

# Construction Traffic Management Plan

## The King's School

Prepared for The King's School C/TSA Management Pty Ltd

2 November 2023

221272

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## Section 1 Introduction

### 1.1 Background and Scope

TTW has been engaged by The King's School c/o TSA Management Pty Ltd to provide traffic and transport consultancy services for the proposed development of The King's School.

This Construction Traffic Management Plan (CTMP) has been prepared to ensure the safe and efficient management of traffic associated with the proposed development. Educational and residential buildings are being constructed, alongside the upgrade and construction of internal roadways.

The objective of this CTMP is to provide The King's School and TSA Management with a comprehensive strategy for the management of construction traffic during the development, including both on and off-site movements. The plan considers the potential impacts of construction traffic on surrounding roads and pedestrians, and outlines measures that can be implemented to minimise these impacts. The plan also includes a comprehensive review of the proposed traffic management measures, including traffic management plans, traffic control measures, and safety measures to be implemented during the construction phase.

As part of TTW's commitment to safety and compliance, this plan has been prepared in accordance with the relevant standards and guidelines, including:

- Australian Standards
  - AS2890 – Parking facilities
  - AS1742 – Manual of uniform traffic control devices
  - AS1428 – Design for access and mobility
- Austria's Guidelines, including:
  - Guide to Traffic Management
  - Guide to Road Design
  - Guide to Road Safety
- RTA Guide to Traffic Generating Developments
- NSW Planning Guidelines for Walking and Cycling

Additional documentation reviewed from relevant local jurisdictions includes:

- Parramatta Development Control Plan 2023 (DCP 2023)
- Parramatta Local Environmental Plan 2011 (LEP 2011)

Furthermore, this plan has been developed to comply with the Secretary's Environmental Assessment Requirements (SEARS) for the site and to support the state significant development application (SSDA) for the project. Transport for New South Wales (TfNSW) also provided specific comments outlined in an email dated 22/03/2023. The SEARS and TfNSW specific comments are detailed overleaf in Table 1.1.

**Table 1.1 Response to SEARS and TfNSW – Concept Proposal**

SEARS	Section Reference
Provide a Construction Traffic Management Plan detailing predicted construction vehicle routes, access and parking arrangements, coordination with other construction occurring in the area, and how impacts on existing traffic, pedestrian and bicycle networks would be managed and mitigated.	This report
TfNSW Request for Information (as per 22/02/2023 email)	Section Reference
The preparation of a preliminary Construction Pedestrian and Traffic Management Plan (CPTMP) to demonstrate the proposed management of the impact in relation to construction traffic addressing the following: <ol style="list-style-type: none"> <li>i. Assessment of cumulative impacts associated with other construction activities (if any)</li> <li>ii. An assessment of road safety at key intersection and locations subject to heavy vehicle construction traffic movements and high pedestrian activity.</li> <li>iii. Details of construction program detailing the anticipated construction duration and highlighting significant and milestone stages and events during the construction process.</li> <li>iv. Details of anticipated peak hour and daily construction vehicle movements to and from the site.</li> <li>v. Details of on-site car parking and access arrangements of construction vehicles, construction workers to and from the site.</li> <li>vi. Details of temporary cycling and pedestrian access during construction.</li> </ol>	<ol style="list-style-type: none"> <li>i. Refer Section 4.6</li> <li>ii. Refer Section 6</li> <li>iii. Not yet known – to be provided by contractor in future CTMP.</li> <li>iv. Refer Section 2.1</li> <li>v. Refer Section 3.3</li> <li>vi. Refer Section 4.2</li> </ol>

It is important to note that this plan is considered preliminary in nature. The plan will be subject to ongoing review and revision, any changes to the plan will be communicated to the relevant parties as necessary. This plan should also be read in conjunction with the Transport and Accessibility Impact Assessment (TAIA) prepared for the SSDA.

## 1.2 Project Overview

The King's School is located at 87-129 Pennant Hills Road, North Parramatta. The site has an area of approximately 115 hectares and is located within the City of Parramatta local government area (LGA).

