

# WILLYAMA HIGH SCHOOL

## Transport and Access Impact Assessment



**NSW Department of Education**

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# 1. INTRODUCTION

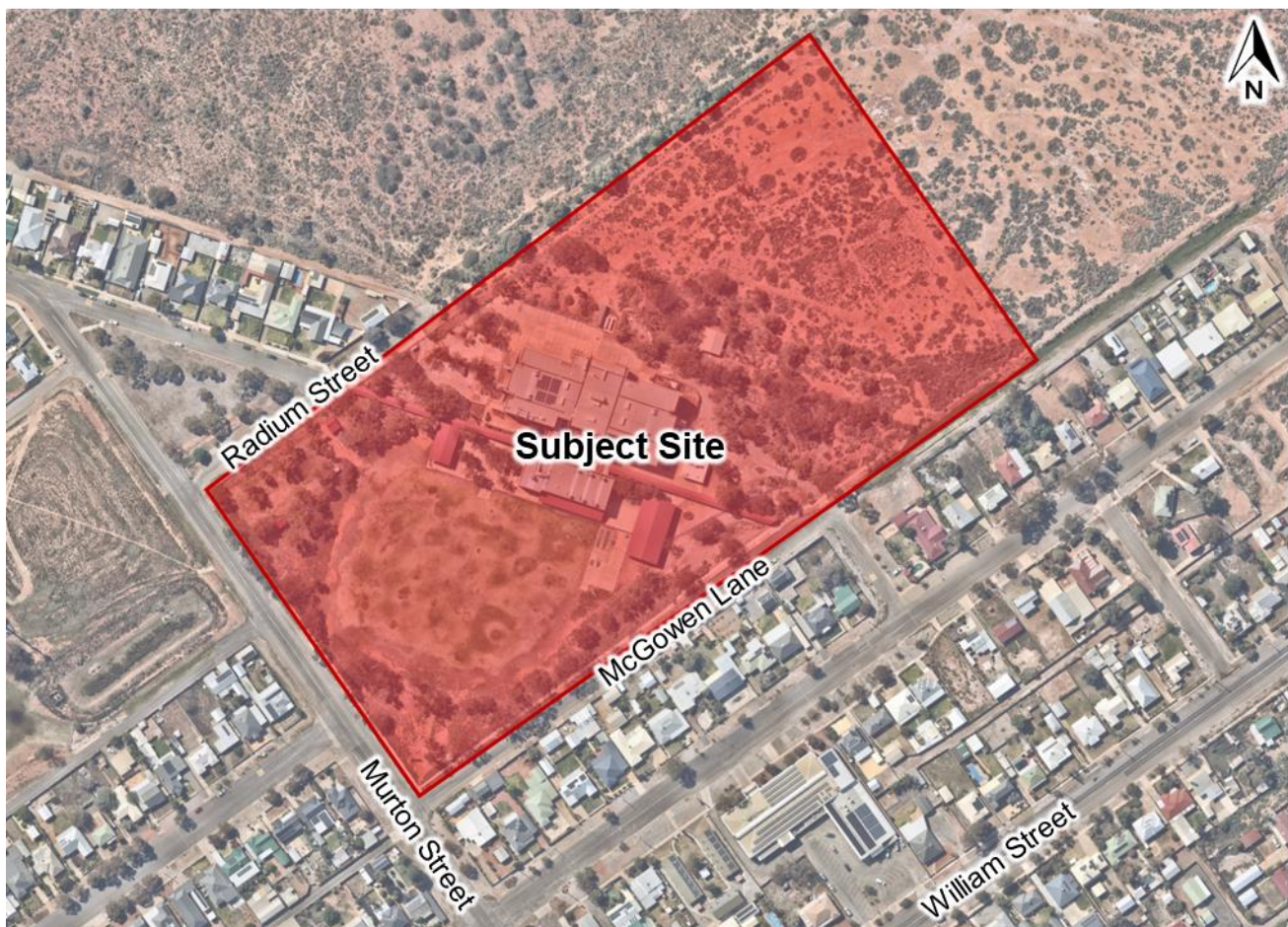
## 1.1 Background

This Transport and Access Impact Assessment (TAIA) has been prepared by Bitzios Consulting (Bitzios) on behalf of the NSW Department of Education (DoE) (the Applicant) to assess the potential internal and external transport and access impacts that could arise from the Willyama High School (WHS) redevelopment (the activity). The need for the redevelopment has arisen from the findings of black mould throughout campus buildings after a heavy rain event during the 2023/2024 summer holiday period. As such, the existing school infrastructure is to be demolished and replaced with the new facilities.

The report accompanies a Review of Environmental Factors (REF) that seeks approval for the redevelopment of Willyama High School (WHS). The purpose of the REF is to assess the potential environmental impacts of the activity prescribed by *State Environmental Planning Policy (Transport and Infrastructure) 2021* (T&I SEPP) as “development permitted without consent” on land carried out by or on behalf of a public authority under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The activity is to be undertaken pursuant to Chapter 3, Part 3.4, Section 3.37 of the T&I SEPP. This document has been prepared in accordance with the Guidelines for Division 5.1 assessments (the Guidelines) by the Department of Planning, Housing and Infrastructure (DPHI) as well as the *Addendum Division 5.1 guidelines for schools*.

WHS is located at 300 Murton Street, Broken Hill, NSW, 2880 (formally described as Lot 5858 on DP757298) and has an approximate area of 8.1ha. The existing site context is shown in Figure 1.1.

Development plans are provided in **Appendix A**.



Source: NearMap accessed 14/02/2025

**Figure 1.1: Subject Site Location**

## 1.2 Scope and Significance of Environmental Impacts

This TAIA includes the following components:

- A review of the existing transport conditions including drop-off / pick-up arrangements, pedestrian and cycling facilities, public transport facilities and connectivity surrounding the subject site
- A review of the existing transport planning documents
- A transport assessment of the development's student enrolment catchment and travel modes
- A review of historical crash data
- Assessment of the existing and proposed access arrangements for vehicles and servicing
- Assessment of the development's car and bicycle parking provision
- Assessment of the on-site parking layout, access, servicing and refuse collection requirements.

Based on the identification of potential impacts and an assessment of the nature and extent of the impacts of the proposed development, it is determined that all potential impacts can be appropriately mitigated to ensure that there is minimal impact on the locality, community and/or the environment.

Importantly, the assessment of the transport impacts of this school needs to be put into context, including:

- The project is a facility improvement project and while this would allow the school to cater for up to 730 students (130 student increase from previous enrolments) it is not expected there will be an increase the enrolments within the next 10 years of operation
- Transport facility improvements are proposed to respond to historic issues and deficiencies

## 1.3 Stakeholder Engagement

In preparation of this Transport and Access Impact Assessment (TAIA), key transport stakeholders were consulted including representatives from Broken Hill City Council (Council), School Infrastructure NSW (SI) and Transport for New South Wales (TfNSW). This was undertaken as part of a Transport Working Group process.

Key items from the stakeholder engagement are as follows:

- Consultation meeting occurred with Council on 19 February 2025 which discussed the proposed school redevelopment and the associated transportation considerations
  - Bitzios noted the existing conditions for site location and access, and discussed the student analysis based on current student enrolments
  - Council queried how the school redevelopment planned to increase bus mode share targets
  - Bitzios and SI advised that bus uptake would be driven by educational programs and campaigns directed by the school
  - TfNSW queried how crossing form would be determined as part of the alternate transport provisions
  - SI advised that Council has delegation to install pedestrian crossings without prior approval granted by TfNSW
  - SI queried if bus routes will be reassessed upon reopening of WHS campus, or if previous routes will be reinstated
  - TfMSW advised no budget exists for uplifting services, and services will subsequently have to work to also service other schools.
- Consultation meeting occurred with Council on 1 April 2025 which discussed the STP and associated mode share targets, several public domain works items (crossings and kiss'n'drop provision) and general transportation access considerations
  - TfNSW queried how bus mode share will increase if bus operations are to return to business as usual (BAU) following the WHS campus reopening
  - Bitzios advised bus uptake would be driven by educational programs and campaigns directed by the school
  - TfNSW queried the location of the proposed bus zone, noting it was optimally located for the existing school

- SI noted the new main entrance still maintains proximity to the proposed bus zone. Furthermore, Bitzios advised that provision of a covered walkway bus waiting area will be considered
  - Council expressed desire for a Road Safety Audit to be conducted during the REF assessment period for the proposed pedestrian crossing locations and associated public domain changes
  - SI advised the public domain works provisions (crossings and kiss'n'drop provisions) will not form part of the REF
  - Bitzios advised public domain works provisions will be a recommendation of the TAIA, which will be lodged as part of the REF
  - Bitzios noted no current formal kiss'n'drop is provided at the existing WHS campus
  - TfNSW queried if Murton Street could support the provision of a bus stop, noting a regular bus route may service this road in the future
  - Bitzios advised several challenges with providing a bus stop along Murton Street proximal to the WHS campus. One challenge mentioned is having a bus stop fronting the WHS campus along Murton Street would require buses to loop or perform another circuitous movement. TfNSW also mentioned that bus operators have expressed concerns regarding operating buses proximal to kiss'n'drop facilities
  - Council is generally accepting of proposed parking provisions (which was confirmed subsequent to the TWG through the matter being discussed at the Broken Hill Council's Local Traffic Committee
  - SI mentioned a potential for an on-street loading bay or PWD/accessible parking spaces provided on-street.
- A further consultation meeting with TfNSW Bus Service Planning was held on 7 May 2025 to close out bus servicing concerns raised during TWG#02. TfNSW confirmed that existing bus stops and services at WHS would be retained. Additionally, potential bus opportunities or new routes via Murton Road are to be explored further as part of the STP process.

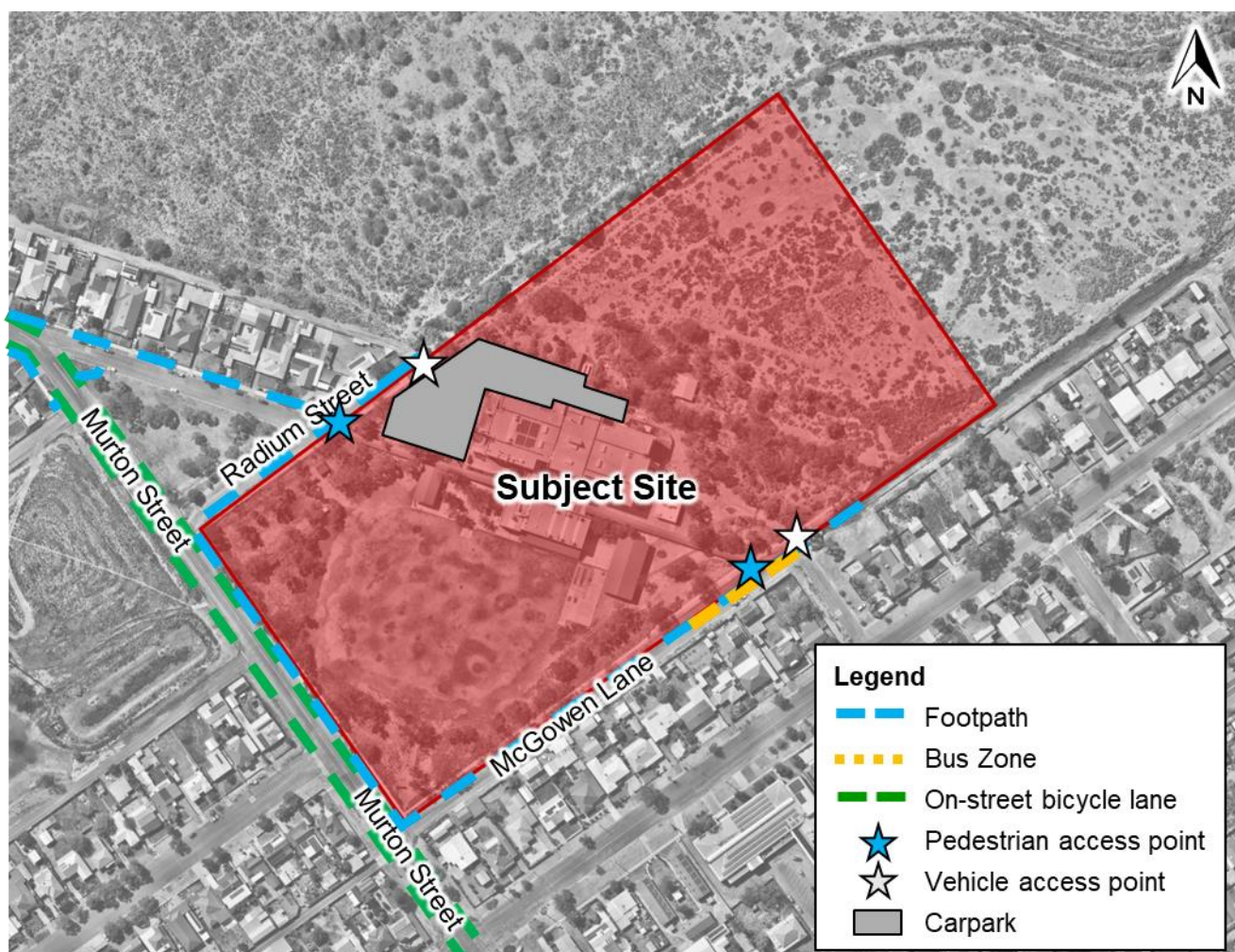


## 2. EXISTING CONDITIONS

### 2.1 Subject Site

The school currently operates with approximately 581 students and a total of 75 full-time and part-time staff. Existing attributes of the subject site are noted as follows:

- The subject site exhibits an area of approximately 81,000m<sup>2</sup>
- The subject site has frontage onto Radium Street, Murton Street and McGowen Lane.
- Staff car parking is provided at the rear of the school site via a primary access point from Radium Street and a secondary access point from McGowen Lane
- No visitor or Persons with Disability (PWD) car parking spaces are provided within the school site.
  - Visitors, including students, are encouraged to park on-street on one of the three streets fronting the school (Radium Street, Murton Street and McGowen Lane)
- Bus zones are located on McGowen Lane.



Aerial Source: NearMap accessed 14/02/2025

**Figure 2.1: Existing Site Conditions**



## 2.2 Road Network

Details of the surrounding road network are provided in Table 2.1

**Table 2.1: Surrounding Road Network**

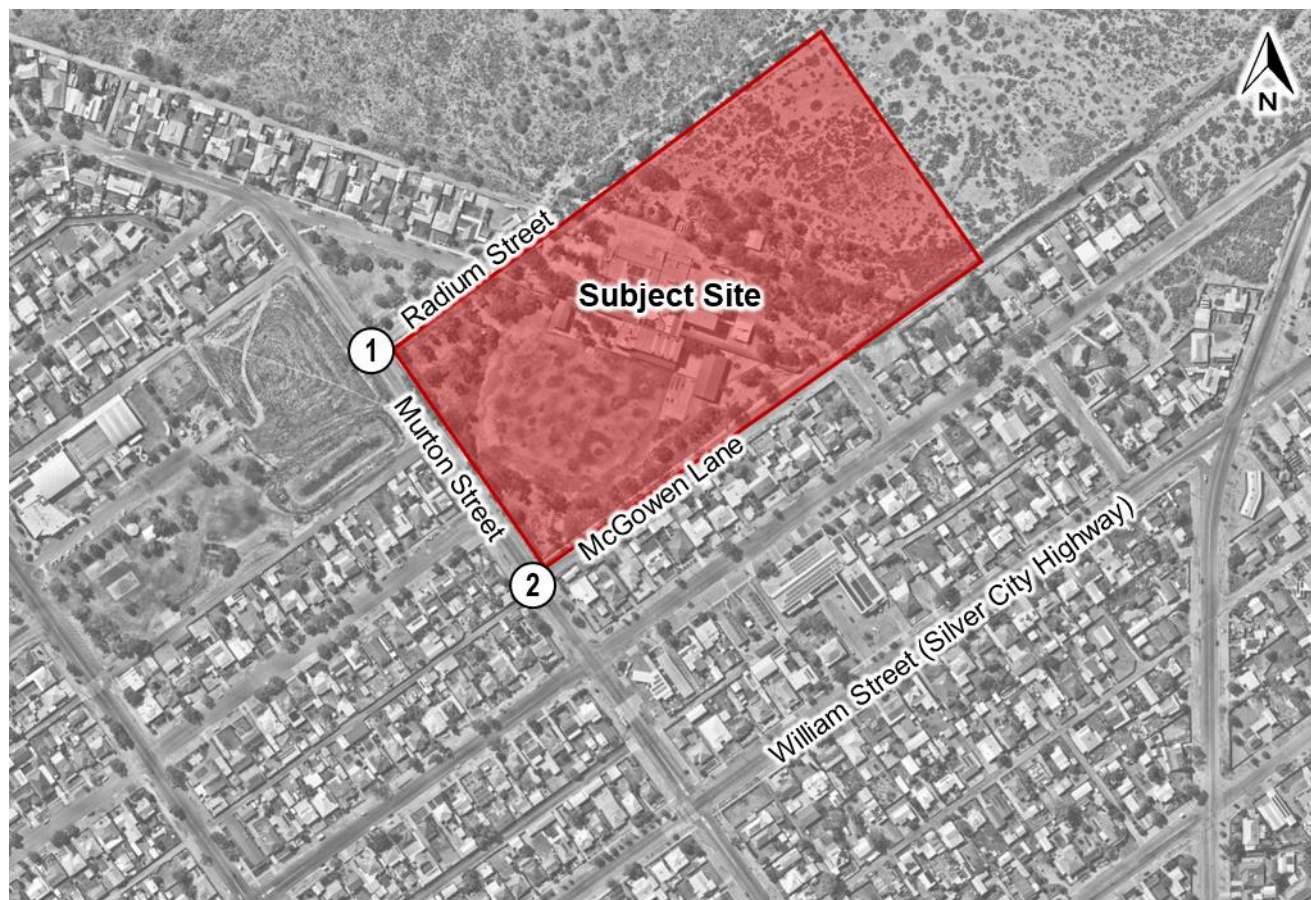
Road Name	Jurisdiction	Hierarchy	Lanes	Divided	Posted Speed
McGowen Lane	Council	Local Street	2	No	50km/h (40km/h school times)
Murton Street	Council	Local Street	2	No	50km/h (40km/h school times)
Radium Street	Council	Local Street	2	No	50km/h (40km/h school times)
William Street (Silver City Highway)	State	Highway	2	No	50km/h

The surrounding key intersections in proximity to the school are summarised in Table 2.2

**Table 2.2: Surrounding Key Intersection Details**

No.	Major Road	Minor Road/s	Jurisdiction	Control
1	Murton Street	Radium Street	Council	Priority
2	Murton Street	McGowen Lane	Council	Priority

The location of the key intersections with respect to the school is shown in Figure 2.2.



