



Adelaide Botanic High School

School Travel Safety Review – Draft Report

City of Adelaide

CLC003491
8 July 2024
Ref: 240706



Document History and Status

Rev	Description	Author	Reviewed	Approved	Date
A	Draft Report	John Devney	James Arnold	James Arnold	8 July 2024

DRAFT

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240706 Adelaide Botanic High School | School Travel Safety Review – Draft Report



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Client: City of Adelaide
Ref: 240706

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Executive Summary

Overview

Adelaide Botanic High School is located in the Adelaide Park Lands on the eastern side of Frome Road south of Victoria Drive. The high school comprises Years 7 to 12. The recent expansion for a new southern wing was completed in June 2024 and is fully operational for Term 3 2024 in July 2024. The high school had 1,390 students enrolled in Term 2 2024.

Key Findings

The high school has a zoned enrolment area that is the same for Adelaide High School. It includes the City of Adelaide and suburbs to the inner west and inner north, such as Mile End, Bowden, Prospect and Walkerville. 18 per cent of the students live in Adelaide and North Adelaide with 11 per cent in the adjacent suburbs to the Ring Road within a distance that they can walk or bicycle to the school. Over 70 per cent of the students live in suburbs beyond a short walking or cycling distance. Only 5 per cent live in outer suburbs that are outside of the enrolment area.

From the student travel survey, the car mode share was 26 per cent in the AM period and 22 per cent in the PM period on a typical fine weather day in May 2024. The PM departure period had four per cent more students using public transport than in the AM period. This result is likely because parents drop off their children on the way to work in the CBD for the morning commute trip, but the students travel home by public transport when the parent is still working in the PM school departure period. The bicycle mode share was about 8 per cent and the walk mode share was 4 to 5 per cent.

On a wet weather day in the same week, the cycling mode share dropped by five per cent and public transport by nine per cent in the AM period whereas the car mode share increased by 13 per cent.

Key Recommendations

Most of the student travel safety issues will be addressed with the completion of the Frome Road bikeway with the following infrastructure improvements:

- Southbound bus stop 1A will be relocated north of Victoria Drive so that the queues of students in the afternoon can be organised to stand in the open area north of the northern side of the school.
- The left turn slip lane from Victoria Drive for northbound traffic into Frome Road will be removed to remove this pedestrian safety risk at this intersection as shown in Figure 4.1.
- The bicycle lanes in Frome Road will be redesigned and rebuilt to be separated from the footpaths on both sides of Frome Road south of Victoria Drive and as a two-way cycleway on the westside of Frome Road north of Victoria Drive. This will provide a safer location for the north-south cycling route with the hazards with pedestrians sharing the path.

Other recommendations for the high school to consider are:

- The high school to complete the landscaping project on the northern side of the school to include a sealed footpath from Frome Road at Victoria Drive for a safer walk route to the student entrance on the northern side of the school.
- Maintain the clearance of debris, fallen tree branches and leaves from the footpath in front of the entire school building, especially during the autumn and winter months when wet leaves are a trip hazard for pedestrians and cyclists.
- Develop ongoing travel demand management education and training with regular activities and promotions to encourage more students to walk, cycle and use public transport modes instead of the private vehicle.
- Consider promoting safe travel to school with the preparation of a School Travel Access Guide that includes the school building entry locations, bus route and timetable information, other public transport information, safe walking and cycling routes and tips for safe cycling.



Abbreviations

Abbreviation	Description
DfE	Department for Education, South Australia
DIT	Department for Infrastructure and Transport, South Australia
PAC	Pedestrian Actuated Crossing with traffic signals

Glossary of Terms

Term	Description
Bicycle lane	On-road kerbside lane allocated for bicycles with pavement markings
Emu crossing	A pedestrian crossing with white road markings, red and white posts and operate only when the children's crossing flags are displayed. They are placed within school zones and a speed limit of 25 km/h applies to drivers when children are present. Drivers must stop for pedestrians using or about to use the crossing.
Kiss and Drop zone	A location designated on the street or on the school grounds for parents and carers in vehicles to drop-off or pick-up students typically with a 2-minute waiting limit. Parents are to stay in the vehicle.
Koala crossing	A pedestrian crossing with white road markings, red and white posts and two yellow alternating flashing lights. They are only operational when the yellow lights are flashing and a speed limit of 25 km/h applies to drivers between signs on the approach to the crossing. Drivers must stop for pedestrians using or about to use the crossing.
Shared path	Off-road pathway for pedestrians and cyclists
Go Zone	<p>A high frequency bus corridor with one or more bus routes with a service headway of every 15 minutes on weekdays and every 30 minutes at other times. Stops and stations within a 'Go Zone' provide a bus, train or tram operating:</p> <ul style="list-style-type: none">• every 15 minutes between 7.30 am and 6.30 pm, Monday–Friday• every 30 minutes between 6.30 pm and 10 pm, Monday–Friday• every 30 minutes on Saturday, Sunday and South Australian public holidays.