This State Significant Development Application (SSDA) seeks consent for the staged redevelopment of The King's School, including:

- Concept Proposal for the provision of new and upgraded facilities, including:
  - Building envelope for a new Sports Pavilion within the western sports field precinct (subject to further detailed approval).
  - Building envelope for a new Boarding House within the northern residential precinct to the north of the Doyle Sports Fields and adjacent building envelope for Staff Quarters (subject to further detailed approval).
  - Building envelope for a new Day Boy House between Dalmas House and Burkitt House, including the associated relocation of Rylie Road (subject to further detailed approval).
  - Earthworks and the associated demolition of existing buildings and structures, and removal of trees and landscaping.
  - Staged increase in staff and student numbers.
  - Detailed Stage 1 works (as outlined below).

- Detailed Stage 1 works, including:
  - Earthworks and the associated demolition and existing buildings and structures.
  - Traffic upgrade works including the construction of a new vehicular entrance into the site from Masons Drive, new drop-off pick up facilities, internal access roads and increased car parking and bus parking.
  - The construction of a new Staff Residence Building comprising residences for staff and their families within the Senior School Boarding Precinct.
  - The construction of a new building for Science, Technology, Engineering, Arts and Maths (the 'STEAM building') within the Senior School and associated landscaping.
  - The staged construction of new buildings required to upgrade the Preparatory School, including:
    - Construction of a new Performing Arts and Music Centre comprising a dedicated performance space and music practice rooms to the northwest of Horrocks Road.
    - Construction of a new General Learning Unit building comprising additional classrooms / general learning spaces adjacent to the existing dam.
    - Upgrades to pedestrian access throughout the school.
    - Staged increase in staff and student numbers.
  - The removal and replacement of trees and associated landscaping.

## Section 2 Construction Vehicle Movements

At present, the specific construction vehicle movements necessary to service the site are uncertain, as no contractor has been appointed yet, and a detailed construction methodology has not been established. However, based on the site's constraints, existing connections, and proposed new works, initial estimations can be made. Once a contractor is appointed, and a comprehensive construction methodology is developed, these estimations will be further refined and incorporated into a later revision of this plan.

### 2.1 Construction Vehicle Volumes

#### 2.1.1 Heavy Vehicles

It is anticipated that the volume of construction vehicle traffic to and from the site would be comparable to that of similar educational institution development projects within the State of New South Wales (NSW). Sample data from other projects is presented in Table 2.1 for reference purposes only, more precise data will be supplied by the nominated contractor prior to the commencement of construction.

**Table 2.1: Construction Vehicle Volumes at Similar Construction Sites**

Project	Peak # of Trucks per Day	Typical Vehicles per Day	Maximum Vehicle Length (m)
Pendle Hill High School	20	6 – 8	20
John Palmer Public School	6	6	20
Smalls Road Public School	30	2 – 8	20

Based on the above details provided in Table 2.1 it has been estimated that the maximum number of truck vehicle trips will be in the order of 20-30 trips (10-15 in and 10-15 out). These movements will be spread across a typical 10-hour work day and are therefore considered to have a negligible impact on the surrounding road network.

#### 2.1.2 Light Vehicles

It is expected the proposed development will also generate traffic from light vehicles for staff commuting to / from the site. The use of public transport and car-pooling will be actively encouraged to reduce the reliance on private vehicles, ensuring that any minor parking demands do not detrimentally impact the surrounding road network.

It has been estimated that a maximum of 100 workers will be on-site at any one time. Given the location of the site and its close proximity to public transport the following is noted:

- Approximately 20% of workers are expected to utilise alternative modes of transport for journeys to / from the site, including public and active transport.
- An average car occupancy of 2 persons / car is expected for workers travelling to / from the site in a private vehicle.

It is evident from the above that the expected maximum car parking demand will be in the order of 40 car spaces throughout construction. Any contractors that drive a private vehicle to the site shall be required to park within a designated on-site area. Accordingly, all contractor parking demands will be accommodated on-site with no reliance on on-street parking.

## 2.2 Construction Vehicle Types

The typical vehicle types anticipated for the project are Medium and Heavy Rigid Vehicles (MRV and HRV) with a length of approximately 8 to 12.5 metres. Occasionally, semi-trailers up to 20 metres in length may be utilised for larger materials and equipment transportation.