Aerial Source: NearMap accessed 14/02/2025

**Figure 2.2: Key Intersections**

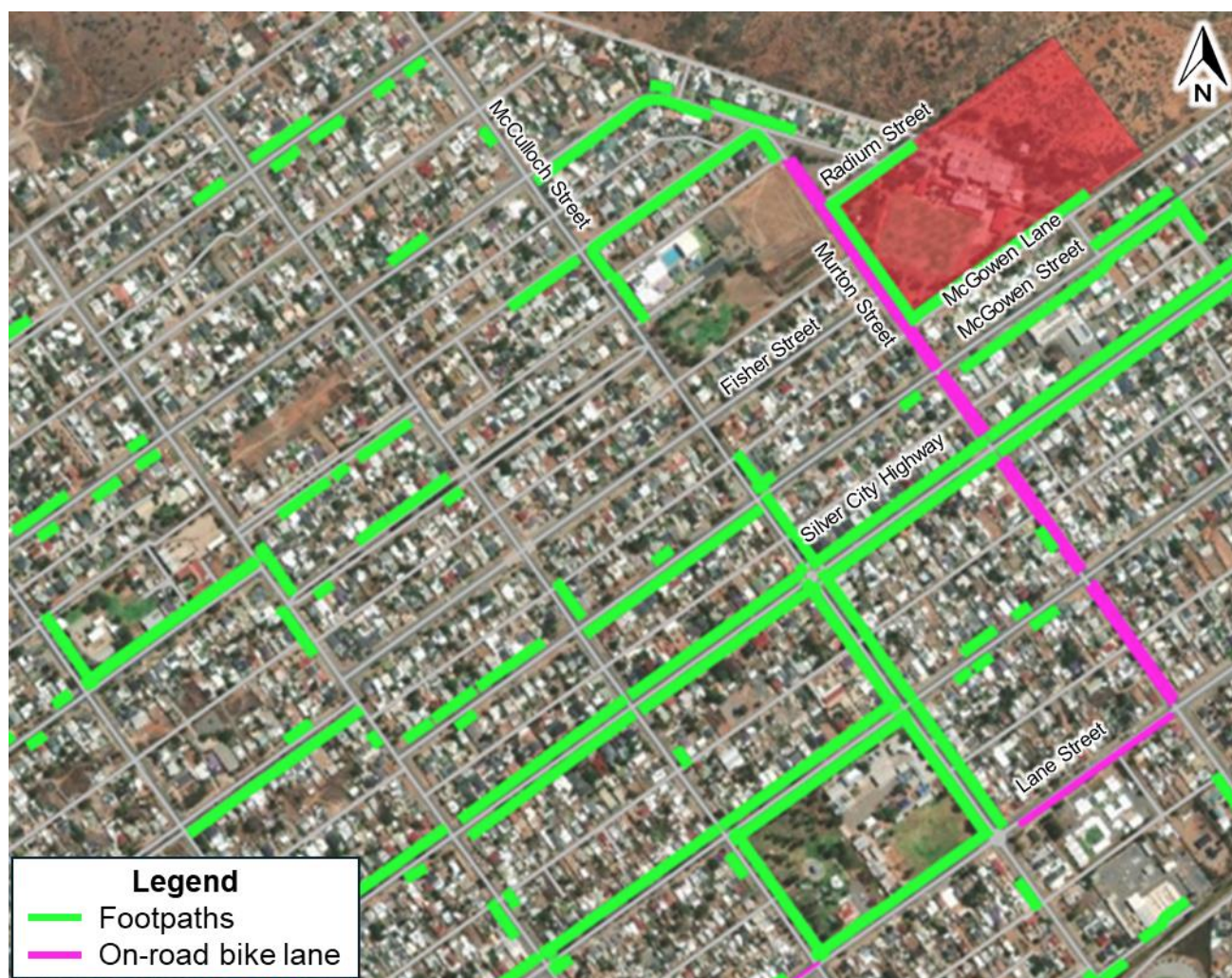


## 2.3 Alternate Transport

### 2.3.1 Active Transport

Currently there are no direct connections from the school to the wider footpath network. Surrounding the site, the footpath network is segmented with core routes such as the Silver City Highway to the south provide greater connectivity to the wider network once reached. On-road bicycle lanes run along the Murton Street frontage and provide connections to southern Broken Hill student catchment. Future active transport works which include additional footpaths connections to the school have been identified in the Broken Hill Active Transport Plan.

The current active transport facilities surrounding the school are shown in Figure 2.3.



Aerial Source: NearMap accessed 14/02/2025

**Figure 2.3: Key Active Transport Facilities**

The gap analysis based on current student enrolments at WHS is demonstrated Figure 2.4. Notably, 172 students (28%) reside within the 15-minute walkable catchment (1.2km) and 351 students (58%) are within the 15-minute cycle catchment (3.6km).



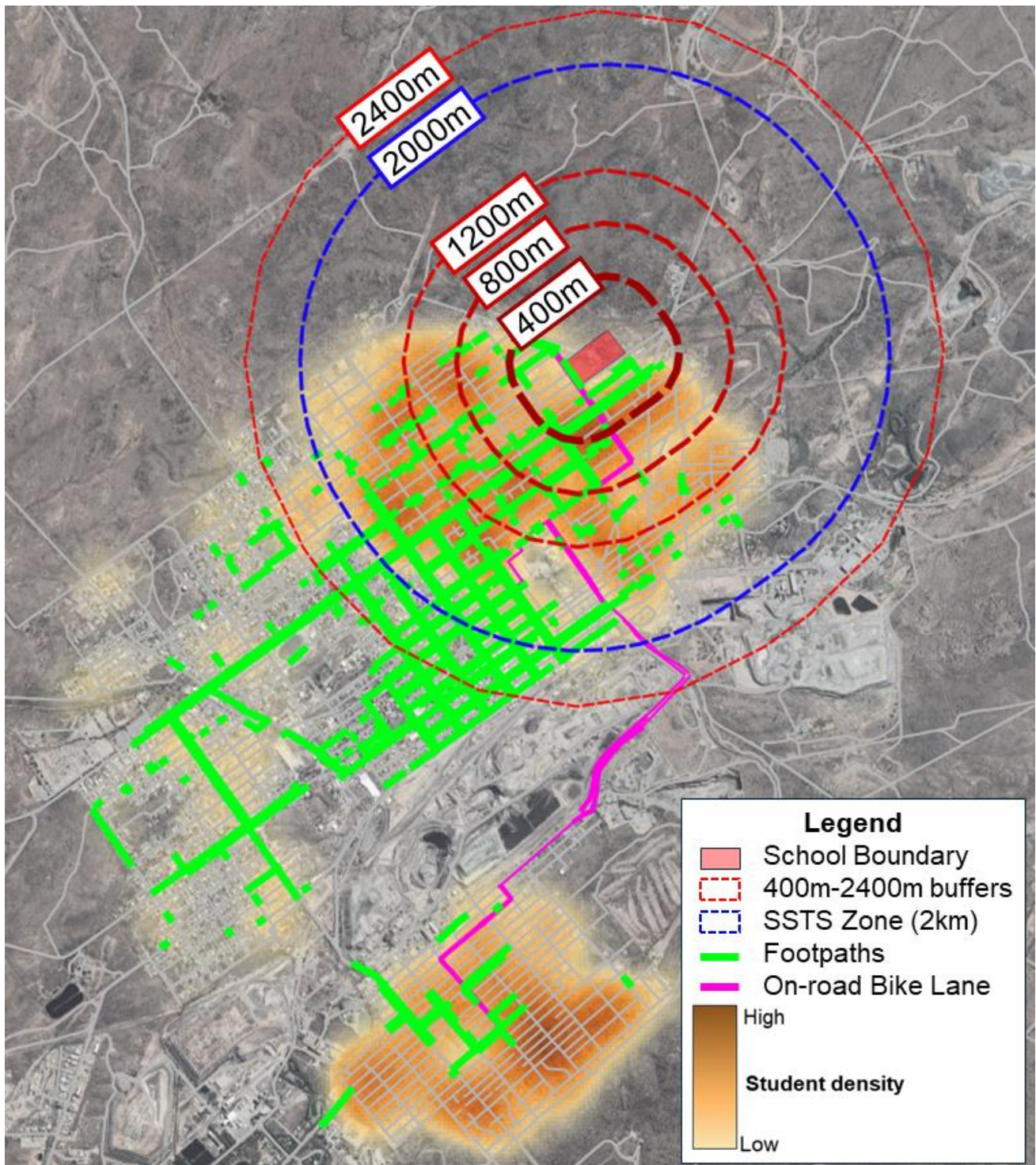


Figure 2.4: Gap Analysis of Current Student Enrolments

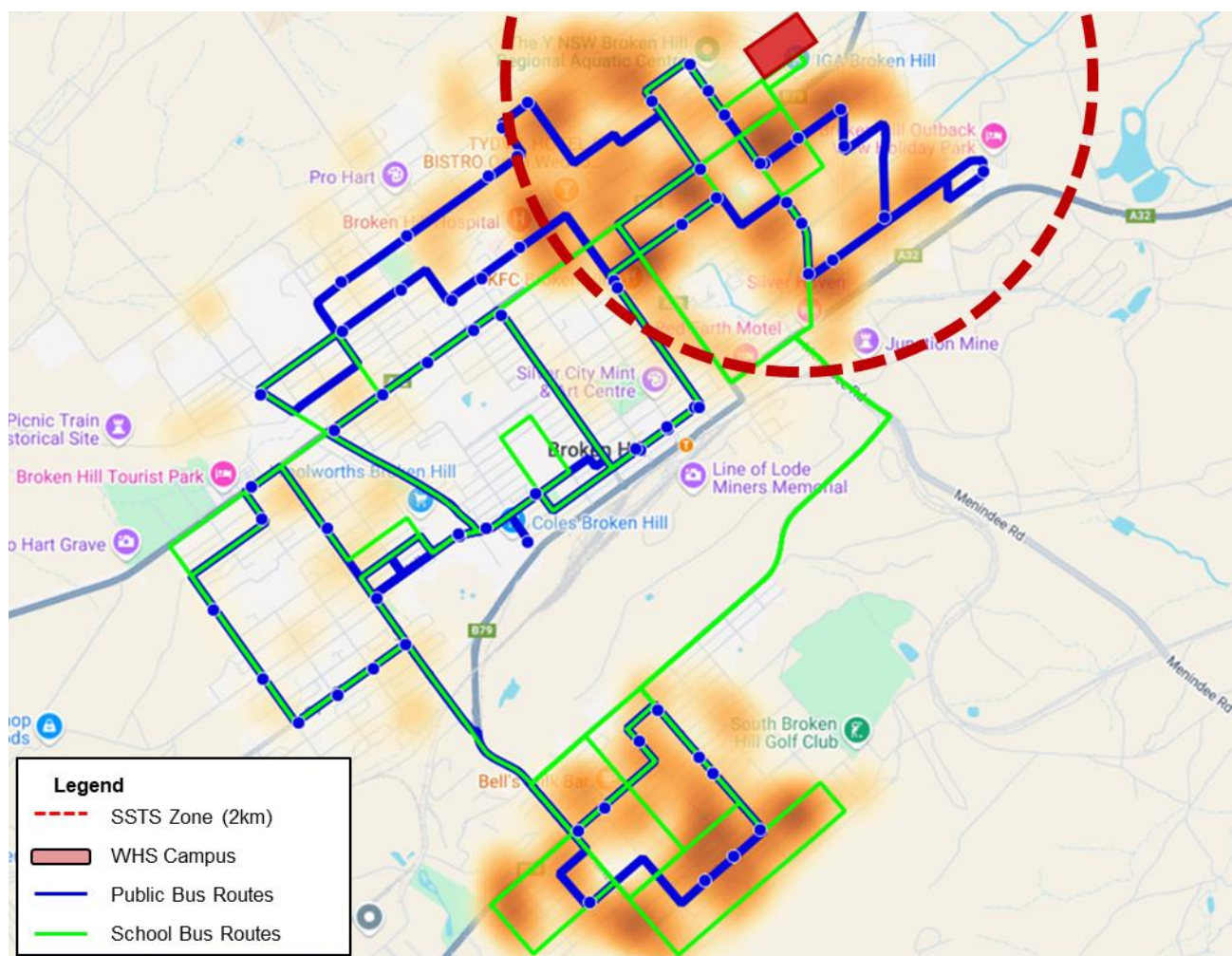


### 2.3.2 School Bus and Public Transport

Existing school routes servicing the school campus are provided by CDC and TfNSW. Students board and alight from these services at the bus zone provided along McGowen Lane. Currently, 71% of students live within 400m of an existing bus stop, and 77% of students live within 400m of a school bus route. Details of these services are provided in Table 2.3 and illustrated in Figure 2.5.

**Table 2.3: Route Information**

Route Number	Route	Start	Finish
<b>AM</b>			
S1-1 / S1-2	Commence Piper Street and Central Street – Alma Public High School	7:55AM	8:30AM
S2	Commence Holten Drive and Eyre Street - Willyama High School	8:10AM	8:35AM
591 / 592	Commence Argent Street and Oxide Street - Argent Street	8:00AM	8:35AM
<b>PM</b>			
P1-1 / P1-2	Alma Public School – Williams Street	3:35PM	
P2-2	Willyama High School - Barrier HWY / Williams Street	3:30PM	



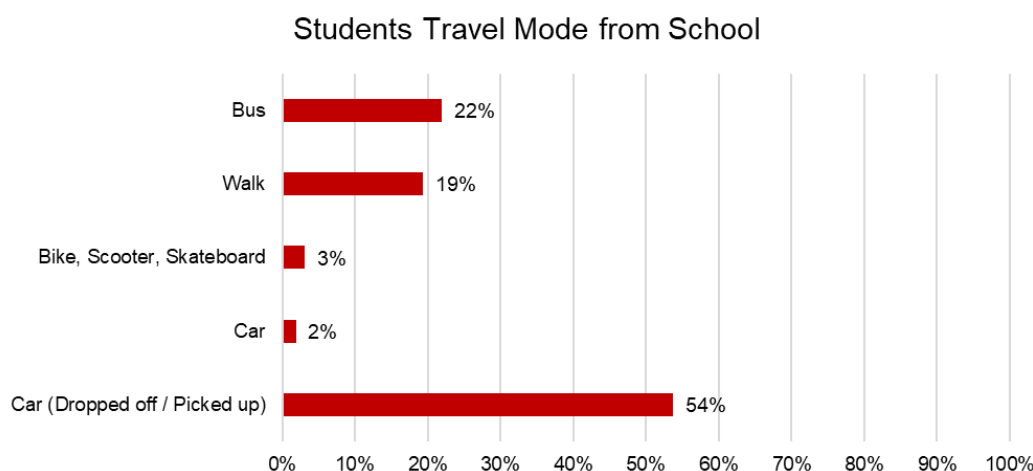
**Figure 2.5: Bus Routes**



## 2.4 Transport Mode Share

A student travel mode share survey was undertaken in December 2024 to determine the existing travel behaviours. At this time, students had been relocated to an alternate campus, however students were asked to answer the surveys to the best of their ability in relation to activities to the WHS campus. During the time of surveys, year 12 students had already completed their education for the year, and any students who did not previously attend the WHS campus were omitted from the surveys. The response rate for the student travel mode share survey was approximately 29% (equating to 166 students). Given the low response rate, it is recommended that a new hands-up survey be undertaken as part of the School Travel Plan (STP) within 12 months of the WHS campus reopening, to validate and update the mode share data.

The estimated mode share split of students is provided in Figure 2.6.

