TTW Structural Civil Traffic Façade

School Transport Plan

Carlingford West Public School and Cumberland High School

Prepared for School Infrastructure NSW

17 July 2025

221973

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Your Partner in Engineering

Revision Register

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Section 1 Introduction

1.1 Overview

A School Transport Plan (STP) is a way to sustainably manage the transport needs of staff, students, volunteers and visitors to a school. The aim of the STP is to reduce the environmental impact of travel to and from the site and to provide a clear plan of management for vehicle and pedestrian movements within and around the site.

This STP contains travel plan objectives for both schools, the proposed design features that contribute to meeting these objectives, and management strategies intended to fulfil the outlined objectives.

This STP has been prepared for Cumberland High School (CHS) and Carlingford West Public School (CWPS) to address condition of development consent D28, D29 and E17. The conditions of consent dated 29 November 2023 relating to the preparation of a STP are listed below in Table 1, including where each item has been addressed in this document.

Table 1: Conditions of Consent (SSD-43065987)

	Condition	Comments & References
D28.	Prior to the commencement of any operation, a School Transport Plan (STP), must be submitted to the Planning Secretary for approval. The plan must:	
(a)	be prepared by a suitably qualified transport/traffic professional in consultation with Council and TfNSW;	Consultation was undertaken with Council and TfNSW for preparation of the overall transport strategy at the site. This includes the development of mode share targets, pick up and drop off operations, and bus/loading zone operations. This document has been issued to Council and TfNSW for comments. Comments and corresponding responses have been addressed, and this is summarised in Section 1.2 (and detailed in Table 2 and Table 3). Author CVs are attached at Appendix D.
(b)	include arrangements to promote the use of active and sustainable transport modes, including:	
(i)	objectives and modes share targets (i.e. site and land use specific, measurable and achievable and timeframes for implementation);	Section 1 and Section 2
(ii)	specific tools and actions to help achieve the objectives and mode share targets;	Section 5 and Section 6

	Condition	Comments & References
(iii)	details regarding the methodology and monitoring/review program to measure the effectiveness of the objectives and mode share targets, including the frequency of monitoring and the requirement for travel surveys to identify travel behaviours of users of the development.	Section 7
(c)	include operational transport access management arrangements, including:	
(i)	detailed pedestrian analysis including the identification of safe route options to identify the need for management measures such as staggered school start and finish times to ensure students and staff are able to access and leave the Site in a safe and efficient manner during school start and finish;	Section 4.4
(ii)	the location of all car parking spaces on the school campus and their allocation (i.e. staff, visitor, accessible, emergency, etc.);	Section 4.7
(iii)	the location and operational management procedures of the drop-off and pick-up parking, including staff management/traffic controller arrangements;	Section 4.6
(iv)	the location and operational management procedures for the drop-off and pick-up of students by buses and coaches including staff management/traffic controller arrangements;	Section 4.5
(v)	delivery and services vehicle and bus access and management arrangements;	Section 4.5.1 and Section 4.8
(vi)	management of approved access arrangements;	Section 4.3
(vii)	potential traffic impacts on surrounding road networks and mitigation measures to minimise impacts, including measures to mitigate queuing impacts associated with vehicles accessing drop-off and pick-up zones;	Traffic impacts to the surrounding road network were assessed during the SSDA phase. Refer to Section 5.5 of the Traffic and Accessibility Impact Assessment for the subject discussions. See also Appendix C, Section 2.2.2 of the Drop-off and Pick-up Management Plan for the relevant management measures.
(viii)	car parking arrangements and management associated with the proposed use of school facilities by community members; and	Section 4.7
(d)	include drop-off and pick-up management sub-plan, including:	
(i)	detail of each drop-off and pick-up zone time of operation;	A separate Drop-off and Pick-up Management Sub-Plan has been prepared to address the subject condition. Refer to Appendix C.
(ii)	a pre-registration system to inform guardians of the capacity of each drop-off and pick-up zone and the designated drop-off and pick-up zone for the guardian's child;	
(iii)	staffing requirements to manage each drop-off and pick-up zone;	
(iv)	complaints register to record complaints received in relation to drop-off and pick-up traffic, including from Council and the Hills Police Area Command; and	
(v)	communication arrangements to inform parents of the drop-off and pick-up management sub-plan;	

	Condition	Comments & References
(e)	measures to promote and support the implementation of the plan, including financial and human resource requirements, roles and responsibilities for relevant employees involved in the implementation of the plan;	Section 8
(f)	an annual monitoring and review program for the duration of operation that includes (but is not limited to) the following:	
(i)	a suitably qualified Travel Coordinator shall implement the objectives and strategies within the STP for three years;	Section 5
(ii)	are being achieved and complaints are, where possible, resolved and the pre-registration system of the drop-off and pick-up management sub-plan is adhered to by guardians. The result of the annual review is to be provided to Council and TfNSW for information within two months of completing the annual review/audit, and a copy made available to the Planning Secretary upon request within two working days;	Section 7.2, 7.3, and Section 4 of Drop-off and Pick-up Management Sub-Plan (see Appendix C).
(iii)	where the annual review/audit required by condition D28(f)(ii) above identifies that mode share targets are not being met and the pre-registration system of the drop-off and pick-up management sub-plan is not adhered to, the Applicant is to implement further measures in consultation with Council and TfNSW to meet the targets prior to the next annual review/audit cycle;	Section 7.2
(iv)	evidence of this consultation in the form of a report must include a description of the proposed measures and a schedule for implementing the measures, and be submitted to the Planning Secretary with the annual review/audit report required under condition D28(f)(ii);	Section 7.2 and future action
(v)	review of the adequacy of school bus services to cater for school demand and consult with TfNSW to increase bus services if required to meet demand; and	Section 7.2 and future action
(vi)	identification of measures to be implemented where demand exceeds the capacity of bus services	Section 7.2 and future action
(g)	notwithstanding D28(f) above, the Planning Secretary may consider revisions to timing to commence, extend or conclude the audit/review program, notably in instances where the Applicant demonstrates:	
(i)	that mode share targets are being achieved on a consistent basis; or	Section 7.2 and future action
(ii)	mode share targets are not being consistently achieved; or	Section 7.2 and future action
(iii)	where mode share targets are not consistently being achieved, however, suitable evidence is provided detailing how impacts from the departure of mode share targets have been mitigated.	Section 7.2 and future action
D29.	The methodology and review of the mode share splits in annual review/audit identified in condition D28 must be reviewed and confirmed by an independently qualified traffic/transport professional prior to commencement of operation.	Section 1.2.3
E17.	The School Transport Plan required by condition D28 of this consent must be updated annually and implemented unless otherwise agreed by the Planning Secretary.	Section 7.3

1.2 Consultation

This STP has been prepared in consultation with the City of Parramatta Council ('Council') and Transport for NSW (TfNSW). The consultation history and outcomes are detailed below, and attached in Appendix A.

1.2.1 Council Consultation

A copy of Revision 1 of this STP was provided by email to Council dated 13 March 2025, with request for feedback by 28 March 2025. A response was received from Council dated 8 April 2025, with confirmation that Council has no objection to the STP.

1.2.2 TfNSW Consultation

A copy of Revision 1 of this STP was provided by email to TfNSW dated 13 March 2025, with request for feedback by 28 March 2025. A response was received from TfNSW dated 17 March 2025 and 28 April 2025. TfNSW's comments, and the corresponding actions / updates made in the updated STP, are outlined in Table 2.

Table 2: TfNSW Consultation Outcome

TfNSW Comment	Response
Public Transport Information: bus services information on page 23 is incomplete and not legible. Each route should be listed with departures / arrivals for both directions of travel. It should be presented in a way that is clear and legible for someone with limited knowledge of the bus network.	Figure 8, Table 14 and Table 15 have been updated to ensure the provided information is legible and clear to understand.
Transport Strategy: Please update the reference from Future Transport Strategy 2056 to Future Transport Strategy (https://www.future.transport.nsw.gov.au/documents/future-transport-strategy) and it would be useful to reference the Active Transport Strategy also (https://www.future.transport.nsw.gov.au/future-transport-plans/active-transport-strategy)	Section 2.2 has been updated to reference the latest documents.
Car Parking Management: TfNSW recommends the applicant prioritising parking for those on a needs basis, for example, priority parking spaces are to be reserved, and well located, for those who carpool. This should be placed in the Travel Access Guide (TAG) below. Spaces for EV cars and EV chargers should also be allocated here.	The management strategy had been brought up and discussed with the Schools' Principals. However, the schools have no intention in pursuing such measure, and that parking spaces are to remain as per the ongoing first-come-first-served basis. As per the approved SSDA, there are currently no EV spaces and chargers provided on site.
Mode Share Targets: TfNSW has reviewed the mode share targets within the STP and advise the mode share for car passenger be reduced for both CWPS students (Table 8), and Staff (Table 10) where the mode share for car as driver (84%) is too high. Given the regular buses to and from the site, access to Parramatta Light Rail as well as cycling and walking opportunities, our team would expect the mode share targets to be increased for public transport, as well as active transport for cycle/shared paths in existence now and coming online in the future. For school event days, an additional mode share table should be done to target increased sustainable mode share for visitors.	Note that the staff mode share target for car as drivers (84%) is the existing travel habits, as the STP is looking to significantly reduce it to 50% (see Table 10 in STP). Public transport usage is also aimed to be considerably increased by 11%. For CHS, as the existing use of public transport is already significant, the STP aims to focus on the further uptake in active transport usage. For CWPS, the STP also focuses on the uptake in active transport as bus is not expected to be a practical travel mode given the catchment area of CWPS.

TfNSW Comment	Response
	That said, the 'Reach' mode split target of bus for CHS has been adjusted to promote the further uptake of public transport (see Table 9). Furthermore, as mentioned in Section 7.2, these targets could be adjusted and be made more ambitious by the Travel Coordinator in the future, should the mode splits have been achieved beyond the existing targets. As detailed in Section 4.10, special events conducted at the school vary in nature and scale. Hence, mode share targets may also vary event-by-event depending on the transport demand of each event. The development of one set of mode share targets for event days may not accurately reflect the travel habits of all visitors. Nevertheless, information regarding public and active transport surrounding the site have already been documented within the travel access guide, and will be readily available for event attendees to minimise private vehicle travel as much as possible.
Bicycle Parking: TfNSW notes the proposed 96 bike parking spaces for CWPS and 84 for CHS. With these facilities available, the team strongly encourage that both e-bike and traditional bike spaces are increased to encourage more staff and visitors to use this as a preferred travel choice. The spaces should be monitored to ensure there is sufficient provision to further encourage cycling as a mode. A good supply of quality End of trip (EoT) facilities and bicycle parking will encourage more walking and cycling mode shares. These EoT should be promoted in the TAG (see paragraph below). Some further guidance on bicycle parking and end of trip facilities can be found in the Cycleway Design Toolbox – Designing for cycling and micromobility. December 2020. Version 0.1.	The number of bike parking spaces for both CWPS and CHS have already been approved during the SSDA phase, and is currently under construction. It should be noted that the parking provided are consistent with the 'reach' targets listed in Table 10, and represents a significant 6-time (CWPS) and 4-time (CHS) increase to the existing travel habits. That said, the Travel Coordinator and School Principals can investigate in the future for opportunities for bike spaces and EoTF as travel behaviour changes over time, should the mode splits have been achieved beyond the current targets (see Section 4.4).
Implementation Plan: TfNSW appreciates Section 5.1 Potential Measures for Students and Section 5.2 Potential Management Measures for Staff but ask that these have committed and confirmed actions ready for implementation from Day 1 of occupancy. This includes employing a Travel Plan Coordinator (TPC) to be ready for Day 1 of operations to carry out these actions throughout the lifecycle of the development (see below advice on governance). The Implementation Plans should also include more additional initiatives to encourage sustainable transport uptake - Example of soft activities. The Implementation Plans should have set times, dates, and responsibilities for each initiative, including how each initiative will be funded.	The potential measures for both students and staff have already been discussed with and agreed by the schools. The Travel Coordinator will continue to oversee the implementation of the STP, and be involved in updates to the STP (including changes to the proposed encouragement programs) as required.
Travel Access Guide: TfNSW appreciates the TAG provided in the STP. TfNSW asks that the TAG caters to everyone who is using the proposed development site	The TAG has been updated as per the comments.

TfNSW Comment	Response
(including staff, students and visitors on event days and non-event days) and be updated regularly. The aim of the TAG is to reduce single occupancy car use, and encourage sustainable transport journeys to and from the site using public and active transport, and should: ▪ Provide a comprehensive map showing all modes of public and active transport, including buses, trains, walking and cycling routes. ▪ Provide information advising about service routes and timetables for buses and trains and Parramatta Light Rail is available on the Trip Planner at transportnsw.info/ ▪ Promote carpooling to staff and End of Trip facilities (EoT) such as showers, lockers and change rooms. The carpooling system should be described here, what steps do staff take to organise this? ▪ For further helpful information – please check this link - Travel Demand Management | nsw A copy of the TAG attached to this email.	
Travel Survey: TfNSW asks that Travel Surveys for staff are provided as a separate appendix in the STP. The survey should be distributed 3 months post-occupancy (and be included in the Implementation Plan above). The staff survey should include questions to ask to obtain residential postcodes to help inform strategies to access the site by sustainable transport modes. For further information please visit our website - Travel Demand Management | nsw	Travel surveys are currently standardised across SINSW projects and do not currently include residential postcode questions. This is to be further discussed with SINSW at a later date, across the portfolio of projects. The staff survey has been attached separately in Appendix E.

As noted hereinabove, the STP has since been revised, and Revision 3 was issued to TfNSW for reference via email dated 4 June 2025. A response was received from TfNSW on 18 June 2025. TfNSW's comments, along with the corresponding actions and updates made in the revised STP, are outlined in Table 3.

Table 3: TfNSW Consultation Outcome

Comment	Response
Transport Strategy: Please update document references of Future Transport Strategy 2056 to Future Transport Strategy.	The strategy had already been correctly referenced as "Future Transport Strategy", see Section 2.2.
Travel Access Guide: TfNSW notes the Travel Access Guide (TAG) previously and currently submitted proposes Carpooling and End of Trip Facilities (EOT) for Staff in the Travel Access Guide, including measures: ▪ Staff are encouraged to meet with and discuss carpooling options with other staff living nearby. ▪ EOT Facilities are provided for staff and are located straight ahead after entering the Dunmore Avenue access gate on the lower ground level in building Y2. They include 4 showers, 2 changing rooms and 11 lockers. In addition, 6 sheltered bicycle storage spaces are available for staff. In this regard, the car parking management strategy of priority parking spaces reserved for those who carpool can also be included in the TAG.	Discussions regarding the provision of priority spaces for carpoolers had already been undertaken with the schools previously, and it is understood that the schools had no intention in pursuing further with such strategy.
Travel Access Guide: TfNSW requests the TAG provides information advising the service routes and timetables for buses, trains, and Parramatta Light Rail, is available on the Trip Planner at transportnsw.info/	Such information had already been included in the TAGs of both schools, see Appendix B.
Travel Access Guide: TfNSW advises the active transport network map is missing pedestrian crossings on Karingal Ave, Baker St and Felton Rd East.	TAGs have been updated, see Appendix B.
Travel Access Guide: It is stated the Light Rail stop is accessible by bus. Please include the walking distance of the Carlingford Light Rail stop.	TAGs have been updated, see Appendix B.
Travel Access Guide: The active transport network maps should be updated with new pedestrian crossing on Blenheim Road and Baker Street once installed.	TAGs have been updated to reflect the end-state conditions, see Appendix B.

1.2.3 Independent Professional Review

As required by Condition D29 of the Condition of Consent, a copy of Revision 2 of this STP was provided to an independently qualified traffic / transport professional dated 09 May 2025, prior to the school's commencement of operation. A response was received dated 31 May 2025. The review, along with the corresponding actions / updates made in the updated STP, are outlined in Table 4.

Table 4: Independent Review Outcome

Comment	Response
Car mode share reductions across all categories are unrealistic: The proposed reductions in car use, especially for staff and high school students, are overly ambitious given local conditions. Many trips are convenience-based and hard to replace, and Carlingford's low walkability limits shifts away from cars. Parking constraints alone won't drive the large changes targeted. Overall, the reductions exceed what is typically achievable.	As mentioned in the peer review report, the purpose of setting ambitious goals that slightly exceed what may be immediately achievable is a common strategy to encourage motivation and drive positive change. The peer review goes on to conclude that the mode share targets do not need to be lowered, and are appropriate for the purposes of this development consent requirement. As mentioned in Section 7.2, mode share targets could be adjusted to other modes by the Travel Coordinator as appropriate during the annual review should the targets have been identified as being too ambitious.
Public transport uplift for staff is unrealistic: Increasing staff public transport use is unlikely due to long travel times and poor route efficiency. The journey time ratio compared to driving is too high, making transit uncompetitive. Planned improvements like Light Rail do not significantly reduce travel times. Thus, the target for public transport uptake is not feasible.	
Cycling uplift for staff is unrealistic: A five-fold increase in cycling is not feasible without separated cycling infrastructure. Existing and planned facilities are insufficient to support such growth. Without safe, protected routes, large increases in cycling among staff are unlikely.	
Methodology of Mode Share Splits: As part of the annual review, observations of kiss 'n drop locations and a review of crash data to be included to review the management measures and enable discussions with Council to review any safety deficiencies at the local road infrastructure.	Noted. Section 7.1 has been updated to include crash data collection from TfNSW. Additionally, general observations, and any comments from staff / parents regarding the kiss & ride zone will be considered as part of the annual review process.

1.3 Enrolments and Catchment Analysis

The enrolment numbers as of School Year 2024, along with changes to student and staff capacities as a result of the currently under-construction campus upgrade, are summarised in Table 5. It should be noted that the currently undergoing construction works pertains to Stage 1 of the upgrade project only, with completion expected in early 2026. Stage 2 will be addressed in separate documentations and will commence at a later date. For details of the ongoing campus upgrade, refer to Section 4.1.

Table 5: Schools Capacities

	Carlingford West Public School		Cumberland High School		
	Existing	**Proposed**	**Existing**	**Proposed (Stage 1)**	**Proposed (Stage 2)**
Students	1,744[1]	1,610[2]	1,123[1]	1,500[3]	2,040[2]
Staff	90[1]	90[2]	56[1]	111[4]	148[2]

[1] *Enrolment data as of 30 August 2024*, [2] *As per approved SSDA*
[3] *As per Construction Management Plan by Roberts Co (dated 22 August 2023)*, [4] *Calculated as per SINSW endorsed practice note*

It should be noted that the proposed capacity for CWPS is less than the existing enrolments. However, it is understood that this is being achieved through enrolment policy changes, and a reduction in out-of-area enrolments. Furthermore, the catchment boundaries have already been revised, and the enrolment numbers are already on a downward trend. The schools' current catchment boundaries are illustrated in Figure 1.

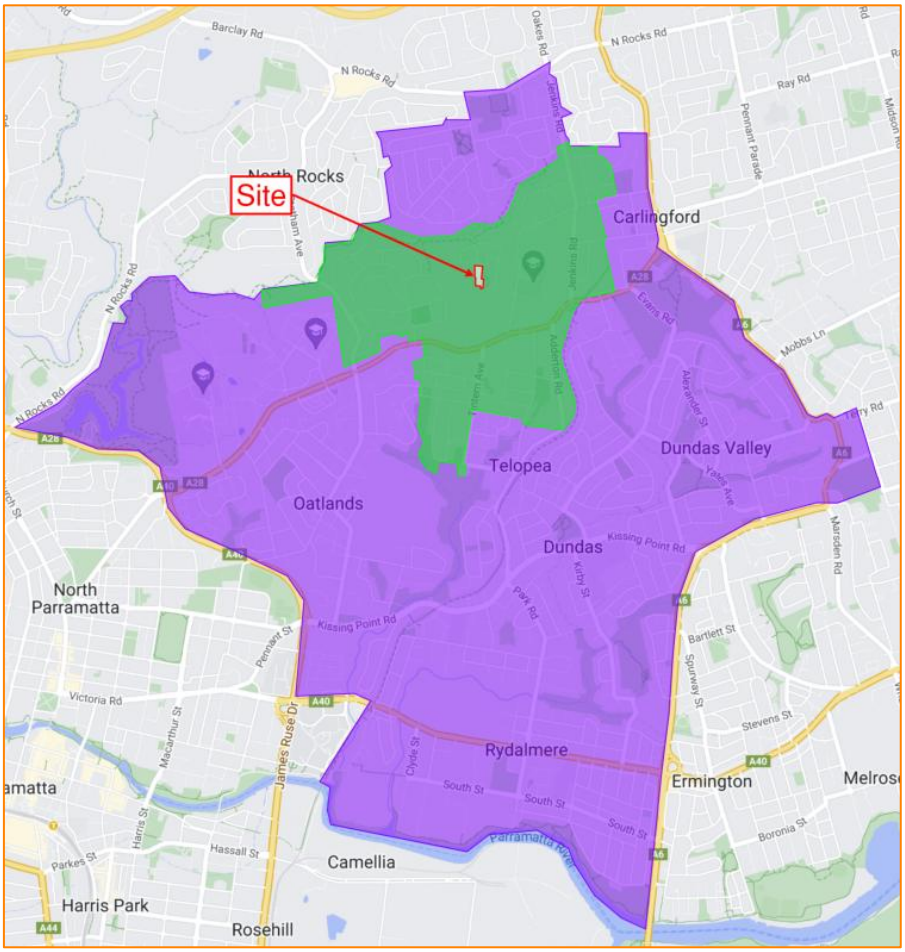

Figure 1: CWPS (green) and CHS (purple) Catchment Boundaries
Source: TTW

A student catchment analysis, summarised in Figure 2, Figure 3, Table 6 and Table 7, has been undertaken to understand the number of students living within different distance catchments. Such information enables the establishment of attainable mode split targets for the future, which is discussed in detail in Section 2.2.

Figure 2: CWPS Student Catchment Analysis
Source: TTW

Table 6: CWPS Student Catchment Analysis Summary
Note: Values may not add exactly due to rounding

Catchment (by Walking Distance)	No. of Students	%	Cumulative %
<400 m	121	7%	7%
401 – 800 m	275	16%	23%
801 – 1200 m	395	23%	46%
1201 – 1600 m	672	39%	85%
1601 – 2300 m	49	3%	88%
>2300 m	225	13%	100%
Total	**1,737**[1]	**100%**	

[1] *analysis of existing 1737 student data points provided by SINSW in June 2024*

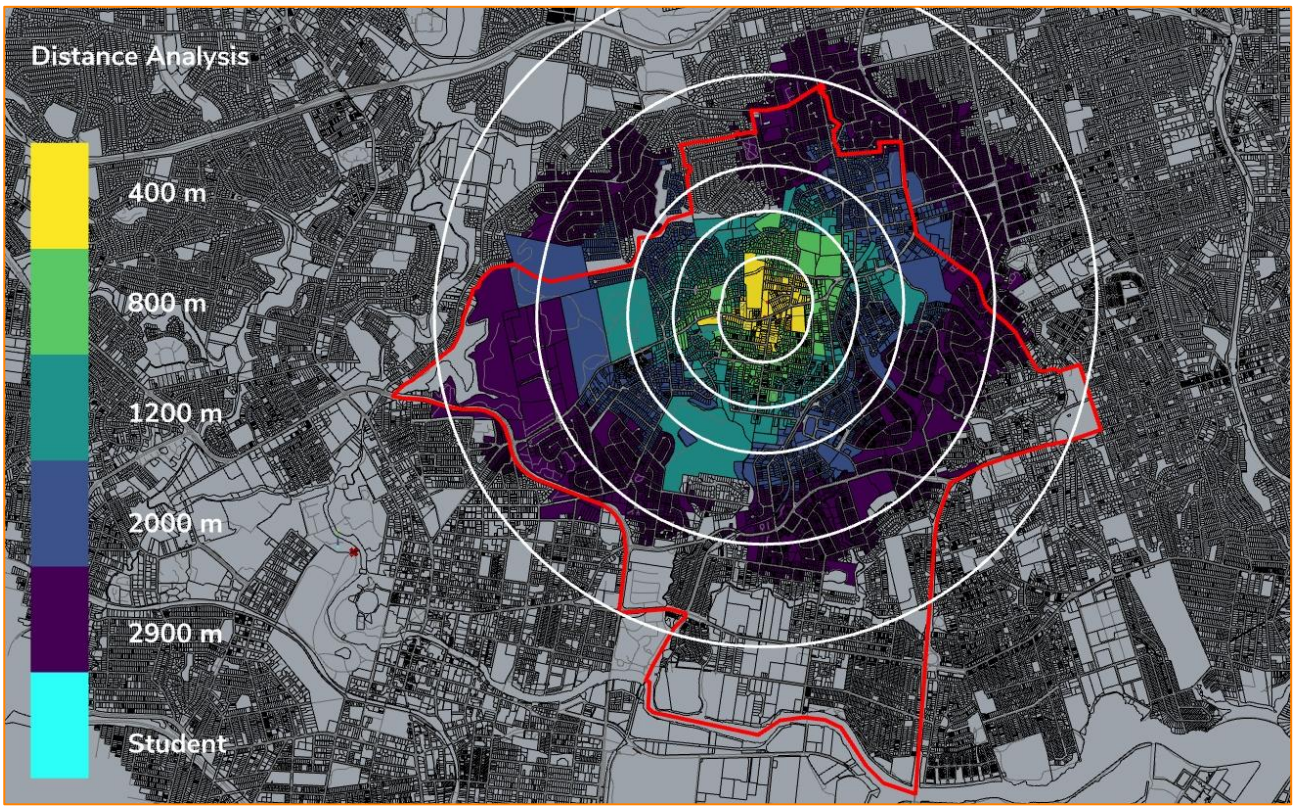

Figure 3: CHS Student Catchment Analysis
Source: TTW

Table 7: CHS Student Catchment Analysis Summary
Note: Values may not add exactly due to rounding

Catchment (by Walking Distance)	No. of Students	%	Cumulative %
<400 m	41	4%	4%
401 – 800 m	108	10%	14%
801 – 1200 m	213	19%	33%
1201 – 2000 m	190	17%	50%
2001 – 2900 m	263	23%	73%
>2900 m	315	28%	100%
Total	**1,130**[1]	**100%**	

[1] *analysis of existing 1130 student data points provided by SINSW in June 2024*

Section 2 Transport Goals

2.1 Visions and Objectives

The vision and objectives of the School Transport Plan for Cumberland High School (CHS) and Carlingford West Public School (CWPS) are:

- To encourage students to walk or cycle where possible, using the highly walkable local catchments and improved infrastructure being provided by this project.
- To encourage students to catch public transport where possible, and safely manage the bus zone facility on the high school site.
- To maintain good operation of kiss & ride zones at CWPS (from Felton Road East and Felton Road West) and at CHS (from Dunmore Avenue).
- To reduce the number of staff travelling by car to site and, when staff do choose to drive, reduce the impact of staff parking on the amenity of the local area.