1 Introduction

This section provides the background for the school travel safety reviews and the study purpose and scope with an overview of the school location.

1.1 Background

The City of Adelaide is conducting School Travel Safety Reviews with the key objectives to:

- Investigate the current speed limits to assess the requirement of reducing the speed to 40km/h or less to help support more vibrant businesses and for a safer urban environment with the provision of higher quality amenity in the residential streets in the City of Adelaide.
- Consider always extending the time periods for the 25 km/h speed limit at and near all schools in the City of Adelaide when children are present and to work with DIT to further understand what responsible safety measures may be added to assist with drop off/pick up of children.

In January 2023, the Council requested the administration to investigate and report by the end of the 2023 school year on the need for and the nature of any additional measures to enhance the safety of primary and secondary, public and private school students entering and leaving schools at the beginning and end of the school day, including the introduction of supervised or unsupervised so called “kiss and drop zones” at all schools in the City of Adelaide.

A School Safety Report was completed for St Aloysius College and presented to the Infrastructure and Public Works Committee held on 19 March 2024. At the Council Meeting on 26 March 2024, Council decided to complete school travel safety reviews for 11 other schools in the City of Adelaide.

1.2 Study Purpose and Scope

The purpose of the work is to develop and document an evidence-based approach using the Safe System approach to address road safety concerns for children, parents and carers, with recommended changes such as safer crossing outcomes and measures to reduce the danger from motorised vehicle movements. The key objectives of the school transport safety reviews are to:

- Review the extents of the existing school speed zones to achieve Safe System speed outcomes, and
- Identify and prioritise opportunities to improve safety outcomes around schools.

The following tasks were completed for this school travel safety review:

- Engage with each school Principal or relevant representative to discuss issues with student travel to and from the school and opportunities to improve school travel safety.
- With the support from the teachers, undertake a student travel mode survey.
- Conduct AM and PM site investigations to observe any unsafe movements, in particular at the Kiss and Drop areas.
- Identify and map the location of the:
 - Existing pick up and drop off areas.
 - Existing school zones and other speed limits, including signs.
 - Existing crossings by type and informal crossing points and pedestrian desire lines.
 - Proposed locations of any measures, such as indicative locations of new crossings, new/changed school zones and of pick-up and drop off areas.
- Document the research and site investigation findings with options and prioritised recommendations for infrastructure projects to improve school travel safety.



1.3 School Location

Adelaide Botanic High School is located on Frome Road south of the intersection at Victoria Drive within the Adelaide Park Lands and west of the Adelaide Botanic Garden within the City Riverbank zone. The school site and the existing surrounding environs are shown in Figure 1.1.