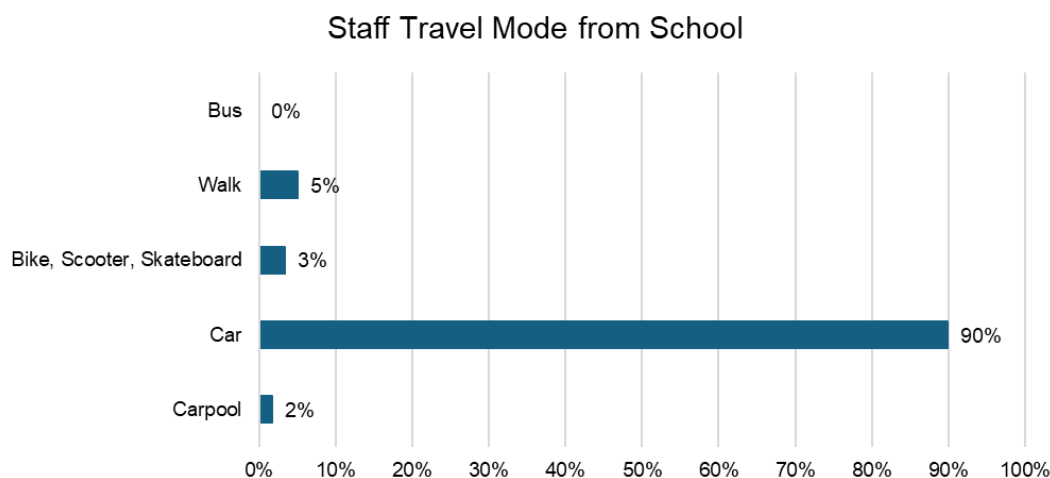


**Figure 2.6: Student Travel Mode Share**

As shown, buses account for 22% of student travel. At the time of the travel survey 77% students lived within 400m of a bus stop. Importantly, any changes to the bus network are the responsibility of TfNSW.

An additional 22% of the represented student cohort travels to and from school by some mode of active transportation, with the majority walking. This is approximately consistent with the number of students (28%) residing within the 15-minute walkable catchment.

A staff travel mode survey was also undertaken, with the response rate equating to 84%. The estimated mode share split of staff is provided in Figure 2.7.



**Figure 2.7: Staff Travel Mode Share**

As shown, car-based travel accounts for 92% of staff travel, with only 2% of staff carpooling to and from school. A further 8% of staff travel by means of active transportation, with the majority of these walking.

## 2.5 Historic Crash Analysis

The TfNSW Centre for Road Safety's interactive crash statistics were used to source data for the area surrounding WHS. A review of reported crashes that occurred between 2018 and 2023 were analysed and identified zero (0) crashes occurring with 100m of the school site.

### 3. PROPOSED ACTIVITY DESCRIPTION

The proposed activity relates to a complete redevelopment of the WHS campus due to the discovery of black mould. Specifically, the proposed activity comprises the following:

- New build teaching space facilities located to the southwest and southeast of the site, along Murton Street and McGowen Lane
- Retention of existing car parking area where possible, and additional parking areas for SSU / PWD and visitors
- Retention of existing bus zone along McGowen Lane
- Relocation of the main pedestrian access to McGowen Lane
- New vehicular access via Murton Street for servicing
- New kiss'n'drop facility along McGowen Lane, with capacity for six vehicles and a queueing space of 50m
- Two new pedestrian crossings located on Murton Street and McGowen Lane
- One new pedestrian refuge on Murton Street near Radium Street
- 60 bicycle parking spaces located proximal to McGowen Lane.

As part of this redevelopment, no additions or reductions to the student intake are proposed within 10 years opening due to the current growth trends in the area. The opening operations are anticipated to be entirely consistent with the previous operations when the school campus was in use. The potential school capacity for 730 students has been considered in case of future town growth in the event that population levels increase. For the purposes of this report, this means no net increase in traffic generation is anticipated with the redevelopment of WHS.

The school will be constructed to accommodate 730 students as needed, despite the current enrolment catchment of less than 600 students which correlates to projections undertaken by the NSW Department of Education. The existing school accommodated 1,000 students; therefore no remodelling of traffic impacts is required.

Figure 3.1 illustrates the proposed site plan with relevant details to this TAIA highlighted.

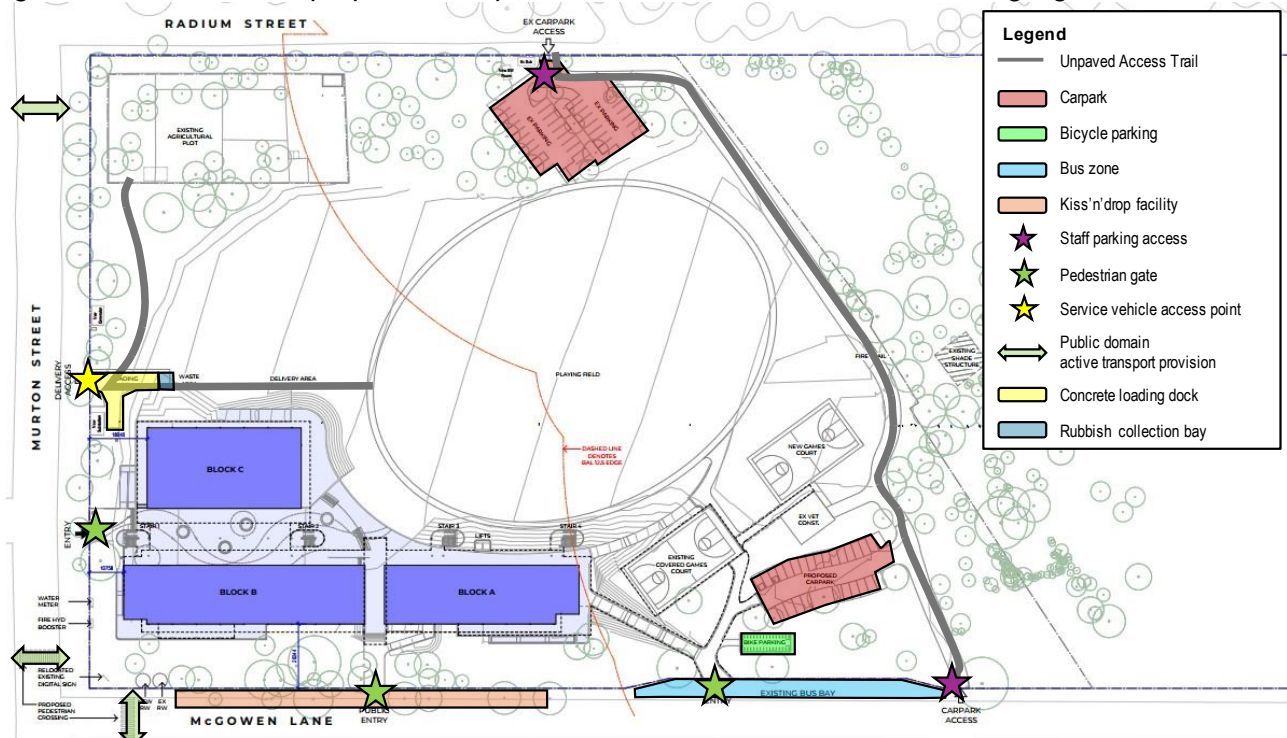


Figure 3.1: Site Plan

The proposed pedestrian crossings on Murton Street and McGowen Lane are anticipated to improve and promote active transport provisions amongst students. The Murton Street crossing is proposed to connect to Fisher Street, providing an east-west connection for students, while the McGowen Lane crossing is anticipated to increase student safety with the introduction of the KnD. A pedestrian refuge is proposed on Murton Street near Radium Street to improve pedestrian safety and connectivity for students travelling from the north. The raised refuge will provide additional pedestrian protection and enhance access for students who catch a bus to the aquatic centre on McCulloch Street, facilitating safer and more convenient active transport routes. The proposed pedestrian crossings are included as mitigation measures to enhance safety outcomes and encourage active travel. Council LTC endorsement of the proposed pedestrian crossing facilities will be required prior to the commencement of any roadworks. Council has also requested that a road safety review of these facilities be undertaken, which can be progressed during this process.

It is recommended that investigations be undertaken into the suitability of crossing types (i.e. raised) to ensure pedestrian safety and priority where deemed appropriate.



## 4. TRANSPORT ASSESSMENT

### 4.1 Overview

As noted in Section 3, the proposed activity relates to a complete redevelopment of the WHS campus. The current external arrangements for transport and traffic elements will largely remain unchanged. Importantly, there is no net increase in traffic generation associated with the proposed development.

Generally, projects which do not attract any increase in traffic demand do not have infrastructure-based conditions imposed for transport works. SI has however sought to address any key potential safety and operational transport and access issues as part of a duty of care and to support improvements that assist in promoting sustainable travel (i.e. by active and public transport). Importantly, the school's location towards the northern boundary of the town means that traffic is largely limited to residential and school-related trips, with little to no through traffic.

As discussed further herein, increased trip generation around the school would be the result of KnD demands and any growth from 600 to 730 is expected to be gradual over time. The existing school accommodated 1,000 students; therefore no remodelling of traffic impacts is required.

The following sections summarise Bitzios' review and outcomes of discussions with bus service providers, TfNSW and Broken Hill City Council.

### 4.2 Proposed Transport Facilities

Transport facility upgrades are included as part of the activity and are highlighted in Figure 3.1.

The highlighted transport related components are discussed in Table 4.1.

**Table 4.1: Proposed Transport Facility Upgrades**

Infrastructure Description	Benefit
1. Relocation of the main pedestrian access to McGowen Lane	The new location for the main pedestrian access point better accommodates the entry and exit of most students as the kiss'n'drop facility and bus zone are both located on McGowen Lane
2. New Kiss'n'drop Facility along McGowen Lane	Provides a formalised and managed pick-up and drop-off area that separated from the bus pick-up/drop off area to assist with bus operations
3. New vehicular access via Murton Street for servicing	Provides a physically separated location for servicing which benefits student safety at the school campus
4. New priority crossing facilities on Murton Street and McGowen Lane	Provides crossings at key locations in line with the relocation of the main pedestrian access on McGowen Lane to increase pedestrian safety and uptake of active transport mode share.
5. New pedestrian refuge on Murton Street near Radium Street	Provides a dedicated refuge space to enhance pedestrian safety and facilitate crossing movements near Radium Street, supporting active transport and safer connectivity for students.
6. Secure bicycle parking facility	Provides a secure and protect location for students to parking bicycles and other mobility devices with the aim of increasing student uptake of active transport modes
7. Undercover bus waiting facilities	Provides a suitable location for students to store, protected from the elements while waiting for a bus.

Infrastructure improvements will be supported by a School Travel Plan (STP), with a preliminary STP contained in **Appendix B**.

## **4.3 Parking Assessment**

### **4.3.1 Overview**

As previously mentioned, the current external arrangements for transport and traffic elements will largely remain unchanged. Importantly, there is no net increase in traffic generation / parking associated with the proposed development at opening. It is understood that while the school campus will be designed to cater for up to 730 students, the anticipated student volumes will remain consistent with the existing enrolment figures, being approximately 600 students.

On-site car parking facilities provided have been assessed against the relevant requirements of Council's DCP (2019) and Australian Standards AS2890, and are considered to be generally compliant. A shortfall of 37 car parking spaces is provisioned as part of the proposed development. This outcome is provisioned to facilitate a 75% private vehicle mode share target and is supported by Council's Local Traffic Committee following stakeholder engagement discussions.

### 4.3.2 Car Parking Requirements

Car parking rates were undertaken using a first principles assessment, based on a conservative approach of each staff member arriving by private vehicle to the subject site. The relevant car parking rates and requirements are outlined in Table 4.2.

**Table 4.2: Development Parking Requirements and Compliance**

Land Use	Parking Rate	Quantity	Spaces Required	Spaces Provided
High School	1 space per 1 staff member	75 staff	75 spaces	57 spaces

It is understood that there is adequate on-street parking along the school frontage to accommodate additional car parking demand if required, albeit not expected. In addition, a total of 57 car parking spaces are available kerbside, fronting the WHS campus. The distribution of this available car parking is outlined in Table 4.4.

**Table 4.3: On-Street Parking Availability**

Street	Available Kerbside	
	Length (m)	Car Parking Capacity
Murton Street	126	21
Radium Street	96	16
McGowen Lane (outside peak hours)	120	20
Total On-Street Parking Spaces		57

The inclusion of these considerations aims to achieve the STP transport mode share target of 75%, encouraging a modal shift towards more sustainable travel options. Further transportation inclusions are discussed in the STP, to promote and facilitate this modal shift.

Furthermore, a KnD facility provided along McGowen Lane is proposed to offset the need to provide dedicated parking spaces for student pick-up/drop-off purposes and is further discussed herein. Outside of peak pick-up and drop-off times, the KnD facility could be used for visitor parking.

### 4.3.3 Kiss'n'Drop (KnD) Facility

As abovementioned, a KnD facility is proposed to offset the need to provide dedicated parking spaces for pick-up/drop-off purposes. The proposed KnD facility is proposed within the shoulder along McGowen Lane. It will have capacity for six vehicles, with an additional 50m provisioned for further queueing space providing queueing opportunities for eight vehicles at any one time. The KnD facility has the capacity to service up to 360 vehicles over a 30-minute period, with student pick-up/ drop-off demands estimated to be approximately 250 vehicles (based on a ratio of 1.35 students per vehicle occupancy) assuming existing travel mode shares remain consistent post-development.

The operations of the KnD facility will include clear policies and procedures outlined in the School Travel Plan. This Plan will mention:

- This kiss and drop is a 'No Parking' zone, meaning you may stop for a maximum of 2 minutes.
- Do not arrive before the school bell time and park in the kiss and drop
- If you wish to park, there are other alternate locations nearby within unrestricted parking where you can park and walk to the school gate
- Drive as far towards the front of the kiss and drop as possible so people can pull in behind you

The KnD collection bays and queueing will be signed as No Parking during peak times and allow for parking outside of these times.

To ensure the proposed facilities are capable of supporting the potential maximum enrolments, an additional capacity assessment was undertaken for the potential 730 students. Resultant vehicle movements equate to approximately 350 trips (based on the same vehicle occupancy assumptions and no change to existing mode shares), which is able to be catered for within the proposed KnD facility.

## 4.4 Bicycle Parking Requirements

Austroroads and Council's DCP stipulates a bicycle parking rate of "1 bicycle space per 5 students over Year 4" and based on the ultimate enrolments of 730 this would equate to 146 bicycle parking spaces.

Based on the travel mode surveys, the above rate does not accurately reflect the current bicycle parking demand as students travelling by bicycle is linked to:

- The age of the student and therefore competence and confidence
- The quality infrastructure to provide a high level of service
- The quantity and quality of end of trips facilities provided at the destination.

It is noted that other wheeled devices including skateboards and scooters are also included in bicycle parking and specific storage devices can be provided. The bicycle parking demands consider the active transport catchment discussed in Section 2.3 and the travel mode surveys discussed in Section 2.4.

Standard bike parking rates were sourced from Austroroads Guide to Traffic Management, Part 11. The relevant bike parking rates and requirements are outlined in Table 4.4.

**Table 4.4: Bicycle Parking**

Land Use	No. Students	Austroroads / DCP Requirements	Anticipated Demand based on Travel Mode Surveys	No. Students within 3.6km Cycle Catchment	Cycle Storage Provision
Student – High School	581 (at opening)	116 bicycles spaces	15 to 30 bicycles	~351 students	36 spaces
	730	146 bicycle spaces	20 to 40 bicycles	~438 students	60 spaces

Based on anticipated cycling activity, a supply of 60 bicycle parking spaces within the shelter cage is considered sufficient to meet the demands of the student enrolments.

It is recommended that in implementing the STP, the usage of existing bicycle/ scooter parking facilities be monitored to ensure upgrades are provisioned appropriately in accordance with any increase in cycling/ scooting as a mode share. Additional land near to the bicycle/ scooter parking facilities is available and should be retained to accommodate additional capacity when demand arises.

## 4.5 Servicing and Refuse Collection

The proposed upgrade is expected to result in an insignificant change to the servicing and refuse collection demand. The school has confirmed the largest vehicle to enter the site is the refuse collection vehicle (RCV). Servicing is typically undertaken with a much smaller vehicle than the RCV. This vehicle, an MRV, is consistent with a large delivery truck and a typical emergency vehicle (i.e. ambulance or fire truck). Understanding this, the provisions included as part of the proposal are understood to be accessible by these vehicles.

The pedestrian gate shown in the development plan will not obstruct access for service vehicles.

Servicing is proposed to occur via a retained Murton Street crossover, which will provide access to the servicing and waste storage area, away from all other vehicle movements.

As servicing and refuse collection occur outside of peak times it will not have an adverse impact on the safety and efficiency for other road users or pedestrians.



## 4.6 Construction and Staging

The project will be delivered in one (1) stage generally consisting of:

- Site establishment and building new facilities. Key elements will include:
  - Site Establishment
  - All works required for the completion of the new learning buildings
  - Landscaping and external works around the new buildings
  - Upgrades to site infrastructure and services to support the new buildings.

In terms of transport considerations during the construction phase, the following details are anticipated:

- Site access is anticipated to be via Radium Street
- Onsite car parking will be provided for construction workers
- A peak of 50 employees during Construction
- A maximum of 10 heavy vehicle movements per day (that is, five (5) trucks in/ out)
- Construction works to occur over a 12 month period.

Access routes have not yet been confirmed at this stage; however, the main access / haulage routes are expected to follow the alignment as depicted in Figure 4.1.



Aerial Source: NearMap

**Figure 4.1: Construction Access Routes**

A preliminary construction traffic management plan is contained in **Appendix C**.

## 5. MITIGATION MEASURES

To ensure that any additional impacts associated with the school do not adversely affect the surrounding road network, the following mitigation measures have been proposed:

- Seek further fundings through available state funding grants such as the Get Active NSW to improve the quality of infrastructure to provide a high level of service for active transport users
- Provide high quality of end of trips facilities within convenient locations.