The deployment of specialised vehicles may be necessary for specific tasks, including tower crane assembly and dismantling, which would require individual approval.

## 2.3 Construction Vehicle Routes

Construction vehicles should primarily use the main road network, including motorways and arterial roads, whenever possible, except when it is necessary to reach the construction site.

The M4 motorway, located approximately 8 kilometres south of the site, is the nearest motorway facility. It is anticipated that a considerable proportion of vehicles transporting equipment or materials to the site could utilise the M4, which serves as the primary connection to many regions in southern, western, and eastern Sydney. Access to and from the M4 can be obtained through Pennant Hills Road.

As an alternative option, the M2 motorway, situated roughly 5 kilometres north of the site, could be utilised. It is anticipated that vehicles coming from north-west or north-east Sydney, or from any location north of Sydney, would be inclined to use the M2 for access. Connections from the M2 are also available via Pennant Hills Road.

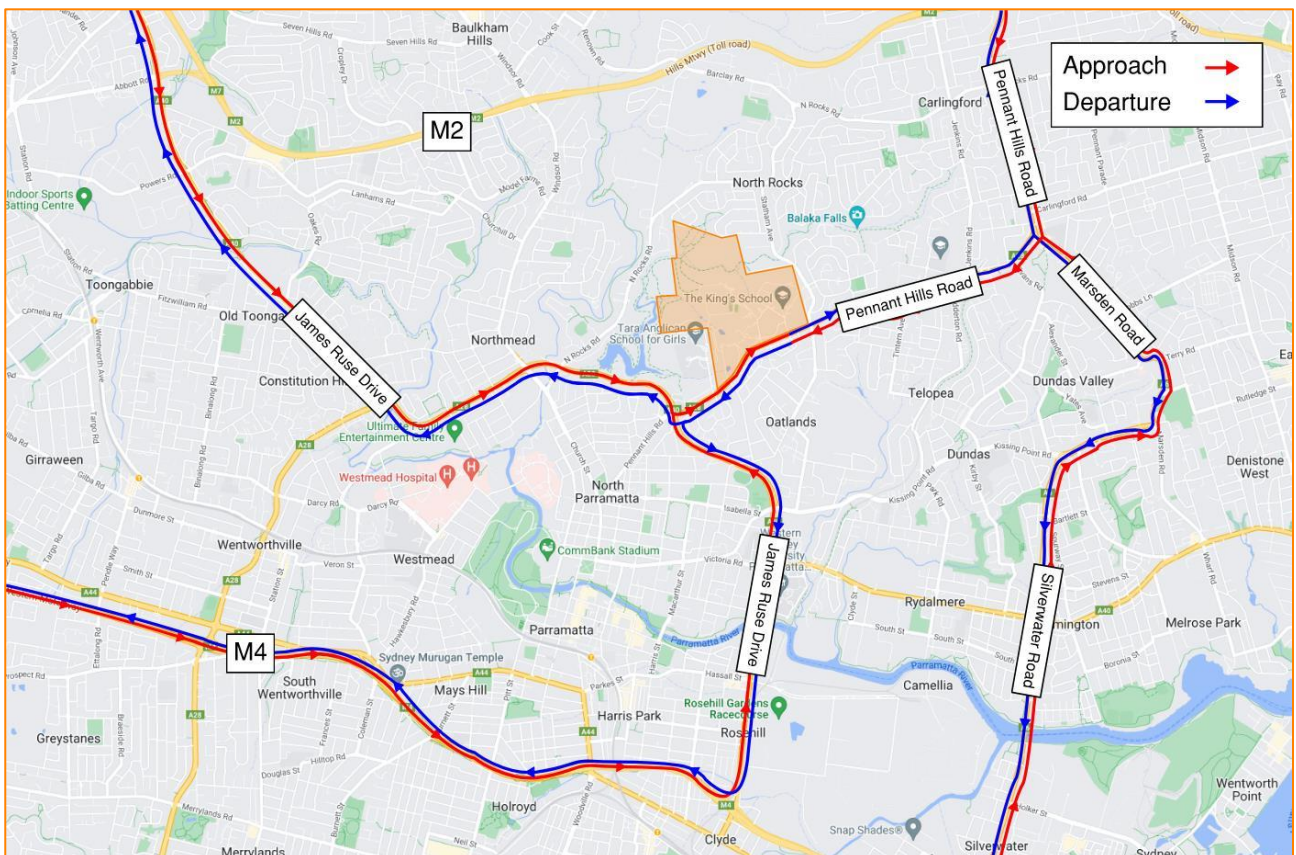


Figure 2.1 Vehicle Routes

Source: TTW

- Approach

- **From East:** Approach to Pennant Hills Road eastbound from Marsden Road or Pennant Hills Road

*Note: Can only access via Mason's Drive and Russell Road*

- **From West:** Approach to Pennant Hills Road westbound from James Ruse Drive eastbound and westbound

- Departure:

- **From East:** Depart via Pennant Hills Road to Marsden Road or Pennant Hills Road
- **From West:** Depart via Pennant Hills Road to James Ruse Drive eastbound and westbound.

*Note: Cannot depart via school access due to kerb*

## Section 3 Access Arrangements

### 3.1 Site Access

Currently, the principal vehicular ingress and egress points are Russell Road and Wade Road. Access to and from Russell Road can be accessed by vehicles travelling in both directions of Pennant Hills Road. Similarly, Wade Road can be reached via Pennant Hills Road, but with left-in and left-out movements exclusively.

As part of the proposed development, new access will be provided for vehicles, pedestrians and cyclists at Mason Drive through Tara Anglican School for Girls, located at west of the campus (see Figure 3.1).