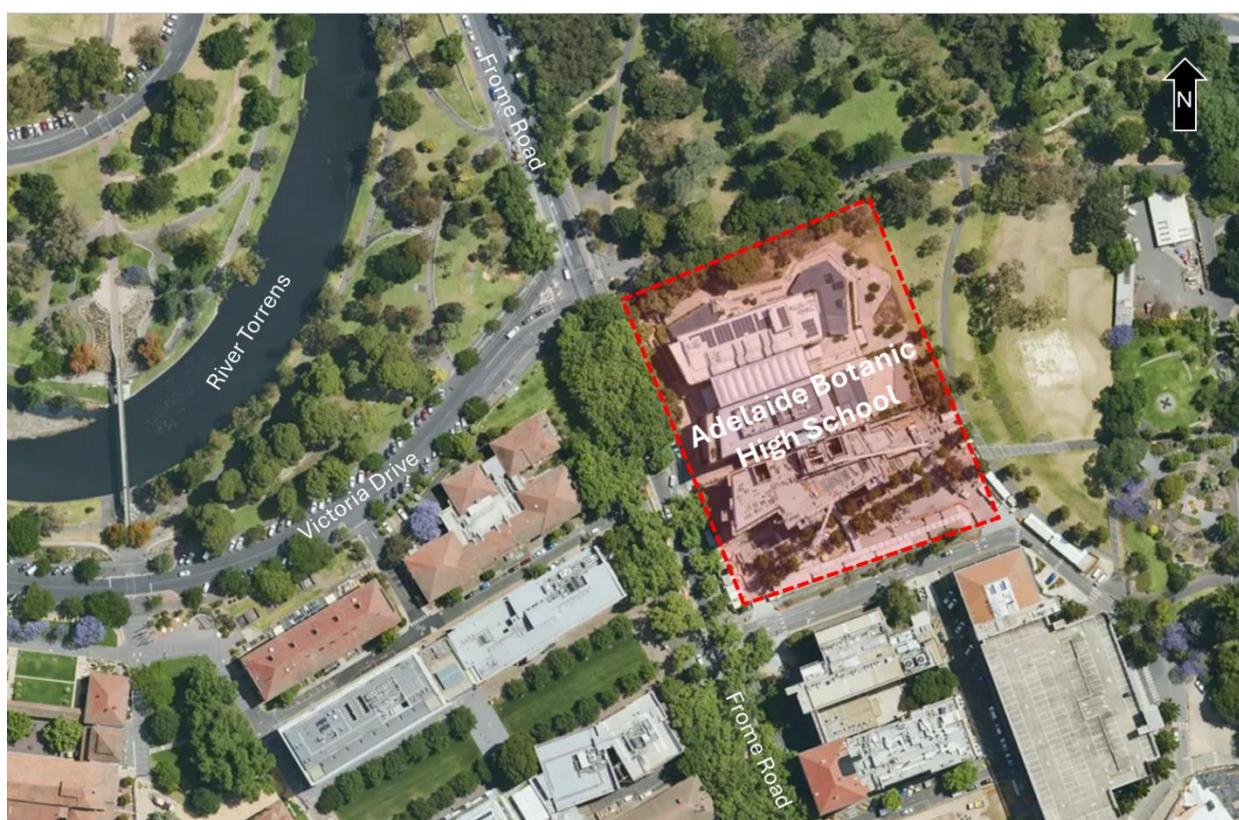


Figure 1.1 Adelaide Botanic High School Location

The existing entrances to Adelaide Botanic High School are shown in Figure 1.2. From Term 3 2024, students will have an alternative entrance on the south side of the school to enter the new wing.



Footpath and existing bicycle path at the front public entrance to the high school



The entrance for students is on the eastern and northern side of the school

Figure 1.2 Student and Public Access to the Adelaide Botanic High School



2 Existing Conditions

The section provides the analysis of the existing school operations, the student population and travel patterns and an overview of transport access to the school by all transport modes.

2.1 School Operations

Adelaide Botanic High School that comprises years 7 to 12 opened in January 2019 is unique with a CBD location in a Park Lands setting, multi-level modern architecture and fosters a culture to support sustainable transport modes.

Adelaide Botanic High School was expanded with a new southern wing to the school that can accommodate growth for an additional 700 students. The new facilities are designed in an integrated vertical building that can accommodate up to 1,950 students. The school expansion was completed in June 2024 and is fully operational for Term 3 2024 in July 2024.

The school building opens at 8:25 am on school days. The bell times are:

- Start of classes at 9:25 am on Mondays, Tuesdays, Thursdays and Fridays
- Start of classes at 10:15 am on Wednesdays only
- End of classes at 4:00 pm Monday to Friday, except public holidays

A 9.25 am start time (10.15 am on Wednesday) for students was chosen because the traffic on the road network is less busy and it provides the greatest capacity on public transport. Bike paths are also less congested at these times. The late start is supported by research regarding adolescent sleep and learning patterns as well as providing a unique staff collaboration and planning opportunity each morning. For staff, the school day starts at 8.25 am when they meet to plan and prepare the lessons for the students. Students finish their school day at 4.00 pm which allows them to travel home during the less busy traffic period before PM commuter peak hour after 5:00 pm.

The school office hours are:

- Monday to Tuesday 8.30 am to 4.30 pm
- Wednesday 10.00 am to 4.30 pm
- Thursday to Friday 8.30 am to 4.30 pm

2.2 Student Enrolment Analysis

The school enrolment in Term 2 2024 was for 1,390 students with a distribution by year as follows:

- 307 students in Year 7
- 224 students in Year 8
- 220 students in Year 9
- 236 students in Year 10
- 214 students in Year 11
- 189 students in Year 12

Enrolment for Term 3 2023 with 1,151 students.

Students typically reside from areas within the enrolment catchment area that is shown in Figure 2.1. These areas include the City of Prospect, City of Adelaide, City of Charles Sturt, and City of Norwood Payneham St Peters. However, some students travelled outside of the enrolment area such as City of Onkaparinga and District Council of Mount Barker.