2.2 Mode Split Targets

Travel surveys designed by TTW were distributed to staff, students, and parents / carers at both CWPS and CHS in June – July 2024. The "hands-up" survey was conducted by teachers in class. For each question, the teacher would read the question aloud to the entire class, followed by reading each of the answer options one by one. After an option was read, students who agreed with that option were asked to raise their hands. The teacher then counted and recorded the number of students who selected each option. The survey collected 2108 student responses and 144 staff responses, representing 75% and 98% of the student and staff bodies respectively, they are assumed to reflect the current travel habits of all students and staff.

The existing baseline mode splits of CWPS, CHS and Staff calculated using survey results have been documented in Table 8, Table 9 and Table 10. Based on the existing mode splits, target mode splits have been established to promote the further uptake in more sustainable travel modes that is active and public transport. As outlined in Table 8 and Table 9, the target mode splits have been dissected into two phases: moderate, and reach targets, which are described as follows:

- Moderate targets have been established based on the above Student Catchment Analysis encapsulated in Table 6 and Table 7. Such analysis identifies the number of students residing within various distance catchments, and hence can be used to set realistic and achievable targets in the immediate future, targeted to be achieved in 5 to 7 years.
- Reach targets seek an uplift in active and public transport, and a considerable reduction in car usage for both students and staff. Such targets are to be reached through a gradual shift of travel behaviour from the existing mode splits to moderate targets in the interim, to long term reach targets in the distant future (approximately 7+ years) once relevant policy changes (e.g., changes in out-of-area enrolments) are finalised, and the student population remains steady every year.

Staff mode split targets outlined in Table 10 have been derived from applying a reasonable level of modal shift to the current travel habit of staff. As the current staff recruitment strategy is not location-oriented, this may result in the staff population dispersing across the state. Thus, the method used to establish student targets could not be applied to staff.

These targets are considered to be consistent with the Active Transport Strategy by TfNSW which focuses on "prioritising walking, bike riding and place making to local destinations and transport networks." This is to be achieved through the development of a safer and more comfortable active transport infrastructure.

The recently released *Future Transport Strategy* by the State Government, which in relation to schools, states that a specific priority action is to be implemented (which are "actions to be implemented as a priority, with the view to delivery outcomes in 1-5 years"):

> *"Partner with the Department of Education and key stakeholders to improve safe walking, cycling and public transport access to schools."*

This priority action indicates that higher levels of walking, cycling, and public transport, and conversely lower levels of private vehicle travel, are of high importance to the success of local neighbourhoods, and that existing travel behaviours are expected to change as new facilities or services are implemented.

On these grounds, the target travel mode splits presented in the following tables are considered realistic and feasible. As mentioned, both set of target mode splits have been developed considering the student locations and catchment area of both schools, along with any infrastructure developments that could catalyse the shift in travel behaviour, with a greater emphasis on active and public transport, and seeking to minimise private vehicle usage for both students and staff as much as possible.

Table 8: Carlingford West Public School Student Travel Mode Data

Note: Values may not add exactly due to rounding

Travel Mode	Baseline		Moderate		Reach	
	%	#	%	#	%	#
Train / Light Rail	<1%	4	<1%	5	<1%	5
Car (as passenger)	56%	977	51%	813	39%	628
Bus	2%	35	3%	43	4%	64
Walk	40%	698	43%	689	50%	805
Bicycle	1%	17	3%	48	6%	96
Scooter / Skateboard	1%	13	<1%	12	<1%	12
Total	**100%**	**1,744**	**100%**	**1,610**	**100%**	**1,610**

Table 9: Cumberland High School Student Travel Mode Data

Note: Values may not add exactly due to rounding

Travel Mode	Baseline		Moderate		Reach	
	%	#	%	#	%	#
Train / Light Rail	<1%	4	<1%	6	<1%	6
Car (as passenger)	24%	270	18%	367	11%	224
Bus	41%	460	44%	898	47%	959
Walk	32%	359	35%	714	37%	755
Bicycle	1%	11	2%	35	4%	76
Scooter / Skateboard	1%	19	1%	20	1%	20
Total	**100%**	**1,123**	**100%**	**2,040**	**100%**	**2,040**

Table 10: Staff Travel Mode Data

Note: Values may not add exactly due to rounding

Travel Mode	Baseline		Moderate		Reach	
	%	#	%	#	%	#
Train / Light Rail	2%	3	5%	12	5%	11
Car (as driver)	84%	123	65%	155	50%	119
Car (as passenger)	6%	9	15%	36	25%	60
Bus	3%	4	7%	16	11%	25
Walk	4%	6	5%	12	5%	12
Bicycle	1%	1	3%	7	5%	11
Scooter / Skateboard	0%	0	0%	0	0%	0
Total	**100%**	**146**	**100%**	**238**	**100%**	**238**

In summary, the above mode share targets have been established based on the following reasons and assumptions:

Moderate targets

- As part of TfNSW's Future Transport Strategy, the "15-minute neighbourhood" concept envisions neighbourhoods / areas with sufficient active transport infrastructure, enabling residents to access daily necessities and services, such as work and schools, within a 15-minute (or approximately 1200 m) walk.

  As documented in the City of Parramatta website, the area has a "Walk Score" [1] of 81, which is classified as 'Very Walkable', and that most trips can be accomplished on foot. Moreover, Figure 7 illustrates that the precinct, surrounded by residential premises, features well-maintained footpaths along most roads. This extensive footpath network ensures that the area is well-serviced for pedestrians.

  Given the walkability of the area, it would be reasonable to assume that, it is feasible for all students living within the 1200 m distance brackets to walk to school, and could be achieved in the foreseeable future. As shown in Table 8 and Table 9, this results in a slight increase in CWPS (40% to 43%), while CHS remains unchanged (32%).

- Within the existing mode split, it is reasonably assumed that, students living between the 1201 – 2300 m (CWPS) / 1201 – 2900 m (CHS) distance brackets will mainly opt for private vehicle and non-walking active transport mode, as they do not locate within a comfortable 15-minute walking distance, nor do they benefit from the School Student Transport Scheme (SSTS), which provides students with free or subsidised travel on public transport between home and school.

  In the immediate future, it would be reasonable to assume that only a small portion of students would shift from private vehicle use to non-walking active transport modes due to a lack of incentives, this results in a slight increase in bicycle and scooter / skateboard use, with a slight reduction in car usage for both schools.

- Students locating at the outermost distance bracket (>2300 m for CWPS / >2900 m for CHS) could benefit from the SSTS scheme. Therefore, it is reasonable to assume that such financial incentives could encourage a shift from private vehicle use to bus travel. As such, an increase in bus usage could be achieved in the near future for both schools, as shown in Table 8 and Table 9.

Reach targets

- The City of Parramatta is implementing projects to significantly upgrade the area's infrastructure in the future. As detailed in the *Parramatta Ways Walking Strategy*, a number of high-quality open space and active transport projects are either delivered or currently underway. Such projects will create a more safe and accessible active transport network, and in turn, incentivising students and parents to walk / cycle more and drive less. Thus, a further uptake (+10% for CWPS, and +4% for CHS) in active transport is expected in the long term.
- The recently opened Parramatta Light Rail (PLR) provides students with another efficient and easily accessible travel mode within Parramatta. The additional option of public transport would incentivise students who are living outside the 15-minute (>1200 m) catchment, to shift away from private vehicle usage, and opt for light rail as part of a multi-modal journey, given the convenience.
- In the long term, several approaches, such as the *Parramatta CBD Pedestrian Strategy*, and the *Parramatta Ways Walking Strategy*, are in place to significantly reduce the overall private vehicle usage within the City of Parramatta, and to achieve the goal of *"10% of trips made by walking and cycling by 2038"*. It is anticipated that the relevant policies and strategies could also benefit the schools, and as a result further reduce the use of private vehicles.

[1] US-based "*Walk Score*" measures the walkability of any suburb or city by analysing hundreds of walking routes to nearby amenities. Points are awarded based on the distance to amenities in each category.

Staff targets

- All on-site staff carparks have capacity for 50% of staff to park only. Furthermore, nearby on-street parking is limited, and most are time-restricted. As the number of staff increases along with the student body, the number of staff driving to school will reduce as parking availability will be gradually in shorter supply.
- With the implementation of the relevant policies such as local area recruitment, and infrastructure developments in the City of Parramatta that further enhances pedestrian and cyclists' safety and connectivity, active transport will be a viable long-term option for staff. Financial incentives could also encourage the uptake in public transport.

Section 3 Policies and Procedures

The transport policies and procedures to be introduced to Carlingford West Public School and Cumberland High School have been developed based on current transport policies in place at the City of Parramatta:

- To maximise the use of active and public transport modes to reduce car traffic before and after school day start and end times.
- Prioritise multi-modal transport access.
- Reduce rates of driving alone and kiss & ride to school.
- Access policies for car parking in the staff car park.
- Provide information campaigns to staff, students, and visitors, to promote awareness on what travel active and public travel modes are available.
- Reduce impacts on local residents.

These policies will be further developed by the schools in conjunction with the Travel Coordinator.

Section 4 School Transport Operations

4.1 Carlingford West Public School and Cumberland High School Upgrade

The campus is currently undergoing upgrade construction works, which leads to the partial closure of the campus. That said, pedestrian / cyclist access and kiss & ride operations will remain fully operational to ensure students and staff have convenient access to the schools.

However, it should be noted that the kiss & ride zones are in close proximity to the construction compounds. Workers and construction trucks will access the CWPS construction site via Felton Road West (see Figure 5), adjacent to the Felton Road West kiss & ride zone. While the formal kiss & ride zone of CHS is surrounded by the CHS construction compound as shown in Figure 4. Thus, students and parents are reminded to remain vigilant when carrying out kiss & ride operations as construction works are occurring concurrently. Additionally, staged operations of CWPS's kiss & ride operations will be required, refer to Section 2.1.1 of the Drop-off and Pick-up Management Sub-Plan attached in Appendix C.

Be that as it may, relevant physical separations are already in place to ensure construction and students do not cross paths. A scaffold bridge, depicted in Figure 4, is installed over the top of the CHS formal kiss & ride area. Construction compounds, including construction worker access, have also been explicitly separated through the installation of hoarding to provide physical separation between school and construction operations.

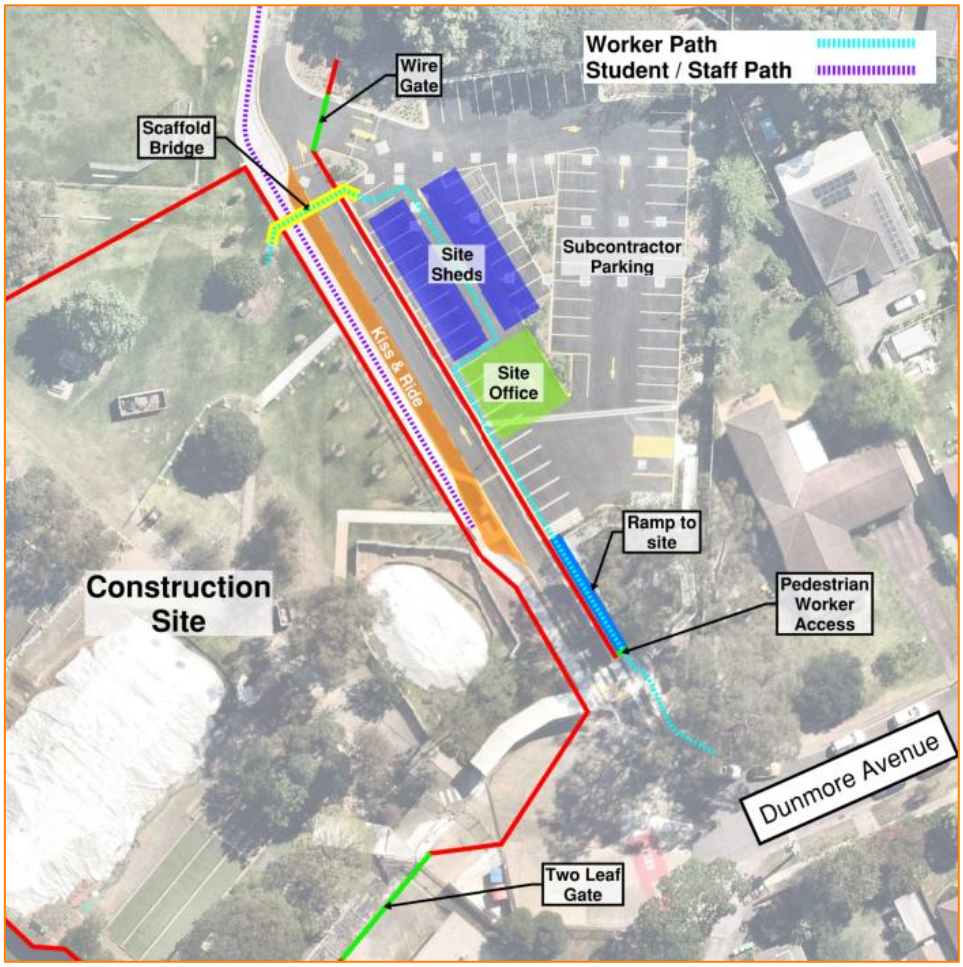

Figure 4: CHS Pedestrian / Cyclist Access

Source: Roberts Co Construction Management Plan (Rev [2], dated 18 September 2023)

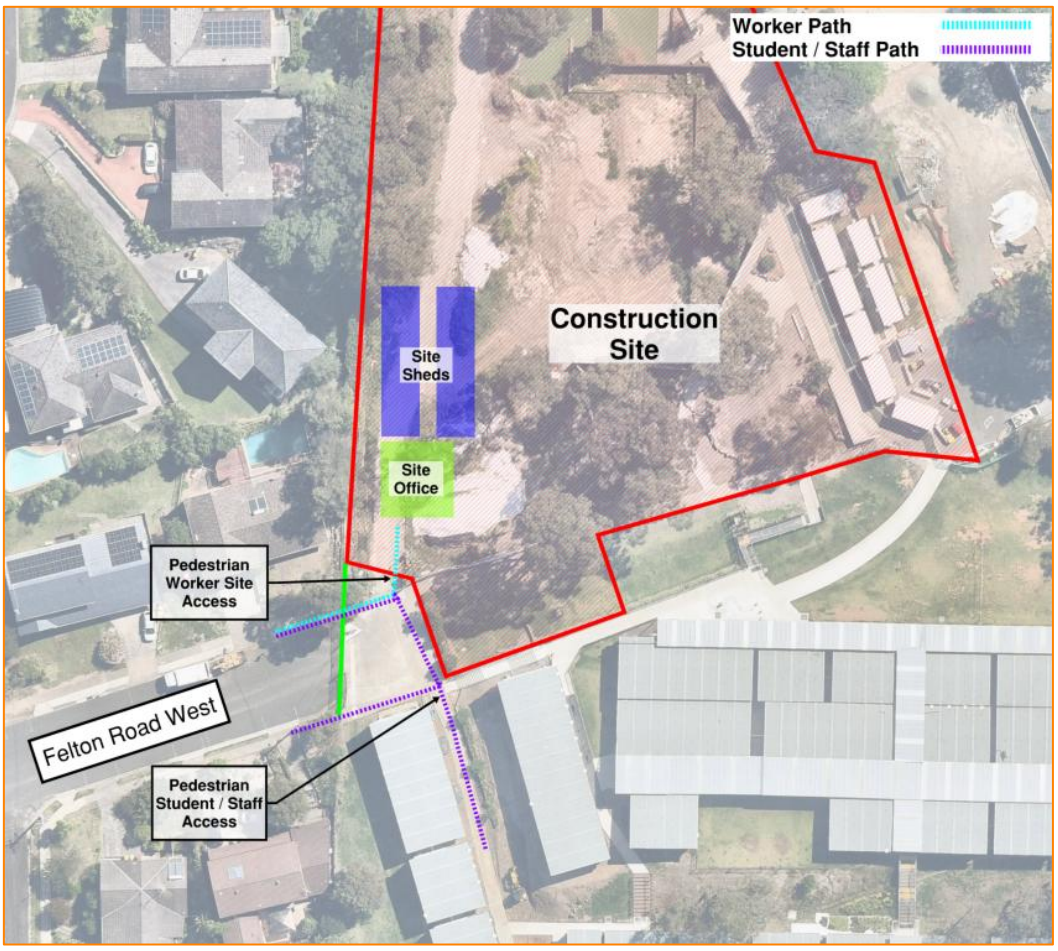

Figure 5: CWPS Pedestrian / Cyclist Access
Source: Roberts Co Construction Management Plan (Rev [2], dated 18 September 2023)

4.2 School Bell

To improve efficiency and reduce congestion within the precinct, the school bell times have been staggered between CHS and CWPS. This will allow the traffic movements (e.g., buses) of each school to be separated in order to reduce delays during kiss & ride activities and within the surrounding road network.

The bell times between the primary school and high school are staggered by 35 and 25 minutes in the morning and afternoon respectively, as shown in Table 11. It should be noted that the bell times will be continuously reviewed to ensure safe access for staff and students.

Table 11: Bell Time Difference
Source: Carlingford West Public School and Cumberland High School

School	Bell Time (AM)	Time Gap	Bell Time (PM)	Time Gap
Carlingford West Public School (CWPS)	9:25 am	35 mins	3:25 pm	25 mins
Cumberland High School (CHS)	8:50 am		3:00 pm	

4.3 Site Access

The formal addresses of the sites are 57 – 73 Felton Road and 183 Pennant Hills Road, Carlingford, NSW 2118 respectively. The main pedestrian entries, bus bay, kiss & ride zones, and on-street loading zone are located along Felton Road East, Felton Road West, Hilar Avenue, Pennant Hills Road, Dunmore Avenue, and Barker Street.

CWPS offers main pedestrian and cyclist access points at Felton Road East and Felton Road West, with a secondary access point available at Hilar Avenue. Additionally, access to the school can be gained through CHS's access points located at Dunmore Avenue, and Pennant Hills Road.

At Felton Road East, CWPS's roundabout features a kiss & ride zone and provides a road link to the staff carpark and waste loading area in the southern part of the campus. Staff vehicles and waste loading trucks use this route for site access.

CHS provides main pedestrian and cyclist access points at Pennant Hills Road and Dunmore Avenue, with secondary access points at Felton Road East, Felton Road West and Hilar Avenue. Access to the kiss & ride zone, waste loading facilities, and the staff carpark is available from Dunmore Avenue. School gates will only be opened during pick-up and drop-off hours, and will be closed off throughout a school day for security reasons. Visitors will be required to use the intercom to access the campus during school hours. Additionally, out-of-school hours programs at Carlingford West Public School will require parents and students to access the school on foot, and staff parking will be accessed via the intercom.

Table 12 provides an overview of the gate opening hours. Figure 6 provides an overview of the transport operations for both schools.

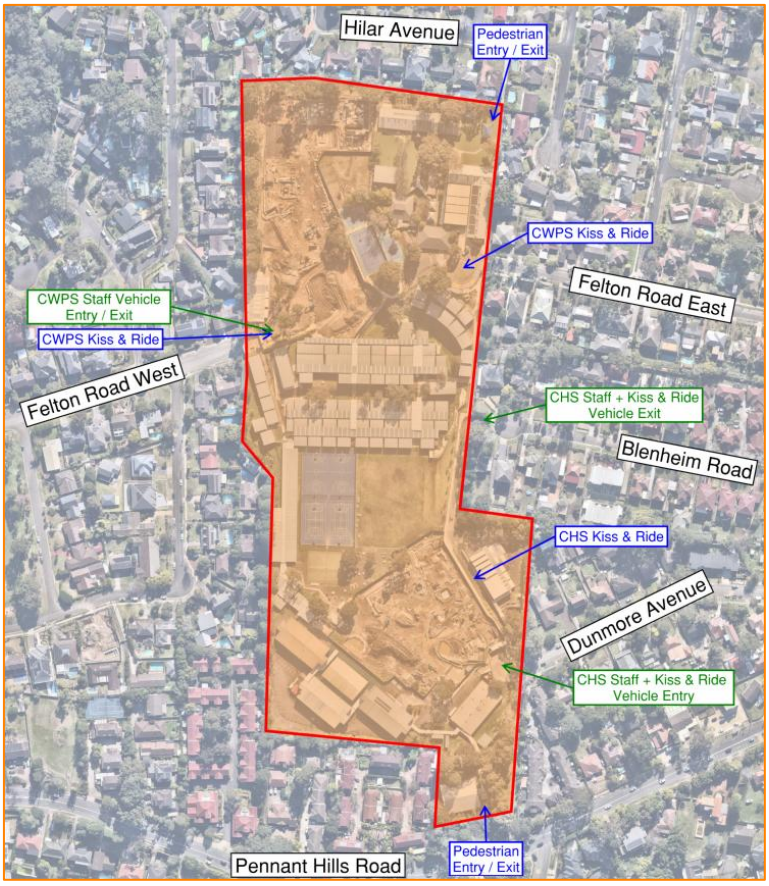

Figure 6: Campus Transport Access
Source: TTW

Table 12: Gate Opening Times
Source: Carlingford West Public School and Cumberland High School

School	Gate Opening Times
Carlingford West Public School (CWPS)	8:50 – 9:35 am, 3:10 – 3:40 pm (Monday to Friday)
Cumberland High School (CHS)	8:10 – 8:50 am (Monday to Friday) 3:00 – 3:30 pm (except Wednesday) 2:25 – 2:55 pm (Wednesday)

4.4 Active Transport

Active transport modes include walking and cycling and other non-motorised means of transport. For the purposes of this STP, active transport also considers pedestrian movements to and from, vehicles parked on-street, vehicles at the Kiss & Ride area, bus stops, and light rail stops. These movements result in some level of conflict and crossover and therefore require safe management. For this reason, active transport is a higher priority mode than all other non-emergency movements. To encourage the uptake in bicycle usage, bicycle storage and end-of-trip facilities (EoTF) have been provided both students and staff, as quantified in Table 13.

Table 13: Active Transport Facilities[1]

		CWPS	CHS
Student	**Bicycle Storage**	96 spaces	84 spaces
	EoTF	-	-
Staff	**Bicycle Storage**	5 sheltered spaces	6 sheltered spaces
	EoTF	4 showers (2 M + 2 F)[2] 2 changing rooms (1 M + 1 F)[2] 9 lockers	4 showers (2 M + 2 F)[2] 2 changing rooms (1 M + 1 F)[2] 11 lockers

[1] As per approved SSDA, [2] M = male, F = female

In the event that the travel behaviour changes over time, and that bicycle use in the future has exceeded the anticipated demand, discussions between the travel coordinator and the schools could be held to investigate the opportunity for additional bicycle facilities to ensure sufficient parking is in place to cater for the demand.

Sufficient pedestrian footpaths have also been provided in the vicinity to encourage students travelling to school on foot. Figure 7 shows an overview of the existing pedestrian infrastructure in the vicinity. The site is in a residential area and the majority of roads provide formal footpaths. Safe pedestrian paths from all directions are conveyed in Figure 7.

