

School Transport Plan

Glenwood High School

Prepared for School Infrastructure NSW

23 January 2024

211530

Revision Register

Rev	Date	Prepared by	Approved by	Remarks
P1	22/12/22	MB, AT	-	Draft for comment
P2	21/04/23	MB, AT	-	Revised draft
1	2/11/2023	MB, AT	MB	Issue for occupation
2	20/11/2023	MB, AT	MB	Revised issue for occupation
3	08/12/2023	MB, AT	MB	Revised to DPE comments
4	23/01/2024	MB, AT, CI	MB, PY	Revised to DPE and BCC comments

Document Control

Internal reference	211530
File path	P:\2021\2115\211530\Reports\TTW\School Transport Plan\240123 GHS School Transport Plan [4].docx

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Section 1 Introduction

A School Transport Plan (STP) is a way to sustainably manage the transport needs of staff, students, volunteers and visitors to a development. The aim of the Plan 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 Plan contains travel plan objectives for the development, 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 Glenwood High School (GHS), particularly to address condition of development consent D20. The conditions of consent dated 25 August 2022 relating to the preparation of a STP are listed in Appendix B, including how each item has been addressed in this document.

1.1 Consultation

This STP has been prepared in consultation with Blacktown City Council ('Council') and Transport for NSW (TfNSW). The consultation history and outcomes are detailed below.

1.1.1 Council Consultation

A copy of Revision 3 of this STP was provided by email to Council on 17 January 2024 with request for feedback by 18 January 2024.

A response was received from Council on 22 January 2024. Council's comments, and the corresponding actions or updates made in the updated STP, are outlined in Table 1.1.

Additionally, consultation with Council took place over a series of Transport Working Group (TWG) meetings, plus feedback received during the exhibition period. Discussions during this period covered the overall transport strategy for the site, including the development of mode share targets, pick-up and drop-off locations, and bus/loading zone operations.

Table 1.1: Council Consultation Outcomes

Council comment	Response
<p>On-road Parking Compliance:</p> <p>(i) Parent compliance with on-road parking outside school has been a continuing issue for BCC.</p> <p>As part of the Travel Access Guide for Glenwood HS, expectations regarding the use of the kiss and drop zone on Forman Avenue, Glenwood are provided.</p> <p>It would be appropriate to include a reminder in the Travel Access Guide for Glenwood HS that the kiss and drop zone is a No Parking zone and not a waiting area. Parents must use unrestricted parking away from the school boundary and in surrounding streets if they are waiting to pick up, or if they wish to park and enter the school or talk with school staff during drop off times.</p> <p>(ii) No Stopping zones are at intersections, pedestrian crossings, vehicle access points into the school, etc. It would be appropriate to include a reminder in Travel Access Guide for Glenwood HS that no vehicle may stop in a No Stopping zone (or in a Bus Zone, e.g., on Glenwood Park Drive).</p> <p>(iii) Additionally, BCC recommends that the Travel Access Guide for Glenwood HS includes a statement that drivers' parking in a No Stopping zone is a priority enforcement action for BCC enforcement rangers and for NSW police, due to the high risk to road safety (school child pedestrians and cyclists, and other drivers).</p>	<p>Updates as requested by Council documented in the adjacent column have been included and updated as deemed appropriate in the Travel Access Guide, refer to Appendix A.</p>
<p>Linemarking: BCC requests that No Stopping zones in the school precinct must be delineated by a continuous yellow pavement marking along the kerb, supported where considered appropriate by kerbside signage.</p>	<p>Noted. However, this item is outside the scope of this STP, relevant measures will be required by Council.</p>
<p>Education: BCC has a range of educational materials that are available for use by the school, parent groups and student groups to promote and provide information about road safety and safe driving practices in the school precinct, including posters, brochures and toolbox talks.</p>	<p>Information regarding the availability of educational materials has been included, refer to Section 6.1.4.</p>
<p>Staff Parking: BCC notes that a policy has been implemented to limit on-site parking for school staff: "On-site car parking is deliberately restricted and will be allocated and managed, encouraging staff to use alternative means of transport" (p.7)</p> <p>As a result, BCC is concerned that staff will use unrestricted parking away from the school boundary and in surrounding streets, and this may impact on access and amenity for local residents and commercial premises.</p> <p>BCC recommends that the school promote and provide information to school staff about safe and considerate use of parking in the school precinct.</p>	<p>Information regarding safe and considerate usage of parking in the school precinct has been included as documented in Section 6.2. Please also note that a total of 118 spaces accommodates 89% of staff (at full capacity), which meets the expected demands.</p>

1.1.2 TfNSW Consultation

A copy of Revision 2 of this STP was provided by email to TfNSW on 22 November 2023 with request for feedback by 29 November 2023.

A response was received from TfNSW on 24 November 2023. TfNSW's comments, and the corresponding actions or updates made in this updated STP, are outlined in Table 1.2.

Table 1.2: TfNSW consultation outcomes

TfNSW comment	Response
<p>Car parking: It is noted that a total of 118 car parking spaces are provided for staff across the school site, as well as on-street parking. An over supply of car parking, however, will encourage use of the private vehicle over other sustainable modes of public transport and active transport.</p>	<p>Noted. 118 car parking spaces are required by the development consent.</p>
<p>Car parking Management: Further, TfNSW recommend that management of the parking is considered including prioritising parking for those on a needs basis, for example that priority parking spaces are to be reserved, and well located, for those who carpool. Management of parking and carpooling initiatives are included in Section 5 – and a carpooling option for parking should be added.</p>	<p>A carpooling option is listed in Section 5, including prioritisation of carpooling users.</p>
<p>Bicycle parking and End of Trip Facilities (EoT): The TDM team appreciate that bicycle parking spaces will be provided for staff and students, at a rate of 10% for students and 10% for staff. The TDM team also appreciates that EoT are to be provided for staff. The bicycle parking and EoT should also be included in the Travel Access Guide (TAG) including the amount and location of bicycle parking, TfNSW ask that any bicycle parking and EoT (including the provision of) should be monitored over time to ensure sufficient supply to encourage active transport both to/from and around the site. The bicycle parking should be located at convenient locations in the development, be safe, secured and under cover. Some further guidance on bicycle parking and end of trip facilities can be found in the cycleway design toolkit.</p>	<p>The design and quantity of bicycle parking is in accordance with the approved SSDA.</p>
<p>Future mode shares: The TDM appreciates that short and long term mode share targets have been detailed in Table 2.1 (students) and 2.2 (staff). The student bicycle/scooter mode share remains unchanged and we would ask that this is increased for both the short and longer terms. Parents/guardian's could also be encouraged to drop off/pick up more than one child to ease the pressure on the PUDO facilities.</p>	<p>Short term targets currently listed in the STP are as per proposals given by TfNSW during the SSDA exhibition, which have then been extrapolated to the long term targets. Mode share targets will be reviewed against annual progress and updated in future revisions of the STP if necessary.</p>
<p>Travel Access Guide - TfNSW appreciates that a Travel Access Guide (TAG) has been included as Appendix A. The TAG will need to be further developed and updated on a regular basis as any more infrastructure comes into existence. For further helpful information – please check this link How to Create a Travel Access Guide doc here. The TAG should also:</p> <ul style="list-style-type: none"> • Provide information advising staff, students and visitors about service routes and timetables for buses is available on the Trip Planner at transportnsw.info/ • Provide information advising staff, students and visitors that additional information about current cycling routes is available on the Trip Planner at transportnsw.info/ • Promote and provide information any car-pooling options, or parking management options. 	<p>Noted and agreed that the TAG will need to be updated, particularly when bus services change on opening of the City & Southwest Metro extension.</p> <p>SINSW is in the process of developing revised TAG templates for all schools, and any future updates to the TAG will consider those changes, up-to-date information from TfNSW, and any other relevant detail at the time.</p>
<p>Submission: The updated STP and TAG should be submitted to TfNSW for review prior to occupation.</p>	<p>A copy of this updated STP (including the TAG) shall be submitted to TfNSW.</p>

Section 2 Transport Goals

2.1 Visions and Objectives

The main vision and objectives of this preliminary STP for Glenwood High School (GHS) are:

- To proactively identify and meet the school travel demand safely, efficiently and sustainably
- To deliver transport infrastructure to meet school travel demand and improve accessibility
- To decongest the road network around the school
- To empower children and young people to be safe and transport users now and into the future

2.2 Mode Share Targets

The mode share targets for the students and staffs are outlined in Table 2.1 and Table 2.2 Travel mode forecast for staff. The volume change identified is between the forecast conditions based on existing travel habits (i.e. as outlined in Table 2.1), and the potential forecast conditions with mode shift achieved. The mode share targets outlined in Table 2.1 are indicative only and may need to be updated in future stages of the project, including once the school is in operation. The long term targets are particularly variable as the future operation of the school and the behaviour of students and staff cannot be predicted as accurately. While timeframes for “short term” and “long term” are subjective, these are indicatively considered as 1 to 5 years and 7+ years respectively (or through to 2028 and beyond 2030).

Table 2.1: Travel mode forecasts for students

Values may not add to 100% due to rounding.