Project Stage <i>Design (D)</i> <i>Construction (C)</i> <i>Operation (O)</i>	Mitigation Measures	Relevant Section of Report
D/C	<p>To address deficiencies in the crossing facilities surrounding the site, relocation of the school's 'front-door' and provide safe crossings for increased pedestrian demands to/from the school, install three crossing facilities consisting of:</p> <ul style="list-style-type: none"> <li>▪ Construct pedestrian crossings on Murton Street</li> <li>▪ Construct pedestrian crossing on McGowan Lane</li> <li>▪ Construct a pedestrian refuge on Murton Street near Radium Street</li> </ul>	Sections 4.2
D/C, O	Provide a formalised Kiss n Drop (KnD) zone on McGowan Lane. The KnD Zone is to consist of six collection bays and queuing of 50m catering for a further seven vehicles.	Section 4.3.3
D/C, O	Provide 60 bicycle parking spaces to cater for current and forecast student demands to support mode share targets	4.4
O	To assist in manage demands and the operational efficiency of the KnD, bus bay and pedestrian access areas, the infrastructure provisions should be supported by the School Travel Plan, Travel Access Guide and supporting operational guidance (including an Operational Transport Management Plan) on the correct and appropriate use of the transport facilities surrounding the site.	Various

## 6. SUMMARY

The key findings of the Willyama High School (WHS) transport and access impact assessment (TAIA) are as follows:

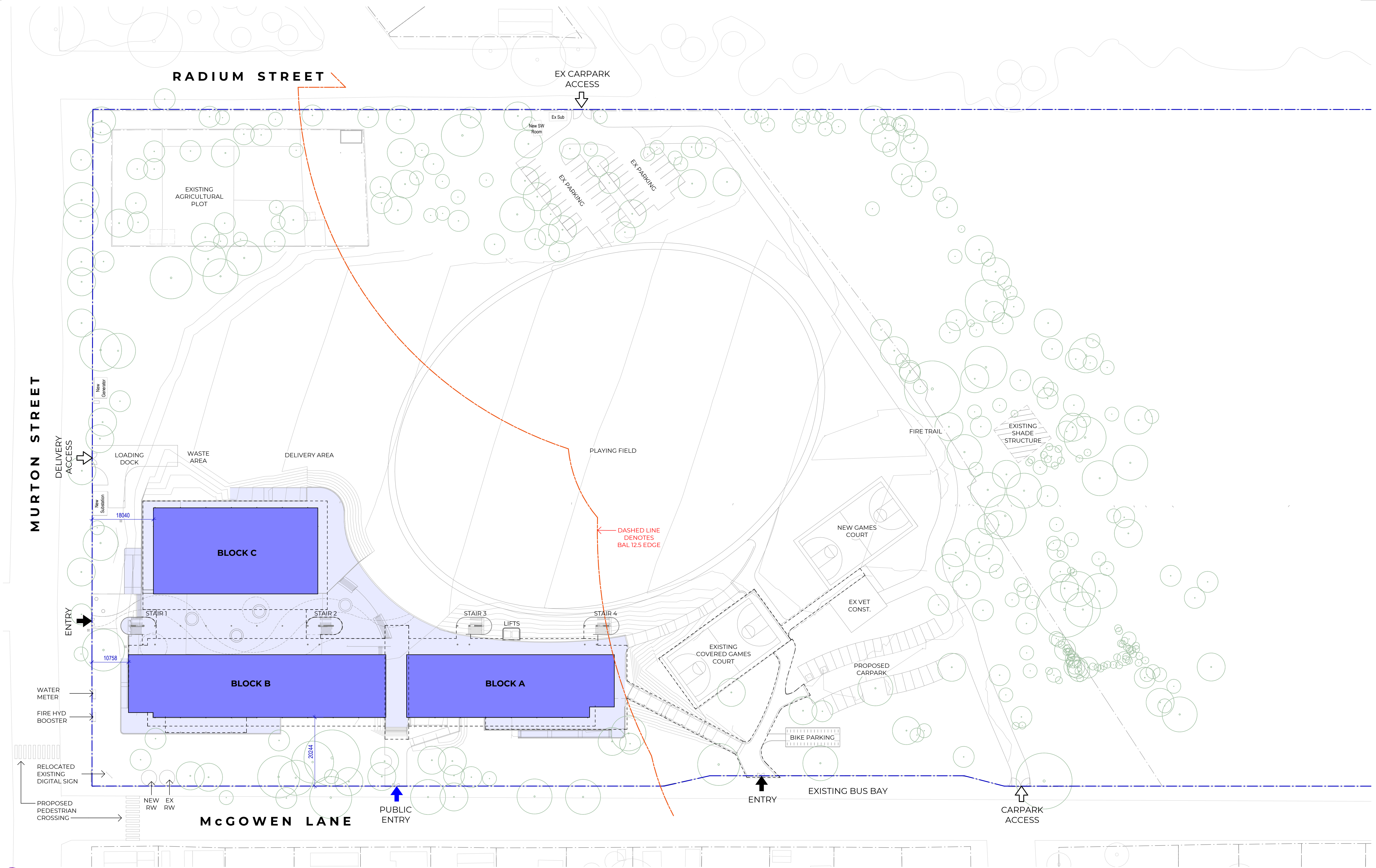
- The proposed activity encompasses a complete redevelopment of the WHS campus due to a black mould outbreak
- At the time of opening and 10-year design horizon the enrolment figures are anticipated to remain similar to the current numbers, however it is acknowledged that the redevelopment will be able to cater for up to 730 students, however this is considered unlikely to occur within the next 10 years of operations. The existing school accommodated 1,000 students; therefore no remodelling of traffic impacts is required.
- Generally, as this project is not anticipated to result in any increases to student numbers within the next 10 years, infrastructure-based conditions are considered unwarranted to be imposed for transport works. The department has however sought to address any key potential safety and operational transport and access issues as part of a duty of care and to support improvements that assist in promoting sustainable travel (i.e. by active and public transport)
- Transport facility upgrades are provisioned as part of the proposal and include a dedicated Kiss n Drop (KnD) facility to pick-up and drop-off students and formalised Student Support Unit (SSU) / Persons with Disabilities (PWD) and visitor parking spaces
- A raised pedestrian refuge on Murton Street near Radium Street will enhance safety and improve access for students travelling from the north, particularly those using bus services to the aquatic centre on McCulloch Street.
- 57 on-site car parking spaces are provisioned on-site as part of the proposal, with an additional 57 spaces available on the road frontages surrounding the subject site
- No student car parking spaces are provided on-site as presently, students park on-street on the three streets fronting the school campus (McGowen Lane, Murton Street and Radium Street). Reviewing the available aerial imagery highlights these three consistently present multiple opportunities for on-street parking as parking occupancy is consistently low.
- A KnD facility is proposed to offset the need to provide dedicated car parking spaces for student pick-up/ drop-off purposes. It will have capacity for six vehicles, with an additional 50m provisioned for further queueing space providing queueing opportunities for eight vehicles at any one time.
  - The KnD facility has the capacity to service approximately 360 vehicles over a 30-minute period, with student pick-up/ drop-off demands estimated to be approximately 250 vehicles (during this same window) during year of opening and 10-year design horizon, with an additional 130 students increasing the total vehicle movements to approximately 350 trips, assuming existing travel mode shares remain consistent post-development.
- The proposed transport and access treatments as per the activity are considered appropriate to meet the needs of the school at year of project 'opening'.



## Appendix A: Development Plans







1

DA - Site Plan - Proposed.

SCALE 1 : 500

#	Status	Description	Date
1	REF Submission	REF Submission	30/05/25
2	REF Submission	REF Submission	13/06/25
3	REF Submission - update	REF Submission - update	27/06/25
4	REF Submission - update	REF Submission - update	30/06/25
5	REF Submission - update	REF Submission - update	02/07/25

Recent revision history

Notes

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Contractor must verify all dimensions on site before commencing work or preparing shop drawings.  
Do not scale drawings.

### LEGEND

	Subject Site Boundary		Existing Building		Proposed Building New Walls		Existing Tree		Demolition Under Previous Approved REF Application
	BAL Fire Line		Demolition under previous approved REF		Proposed Building Metal Sheet Roof		Proposed New Tree		Demolition
	Site Setback		Demolition		Earth Battering		Surrounding Context Tree		Relocation
	Neighbouring Boundary		Proposed Relocation						

Project  
Willyama High School

Client  
School Infrastructure New South Wales

Issuer  
**W-B**  
WOODS BAGOT

Project number  
122037

Size check  
25mm

Checked  
AJ

Approved  
GS

Sheet size  
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Scale  
As indicated

Sheet title  
Overall Arrangement  
REF Site Plans  
Proposed Site Plan.

Sheet number  
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REF SUBMISSION

Revision  
5



## Appendix B: School Travel Plan





# WILLYAMA HIGH SCHOOL

## School Travel Plan



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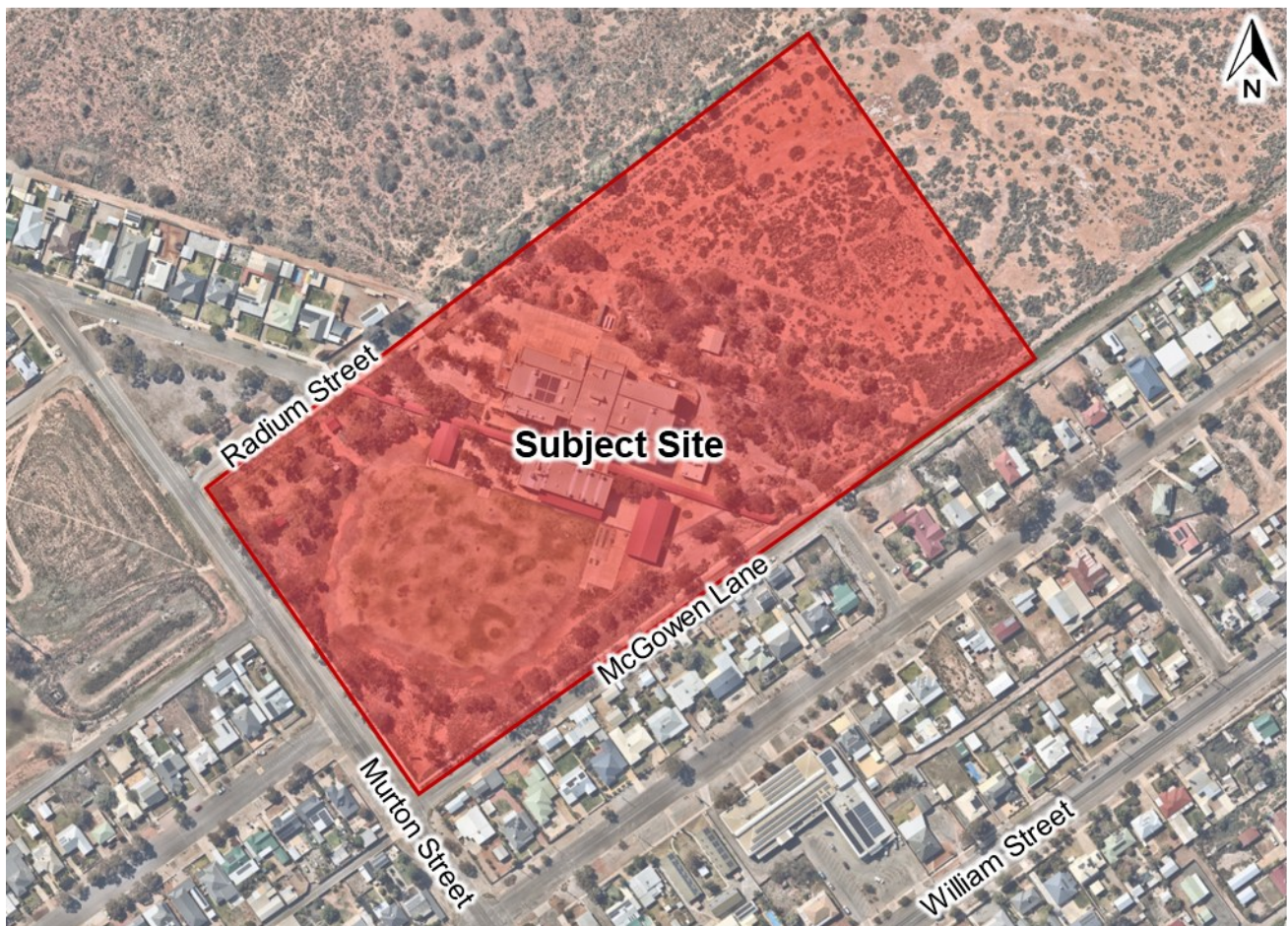
# 1. INTRODUCTION

## 1.1 Background

Bitzios Consulting has been commissioned by the NSW Department of Education (DoE) to undertake a Transport and Access Impact Assessment (TAIA) for the complete redevelopment of the existing Willyama High School (WHS) campus. As part of the TAIA, a School Travel Plan (STP) is required.

WHS is located at 300 Murton Street, Broken Hill, NSW, 2880 (formally described as Lot 5858 on DP757298) and has an approximate area of 8.1ha. The site is depicted within the TAIA; however, is reproduced below, in Figure 1.1, for ease of reference.

The need for the campus redevelopment has arisen from the findings of significant black mould growth throughout classrooms and other areas of the facility during the 2023/2024 summer holiday period.



Source: NearMap

**Figure 1.1: Subject Site Location**

### Purpose of a School Transport Plan

The School Transport Plan is a live document that is managed by the school travel coordinator, or delegated staff member, which identifies strategies to increase safe travel to school. The aim of the document is to deliver efficient, safe, and sustainable access to the school during the planning, delivery, and operation of school assets.

## 1.2 About the School Transport Plan

The STP is a document that focusses on details for sustainable travel options to and from the school campus. It importantly proposes strategies to encourage the uptake of alternative transport. This plan covers:

- WHS's transport facilities and conditions;
- Current student and staff travel patterns;
- Proposed green travel targets; and,
- Proposed actions to achieve travel mode share targets.

### Step 1 – Understanding Existing Conditions

Background information is collected about the existing site, such as:

- Description of the area and the development
- Public transport routes and facilities
- Active transport routes and facilities
- Existing travel patterns



### Step 2 – Specifying Achievable Targets

Transport for New South Wales (TfNSW) Regional NSW Services and Infrastructure Plan & existing mode share data will be sourced to set mode share targets:

- Switching mode share from private vehicles to alternate transport modes
- Reducing vehicle-kilometres travelled.



### Step 3 – Developing Actions

A range of actions are developed to meet the targets. These actions involve:

- Identifying measurable outcomes which demonstrate the aims of the plan have been met
- Developing methods to achieve these outcomes.



### Step 4 – Monitoring and Revision

The plan is reviewed and updated annually.



Figure 1.2: STP Methodology

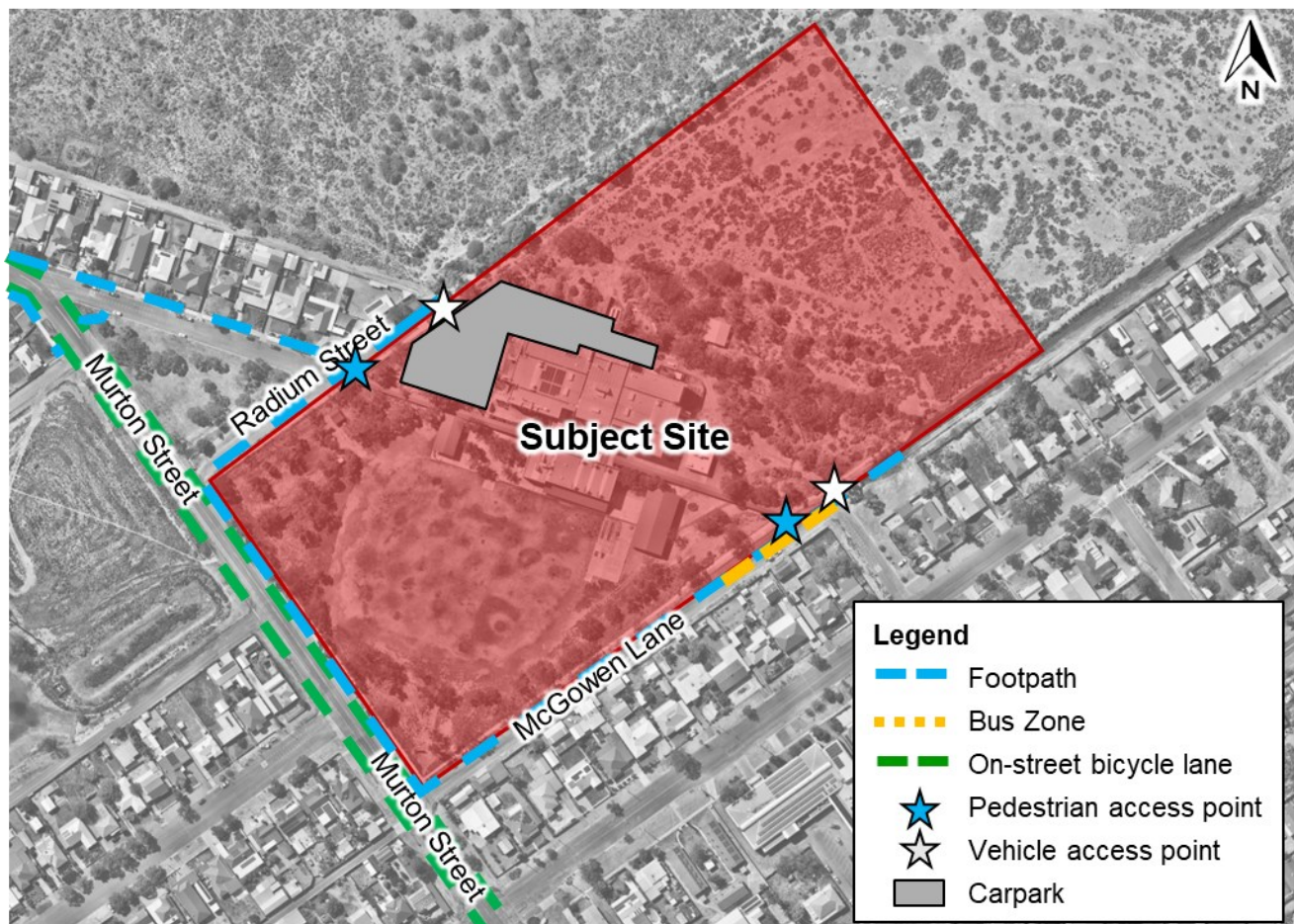


## 2. WHS TRANSPORT INCLUSIONS

### 2.1 Existing Conditions

Existing transport attributes of the subject site are noted as follows:

- The subject site has frontage onto Radium Street, Murton Street and McGowen Lane.
- Unrestricted parking is presently available on all three roads fronting the subject site
- Staff car parking is provided at the rear of the school site via a primary access point from Radium Street and a secondary access point from McGowen Lane
- No visitor car parking spaces are provided within the school site
  - Visitors, including students, are encouraged to park on-street on one of the three streets fronting the school (Radium Street, Murton Street and McGowen Lane).
- Bus zones are located on McGowen Lane
- WHS is presently serviced by four public bus routes and three school bus routes
  - These services are provided by CDC and TfNSW.
- Pedestrian access points to the subject site are provided from Radium Street and McGowen Lane
- No direct connection from the school to the wider footpath network is presently provided



Aerial Source: NearMap

**Figure 2.1: Existing Site Conditions**

Additionally, the existing footpath network across Broken Hill is segmented and does not presently connect to school frontages. Notwithstanding, footpath infrastructure is provided along core routes, such as the Silver City Highway (to the south), providing greater connectivity to the wider network once reached. On-road bicycle lanes span along Murton Street (fronting the western side of the subject site), providing connections to the southern Broken Hill student catchment.