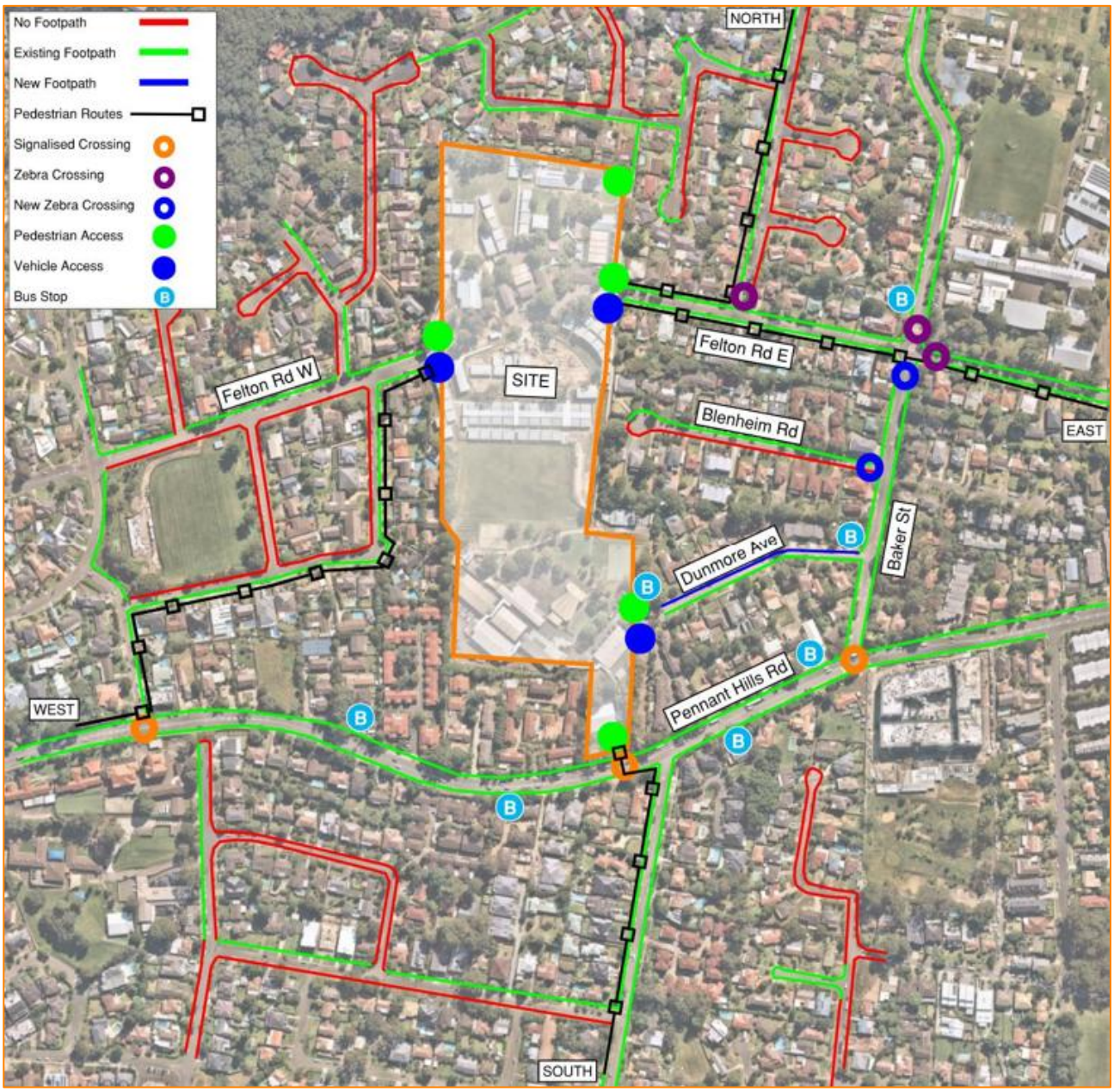

Figure 7: Pedestrian Footpath Availability
Source: TTW

4.5 Public Transport

4.5.1 Bus

The sites are well served by public transportation, including school buses, which are within 400 metres. The turning circle at the western end of Dunmore Avenue are used by the school for services of buses. Public transportation often flows along Pennant Hills Road past the sites, with pedestrian signalised crossings in the middle of the block, west of Tintern Avenue facilitating safe crossing when needed. The following is a summary of the nearby bus services shown in Table 14 and Table 15.

Table 14: Public Bus Routes

Bus Route	Coverage / Direction	Morning (Arrivals)	Afternoon (Departures)
513	West Ryde to Carlingford	08:05	-
	Carlingford to West Ryde	08:05	15:20
546	Epping to Parramatta via North Rocks & Oatlands	08:02, 08:34	15:12
550	Macquarie Park to Parramatta via Epping	08:06, 08:15, 08:25, 08:36, 08:41, 08:50	15:13, 15:19. 15:24, 15:27
	Parramatta to Macquarie Park via Epping	08:09, 08:19, 08:31, 08:38, 08:55, 09:00	15:07, 15:22
625	Pennant Hills to Parramatta	07:52, 08:26, 08:56	15:22
	Parramatta to Pennant Hills	08:19, 08:54	15:11, 15:41

Table 15: School Bus Routes

Bus Route	Coverage / Direction	Morning (Arrivals)	Afternoon (Departures)
615W	Cumberland High School to Pemberton St Rydalmere	-	15:11
616W	Cumberland High School to Eastwood Station	-	15:15
617W	Cumberland High School to Calder Rd & Dudley St, Rydalmere	-	15:05, 15:10
	Calder Rd & Dudley St, Rydalmere to Cumberland High School	08:12	-
618W	Cumberland High School to Victoria & Pittwater Rd	-	15:14
	Ryde Shops to Cumberland High School	08:32	-
625W	Eastwood Station to St. Michael's, Meadowbank	08:02	-
717W	Parramatta Station to James Ruse High School	08:20, 08:40	-
720W	Murray Farm School to Parramatta Station	-	15:30
3566	Cumberland HS to Chilcott Rd at Bay Rd	-	15:05

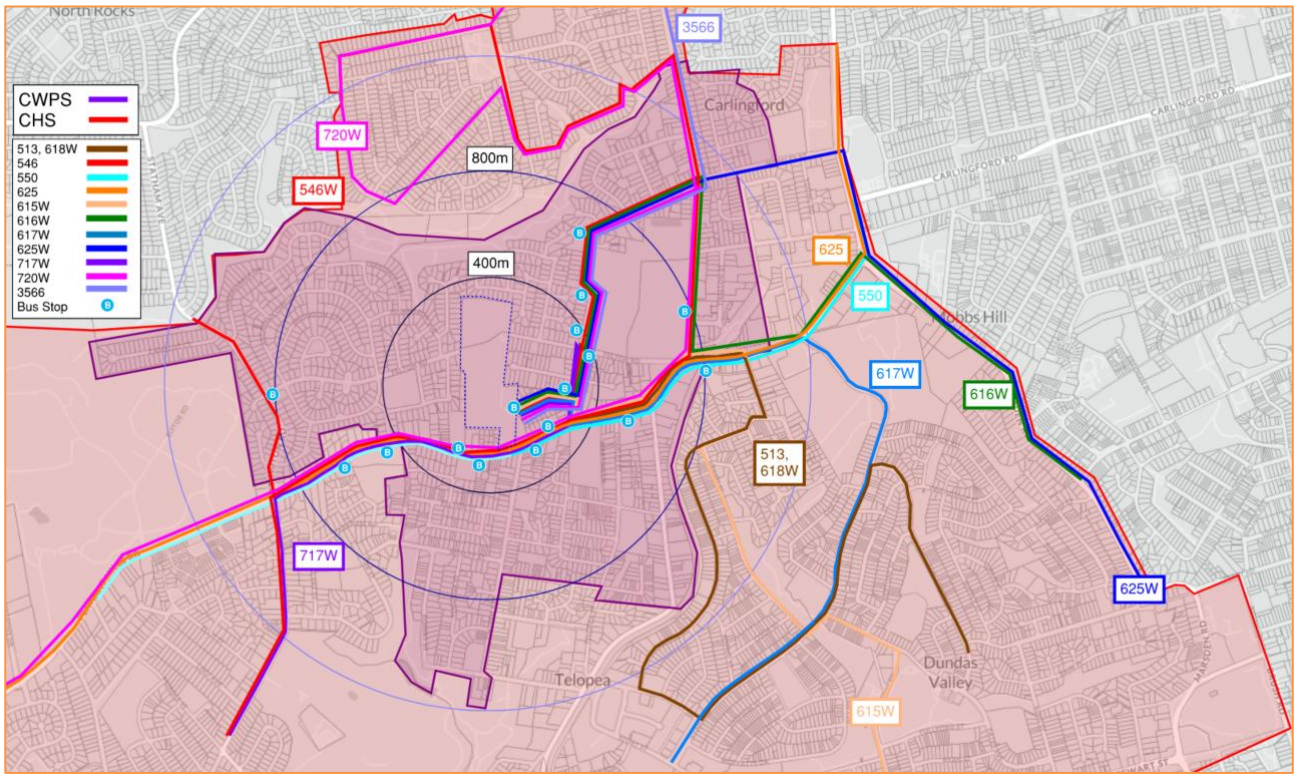

Figure 8: Bus Routes
Source: TTW

Figure 8 illustrates the 400 m (5-minute walking), 800 m (10-minute walking) and 1200 m (15-minute walking) catchment from CHS and the available public transport network in the vicinity of the site. Details of public transport options available are outlined in the following sections.

As part of the campus upgrade mentioned in Section 4.1, a new one-way bus link road connecting Dunmore Avenue and Pennant Hills Road, with an unsignalised exit to Pennant Hills Road will be available. It is expected that the road link will only be utilised by school buses and authorised service vehicles. Outside of the gate opening times detailed in Table 12, the bus link access at Dunmore Avenue will be closed to prevent unauthorised access.

Figure 9 illustrates the new bus link upon completion. Associated new bus stop, bus shelters, waiting areas and pedestrian links from the school buildings to the new bus stop will also form part of the works of the new link. The new CHS bus stop will be available adjacent to the kiss & ride zone, as depicted in Figure 10.

As a result of the aforementioned works, it should be noted that, certain bus routes detailed in Figure 8 will be re-routed to facilitate student usage as the on-campus bus zone comes into operation.

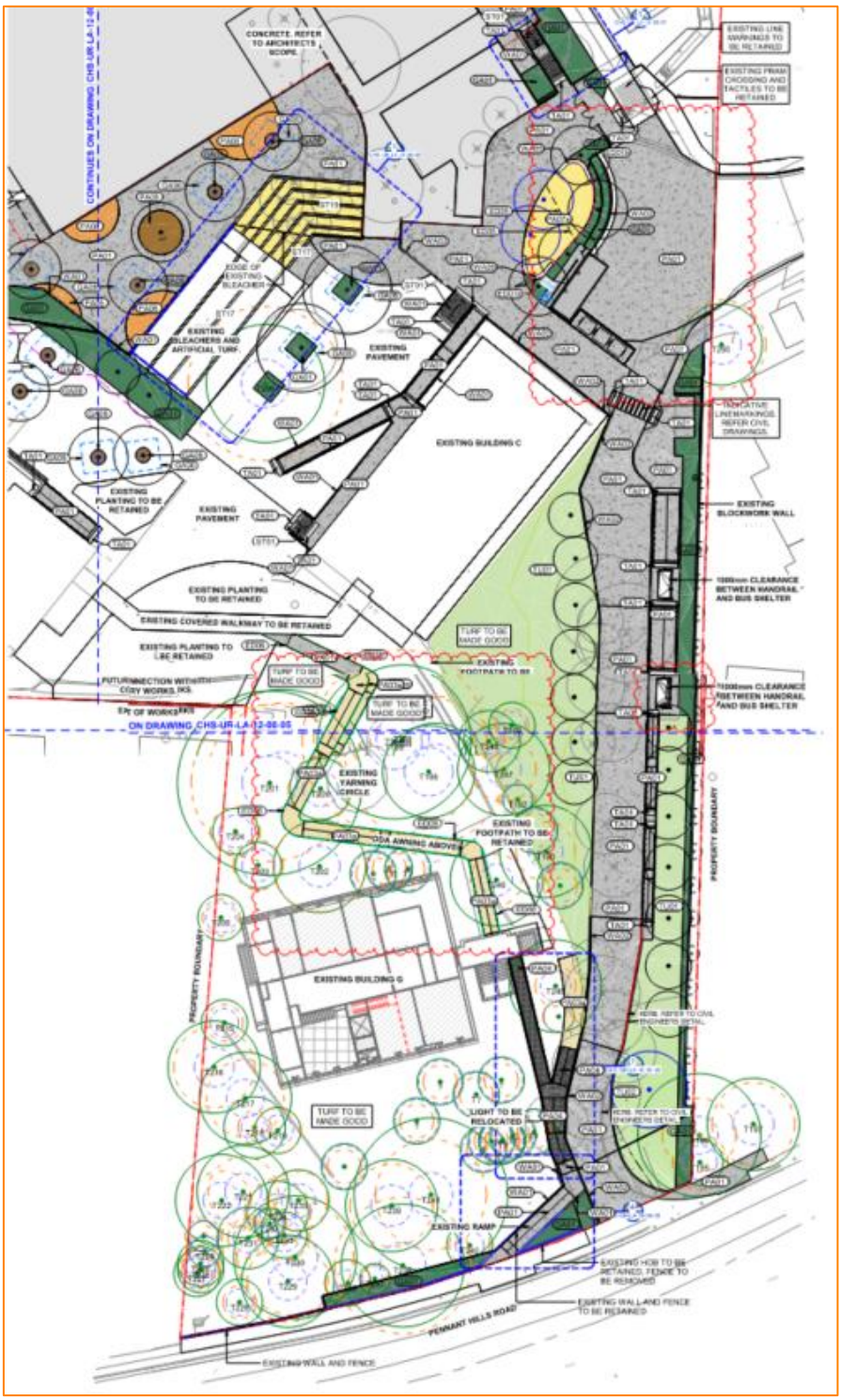

Figure 9: New Bus Link

Source: Urbis (CC-UR-LA-12-00-05 [21], dated 7 July 2025, CC-UR-LA-12-00-06 [13], dated 3 July 2025)

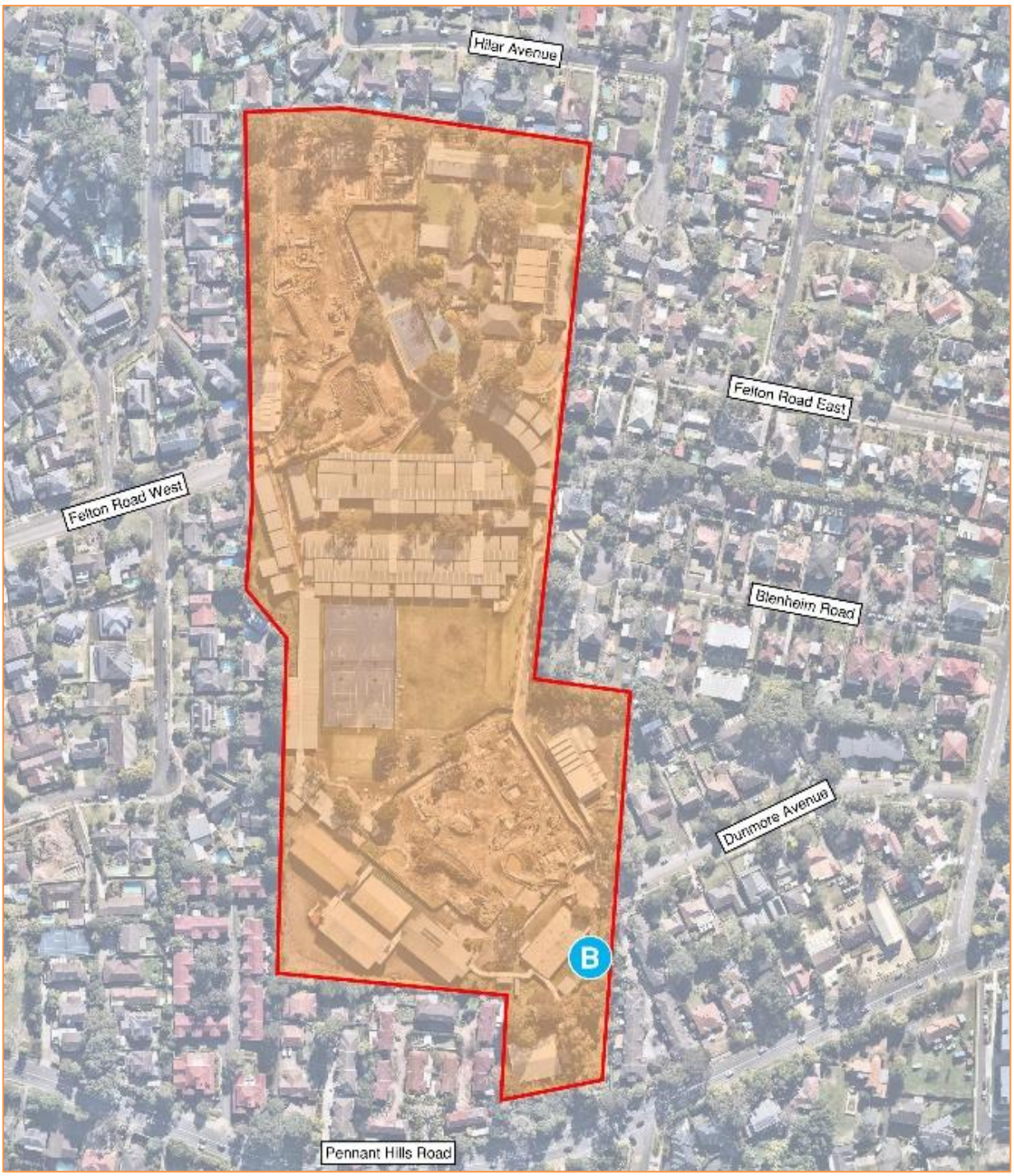

Figure 10: New Bus Stop
Source: TTW

4.5.2 Sydney Trains & Metro

The Integrated Public Transport Service Planning Guidelines, Sydney Metropolitan Area, states that the walking catchment for metro and railway stations includes all areas within an 800-metre radius of the station. Indeed, the subject site is located well outside the walking catchment area, with the nearest station being Epping Metro and Railway Station located approximately 4 kilometres south-east of the site. Hence there is expected to be limited reliance on the use of rail services by students and staff, that said, these services may be used as part of a multi-modal journey.

4.5.3 Light Rail

The Parramatta Light Rail (PLR) was completed, and has recently come into operation. The PLR is anticipated to operate with high-frequency 'turn-up-and-go' services seven days a week, with a frequency of 7.5 minutes during peak periods. The PLR is a two-staged major infrastructure project that connects Westmead with Parramatta, Camellia, and Carlingford. The PLR Stage 1 and Stage 2 map is shown in Figure 11.

As illustrated in the figure, there is a station at Carlingford near the school (approximately 1 km walk).

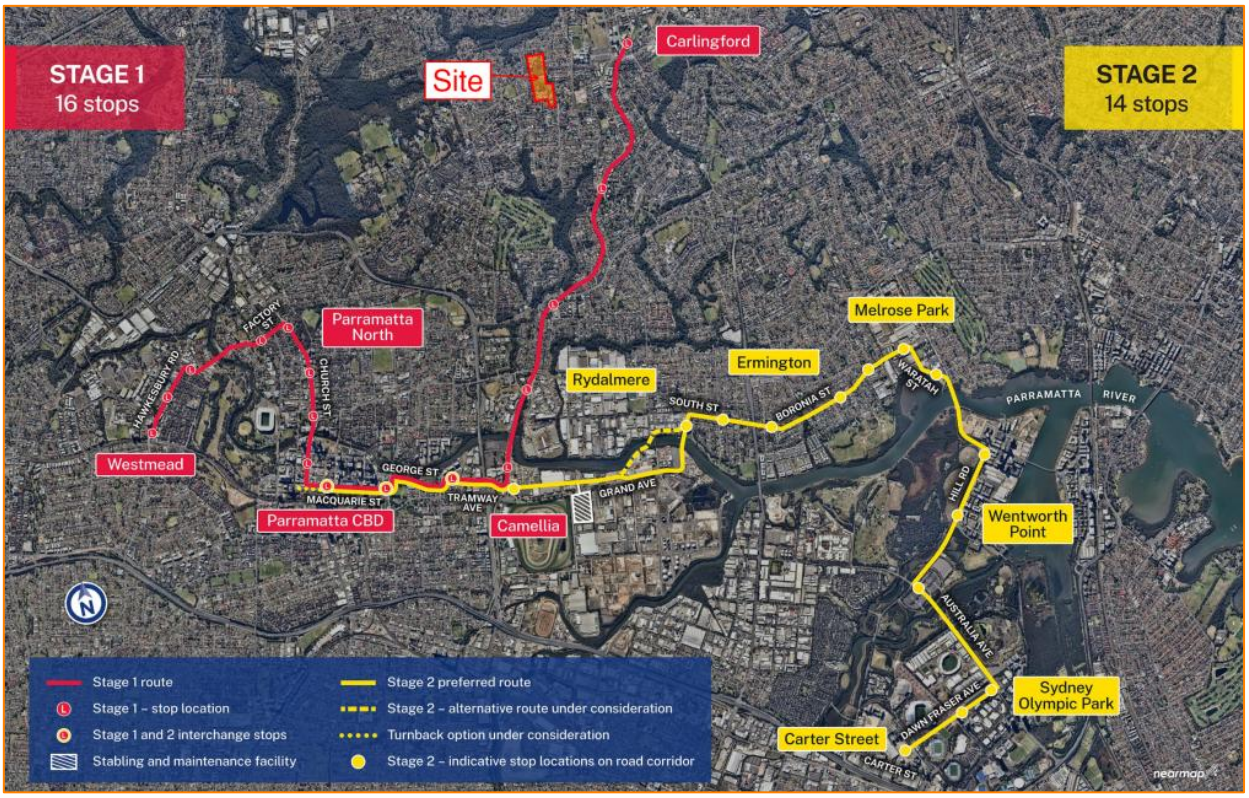

Figure 11: PLR Network Map
Source: Parramatta Light Rail

4.6 Drop-off and Pick-up (Kiss & Ride)

As noted in Table 1, a separate Drop-off and Pick-up Management Sub-Plan has been developed as part of the schools' transport operations to satisfy Condition of Consent D28(d), and to discuss the relevant management measures. For details refer to Appendix C for said Sub-Plan.

4.7 Car Parking

4.7.1 CWPS

Staff parking will be available immediately adjacent to the Felton Road West entrance on completion of upgrade works, with 46 staff spaces (including 1 accessible space), and 3 for maintenance / courier vehicles. The car park is to be accessed off Felton Road West. Note that the carpark would allow for a parking rate of 1 space per 2 staff members only. See Figure 12 for illustration.

As per the ongoing arrangement, the parking spaces are available on a first-come-first-served basis. Furthermore, there will be no designated visitor parking.

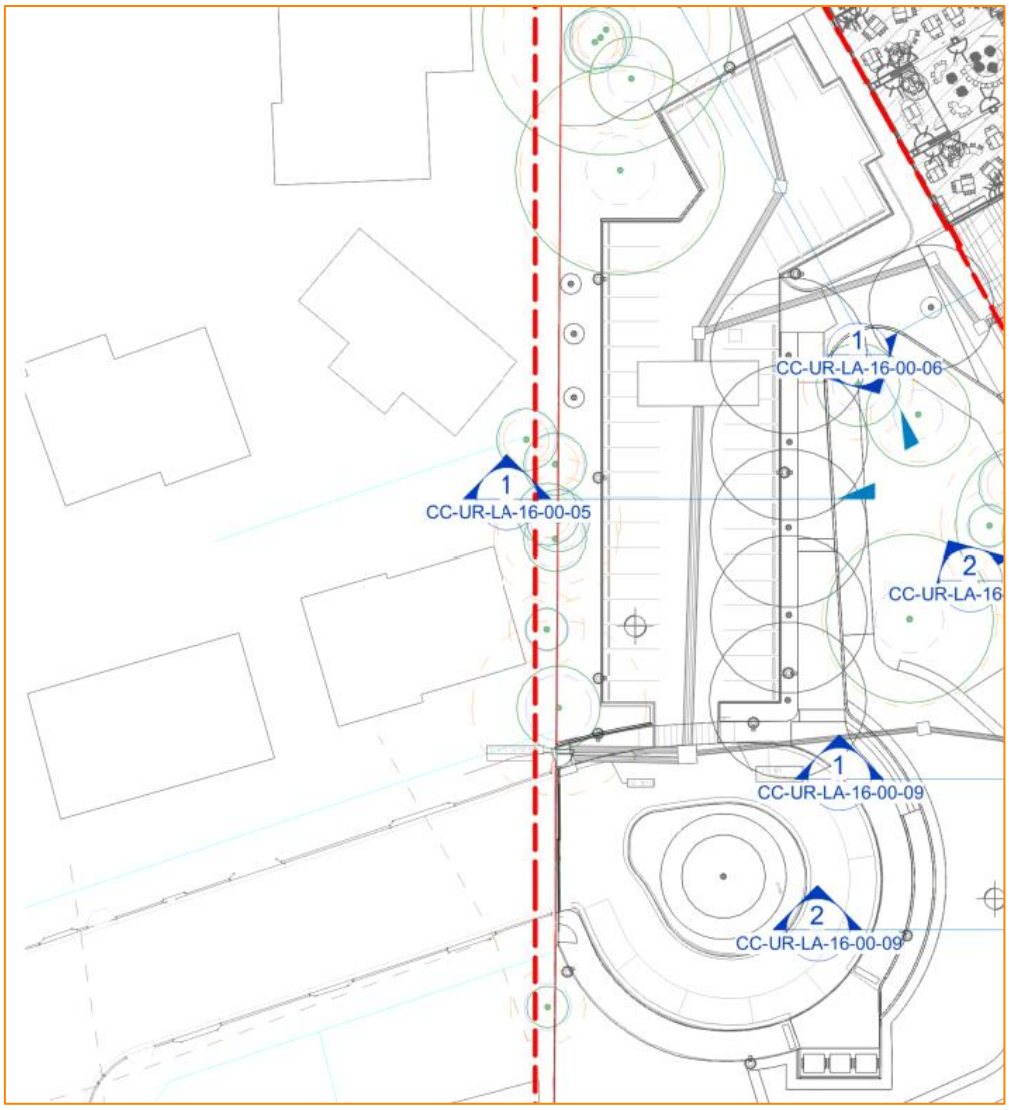

Figure 12: CWPS Car Park
Source: Urbis (CC-UR-LA-00-00-04 [3], dated 7 June 2024)

4.7.2 CHS

Staff of CHS are to utilise the northeast car park **only**, the car park provides a total of 76 spaces, including 74 for staff, and 2 for maintenance / courier use. The car park is to be accessed off Dunmore Avenue. Same as CWPS, this carpark would also allow for a parking rate of 1 space per 2 staff members only. See Figure 13 for illustration. As per the ongoing arrangement, the parking spaces are available on a first-come-first-served basis. Furthermore, there will be no designated visitor parking.