Travel Mode	Student				
	Existing Mode Split	Short Term Target	Long Term Target	Short Term Volume Change	Long Term Volume Change
Walk	36%	40%	44%	+73	+146
Bicycle / Scooter	<1%	<1%	<1%	-18	-18
Bus / Train	12%	12%	12%	-	-
Drop-off & pick-up	42%	40%	38%	-27	-64
Park & walk (passenger)	<2%	1%	<1%	-9	-27
Car (driver)	8%	7%	6%	-18	-36
Total	100%	100%	100%	-	-

Table 2.2 Travel mode forecast for staff

Values may not add to 100% due to rounding

Travel Mode	Staff				
	Existing Mode Split	Short Term Target	Long Term Target	Short Term Volume Change	Long Term Volume Change
Walk	2%	5%	8%	+5	+10
Bicycle / Scooter	3%	10%	17%	+12	+24
Bus / Train	<2%	3%	5%	+3	+6
Drop-off & pick-up	2%	2%	2%	-	-
Park & walk (passenger)	0%	0%	0%	-	-
Car (driver)	92%	80%	68%	-21	-42
Total	100%	100%	100%	-	-

- These mode share targets are considered reasonable and achievable as: Approximately 32% of the student catchment population is within a 1200-metre walking distance of the site.
- On-site bike storage for 10% of staff and 10% of students is provided, plus end of trip facilities for staff.

On-site car parking is deliberately restricted and will be allocated and managed, encouraging staff to use alternative means of transport.

Section 3 Policies and Procedures

The transport policies and procedures which guide this STP and shall be implemented for the school are:

- Prioritise multi-modal transport access
- Access policies for car parking in the staff car park
- Information campaigns to staff, students, and visitors
- Group travel to be coordinated by schools, utilising dedicated transport

Section 4 School Transport Operations

4.1 Site Access

The site's formal address is **Glenwood Park Dr &, Forman Ave, Glenwood NSW 2768**. The main pedestrian entries and bus bays are located along this frontage.

There are six existing access gates into Glenwood High School catering for pedestrians, vehicles, and service vehicles; two gates are at Glenwood Park Drive and three gates are at Forman Avenue, shown in Figure 4.1.



Figure 4.1 Access gateways into Glenwood High School

4.2 Active Transport Operations

Active transport modes include walking and cycling and other non-motorised means of transport. For the purposes of this Plan, active transport also considers pedestrian movements to and from vehicles parked on-street and on-site, vehicles at the pick-up and drop-off area, and within the bus zone. These movements result in some level of conflict and crossover between pedestrians and vehicles, therefore requiring safe management. For this reason, active transport is a higher priority mode than all other non-emergency movements.

A map of the active transport infrastructure on-site and in the local area that will be available on completion of the project can be seen in Figure 4.2.

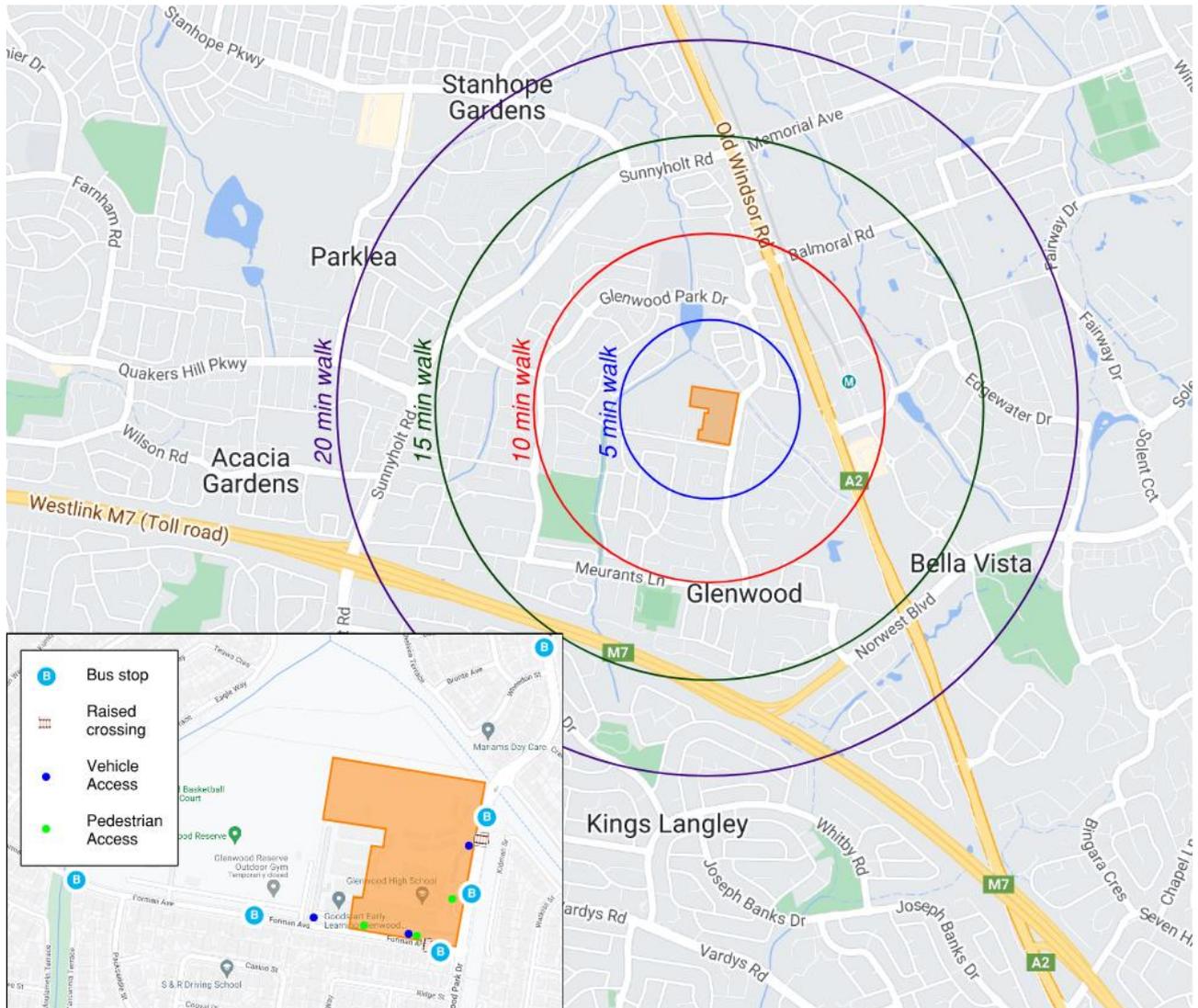


Figure 4.2 Pedestrian infrastructure analysis

Source: TTW

Students and staff will be directed to use safe and formalised pedestrian crossing facilities where available, as illustrated in Figure 4.2 above. In the vicinity of the site, these facilities will result in the recommended safe routes to school as illustrated in Figure 4.3 below.



Figure 4.3: Safe pedestrian routes to site

Source: TTW

4.3 Public Transport Operations

The primary public transport services utilised by the school includes the bus routes stopping in the bus zone along Glenwood Park Drive.

Staff supervision duties at the bus zone are to include the following:

- Monitoring student behaviour and discouraging unsafe conduct such as running and jaywalking.
- Assisting students in forming orderly queues while waiting for the bus arrival.
- As student and bus numbers increase, organise students into multiple queues if necessary.

Currently, only about 12% of students and 1% of staff travel via the bus, even though sufficient bus services are provided in the morning and afternoon school peak times. Therefore, promotion of the public transport services and availabilities must be prioritised. Details of promotional initiatives are provided in Section 5.

The travel demands for students and staff travelling to the site via train or metro are expected to be minimal, reflected in the travel impact assessment. This is mainly due to the unavailability of train and metro services within the vicinity of the site.

The public transport accessibility is illustrated in Figure 4.4.

