u>reach target</u></b>	143	21	164
<b>Change from existing</b>	<b>-71</b>	<b>-9</b>	<b>-80</b>

## 11.2 Student Population Spread

To determine the future distribution of student locations within the school catchment, the TfNSW Population Projections data has been analysed. These population projections are provided for individual Travel Zones (TZ), which are small areas with similar land uses across NSW. The latest version of this data is Travel Zone Projections 2022 (TZP22), released November 2022. The TZs within the school catchment area are demonstrated in Figure 31, and is referred to as the Relevant Travel Zones (RTZ).



**Figure 31: Relevant Travel Zones (RTZ)**

Source: TTW

### 11.2.1 Data Validation

Within each TZ, a comparison was made between the TZIP22 population for the year 2024, and the existing student location data<sup>5</sup> for the same year 2024. Specifically, a comparison was made between the *distribution* of the TZIP22 population across the six TZs and the *distribution* of the existing location data, as summarised in Table 27. This exercise demonstrated that the two data sets are very similar, meaning that the distribution of students in the area is highly consistent with the distribution of the general population.

<sup>5</sup> Depersonalised student location data was provided by DOE for all students currently enrolled at a public school primary or high school within a 3km radius of the PEPS site

**Table 27: Comparison of Population Spread between TZP22 2024 and Existing Student Locations**

<b>TZ</b>	<b>TZ Name</b>	<b>TZP22 2024 Population Spread</b>	<b>2024 School Population Spread<sup>5</sup></b>
<b>1017</b>	<b>North Parramatta_Bellevue St and Burnside St</b>	8%	6%
<b>1020</b>	<b>North Parramatta_Buller St and Isabella St</b>	23%	23%
<b>1022</b>	<b>Parramatta_Webb St and Isabella St</b>	18%	21%
<b>1027</b>	<b>Macarthur Girls High School</b>	19%	17%
<b>1028</b>	<b>Parramatta_Broughton St</b>	18%	18%
<b>1029</b>	<b>Parramatta_Morton St and Pemberton Ln</b>	15%	16%
<b>Total</b>		<b>100%</b>	<b>100%</b>

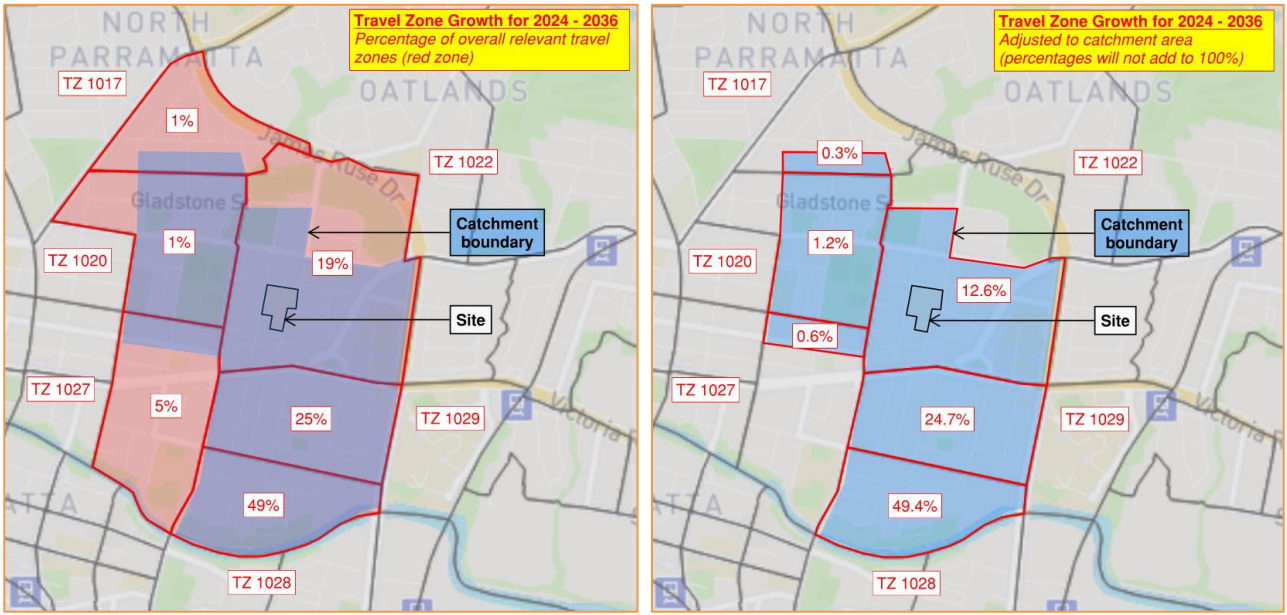
Due to the consistency between the two 2024 data sets, it is reasonable to assume that the TZP22 projections (specifically, the distribution / spread of these projections) will also meaningfully represent the future spread of students within the TZs and school catchment area. Following this, to determine the distribution of the future school student growth within the school catchment, the future population trends illustrated in the TZP22 projections are applied.

### 11.2.2 Data Application

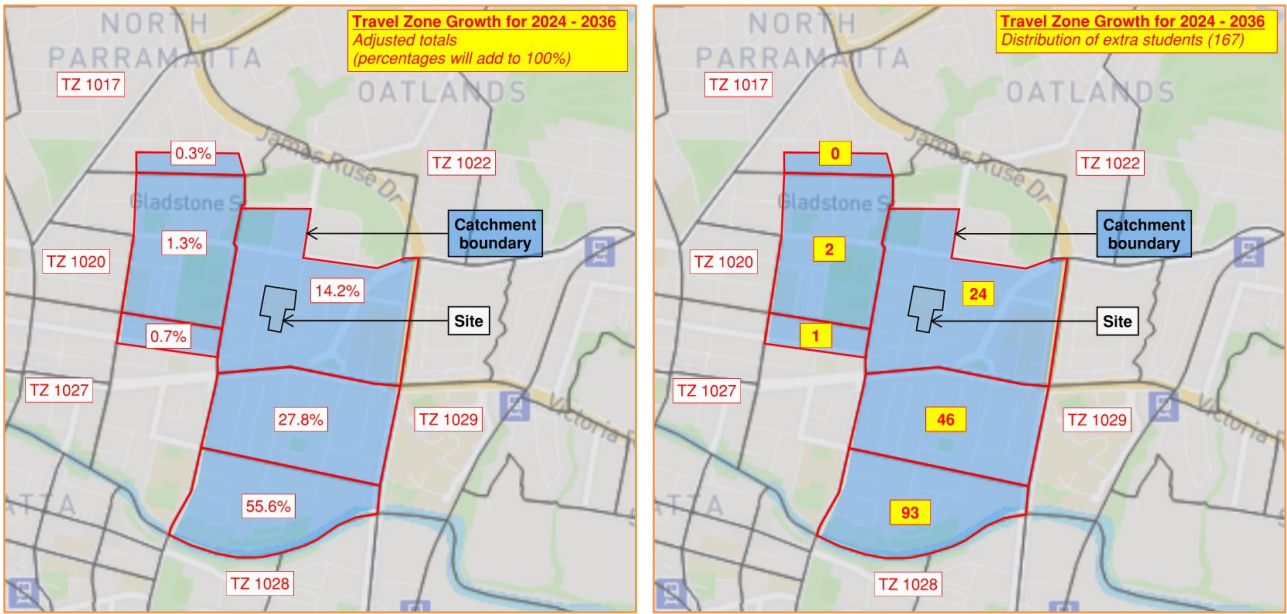
TZP22 data is available annually between 2016 – 2026, and then five-yearly from 2026 – 2066. The population growth to 2036 has been considered in this analysis, to represent future school operations. The growth from 2024 – 2036 within each TZ is shown as a proportion of the growth across the entire RTZ, as shown in Figure 32. This shows that the population at the southeast corner of the catchment is forecast to grow more rapidly than the rest of the catchment.