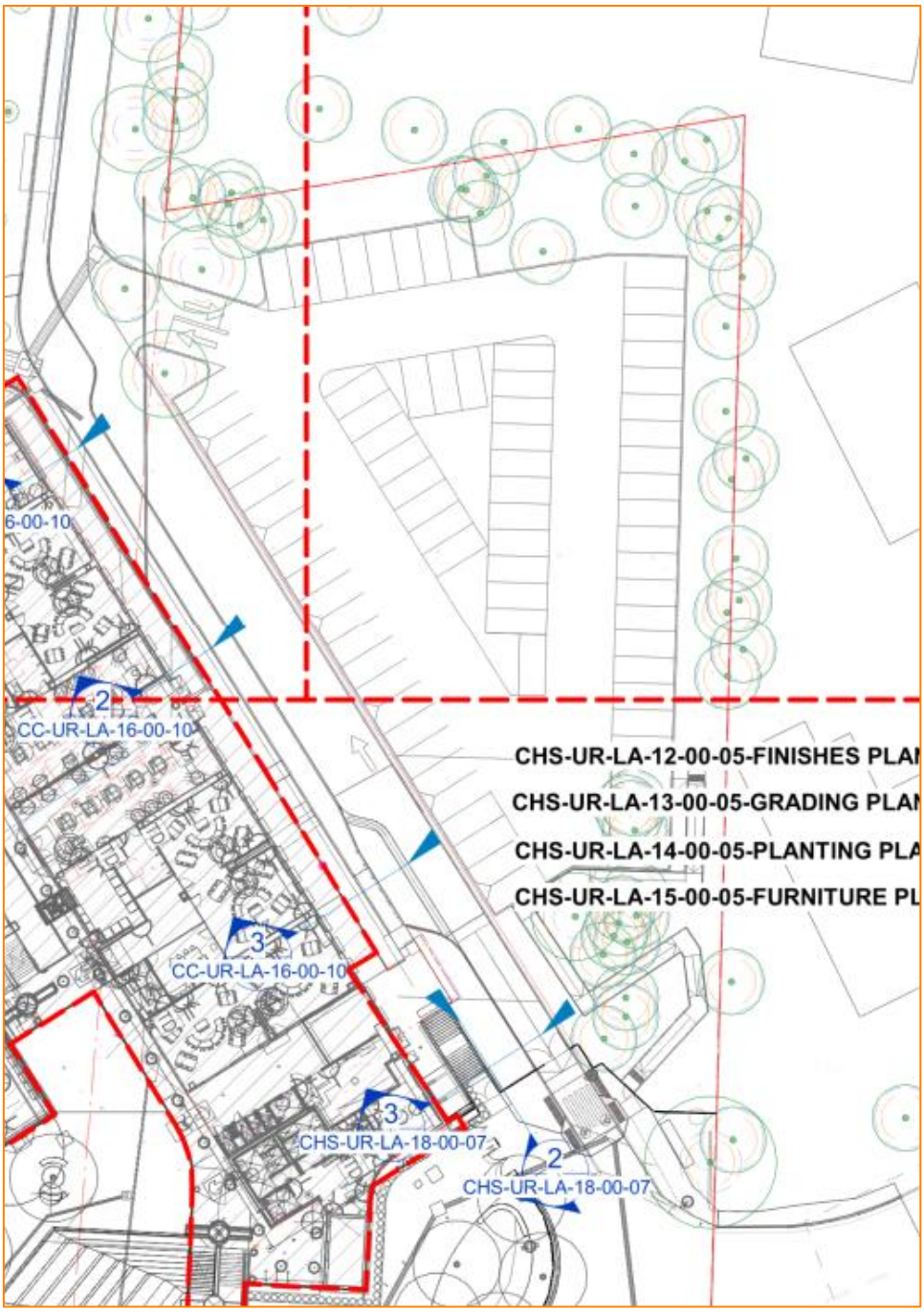

Figure 13: CHS Car Park
Source: Urbis (CC-UR-LA-00-00-05 [3], dated 7 June 2024)

4.8 Service and Loading

Similar to emergency vehicles, for CHS, waste loading trucks are also to access the site off Dunmore Avenue (see Figure 15), which provides the connection to the waste loading area in the southern part of the site. For CWPS, waste loading trucks are to access the site off Felton Road West, as illustrated in Figure 14, which provides the connection to the waste loading area in the western part of the site.

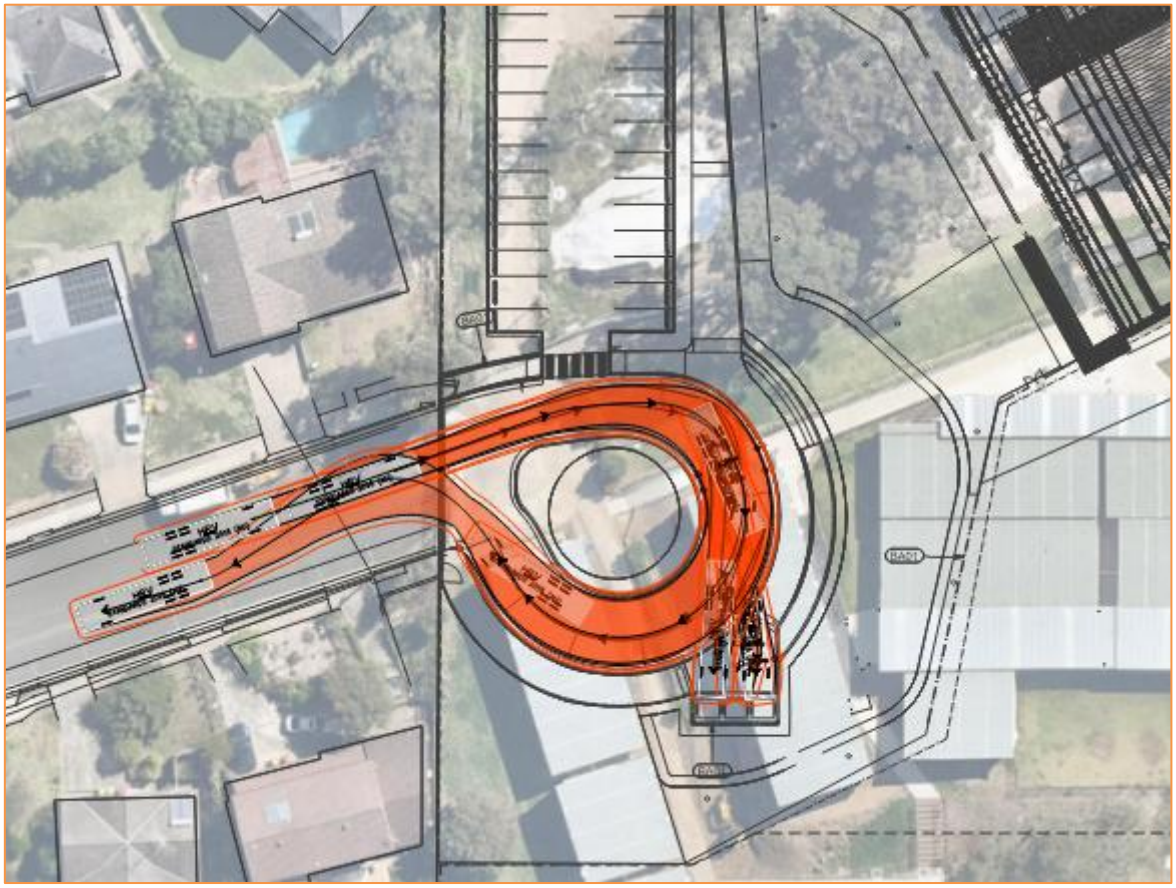

Figure 14: CWPS Waste and Loading
Source: TTW (CWPS-TT-TR-10-00-03 [1], dated 22 May 2024)

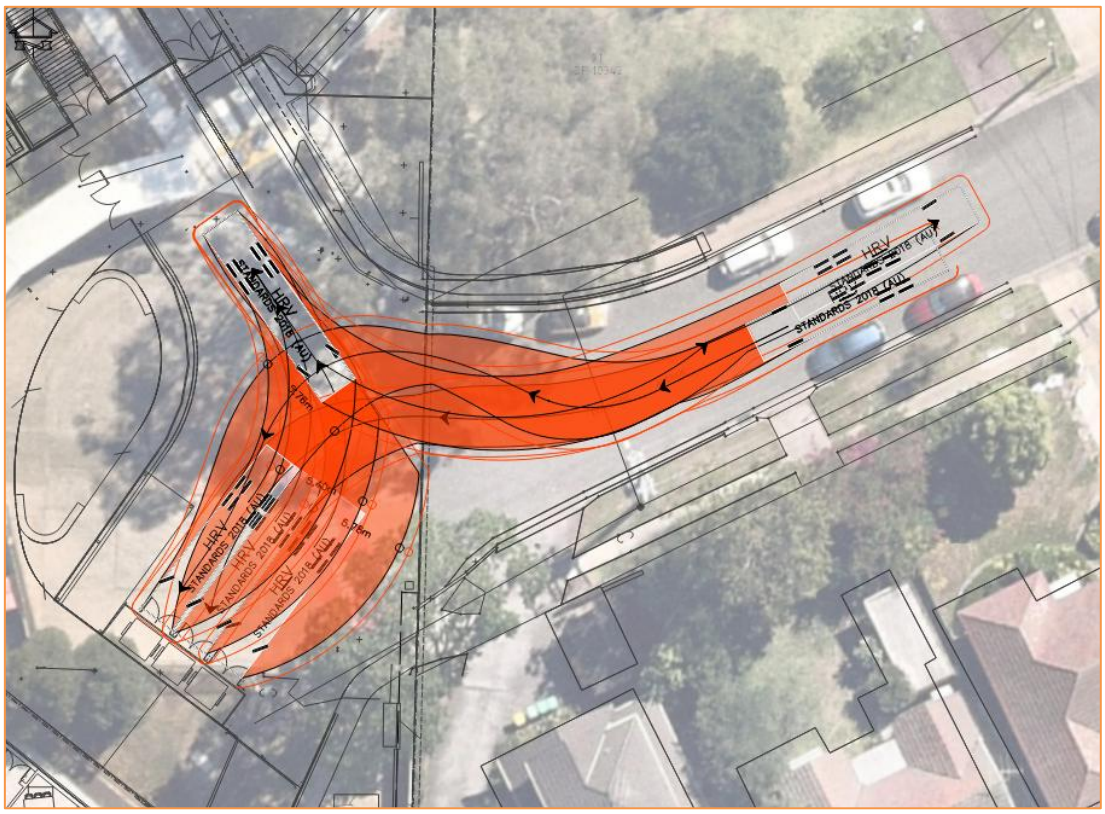

Figure 15: CHS Waste and Loading
Source: TTW (CHS-TT-TR-10-00-03 [1], dated 22 May 2024)

4.9 Emergency Vehicles

4.9.1 Fire Brigade

Fire brigade access will be in a forward direction to the site. As required by Fire & Rescue NSW, if the distance to the nearest intersection is greater than 120 metres then a turning area is required on-site.

For CWPS, fire brigade access can be accommodated at Felton Road West and Felton Road East, no turning area is required as these are both within 120 metres of the nearest adjacent streets. Felton Road East is retained in its existing condition, allowing for fire truck access.

For CHS, fire boosters are located at the entry off Dunmore Avenue, which provides a compliant vehicle turning area. The Y-shaped area provides sufficient space for a fire brigade vehicle to make the three-point turn and exit the site in a forward direction. Swept path analysis as illustrated in Figure 16 shows that the Dunmore Avenue 'hammerhead' can accommodate a three-point turn for an aerial fire truck.

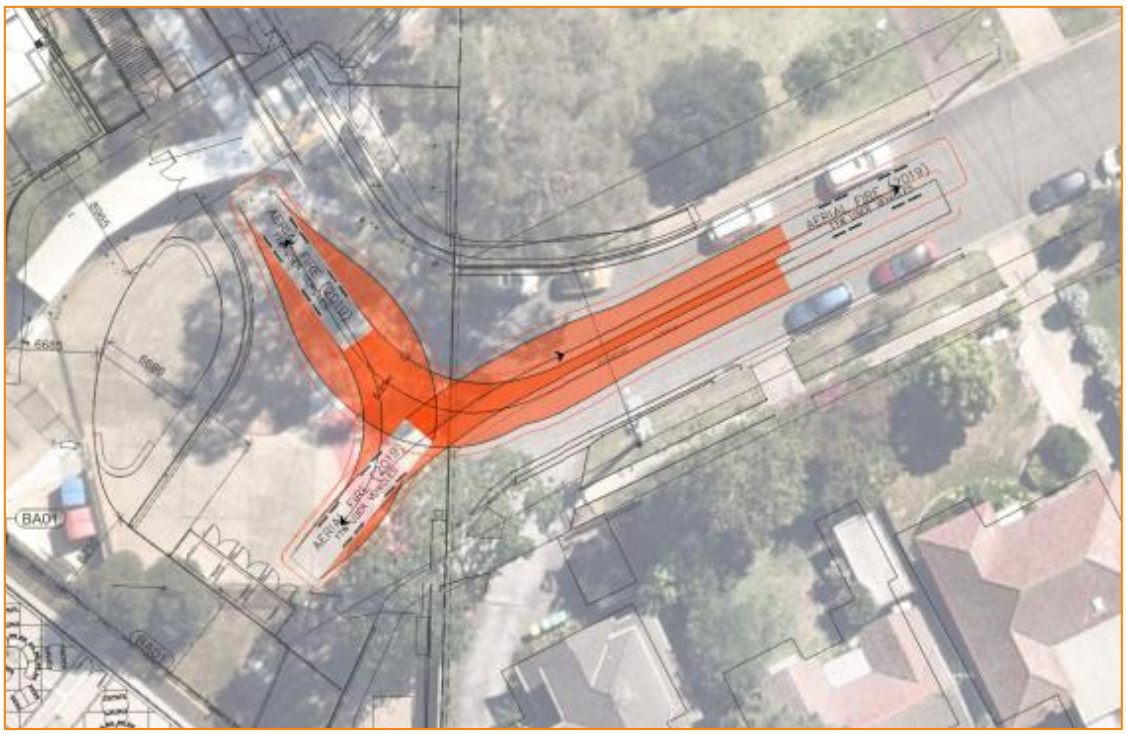

Figure 16: Fire Brigade Truck Three-point Turn
Source: TTW (CHS-TT-TR-10-00-04 [1], dated 22 May 2024)

4.9.2 Police Vehicles

No specific allowance is made for police vehicles, which are typically of a similar size to a car (B99 or smaller). Access would be available to all vehicle areas on the site, including sports field access similar to ambulance vehicles as described above.

4.9.3 Ambulance

There are no specific requirements from NSW Ambulance for access to particular areas of a site, however, their design vehicle specifications will be applied wherever access is provided.

For CWPS, the Felton Road West turning head can accommodate vehicles up to and including 12.5-metre heavy rigid vehicles, which will be substantially more than required for ambulances. Felton Road East is retained in its existing condition, allowing for ambulance access.

For CHS, ambulances are expected to access the site via Dunmore Avenue, swept path analysis as shown in Figure 17 demonstrates access onto the sports field for a 7.4-metre bariatric ambulance (which would need to return to Dunmore Avenue under a managed movement rather than continuing northbound to Blenheim Road, due to spatial constraints).

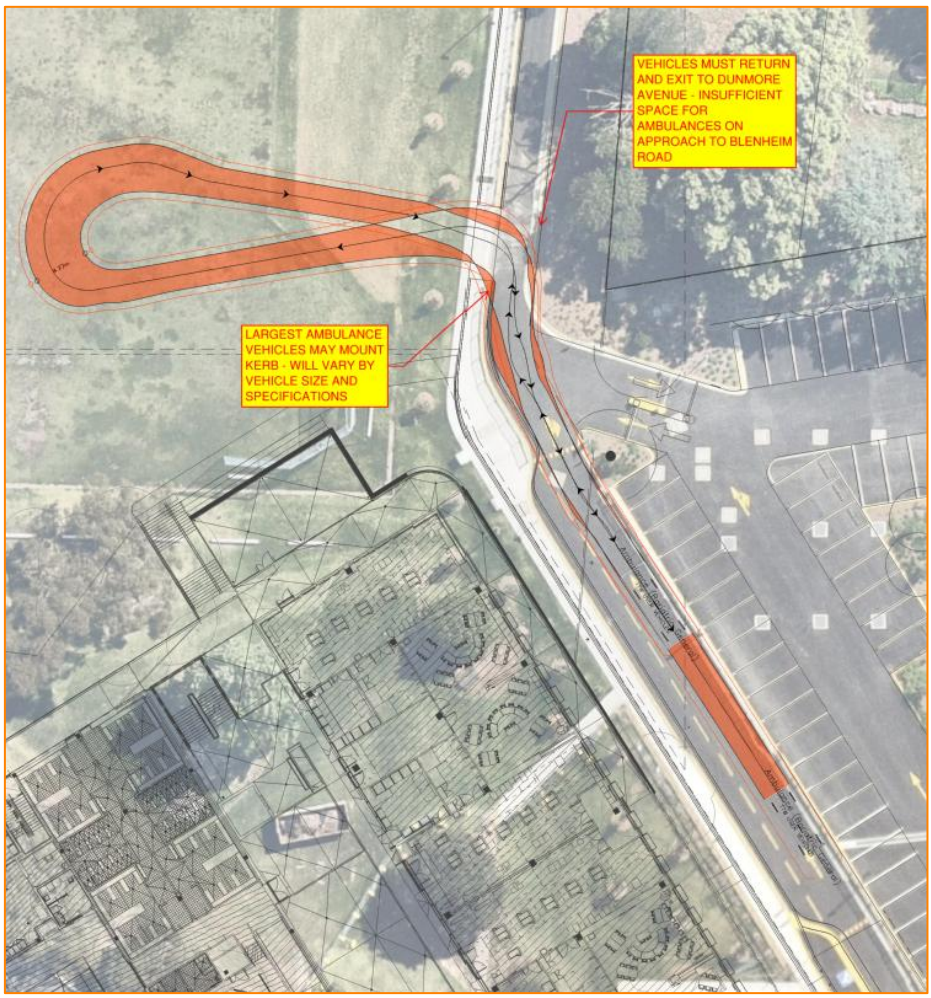

Figure 17: Ambulance Access
Source: TTW (CHS-TT-TR-10-00-04 [1], dated 22 May 2024)

4.10 Special Events

The school is expected to conduct a range of special events including parent / teacher meetings, graduation assemblies, subject selection nights, and performance events. These events will vary in scale however may attract large numbers of attendees to the site, resulting in intense transport demands. For large events that expects over 100 attendees, site access and transport are to be considered as part of event planning. Travel Access Guides may be issued to event attendees if relevant. As special events often occur out of typical school hours (weekends and evenings), plenty of on-street parking will be available surrounding the school site. It is noted that kiss & ride parking restrictions will not be in place outside of school hours, and so each of the road frontages adjacent to the school would be available for parking. There is also a potential option to utilise the on-site staff car park, for some special events, particularly for community events where school staff are not in attendance.

That said, travelling via private vehicle should be minimised where possible. As mentioned above, information regarding public transport surrounding the vicinity of the site are to be communicated to attendants, such as the distribution of Travel Access Guides.

Section 5 Sustainable Transport Programs

This section details various strategies targeted at encouraging sustainable travel choices for students and staff at the schools. The following programs and initiatives are to be implemented to achieve the visions and goals of this STP.

5.1 Potential Management Measures for Students

Table 16: Transport Encourage Programs and Activities for Students

Program / Activity	Description and Target Outcomes	Frequency / Timing	Responsible Parties
Travel Coordinator	Subject to arrangements by SINSW, a suitably qualified independent Travel Coordinator will be appointed for the site. This role's responsibility will be to further encourage sustainable transport measures (including the actions listed below), plus undertake all other elements of this School Transport Plan. The Travel Coordinator will implement the objectives and strategies within the STP for three years.	A Travel Coordinator will be appointed prior to the main occupation of the upgrade works	SINSW to advise and appoint a Travel Coordinator
New Starter Kits & Travel Access Guide (TAG)	Induction packages will be provided for new students and families including promotion of sustainable travel and information about available active and public travel e.g. walking bus, bus timetable and route information etc. As part of the new starter kit, the Travel Access Guide (TAG) will also be included. The Travel Access Guide (TAG) is a leaflet providing information about the available safe and sustainable modes of travel in the local area for students. The TAGs for active and public transport could be found in Appendix B.	Annually	Travel Coordinator (or equivalent) to source and provide any additional health and activity leaflets. Schools to distribute leaflets. Travel Access Guides for both schools had been produced by the traffic engineer, see Appendix B. Travel Coordinator to develop (or arrange) annual revisions of the Travel Access Guide.

Program / Activity	Description and Target Outcomes	Frequency / Timing	Responsible Parties
Periodic Reminders	Bus and train schedules often change and may update regularly. Students are to be notified of the changes that happen to ensure they will be equipped with most recent and accurate information. As such, periodic reminders will be necessary to improve accessibility to sustainable travel through ensuring accurate conveying of information. Details of this initiative can be found in Section 6.1.2.	Annually, or when any known changes occur	Travel Coordinator to stay informed regarding public transport scheduling or servicing changes and send out reminders as necessary.
School App and Website Information	Schools' apps and websites will be regularly updated with the latest information regarding travel to and from the schools. Students, parents, staff and visitors will be able to depend on the website as its central source of updated information.	Annually, or when any known changes occur	**CHS** to update the website as needed. **CWPS** to update the website and app as needed.
Kiss & Ride Reminders	To ensure good operation of the kiss & ride zones, reminders will be issued to parents about the management systems in place and the requirements to ensure correct usage. A Drop-off and Pick-up Management Plan has also been developed for parental use, refer to Appendix C.	Issue information on new arrangements within 1 month prior to opening	Schools to issue reminders to parents as required.
Job Advertisements	Job advertisements are to include information about limited on-site parking and promote public and active transport modes, including a summary of the sustainable travel initiatives at the school. Ensure advertisements identify the benefits of living and working in close proximity.	Anytime	Schools to include said information into any upcoming job postings.

Section 6 Communications Plans

6.1 Channels

6.1.1 New Starter Kits

To ensure new travellers have information regarding all their travel options, a Travel Access Guide will be provided. This brochure will be included as part of an induction or orientation package. This is especially important for travellers new to the area and who may be unfamiliar with the transport options.

6.1.2 Periodic Reminders

One method to enable periodic information sharing is to include a sustainable travel section within a school newsletter. The content can include details about new travel initiatives, mode share progress updates, upcoming events or changes, as well as reminding travellers about the importance of sustainable travel. It will also allow for feedback or questions regarding any travel-related concerns.

6.1.3 School Website

The school website will be utilised to provide up-to-date transport information, and to provide a central source of information for students and parents. External visitors would also have access to the website.

6.1.4 School App

The free School E-news app for CWPS is available for parents and carers to download and subscribe to updates from the school. News is regularly issued to the school community through such channel and will include any transport messaging and communication whenever required.

6.1.5 Government Materials

Council has a range of educational materials available for use. Ongoing communications between the school and Council will be maintained to ensure that all stakeholders (notably the school, parents and students) have full access to the latest information on road safety and safe driving practices in the school precinct, including posters, brochures and toolbox talks.

6.2 Messages

Key points of information and typical messages to the school community are to include:

- Safe and considerate usage of parking in the school precinct (to ensure impacts of off-site staff parking is minimised for local residents and commercial premises)
- Advising preferred on-street parking areas to reduce impact to residents
- Recommending that parents drop-off / pick-up multiple students and consider coordinating between families to ease pressure on the area
- Transport goals, safety requirements, and parent expectations
- On-site bicycle storage areas and end-of-trip facilities
- Informing staff regarding the end-of-trip facilities e.g. shower, lockers, etc.
- School Student Transport Scheme (SSTS) and School Term Bus Pass availability
- Changes to local public transport routes (as they occur)
- Out of School Hours (OOSH) service start and end times
- Opal card reminders (to ensure students tap on and off even if public transport is free)

- Any available memberships or discounts
- How to contact the Travel Coordinator or governance committee
- Informing guardians of the pre-registration system for kiss & ride zone usage

6.3 Travel Access Guide

The aim of a Travel Access Guide (TAG) is to present staff, students and parents with information about the available safe and sustainable transport options in the local area. This action involves presenting this information in a simple and understandable manner through an educational brochure. Staff and students are more likely to change their travel behaviour after being made aware of the public and active transport options and how to safely and easily utilise these alternatives.

TAGs will be distributed to staff, students and parents, as well as made accessible online through the school's website for visitors and ease of access. The Guide will be reviewed and updated as transport upgrades are developed. The TAG prepared for CHS and CWPS is included in Appendix B.

Section 7 Data Collection and Monitoring

7.1 Data Collection

The following data will be collected on an annual basis when this STP is being updated:

- Annual surveys for both students and staff are to be undertaken, detailed as follows:
  - Annual surveys will be undertaken for students prior to updating the STP to accurately determine travel habits, transport usage and travel mode split targets. Surveys will be carried out on-site in the form of a “hands-up” survey, performed by teachers in class, as detailed in Section 2.2.
  - Annual online surveys will be distributed among staff prior to updating the STP to accurately determine travel habits, transport usage and travel mode split targets. The Travel Coordinator will manage the setting up, including the development of the questions, of the online survey.
  - Once the surveys are completed, the Travel Coordinator will then collate the survey data and conduct further analysis and evaluation (detailed in Section 7.2).
- Crash data will be collected from TfNSW to review any recent events which may be relevant to the schools’ operations.
- Opal card tap-on / tap-off counts will be requested from TfNSW / the bus operator to accurately determine bus usage.
- The number of vehicles using each kiss & ride zone will be recorded, and checked against the kiss & ride register, as part of the annual spot checks and review of the kiss & ride usage.

In addition to the above, as documented in Section 4.3 of the Drop-off and Pick-up Management Sub-Plan, all complaints made in relation to the ongoing operations of the kiss & ride traffic, including those from Council and the Police, are to be collected, and kept in a complaint register.

Beyond the quantitative data collection listed above, general qualitative observations will be undertaken through the operation of the kiss & ride zones as these are managed on a daily basis. Commentary from staff or parents (if and where relevant) shall be considered in the annual update process.

7.2 Program Evaluation

The data collected as outlined in Section 7.1 shall be used to evaluate the STP performance as follows:

- Progress on mode share targets
  - The outcomes of annual “hands-up” survey (as described in Section 7.1) are to be reviewed against the travel targets put forward in the most current revision of the STP at the time to help determine whether mode share targets are being achieved.
  - Where mode splits fall short of sustainability targets, initiatives and communications are to increase in these areas. Measures are to be implemented in consultation with Council and TfNSW to meet targets prior to the next annual review / audit cycle, and be submitted to the Planning Secretary in a report, as detailed in Section 7.3.