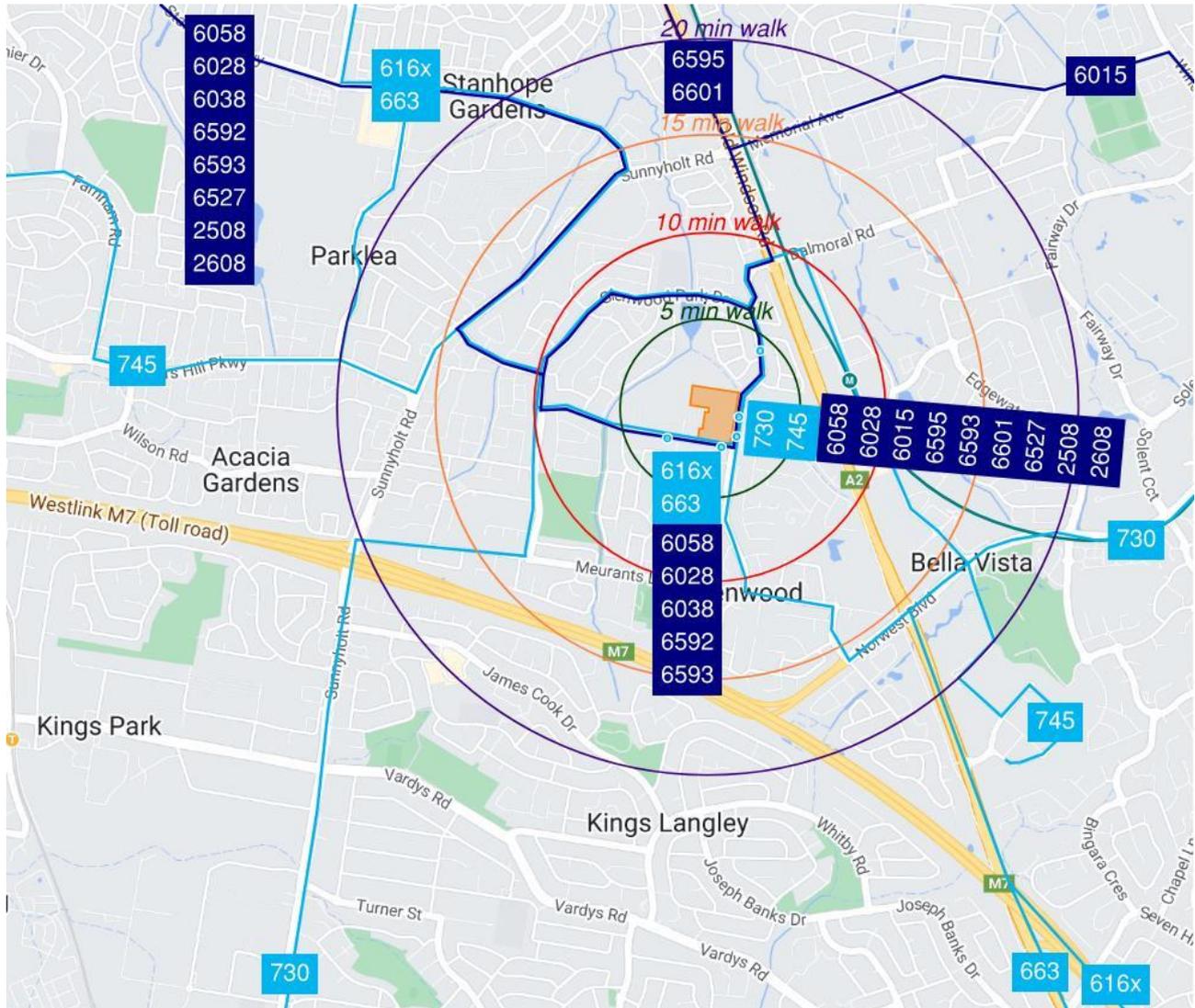


Figure 4.4 Public transport accessibility
 Source: TTW

4.4 Pick-up and Drop-off Operations

Pick-up and drop-off is the most popular mode of travel for the students of Glenwood High School, with 42% travelling via this mode. The pick-up and drop-off facility at the School (on Forman Avenue) currently attract very high volumes of private vehicles, which is due to the low walkability of the catchment (32% of students within a 1200-metre walk). These demands occur for short periods of time in the morning and afternoon, creating high levels of congestion in the road network.

Activities relating to pick-up and drop-off can produce significant safety concerns and impacts on the local traffic condition. Accordingly, PUDDO zones require deliberate management to ensure user safety and maintain an acceptable traffic flow.

The school currently operates with one indented kiss & ride zone along Forman Avenue, allowing parents to pick up and drop off their children in front of the school. The overall length of this zone is around 60 metres. This kiss & ride zone on Forman Avenue is shown in Figure 4.5. This zone is signposted 'No Parking' zone between 8:00-9:30 am and 2:30-4:00 pm.



Figure 4.5: Forman Avenue kiss & ride bay

Additionally, there are further on-street kiss & ride (No Parking) zones along Forman Avenue, both east and west of the indented bay, with the overall length of 90 metres, shown in Figure 4.6.



Figure 4.6: Forman Avenue kiss & ride zones

As high school students are more independent, students and parents will self-manage at the kiss & ride zones and will be legally obliged to act in accordance with the signposted parking restrictions if using the zones along Forman Avenue outside the indented bay. If any issues arise or are reported to the school, these will be directed to Blacktown City Council or local police, who are responsible for the enforcement of on-street parking restrictions (including ‘No Parking’ or kiss & ride zones).

As the kiss & ride zones will be self-managed, it is important that the operation procedures and expectations are clearly and regularly communicated to parents and students. This will include expectations such as driving up to the front kiss & ride space to maximise capacity, recirculating around the block if the student is not waiting and ready to be collected, and ensuring students get in and out of cars in a prompt and efficient manner. Refer to Section 6 which discusses communications in more detail.

Table 4.1 Off-street parking occupancy
 Source: Nearmap imagery

	School Days			Non-School Days		
	Minimum	Average	Maximum	Minimum	Average	Maximum
West Car Park	39	58.7	65	0	2.5	15
East Car Park	26	31.1	36	0	0.1	2
Total	70	89.9	99	0	2.5	17

Based on the historical data, the car park occupancy on school days is fairly steady, and some informal parking occurs on a rare basis beyond the marked capacity of 93 spaces (prior to development works). The average occupancy reaches the marked capacity.

4.5.1 On-Street Parking

On-street parking in the vicinity of the site is generally unrestricted. Similar to the off-street parking, on-street parking in the vicinity of the site has been reviewed to assess long-term usage trends.

The extent and description of on-street zones used for the detailed analysis is shown below in Figure 4.8. The assumed occupancy of each zone is based on approximate distances between driveways, and accounting for other parking restrictions, and represents an estimate only. All on-street parking spaces in the vicinity are unmarked, meaning that capacity may vary from day-to-day.

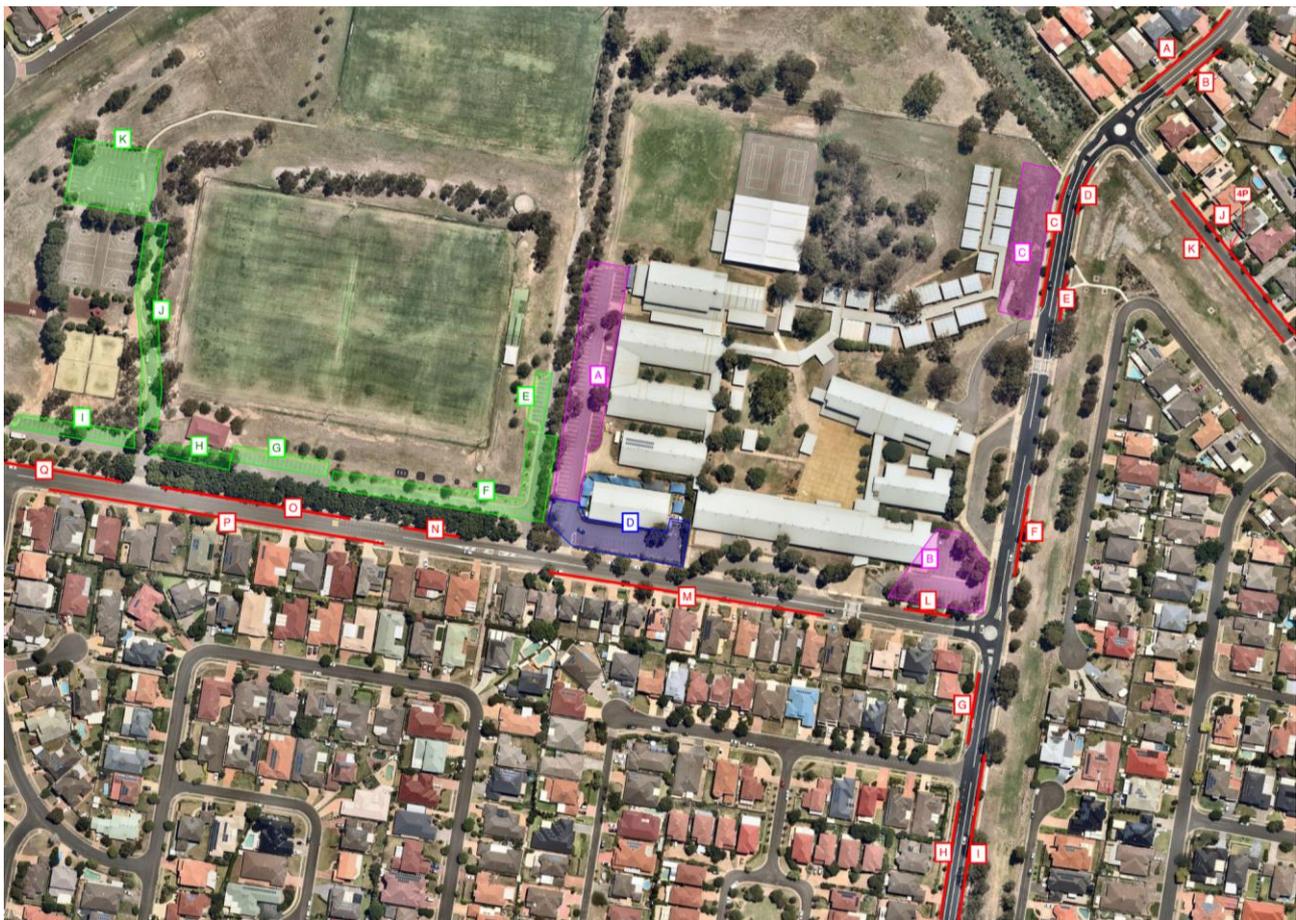


Figure 4.8: On-street and off-street parking areas for analysis

Summary details for the on-street parking areas are shown in Table 4.2. Statistics for the ‘Occupied’ and ‘Available’ rows are inverse data (therefore must not be added).

Table 4.2: Off-street parking occupancy
Source: Nearmap imagery

		School Days			Non-School Days		
		Minimum	Average	Maximum	Minimum	Average	Maximum
On-Street	Occupied	30	52.6	75	13	25.5	66
	Available	73	95.4	118	82	122.5	135
	Capacity	148					
Glenwood Reserve	Occupied	10	19.0	28	0	23.3	85
	Available	104	113.0	122	47	108.7	132
	Capacity	132					
Total	Occupied	44	71.6	101	16	48.8	147
	Available	179	208.4	236	133	231.2	264
	Capacity	280					

The analysis shows that there is generally adequate availability of parking in the vicinity of the site and within the assessed zones.