These growth patterns have been applied to the school catchment boundary, using the following methodology:

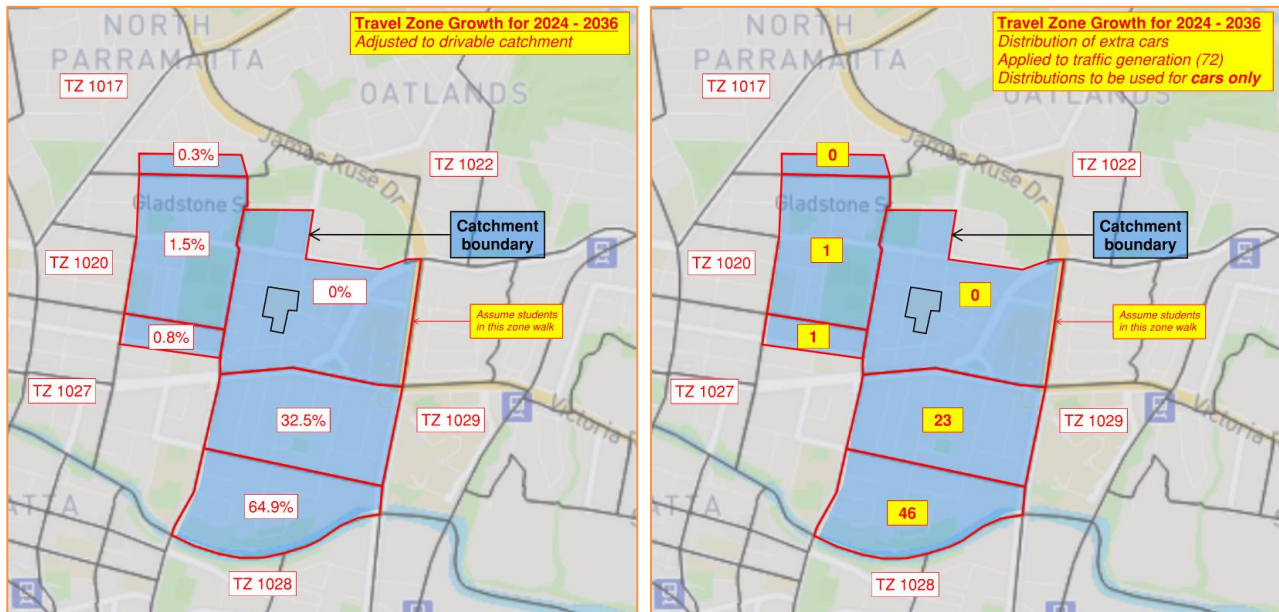
- For each TZ, calculate the area that overlaps with the catchment boundary.
- Take this calculated area as a proportion of each TZ area, and apply this percentage to the TZ 2024-36 growth rate (refer to Figure 32)
- Factor these percentages to be spread across the catchment i.e. to add to 100% (refer to Figure 33)
- Apply these percentages to the additional students to demonstrate the expected distribution of students within the catchment
- For vehicle trip distribution purposes, it is assumed that no students residing within the TZ closest to the school (TZ 1022) would drive to the site i.e. they either walk or ride. Therefore, Figure 34 shows adjusted values to account for this, and the distribution of the anticipated additional vehicle volumes.



**Figure 32: Distribution of the 2024-36 Growth within the RTZ (left) and Distributions Adjusted to Suit Catchment Boundary (right)**  
Source: TTW



**Figure 33: Expected Distribution of Additional Students in the Catchment**  
Source: TTW



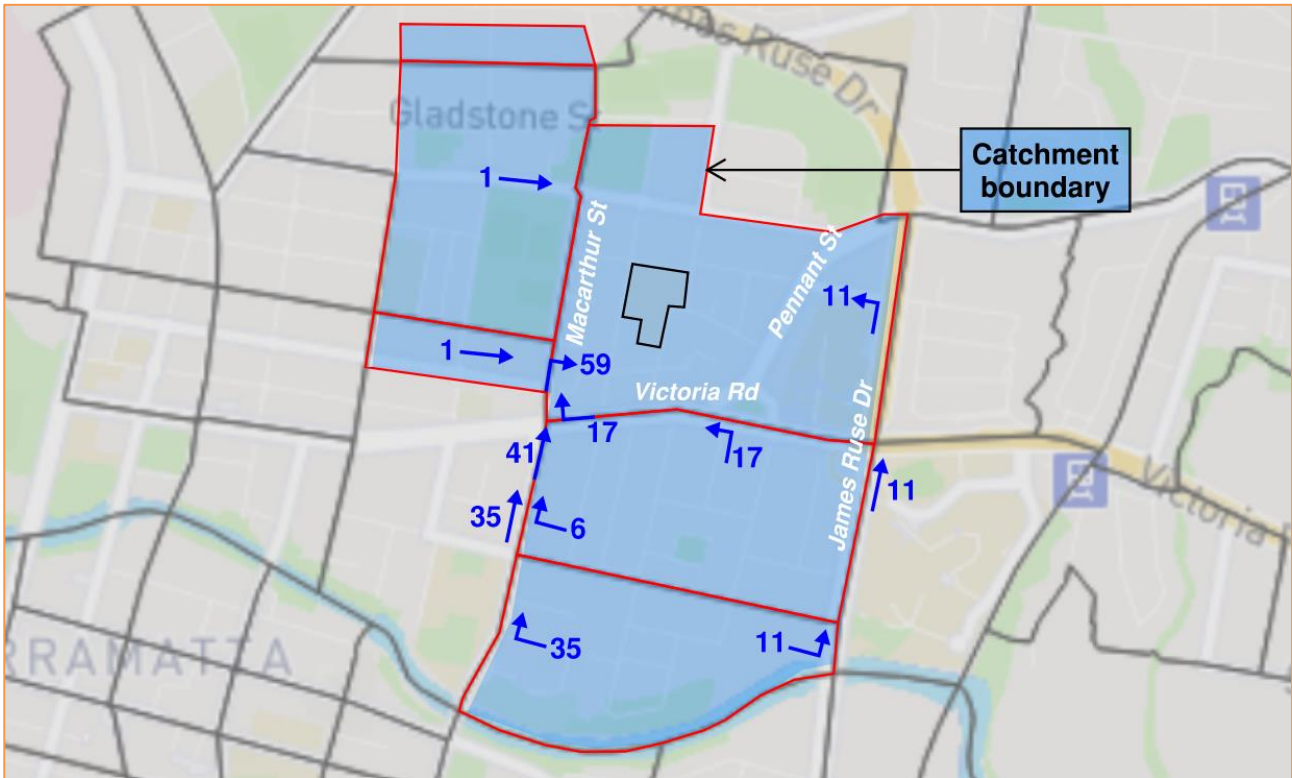
**Figure 34: Expected Distribution of Additional Vehicles in the Catchment**