## 2.2 Proposed WHS Transport Facilities

The proposed transport and access activity included as part of the WHS redevelopment comprises the following:

- New build teaching space facilities located to the southwest and southeast of the site, along Murton Street and McGowen Lane
- Retention of existing car parking area where possible, and additional parking areas for SSU / PWD and visitors
- Retention of existing bus zone along McGowen Lane
- Relocation of the main pedestrian access to McGowen Lane
- New vehicular access via Murton Street for servicing
- New kiss'n'drop facility along McGowen Lane, with capacity for six vehicles and a queueing space of 50m
- Two new pedestrian crossings located on Murton Street and McGowen Lane
- One new pedestrian refuge on Murton Street near Radium Street
- 60 bicycle parking spaces located proximal to McGowen Lane.

As part of this redevelopment, no additions or reductions to the student intake are proposed, ensuring the student cohort remains consistent with existing operations. For the purposes of this report, this means no net increase in traffic generation is anticipated with the redevelopment of WHS.

Figure 2.2 illustrates the proposed site plan with relevant details to this TAIA highlighted.

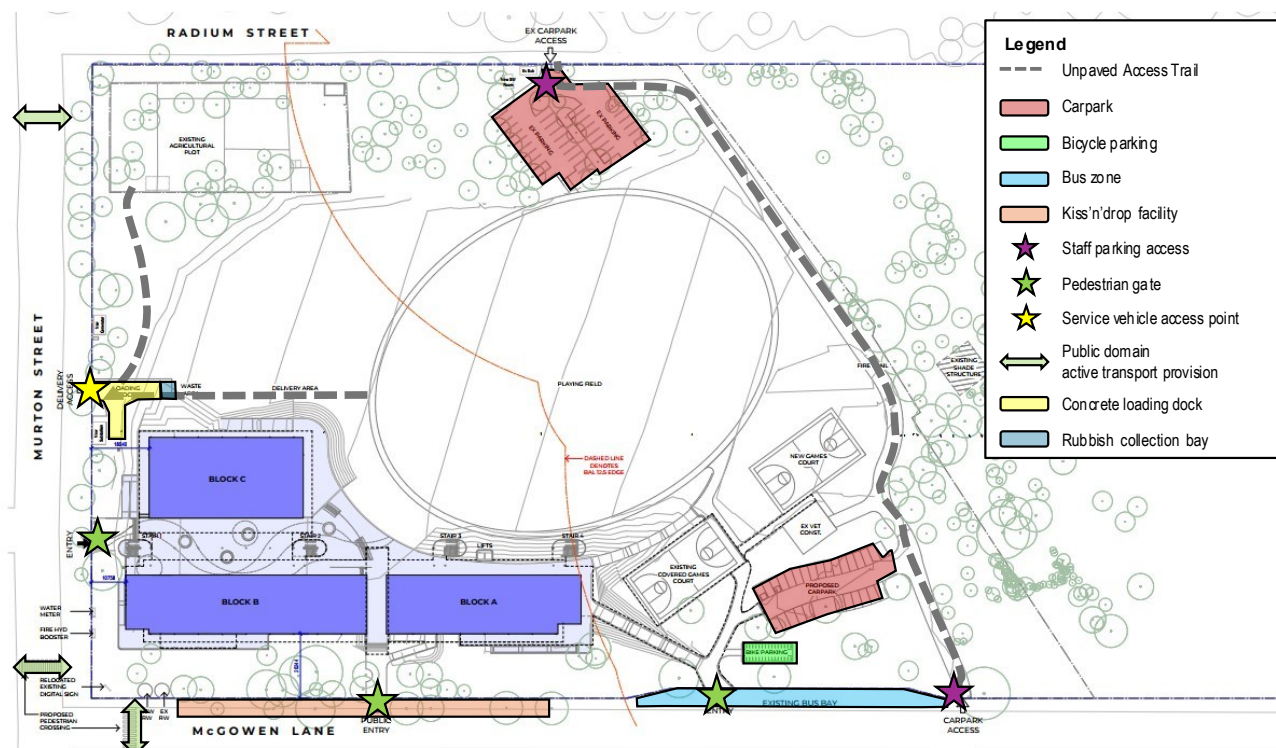


Figure 2.2: Site Plan

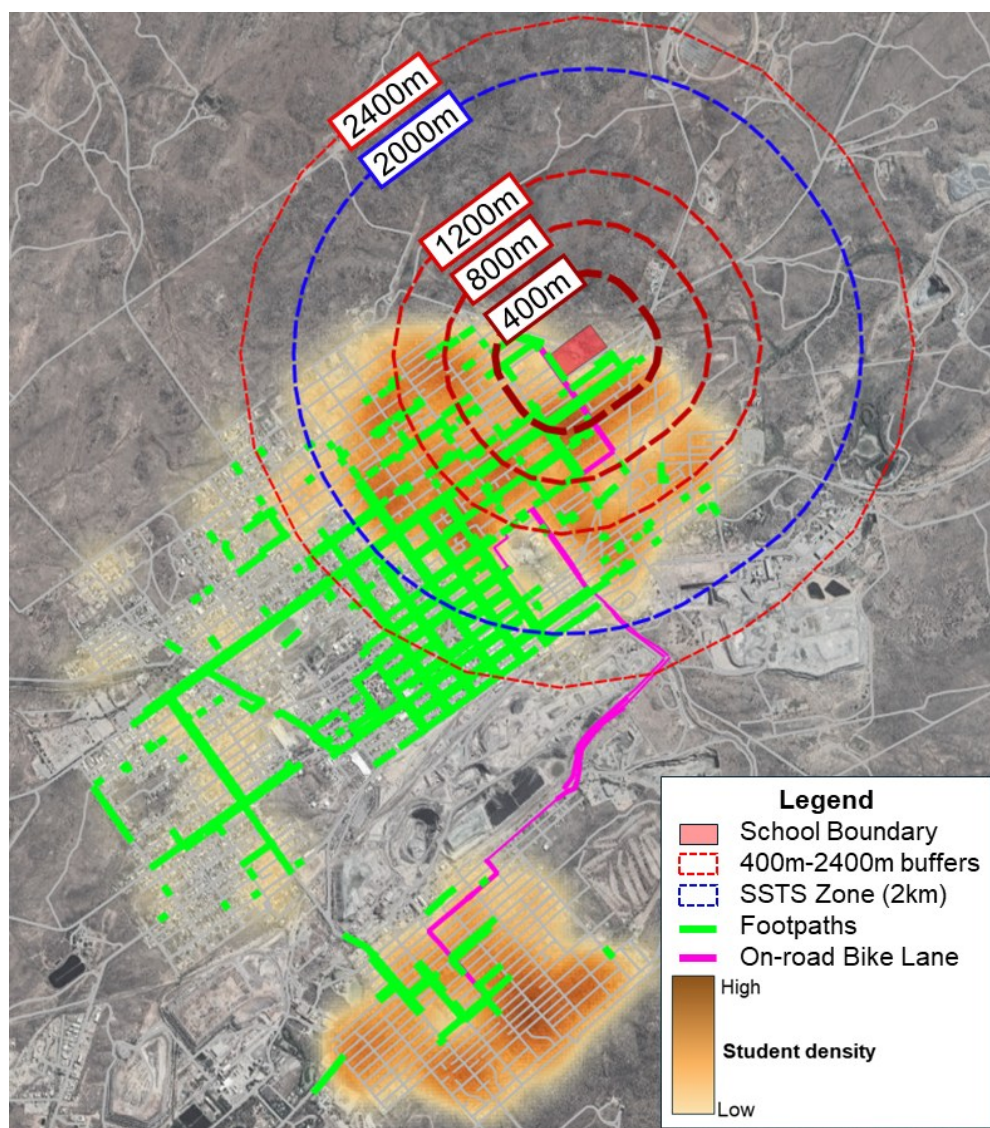
## 2.3 Catchment Analysis

A significant proportion of the student growth is within the surrounding walk and cycle catchment of the subject site, supporting local and state government goals of reduced car dependence. The percentage of existing students living within defined walk and cycle catchments to the campus are detailed in Table 2.1.

**Table 2.1: Student Population within Walk and Bicycle Catchments**

Catchment	Distance	Population	Proportion
400m	5min walk	37 students	6%
800m	10min walk	88 students	14%
1200m	15min walk / 5min bicycle	172 students	28%
2400m	10min bicycle	325 students	53%
3600m	15min bicycle	351 students	58%
Public bus stops	400m	434 students	71%
Bus routes	400m	469 students	77%

Figure 2.3 demonstrates the student distribution and the walk/cycle catchments in relation to the WHS campus.

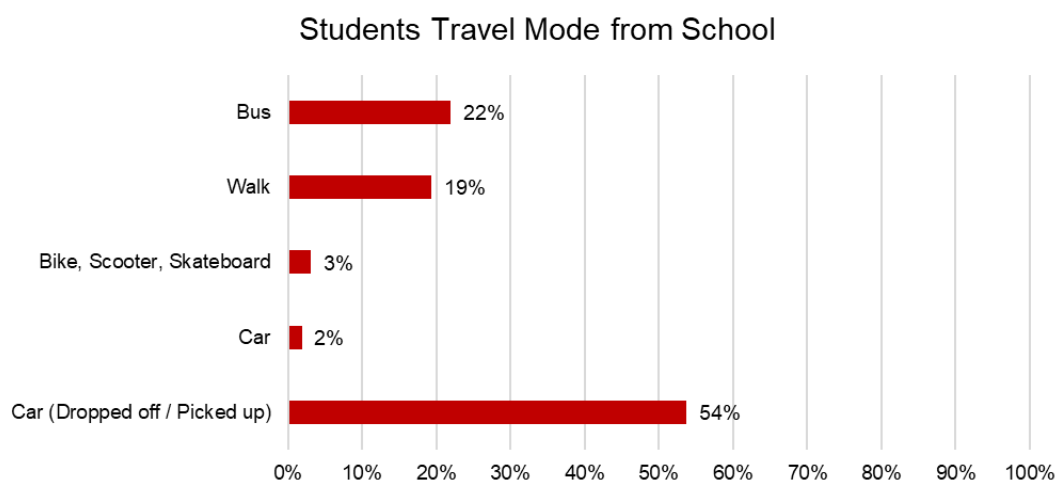


**Figure 2.3: Student Catchment Analysis**

## 2.4 Transport Mode Share

A student travel mode share survey was undertaken in December 2024 to determine the existing travel behaviours. At this time, students had been relocated to an alternate campus, however students were asked to answer the surveys to the best of their ability in relation to activities to the WHS campus. During the time of surveys, year 12 students had already completed their education for the year, and any students who did not previously attend the WHS campus were omitted from the surveys. The response rate for the student travel mode share survey was approximately 29% (equating to 166 students). Given the low response rate, it is recommended that a new hands-up survey be undertaken as part of the School Travel Plan (STP) within 12 months of the WHS campus reopening, to validate and update the mode share data.

The estimated mode share split of students is provided in Figure 2.4.

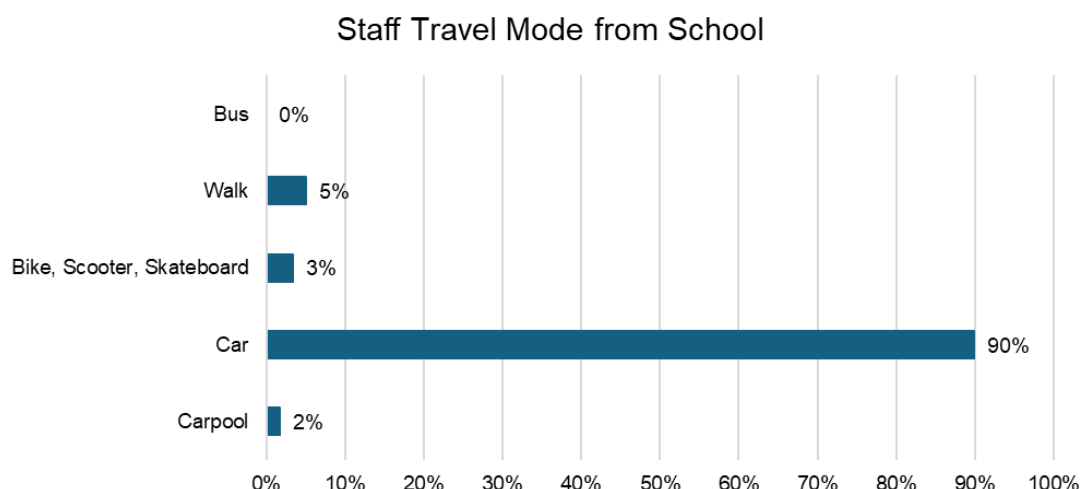


**Figure 2.4: Student Travel Mode Share**

As shown, buses account for 22% of student travel. At the time of the travel survey 77% students lived within 400m of a bus stop. Importantly, any changes to the bus network are the responsibility of TfNSW.

An additional 22% of the represented student cohort travels to and from school by some mode of active transportation, with the majority walking. This is approximately consistent with the number of students (28%) residing within the 15-minute walkable catchment.

A staff travel mode survey was also undertaken, with the response rate equating to 84%. The estimated mode share split of staff is provided in Figure 2.5.



**Figure 2.5: Staff Travel Mode Share**

As shown, car-based travel accounts for 92% of staff travel, with only 2% of staff carpooling to and from school. A further 8% of staff travel by means of active transportation.



# 3. TRANSPORT POLICIES, OBJECTIVES AND ACTIONS

## 3.1 Policy and Objectives

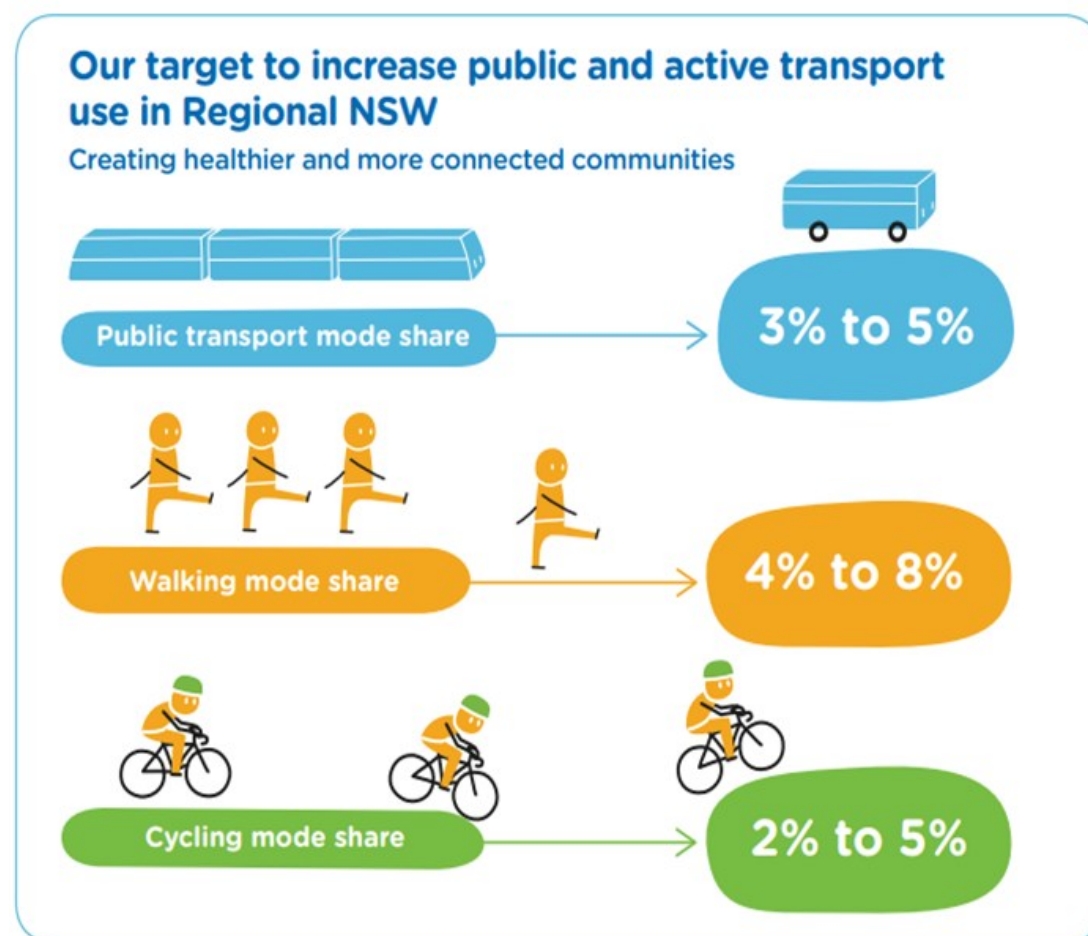
The overarching transport policy for WHS is to “*improve pedestrian and student safety.*” This will seek to increase participation in alternate transportation modes, namely public and active transportation, and increase daily physical activity which has a strong correlation to improved education results.