4.5.2 Community Use

Where school facilities are used by community members, on-site car parking may be made available to the community or to specific personnel associated with the event. As the scale and type of community events may vary significantly, standardised arrangements for use of on-site car parking are not possible. For any given event or usage of the school facilities, the school shall consider the following when making parking available (if at all) to community members:

- Time of the event (e.g. consider any overlap with typical daily school staff usage)
- Size of the event (e.g. would the likely demand exceed the available capacity)
- Management of the event (e.g. would security or marshals be available to manage the carpark entry)
- Type of event and demographics of attendees (e.g. are attendees likely to be driving)

4.6 Emergency Vehicle Operations

Emergency vehicles are the highest priority vehicle types requiring access to the school. Ambulances will be able to access the school through the access points at Glenwood Park Drive and Forman Avenue during and after the development. Demountables that will be temporarily placed in north west of the site may restrict access to the existing sport grounds, but ambulances will still have access into the site.

4.7 Service and Loading Vehicle Operations

Service and loading functions are a key component of the operation of the school. However, given the importance of other travel mode types, particularly the risk of other movements becoming unsafe or congested, service vehicles are considered the lowest priority transport type for the school site.

Delivery and service vehicles will enter the site in a forward direction via Glenwood Park Drive. On completion of unloading or servicing activities, the truck will exit the site from the same access in a forward motion. Trucks staying on-site for any period of time are to park in the nominated service bay. The final arrangements for internal movement of delivery and service vehicles will be finalised in the detailed design stage, and this would also need to be coordinated through the operating life of the school with individual contractors, as the service needs may change over time.

All delivery and service trucks are to be fitted with reversing alarms, and will be fitted with cameras, to assist truck drivers in performing reverse manoeuvres and avoiding any conflict with other vehicles such as parked cars. Given that deliveries are generally occurring outside of school hours, there is a minimal chance for any such conflict to occur. However, some deliveries may be required to occur during school hours. In any case, as a minimum safety requirement delivery and service vehicles will be fitted with the above recommended safety features.

Wherever practical, all deliveries must be scheduled at least 15 minutes apart to avoid any conflicts and allow a buffer for unexpected delays. Additionally, deliveries are recommended to be scheduled outside of school hours either before 8:00am or after 4:00pm.

Other considerations for the scheduling of deliveries include:

- Personnel to be available to marshal vehicles through the site for access to the main loading areas (to manage conflict and movements across the external pedestrian footpath)
- Nominated external personnel (if available) to be recorded and provided with induction information if necessary
- Relevant staff in departments or classrooms near loading areas to be advised of any scheduled activities which may be noisy or disruptive to classes.
- Once deliveries are completed, a record of deliveries is to be kept, to assist with future planning or any incidents which may occur.
- Vehicle size to be determined, and necessary traffic control measures to be considered if necessary and planned for within the scheduling system.
- Vehicle requirements (e.g. reversing alarms) are to be made clear to construction or delivery contractors.

The space shown in Figure 4.9 would accommodate to medium and heavy rigid vehicles for turning and reversing.

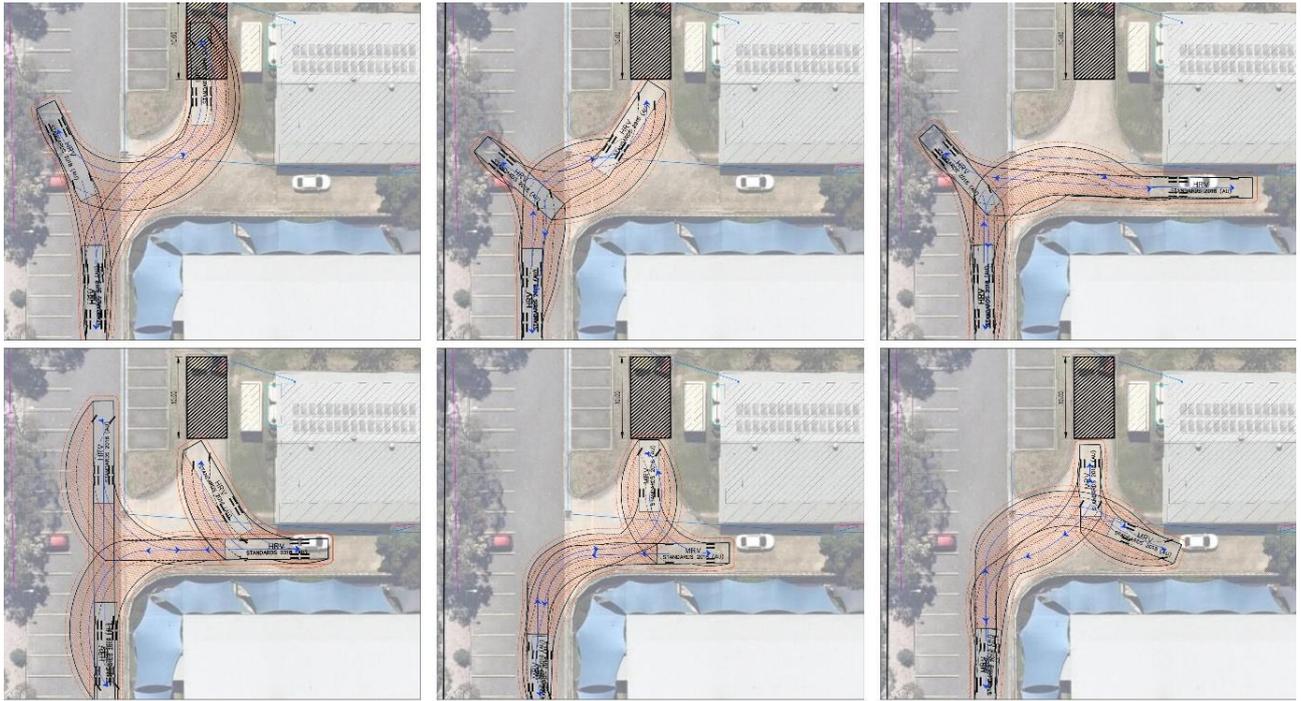


Figure 4.9 Service vehicle access

Section 5 Transport Encouragement Programs

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

Program/activity	Description and target outcomes	Frequency/timing	Responsible parties
Ride 2 School Day and Other Health Events	<p>Various organisations and groups develop programs and events to encourage active transport. For example, Bicycle Network coordinates a Ride2Work and Ride2School Day each year. These events provide a good opportunity for organisations to encourage staff and students to participate in cycling. Additionally, these initiatives create awareness and are useful for influencing the school community's travel behaviours. The school will investigate avenues to promote this event and encourage staff participation. An additional suggestion is to introduce incentives such as competitions or rewards.</p> <p>Bicycle training workshops can also be a component of these programs to enable users to become familiar with bicycle maintenance, recommended cycling routes and general bicycle and road safety. Rideability is an example of a cycling education service that delivers workshops in schools with an emphasis on road safety and cycling skills.</p> <p>Other health events encouraging active transport include Bike Week, Walk Safely to School Day and Health and Wellness Fairs. These initiatives expose staff and students to the many benefits of choosing active transport.</p> <p>Annually hosting these events provides the community with a continual reminder and is therefore more likely to influence their behaviour.</p>	<p>Annually</p> <p>Next Ride2School day: 23rd March 2024</p> <p>Next Ride2Work day: 16th October 2024</p>	Travel Coordinator
Carpooling	A strategy to encourage staff to carpool involves a pairing system that notifies staff members of other staff who live in nearby areas or along their travel route. The Travel Coordinator is to organise a meeting or forum to provide an opportunity for staff members to discuss carpooling options, including coordination of staff by local area. Off-the-shelf alternatives such as the Liftango app may also be an option for staff to utilise.	<p>Meeting within 6 months of opening</p> <p>Incentives and programs all year round</p>	Travel Coordinator
Priority Parking	A strategy to encourage carpooling further is to allocate priority parking spaces to those staff committed to carpooling. Since it is expected that the total demand for parking may exceed the on-site provision, priority parking ensures that carpooling staff will be able to park on-site, while other staff members may be required to utilise on-street parking. This may act as an incentive for	Meeting within 12 months of staff numbers exceeding available capacity	Travel Coordinator

	<p>others to investigate carpooling opportunities. Priority spaces could also come with other benefits, such as a prime location with good accessibility as further encouragement.</p>	Incentives and programs all year round	
Car Park Management	<p>To further reduce the reliance of private vehicle usage by staff, if the parking demand grows beyond the available capacity car park management measures are to be implemented such as:</p> <ul style="list-style-type: none"> • Prioritise car park usage for staff that cannot or would struggle to use active or public transport such as those travelling large distances or those needing to transport large amounts of resources. 	Incentives and programs all year round	Travel Coordinator
End-of-Trip Facilities	<p>Providing adequate end-of-trip facilities is an important factor in encouraging staff to participate in active transport, particularly for those travelling long distances or during warmer seasons. The site includes two female showers, two male showers, one unisex accessible facility and 18 lockers for use by staff to help all users to feel ready for their daily activities. Promotion of these facilities shall include:</p> <ul style="list-style-type: none"> • Nominating lockers to be used only by staff who travel via active transport modes to encourage more active transport users • Promoting the end-of-trip facilities through correspondence with staff e.g. staff newsletters or staff meetings 	Ongoing	Travel Coordinator
Subsidised Carry Bags	<p>The school will investigate opportunities to provide subsidised backpacks or panniers (for bicycles) for students and staff who are committed to practice sustainable travel to and from school. Historically, teachers have been reluctant to engage with sustainable transport options due to their large amount of resources requiring transportation each day. This strategy is proposed in response to this identified issue and will allow sustainable transport to become a more feasible option.</p>	Meeting within 6 months of opening to review viability	<p>Travel Coordinator (coordination)</p> <p>GHS / DoE (funding)</p>
Salary Sacrifice for Active Transport Purchases	<p>This strategy involves providing the option for staff members to participate in salary sacrificing for the purchase of micro-mobility vehicles such as bicycles, e-bikes or electric scooters. By reducing the upfront cost of these types of vehicles, active transport may become more desirable and accessible.</p>	Meeting within 6 months of opening to review viability	<p>Travel Coordinator (coordination)</p> <p>GHS / DoE (funding)</p>

Section 6 Communications Plan

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 can easily be included as part of an induction or orientation package. This is especially important for travellers new to the area and who may be completely 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 may 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 must also allow for feedback or questions regarding any travel-related concerns.