Source: TTW

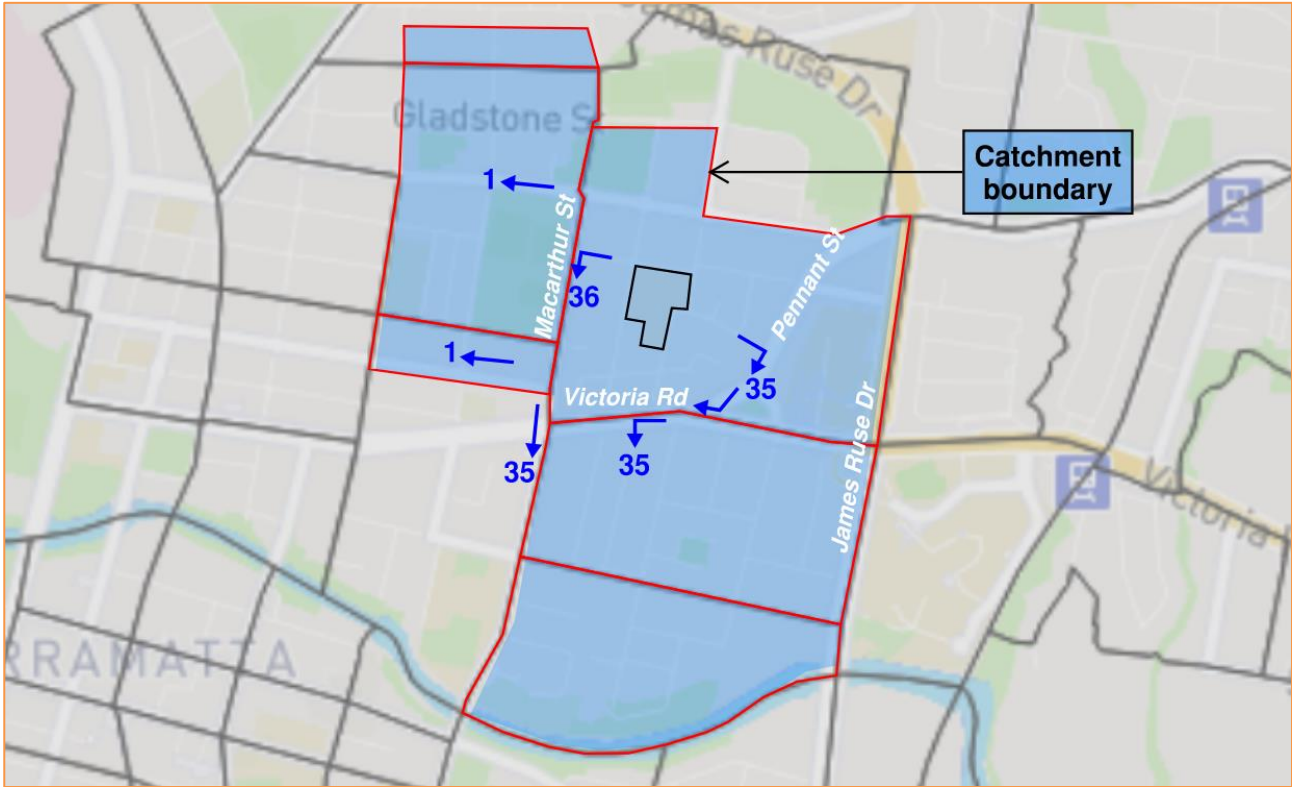
### 11.3 Trip Distribution

As described above, the expected distribution of future student vehicle volumes is spread across the catchment as shown in Figure 34, noting that the area to the southeast of the catchment is forecast to grow more rapidly than the rest of the catchment. Therefore, the resulting trip distribution is outlined in Figure 35, with majority of vehicle traffic arriving from the southern end of the catchment, across Victoria Road.

The 9 additional staff vehicle volumes generated by the school upgrade will be spread across the morning from approximately 7:00am – 8:45am (as per the results of the travel mode survey, refer to Figure 40). Staff will also be travelling from various parts of Sydney and approach the school from all directions, meaning the distribution of these additional volumes will be considerably spread across the road network. Therefore, the 9 additional staff volumes will have a negligible impact on the surrounding road network and are not included in the trip distribution figure.



**Figure 35: Student Inbound Trip Distribution**  
Source: TTW



**Figure 36: Student Outbound Trip Distribution**  
Source: TTW

## 11.4 Traffic Conditions

### 11.4.1 Intersection Performance

To understand the performance of the nearby intersections (particularly the signals at Victoria Road / Macarthur Street), reference is made to the approved traffic impact assessment reports prepared for the Parramatta Light Rail (PLR) Stage 1 project (*Operational Traffic and Transport Technical Assessment Report* prepared by GTA Consultants, dated 15 August 2017).

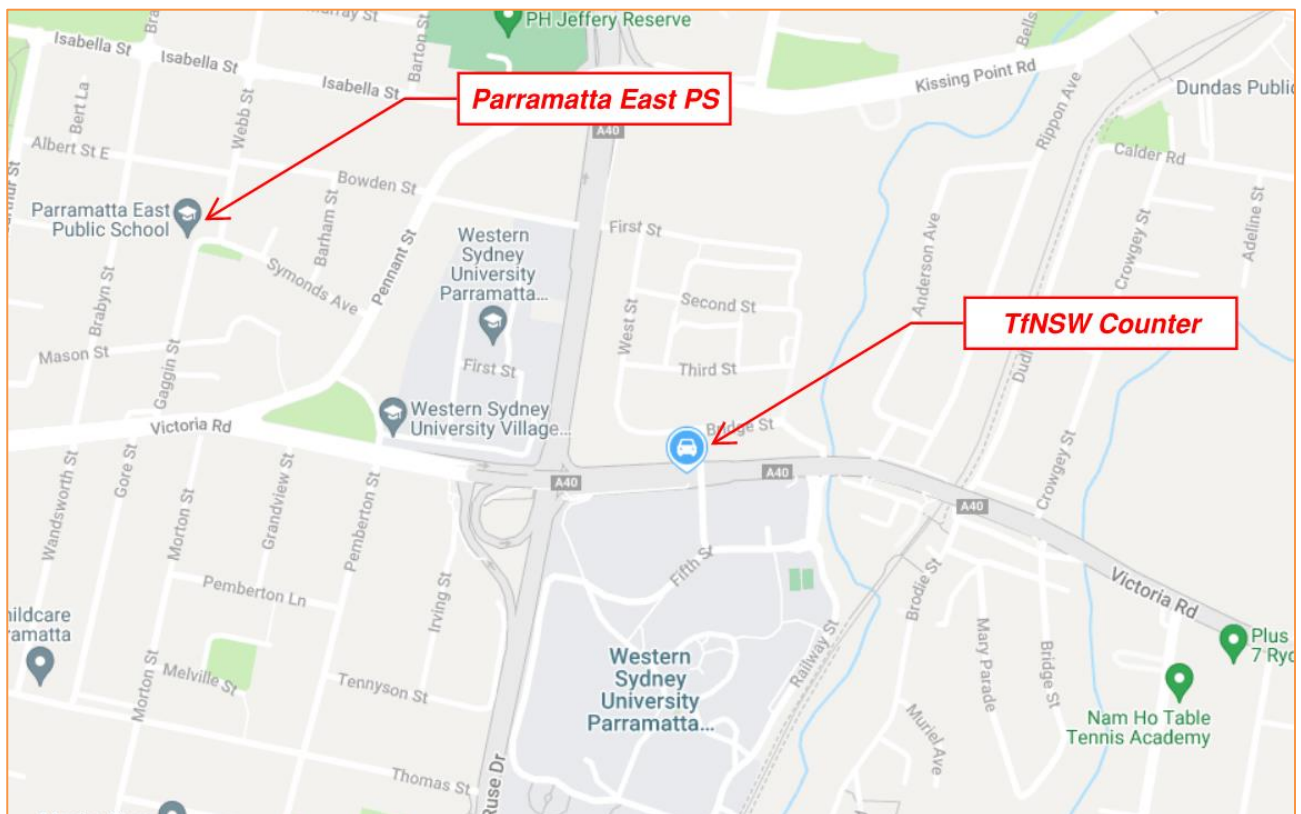
The report refers to the Victoria Road / Macarthur Street intersection and reports on the future year scenario for the year 2026 (once the PLR is operational). This intersection is most relevant as it is the closest signalised intersection to a state road, providing access to the school from all directions. The Level of Service (LOS) at this intersection for both the morning and evening peaks are shown below:

- AM – LOS C
- PM – LOS D

Therefore, this intersection is shown to operate satisfactorily in future year 2026, with some spare capacity.

### 11.4.2 Vehicle Volumes

TfNSW records traffic volumes at various counters across the state, which can be accessed via the Traffic Volume Viewer webpage. Historical volume data (from 2006 – 2018 & 2021) has been recorded for a location on Victoria Road east of the site as shown in Figure 37, and a summary of the key traffic volumes for the latest available years (2018 & 2021) are shown in Table 28.



**Figure 37: Location of Volume Counter**

Source: TfNSW Traffic Volume Viewer

**Table 28: Historical Traffic Volumes at Victoria Road**

*Source: TfNSW Traffic Volume Viewer*

Collection year	Collection period	Peak period	Direction	Average volume (approx.)
2018	Weekdays	6:00am – 10:00am	Eastbound	10,800
			Westbound	4,700
		3:00pm – 7:00pm	Eastbound	8,400
			Westbound	6,700
2021	Weekdays	6:00am – 10:00am	Eastbound	8,500
			Westbound	5,400
		3:00pm – 7:00pm	Eastbound	6,800
			Westbound	7,700

### 11.4.3 Impacts to Local Traffic Network

Based on the future trip distribution forecasts as shown in Figure 35, the following key calculations are shown:

- Approximately 58 additional vehicles would travel to the school site via the signalised intersection of Victoria Road / Macarthur Street
  - Majority of these vehicles (~41 cars) would be travelling in the north-south direction through this intersection
  - A lower volume (~17 cars) would turn right from Victoria Road to Macarthur Street
- Approximately 35 additional vehicles would travel from the school site via the signalised intersection of Victoria Road / Macarthur Street, resulting in extra through movements at the intersection
- Approximately 35 additional vehicles would travel from the school site via the signalised intersection of Pennant Street / Victoria Road, making a right turn onto Victoria Road.