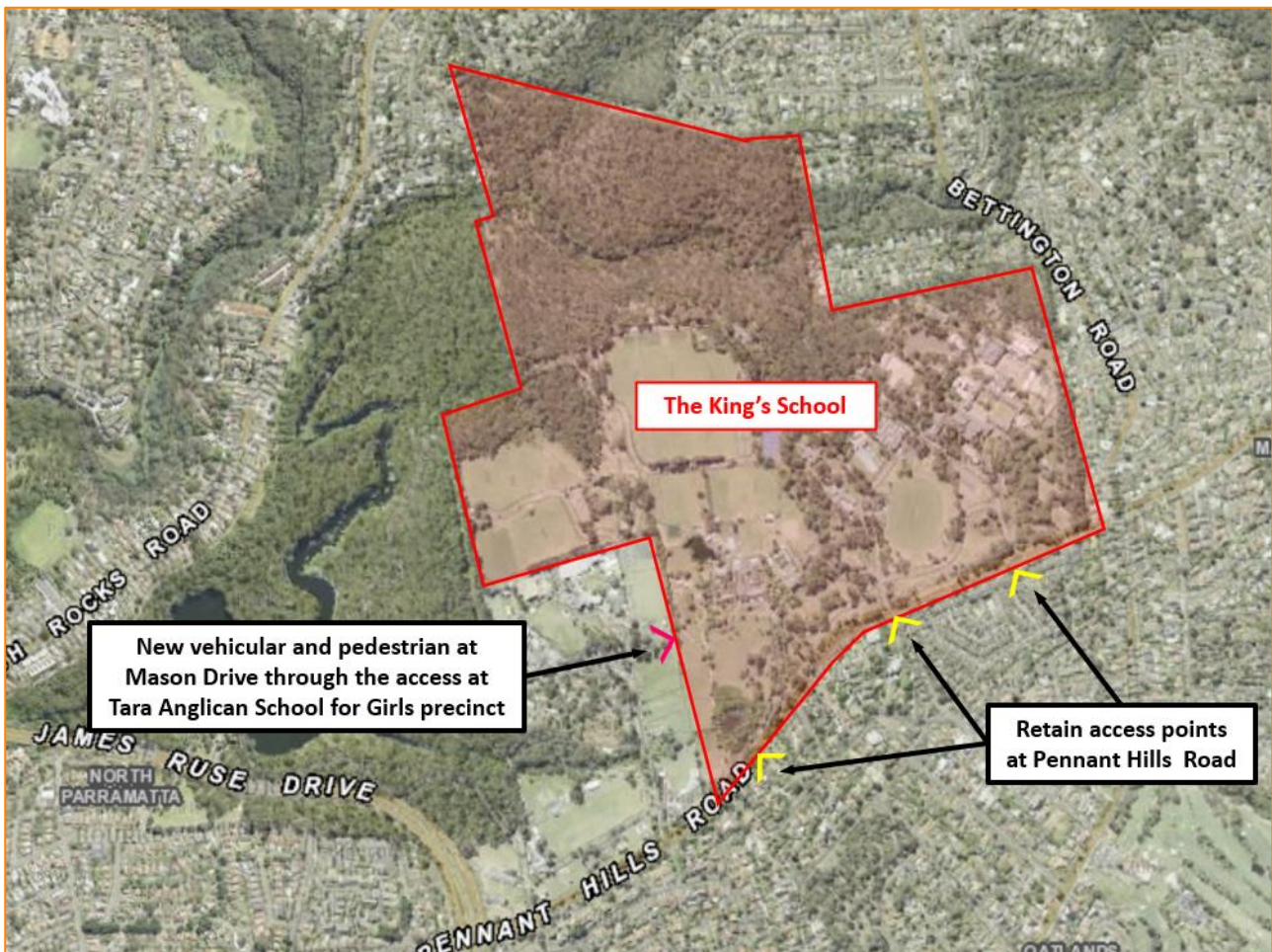


Figure 3.1 Proposed Site Plan

Source: TTW

During Stage 1 construction vehicle access will be provided via the existing Russell Road and Wade Road site accesses. It is anticipated the majority of construction vehicles will utilise the Russell Road Site access given its more formal arrangement.

Once the new vehicle access on Mason Drive has been constructed it is anticipated a large portion of construction vehicles will utilise this access. Construction vehicles through this access points will be time restricted to maintain safe operation and reduce congestion surrounding Tara Anglican School for Girls and The King's School.

### **3.2 Construction Vehicle Parking**

The parking arrangements for construction vehicles will be subject to change depending on the project's stage of construction. Nevertheless, all vehicles will be parked within the site, and no construction vehicle parking will be permitted on the road network. There is no expectation of requiring a Works Zone for the project.

Construction vehicles, irrespective of their size, may also be parked in the internal courtyard of the site, subject to the completion of works in the area and their staging.

### **3.3 Construction Worker Parking**

As previously mentioned, any contractors that drive a private vehicle to the site shall be required to park within a designated on-site area, this area will be discussed with the school and confirmed in the detailed CTMP. Accordingly, all contractor parking demands will be accommodated on-site with no reliance on on-street parking.

## **Section 4 Construction Impact and Coordination**

### **4.1 Neighbouring Construction Projects**

#### **4.1.1 Parramatta Light Rail**

Stage 1 of the Parramatta Light Rail (PLR) is expected to open in 2024. Major construction works are predominantly completed at time of writing, including full completion of track construction and the Active Transport Link. On-track testing of the light rail vehicles is expected to commence in mid-2023. The PLR project is likely to be fully completed and operational, or at least in final commissioning phases, prior to the commencement of construction in 2024. Therefore, there shall be no cumulative impact of construction traffic associated with each of the projects.

Stage 2 of the Parramatta Light Rail is currently in its development application process (SSI-10035) and preparing the Response to Submissions at time of writing. Subject to approval being granted, Transport for NSW expects that main construction works would start in mid-2025 and continue through until 2030/2031. The alignment of the Stage 2 works is generally located at some distance away from the proposed site and there are not expected to be any cumulative impacts in the immediately local area. However, there will likely be an overlap of construction traffic on the major road networks during late 2025 to early 2026. Given that this cumulative impact would occur on the major road network (i.e. motorways and arterials), this is not expected to create any undue impacts. Additionally, this overlap period would be during the late stages of construction, at which point the vehicle types are expected to be smaller and therefore create less impact.