6.1.3 School Website

The school website is to 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 Government Materials

Council has a range of educational materials available for use, ongoing communications between the School and Council should 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 could 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)
- Transport goals, safety requirements, and parent expectations
- On-site bicycle storage areas and end-of-trip facilities
- School Student Transport Scheme (SSTS) and School Term Bus Pass availability
- Changes to local public transport routes (as they occur)
- Changes to local pedestrian and cyclist facilities (as they occur)
- 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

6.3 Travel Access Guide

The aim of a Travel Access Guide (TAG) is to present staff and students 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 can 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 TAG prepared for GHS is included in Appendix A .

Section 7 Data Collection and Monitoring

A key component of STP success is program evaluation and ongoing improvement. This section includes consideration of how the school and their communities will be able to adaptively respond to meet the STP goals over time.

7.1 Data Collection

The school will collect the following data:

- Transport catchment
 - GIS analysis of the school catchment boundaries and current student locations will be undertaken whenever this STP is updated, using depersonalised student location data.
 - The school catchments will be assessed against the latest available public transport data available from TfNSW and the latest pedestrian and cyclist networks.
- Staff and student travel demand
 - Annual questionnaires will be undertaken prior to updating the STP to accurately determine travel habits and transport usage.
- Transport audits and travel data
 - Prior to updating the STP, counts will be undertaken at the bus zone to review demand for individual bus services and to observe general operations. Feedback is to be provided to TfNSW if necessary.
 - Prior to updating the STP, counts and measurements will be undertaken at each kiss & ride zone. Measurements will include average set-down times and total duration of operations. Observations includes any issues with queuing or problem points in the system.
 - Prior to updating the STP, spot checks of staff car park capacity are to be undertaken, to gain an understanding of trends in travel behaviour.
 - Prior to updating the STP, pedestrian movement counts will be undertaken at all entry / exit points into the site, to accurately determine the spread of demand across the site and the local precinct.
- Transport events and initiatives
 - When the school hosts any transport events or initiatives (for example, a Ride 2 School Day), attendance rates at these events will be recorded.
 - Where these events involve or are relevant to external authorities such as Council or TfNSW, consider consulting with these authorities about the types of data to be collected, or share data with them once collected.
- Digital communication strategies
 - Where available, data are to be recorded on any available digital communication such as hit rates for travel articles on the school website, click-through of links provided through email or the school apps, or downloads of the TAG.
 - Any digital communications that relate to specific events (for example, a Ride 2 School Day) will also include data collection that can correlate digital engagement to event attendance.

7.1.1 Transport Data Collection

Data collection is required for the ongoing management and reviewing of this Plan. These investigations are intended to evaluate whether a particular operation, facility, or management system is still successfully functioning and meeting demands. Table 7.1 contains suggestions for the data collection context and the types of data to be collected.

Table 7.1: Data Collection Summary

Context	Data to be collected
Pedestrian Facilities	<ul style="list-style-type: none"> ▪ Number of pedestrians entering through gates ▪ Arrival and departure times through school gates ▪ Number of pedestrians using pedestrian crossings ▪ Number of pedestrians jaywalking as well as the time and location
Cyclist Facilities	<ul style="list-style-type: none"> ▪ Number of daily vacant and occupied bicycle parking spaces ▪ Number of cyclists entering through each site access point ▪ Number of end-of-trip facility users
Buses	<ul style="list-style-type: none"> ▪ Number of public bus users (morning, afternoon and overall) ▪ Number of school bus users (morning, afternoon and overall) ▪ Number of school vs non-school users at nearby bus stops ▪ Observational assessments (e.g. queuing, safety concerns)
PUDO Zone	<ul style="list-style-type: none"> ▪ Number of users (morning, afternoon and overall) ▪ Set down times ▪ Arrival and departure times ▪ Number of students exiting/entering vehicles ▪ Number of any non-formal pick-up and drop-off occurrences as well as the time and location ▪ Observational assessments (e.g. queuing, illegal stopping, safety concerns)
Car Parking	<ul style="list-style-type: none"> ▪ Number of daily vacant and occupied spaces ▪ Number of passengers per vehicle ▪ Arrival and departure times

7.1.2 Incident Recording System

The school will keep and maintain an on-site traffic incident record. This record would contain a description of the incident, including contact details and what actions were taken by the school in response to the incident. It is advised that records of incidents be kept for an extended period of time following the incident occurrence.

The school must be able to provide the traffic incident register to relevant authorities on request.

7.1.3 Complaints Management

The school will keep and maintain a record of all complaints made in relation to any transport or access issues in a complaint register. Suggestions for what the record may include are:

- The date and time of the complaint
- The method by which the complaint was made (e.g. phone or email)
- Any personal details provided by the complainant

- The nature of the complaint
- Any action taken by the school in relation to the complaint including any follow-up communication

It is advised that records of the complaint be kept for an extended period of time after the complaint was made. The school must be able to provide a copy of the complaints register to relevant authorities on request.

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 questionnaires are to be reviewed against the travel targets put forward in the most current revision of the STP at the time.
 - Transport audit data collected at the site (as described in Section 7.1) shall also be reviewed against the annual questionnaires and current targets 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. 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.
- Bus network and operations
 - Usage of the bus zone, in particular the usage and demand for different bus routes, will be closely analysed with information provided to TfNSW for review. Services in high demand are to be bolstered with additional services. Services with low demand may be able to be re-routed or adjusted to better suit the overall population.
- Car park occupancy and on-street parking spill over
 - Usage of the staff car park must be closely monitored, in order to understand demand for on-site car parking over time.
 - Any usage of on-street parking will be monitored and reviewed with consideration of the locations being used. If residential areas are being impacted, the STP must be improved (and communications increased) to reduce potential parking impacts.
- Engagement with school transport articles and links
 - Varying types of articles and links are to be reviewed for engagement and success. For example, “bite-sized” pieces of information might have more engagement with particular audiences or content, and longer form “articles” may have success in different areas.

7.3 Documentation Updates

This STP, and other associated documentation (such as the TAG) will be updated annually unless otherwise agreed with the Planning Secretary.

The review and update process will include:

- Updating to reflect any travel-related changes in the local area such as bus services, new cycle routes or pedestrian crossings (this must occur as changes arise)
- Reviewing progress against the proposed mode share targets and update targets if required
- Identifying any shortfalls in the STP and updating sustainable initiatives and programs to address these shortfalls

- 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.
- Consulting with staff, students and parents to understand travel behaviours and any barriers and facilitators to shift to sustainable travel.
- 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 will be provided to implement and manage these programs.

To ensure that the ongoing review of this STP is carried out as expected, responsibility of this task are to be allocated to a Travel Coordinator. Responsibilities of the Travel Coordinator may include:

- Liaise with the school principal as the nominated transport representative for the school
- Liaise with other internal stakeholders
- 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

At time of writing, arrangements for this role are under discussions between the School, SINSW, the Department of Education, and TfNSW. SINSW are committed to having a Travel Coordinator appointed for commencement of operations.

8.2 Internal School Working Group

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

- School Principal
- Other school Executive Staff as relevant
- Road Safety Education Officer
- Asset Management
- Grounds Management
- WHS Representative
- P&C

This group will meet on a regular basis, say twice within the first 12 months of operation. Following this, the group is recommended to meet annually, or more frequently if needed.

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 GHS. School Infrastructure NSW has already established this TWG with Blacktown City Council and Transport for NSW. This group meets fortnightly to collaborate on school projects or transport issues affecting government schools within the Blacktown 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:

- Blacktown City 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 **Blacktown City Council** is as follows:

- Name:
 - Nadeem Shaik
- Role:
 - Co-ordinator Traffic Management
- Phone:
 - (02) 9839 6014
- Email:
 - Nadeem.Shaikh@blacktown.nsw.gov.au & Transport@blacktown.nsw.gov.au

For future contact on road safety-related matters, the Blacktown City Council contact point should be:
road.safety@blacktown.nsw.gov.au

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

- Name:
 - Ben Borger
- Role:
 - Transport Planning Project Manager, Customer Journey Planning
- Phone:
 - 0408 064 433
- Email:
 - development.CTMP.CJP@transport.nsw.gov.au

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

- Name:

- Kamoru Adetunmbi
- Role:
 - Transport Planning Manager
- Phone:
 - 0499 845 783

Appendix A Transport Access Guide



Glenwood High School

Travel Access Guide

January 2024

Project overview

The Glenwood High School upgrade will support the growing student and community needs.

The benefits of the project include:

- A new three-storey building to accommodate new learning spaces
- A new performance pavilion comprising of interview rooms and end-of-trip facilities
- A new support unit
- A new office space and storeroom
- Upgrade to the library

Kiss and drop expectations

- A primary kiss & ride zone is available on Forman Avenue.
- 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**.
- Blacktown City Council have advised us that enforcement of parking and stopping restrictions around schools is a high priority for Council and NSW Police, due to the high risk to road safety for our students. Drivers must follow the law at all times.