The DoE STP *Practice Note* was used to adopt objectives specifically relevant for WHS and will influence the direction of the STP.

The four (4) key pillars and objectives for school travel are summarised in Table 3.1.

**Table 3.1: Transport Objectives**

Safe	Efficient	Sustainable	Collaborative
To minimise pedestrian and vehicle conflict	To reduce local traffic congestion and parking impacts	To increase sustainable transport mode share to school	To identify opportunities to work with state and local government transport agencies
To identify and implement new transport and safety as required	To ensure required infrastructure and operations are delivered prior to occupancy.	To minimise short-stay car parking through KnD provision onsite	To share identified travel demand and transport opportunities early in the process



Source: Regional NSW Services and Infrastructure Plan

**Figure 3.1: Regional NSW Mode Share Targets**

## 3.2 Targets

The mode share targets for WHS have been identified considering the transport targets included within the Regional NSW Services and Infrastructure Plan (2018), the existing staff and student travel mode surveys, and the catchment analysis. It is noted the staff mode share targets relate to the regional targets outlined in Figure 3.1 (retrieved from the Regional NSW Services and Infrastructure Plan), while the student mode share targets are derived from the catchment analysis in Section 2.3.

As a result of the active transport provisions provided as part of the redevelopment of the campus, greater uptake of active transportation across the extended school community (that includes students and staff) should be expected. To further facilitate this uptake, the implementation of public domain works, such as those mentioned above, should encourage more students, parents and staff to walk or cycle to school.

These targets should continue to promote mode share changes to reduce car-dependence and to promote sustainable forms of transportation. A timeframe should be applied and reinforced to further facilitate a mode share change and encourage uptake of sustainable transportation options.

Table 3.2 details the future mode share targets for WHS. A five (5) year period is recommended as a realistic and appropriate timeframe to achieve the future **moderate** mode share targets outlined. The **reach** mode share targets prescribed are aspirational in nature, and should reflect a continual desire to transition toward sustainable transportation outcomes.

**Table 3.2: WHS Mode Share Targets**

Travel Mode	Existing Mode Share	STP Mode Share Targets	
		Moderate	Reach
Students			
Bus	18%	20%	25%
Walk	14%	20%	22%
Bike, Scooter, Skateboard	3%	10%	15%
Car	8%	8%	8%
Car (dropped off/ picked up)	57%	42%	30%
Staff			
Bus	0%	0%	0%
Walk	5%	12%	16%
Bike, Scooter, Skateboard	3%	8%	9%
Car	90%	75%	65%
Carpool	2%	5%	10%

## 3.3 Actions

### 3.3.1 Overview

Several actions proposed to achieve the transport objectives and mode share targets are provided below. There are likely other actions not mentioned in this document that can be applied to achieve the transport objective.

As this document is intended to be 'live' and updated regularly, it is recommended that these actions be introduced at any time.

### 3.3.2 Active and Public Transport

#### 3.3.2.1 Student and Staff Bicycle Parking

Bicycle/scooter/skateboard parking infrastructure provision for students is required to accommodate a modal shift away from car dependence and towards more sustainable forms of transportation. 60 bicycle parking spaces are provisioned as part of a parking facility located within the proposed development, situated proximally to McGowen Lane. This parking facility should be secure and sheltered to further entice students to pursue this modal shift.

Of the total 60 spaces, it is recommended that an initial allocation of four bicycle parking spaces be reserved for staff use to promote active travel and reduce car dependency amongst staff. Staff bicycle parking spaces should be secure, weather protected and located near the main staff areas, separate from student bicycle parking. The staff bicycle parking is to be supplemented with end of trip facilities (e.g. showers, lockers, change areas, etc).

#### Monitor and Review

Monitor the usage of existing student and staff bicycle/ scooter parking facilities to proactively identify and react accordingly to when demand warrants further parking provisions in the future, facilitating a greater increase in cycling/scooting as a mode share.

Gain student and staff feedback on cycling/scooting and its facilities in an annual travel mode survey.



**Figure 3.2: Example Scooter / Skateboard Parking Facilities**

#### 3.3.2.2 Public Domain Works

As part of the redevelopment, the project proposes crossing upgrades to McGowen Lane and Murton Street. Upgrades shall be subject to detailed design and assessment by the Local Traffic Committee.

Additional pedestrian infrastructure improvements should be considered across the proximal area of the site, such as widened footpaths capable of shared path utility. Such public domain improvements should be investigated by TfNSW and Council to effectively deliver infrastructure that is cognisant of and caters for all forms of active transportation.



**Aim:**

- Encourage all users to travel by walking or cycling from the surrounding areas
- Reduce reliance on private vehicle usage, particularly for shorter local-based trips.

**Development:**

- Review and record the condition and use of active transport network surrounding the site
- Identify treatments that can be incorporated into future works plans or programs.

**Measure:**

- Outcomes from active transport review and travel surveys.

**Timing:**

- Active transport facilities review within 3 months of WHS reopening
- Feedback on facilities 12 months from reopening of WHS via the travel survey
- Upgrades to facilities following outcomes of STP reviews and available funding sources.

**Monitor and Review**

It is recommended that the usage of these additional facilities and any other prominent desire lines monitored by supervising staff are discussed in Section 5.

**3.3.3 Bus Facility Improvements and Bus Operational Plan**

It is recommended that a Bus Operational Plan and working group are formed. This elected group will be responsible for the supervision of the bus zone (fronting McGowen Lane) during student pick-up and drop-off times.

While this process will be undertaken following REF approval by school staff, preliminary work by DOE and TfNSW is beneficial to the bus planning process.

The Bus Operational Plan is expected to include, but not be limited to the following:

- Bus service information provided by TfNSW's Journey Planner for all service providers
- Investigations in consultations with TfNSW and Council.

**Monitor and Review**

The working group should review the Bus Operational Plan to assess the ongoing bus route capacity, efficiency and service times including access and availability of information.

**3.3.4 Operational Transport Management Plan**

The implementation of an Operational Transport Management Plan (OTMP) is recommended to ensure the safe, efficient, and coordinated management of all school transport operations, particularly during peak drop-off and pick-up periods. The OTMP will outline clear procedures and responsibilities for the operation of the Kiss n Drop (KnD) facility, bus zones, staff and visitor parking, and pedestrian access points.

Key elements of the OTMP should include:

- Defined roles and responsibilities for school staff supervising transport operations, including the KnD and pedestrian crossings.
- Procedures for the safe and efficient movement of vehicles through the KnD facility, including queue management, signage, and communication with parents and carers.
- Supervision protocols for student arrival and departure, ensuring students use designated access points and travel routes.
- Coordination with bus operators to manage bus arrivals and departures, and to ensure safe student movement between the school and bus bay.

- Communication strategies to inform parents, carers, and staff of transport procedures, including maps and guidelines for safe use of the KnD and parking areas.
- Monitoring and review processes to assess the effectiveness of the OTMP, including regular feedback from staff, parents, and the school community, and updates as required.

#### **Aim:**

- To provide a safe and orderly environment for all school transport activities.
- To minimise congestion and queuing on surrounding roads during peak periods.
- To support the school's broader objectives for safe and sustainable travel.

#### **Measure:**

- Monitor the effectiveness of the OTMP through annual travel surveys, staff feedback, and incident reporting.
- Review queue lengths and traffic flow during peak periods to identify any operational issues. Consider implementing management/mitigation measures if issues occur such as:
- Early releases for students to facilitate walking and cycling to school to promote active transportation, reduce potential for pedestrian-vehicle conflicts and reduce congestion/queuing around intersections associated with peak or staggered crossing demands coinciding with peak vehicle arrival times
- Implement surname-based pick-up windows for the KnD to stage and stagger peak demands
- Further targeted communication and education materials to parents/carers on use of the KnD and Park n Walk options nearby.

#### **Timing:**

- Develop and implement the OTMP prior to the opening of the redeveloped school facilities.
- Review and update the OTMP annually, or as required based on operational experience and feedback.

### **3.3.5 Private Vehicles**

#### **3.3.5.1 Staff Carpooling Initiative**

Staff carpooling can reduce the number of private vehicle trips by reducing the number of drivers and increasing the number of passengers. This could be undertaken informally (i.e. co-workers) or formally by online registers.

The School Travel Coordinator, or delegated school staff member, will monitor and assess the opportunity to introduce staff carpooling which will be implemented if feasible and provided there is sufficient interest. A school-based carpooling register could assist in arranging staff carpooling initiatives. It is also recommended that dedicated car parking spaces for carpooling vehicles only are provided in a convenient location to further encourage staff to carpool.

As part of the carpooling initiative the following is recommended to be incorporated:

- Line-marked / signed dedicated parking spaces within the car park for carpool vehicles
- Incentives to staff parking areas for staff involved in the carpool initiative
- Provide a "Guaranteed Ride Home" arrangement with Taxi or rideshare operators to provide the ability for carpool users to return home in an emergency.

#### **Aim:**

- Encourage staff to carpool and reduce the total number of private vehicle trips
- Reduce private vehicle trips by increasing vehicle mode share
- Reduce car parking demands and allows for cost sharing amongst staff.

**Measure:**

- Monitor staff level of awareness of carpooling initiative through the travel survey
- Monitor the staff carpooling usage to commute daily to WHS.
- Review as part of routine utilisation survey.

**Timing:**

- Trial during the first 12 months of WHS reopening
- Review utilisation, uptake and feedback on carpool initiatives as part of travel surveys.

**3.3.6 Communication Initiatives**

Communication initiatives should outline WHS Green Travel actions. This includes marketing of active transport initiatives, such as:

- The provision of bicycle repair stations and bicycle parking spaces
- Carpooling initiatives
- Public transport initiatives
- A potential trial for staff concession public transport cards.

**3.3.6.1 Transport Access Guide**

Provide all staff and students (including parents and guardians) with a Transport Access Guide information map. The map should display information on public transport routes, bus stops and active transportation infrastructure (footpaths and cycle lanes), as well as referral for further information from related websites and smartphone applications.

The information provided in the Transport Access Guide is to be clearly available to staff, parents and students and visitors via a variety of means, including:

- Workforce handbook and induction
- Travel access guide online.

**Aim:**

- Provide easily accessible information on public and active transport modes to all staff, parents and students
- Encourage use of alternate modes of transport such as active transport and public transport
- Reduce reliance on private vehicle usage.

**Measure:**

- Confirm the distribution of the Transport Access Guide at staff induction
- Provide Transport Access Guide Information Maps in common areas of the WHS for visitors and students
- Provide Transport Access Guide Information Maps on the WHS website.

**Timing:**

- Commence prior to reopening in preparation and monitor annually.



### 3.3.6.2 Travel Plan Actions

The alternate transport initiatives provided by STP shall be clearly available particularly for staff. This should include the location of on-site bicycle parking, bicycle repair stations and end-of-trip facilities, as well as carpooling initiatives and healthy habits initiatives. The active transport, public transport and private vehicle existing mode share and mode share goals should also be available.

Transport Access Guide information is to be clearly available to staff, parents and students via a variety of means, including:

- Workforce handbook and induction
- Monthly / semestral e-mails for all staff.

#### Measure:

- To provide easily accessible information on alternate transport initiatives for WHS staff
- Encourage use of alternate modes of transport such as active transport and public transport
- Reduce reliance on private vehicle usage.

#### Measure:

- Confirm the provision of 'School Travel Plan Actions' at staff induction
- Confirm the delivery of semestral internal email with a link for the Travel Plan Actions at the WHS
- Survey the usage of the provided actions, such as bicycle parking, carpooling and public transport

#### Timing:

- Commence upon reopening and monitor annually.

### 3.3.6.3 Healthy Habits Initiatives

There are a number of 'healthy habits' initiatives that can promote the use of alternate transport modes. These initiatives have the potential to change staff and student travel behaviour in the medium / long term. A few examples of well-known healthy habit initiatives are:

- Car-Free Days (celebrated yearly on 22nd September encourages motorists to give up their cars for a day)
- StepTember, 10,000 Steps program or Pedometer Challenge (encourages participants to achieve 10,000 steps daily)
- Display motivational and informative posters / brochure about benefits of physical activity and tips on using active transport / public transport to commute daily.

#### Aim:

- Promote active transport as a practical mode of transport
- Increase the use of active transport and public transport for staff to commute to work
- Reduce the reliance in private vehicle usage.

#### Measure:

- Monitor awareness of healthy habits initiatives through the travel survey tool
- Monitor active transport usage rates using travel survey tool.

#### Timing:

- Commence upon reopening and monitor annually.



## 4. TRAVEL ACCESS GUIDE

A Travel Access Guide (TAG) should be provided to students upon enrolment and before the start of the school year to inform the available transport modes. The TAG summarises the access locations to the school, its location in relation to other local destinations and its transport facilities. This document also provides links to other external information as required (i.e. bus route and timetable information).

## 5. MONITOR AND MANAGE TRAVEL DEMAND

### 5.1 Monitor School Travel Plan

An annual student and staff travel mode share survey undertaken by the School Travel Coordinator, or delegated staff member, should be implemented to collect current data and assist in decision making. This data can be compared against the mode share targets identified in Section 3.2. The STP can be updated to align with the results of the mode share survey and potentially include additional actions. The annual student and staff travel mode share survey aims to gain feedback and provide realistic actions targeted specifically for WHS staff and students.

Communication between state and local government agencies will be required to collaborate policies where possible. Broken Hill City Council (Council's) policies, including the Pedestrian Access and Mobility Plan (PAMP), could include the STP's actions to better integrate WHS's transport facilities within the nearby community.

The School Travel Coordinator will be required to submit progress reports to the Department of Education.

The following template can be used to accurately monitor and review actions annually.

Action Name (i.e. Staff Carpooling)	
Target Date	
Current Status	
Updates Requested	
Revised Target	
Date for Review	



## 6. FUNDING ARRANGEMENTS

### 6.1 Potential Funding Opportunities

The available funding for active and public transport projects is reliant on Council's budget allocations and successful grant applications through State and Federal Government programs. Potential funding options include:

- DoE/School Infrastructure NSW Infrastructure Programs
- Collaborations with other State Government departments (e.g. TfNSW active transport grants and road safety improvements)
- Contribution from other developments in the area
- Council Rates
- Planning Agreements
- Reallocation of existing funds within Council's budget
- Cycleway grants
- Commonwealth Government grants.

DoE seeks to work proactively and collaboratively with both WHS and Council in promoting sustainable school travel outcomes. This includes the continued and ongoing implementation of improved transport infrastructure and operational programs to meet the specific needs of the school.