This level of additional traffic generation is considered minimal and is not expected to have a significant impact on the local road and intersection network, due to the following:

- This is a worst-case assessment, which does not consider any shift away from car usage, which this project is targeting. Through the active transport infrastructure upgrades to be provided by this project, as well as the future Council works to improve the walking and cycling network in the local vicinity, it is expected that a mode shift will occur. The implementation of a School Transport Plan will further promote sustainable travel behaviours and includes encouragement measures to shift away from private vehicle usage.
- A mode shift from the existing car usage of 60% to a reduced 45% would see net zero traffic impact to the local network (as demonstrated in Table 22). Any progress towards reducing the car mode share (e.g. to 50%) would see a significant reduction in the additional vehicle volumes.
- The trip distribution (refer to Figure 35 and Figure 36) conservatively assumes that all vehicle trips are between their residence and the school, whereas it is likely that a large portion of vehicles will either be arriving from somewhere else (e.g. parents arriving from work), or travelling elsewhere afterwards (e.g. to after-school activities). Therefore, the vehicle volumes are expected to be more greatly distributed, resulting in less impact to particular roads and intersections.
- On-site observations conducted in the morning and afternoon during June 2024, as detailed in Section 2.13, indicated minimal queuing and congestion within the road network.

Considering the above, it is expected that the proposed school upgrade and the associated traffic generation will have a minimal impact on the surrounding roads and intersections, and that the additional vehicles can be suitably accommodated within the existing network.

Regarding the Victoria Road corridor (as the predominant state road near to the site), as outlined above, the Victoria Road / Macarthur Street intersection is shown to perform satisfactorily for the future year 2026 (as per the traffic modelling completed for the PLR Stage 1) and is therefore able to accommodate additional vehicle volumes without significant impacts to the performance. Additionally, the traffic volumes along Victoria Road are upwards of approximately 15,000 vehicles (eastbound + westbound) in both the morning and afternoon peak periods. The forecast additional vehicles generated by the proposed school upgrade are negligible compared to the vehicle volumes along Victoria Road. Therefore similarly, it is not expected that the proposed school upgrade will result in significant impacts to the Victoria Road corridor.

## Section 12 Mitigation Measures

Table 29 summarises the physical infrastructure and operational measures that will support the transport needs of the Parramatta East Public School Upgrade and allow the project to achieve acceptable performance and safety. These mitigation measures have been incorporated into the assessment of development impacts in the sections above where necessary and require no additional or separate assessment.

**Table 29: Mitigation Measures**

Project Stage	Mitigation Measure	Timing	Responsibility	Reason for mitigation measure	Relevant section of report
Design	Provision of 40 bike parking spaces provided on-site	Prior to occupation of refurbished area	DOE	To support expected mode share & meet DCP requirements for staff.	Section 6
	Provision of end-of-trip facilities for staff, including 1 shower and change room.	Prior to occupation of refurbished area	DOE	To support expected mode share.	Section 6
	Widening of footpaths along the school frontages on Gaggin Street (east), Brabyn Street (west), and Albert Street (north), subject to further discussions with the Council.  Footpaths on Gaggin Street and Albert Street to be widened to the kerb. Brabyn Street to be widened to 2.5m	Prior to occupation of refurbished area	DOE	To support active travel & allow safe pedestrian movements at kiss & ride zones.	Section 5
	Raised pedestrian crossing at Mason Street (subject to further discussion with Council)	Prior to occupation of refurbished area	DOE	To support active travel & improve pedestrian safety.	Section 5
	Additional 35m kiss-and-ride zone on Albert Street East for six cars. (subject to further discussion with Council)	Prior to occupation of refurbished area	DOE	To support increased demands & spread vehicle traffic to reduce impacts.	Section 9
	Formalised on-site loading dock for services and deliveries located southeast of the site, accessible via Gaggin Street	Prior to occupation of refurbished area	DOE	To be designed in compliance with AS2890.2.	Section 8

	Expansion of on-site car parking to 31 spaces, including the existing 10-space car park and a new 21-space car park	After occupation (after Building R is occupied)	DOE	To be designed in compliance with AS2890.1.	Section 10
Operation	Implementation of a School Transport Plan	Within 12 months of occupation of Building R	DOE / PEPS	To promote sustainable travel & shift away from private vehicle use.	Refer to the Preliminary School Transport Plan (lodged separately with this REF)
Construction	Implementation of CTMP once a contractor has been appointed.	Refer to the Preliminary Construction Management Plan (lodged separately with this REF)	Appointed Contractor	To ensure construction traffic is managed during the construction phase	Preliminary Construction Traffic Management Plan has also been developed by TTW and accompanies this REF.

## Section 13 Conclusion

The overall transport strategy for the Parramatta East Public School Upgrade is as follows:

- Provide a sustainable transport strategy, prioritising active and public transport and discouraging travel by private vehicle;
- Encourage and facilitate pedestrian movements within a walkable local catchment through provision of infrastructure such as footpath widening works and a raised pedestrian crossing;
- Encourage and facilitate cyclist movements across the wider catchment by providing on-site facilities for both students and staff;
- Accommodate service vehicles on the site with a dedicated on-site loading dock for vehicles up to 12.5m Heavy Rigid Vehicles, separated from the staff car park and pedestrian areas;
- Facilitate kiss & ride activity while discouraging its uptake, with provision of multiple kiss & ride zones to distribute traffic, and implement a School Transport Plan to encourage and advertise the range of alternative transport options available; and
- Facilitate car parking activity while discouraging its uptake, with provision of on-site car parking for 75% of staff when the school is at full capacity, achieving a shift from higher initial usage to this lower percentage usage over time, in parallel to the growth of the student and staff population at the school.

This overall strategy has been proposed to and discussed with both Council and TfNSW through a Transport Working Group for the project.

Overall, the transport provisions of this project across all travel modes have been selected and developed in order to provide a sustainable, safe, and efficient site. These provisions include physical infrastructure works on- and off-site, along with management measures to be implemented during operation of the school. While school sites generate significant volumes of travel demand in short periods of time, the proposed transport strategy is considered an appropriate balance and is demonstrated to provide appropriate outcomes for the site.

Appendix A Travel Mode Surveys

13.1.1 Student Travel Information

The student survey was designed as a hands up survey and was taken by the teachers of each classroom. Figure 38 illustrates the responses received, indicating a relatively even spread of responses across year groups.

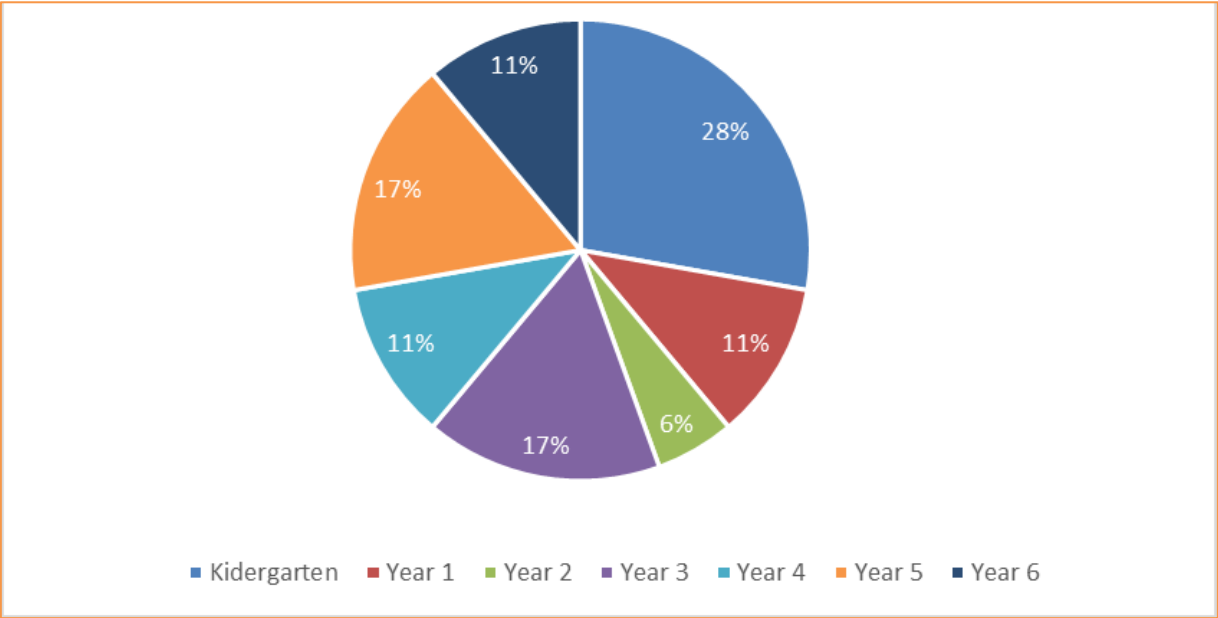


Figure 38: PEPS Student Grade Participation Percentage

The survey requested teachers to specify the count of student passengers in each student's vehicle. Figure 39 illustrates the responses received. Based on these responses, it was determined that there was an average of 1.4 students per vehicle.