Active ways to get to school

Walking is an active and healthy way to get to school



- Cross the road at crossings or traffic lights if possible
- 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
- Children under age 16 can ride on the path, but remember to share the footpath and stick to the left
- Look out for vehicles entering or leaving driveways
- Give pedestrians right of way

For more information contact:

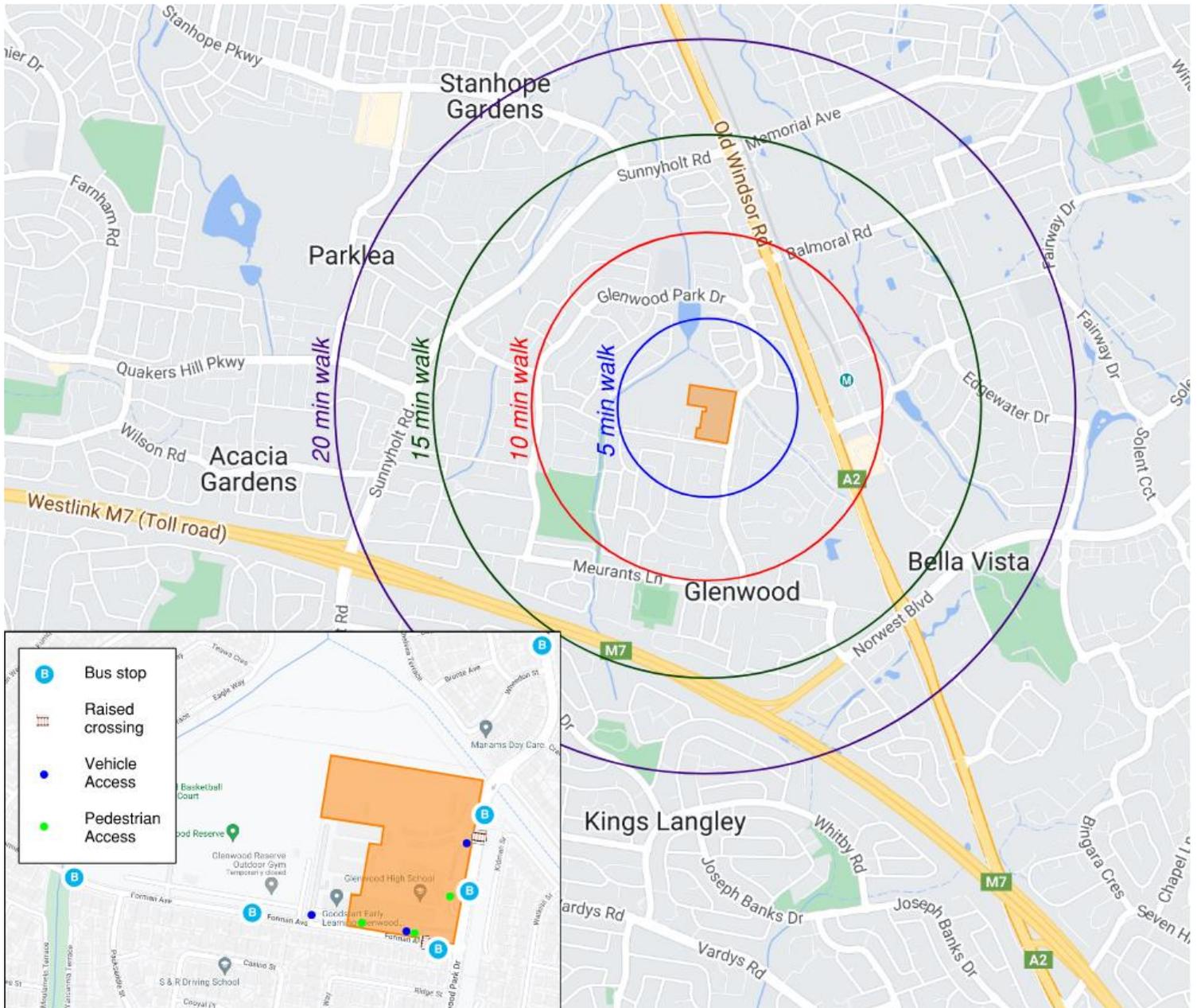
School Infrastructure NSW

Email: schoolinfrastructure@det.nsw.edu.au

Phone: 1300 482 651

www.schoolinfrastructure.nsw.gov.au

Local map: Active Travel



For more information contact:

School Infrastructure NSW

Email: schoolinfrastructure@det.nsw.edu.au

Phone: 1300 482 651

www.schoolinfrastructure.nsw.gov.au



Glenwood High School

Travel Access Guide

January 2024

Project overview

The Glenwood High School upgrade will support the growing student and community needs. The benefits of the project include:

- A new three-storey building to accommodate new learning spaces and an upgrade to the library
- A new performance pavilion, support unit and office space and storeroom

Using public transport to get to school

School buses and public buses



- All school bus routes as well as public bus routes 730, 735 and 745 operate from the bus bay on Glenwood Park Drive.
- Public bus routes 663, 745 and 616x operate from the bus stops on Forman Avenue.

Trains



- Blacktown Train Station is within 7km from the school and can be reached via bus route 730 in 25 minutes
- Bella Vista Metro Station is within 2km from the school and can be reached via bus routes 663, 730 and 745

Apply for a School Opal Card | School Term Bus Pass

- Students may be eligible for free or subsidised public transport under the School Student Travel Scheme.
- If a student does not qualify for free travel, you may be able to buy a School Term Bus Pass for discounted travel on buses.
- Visit <https://apps.transport.nsw.gov.au/ssts> to find out what public transport programs are available

Safety on Public Transport

For students

- Maintain a safe distance between you and the road when waiting for a bus
- Mind your step when getting on and off the bus or train
- Stand behind the yellow line on the train platform

For parents/ Carers

- Talk to your child about what to do if they get lost or you are running late to meet them at the bus stop or train station.
- When meeting your child at a bus stop, never call them across a road.

For more information contact:

School Infrastructure NSW
Email: schoolinfrastructure@det.nsw.edu.au
Phone: 1300 482 651
www.schoolinfrastructure.nsw.gov.au

Appendix B Conditions of Development Consent

Table 8.1: SSD consent conditions (SSD-9579147)

	Condition	Comments & references
D20	Prior to the commencement of operation, an STP must be submitted to the satisfaction of the Planning Secretary. The plan must:	
(a)	Be prepared by a suitably qualified consultant in consultation with Council and TfNSW.	<p>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 locations, and bus/loading zone operations.</p> <p>This document has been issued to Council and TfNSW for comments. Comments and the corresponding responses have been addressed in accordingly, and has been summarised in Table 1.1 and Table 1.2.</p> <p>Author CV's are attached at Appendix C.</p>
(b)	Include arrangements to promote the use of active and sustainable transport modes, including:	-
(b)(i)	Objectives and modes share targets (i.e. site and land use specific, measurable and achievable and timeframes for implementation).	<p>Section 2.1 – Visions and Objectives</p> <p>Section 2.2 – Mode Share Targets</p>
(b)(ii)	Specific tools and actions to help achieve the objectives and mode share targets.	<p>Section 3 – Policies and Procedures</p> <p>Section 5 – Transport Encouragement Programs</p>
(b)(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 – Data Collection and Monitoring
(c)	Include operational transport access management arrangements, including:	-
(c)(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.	<p>Section 4.1 – Site Access</p> <p>Section 4.2 – Active Transport Operations</p>
(c)(ii)	The location of all car parking spaces on the school campus and their allocation (i.e. staff, visitor, accessible, emergency, etc.)	<p>Section 4.5 – Car Parking</p> <p>Section 4.6 – Emergency Vehicle Operations</p>

	Condition	Comments & references
(c)(iii)	The location and operational management procedures of the drop-off and pick-up, parking, including staff management/traffic controller arrangements.	Section 4.4 – Pick-up and Drop-off
(c)(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 4.3 – Public Transport
(c)(v)	Delivery and services vehicle and bus access and management arrangements.	Section 4.7 – Service and Loading Vehicle Operation
(c)(vi)	Management of approved access arrangements.	Section 4.2 – Active Transport Operations Section 4.5 – Car Parking
(c)(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, including mitigation measures to minimise impacts, were assessed during the SSDA. Refer to the Transport and Accessibility Impact Assessment for traffic impacts. Mitigation measures include a new pedestrian entry, on-site cyclist facilities, and management of public transport and kiss & ride through a School Transport Plan. See also Section 4.4 – Pick-up and Drop-off
(c)(viii)	Car parking arrangements and management associated with the proposed use of school facilities by community members.	Section 4.6 – Car Parking
(d)	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 5 – Transport Encouragement Programs Section 8 – Governance Framework
(e)	A monitoring and review program.	Section 7.1 – Data Collection and Monitoring Section 7.2 – Program Evaluation

Appendix C CVs



Michael Babbage

Associate

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

Michael.babbage@ttw.com.au

Experience

2019 – 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
Denistone East Public School
Glenfield High School and SSPs
Glenwood High School
Hawkesbury Centre of Excellence
John Palmer Public School
Kent Road Public School
Melonba Primary School
Marsden Park High School & Primary School
Pendle Hill High School
Randwick TAFE
Richmond High School
Russell Lea Public School
Rydalmere Education Campus
Shore Physical Education Centre
Smalls Road Public School

Transport

Ashfield Commuter Car Park
Edmondson Park Commuter Car Park
Leppington Commuter Car Park
Merrylands Commuter Car Park
Penrith Commuter Car Park
St Marys Commuter Car Park