    Targets could be shifted to other sustainable travel modes if appropriate (for example, low uptake of cycling could be better addressed with higher public transport targets).
  - Where mode splits have been achieved beyond sustainability targets, these targets could be made more ambitious and some resources may be able to be re-directed to other areas.
  - It should be noted that, the Planning Secretary may adjust the timing of the audit / review program, depending on the progress of the achievement of the mode share targets, or when evidences have been provided that any shortfalls are being addressed.

- Bus network and operations
  - Usage of the bus zone, in particular for different bus routes, is to be closely analysed with information provided to TfNSW for review. The adequacy of bus services will also be monitored based on the annual “hands-up” survey, or reviewed against any data provided by TfNSW in relation to bus usage.
  - Consultation with TfNSW will take place to request for additional services, should the services be high in demand.
- Drop-off and Pick-up operations
  - Where the traffic volume of the kiss & ride zones do not align with the registered number of vehicles, measures are to be implemented in consultation with Council and TfNSW to meet targets prior to the next annual review / audit cycle, to ensure the pre-registration system of the drop-off and pick-up management sub-plan is adhered to by guardians. The evidence of such consultation is to be developed in the form of a report, and be submitted to the Planning Secretary including the following:
    1. Description of the proposed measures, which will include communications with parents through school channels – In the event that parents are found to not have been pre-registered on the system, they will be instructed to do so through school communication channels as detailed in Section 6.1. However, it should be noted that, guardians will be not be prevented from using the kiss & ride zone, such measure will only include communications to encourage registrations.
    2. A schedule for the implementation of such measures
- Complaints Register
  - As mentioned in Section 7.1, any complaints received in relation to drop-off and pick-up traffic, are to be collected, evaluated and resolved where possible.

7.3 Documentation Updates

7.3.1 Annual Review / Audit

As stipulated in Condition D28(f)(ii), the results of the annual review / audit by the Travel Coordinator is to be provided to Council and TfNSW for information within two months upon the review's / audit's completion, and a copy to be made available to the Planning Secretary upon request within two working days.

Where issues as detailed in the above Section 7.2 have been identified, measures are to be implemented in consultation with Council and TfNSW to meet targets prior to the next annual review / audit cycle. As required by Condition D28(f)(iv), the evidence of such consultation is to be developed in the form of a report, and be submitted to the Planning Secretary including the following:

- Description of the proposed measures
- A schedule for the implementation of such measures

7.3.2 School Transport Plan

Notwithstanding the above, this STP, and other associated documentation (such as the TAG) will be updated annually unless otherwise agreed with the DPHI Planning Secretary, in accordance with Condition E17 of the development consent.

The review and update process will include:

- Distributing an updated travel mode survey to all staff and students. Collect data including residential postcodes to inform where staff and students are travelling from.
- Reviewing progress against the proposed mode share targets and update targets if required.
- Adjusting initiatives and targets based on the updated survey results and in response to any issues that may arise.

Section 8 Governance Framework

8.1 Travel Coordinator

Transport programs must be implemented to achieve travel behaviour change. The school principal and teachers are not travel coordinators, so a dedicated role is required to implement and manage these programs. A dedicated Travel Coordinator shall:

- Liaise with the School Principal as the nominated transport representative for the school.
- Liaise with other internal stakeholders (see below).
- Coordinate communications and publications to staff and students as required.
- Directly oversee implementation of transport programs where relevant.
- Consult and engage external parties to implement transport programs where relevant.
- Liaise with the Contractor prior to the construction phase to review and approve proposed construction traffic and access methodologies.
- Liaise with the Contractor during the construction phase to maintain safe operations at and around the site.

A dedicated Travel Coordinator will be provided for the first three years post-occupancy. This role is funded by the project during delivery. After this period, arrangements for this role are under discussions between School Infrastructure, the Department of Education, and Transport for NSW.

8.2 Internal School Stakeholders

An internal school working group will be formed to support the Travel Coordinator and other important school leaders. The group includes the following relevant stakeholders:

- School Principal.
- Other school Executive Staff as relevant.
- Road Safety Education Officer.
- Asset Management.
- Grounds Management, including the Public Private Partnership (PPP) consortium.
- Work Health and Safety Representative.
- Parents and Citizens Association (P&C) representative.

This group will meet twice within the first 12 months of operation, and annually, or more frequently if needed thereafter.

8.3 External Transport Working Group

An external Transport Working Group (TWG) provides a forum for discussing transport-related issues and seeking opportunities for improving the traffic and transport systems at the schools. School Infrastructure NSW has already established this TWG with City of Parramatta Council and Transport for NSW. This group meets fortnightly to collaborate on school projects or transport issues affecting government schools within the Parramatta LGA.

The Travel Coordinator shall attend the TWG meeting whenever there is any transport information (including review of the STP) to share with the group, and in particular shall seek to meet with this group after the first six months of operation to review the initial progress of the STP and the various transport operations at the school.

Items to be discussed within this group may include the following:

- Progress of achieving the goals of the STP and implementing recommended programs and strategies.
- Operation of kiss & ride zones and any impacts to local traffic.
- Usage of on-street parking by staff or students and any impacts to community.
- Usage of the bus zone, taking note of capacity along the different public and school bus routes.

The list of external stakeholders to be consulted by the Travel Coordinator includes:

- City of Parramatta Council.
- Transport for NSW.
- School Infrastructure NSW.

In the event of external consultation being required, various state and local stakeholders have provided a nominated contact person, either for addressing concerns and comments or for providing alternative best contacts for a specific issue.

The nominated point of contact at City of Parramatta Council is as follows:

- Name: To be advised by Council for inclusion in post-approval documentation.
- Role: TBC
- Phone: TBC
- Email: TBC

The nominated point of contact at Transport for NSW is as follows:

- Name: To be advised by TfNSW for inclusion in post-approval documentation.
- Role: TBC
- Phone: TBC
- Email: development.sydney@transport.nsw.gov.au

The nominated point of contact at School infrastructure NSW is as follows:

- Name: Kamoru Adetunmbi
- Role: Transport Planning Manager
- Phone: (04) 99 845 783

Appendix A Consultation Record

Hi Michael,

TfNSW Bus Service Planning provides the following comment on the provided School Transport Plan:

- Bus service information on page 23 is incomplete and not legible. Each route should be listed with departures/arrivals for both directions of travel. It should be presented in a way that is clear and legible for someone with limited knowledge of the bus network.
- Can you please share all information regarding the planned bus link to Pennant Hills Rd including the current design, proposed delivery and proposed operations. This will assist with future service planning.

Thanks,
Jed

Jed Coppa
Senior Service Planner
Sydney Integration and Place
Planning, Integration and Passenger
Transport for NSW

P 02 4064 0390
E jed.coppa@transport.nsw.gov.au

transport.nsw.gov.au

Transport for NSW

I recognise and acknowledge that modern New South Wales is an overlay on Aboriginal land and that many of the transport routes of today follow songlines Aboriginal people have followed for tens of thousands of years. I pay my respects to the Aboriginal people of NSW and Elders past and present.

OFFICIAL

From: Mukhwinder Athwal <Mukhwinder.ATHWAL@transport.nsw.gov.au>
Sent: Thursday, 13 March 2025 5:22 PM

To: Jed Coppa <Jed.Coppa@transport.nsw.gov.au>
Subject: Fw: Cumberland HS & Carlingford West PS (SSD-43065987) - School Transport Plan - TfNSW consultation

Hi Jed,

FYI , thank you.

Regards,
MA

Mukhwinder Athwal
Lead Service Planner
Sydney Integration and Place
Planning, Integration and Passenger
Transport for NSW

M 0436 458 587 **E** Mukhwinder.Athwal@transport.nsw.gov.au

transport.nsw.gov.au

231 Elizabeth Street
Sydney NSW 2000

Transport for NSW

I acknowledge the Aboriginal people of the country on which I work, their traditions, culture and a shared history and identity. I also pay my respects to Elders past and present and recognise the continued connection to country.

Please consider the environment before printing this email.

OFFICIAL

From: Michael Babbage <michael.babbage@ttw.com.au>
Sent: Thursday, March 13, 2025 4:36 PM
To: Development Sydney <Development.Sydney@transport.nsw.gov.au>
Cc: Ivan Ip <ivan.ip@ttw.com.au>; George Awadalla <george.awadalla@ttw.com.au>; Jose Soares <Jose.Soares4@det.nsw.edu.au>; Kae Chan <kchan@savills.com.au>; Lexi Chen <lexi.chen@savills.com.au>; Sasha Serrao <sserrao@savills.com.au>; Nicky Choi <nicky.choi@au.roberts.co>; John Broady <John.Broady@transport.nsw.gov.au>; Mukhwinder Athwal <Mukhwinder.ATHWAL@transport.nsw.gov.au>;

Shoba Sivasubramaniam <Shoba.Sivasubramaniam@transport.nsw.gov.au>
Subject: Cumberland HS & Carlingford West PS (SSD-43065987) - School Transport Plan - TfNSW consultation

Hi TfNSW team,

As you are aware, TTW have been working with School Infrastructure NSW and Roberts Co during the construction of upgrades to Cumberland HS and Carlingford West PS, under SSD-43065987. Under Condition D28 of the development consent, the project is required to develop a **School Transport Plan (STP)** in consultation with Transport for NSW and Council.

Please find attached a copy of the School Transport Plan (Rev 1, dated 12 March 2025) for your review and comment. This plan has been prepared over the past 6 months or so in coordination with the principals of both schools, who have provided input into the STP and its mitigation / management measures.

There are a few items I would like to draw your attention to:

- Condition D28 part (a) requires consultation with TfNSW and Council (i.e. this email) — we will update Section 1.2 once comments are received. We have reached out to Council separately.
- Condition D28 part (d) requires the inclusion of a drop-off and pick-up management sub-plan — this is included at Appendix B of the STP.
- Condition D29 requires an independent review of the STP annual review methodology — this will be completed in parallel.
- The new internal bus link on the high school site (from Dunmore Avenue to Pennant Hills Road) will result in changes to local bus routes — some information such as the TAGs would need to be updated once the upgrades are operational, once TfNSW develops the updated bus routes.

Could you please provide a response by Friday 28th March with any comments (if applicable), so that we can finalise the STP for our final submission to DPHI. If any further information is required or you need any clarification, please advise ASAP.

Cheers,
Michael

TTW

Michael Babbage | Associate (Traffic)
+61 2 9439 7288 | +61 2 8986 5530 | michael.babbage@ttw.com.au
TTW Engineers | Sydney
Read our latest news here

Outlook

RE: Cumberland HS & Carlingford West PS (SSD-43065987) - School Transport Plan - Council consultation

From Richard Searle <RSearle@cityofparramatta.nsw.gov.au>
Date Tue 2025-04-08 17:04
To Ivan Ip <ivan.ip@ttw.com.au>; Traffic <Traffic@cityofparramatta.nsw.gov.au>
Cc Michael Babbage <michael.babbage@ttw.com.au>; George Awadalla <george.awadalla@ttw.com.au>; Jose Soares <Jose.Soares4@det.nsw.edu.au>; Kae Chan <kchan@savills.com.au>; Lexi Chen <lexi.chen@savills.com.au>; Sasha Serrao <sserrao@savills.com.au>; Nicky Choi <nicky.choi@au.roberts.co>

Hi Ivan,

Thank you for your email regarding the School Transport Plan.

There is no objection to this plan. Note that any infrastructure items are being considered separately, therefore endorsement of the plan does not include any infrastructure items considered within it.

Regards,

Richard Searle
Traffic & Transport Manager | Traffic and Transport
02 9806 5642 | 0414 190 256

City of Parramatta

9 Wentworth Street, Parramatta NSW 2150 Australia

PO Box 32, Parramatta, NSW 2124

cityofparramatta.nsw.gov.au

CITY OF PARRAMATTA

Council acknowledges the Traditional Owners of the land, the Dharug Peoples and pays respect to their Elders past and present.

From: Ivan Ip <ivan.ip@ttw.com.au>
Sent: Monday, 7 April 2025 2:14 PM
To: Traffic <traffic@cityofparramatta.nsw.gov.au>; Richard Searle <RSearle@cityofparramatta.nsw.gov.au>
Cc: Michael Babbage <michael.babbage@ttw.com.au>; George Awadalla <george.awadalla@ttw.com.au>; Jose Soares <Jose.Soares4@det.nsw.edu.au>; Kae Chan <kchan@savills.com.au>; Lexi Chen <lexi.chen@savills.com.au>; Sasha Serrao <sserrao@savills.com.au>; Nicky Choi <nicky.choi@au.roberts.co>
Subject: Re: Cumberland HS & Carlingford West PS (SSD-43065987) - School Transport Plan - Council consultation

Greetings,

As per the below thread, TTW is still awaiting comments for the **School Transport Plan (STP)** of the State Significant Development of the upgrades to Cumberland HS and Carlingford West PS (SSD-43065987), in order to satisfy Condition D28 of the development consent. Could you please kindly provide a response by 11th April 2025 (Friday) for our submission to DPHI. Should you require any further information or clarification, please do not hesitate to reach out.

Thanks,
Ivan

TTW

Ivan Ip | Traffic Engineer
+61 2 9439 7288 | +61 4 8113 7886 | ivan.ip@ttw.com.au
TTW Engineers | Sydney
Read our latest news here

From: Ivan Ip <ivan.ip@ttw.com.au>
Sent: 02 April 2025 10:26
To: traffic@cityofparramatta.nsw.gov.au <traffic@cityofparramatta.nsw.gov.au>; RSearle@cityofparramatta.nsw.gov.au <RSearle@cityofparramatta.nsw.gov.au>
Cc: Michael Babbage <michael.babbage@ttw.com.au>; George Awadalla <george.awadalla@ttw.com.au>; Jose Soares <Jose.Soares4@det.nsw.edu.au>; Kae Chan <kchan@savills.com.au>; Lexi Chen <lexi.chen@savills.com.au>; Sasha Serrao <sserrao@savills.com.au>; Nicky Choi <nicky.choi@au.roberts.co>
Subject: Fw: Cumberland HS & Carlingford West PS (SSD-43065987) - School Transport Plan - Council consultation

Hi Council team,

Just looking to follow up on Michael's email below in relation to the SSDA for the upgrade of Cumberland HS and Carlingford West PS (SSD-43065987), can we please kindly request for a response in order to allow for our submission to DPHI.

Thanks,
Ivan

From: Michael Babbage
Sent: Thursday, March 13, 2025 16:36
To: traffic@cityofparramatta.nsw.gov.au; RSearle@cityofparramatta.nsw.gov.au; BSaleh@cityofparramatta.nsw.gov.au
Cc: Ivan Ip; George Awadalla; Jose Soares; Kae Chan; Lexi Chen; Sasha Serrao; Nicky Choi
Subject: Cumberland HS & Carlingford West PS (SSD-43065987) - School Transport Plan - Council consultation

Hi Council team,

As you are aware, TTW have been working with School Infrastructure NSW and Roberts Co during the construction of upgrades to Cumberland HS and Carlingford West PS, under SSD-43065987. Under Condition D28 of the development consent, the project is required to develop a **School Transport Plan (STP)** in consultation with Council and Transport for NSW.

Please find attached a copy of the School Transport Plan (Rev 1, dated 12 March 2025) for your review and comment. This plan has been prepared over the past 6 months or so in coordination with the principals of both schools, who have provided input into the STP and its mitigation / management measures.

There are a few items I would like to draw your attention to:

- Condition D28 part (a) requires consultation with Council and TfNSW (i.e. this email) — we will update Section 1.2 once comments are received. We have reached out to TfNSW separately.
- Condition D28 part (d) requires the inclusion of a drop-off and pick-up management sub-plan — this is included at Appendix B of the STP.
- Condition D29 requires an independent review of the STP annual review methodology — this will be completed in parallel.
- The new internal bus link on the high school site (from Dunmore Avenue to Pennant Hills Road) will result in changes to local bus routes — some information such as the TAGs would need to be updated once the upgrades are operational, once TfNSW develops the updated bus routes.

Could you please provide a response by Friday 28th March with any comments (if applicable), so that we can finalise the STP for our final submission to DPHI. If any further information is required or you need any clarification, please advise ASAP.

Cheers,
Michael

Outlook

RE: Cumberland HS & Carlingford West PS (SSD-43065987) - School Transport Plan - TfNSW consultation

From Shoba Sivasubramaniam <Shoba.Sivasubramaniam@transport.nsw.gov.au>
Date Wed 2025-06-18 20:01
To Ivan Ip <ivan.ip@ttw.com.au>
Cc Michael Babbage <michael.babbage@ttw.com.au>; Jose Soares <Jose.Soares4@det.nsw.edu.au>; Kae Chan <kchan@savills.com.au>; Lexi Chen <lexi.chen@savills.com.au>; Sasha Serrao <sserrao@savills.com.au>; Josh Powell <Joshua.Powell@transport.nsw.gov.au>; Pahee Rathan <Pahee.RATHAN@transport.nsw.gov.au>

Hi Ivan,

Reference is made to your email below seeking TfNSW review and comment on the School Transport Plan (STP) for the upgrades to Cumberland High School and Carlingford West Public School in accordance with Condition D28 for SSD-43065987.

It is noted that STP will be approved by the Planning Secretary under SSD-43065987. TfNSW has reviewed the submitted information and provides the following recommendations for your consideration in preparation of the STP to the Planning Secretary:

- Please update document references of Future Transport Strategy 2056 to Future Transport Strategy.

- TfNSW notes the Travel Access Guide (TAG) previously and currently submitted proposes Carpooling and End of Trip Facilities (EOT) for Staff in the Travel Access Guide, including measures:
  - Staff are encouraged to meet with and discuss carpooling options with other staff living nearby.
  - EOT Facilities are provided for staff and are located straight ahead after entering the Dunmore Avenue access gate on the lower ground level in building Y2. They include 4 showers, 2 changing rooms and 11 lockers. In addition, 6 sheltered bicycle storage spaces are available for staff.

  In this regard, the car parking management strategy of priority parking spaces reserved for those who carpool can also be included in the TAG.

- TfNSW requests the TAG provides information advising the service routes and timetables for buses, trains, and Parramatta Light Rail, is available on the Trip Planner at transportnsw.info/

- TfNSW advises the active transport network map is missing pedestrian crossings on Karingal Ave, Baker St and Felton Rd East.

- It is stated the Light Rail stop is accessible by bus. Please include the walking distance of the Carlingford Light Rail stop.

- The active transport network maps should be updated with new pedestrian crossing on Blenheim Road and Baker Street once installed.

Please submit further information as a package to development.sydney@transport.nsw.gov.au with attention to Shoba Sivasubramaniam to ensure the information is processed through our system and directed to me.

Please contact me if you have any questions.

Kind regards

Shoba Sivasubramaniam
Development Assessment Officer
Transport Planning
Planning, Integration and Passenger
Transport for NSW

M 0461319385 **E** shoba.sivasubramaniam@transport.nsw.gov.au

transport.nsw.gov.au

Level 4, 4 Parramatta Square
12 Darcy Street
Parramatta NSW 2150

Transport for NSW

I acknowledge the Aboriginal people of the country on which I work, their traditions, culture and a shared history and identity. I also pay my respects to Elders past and present and recognise the continued connection to country.

Please consider the environment before printing this email.

OFFICIAL

From: Ivan Ip <ivan.ip@ttw.com.au>
Sent: Wednesday, 4 June 2025 2:46 PM
To: Shoba Sivasubramaniam <Shoba.Sivasubramaniam@transport.nsw.gov.au>; Development Sydney <Development.Sydney@transport.nsw.gov.au>
Cc: Michael Babbage <michael.babbage@ttw.com.au>; Jose Soares <Jose.Soares4@det.nsw.edu.au>; Kae Chan <kchan@savills.com.au>; Lexi Chen <lexi.chen@savills.com.au>; Sasha Serrao <sserrao@savills.com.au>; Josh Powell <Joshua.Powell@transport.nsw.gov.au>
Subject: Re: Cumberland HS & Carlingford West PS (SSD-43065987) - School Transport Plan - TfNSW consultation

Greetings,

As per the below thread, the **School Transport Plan (STP)** developed for the construction upgrades to Cumberland HS and Carlingford West PS (SSD-43065987), is required to be developed in consultation with Council and Transport for NSW under Condition of Consent D28. Under Condition D29, the STP is also subjected to an independent review prior to the commencement of operations.

The STP had since been revised in response to comments and advice received during the consultation process with Transport for NSW and Council, and the independent review. Please find the latest revision of the STP (Rev. 3, dated 4th June 2025) for your information, note that the subject STP will be submitted to DPHI for approval.

If you would like to discuss further or require any extra information, please do not hesitate to reach out.

Thanks,
Ivan

TTW

Ivan Ip | Traffic Engineer
+61 2 9439 7288 | +61 4 8113 7886 | ivan.ip@ttw.com.au
TTW Engineers | Sydney
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OFFICIAL

From: Shoba Sivasubramaniam <Shoba.Sivasubramaniam@transport.nsw.gov.au>
Sent: 28 April 2025 16:53
To: Michael Babbage <michael.babbage@ttw.com.au>; Ivan Ip <ivan.ip@ttw.com.au>; Development Sydney <Development.Sydney@transport.nsw.gov.au>
Cc: George Awadalla <george.awadalla@ttw.com.au>; Jose Soares <Jose.Soares4@det.nsw.edu.au>; Kae Chan <kchan@savills.com.au>; Lexi Chen <lexi.chen@savills.com.au>; Sasha Serrao <sserrao@savills.com.au>; Nicky Choi <nicky.choi@au.roberts.co>; Josh Powell <Joshua.Powell@transport.nsw.gov.au>
Subject: RE: Cumberland HS & Carlingford West PS (SSD-43065987) - School Transport Plan - TfNSW consultation

[External Email]: Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Ivan and Michael,

I apologise for the delay in getting back to you.

Reference is made to your email below seeking TfNSW review and comment on the School Transport Plan (STP) for the upgrades to Cumberland High School and Carlingford West Public School in accordance with Condition D28 for SSD-43065987.

It is noted that STP will be approved by the Planning Secretary under SSD-43065987, and has been submitted for their review. In this regard, TfNSW provides the following recommendations if the Applicant or the Planning Secretary deems to amend the STP:

- **General**: Please update the reference from Future Transport Strategy 2056 to Future Transport Strategy (https://www.future.transport.nsw.gov.au/documents/future-transport-strategy) and it would be useful

to reference the Active Transport Strategy also (https://www.future.transport.nsw.gov.au/future-transport-plans/active-transport-strategy)

- **Reduction in car parking spaces:** TfNSW advises a reduction in proposed staff car park spaces; 46 for CWPS and 76 spaces for CHS, as over provision of car parking.

- **Car parking Management:** TfNSW recommends the applicant prioritising parking for those on a needs basis, for example, priority parking spaces are to be reserved, and well located, for those who carpool. This should be placed in the Travel Access Guide (TAG) below. Spaces for EV cars and EV chargers should also be allocated here.

- **Mode Share targets:** TfNSW has reviewed the mode share targets within the STP and advise the mode share for car passenger be reduced for both CWPS students (Table 8), and Staff (Table 10) where the mode share for car as driver (84%) is too high. Given the regular buses to and from the site, access to Parramatta Light Rail as well as cycling and walking opportunities, our team would expect the mode share targets to be increased for public transport, as well as active transport for cycle/shared paths in existence now and coming online in the future. For school event days, an additional mode share table should be done to target increased sustainable mode share for visitors.

- **Bicycle Parking:** TfNSW notes the proposed 96 bike parking spaces for CWPS and 84 for CHS. With these facilities available, the team strongly encourage that both e-bike and traditional bike spaces are increased to encourage more staff and visitors to use this as a preferred travel choice. The spaces should be monitored to ensure there is sufficient provision to further encourage cycling as a mode. A good supply of quality End of trip (EoT) facilities and bicycle parking will encourage more walking and cycling mode shares. These EoT should be promoted in the TAG (see paragraph below). Some further guidance on bicycle parking and end of trip facilities can be found in the Cycleway Design Toolbox – Designing for cycling and micromobility. December 2020. Version 0.1.

- **Implementation Plan:** TfNSW appreciates Section 5.1 Potential Measures for Students and Section 5.2 Potential Management Measures for Staff but ask that these have committed and confirmed actions ready for implementation from Day 1 of occupancy. This includes employing a Travel Plan Coordinator (TPC) to be ready for Day 1 of operations to carry out these actions throughout the lifecycle of the development (see below advice on governance). The Implementation Plans should also include more additional initiatives to encourage sustainable transport uptake - Example of soft activities. The Implementation Plans should have set times, dates, and responsibilities for each initiative, including how each initiative will be funded.

- **Travel Access Guide (TAG):** TfNSW appreciates the TAG provided in the STP. TfNSW asks that the TAG caters to everyone who is using the proposed development site (including staff, students and visitors on event days and non-event days) and be updated regularly. The aim of the TAG is to reduce single occupancy car use, and encourage sustainable transport journeys to and from the site using public and active transport, and should:
    - Provide a comprehensive map showing all modes of public and active transport, including buses, trains, walking and cycling routes.
    - Provide information advising about service routes and timetables for buses and trains and Parramatta Light Rail is available on the Trip Planner at transportnsw.info/
    - Promote carpooling to staff and End of Trip facilities (EoT) such as showers, lockers and change rooms. The carpooling system should be described here, what steps do staff take to organise this?
    - For further helpful information – please check this link - Travel Demand Management | nsw
- A copy of the TAG attached to this email.

- **Travel Survey:** TfNSW asks that Travel Surveys for staff are provided as a separate appendix in the STP. The survey should be distributed 3 months post-occupancy (and be included in the Implementation Plan above). The staff survey should include questions to ask to obtain residential postcodes to help inform strategies to access the site by sustainable transport modes. For further information please visit our website - Travel Demand Management | nsw

Please contact me if you have any questions.