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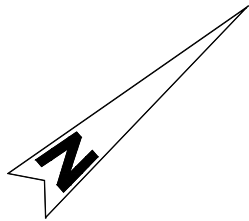
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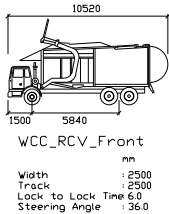
## Appendix C: Swept Path Diagrams





Notes:

Vehicle Clearance (300mm)

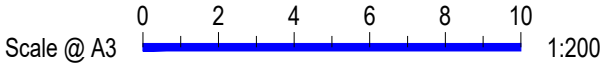


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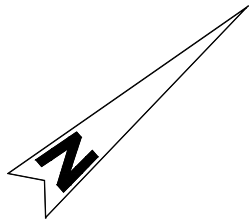


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REVISIONS			
Issue	Revisions/Descriptions	Drawn	Date
001	Swept Path Diagrams	J.I	02.07.2025

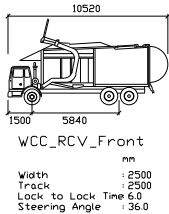


Project Willyama High School Redevelopment Transport and Access Impact Assessment	Design J.I	Drawn J.I	Checked J.BR
	CONCEPT ONLY		
	Date 02.07.2025	Issue 001	
Title RCV Manoeuvring	Project Number P6596	Sheet Number 1	

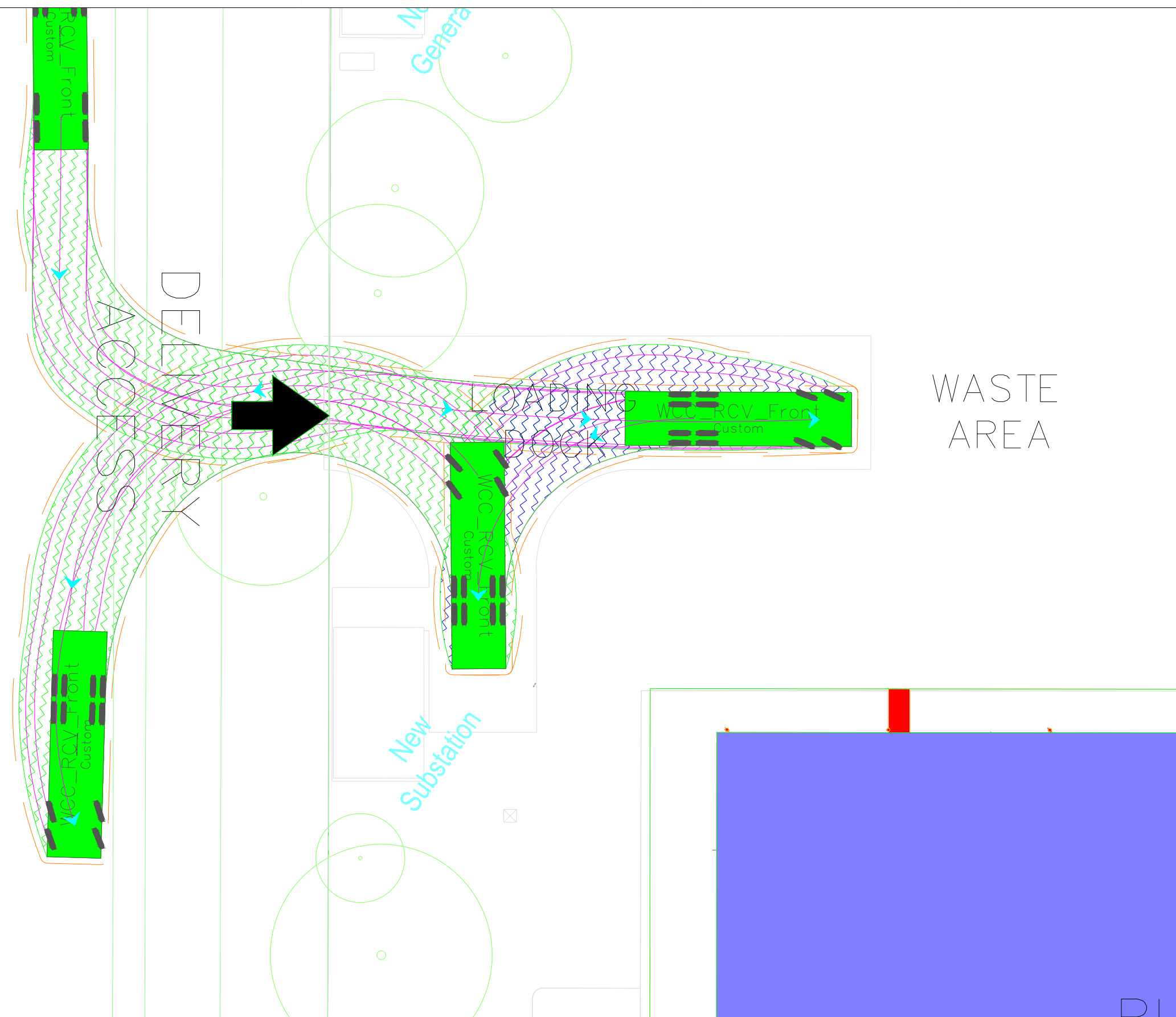


Notes:

Vehicle Clearance (300mm)



DESIGN VEHICLE



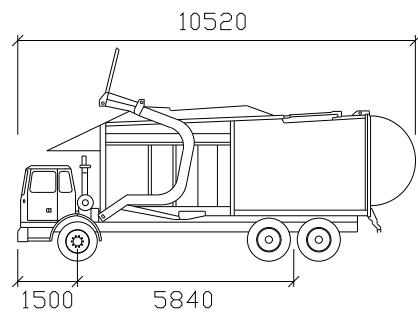
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REVISIONS			
Issue	Revisions/Descriptions	Drawn	Date
001	Swept Path Diagrams	J.I	02.07.2025



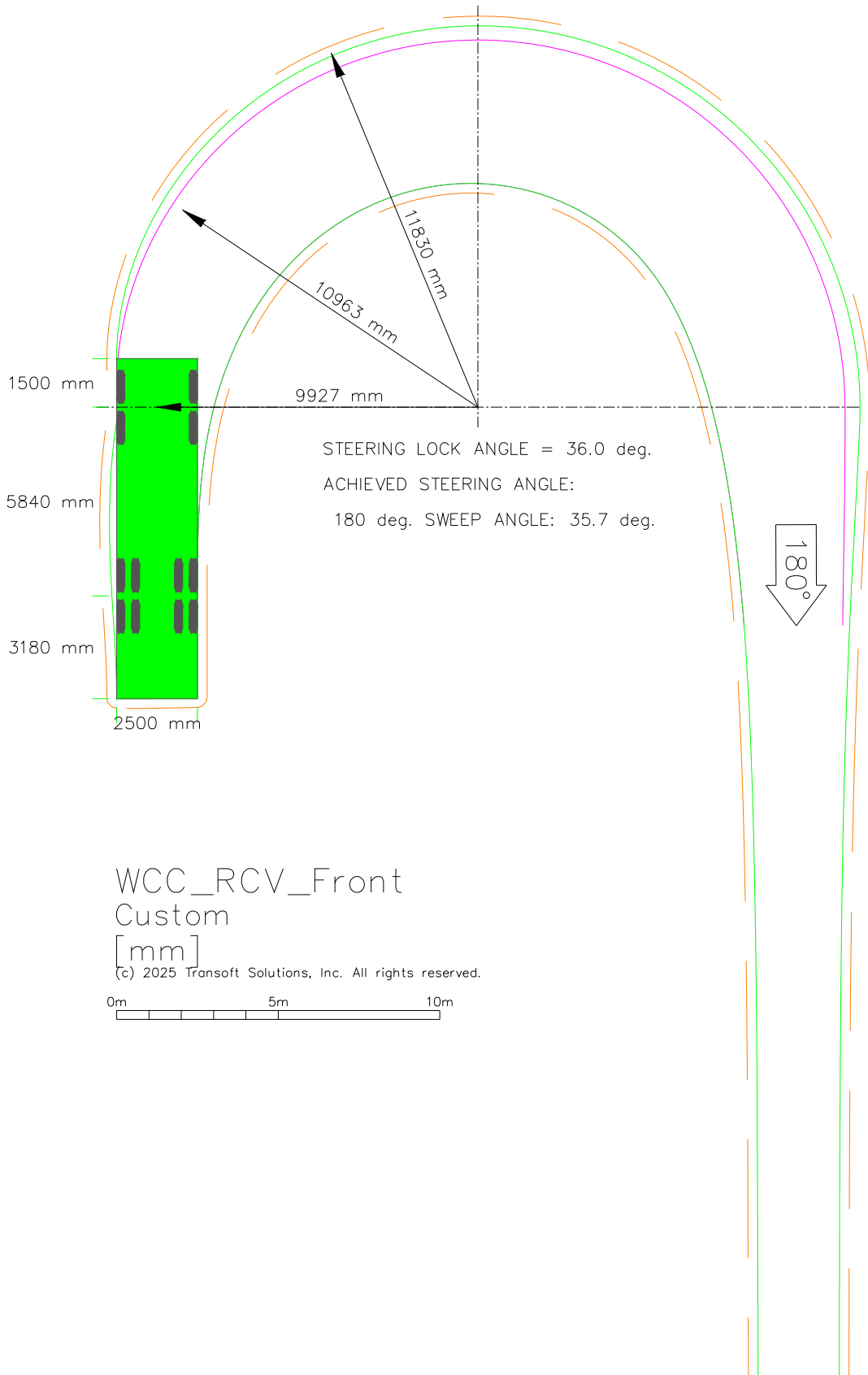
Project Willyama High School Redevelopment Transport and Access Impact Assessment	Design J.I	Drawn J.I	Checked J.BR
	CONCEPT ONLY		
	Date 02.07.2025	Issue 001	
Title RCV Manoeuvring	Project Number P6596	Sheet Number 2	Issue 001





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REVISIONS			
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Project Willyama High School Redevelopment Transport and Access Impact Assessment	Design J.I	Drawn J.I	Checked J.BR
	CONCEPT ONLY		
	Title Vehicle Template	Project Number P6596	Sheet Number 3
		Issue 001	Date 02.07.2025

## Appendix D: Preliminary Construction Traffic Management Plan





# WILLYAMA HIGH SCHOOL



## Construction Traffic Management Plan

**NSW Department of Education**

**04/07/2025**





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Table 2.3: Route Information

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Figure 1.1: Subject Site Location

Figure 2.1: Key Intersections

Figure 2.2: Key Active Transport Facilities

Figure 2.3: Bus Routes

Figure 4.1: Construction Access Routes

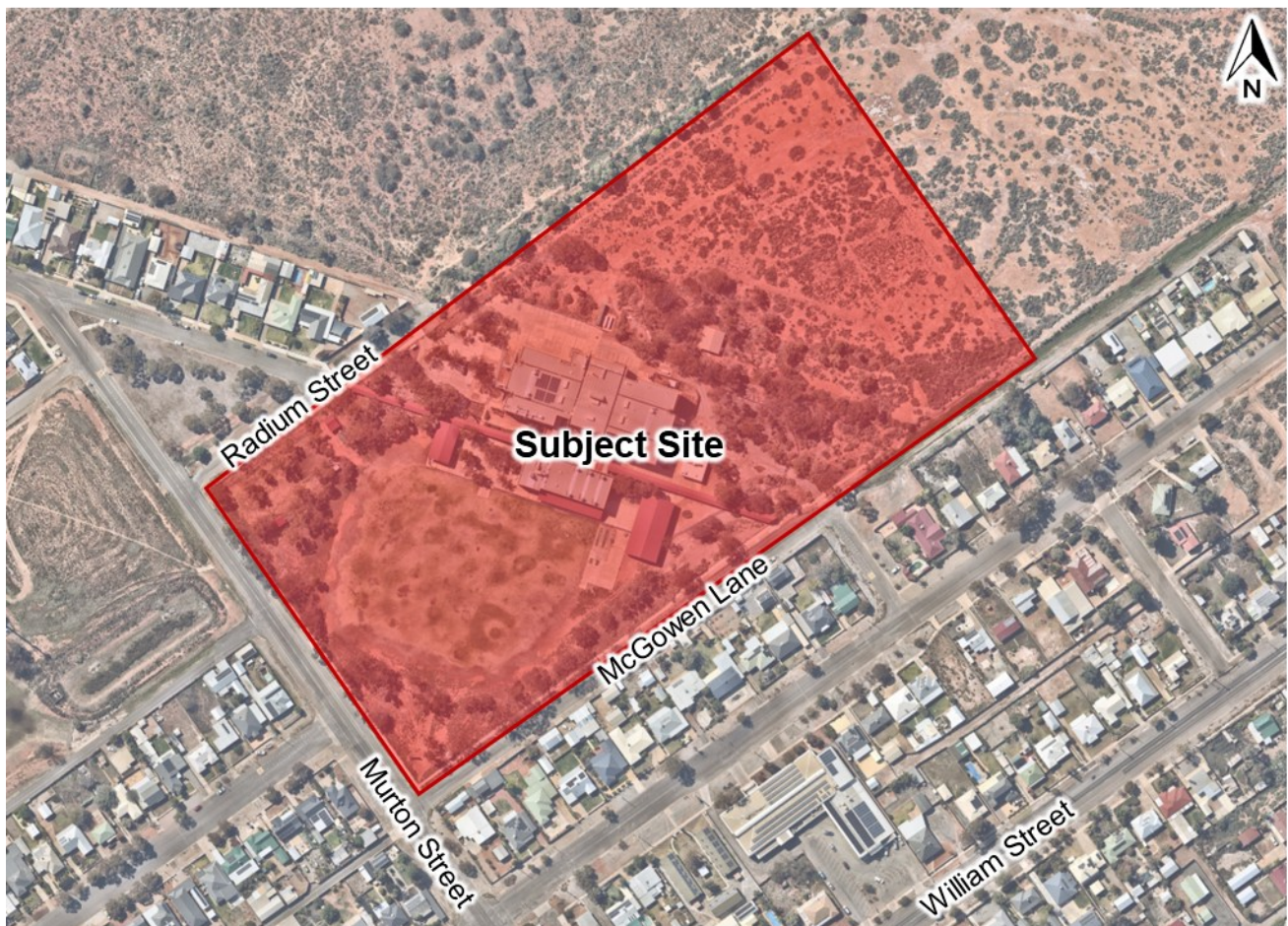


# 1. INTRODUCTION

## 1.1 Background

Bitzios Consulting has been engaged to prepare a Construction Traffic Management Plan (CTMP) for the Willyama High School (WHS) Review of Environmental Factors (REF). The REF regards a redevelopment of the WHS campus, which has arisen from the findings of black mould throughout campus buildings after a heavy rain event during the 2023/2024 summer holiday period. As such, the existing school infrastructure is to be demolished and replaced with the new facilities. It is important to note the school will in operation at this site, so there is no need to consider school operations as part of the CTMP.

WHS is located at 300 Murton Street, Broken Hill, NSW, 2880 (formally described as Lot 5858 on DP757298), highlighted in Figure 1.1.



Source: NearMap

**Figure 1.1: Subject Site Location**

## 1.2 Purpose

The purpose of this CTMP is to assess the likely impacts associated with construction activities and maintain an accessible and efficient road network for all users. This document has been prepared to assist the Principal Contractor to implement vehicle and pedestrian management measures when carrying out the works phase of the project.

### 1.3 Limitations

This document has been prepared to give a general understanding of construction traffic impacts associated with the project. Once detailed construction information is available, this CTMP should be reviewed and revised to incorporate the detailed information of the project.



## 2. EXISTING CONDITIONS

### 2.1 Road Network

Details of the surrounding road network are provided in Table 2.1.

**Table 2.1: Surrounding Road Network**

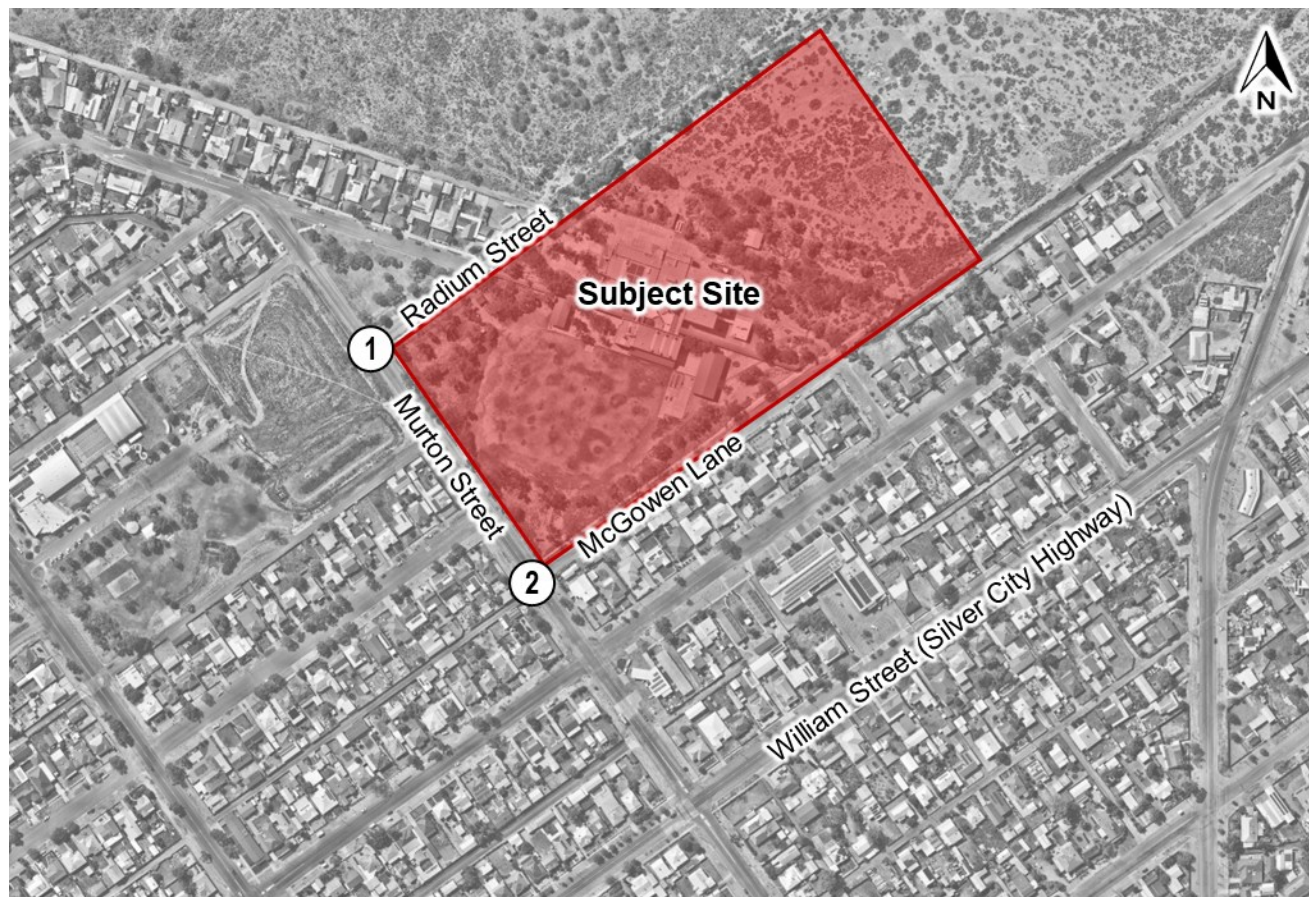
Road Name	Jurisdiction	Hierarchy	Lanes	Divided	Posted Speed
McGowen Lane	Council	Local Street	2	No	50km/h (40km/h school times)
Murton Street	Council	Local Street	2	No	50km/h (40km/h school times)
Radium Street	Council	Local Street	2	No	50km/h (40km/h school times)
William Street (Silver City Highway)	State	Highway	2	No	50km/h

The surrounding key intersections in proximity to the school are summarised in Table 2.2.