Community +Public

Australian Museum Redevelopment
Australian War Memorial
Lane Cove Sport & Recreation Precinct
Merrylands Civic Square
Mona Vale Surf Life Saving Club
NGV Contemporary
Powerhouse Precinct at Parramatta
Ryde Central
Sydney Football Stadium
Sydney Opera House
Thredbo Alpine Resort
Wagga Wagga PCYC
Wilberforce Avenue Car Park, Rose Bay

Aged Care

Edinglassie Village
Lark Ellen Aged Care
Opal Seaside, Warriewood
Pemulwuy Aged Care
RFBI Hawkins Village
SCC Cardinal Gilroy Village

Health

Bankstown-Lidcombe Hospital Emergency Department
Bulli Aged Care Centre of Excellence
Campbelltown Hospital Redevelopment Stage 2
Concord Hospital Redevelopment Stage 1
Hills Private Hospital
Lismore Hospital
Peninsula Private Hospital
Robina Medical Centre
SAN Clinic Parkway
Shellharbour Hospital Redevelopment
Shoalhaven Hospital
The Tweed Hospital
Wyong Hospital Redevelopment

Mixed Use Development

1 Eden Park Drive, Macquarie Park
10 Valentine Avenue, Parramatta
20 Berry Street, North Sydney
21 Harris Street, Pyrmont
60 Union Street, Pyrmont
118 Mount Street, North Sydney
Dicker Data Warehouse & Distribution Centre
Dural Business Park
Macquarie Exchange Precinct MQX4
NECA Training Facility, Chullora
Accommodation + Residential
61 Lavender Street, Milsons Point
105-115 Portman Street, Zetland
135 Queen Street, Woollahra
458-468 George Street, Sydney
700 George Street, Sydney
989-1015 Pacific Highway, Chatswood
Esplanade Norwest
Shell Cove Precinct C2

Your Partner in Engineering

Michael Babbage

What inspired you to become an engineer?

From a young age I had a keen interest in the big stuff – roads, bridges, dams, train lines – and hoped to eventually work in the field. Halfway through an engineering degree I worked out that structural engineering wasn't for me (so I'm thankful for the other experts at TTW) but the field of traffic and transport became much more appealing. Moving people around, getting from here to there, and the exciting possibilities of new and emerging technologies.

What is it about the industry that motivates you?

The joy of traffic and transport is that in each project we take on, the correct answer is never the same, and the challenge to find that correct answer each time is a great motivation. It's also motivating knowing that the solutions we develop will end up in the hands of (and under the feet of) residents, students, patients, families, and workers who are relying on our solutions in their daily lives. It's an intimidating challenge but a motivating one.

Residential

61 Lavender Street, Milsons Point
105-115 Portman Street, Zetland
135 Queen Street, Woollahra
137-143 Herring Road, Macquarie Park
700 George Street, Sydney
989-1015 Pacific Highway, Chatswood
Esplanade Norwest
Shell Cove Precinct C2
St Columba's Springwood Planning Proposal

Hotels + Colleges

Four Points by Sheraton, Darling Harbour
Moxy Sydney Airport Hotel
Sydney Airport Ninth Street 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
Public Domain
Martin Place Renewal Works
Mitchell Street Plaza, St Leonards
Parks for People – Belrose
Parks for People – Frenchs Forest



Paul Yannoulatos

Technical Director

BE(Hons) Grad Dip LGE CPEng NER

paul.yannoulatos@ttw.com.au

Experience

1996 – Current
Technical Director, TTW

1989 – 1996
Executive Engineer - Chief Engineer,
Botany Bay Council

1980 – 1989
Snr Design Engineer, Waverley
Municipal Council

1979 – 1980
Surveying Engineer, Denny Linker &
Co

1978 – 1979
Engineer Surveyor, Panos
Constructions Pty Ltd

Technical Director of Civil and Traffic Engineering at TTW, Paul Yannoulatos has a fervent approach to every project. His work is informed by his experience as a surveyor in local government before he transitioned to engineering in 1980. With 20 years at TTW, Paul's dedication has grown the TTW Civil and Traffic division to be a major player in NSW.

His expertise extends across a folio of sectors including industrial, commercial, education, government projects, expert witness, healthcare, public buildings, parks, residential, subdivisions, traffic and transportation.

Paul has outstanding long-term relationships with both the private and government sectors and has a collaborative approach to ensure that clients receive the target civil and traffic solution.

Accommodation

46 George Street, Sydney
Esplanade Norwest
Abbotsford/Concord – Department of
Housing accommodation
Crown on Palmer, Townsville
Shell Cove Precinct 2
UNSW – Kensington and Coogee
Colleges, Student Accommodation

Retail

Charlestown Square Shopping Centre
Gateway Plaza, Circular Quay
Lake Macquarie Fair Shopping Centre

Education

Gosford TAFE
CSU Wagga Campus civil and traffic
CSU National Life Sciences Hub
CSU Port Macquarie
USyd Darlington Public Domain
USyd Nanoscience
USyd St Paul's College
Loreto Normanhurst
Meridan School
Rydalmere Education Campus
Cumberland High School
Marsden Park High School
The Kings School
UNSW Bioscience Renewal
UNSW – Scientia (Great Hall), Dalton
Upgrade

Art + Culture

ANZAC War Memorial – new café and
car park
Luna Park – café, carpark and circus
tent
Sydney Football Stadium
Barangaroo Cutaway
National Art Gallery Melbourne

Commercial

Baxter Road Hotel Mascot
Revesby Workers Club
Resmed, Norwest Business Park and
Carpark
Riverside Corporate Park

Government + Public

Ryde Central
Lane Cove Council – River Road
improvement
City of Canada Bay Council – Blaxland
Road Marina
Warringah Council – traffic calming
NSW Department of Justice – Newcastle
Courthouse
Parramatta Museum
Taronga Zoo – Eco Retreat, Asian Exhibit
Merrylands Civic Square
Riverstone Village Masterplan
Sydney City Council – Small Parks projects
Queens Square Law Courts

Sports + Leisure

Dee Why Multipurpose Sports Centre
Strathfield Golf Course
Sydney Grammar Prep School, multi-
purpose sports court
Abbotsleigh School - multi-purpose sports
hall and hockey fields
Royal Sydney Golf Club
Land Cove Sports Centre

Paul Yannoulatos

What is so great about Civil and Traffic engineering?

It's a bit of everything. In these disciplines we get involved in a project very early in the master-planning phase so are able to develop a strong relationship with the client. I enjoy the planning, creativity and being able to influence and advise on a project to achieve the desired result.

Healthcare + Research

Southern Cross Care, Turramurra
Hammondcare - Cardiff, Miranda and Nerringah
UnitingCare - Belrose, Edinglassie Village
Allity Aged Care, Pemulwuy
Catholic Healthcare, Gorman Hill Bathurst
Estia Health - St Ives Development
Cardinal Freeman Village
Northern Beaches Hospital Masterplan
Hornsby Hospital
Newcastle Strategy – John Hunter, Belmont and Mater Hospitals
Royal Prince Alfred
Campbelltown Hospital
Wyong Hospital
Sutherland Hospital
The Tweed Hospital, Tweed Heads
Shoalhaven Hospital
Cowra Hospital
Bathurst Hospital

Accessways + Car Parks

TfNSW – Commuter Carparks – Blacktown, St Marys, Warwick Farm and Seven Hills
Sydney Port Operations at Port Botany
Macquarie University
Science and Humanities Campus, Canberra
Sanitarium Private Hospital
Nepean Hospital
American Embassy
Sydney Uni Carparks

Flood Mitigation

Dunmore Equestrian Centre – flood study
Flood Relief Villages – Ballina Coraki

Subdivision + Infrastructure

Berkeley Road, Wollongong – Industrial 20 lots
Dover Heights - residential 10 lots
Market Drive, Homebush – business 6 ha
IBC Technology Estate – commercial 8.5 ha
Endeavour Enterprise Taren Point - industrial 25 ha

Traffic and Transport

Transportation Study – Westmead Hospital Master Plan
Sydney Airport Ground Transport Interchange and Hotel
Wagga Wagga Transportation and Traffic Study
North Sydney CBD Access Study
Redfern Traffic Management Scheme
Ryde Traffic Management Study
Liverpool CBD – 40km/hr study
Camden Town Centre
St Vincent's Research and Biotechnology Precinct
Kings Avenue Bridge, Canberra
Balfour Park
Woolwich Function Centre
La Perouse – Loop road and park improvements
Ravenswood School for Girls
TfNSW – Commuter Car Parks - Blacktown, St Marys, Warwick Farm, Seven Hills, Granville

Appendix D Authority Consultation

Glenwood HS - School Transport Plans for Council comment - Blacktown City Council RSO remarks

Ian Faulks <Ian.Faulks@blacktown.nsw.gov.au>

Mon 22/01/2024 11:47 AM

To: Michael Babbage <michael.babbage@ttw.com.au>

Cc: Nadeem Shaikh <Nadeem.Shaikh@blacktown.nsw.gov.au>

You don't often get email from ian.faulks@blacktown.nsw.gov.au. [Learn why this is important](#)

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

Good morning Michael,

Here are my comments:

Student travel

Parent compliance with on-road parking outside schools at drop-off and pick-up is a continuing issue for BCC.

As part of the Travel Access Guide for Glenwood HS, expectations regarding the use of the kiss and drop zone on Forman Avenue, Glenwood are provided.