Kind regards

Shoba Sivasubramaniam
Development Assessment Officer
Transport Planning
Planning, Integration and Passenger
Transport for NSW

M 0461319385 **E** shoba.sivasubramaniam@transport.nsw.gov.au

transport.nsw.gov.au

Level 4, 4 Parramatta Square
12 Darcy Street
Parramatta NSW 2150

Transport for NSW

I acknowledge the Aboriginal people of the country on which I work, their traditions, culture and a shared history and identity. I also pay my respects to Elders past and present and recognise the continued connection to country.

Please consider the environment before printing this email.

OFFICIAL

From: Michael Babbage <michael.babbage@ttw.com.au>
Sent: Thursday, 13 March 2025 4:36 PM
To: Development Sydney <Development.Sydney@transport.nsw.gov.au>
Cc: Ivan Ip <ivan.ip@ttw.com.au>; George Awadalla <george.awadalla@ttw.com.au>; Jose Soares <Jose.Soares4@det.nsw.edu.au>; Kae Chan <kchan@savills.com.au>; Lexi Chen <lexi.chen@savills.com.au>; Sasha Serrao <sserrao@savills.com.au>; Nicky Choi <nicky.choi@au.roberts.co>; John Broady <John.Broady@transport.nsw.gov.au>; Mukhwinder Athwal <Mukhwinder.ATHWAL@transport.nsw.gov.au>; Shoba Sivasubramaniam <Shoba.Sivasubramaniam@transport.nsw.gov.au>
Subject: Cumberland HS & Carlingford West PS (SSD-43065987) - School Transport Plan - TfNSW consultation

Hi TfNSW team,

As you are aware, TTW have been working with School Infrastructure NSW and Roberts Co during the construction of upgrades to Cumberland HS and Carlingford West PS, under SSD-43065987. Under Condition D28 of the development consent, the project is required to develop a **School Transport Plan (STP)** in consultation with Transport for NSW and Council.

Please find attached a copy of the School Transport Plan (Rev 1, dated 12 March 2025) for your review and comment. This plan has been prepared over the past 6 months or so in coordination with the principals of both schools, who have provided input into the STP and its mitigation / management measures.

There are a few items I would like to draw your attention to:

- Condition D28 part (a) requires consultation with TfNSW and Council (i.e. this email) — we will update Section 1.2 once comments are received. We have reached out to Council separately.
- Condition D28 part (d) requires the inclusion of a drop-off and pick-up management sub-plan — this is included at Appendix B of the STP.
- Condition D29 requires an independent review of the STP annual review methodology — this will be completed in parallel.
- The new internal bus link on the high school site (from Dunmore Avenue to Pennant Hills Road) will result in changes to local bus routes — some information such as the TAGs would need to be updated once the upgrades are operational, once TfNSW develops the updated bus routes.

Could you please provide a response by Friday 28th March with any comments (if applicable), so that we can finalise the STP for our final submission to DPHI. If any further information is required or you need any clarification, please advise ASAP.

Cheers,
Michael

TTW

Michael Babbage | Associate (Traffic)

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TTW Engineers | Sydney

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30 May 2025

Kae Chan
Savills Australia
1 Farrer Place
Sydney NSW 2000

Dear Kae

RE: Cumberland High School & Carlingford West Public School - SSD-43065987 - Review of Mode Share Spilts

SSD-43065987 was for the upgrade including construction of three new buildings up to four storeys and student capacity of 1,610 at Carlingford West Public School (CWPS) and construction of three new buildings, up to five storeys and student capacity of 2,040 at Cumberland High School (CHS). The SSD was exhibited and finally approved in 2023.

The Development Consent Condition D29, which reads as follows:

> *"The methodology and review of the mode share splits in annual review/audit identified in condition D28 must be reviewed and confirmed by an independently qualified traffic/transport professional prior to commencement of operation."*

I have been engaged to undertake a review of the mode share splits in accordance with condition D29.

Suitability of reviewer

My CV is attached in **Appendix A** of this letter. I have been SCT Consulting's Project Director or Project Manager on more than two dozen school projects for School Infrastructure. I have prepared Rapid Transport Assessments (a due diligence / business case deliverable), and Transport Impact Assessments for these projects. I am a chartered civil engineer operating within the traffic engineering practice. I have 15 years of experience in transport planning, transport advisory and transport modelling. In my opinion, I have sufficient experience to be considered qualified to provide this advice.

I have not been engaged by School Infrastructure in respect of Cumberland High School and Carlingford West Public School in the planning phase, development approvals phase or in the construction phase. In my opinion, I am therefore independent of this project.

Review of mode share targets

Referenced materials

I have considered the following documents in the preparation of my review:

– Transport and Accessibility Impact Assessment, Cumberland Cluster (TTW, 28/10/2022), being the report on the Department of Planning's Major Projects website which was submitted as part of the EIS

– Transport and Accessibility Impact Assessment, Cumberland Cluster (TTW, 17/02/2023), being the report on the Department of Planning's Major Projects website which was updated following exhibition of the EIS

– School Transport Plan, Carlingford West Public School and Cumberland High School, (TTW, 9/05/2025), being the School Transport Plan prepared with respect to Development Consent Condition D28

– Meeting minutes dated 09/10/24 of a Transport Working Group meeting.

My review is in respect of School Transport Plan (TTW, 9/05/2025), though the other documents provide an important backdrop to the history.

Brief history of development of mode share targets

TTW has undertaken consultation in the development of mode share targets as indicated in Transport and Accessibility Impact Assessment, Cumberland Cluster (TTW, 17/02/2023), Section 1.6. Mode share was not listed as an item of discussion.

Comments from exhibition (refer to relevant to mode share) include:

– City of Parramatta notes that despite the low parking provision on site, up to 75% of staff park on-street. Council requested construction of additional parking spaces to offset the impacts arising from the school's expansion. Council did not accept that constrained parking would translate to parking reductions. The project team did not accept the request.

– The Department of Planning identifies that the cycling mode share of 5% for students and 6% for staff requires justification noting a lack of dedicated cycleways. TTW notes that Council's cycling network would provide the necessary infrastructure and that students may cycle on the footpath.

TTW provided meeting minutes of a Transport Working Group dated 09/10/24 where mode share figures were presented. The minutes do not record any comment, objections or endorsements of the mode share figures.

TfNSW comments on the School Transport Plan were provided, none of which appear to be relevant to this review.

Comparison of mode share to other comparable benchmarks

To validate the extent of travel behaviour shift identified by TTW, I compared the mode share aspirations by benchmarking comparable locations. Mode share data for other schools was obtained from:

– **Westmead Catholic Community PS / HS:** Major Projects Portal, Westmead Catholic Community Education Campus Transport & Accessibility Impact Assessment and Green Travel Plan (TTPP, 19 March 2020)

– **MLC Burwood:** Major Projects Portal, MLC School – Proposed Performing Arts and Sports Centre and Aquatic Centre Expansion, Green Travel Plan (Traffix, July 2024)

– **Loreto Normanhurst:** Major Projects Portal, Loreto Normanhurst Long-Term Master Plan 91-93 Pennant Hills Road, Normanhurst, Transport Assessment Report (Ason Group, 22 January 2019)

– **Marsden HS and Meadowbank PS:** Meadowbank Education and Employment Precinct Schools Project Travel Plan (GTA Consultants, 14 October 2019)

– **Oran Park PS:** School Infrastructure-provided mode share information.

Primary school mode share benchmarking is undertaken in **Table 1**.

Table 1 Primary school mode share benchmarking

Mode	CWPS Baseline	CWPS Moderate	CWPS Stretch	MLC Burwood	Westmead Catholic Community PS	Meadowbank PS	Oran Park PS
Public transport	2%	3%	4%	27%	3.7%	0%	3%
Walk	40%	43%	50%	7%	6.1%	60%	16%
Cycle / scooter	2%	4%	7%	0%	0.4%	0%	8%
Car (driver / passenger)	56%	51%	39%	67%	89.9%	40%	73%

The CWPS baseline data suggests that the baseline car mode share is at a good level for a primary school. In my experience, primary schools struggle to drop below the 70-90 per cent car mode share range. In unique locations, with high density residential surrounding, they can be at lower levels. It is possible that one of the strengths of CWPS is that older siblings accompany younger siblings to school, enabling them to travel independently earlier typical.

The increase in walk mode share is achieved by Meadowbank PS, so is considered achievable. Meadowbank PS has a smaller intake area, making walking easier.

The increase in public transport mode share is also a relatively minor increase in terms of the number of students and is lower than many of the benchmarked schools. The increase to 4 per cent is considered achievable.

The increase in cycling/scooter has been accomplished by other schools, for example Oran Park PS, which has a mode share of 8 per cent for rideables. This target will be a stretch given the low baseline.

However, the cumulative shift away from car is greater than all the benchmark schools and at a level greater than Meadowbank PS, which is in a higher residential density context. The rationale for the 'reach' targets is the delivery of the Parramatta Ways Walking Strategy and the walk score of 81 for 'Parramatta'. However, the walk score for Carlingford is 53, which is more realistic for the area than the quoted score of 81.

High school mode share benchmarking is undertaken in **Table 2**.

Table 2 High school mode share benchmarking

Mode	CHS Baseline	CHS Moderate	CHS Stretch	MLC Burwood	Westmead Catholic Community HS	Marsden HS	Loreto Normanhurst
Public transport	41%	44%	47%	56%	74.7%	28%	70%
Walk	32%	35%	37%	5%	5.1%	22%	
Cycle / scooter	3%	3%	5%	0%	0.5%	14%	
Car (driver / passenger)	24%	18%	11%	38%	19.6%	33%	30%

The CHS baseline data indicates a strong existing non-car mode share, with high public transport update, and high walking update. The higher public transport use aligns with the larger intake area, which extends more significantly to the south, with Marsden Road as the natural boundary.

The uplift in public transport mode share appears to be achievable given that the project includes improved bus facilities and would not have included the benefits of Parramatta Light Rail.

Likewise with the walking and cycling mode shares, the proposed increase is comparatively minor and the additional pedestrian facilities support this objective.

In my opinion, the proposed decrease in car mode share is nonetheless challenging. Reducing car driving by more than half is a significant reduction. It could be that some driving is convenience-based (e.g. parent onwards journeys), so may be harder to substitute for other modes. In my opinion, this target is unrealistic.

Staff mode share benchmarking is undertaken in **Table 3**.

Table 3 Staff mode share benchmarking

Mode	Baseline	Moderate	Stretch	MLC Burwood	Westmead Catholic Community PS & HS	Marsden HS & Meadowbank PS	Loreto Normanhurst
Public transport	5%	12%	15%	12.6%	7.2%	10%	10%
Walk	4%	5%	5%	1.4%	1.6%	15%	
Cycle / scooter	1%	3%	5%	0%	0%	0%	
Car (driver / passenger)	90%	80%	75%	85.5%	91.3%	75%	90%

The mode share data indicates that the current level of driving is typical of a school that is not close to a train station. The staff mode share is 90 per cent, which is comparable to Westmead Catholic Community schools and Loretto Normanhurst.

The increase in public transport use is likely to be challenging given the large scale of change. While Parramatta Light Rail will improve public transport accessibility, Carlingford remains difficult to access conveniently by public transport. A key metric for public transport uptake is the journey time ratio (car vs public transport). When public transport is in the order of less than 1.1 (i.e. public transport is 1.1 times the travel time of car), public transport can be a highly competitive mode. From Hornsby, the public transport ratio is 2.0. The same is true of Parramatta, which also has a journey time ratio of 2.0. While Parramatta Light Rail is an attractive new mode, it doesn't improve the journey time from Parramatta CBD as the bus stop is located closer to the entrance to the school.

The increase in walking is a minor increase, so is considered feasible.

The increase proposed for cycling is a five-fold increase. While there are cycling facilities planned, the scale of increase is unrealistic given that there are no separated cycling facilities planned for the area.

Overall, the reduction in car mode share appears to be unrealistic. The main justification for the reduction in car mode share is that the parking is constrained and that as the school expands, the on-street network will be increasingly saturated with no opportunities for parking. If the mode share were to remain at the current 84 per cent staff parking demand would be 199 parking spaces, of which 119 are provided on-site and 80 would be on-street. I reviewed Nearmap imagery dated 3 April 2025 and found more than 80 vehicles parked on-street in the areas surrounding the school in levels of concentration that were much higher than other residential streets. Per Figure 2.6 of the updated Transport and Accessibility Impact Assessment, majority of the street are unrestricted parking, so staff could park on almost all the surrounding streets. I note that if there are more than 80 vehicles parked in satellite imagery now, then this calculation demonstrates also that there may not be a significant increase in on-street demand after the school project's delivery.

Review of the mode share splits in annual review

The annual review process proposed by TTW is based on data collection of:

– Hands up survey to collect mode share data

– Staff online mode share survey

– Obtaining Opal data for public transport services

– Review of kiss 'n ride demands

– Review of complaints.

The methodology then details that this data is used to review each aspect of the School Transport Plan, including update of documentation, review of mode share splits and update of initiatives.

The methodology adopted is typical of Green Travel Plans, using data and complaints to inform update of the initiatives.

In my opinion, the only item missing is a consideration of kiss 'n drop safety. I would recommend that the annual review include observations of the kiss 'n drop locations and a review of crash data. This assessment could inform review of management measures or enable discussions with Parramatta City Council to review local road infrastructure (such as signage) to address if there are any safety deficiencies.

Conclusions

In my opinion the following mode share changes are unrealistic:

– Car mode share reductions across all categories

– Public transport uplift for staff

– Cycling uplift for staff.

However, it is critical to note that the School Transport Plan is an aspirational document. The EIS traffic impact assessment was conducted by TTW using the baseline mode shares[1]. This means that even if TTW has been optimistic about the extent of mode shift, it does not compromise the traffic modelling, impact assessment, infrastructure identified in the SSD and the veracity of the SSD assessment.

I do not therefore regard the optimism of TTW in the School Transport Plan as a problem which requires remediation. Indeed, the optimism of setting a goal at a level that is perhaps just beyond the level of achievability is a common practice to instil motivation and drive change. I therefore conclude that if Carlingford West Public School and Cumberland High School are willing to adopt this vision, it would not be appropriate to ask them to lower their aspirations. I am willing to confirm the mode shares adopted for the purposes of Development Consent Condition D29.

I have identified an opportunity to improve the annual review process, which is broadly in line with the industry standard approach but lacks consideration of road safety. I recommend observations of the kiss 'n drop facility and consideration of crash data annually.

Yours sincerely

Jonathan Busch
Associate Director
jonathan.busch@sctconsulting.com.au
0481 818 776 | (02) 9060 7222
Suite 4.03, Level 4, 157 Walker Street, North Sydney NSW 2060

[1] Section 5.2 paragraph 2, Table 5.1 and Table 5.4.

Appendix A – Jonathan Busch CV

Jonathan Busch

ASSOCIATE DIRECTOR

Jonathan has worked at major transport consultancies such as SCT Consulting, AECOM and Cardno and for Transport for NSW, leading complex, integrated projects such as Bays Precinct, WestConnex Stage 1b tender traffic modelling, Brisbane Bus and Train Tunnel pedestrian modelling and program management of transport for land use change led by NSW Government proponents.

Jonathan has significant expertise in understanding how land use change can be appropriately designed to respond to both major project intervention as well as broader network constraints. He has worked on multiple major projects, managed large budgets and delivered successful results for his clients.

"Great transport and great places are impossible to separate"

Areas of Expertise

- Program management with diverse stakeholders;
- Transport for land use change policy leadership;
- Multi-modal strategic and detailed transport planning for places and corridors;
- Transport Impact Statements
- Communication; and
- Project management of dynamic projects.

Qualifications

Bachelor of Engineering (Civil) (Hons)(Adv)
Bachelor Commerce (Fin)
CPEng | NER

Affiliations

Member/Chartered Engineer, Engineers Australia

Referees

Simon Hunter
Chief Transport Planner
Transport for NSW
simon.hunter@transport.nsw.gov.au

Rebecca Lehman
Sustainable Transport Advisor
School Infrastructure NSW
rebecca.lehman@det.nsw.edu.au

Key Projects

- NSW Guide for Transport Impact Assessments NSW | Transport for NSW
- 105 Miller Street, North Sydney | IOF Custodian
- The Bays West Precinct | Placemaking NSW
- The Bays Precinct Transport and Mobility Plan | UrbanGrowth
- NSW Schools Expansion Transport Assessment | School Infrastructure NSW
- Planned Precincts and Growth Areas - Principal Manager Urban Renewal | TfNSW
- Intelligent Congestion Management Program | Transport Management Centre
- Various AS2890 Car park Assessments & Swept Path Assessments
- North Sydney Parking & Traffic Strategy Background Report | North Sydney Council
- North Sydney Integrated Transport Study | North Sydney Council
- Greater Parramatta & Olympic Peninsula Program (GPOP) Strategic Case | TfNSW
- Braidwood Heritage Centre DA | Public Works Advisory NSW
- Cedar Mill Lake Macquarie Event Site Planning Proposal | Winarch Capital
- Rose Bay Woolworths Planning Proposal Peer Review | Woollahra Municipal Council
- Rouse Hill LLGPT Northern Residential Planning Proposal | GPT
- Royal Prince Alfred Hospital Stage 1 SSDA | Nsw Health Infrastructure
- Cumberland Centres Traffic & Transport Study | Cumberland City Council
- Essential Energy Traffic Safety Review | Essential Energy
- Glebe Island Bridge Strategic Business Case | TfNSW
- Parramatta Light Rail Transport Integration Modelling Advisory | TfNSW
- Parramatta Outer Ring Road Problem Definition Report | TfNSW
- Double Bay Pedestrianisation Study | Woollahra Council
- Newcastle Minmi Estate Land and Environment Court Proceedings | Winten Property Group
- Googong Residential Estate - Neighbourhoods 3, 4 & 5 TIAs | Peet

SCT Consulting

Relevant Experience

Project
NSW Guide to Traffic Impact Assessments

Role
Chair, Expert Review Panel

Client
Transport for NSW

Time Period
2023

- Jonathan was the Chair of an Expert Review Panel to lead the revision of the existing Transport for NSW's Guide to Traffic Generating Developments and prepare a new document, the Guide to Transport Impact Assessments.
- This document would modernise many of the elements of the old Guide by correcting references to historical agencies, update to match current legislation, and bring the guideline into alignment with contemporary transport planning practices. Movement and Place, improved safety assessments and more thorough multi-modal planning were all addressed in the updated version.
- Key tasks included: developed Terms of Reference, convened meetings, developed performance metrics, case study identitication, review and gaps analysis, stakeholder negotations, and summary recommendations report.

Project
105 Miller Street, North Sydney

Role
Project Director

Client
Investa Property Group

Time Period
2019-2020

- Led the transport impact assessment for the redevelopment of the existing MLC building for commercial redevelopment.
- Was the expert witness for traffic in a Land and Environment Court proceeding, which included court appearances.
- Prepared AS2890 audit of the car park and loading bay design.
- Reviewed a static pedestrian assessment, which modelled the existing capacity performance and forecast conditions of footpaths, crossings and queue capacity at intersections. The assessment was unique due to proximity of a train station, resulting in significant changes in future pedestrian volumes, redistribution of mode share and shifting of pedestrian desire lines.

Project
Bays West Precinct Traffic, Transport & Pedestrian Planning

Role
Project Manager & Technical Lead

Client
Placemaking NSW

Time Period
2023 - current

- Jonathan is leading a multi-modal assessment of the Final Business Case for the Stage 1 rezoning area of the Bays West Precinct, which includes multi-modal and place-based assessment of the infrastructure proposed in the DPE rezoning package.
- PMNSW is collaborating with other agencies in the area including Inner West Council and TfNSW.

Project
The Bays Precinct Transport and Mobility Plan

Role
Deputy Project Director & Program Manager

Client
UrbanGrowth

Time Period
2015-2017

- Development of leading policy advice in context of significant planning uncertainty, multiple industry interfaces (ports, maritime, road project delivery, property and Government developer) and diverse stakeholders;
- Google negotiations advisor (responses to term sheet, led development of TfNSW advice and negotiations presentation material);
- Management of over $2m with multiple consultants within agreed budgets and managed cabinet reporting;
- Advice on methodology to determine feasible development within different transport scenarios.

Project
NSW Schools Expansion Program Transport Assessment

Role
School Infrastructure NSW

Client
School Infrastructure NSW

Time Period
2021-2024

- Providing transport advice during the planning process to support the planning and delivery of more than 24 primary and high schools across the Sydney metropolitan area, extending to the Hunter Valley region.
- Delivered School Transport Plans and Rapid Transport Assessments for development approvals (State Significant Development Applications / Development Applications) for new and upgraded schools. This also included Green Travel Plans and Travel Access Guides to support sustainable travel initiatives required to minimise the traffic impacts on the surrounding environment and communities.
- Engagement with key stakeholders such as DPIE, Transport for NSW, Councils and the school communities to support the SSDA and DA process has been instrumental in the delivery of these projects.

Relevant Experience

Project
Intelligent Congestion Management Program

Role
Independent Reviewer

Client
Transport Management Centre (TMC)

Time Period
2019-2020

- Engaged by the TMC to act as an independent reviewer on the delivery of a 'live' transport model that would predict congestion before it occurs. Jonathan was project manager and independent reviewer.
- Conducted workshops with senior executive in the contractor organisation and TfNSW to understand product and performance.
- Prepared a set of performance standards. These were developed based on user stories of the desired functionality from TMC subject matter experts.
- Undertook a review of a solution proposed by CSIRO's Data61, which involved novel machine learning approaches to forecasting.
- Worked closely with the client's representative to understand end user requirements and provide advisory on traffic modelling issues throughout the engagement.

Project
Various AS2890 Car Park & Swept Path Assessments

Role
Assessor/Reviewer

Client
Various

- More than 40 assessments prepared for both public and private sector clients, including 105 Miller Street, North Sydney; Showground Precinct SSDA; Epping West SSDA; RPA Hospital Redevelopment SSDA; & Explorer Street South Eveleigh.
- Prepared swept path assessments following the relevant Australian standards using AutoTURN software.
- Prepared summary reporting and recommendations to architects, civil engineers, urban designers, and landscape architects, communicating the implications of vehicle access requirements.
- Worked with other parties to resolve design issues and seek a balanced outcome between vehicle access and other site requirements.

Project
North Sydney Parking & Traffic Strategy and Walking Strategy Background Reports

Role
Project Director

Client
North Sydney Council

Time Period
2021-2023

- Council is delivering its North Sydney Transport Strategy by reviewing parking and walking strategy and policy throughout the LGA.
- SCT prepared background reports to examine policy context, travel behaviour, parking market analysis and public transport accessibility to create a sustainable transport vision for parking and walking in North Sydney LGA, including a framework with which to prioritise pedestrian infrastructure projects. The engagement included a standalone task to prepare action plans for the entirety of the LGA.
- Jonathan led a successful amendment to maximum parking controls by preparing a technical report, participating in a video, and responding to submissions.
- Our background report supported the preparation of the walking strategy; examining policy context, travel behaviour, and walkability to create a vision for walking, and a spatial framework with which to prioritise pedestrian infrastructure project.
- Worked closely with the client to define the problem that the strategy sought to solve, the vision and objectives, action plan and modelling methodology.
- Oversaw preparation of a bespoke spatial analysis solution that identified deficiencies in the walkability of the network, delivering a prioritised score for walking investments.

Project
North Sydney Integrated Transport Study

Role
Project Director

Client
North Sydney Council

Time Period
2024

- Currently leading the development of the North Sydney Integrated Transport Study on behalf of North Sydney Council. The study will provide a rigorous evidence base for the development of Council's new 10-year strategy.
- The project involves development of a discussion paper for the purpose of community consultation, a range of consultation activities and formation of the Study.
- A comprehensive review of background documentation, policies and plans informs the base case from which the strategy is built, including key principles, objectives, outcomes and actions for achieving a truly integrated transport system for North Sydney in the future.
-

Appendix B Travel Access Guide

Cumberland High School

Travel Access Guide – June 2025

Principal's Message

Catching public transport to and from school plays a vital role in promoting independence, responsibility, and environmental awareness among students. Using buses not only helps students develop essential life skills, such as time management and navigation, but it also encourages them to safely engage with their community.

Furthermore, using public transport reduces the carbon footprint associated with individual car journeys, contributing to a more sustainable environment. By choosing public transport, students become active participants in fostering a greener future while gaining a sense of autonomy and confidence in their daily routines.

Luke Fulwood – Principal

Active travel options to school

Walking is an active and healthy way to get to school

- Look out before you step out – you might be in a car's blind spot. Always check before you cross.
- Walk the extra distance to designated pedestrian crossings or traffic lights.
- Remember to share the footpath and stick to the left.
- Look out for vehicles entering or leaving driveways.
- Put away distractions such as phones and earphones.

Ride your bike or scooter

- Always wear a helmet when you ride your bike or scooter.
- Take special care at driveways where vehicles may be driving in or out.
- Where possible, ride your bike or scooter away from roads.