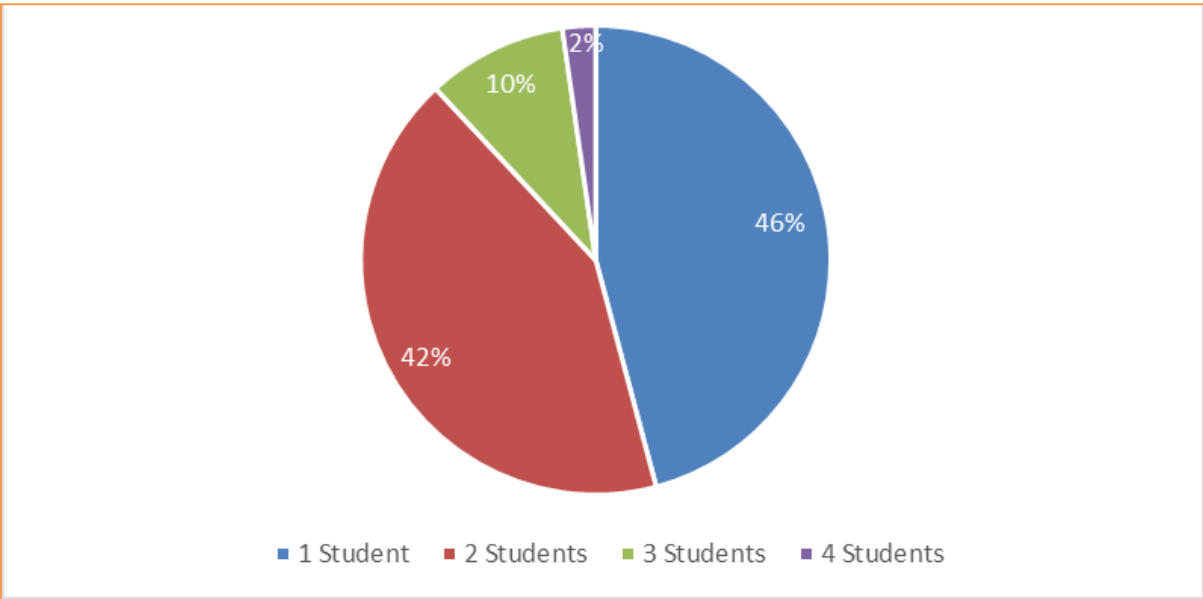


Figure 39: Percentage of Student Per Car

13.1.2 Staff Travel Information

The staff arrival and departure times are shown in Figure 40 and Figure 41, respectively.

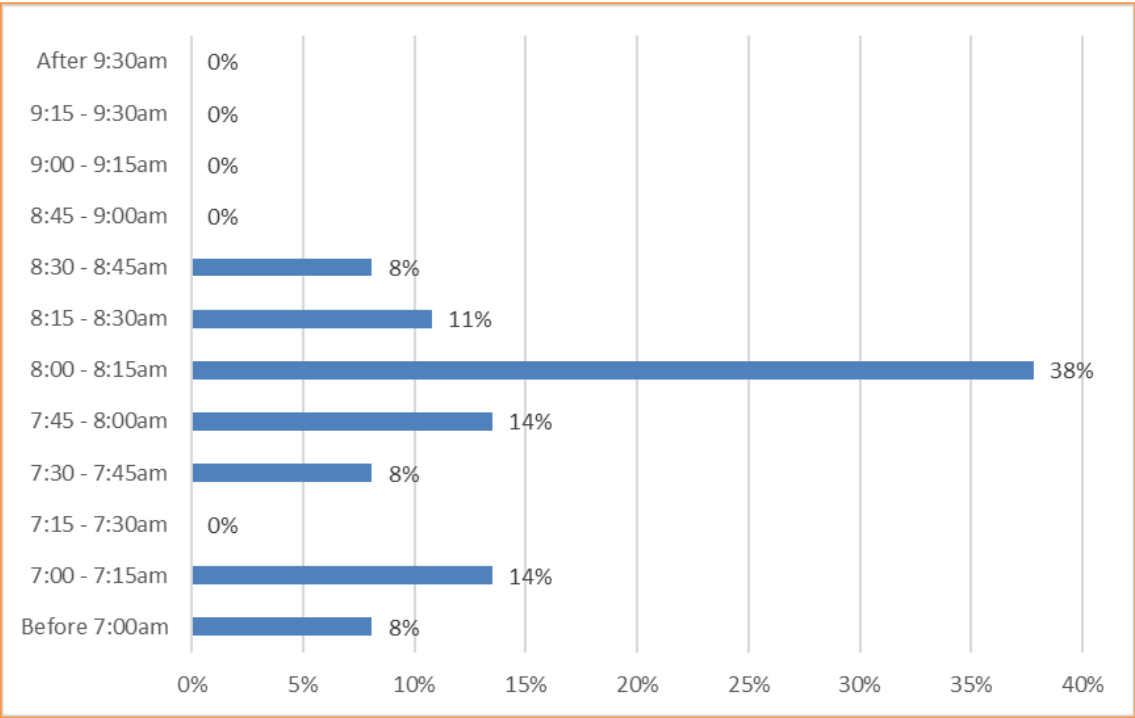


Figure 40: Staff Arrival Times

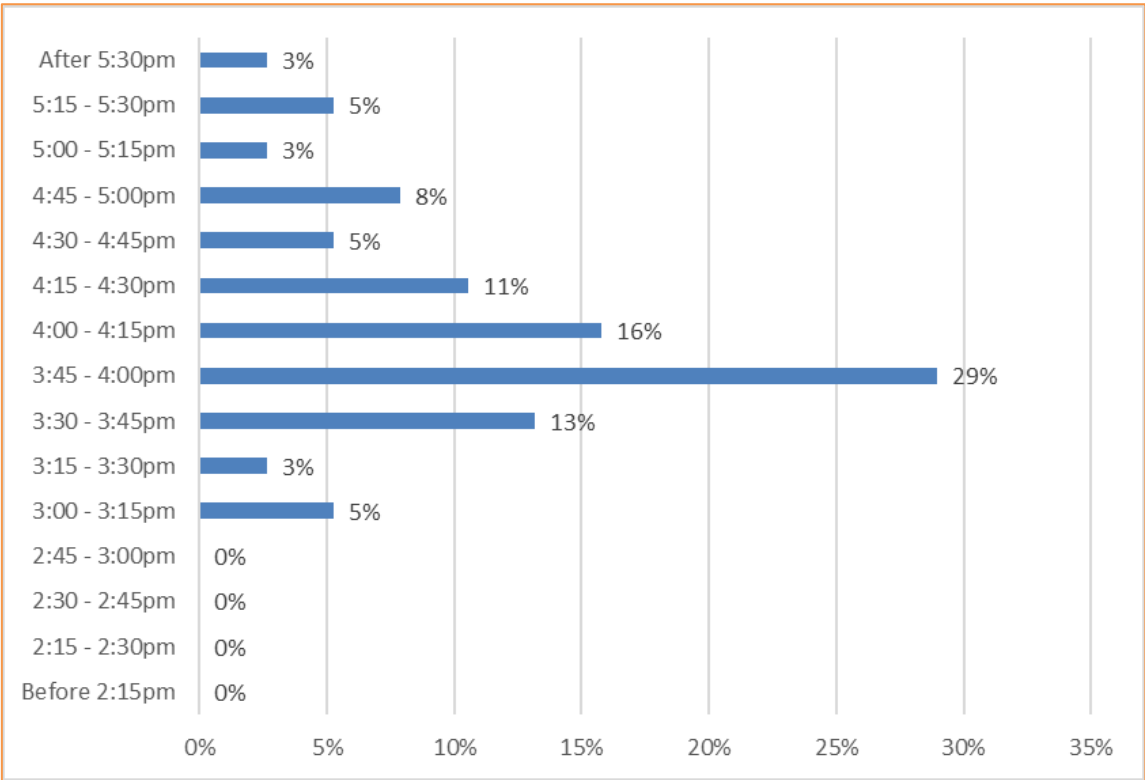


Figure 41: Staff Departure Times

The survey included asking staff about their parking locations near the school, and the results can be found in Figure 42.