It would be appropriate to include a reminder in the Travel Access Guide for Glenwood HS that the kiss and drop zone is a No Parking zone and not a waiting area. Parents must use unrestricted parking away from the school boundary and in surrounding streets if they are waiting for a pick up, or if they wish to park and enter the school or talk with school staff during drop off times.

No Stopping zones are at intersections, pedestrian crossings, vehicle access points into the school, etc.. It would be appropriate to include a reminder in Travel Access Guide for Glenwood HS that no vehicle may stop in a No Stopping zone (or in a Bus Zone, e.g., on Glenwood Park Drive).

Additionally, BCC recommends that the Travel Access Guide for Glenwood HS includes a statement that drivers' parking in a No Stopping zone is a priority enforcement action for BCC enforcement rangers and for NSW Police, due to the high risk to road safety (school child pedestrians and cyclists, and other drivers)

BCC requests that No Stopping zones in the school precinct must be delineated by a continuous yellow pavement marking along the kerb, supported where considered appropriate by kerbside signage.

BCC has a range of educational materials that are available for use by the school, parent groups and student groups to promote and provide information about road safety and safe driving practices in the school precinct, including posters, brochures and toolbox talks.

Staff parking

BCC notes that a policy has been implemented to limit on-site parking for school staff: "On-site car parking is deliberately restricted and will be allocated and managed, encouraging staff to use alternative means of transport." (p.7)

As a result, BCC is concerned that staff will use unrestricted parking away from the school boundary and in surrounding streets, and this may impact on access and amenity for local residents and commercial premises.

BCC recommends that the school promote and provide information to school staff about safe and considerate use of parking in the school precinct.

For future contact on road safety-related matters, the RSO contact point should be the road.safety@blacktown.nsw.gov.au email.

Best regards, Ian



Ian Faulks
Road Safety Officer

5300 6000 | 0475 277 255
PO Box 63 Blacktown NSW 2148
blacktown.nsw.gov.au

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From: Michael Babbage <michael.babbage@ttw.com.au>
Sent: Wednesday, 17 January 2024 4:13 PM
To: Nadeem Shaikh <Nadeem.Shaikh@blacktown.nsw.gov.au>
Cc: Patel, Vipul <Vipul.Patel@jacobs.com>; Hugh Sterndale-Smith <Hugh.SterndaleSmith@det.nsw.edu.au>;
Joshua Stubbs <stubbsj@richardcrookes.com.au>; Joe Hanna <HannaJ@richardcrookes.com.au>; Amit Rampal
<Amit.Rampal@det.nsw.edu.au>; Morrison, Peter (AU) <Peter.Morrison2@jacobs.com>; Ivan Ip
<ivan.ip@ttw.com.au>; Transport <Transport@blacktown.nsw.gov.au>
Subject: Fw: John Palmer PS & Glenwood HS - School Transport Plans for Council comment

Hi Nadeem,

Thanks for taking my call just now. As discussed, see the below email in which we had sent across the two School Transport Plans (for John Palmer PS and Glenwood HS) for Council feedback. At the time we had sent Revision 2 of these documents, these have since been updated and I have attached Revision 3 to this email for your review and response.

The Revision 3 documents were issued to DPE late last year, and as I mentioned we have been requested by DPE to re-submit our updated documentation to them by this Friday 19th January. Amongst other things they have followed up on ensuring and including Council's responses for us to address, so if you are able to provide your response by COB tomorrow on Thursday 18th January (or early Friday AM) it would be great. You mentioned that you should be able to review and respond to the documents over the next day or two which is much appreciated.

If there is any other documentation you need or would like to discuss the attached, please let me know.

Cheers,
Michael



Michael Babbage | Associate (Traffic)

+61 2 9439 7288 | +61 2 8986 5530 | michael.babbage@ttw.com.au

TTW Engineers | Sydney

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From: Michael Babbage <michael.babbage@ttw.com.au>

Sent: Wednesday, 22 November 2023 9:52 AM

To: Nadeem.Shaikh@blacktown.nsw.gov.au <Nadeem.Shaikh@blacktown.nsw.gov.au>;

transport@blacktown.nsw.gov.au <transport@blacktown.nsw.gov.au>

Cc: Patel, Vipul <Vipul.Patel@jacobs.com>; Hugh Sterndale-Smith <Hugh.SterndaleSmith@det.nsw.edu.au>;

Joshua Stubbs <stubbsj@richardcrookes.com.au>; Joe Hanna <HannaJ@richardcrookes.com.au>; Paul

Yannoulatos <Paul.Yannoulatos@ttw.com.au>; Ava Tan <ava.tan@ttw.com.au>

Subject: John Palmer PS & Glenwood HS - School Transport Plans for Council comment

Hi Nadeem & Council team,

TTW have been working with School Infrastructure NSW and Richard Crookes Constructions on the current developments at **John Palmer Public School** (SSD-23330227) and **Glenwood High School** (SSD-23512960).

A **School Transport Plan** (STP) is required as a condition of development consent, specifically to address Condition D26 and Condition D20 for the projects, respectively. As part of these conditions, the STP is to be prepared in consultation with Council and TfNSW. As you would be aware, the project team worked closely with Council and TfNSW through the preparation of the transport strategy for this site including mode share targets, drop-off and pick-up locations, and bus/loading zone operations. To continue this consultation and seek further feedback, please find attached the latest STP for both schools, for which we are requesting any comments and feedback for incorporation into future revisions of these documents.

Could we please request any feedback as soon as possible, preferably by COB on Wednesday 29th November.

If you would like to discuss further or require any extra information, please don't hesitate to reach out.

Cheers,
Michael

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Ivan Ip

From: Development CTMP CJP <development.CTMP.CJP@transport.nsw.gov.au>
Sent: Friday, 24 November 2023 7:27 PM
To: Michael Babbage; Development Sydney; Development CTMP CJP
Cc: Patel, Vipul; Hugh Sterndale-Smith; Joshua Stubbs; Joe Hanna; Paul Yannoulatos; Ava Tan
Subject: Glenwood HS - School Transport Plan for TfNSW comment
Attachments: 231120 GHS School Transport Plan [2].pdf

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Dear Michael,

Thank you for the opportunity to provide comments on the School Transport Plan (STP) for the Glenwood High School. The TDM team have reviewed the STP prepared by TTW. and can offer the following comments.

Car parking: It is noted that a total of 118 car parking spaces are provided for staff across the school site, as well as on-street parking. An over supply of car parking, however, will encourage use of the private vehicle over other sustainable modes of public transport and active transport.

Car parking Management: Further, TfNSW recommend that management of the parking is considered including prioritising parking for those on a needs basis, for example that priority parking spaces are to be reserved, and well located, for those who carpool. Management of parking and carpooling initiatives are included in Section 5 – and a carpooling option for parking should be added.

Bicycle parking and End of Trip Facilities (EoT): The TDM team appreciate that bicycle parking spaces will be provided for staff and students, at a rate of 10% for students and 10% for staff. The TDM team also appreciates that EoT are to be provided for staff. The bicycle parking and EoT should also be included in the Travel Access Guide (TAG) including the amount and location of bicycle parking, TfNSW ask that any bicycle parking and EoT (including the provision of) should be monitored over time to ensure sufficient supply to encourage active transport both to/from and around the site. The bicycle parking should be located at convenient locations in the development, be safe, secured and under cover. Some further guidance on bicycle parking and end of trip facilities can be found in the [cycleway design toolkit](#).

Future mode shares: The TDM appreciates that short and long term mode share targets have been detailed in Table 2.1 (students) and 2.2 (staff). The student bicycle/scooter mode share remains unchanged and we would ask that this is increased for both the short and longer terms. Parents/guardian's could also be encouraged to drop off/pick up more than one child to ease the pressure on the PUDO facilities.

Travel Access Guide - TfNSW appreciates that a Travel Access Guide (TAG) has been included as Appendix A. The TAG will need to be further developed and updated on a regular basis as any more infrastructure comes into existence. For further helpful information – please check this link [How to Create a Travel Access Guide doc here](#). The TAG should also:

- Provide information advising staff, students and visitors about service routes and timetables for buses is available on the Trip Planner at transportnsw.info/
- Provide information advising staff, students and visitors that additional information about current cycling routes is available on the Trip Planner at transportnsw.info/
- Promote and provide information any car-pooling options, or parking management options.

Submission: The updated STP and TAG should be submitted to TfNSW for review prior to occupation.

Kind Regards,

Heather Trengove
Principal Transport Planner
Customer Journey Planning

T: 0481 482 667
231 Elizabeth Street, Sydney 2000
Note: I work Mon, Tue, Wed

OFFICIAL

From: Michael Babbage <michael.babbage@ttw.com.au>
Sent: Wednesday, 22 November 2023 9:53 AM
To: Development Sydney <Development.Sydney@transport.nsw.gov.au>; Development CTMP CJP <development.CTMP.CJP@transport.nsw.gov.au>
Cc: Patel, Vipul <Vipul.Patel@jacobs.com>; Hugh Sterndale-Smith <Hugh.SterndaleSmith@det.nsw.edu.au>; Joshua Stubbs <stubbsj@richardcrookes.com.au>; Joe Hanna <HannaJ@richardcrookes.com.au>; Paul Yannoulatos <Paul.Yannoulatos@ttw.com.au>; Ava Tan <ava.tan@ttw.com.au>
Subject: John Palmer PS & Glenwood HS - School Transport Plans for TfNSW comment

Some people who received this message don't often get email from michael.babbage@ttw.com.au. [Learn why this is important](#)

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Hi TfNSW team,

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If you would like to discuss further or require any extra information, please don't hesitate to reach out.

Cheers,
Michael



Michael Babbage | Associate (Traffic)

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