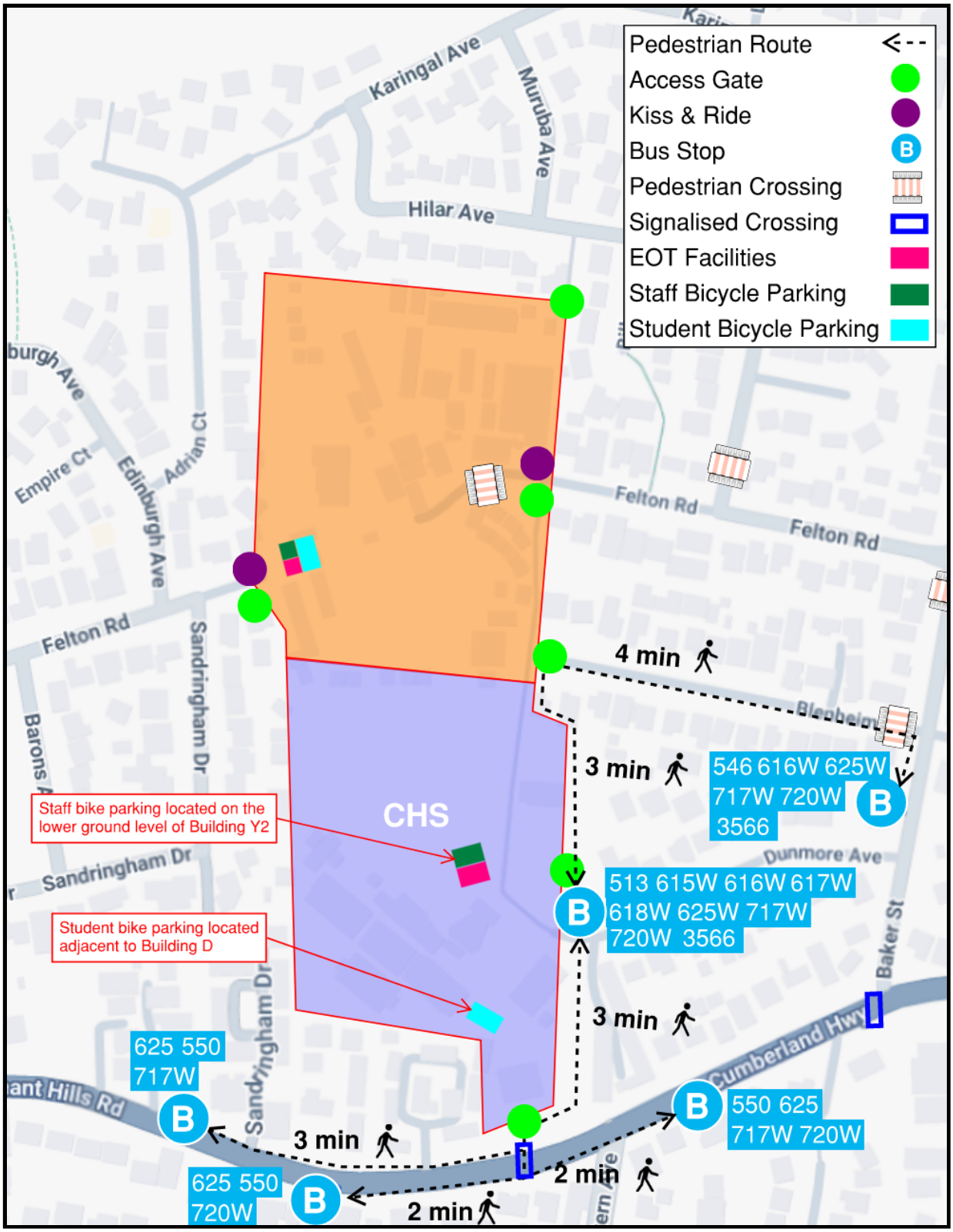
For more information

Phone: 1300 482 651
Email: schoolinfrastructure@det.nsw.edu.au
Website: schoolinfrastructure.nsw.gov.au

NSW GOVERNMENT

Active transport network

The diagrams below show the locations of active transport infrastructure designed to help students and staff travel safely from home or public transport stations.



Using public transport to get to school

School Buses and Public Buses

- The nearest public bus stops are on Dunmore Avenue (513, 546, 550) and Pennant Hills Road (625)
- The nearest school bus stop is on Dunmore Avenue (617W, 618W, 625W)

Trains | Light Rail | Metro

- West Ryde Train Station could be reached via Bus 513 and 618w
- Eastwood Train Station could be reached via Bus 625W
- Parramatta Train Station & Epping Train Station could be reached via Bus 546 and 550
- Pennant Hills Train Station & Parramatta Train Station could be reached via Bus 625
- Dundas Light Rail Station could be reached via Bus 617W
- Carlingford Light Rail Station could be reached via Bus 513, 546, 550, 625 617W, 618W and 625W
- Telopea Light Rail Station could be reached via Bus 513
- Macquarie University Metro Station and Macquarie Park Metro Station could be reached via Bus 550

Students are encouraged to be safe and utilise pedestrian crossings when moving from the public transport stations to school. Details of bus, train, light rail and metro routes, timetables and schedules can be found at https://transportnsw.info/.

Kiss and ride expectations

- The Kiss & Ride zone is located within the school, with entry via Dunmore Avenue and exit via Blenheim Road.
- Students are to exit onto the footpath side of the car.
- Be sure to move up the kiss & ride zone as far as possible to maximise capacity.
- Remember that areas signposted as No Parking zones are not waiting areas. Parents / carers may only stop for up to 2 minutes and must stay within 3 metres of the vehicle. If you need to stop for longer or leave your vehicle, you must find somewhere else to park.
- Parents / carers must not stop in a No Stopping zone for any reason or for any length of time. No Stopping restrictions apply at the school's zebra crossings and Bus Zones.

Carpooling & End-of-Trip Facilities (EOT) for Staff

- Staff are encouraged to meet with and discuss carpooling options with other staff living nearby.
- EOT Facilities are provided for staff and are located straight ahead after entering the Dunmore Avenue access gate on the lower ground level in building Y2. They include 4 showers, 2 changing rooms and 11 lockers. In addition, 6 sheltered bicycle storage spaces are available for staff.

Apply for a School Opal Card | School Term Bus Pass

School Opal cards provides free school travel and can be used as a School Term Bus Pass, for travel within the Opal network. Visit transportnsw.info/school-travel-apply to see if you are eligible.

Students are expected to be courteous and responsible, and follow the school student's code of conduct when travelling on public transport.

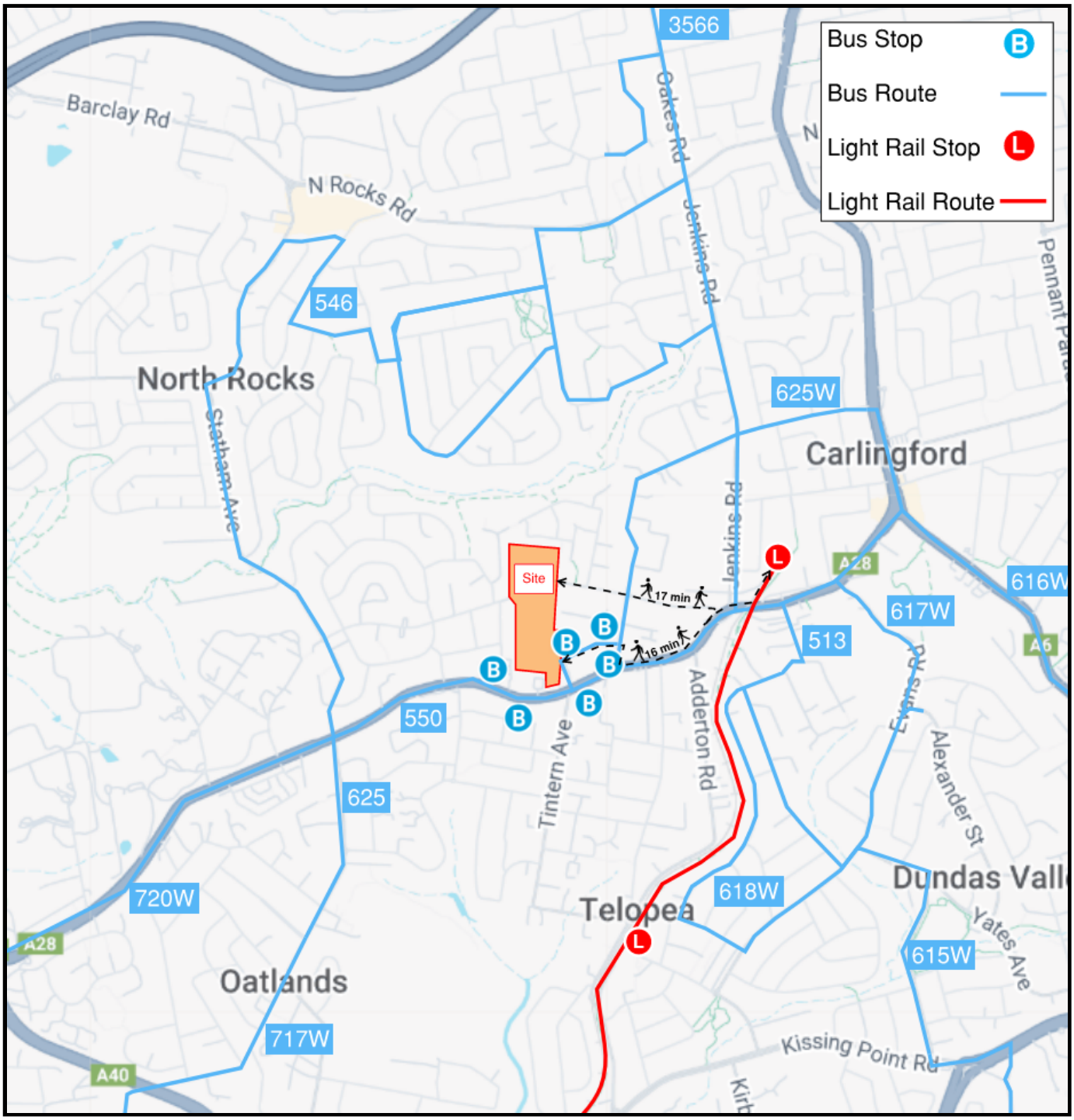
Tap on and tap off every time

Use your School Opal card every time you catch public transport to school. It tells us how many people are using public transport to help us plan buses, trains and ferries to suit you.

NSW GOVERNMENT

Public transport network

The diagram below shows the extent of the bus and light rail network that services to and from nearby the school.



Carlingford West Public School

Travel Access Guide – July 2025

Principal's Message

Carlingford West Public School is focused on the safety of students as our highest priority. Our kiss & ride areas and nearby streets can be a source of safety issues if used incorrectly, and we continue to see behaviour endangering our students. We are asking our school community to play your part by always paying close attention while driving, following staff instructions when using the kiss & ride areas, and sticking to the footpaths and pedestrian crossings where available.

You can also play your part by walking, riding a bike or scooter, or catching the bus wherever possible, to reduce the number of cars travelling along our local streets. Our local area has a good network of pedestrian footpaths and crossings, including improvements which are underway as part of the school redevelopment project. Getting out of the car and walking to school is a great way to get some exercise, reduce congestion, enjoy our green spaces, and save sitting in the car on blocked streets.

If you have any questions or concerns, please contact the office and we can help with additional information.

Andrew Williamson – Principal

Active travel options to school

Walking is an active and healthy way to get to school

Walking to school with your child is the best way to teach them about safe pedestrian behaviours. Consider accompanying your student to school until they are comfortable (or too embarrassed) to have you join them.

- Look out before you step out – you might be in a car's blind spot. Always check before you cross.
- Walk the extra distance to designated pedestrian crossings.
- Remember to share the footpath and stick to the left.
- Look out for vehicles entering or leaving driveways.

Ride your bike or scooter

- Always wear a helmet when you ride your bike or scooter.
- Take special care at driveways where vehicles may be driving in or out.
- Where possible, ride your bike or scooter away from roads.

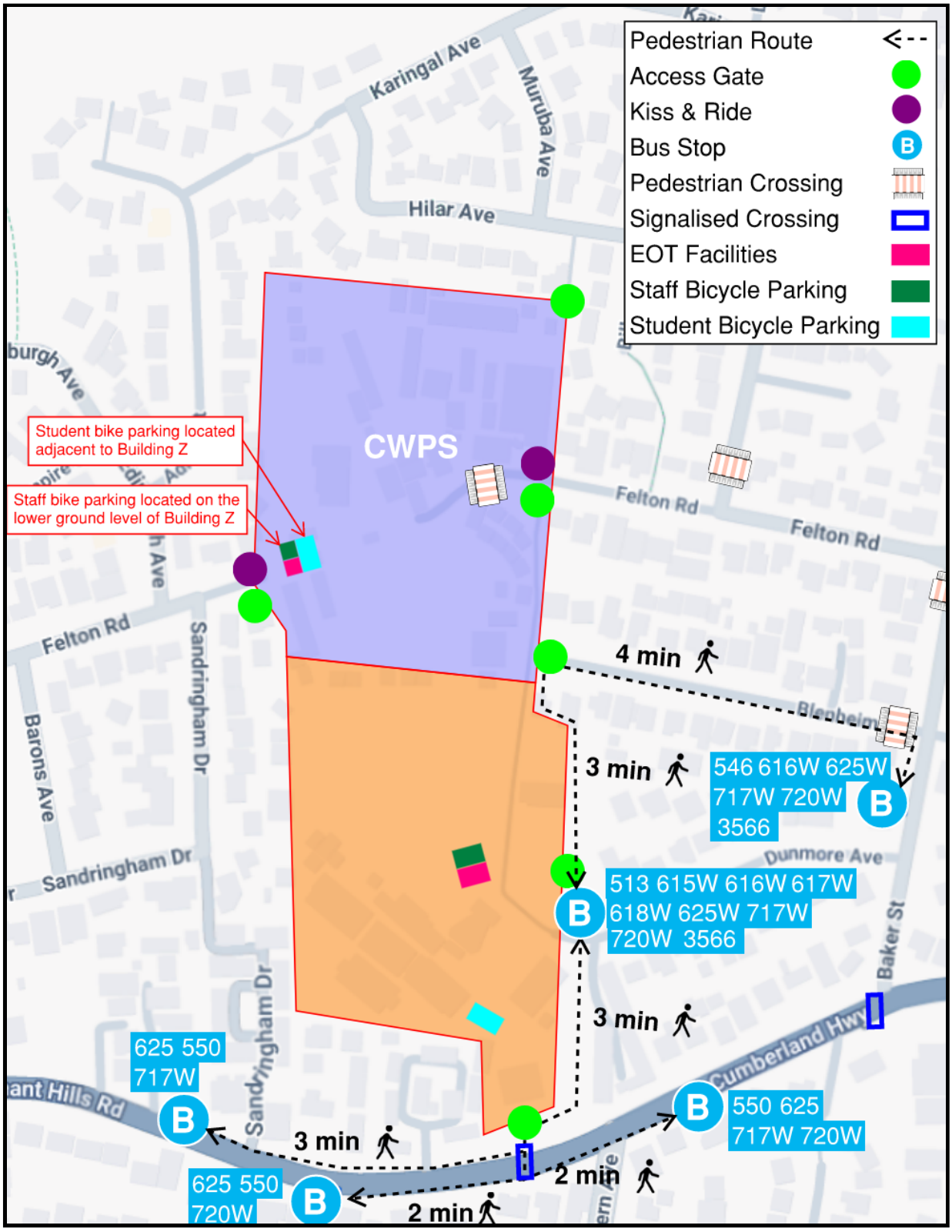
For more information

Phone: 1300 482 651
Email: schoolinfrastructure@det.nsw.edu.au
Website: schoolinfrastructure.nsw.gov.au

NSW GOVERNMENT

Active transport network

The diagrams below show the locations of active transport infrastructure designed to help students and staff travel safely from home or public transport stations.



Using public transport to get to school

School Buses and Public Buses

- The nearest public bus stops are on Dunmore Avenue (513, 546, 550) and Pennant Hills Road (625)
- The nearest school bus stop is on Dunmore Avenue (617W, 618W, 625W)

Trains | Light Rail | Metro

- West Ryde Train Station could be reached via Bus 513 and 618w
- Eastwood Train Station could be reached via Bus 625W
- Parramatta Train Station & Epping Train Station could be reached via Bus 546 and 550
- Pennant Hills Train Station & Parramatta Train Station could be reached via Bus 625
- Dundas Light Rail Station could be reached via Bus 617W
- Carlingford Light Rail Station could be reached via Bus 513, 546, 550, 625 617W, 618W and 625W
- Telopea Light Rail Station could be reached via Bus 513
- Macquarie University Metro Station and Macquarie Park Metro Station could be reached via Bus 550

Students are encouraged to be safe and utilise pedestrian crossings when moving from the public transport stations to school. Details of bus, train, light rail and metro routes, timetables and schedules can be found at https://transportnsw.info/.

Kiss and ride expectations

- The kiss & ride zone is located within the school, with entry and exit via Felton Road East.
- Parents must be pre-registered to access the kiss & ride zone.
- Parents must only use their designated kiss & ride zone.
- Remember that areas signposted as No Parking zones are not waiting areas. Parents / carers may only stop for up to 2 minutes and must stay within 3 metres of the vehicle. If you need to stop for longer or leave your vehicle, you must find somewhere else to park.
- Parents / carers must not stop in a No Stopping zone for any reason or for any length of time. No Stopping restrictions apply at the school's zebra crossings and bus zones.

Carpooling & End-of-Trip Facilities (EOT) for Staff

- Staff are encouraged to meet with and discuss carpooling options with other staff living nearby.
- EOT Facilities are provided for staff and are located straight ahead after entering the Felton Road West access gate, on the lower ground level in building Z. They include 4 showers, 2 changing rooms and 9 lockers. In addition, 5 sheltered bicycle storage spaces are available for staff.

Apply for a School Opal Card | School Term Bus Pass

School Opal cards provides free school travel and can be used as a School Term Bus Pass, for travel within the Opal network. Visit transportnsw.info/school-travel-apply to see if you are eligible.

Students are expected to be courteous and responsible, and follow the school student's code of conduct when travelling on public transport.

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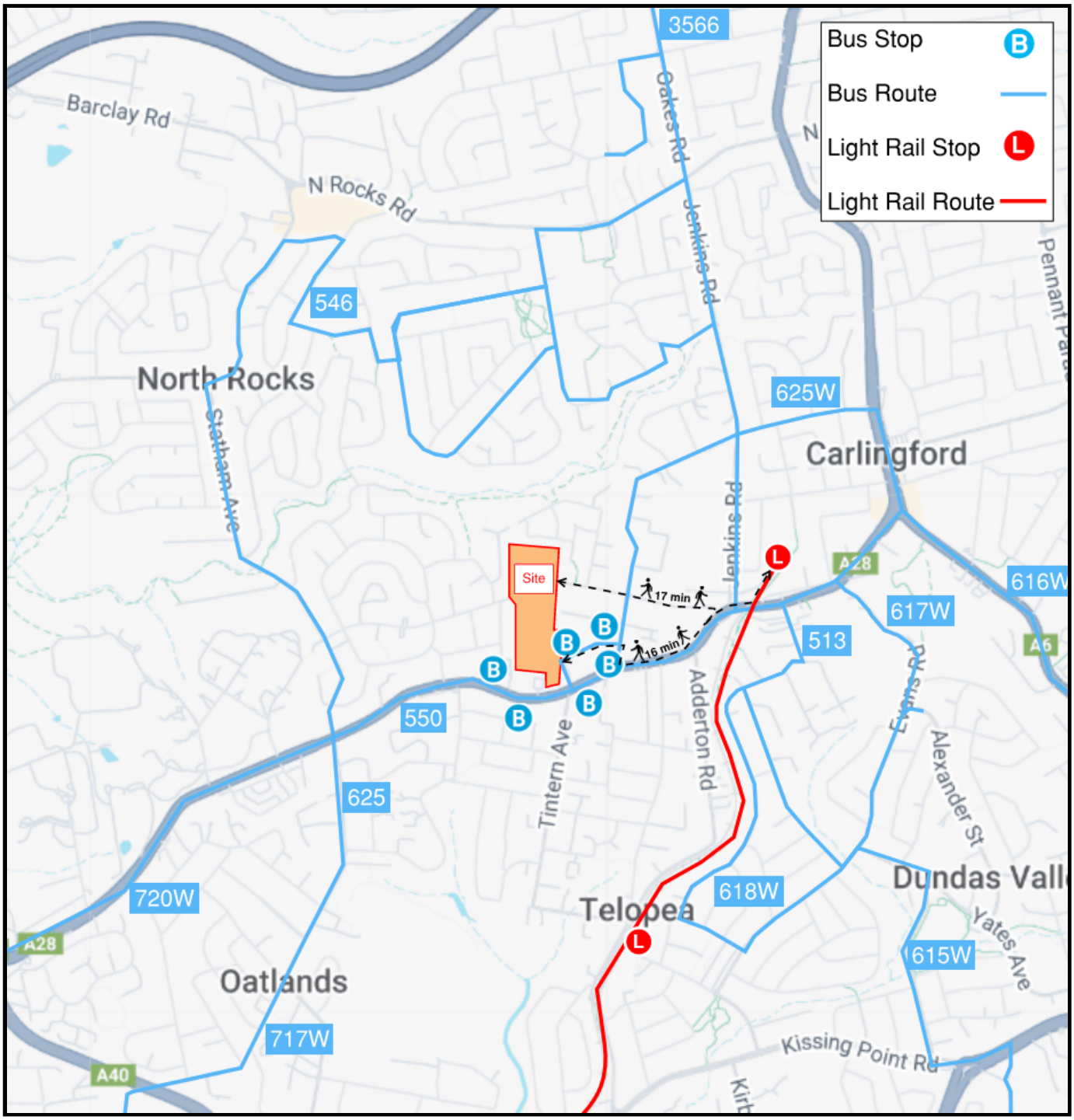
Use your School Opal card every time you catch public transport to school. It tells us how many people are using public transport to help us plan buses, trains and ferries to suit you.

NSW GOVERNMENT

Public transport network

The diagram below shows the extent of the bus and light rail network that services to and from nearby the school.



Appendix C Drop-off and Pick-up Management Sub-Plan

TTW Structural Civil Traffic Façade

Drop-off and Pick-up Management Sub-Plan

Carlingford West Public School and Cumberland High School

Prepared for School Infrastructure NSW

17 July 2025

221973

TTW (NSW) Pty Ltd (ACN 649 974 112)
(ABN 74 649 974 112) I Consulting Engineers
Level 6, 73 Miller Street, North Sydney NSW 2060

Your Partner in Engineering

Revision Register

Rev	Date	Prepared by	Reviewed by	Approved by	Remarks
P1	30/07/24	C. L. Ip	M. Babbage	-	Issue as draft
P2	13/09/24	C. L. Ip	S. Sharma	-	Revised draft issue
P3	22/11/24	C. L. Ip	M. Babbage	M. Babbage	Issued for consultation and review
1	12/03/2025	C. L. Ip	M. Babbage	M. Babbage	Issued for TfNSW and Council consultation
2	07/05/2025	C. L. Ip	M. Babbage	M. Babbage	Issued for peer review
3	**17/07/2025**	**C. L. Ip**	**M. Babbage**	**M. Babbage**	**Issued for peer review**

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Prepared by

TTW (NSW) PTY LTD

IVAN IP

Traffic Engineer

Approved by

TTW (NSW) PTY LTD

MICHAEL BABBAGE

Associate (Traffic)

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Section 1 Introduction

1.1 Background

This Drop-off and Pick-up Management Sub-Plan provides a framework for managing the safe operations of vehicle arrivals and departures within the designated drop-off and pick-up (kiss & ride) zones, and outlines the strategies and procedures aimed at ensuring smooth operations and minimum disruptions to the local road network.

This Sub-Plan has been prepared for Cumberland High School (CHS) and Carlingford West Public School (CWPS), to address condition of development consent D28(d). The conditions of consent dated 29 November 2023, relating to the preparation of this Sub-Plan are listed below in Table 1, including where each item has been addressed in this document.

Table 1: Condition of Consent (SSD-43065987)

	Condition	**Comments & Reference**
D28.	Prior to the commencement of any operation, a School Transport Plan (STP), must be submitted to the Planning Secretary for approval. The plan must:	
(d)	include drop-off and pick-up management sub-plan, including:	
(i)	detail of each drop-off and pick-up zone time of operation;	Section 2.1
(ii)	a pre-registration system to inform guardians of the capacity of each drop-off and pick-up zone and the designated drop-off and pick-up zone for the guardian's child;	Section 2.2.1
(iii)	staffing requirements to manage each drop-off and pick-up zone;	Section 2.2.1
(iv)	complaints register to record complaints received in relation to drop-off and pick-up traffic, including from Council and the Hills Police Area Command; and	Section 4.3
(v)	communication arrangements to inform parents of the drop-off and pick-up management sub-plan;	Section 3.1 and 3.2

Section 2 Operations

2.1 Drop-off and Pick-up zones

2.1.1 CWPS

CWPS currently operates with one kiss & ride zone (K&R). The on-site K&R is accessed from Felton Road East. As shown in Figure 1, the internal cul-de-sac provides capacity for 7 vehicles, which are currently painted, alphabeted and signposted. On completion of the campus upgrade (as discussed in Section 4.1 of the School Transport Plan), another K&R will be provided, accessible via Felton Road West, as illustrated in Figure 3.

The areas includes fencing to control pedestrian flow around the site. In the morning, fences are opened from 7:30 am for kiss & ride in relation to extra-curricular activities, with staff supervision available from 8:55 am. Gates will be closed at 9:25 am. During afternoon periods, the K&R is kept fenced for approximately 10 minutes after the school bell time (see Figure 2), to allow busy pedestrian flows to clear the site before vehicle activity begins. Gates will be closed at 3:55 pm.

As the construction of the kiss & ride zone at Felton Road West will not begin until all CWPS new buildings are completed, a staged arrangement of CWPS's kiss & ride operations will be required, as mentioned in Section 4.1 of the School Transport Plan).

During the construction of the Felton Road West K&R, kiss & ride activities are to be conducted as per the ongoing arrangement: Formal kiss & ride activities along Felton Road East's K&R, and informal kiss & ride activity at Felton Road West (see Section 2.2.3). As the Felton Road West K&R zone comes into operation, informal K&R is expected to be surplus to requirements, and the management and operations of the K&R is to be the same as the K&R at Felton Road East.