During an afternoon site visit at the school during pickup time, it was observed that a substantial number of cars were parked on Brabyn Street after pickup had ended, suggesting that this street is predominantly used by staff for parking. It can be implied that most responses with unspecified parking locations would likely park on Brabyn Street. Furthermore, during a morning visit at 8:45 am, parking on Brabyn Street was observed to be nearly at capacity.

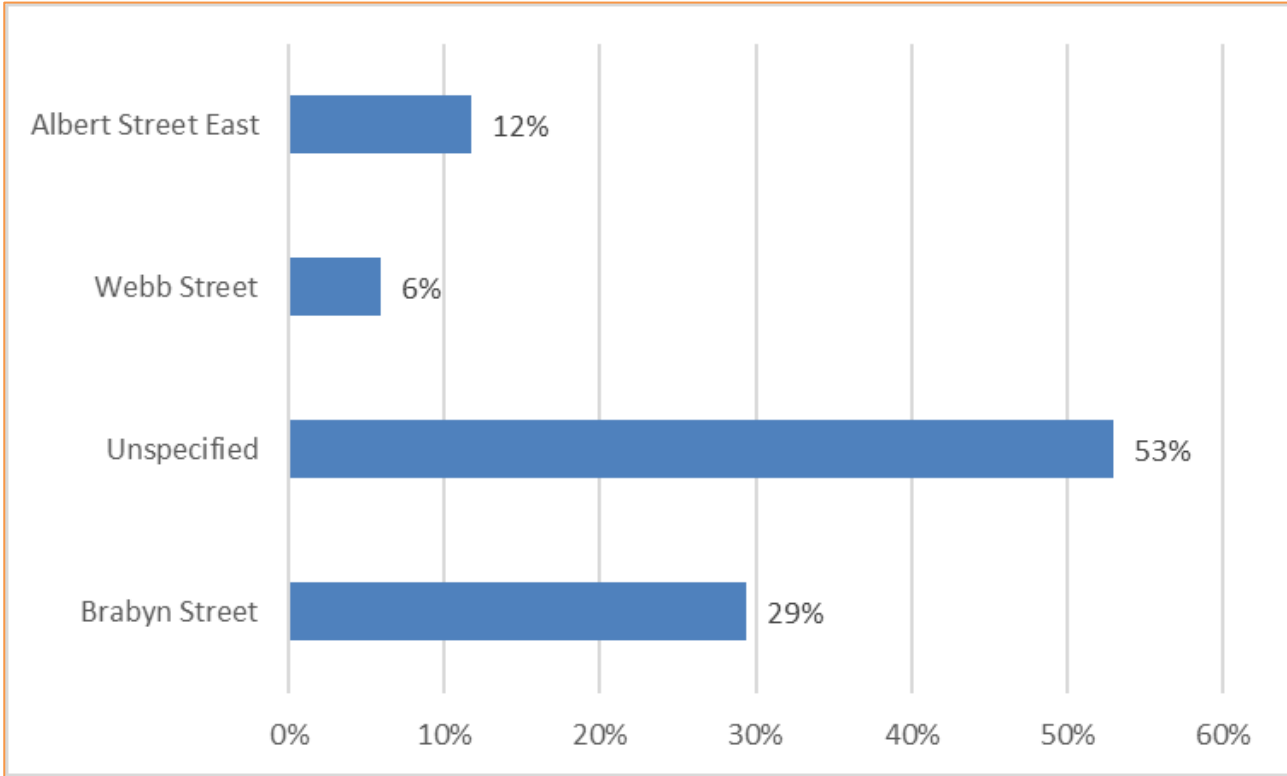


Figure 42: Nearby Staff Parking Locations

The survey requested teachers to identify reasons for travelling by car to the site. Figure 43 illustrates the responses received.

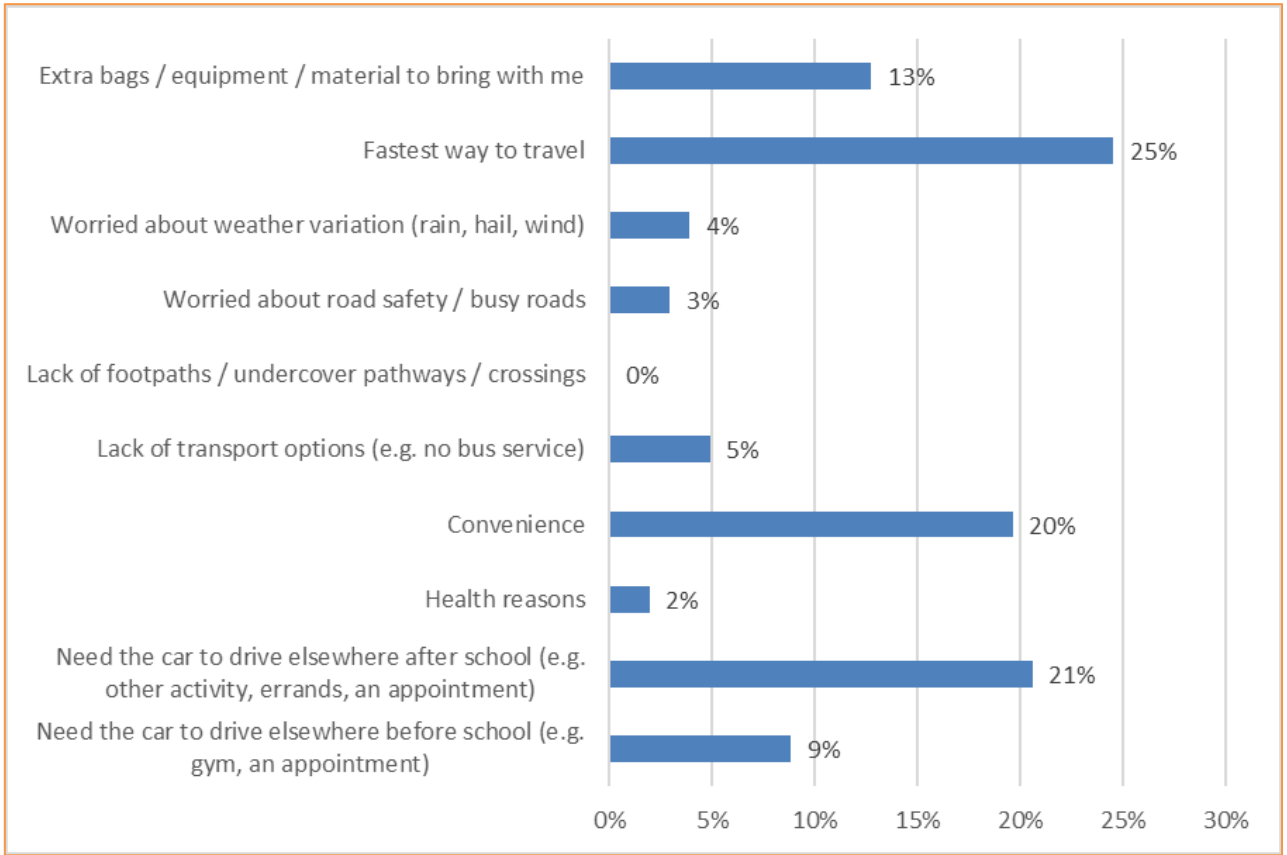
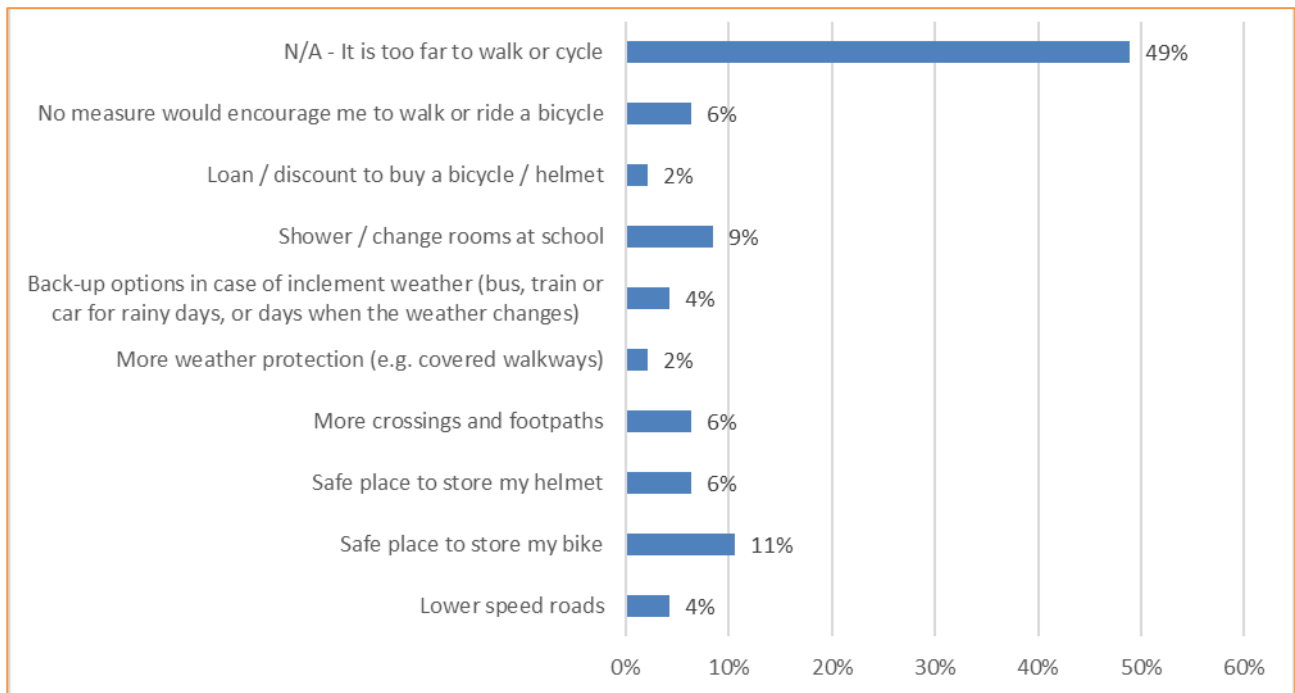