#### **4.1.2 Sydney Metro West**

Sydney Metro West will provide a new underground railway between Westmead and the Sydney CBD. Two construction sites will be created nearby The King's School, including the Parramatta CBD station and the Clyde stabling and maintenance facility. The Parramatta station site is like located approximately 4 kilometres away, while the Clyde site is situated roughly 6 kilometres away. Thus, they are unlikely to generate direct local cumulative impacts.

### **4.2 Pedestrians and Cyclists**

The footpaths in close proximity to the site will continue to operate. To prioritise the safety of pedestrians, the majority of construction vehicle movements will be scheduled outside of peak hours. As a result, it is improbable that any pedestrian facilities near the site will be disrupted by construction traffic. Access for pedestrians along Pennant Hills Road and Mason Drive will be preserved during all stages of the project, thus the proposed construction works will have minimal influence on pedestrian activities in the surrounding area.

In order to guarantee the safety of nearby pedestrians and cyclists who use Pennant Hills Road, the construction site will be enclosed with a combination of temporary fencing, chain wire fencing, and palisade fencing along all boundaries. This will ensure the safety of all passing traffic, including pedestrians and cyclists, at all times. To regulate access to and within the construction site, various suitable traffic measures, including signage, portable boom barriers, and barriers, will be implemented.

### **4.3 Public Transport and Infrastructure**

There are no intended alterations or consequences for the current local public transport routes and services. While these routes may be slightly affected by the presence of additional truck movements, it is improbable that they will cause any delays on local roads or have any knock-on effects on other streets.

On infrequent occasions when particularly large vehicles are required to access the site, some mounting or crossing of public kerbs and medians may be necessary. The contractor shall repair any damage to this infrastructure if large vehicles are required to mount the devices. Any other road markings damaged as a result of vehicles associated with the construction shall be repaired as a responsibility of the contractor.

## 4.4 Emergency Services and Vehicles

Emergency services access to all adjacent properties will be maintained under the existing conditions, the contractor shall assure that emergency vehicles can access neighbouring properties and site surroundings without any issues.

## 4.5 General Coordination

Once identified, the site manager will be responsible for establishing communication with the managers of any neighbouring construction projects. It is essential that communication is maintained across sites to ensure:

- Overall project programs are identified and shared.
- High-volume days or periods (such as concreting) are communicated, and where possible are coordinated to avoid excessive impact to the road network.
- Oversize / over-mass delivery days are to be communicated, and where possible are to be coordinated to avoid excessive impact to the road network.
- Traffic control measures (including Traffic Guidance Schemes) are shared if they are relevant to construction vehicle routes for surrounding projects.

## 4.6 Cumulative Impacts

Subject to the construction program being finalised, Council and Transport for NSW would be contacted for information relating to other developments in the area which may be impacted by the construction traffic.

It is anticipated that construction vehicle movements would occur outside of school peak periods when traffic is generally at lower levels. These items would be considered in the detailed construction traffic planning for the site.

The potential and cumulative impacts of neighbouring projects are considered and consolidated in Table 4.1.

**Table 4.1: Neighbouring Construction Projects**

No.	Project name	Development Application no. / Application Status
1	Upgrades to Carlingford West Public School and Cumberland High School	SSD-43065987 – Under assessment
2	Teloepa Concept Plan and Stage 1A	SSD-14378717 – Under assessment
3	BaptistCare Carlingford - Seniors Housing	SSD-33631237 – Under assessment

It is acknowledged that construction projects listed may coincide with the school's construction program. The following external construction projects would result in potential for cumulative impacts:

- Upgrades to Carlingford West Public School and Cumberland High School

- As this project is for construction works on existing school sites, construction vehicle movements are expected to be focused outside of school hours (to address student safety). The expected peak vehicles are potentially up to 50 per day, or typically up to 10 per day.
- Telopea Concept Plan and Stage 1A
  - The state road that the heavy rigid vehicles will be operating on is along Kissing Point Road instead of Pennant Hills Road. As this project does not utilise the same state road, the construction traffic impacts will be negligible.
- BaptistCare Site – 264-268 Pennant Hills Road
  - The proposed works may generate some cumulative volumes of construction traffic, however given that the BaptistCare site is immediately adjacent to the state road network (Pennant Hills Road), this traffic is likely to be readily distributed into the broader road network with reduced local impacts. The cumulative impact of the project is therefore considered to be reasonable. The temporary construction traffic volumes for that site are also expected to be lower than the operational volumes, which would occur for the life of the project.