Figure 1: CWPS On-site Kiss & Ride Zone (Felton Road East)
Source: Nearmap

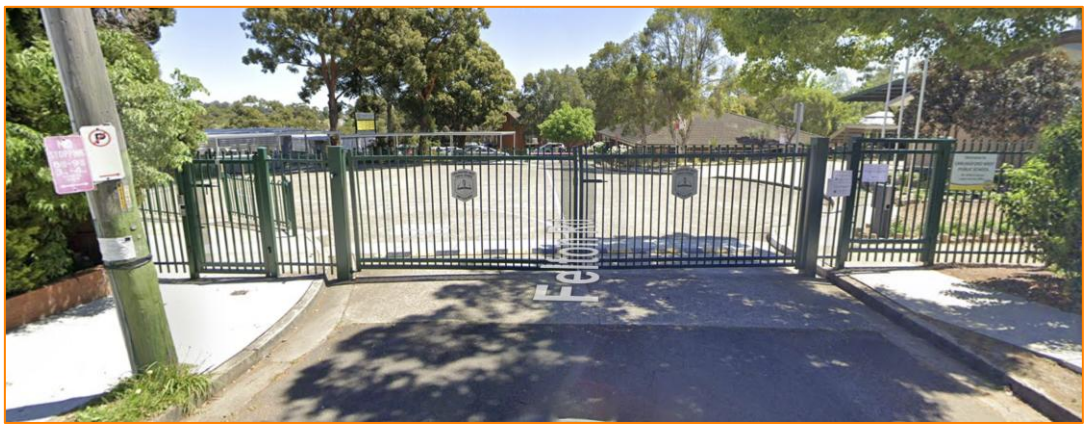

Figure 2: Fenced Kiss & Ride Zone
Source: Google Maps

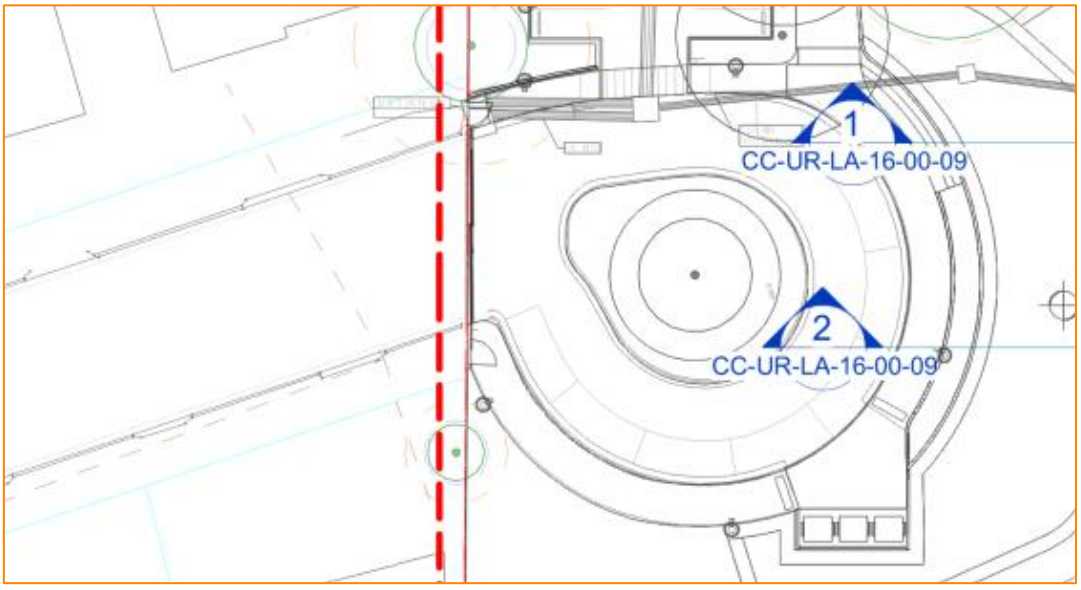

Figure 3: CWPS On-site Kiss & Ride Zone (Felton Road West)
Source: Urbis (CC-UR-LA-00-00-04 [3], dated 7 June 2024)

2.1.2 CHS

Kiss & ride activity for CHS occurs along a new kiss & ride link road on the CHS site, operating as a one-way link. The new link became operational in early 2023. Figure 4 depicts the kiss & ride link with the adjacent car park prior to main construction. As demonstrated in Figure 5, cars are expected to access the kiss & ride zone via Dunmore Avenue, and exit via Blenheim Road. As part of the ongoing arrangement, the link road is opened from 8:00 – 9:00 am, and 2:30 – 3:20 pm for kiss & ride in the AM and PM period respectively.

Figure 4: CHS Kiss & Ride Link Road and Staff Car Park
Source: Nearmap (dated 7 December 2023)

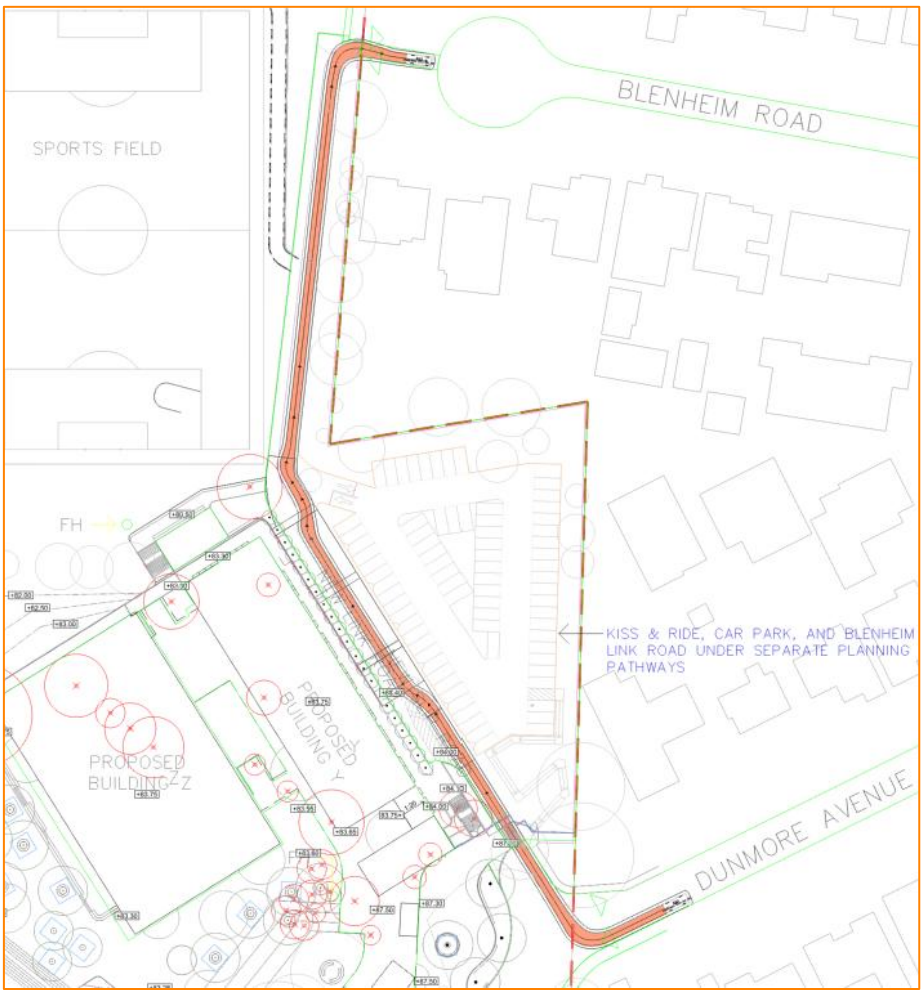

Figure 5: CHS Kiss & Ride Access
Source: TTW (CHS-TT-DA-10-00-1 [2], dated 12 October 2022)

2.1.3 Kiss & Ride Zone Capacity Analysis

This section outlines the processing capabilities of the above-mentioned kiss & ride zones, as detailed in Table 2. Note that the below analysis are estimates only, the figures listed may vary substantially during operation, based on the actual turnover time of individual vehicles.

Table 2: Kiss & Ride Zone Capacity Analysis

	Felton Road East	Felton Road West	CHS Link Road
Kerbside length	52 metres	58 metres	54 metres
Capacity	7 vehicles	8 vehicles (approx.)	7 vehicles (approx.)
Assumed turnover time per space	90 seconds		
Assumed duration of pick-up period	20 minutes		
Turnover per space per pick-up period	13.3 cycles		
Vehicles processed per pick-up period	93 vehicles	106 vehicles	93 vehicles
Assumed occupancy	1.2 students per vehicle		
Students processed per pick-up period	112 students	127 students	112 students

As detailed in Table 8 and 9 of the STP, average kiss & ride volumes are expected to be 977 students for CWPS and 270 students for CHS, or a total of 1,247 students across the two sites, which exceeds the values shown in Table 2. The residual kiss & ride will be accommodated in the following ways:

- Outside the peak 20-minute period (i.e., early and late movements).
- Outside the main kiss & ride zones (e.g., Hilar Avenue, Tintern Avenue and other surrounding streets), refer to Section 2.2.3 which details the management strategy for informal kiss & ride activities.
- Reduction of vehicle volumes over time as sustainable travel behaviour improves and increases.

2.2 Management Strategy

2.2.1 Pre-Registration System

As part of the pre-registration system, schools will create customised forms that will be e-mailed to parents and be made available on the existing communication platform, School Bytes. The form will collect information such as the parent / guardian's name, the student's name and school grade, and their preferred access point. Details, such as the times of operations, and the capacity of each kiss & ride zone will also be included as part of the registration process for the guardians' information.

Once the form is submitted, parents / guardians will be informed of the capacity for each kiss & ride zone, as well as their assigned zone, through School Bytes. All parent / guardian information will be logged in a tracking schedule, Table 2and parents will also have the ability to update their details at any time.

2.2.2 Kiss & Ride Operations and Management

The following management system is implemented to ensure the efficient and safe management of the kiss & ride zones:

- 3 staff member(s) are currently stationed at Felton Road East for CWPS in both the AM and PM kiss & ride period, and the same arrangement is expected at Felton Road West. For CHS, there is currently 1 executive member stationed at the link road in the PM kiss & ride period. Such arrangement is to assist with students where required and ensure sensible user behaviours. However, school staff are only stationed to assist in the orderly operation of the facilities. As school staff are not traffic controllers or rangers, they are not expected to fill these roles.
- Guardians are to be pre-registered to access the kiss & ride zones, as detailed in Section 2.2.1. To ensure that there are no vehicle overspill and queuing on the streets, guardians of CWPS will be pre-assigned with a designated kiss & ride zone to ensure vehicles are reasonably distributed amongst the zones.
- As part of the arrangement for CWPS, guardians are expected to put the name of their child on a label, that should be prominently displayed on the windscreen when the car reaches the existing turning circle. The child will then be assigned a kiss & ride bay, which will then be relayed via a PA system.
- To facilitate the segregation of the kiss & ride zones, the zones will be colour coded, and parents will also be provided with a colour-coded name label for use. Such arrangement allows staff to identify and assist, in the event that a guardian has used the wrong kiss & ride zone.
- In relation to the above, guardians are to utilise their designated kiss & ride zone **only**. It should be noted that this will not be physically enforced by the schools, however the traffic volumes at each zone (and therefore an indication of whether the designated zones are being used correctly) will be reviewed on an annual basis as part of the School Transport Plan monitoring program.
- Should any vehicle occupy a kiss & ride space without a student boarding, such vehicle should be directed to leave the kiss & ride zone and re-circulate back to the site, rather than occupying a space that other vehicles could be using.

2.2.3 Informal Kiss & Ride Activity

Should guardians choose to undertake kiss & ride activity along any frontages / local streets outside of the designated kiss & ride zones, they are to adhere to road rules at all times (e.g., performing kiss & ride within 2 minutes in "No Parking" zones.). Additionally, since these areas cannot be readily controlled or managed, guardians are expected to safeguard the well-being of their children during their commute from the car to the school.

Section 3 Communications Plan

3.1 School Website

As mentioned in Section 2.2.1, guardians are to pre-register to access the kiss & ride zones. To do so, guardians are to sign up via the school website to indicate their preferred kiss & ride zone.

3.2 School App

As mentioned in Section 2.2.1, information regarding the kiss & ride zones, such as their capacities, are to be updated live. The CWPS school app should also be available for parents and carers to download and subscribe to updates from the school. News is regularly issued to the school community through such channel and can include the latest drop-off and pick-up information.

Section 4 Ongoing Management

4.1 Distribution and Use

A copy of this Sub-Plan is always to be held on-site and available for review and reference. This Plan shall be implemented for the lifetime of the development, or as otherwise agreed with the Department of Planning.

4.2 Regular Reviews

This Sub-Plan will be reviewed regularly and updated as part of the School Transport Plan review process.

As part of this, the pre-registration system as detailed in Section 2.2.1 will be reviewed / audited to ensure that such system is adhered to by guardians / parents. Where the system is not adhered to, measures are to be implemented in consultation with Council and TfNSW, as detailed in Section 7.2 of the School Transport Plan.

4.3 Complaints System

As documented in Condition of Consent D28(f)(ii), complaints in relation to kiss & ride traffic should be resolved where possible. Furthermore, the schools are to keep and maintain a record of all complaints made in relation to the operations of the kiss & ride traffic, including from Council and the Hills Police Area Command, in a complaint register. The record is to include details of the following:

- The date and time of the complaint.
- The method by which the complaint was made (e.g. phone or email).
- Any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect.
- The nature of the complaint.
- The action taken by the school in relation to the complaint, including any follow-up contact with the complainant; and
- If no action was taken, the reasons why no action was taken.

An example of the exact information to be collected is summarised in Table 3.

Table 3: Example of Complaints Register

Date of complaint	
Method of complaint	
Nature of complaint	
Date of incident	
Time of incident	
Drivers' name	
Car registration number	
Contact number	
Detailed description of complaint	
Complaint Status	
Is this complaint an emergency?	Y / N

Appendix D Author CVs

Michael Babbage

Associate

BE(Hons), Road Safety Auditor (Level 1)

michael.babbage@ttw.com.au

Experience

2021 – Current
Associate, TTW

2019 – 2021
Senior Traffic Engineer, TTW

2016 – 2018
Traffic Engineer, TTW

Michael is a traffic engineer with a keen interest in designs that really consider the end-user experience, not just the technical requirements. He is involved in all types of projects, from traffic impact assessments, transport planning, construction traffic management, road safety, and car park design, at all stages of the project life cycle.

He has experience in the design development of multi-storey car parks (including for significant transport interchanges, hospitals, and community facilities), drop-off and pick-up facilities, loading docks, and pedestrian facilities. Michael is also a qualified road safety auditor, a TTW service that not only results in safer outcomes for road users on third-party projects but also provides valuable experience and lessons learned for TTW-designed projects. Recently, Michael has been part of TTW's traffic engineering team through an ongoing period of growth and is looking forward to continuing to service the industry with an expanding set of team capabilities.

Schools

Carlingford West Public School
Cronulla High School
Cumberland High School
Glenwood High School
Hawkesbury Centre of Excellence
John Palmer Public School
Melonba Primary School
Marsden Park High School
Northmead CAPA High School
Parramatta East Public School
Pendle Hill High School
Russell Lea Public School
Rydalmere Education Campus
Shore Physical Education Centre
Smalls Road Public School
The King's School

Education

Gosford TAFE
Randwick TAFE
St Leonards TAFE
University of Wollongong – MLS Building
UTS Insearch Tenancy

Transport

Ashfield Commuter Car Park
Edmondson Park North Commuter Car Park
Edmondson Park South Commuter Car Park
Leppington Commuter Car Park
Merrylands Commuter Car Park
Penrith Commuter Car Park
St Marys Commuter Car Park
Sydney Airport Ground Transport Interchange

Health + Aged Care

Edinglassie Village
Opal Seaside, Warriewood
RFBI Hawkins Village
Bankstown-Lidcombe Hospital Emergency Department
CMRI Gene Technologies Building
Concord Hospital Redevelopment Stage 1
Lismore Hospital
Shellharbour Hospital Redevelopment
Shoalhaven Hospital
Sutherland Hospital Operating Theatre Upgrade
The Tweed Hospital
Wyong Hospital Redevelopment

Commercial + Mixed Use

20 Berry Street, North Sydney
1 Denison Street, North Sydney
1 Eden Park Drive, Macquarie Park
10 Valentine Avenue, Parramatta
118 Mount Street, North Sydney
458-468 George Street, Sydney
Macquarie Exchange Precinct MQX4
Pure Data Centre, Jakarta

Residential

135 Queen Street, Woollahra
61 Lavender Street, Milsons Point
105-115 Portman Street, Zetland
700 George Street, Sydney
Esplanade Norwest
Shell Cove Precinct C2

Hotels + Colleges

Charlestown Square Shopping Centre
Four Points by Sheraton, Darling Harbour
Moxy Sydney Airport Hotel
UNE – Robb College
UNE – Wright Block
UNSW – Mulwarree Avenue Student Housing
USYD – St Andrew's College

Retail

Charlestown Square Shopping Centre
Lake Macquarie Fair Shopping Centre
Overseas Passenger Terminal Tenancy 5
Rosebery Engine Yards
The Canopy, Lane Cove

Community + Public

Luna Park Project Renewal
Australian Museum Redevelopment
Australian War Memorial
Barangaroo Cutaway Cultural Facility
Merrylands Civic Square
NGV Contemporary
Powerhouse Precinct at Parramatta
Ryde Central
Sydney Opera House

TTW

Your Partner in Engineering

Ivan Ip

Traffic Engineer

DipE, BE(Hons)

ivan.ip@ttw.com.au

Experience

2024 – current
Traffic Engineer
TTW (Sydney, Australia)

2023
Graduate Traffic Engineer
TTW (Sydney, Australia)

2019 – 2020, 2021
Junior Engineer
Gammon Construction Limited
(Hong Kong SAR)

Ivan is a Traffic Engineer with experience working for both public and private clients. Before joining TTW, Ivan was actively involved in construction digitisation to enhance safety, workmanship, and quality assurance, and has also gained experience in temporary road construction.

During his time at TTW, Ivan has been involved in several aspects of a project, and is skilled in intersection modelling, pedestrian mapping, and swept path analysis. He is also well-versed in preparing various traffic reports and is proficient in programs such as AutoCAD, AutoTURN, and Revit.

Ivan has a passion for sustainability and is actively involved in developing Green Travel Plans and School Transport Plans to promote active transport modes and sustainable urban mobility.

Education

Barnier Public School

Bellbird Park State School

British School Jakarta

Cumberland High School and Carlingford West Public School

Cronulla High School

Glenwood High School

Gosford TAFE Redevelopment

John Palmer Public School

Kellyville Ridge Public School

Melonba Education Campus

New high school in Edmondson Park

Rydalmere Education Campus

Riverstone Public School

Sherwood Ridge Public School

Smalls Road Public School

St. John's Primary School, Riverstone

The King's School

University Square, Melbourne

Health + Community

Aintree + Weir Views Children's and Community Centre

Cardinal Gilroy Village

Gene Technologies Building, Westmead – CMRI

Mount Druitt Police Citizens Youth Club (PCYC)

Shoalhaven District Memorial Hospital

Public Infrastructure

Ausgrid Dee Why Depot Traffic

Central Place Sydney

Gardens of Stone National Park carpark

Hong Kong International Airport, Three-runway System (3RS) Project

Project EOS, Artarmon

Rose Bay Wilberforce Avenue Car Park

Sydney Airport – Ground Transport Project

Sydney Trains Wollongong Network Base

Toowoomba Courthouse

Mixed Use Development

Cockle Bay Park Redevelopment

270 Pitt Street, Sydney 2000

895 Ann Street, Fortitude Valley 4006

Art + Culture

Barangaroo Cutaway Fitout

NGV Contemporary

WSU Indigenous Centre of Excellence

Hotels + Residential

175 Liverpool Street, Sydney 2000

195 – 197 Sydney Road, Fairlight 2094

458 George Street, Sydney 2000

499 Kent Street, Sydney 2000

90 Victoria Road, Bellevue Hill 2023

Baxter Road Hotel

Shell Cove Precinct C2

TTW

Your Partner in Engineering

Appendix E Staff Survey

Cumberland High School & Carlingford West Public School - Staff Travel Survey

Introduction

School Infrastructure NSW have arranged this questionnaire to understand how you travel to school. This should take 5-10 minutes to complete. Please complete the survey by **Friday 28th June 2024**.

This survey is being conducted by TTW on behalf of School Infrastructure NSW. If you have any questions about the survey, please contact your School Principal who will be able to pass on any comments.

If you have any other transport feedback that isn't captured in this survey, get in touch with the school to let us know.

1. Select your employment type

- ◯ Staff - full time
- ◯ Staff - part time or casual

2. Which suburb do you travel from?

For better detail and information on travel distances, your street name (but not your house number) will help us even further. Your privacy is important to us, so we don't ask for your house number, and providing your street name is completely optional.

3. Which street do you travel from? (optional)

Cumberland High School & Carlingford West Public School - Staff Travel Survey

Staff Travel Habits

The following questions relate to travel on a **typical** day. If you use multiple modes in a trip (such as catching the train, and then a bus from the station) you can select multiple responses.

4. How do you travel to school in the **morning**?

- [ ] Train
- [ ] Bus
- [ ] Get dropped off (driver does not stay)
- [ ] Drive a car (park on-site)
- [ ] Drive a car (park nearby - please specify below)
- [ ] Carpool with another staff member
- [ ] Motorcycle / motorscooter
- [ ] Bicycle
- [ ] Walk
- [ ] Scooter / Skateboard / Rollerblade
- [ ] Other / Additional Comments (e.g. parking location):

5. What time do you typically arrive at school?

- ◯ Before 7:00am
- ◯ 7:00 - 7:15am
- ◯ 7:15 - 7:30am
- ◯ 7:30 - 7:45am
- ◯ 7:45 - 8:00am
- ◯ 8:00 - 8:15am
- ◯ 8:15 - 8:30am
- ◯ 8:30 - 8:45am
- ◯ 8:45 - 9:00am
- ◯ 9:00 - 9:15am
- ◯ 9:15 - 9:30am
- ◯ After 9:30am

6. How do you travel from school in the **afternoon**?

- [ ] Train
- [ ] Bus
- [ ] Get picked up in a car
- [ ] Drive a car (parked on-site)
- [ ] Drive a car (parked nearby)
- [ ] Carpool with another staff member
- [ ] Motorcycle / motorscooter
- [ ] Bicycle
- [ ] Walk
- [ ] Scooter / Skateboard / Rollerblade
- [ ] Other / Additional Comments:

7. What time do you typically leave school?

- ◯ Before 2:15pm
- ◯ 2:15 - 2:30pm
- ◯ 2:30 - 2:45pm
- ◯ 2:45 - 3:00pm
- ◯ 3:00 - 3:15pm
- ◯ 3:15 - 3:30pm
- ◯ 3:30 - 3:45pm
- ◯ 3:45 - 4:00pm
- ◯ 4:00 - 4:15pm
- ◯ 4:15 - 4:30pm
- ◯ 4:30 - 4:45pm
- ◯ 4:45 - 5:00pm
- ◯ 5:00 - 5:15pm
- ◯ 5:15 - 5:30pm
- ◯ After 5:30pm

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Staff Travel Details

These questions relate to all available travel modes. You only need to answer questions which are applicable to you based on your travel.

8. If you catch the **bus**, which route do you take?

9. If you are **dropped off** by car (or picked up), how many people in the car are staff being dropped off at school?

- ◯ 1 passenger (just me)
- ◯ 2 passengers
- ◯ 3 or more passengers
- ◯ Other / Additional Details:

10. If you are **dropped off** by car (or picked up), where does this normally happen?

11. If you are **dropped off** by car (or picked up), where does the driver typically go next (or come from)?

- ◯ Home
- ◯ Work (please specify suburb below)
- ◯ Public transport e.g. train station car park
- ◯ Other errands
- ◯ Other / Additional Details (e.g. suburb of work):

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Transport Improvements

12. If you travel via **car**, what are your main reasons for doing so?

- [ ] Need the car to drive elsewhere before school (e.g. gym, an appointment)
- [ ] Need the car to drive elsewhere after school (e.g. other activity, errands, an appointment)
- [ ] Health reasons
- [ ] Convenience
- [ ] Lack of transport options (e.g. no bus service)
- [ ] Lack of footpaths / undercover pathways / crossings
- [ ] Worried about road safety / busy roads
- [ ] Worried about weather variation (rain, hail, wind)
- [ ] Fastest way to travel
- [ ] Extra bags / equipment / material to bring with me

Other (please specify)

13. Which measures would encourage you to **walk** or ride a **bicycle**? If you already walk or ride a bicycle - what measures would you like to see more?

- [ ] Lower speed roads
- [ ] Safe place to store my bike
- [ ] Safe place to store my helmet
- [ ] Safe place to store my scooter / skateboard / rollerblades
- [ ] Better lighting
- [ ] More shade
- [ ] More crossings and footpaths
- [ ] More weather protection (e.g. covered walkways)
- [ ] Back-up options in case of inclement weather (bus, train or car for rainy days, or days when the weather changes)
- [ ] Shower / change rooms at school
- [ ] Better availability of information
- [ ] Bicycle group so I can ride with others
- [ ] Walking group so I can walk with others
- [ ] Loan / discount to buy a bicycle / helmet
- [ ] No measure would encourage me to walk or ride a bicycle
- [ ] N/A - It is too far to walk or cycle

Other (please specify)

14. Which measures would encourage you to use **public transport**? If you already use public transport, what would you like to see more?

- [ ] Cheaper public transport
- [ ] More frequent public transport
- [ ] Bus route to my neighbourhood
- [ ] Improved waiting area at school (shade / weather protection)
- [ ] Improved waiting area at home (shade / weather protection)
- [ ] Better connections to other transport (train or bus)
- [ ] Public transport group so I can travel with others
- [ ] Information about public transport
- [ ] More Opal top-up facilities
- [ ] No measure would encourage me to use public transport

Other (please specify)

15. Which measures would encourage you to **carpool**?

- [ ] I already participate in carpool
- [ ] Help finding someone to carpool with
- [ ] Know the driver personally
- [ ] Sharing driving responsibility
- [ ] Certainty in finding a car space (i.e. dedicated car space for carpoolers)
- [ ] Secure parking
- [ ] A ride home if I need to assist with a sick child / personal responsibilities
- [ ] No measure would encourage me to carpool
- [ ] N/A - I have no need to travel by car

Other (please specify)

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Final Comments and Feedback

16. Any other transport feedback for our team?

Thanks for your assistance. Please click "Done" below to finalise your survey response.