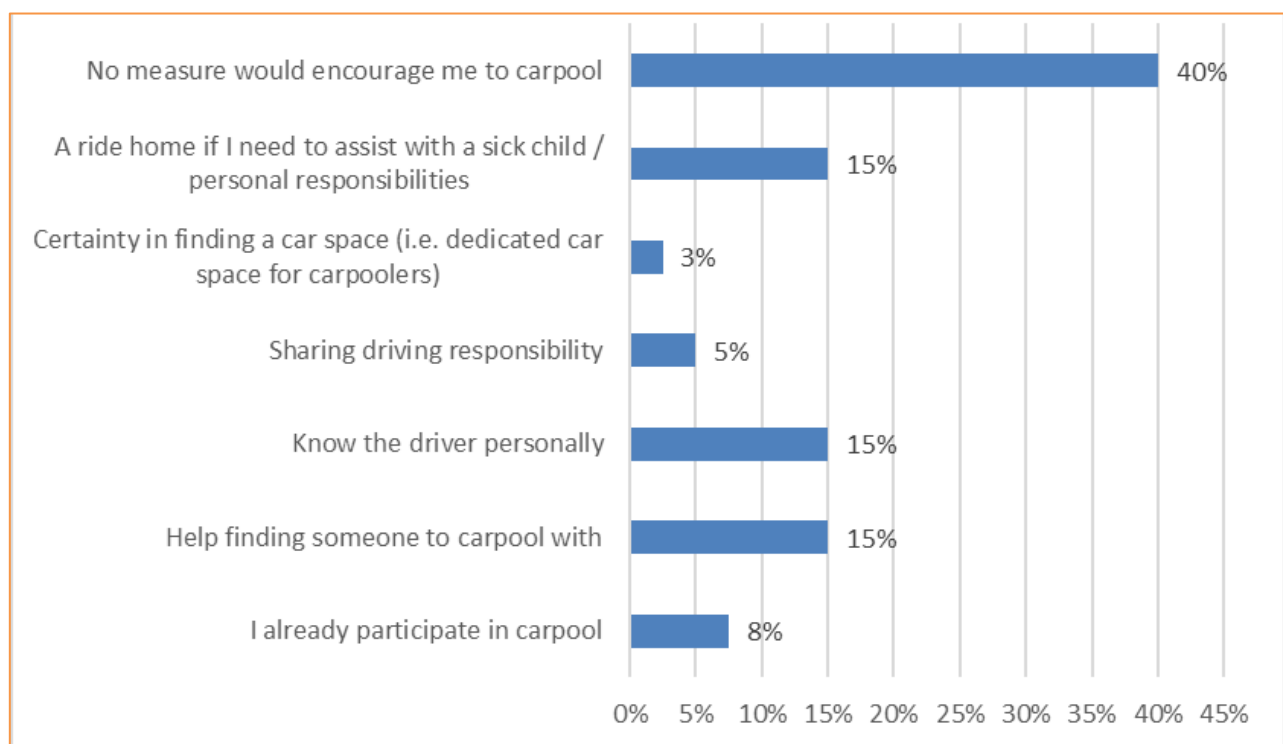
Figure 43: Reason for Travel via Car

The survey requested teachers to indicate potential measures which would encourage them to walk or cycle or measures they would like to see more of. Figure 44 illustrates the responses received.



**Figure 44: Measures to Encourage Walking/Cycling**

The survey requested teachers to indicate potential measures which would encourage them to carpool. Figure 45 illustrates the responses received.



**Figure 45: Measures to Encourage Carpooling**

The survey requested teachers to indicate potential measures which would encourage them to travel via public transport. Figure 46 illustrates the responses receive.