Overall, these projects are anticipated to not significantly affect the local traffic and the school's construction. The cumulative construction traffic impact will be acceptable.

## Section 5 Impact Management and Mitigation

### 5.1 Road Network Impacts

The potential impacts to the road network, and associated mitigation measures, are detailed in Table 5.1

**Table 5.1: Construction Impacts to the Traffic Network**

Impact	Mitigation Measures
Construction vehicles conflicting with general traffic and PUDO school vehicles.	All construction vehicle movements will be scheduled to occur outside the school PUDO periods.
Construction vehicles traveling on the local road network.	Specific truck routes have been detailed in Section 2.3. These are the most direct to / from the arterial road network ensuring that impacts are mitigated as much as possible. These routes will also be provided to all drivers prior to attending the site.
Construction vehicle deliveries.	All construction vehicle deliveries will be contained to the designated area on-site. No deliveries will occur on-street.

### 5.2 Pedestrian Impacts

The potential impacts to the pedestrian network, and associated mitigation measures, are detailed in Table 5.2.

**Table 5.2: Construction Impacts to the Pedestrian Network**

Impact	Mitigation Measures
Construction works may obstruct pedestrian footpaths.	Traffic Guidance Scheme (TGS) will be developed to demonstrate the proposed signage and traffic management measures to be adopted for each stage / phase of the construction works and will ensure that pedestrian and cyclist movements are managed safely and efficiently.
The school will be in operation during construction works.	All footpaths will be fully separated from the construction site by fencing. Students and staff will be informed of the construction works and warning signs will be enforced.

### 5.3 Overall Mitigation Measures

In summary, mitigation measures for the construction site will include:

- Traffic and pedestrian control to be provided at construction zones within the site to maintain safe operations.
- Traffic Guidance Schemes (formerly Traffic Control Plans) to be prepared wherever necessary.
- Construction Worker Transportation Strategy to be developed.
- Driver Code of Conduct to be developed.

## Section 6 Hazards and Risks

The following hazards and risks have been identified in Table 7.1, with a summary of mitigation actions as listed.

**Table 7.1: Risk Assessment**

Hazard/ Risk	Mitigation Measures
<p><b>General Traffic / Construction Vehicle Interaction</b></p> <p>General public traffic along Pennant Hills Road and internal school roads would share the roads with construction vehicles.</p>	<p>Construction vehicle movements will be restricted to operate outside school pick-up and drop off times to avoid vehicle conflict.</p> <p>Traffic guidance schemes will also be prepared which will include advanced warning signage showing that construction vehicles are active in the area.</p>
<p><b>Pedestrian Activity Near Construction Site</b></p> <p>School activities will be on-going during construction works.</p>	<p>All footpaths will be fully separated from the construction site by fencing.</p> <p>Students and staff will be informed of the construction works and warning signs will be enforced.</p>
<p><b>Protection of Workers from Moving Vehicles</b></p> <p>The construction area will accommodate a loading / unloading area which will facilitate moving vehicles.</p>	<p>A designated pedestrian route is required to ensure separation between construction worker movements and construction vehicles.</p>

## Section 7 Conclusion

This Construction Traffic Management Plan (CTMP) has been developed to provide a comprehensive approach to managing the traffic impacts of The King's School's development project. The plan has been developed in consultation with The King's School and TSA Management to ensure that the project is delivered with minimum disruption to the surrounding community.

The CTMP provided an overview of the proposed construction activities and their associated traffic impacts. It also outlines the measures that will be implemented to manage the flow of traffic, minimise congestion, and ensure the safety of pedestrians, cyclists, and motorists in and around the project site.

The key elements of the CTMP include traffic management strategies, site access arrangements, parking and loading arrangements, and public transport provisions. The plan also included a risk assessment of potential hazards and proposed mitigation measures.

By following the measures outlined in this sub-plan, which will be further developed and confirmed by a contractor once appointed, construction traffic impacts on the surrounding road network will be minimised and are considered to be acceptable.