**Table 2.2: Surrounding Key Intersection Details**

No.	Major Road	Minor Road/s	Jurisdiction	Control
1	Murton Street	Radium Street	Council	Priority
2	Murton Street	McGowen Lane	Council	Priority

The location of the key intersections with respect to the school is shown in Figure 2.1.



Aerial Source: NearMap

**Figure 2.1: Key Intersections**



## 2.2 Alternate Transport

### 2.2.1 Active Transport

Currently there are no direct connections from the school to the wider footpath network. Surrounding the site, the footpath network is segmented with core routes such as the Silver City Highway to the south provide greater connectivity to the wider network once reached. On-road bicycle lanes run along the Murton Street frontage and provide connections to southern Broken Hill student catchment. Future active transport works which include additional footpaths connections to the school have been identified in the Broken Hill Active Transport Plan.

The current active transport facilities surrounding the school site are shown in Figure 2.2.



**Figure 2.2: Key Active Transport Facilities**

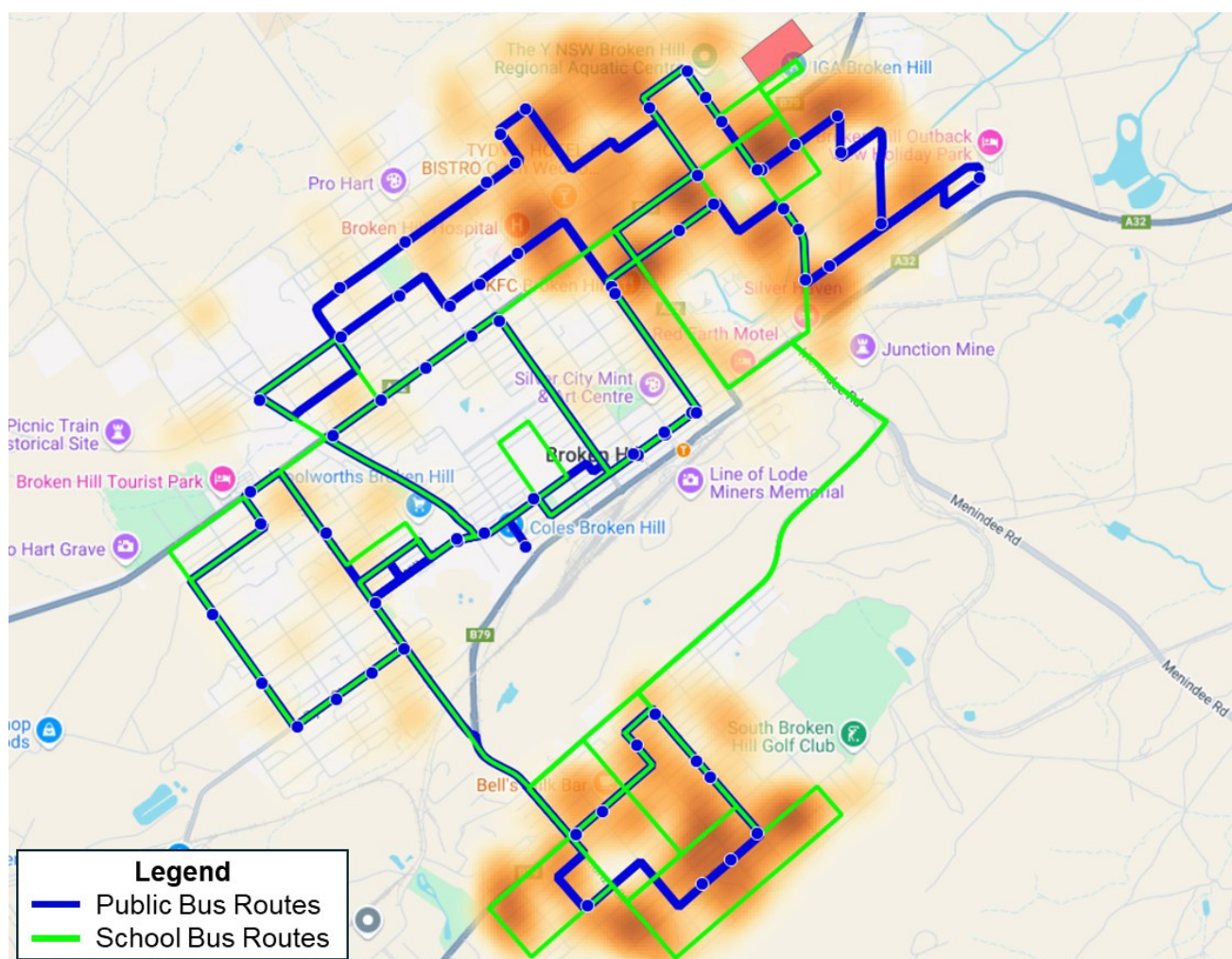
### 2.2.2 School Bus and Public Transport

Existing school and bus routes servicing the school campus are provided by CDC and TfNSW. Details of these services are provided in Table 2.3 and illustrated in Figure 2.3. It is noted that the school will not be in operation during construction.



**Table 2.3: Route Information**

Route Number	Route	Start	Finish
<b>AM</b>			
S1-1 / S1-2	Commence Piper Street and Central Street – Alma Public High School	7:55AM	8:30AM
S2	Commence Holten Drive and Eyre Street - Willyama High School	8:10AM	8:35AM
591 / 592	Commence Argent Street and Oxide Street - Argent Street	8:00AM	8:35AM
<b>PM</b>			
P1-1 / P1-2	Alma Public School – Williams Street	3:35PM	
P2-2	Willyama High School - Barrier HWY / Williams Street	3:30PM	



**Figure 2.3: Bus Routes**

## 3. CONSTRUCTION ACTIVITIES

### 3.1 Overview

At this stage, the CTMP details the following assumed construction activities, as based on the recommendations provided from the design advice and Transport and Access Impact Assessment (TAIA). The anticipated construction activities include:

- Establishment of a construction compound for the works
- General clearance of vegetation within the footprint of the proposed buildings
- Refurbishment of carparks
- Augmentation and connection of permanent services for the new facilities (i.e. water, electricity, telecommunications)
- Stabilisation / erosion control or off-site disposal (as required)
- Bulk earthworks to establish the require site levels and create a stable land platform
- Construction of new classroom buildings.

The construction methodology is expected to be completed in two phases as follows:

- **Phase 1:** Grubbing and earth works
- **Phase 2:** Construction of new buildings/facilities.

Furthermore, it is understood the following details are anticipated regarding the construction methodology:

- A peak of 50 employees during Construction
- A maximum of 10 heavy vehicle movements per day (that is, five (5) trucks in/ out)
- Demolition works to occur over a two (2) month period
- Construction works to occur over a 12-month period.

### 3.2 Construction Hours

The hours of construction including delivery of materials to and from the site are generally restricted to between:

- Monday to Friday 7:00am-6:00pm (inclusive)
- Saturday 8:00am-4:00pm (inclusive)
- Not on Sundays or public holidays.

### 3.3 Construction Site Access

#### 3.3.1 Overview

Construction access to the site from the surrounding road network is expected to occur on the McGowen Lane frontage.

#### 3.3.2 Site Access

The existing informal crossover on McGowen Lane will be used by construction vehicles entering and exiting the site. Swept path diagrams will be required to demonstrate the ingress and egress movements for the required vehicles (e.g. 12.5m long Heavy Rigid Vehicle (HRV)) are suitable. These movements will be required for the loading and unloading and storage of plants, equipment and materials within the site area. All reverse movements will be undertaken with the aid of a 'spotter', and all vehicles must be fitted with working reversing alarms and lights.

A Vehicle Movement Plan (VMP) is not required in accordance with Roads and Maritime Services (RMS) *Traffic Control at Work Sites* as the speed limit of all surrounding roads is 50km/h.



### 3.4 Construction Worker Parking

Parking for construction personnel is anticipated to occur within the subject site. Informal construction staff parking should accommodate up to a maximum of 50 parking spaces.

Further details regarding construction worker parking are discussed in Section 4.3.3.

### 3.5 Construction Worker Induction

All workers and subcontractors engaged on-site should be required to undergo a site induction. The induction should address elements related to traffic and transport management, including:

- Existence and requirements of the CTMP
- Relevant legislation, regulations and conditions (e.g. Workplace Health & Safety procedures)
- Roles and responsibilities
- Incident response, management and reporting procedures
- Construction hours
- Access routes and preferred parking locations
- Road safety and occupancy
- Temporary and interim traffic arrangements.

Informal training on traffic management (including monitoring and reviewing traffic control devices and mitigation measures) should be undertaken during toolbox meetings with site personnel.

#### 3.5.1 Safe Work Requirements

To protect the safety of workers and the public, the work site should be adequately secured (i.e. security fence) to prevent access by unauthorised personnel. Additionally, all works must be conducted in accordance with the relevant SafeWork requirements.

#### 3.5.2 SafeWork Method Statements

A Safe Work Method Statement (SWMS) should be complied whenever any person is undertaking high risk construction work as defined by SafeWork NSW. Generally, the SWMS should include:

- The task/s
- All known hazards and risks
- Any control measures including their implementation, monitoring and review.

If a control measure is changed, the SMWS are to be reviewed and updated accordingly.

## 4. CONSTRUCTION TRAFFIC IMPACTS

### 4.1 Overview

An increase in traffic volumes is expected during the construction of the project as the result of commuting workers, deliveries of equipment and haulage of materials to and from the subject site. It is anticipated that the primary traffic generation of construction will comprise of:

- The delivery and removal of construction machinery and materials, spoil and waste
- The movement of construction personnel, including contractors, workers and management staff.

### 4.2 Construction Vehicle Routes

#### 4.2.1 Construction Vehicles

The following design vehicles are likely to be used during construction:

- 12.5m Heavy Rigid Vehicles (HRV): for deliveries and loading / unloading
- 8.8m Medium Rigid Vehicle (MRV): for deliveries and loading / unloading
- Rigid Concrete Agitator
- Mobile Crane.

The largest construction vehicle is expected to be a 12.5m long HRV.

#### 4.2.2 Access Routes

Access routes have not yet been confirmed at this stage; however, the main access / haulage routes are expected to follow the alignment as depicted in Figure 4.1.

Swept paths of a 12.5m HRV will be required on the local roads for key turning movements within the local network. The swept path diagrams will need to demonstrate that construction vehicles can access the construction site using the full pavement width of the roads.

Importantly, McGowen Lane services existing school bus routes with buses up to 14.5m long using these roads. There is not expected to be any issues with 12.5m long vehicles on the above roads.



Aerial Source: NearMap

**Figure 4.1: Construction Access Routes**

## **4.3 Construction Traffic Impacts**

### **4.3.1 Overview**

Due to the preliminary nature of this CTMP, it is not possible to definitely quantify the number of construction workers or vehicles. The quantity of construction vehicles is largely associated with the duration of the works and the availability of workers and vehicles. However, construction activities commonly occur with a uniform traffic profile. This is important for activities like deliveries and haulage to prevent vehicles queueing within the site and maintaining efficiency.

Given the scale of the works associated with the WHS project, there is not expected to be a large quantum of construction vehicles. Any impacts associated with the construction are expected to be minor and short lived.

### **4.3.2 Surrounding Road Network**

As per the access assessment, no detailed analysis of the wider transport network has been undertaken as it is expected that these roads have sufficient capacity to accommodate the low levels of additional traffic without significant impacts.

Due to the location, road network peak time and peak school pick-up/drop-off times, typical construction worker arrival / departure times can be arranged to occur outside of peak network times. Truck movements should be restricted between 7:00-9:00am and 3:00-5:00pm.

Therefore, it is expected that the construction generated traffic will have negligible impacts on the operation and efficiency of the local road network, and a detailed analysis is not warranted.

### **4.3.3 Parking**

On-site parking shall be available for construction workers noting numerous locations for potential parking. Pending the timing of demolition / removal of the existing parking areas, it is recommend that the existing hardstand located towards the northern boundary of the site is used, or alternatively any location not marked for building construction or designated as a material laydown area. Single occupant private vehicle travel should be discouraged in the site induction and where not avoidable, it will be recommended that workers carpool to reduce the number of worker vehicles.

Furthermore, the availability of on-street parking fronting the school would be able to cater for up to 57 vehicles, however it is recommended that where possible, parking be kept to on-site.

### **4.3.4 Pedestrians and Cyclists**

There is expected to be minimal impacts to pedestrians and cyclists in the area during construction due to the extent of works being contained within the subject site. Any impacts to pedestrian pathways or cycle routes will be managed under the CTMP.

### **4.3.5 Bus Zones and Services**

School buses will not service the WHS campus during construction as the campus will remain nonoperational until construction has been completed.

### **4.3.6 Property Access**

It is not expected that construction works will have any adverse impacts on existing property accesses of nearby lots with access to all properties maintained during construction unless otherwise agreed to by the relevant business owner, property owner or occupier.

### **4.3.7 Emergency Services**

The proposed construction activities are not expected to impact emergency services. Emergency services will always have access to the site and surrounding roads.



## 5. CONSTRUCTION TRAFFIC MANAGEMENT

### 5.1 Traffic Control Plans

Prior to implementation, construction traffic management measures will require the preparation of an approved Traffic Control Plan (TCP). TCPs indicate the road worksite arrangements to ensure the safety of all road users as well as workers at the site.

Works that have been identified as requiring a TCP include construction vehicle access to the subject site.

TCPs will be developed as per Australian Standards AS1742.3 and the RMS *Traffic Control at Work Sites Technical Manual* (latest version).

## **6. STAKEHOLDER CONSULTATION**

### **6.1 Broken Hill City Council**

Consultation with Council may be required prior to submission of this plan to Council for approval.

### **6.2 Residents**

Information is to be provided to nearby residents near the site. This information should include:

- Proposed works
- Impacts to amenity as a result of proposed works (i.e. traffic conditions, pedestrian diversions etc.)
- Information on the timing of proposed works.

This information is to be provided via a flyer delivered to local letterboxes.

### **6.3 Servicing**

Both regular and intermittent servicers of the site must be notified of any changes to servicing times, locations and procedures prior to, and throughout the duration of construction.

# 7. MONITORING AND EVALUATION

## 7.1 Inspection and Monitoring

In addition to traffic control safety inspections, formal and documented daily (short-term) and weekly (long-term) inspections shall be undertaken at work sites by suitably qualified persons (i.e. holding the Prepare Work Zone Traffic Management Plan qualification).

It is also important for any near miss incidents to be recorded and documented then reviewed as part of any inspection.

## 7.2 Works Supervisor Role

For all long-term work sites, the works supervisor who is appropriately qualified shall:

- Plan arrangements for vehicles associated with the works
- Inspect the traffic control layout a day before the works begin and at least once per week over the duration of works
- Inspect the traffic control layout between shifts at least once during the first week and at least once every two months for the duration of work
- Review the reported near miss incidents
- Provide after-hours contact to local police for the duration of works
- Inspect the site on the final day to ensure that unnecessary signage and devices are removed
- Record results of these inspections noting date, time, deficiencies and any corrective action taken of specified
- Ensure that any specified corrective action is taken.

## 7.3 Team Leader Role

For all works, the team leader (or site supervisor) shall:

- Ensure that drivers of work vehicles are familiar with the arrangements of the traffic control
- Instruct drivers how to enter and exit the work site safely and which routes to follow between work sites, depots and material sources
- Keep record of the TCP used on site at all times
- Record start and finish times and locations of works
- Record any near misses
- Carry out inspections before work starts, during the works and pre-closedown of the site using the nominated check list, noting:
  - Date and time of inspection
  - Deficiencies identified and corrective action taken
  - Changes or modifications made to the site
- Periodically check that all signs and devices are satisfactory and in their correct position
- Make all records available to authorised staff.



## 7.4 Project Manager Role

The project manager shall:

- Ensure that traffic control safety inspections are carried out at least once per month by a person suitably qualified in Prepare Work Zone Traffic Management Plans and that the date, time and deficiencies are recorded
- Ensure that a traffic control safety inspection or road safety audit is carried out prior to the implementation of any changes in traffic control or TCP
- Ensure that a traffic control safety inspection or road safety audit is carried out prior to the implementation of any lateral shift tapers to ensure that geometric requirements and delineation methods are in accordance with the approved TCP
- Ensure that near miss incidents are being reported and recorded then reviewed
- Ensure that any corrective action specified is taken and recorded, as information may be critical, should legal proceedings follow and incident.

## 7.5 Traffic Controllers

The services of a qualified Traffic Control subcontractor must be used to provide traffic control services for the construction of the project. Traffic controllers will be trained and inducted in accordance with the Traffic Controller Accreditation and Implementation Traffic Control Plans qualifications as well as comply with the requirements of the *Traffic Control at Work Sites Technical Manual* (Version 5.0).

It is also the responsibility of a Traffic Controllers employed on-site to record any issues relating to the implemented traffic management measures and report them to the Site Manager so that any issues are recorded within a site register then reviewed.





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