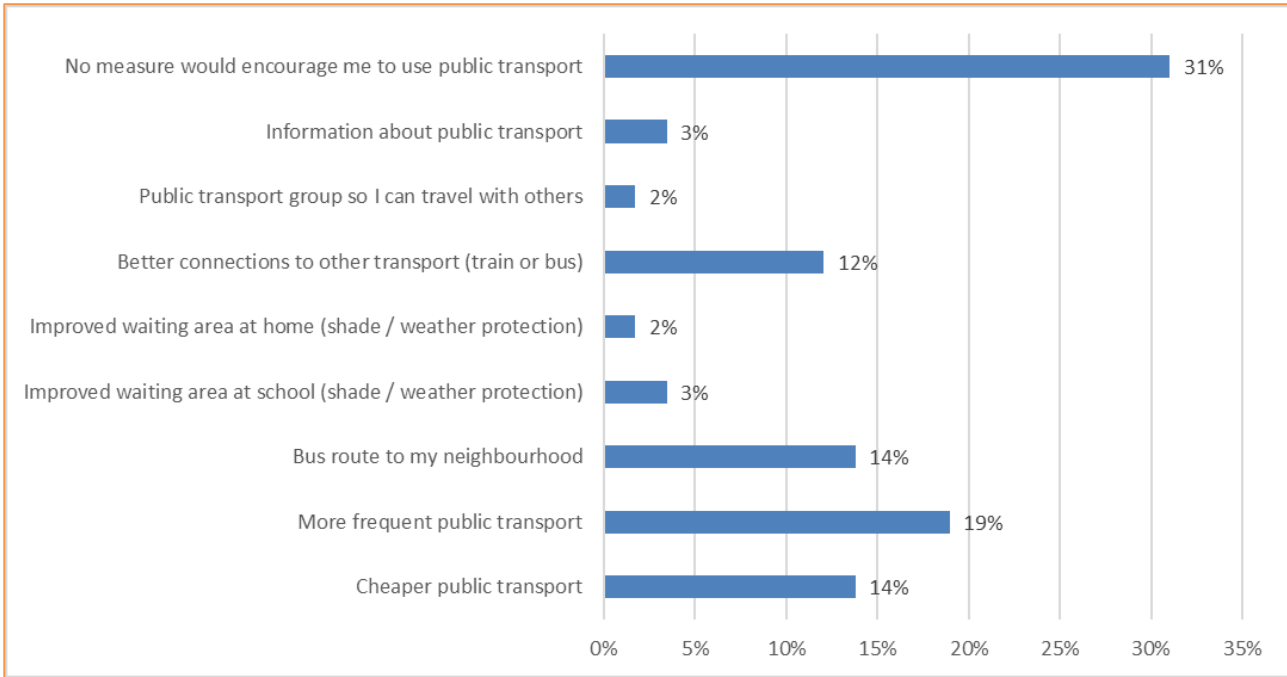
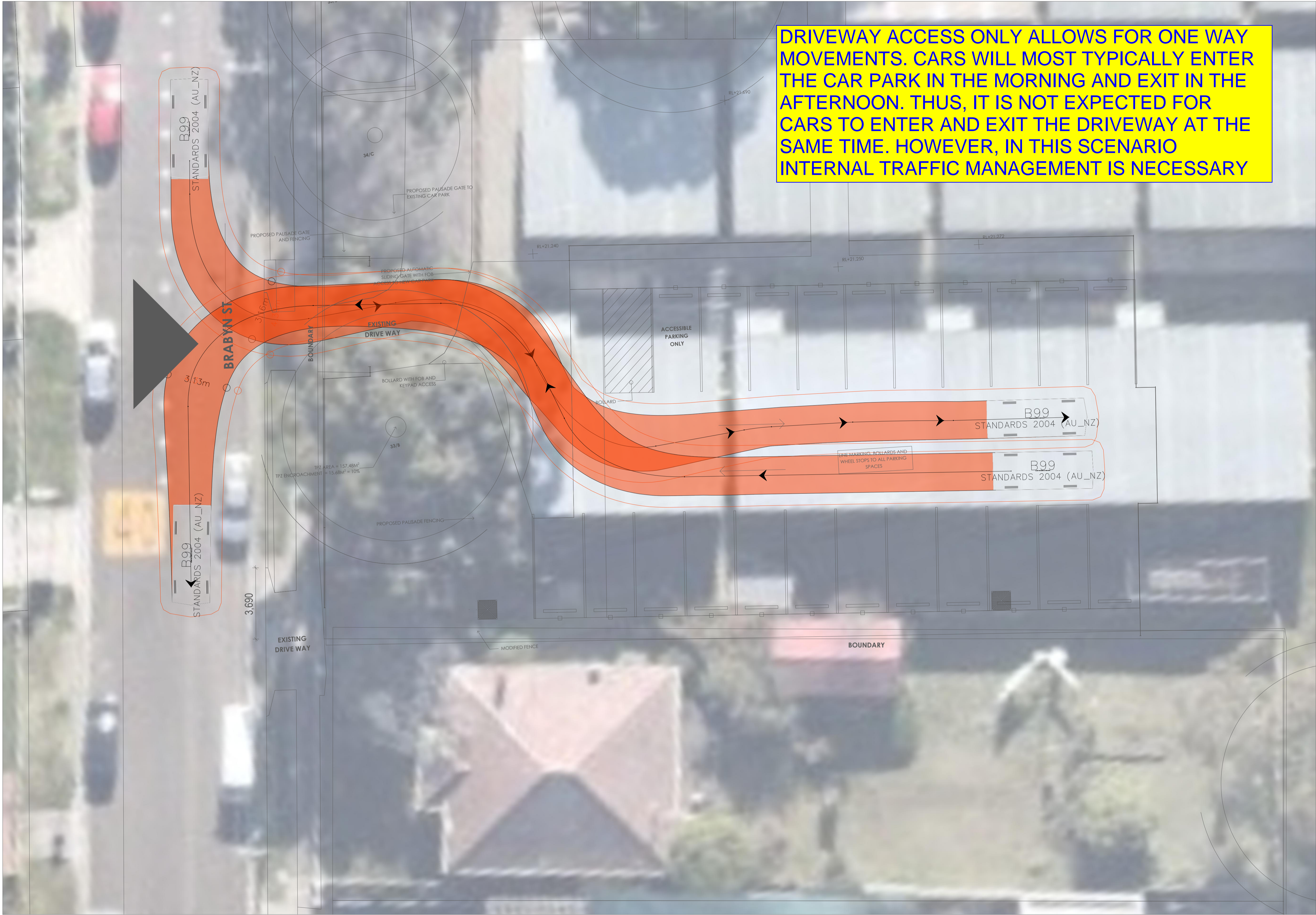
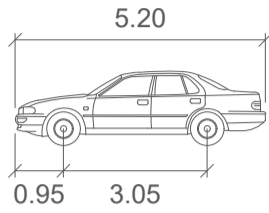
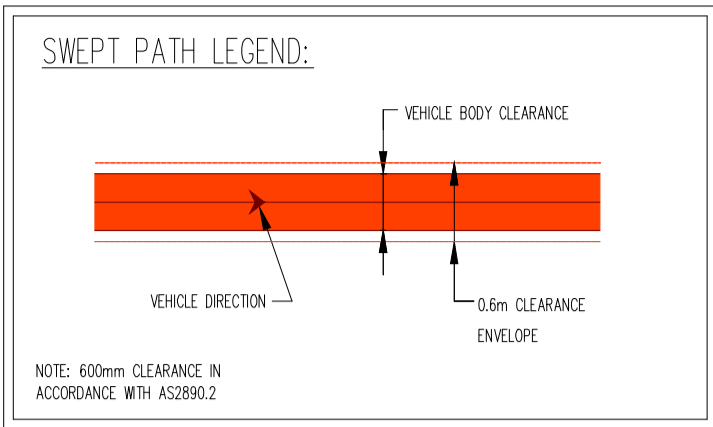


Figure 46: Measures to Encourage Public Transport Usage

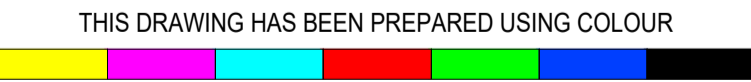
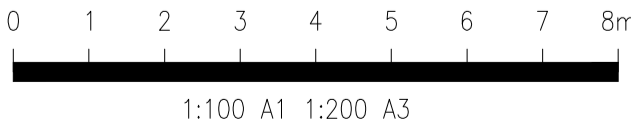
# Appendix B Swept Path Analysis



DRIVEWAY ACCESS ONLY ALLOWS FOR ONE WAY MOVEMENTS. CARS WILL MOST TYPICALLY ENTER THE CAR PARK IN THE MORNING AND EXIT IN THE AFTERNOON. THUS, IT IS NOT EXPECTED FOR CARS TO ENTER AND EXIT THE DRIVEWAY AT THE SAME TIME. HOWEVER, IN THIS SCENARIO INTERNAL TRAFFIC MANAGEMENT IS NECESSARY



B99		meters
Width	:	1.94
Track	:	1.84
Lock to Lock Time	:	6.0
Steering Angle	:	33.9



Filename: 191969-TTW-GA-SK-TR00013-IP1-SWEPT PATH SKETCH- CAR PARK B99.dwg - USER: georgos - Plot File Created: Oct 17, 2024 - 3:27pm

P2	PRELIMINARY	GA	GA	17/10/24					
P1	PRELIMINARY	GA	GA	30/09/24					
Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date

Architect  
JDH ARCHITECTS  
SUITE 301 / 249 PITT STREET  
SYDNEY NSW 2000

Engineer

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Project  
PARRAMATTA EAST PUBLIC  
SCHOOL

Sheet Subject  
SWEPT PATH SKETCH  
CAR PARK OPTION  
B99

Scale : A1 1:100	Drawn GA	Authorised -
Job No 191969	Drawing No SKTR00013	Revision P2
Plot File Created: Oct 17, 2024 - 3:27pm		

# Appendix C Sight Line Analysis

Austrroads Guide to Road Design Part 4A (Section 3.3):

AGRD requires Approach Sight Distance (ASD) of 27m and 55m for 30 km/h and 50 km/h, respectively. These distances have been measured between a pedestrian at the crossing and an approaching vehicle.

Realistically, it is expected that vehicles will often approach crossings at speeds less than 30km/h, particularly when turning from a minor road and due to the crossings being raised and approachable at low speeds only. Therefore, this is a conservative approach.

SIGHT DISTANCE LEGEND:

- 30 km/h SIGHT DISTANCE
- 50 km/h SIGHT DISTANCE



THIS DRAWING HAS BEEN PREPARED USING COLOUR

0 2.5 5 7.5 10 12.5 15 17.5 20m

1:250 A1 1:500 A3

Filename: 191969-TTW-GA-SK-TR00014-PP1-MASON STREET EAST SITE.dwg - USER: georgina - Plot File Created: Oct 18, 2024 - 12:24pm

P1	PRELIMINARY	GA	GA	18/10/24	
Rev	Description	Eng	Draft	Date	Rev Description Eng Draft Date Rev Description Eng Draft Date

Architect  
JDH ARCHITECTS  
SUITE 301 / 249 PITT STREET  
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Engineer

TTW

Structural  
Civil  
Traffic  
Façade

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Project  
PARRAMATTA EAST PUBLIC  
SCHOOL

Sheet Subject  
MASON STREET EAST

Scale : A1 1:250	Drawn GA	Authorised -
Job No 191969	Drawing No SKTR00014	Revision P1
Plot File Created: Oct 18, 2024 - 12:24pm		