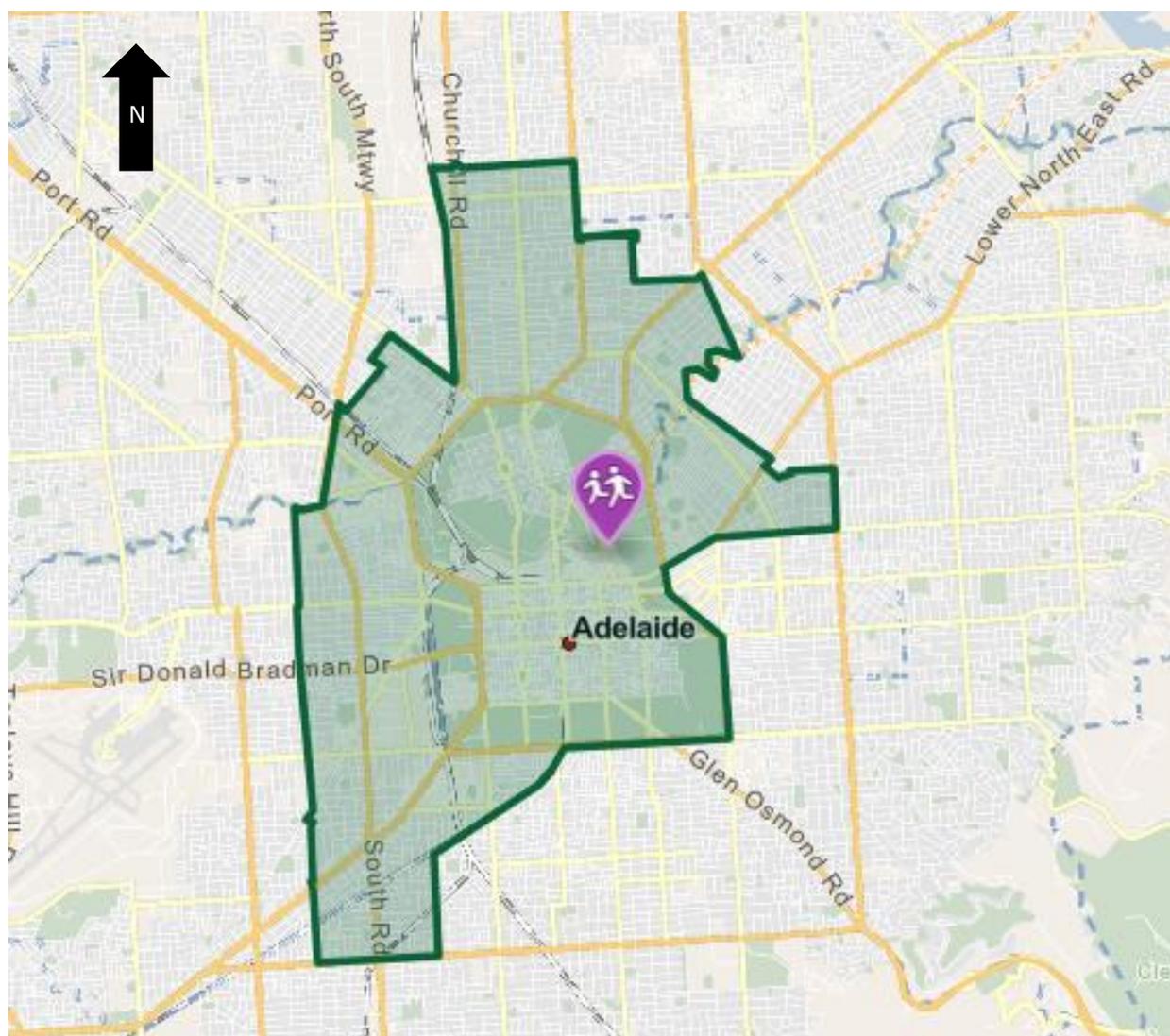


Figure 2.1 School Enrolment Area for Adelaide Botanic High School

The Adelaide Botanic High School catchment boundary area includes all the City of Adelaide and parts of the City of Prospect, Town of Walkerville, City of Norwood Payneham & St Peters Council, City of Unley, City of West Torrens Council and City of Charles Sturt. A breakdown of the distribution of student residence per neighbouring area is shown in Table 2.1.

The number of students in Term 2 2024 by residence location and year is provided in Table 2.1 and is shown in the histogram in Figure 2.2. 18 per cent of the students live in Adelaide and North Adelaide with 11 per cent in the adjacent suburbs to the Ring Road within a distance that they can walk or bicycle to the school. Over 70 per cent of the students live in suburbs beyond a short walking or cycling distance. Only 5 per cent live in outer suburbs that are outside of the enrolment area.



Table 2.1 Student Residence per Location for Adelaide Botanic High School

Location	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Total (Percentage)
Adelaide	49	32	30	18	21	23	173 (12.4%)
North Adelaide	14	15	12	10	15	11	77 (5.5%)
Neighbouring Suburbs	29	18	26	26	19	28	146 (10.5%)
Inner Council Suburbs	202	148	139	169	148	117	923 (66.4%)
Outer Council Suburbs	13	11	13	13	11	10	71 (5.1%)
Total	307	224	220	236	214	189	1,390

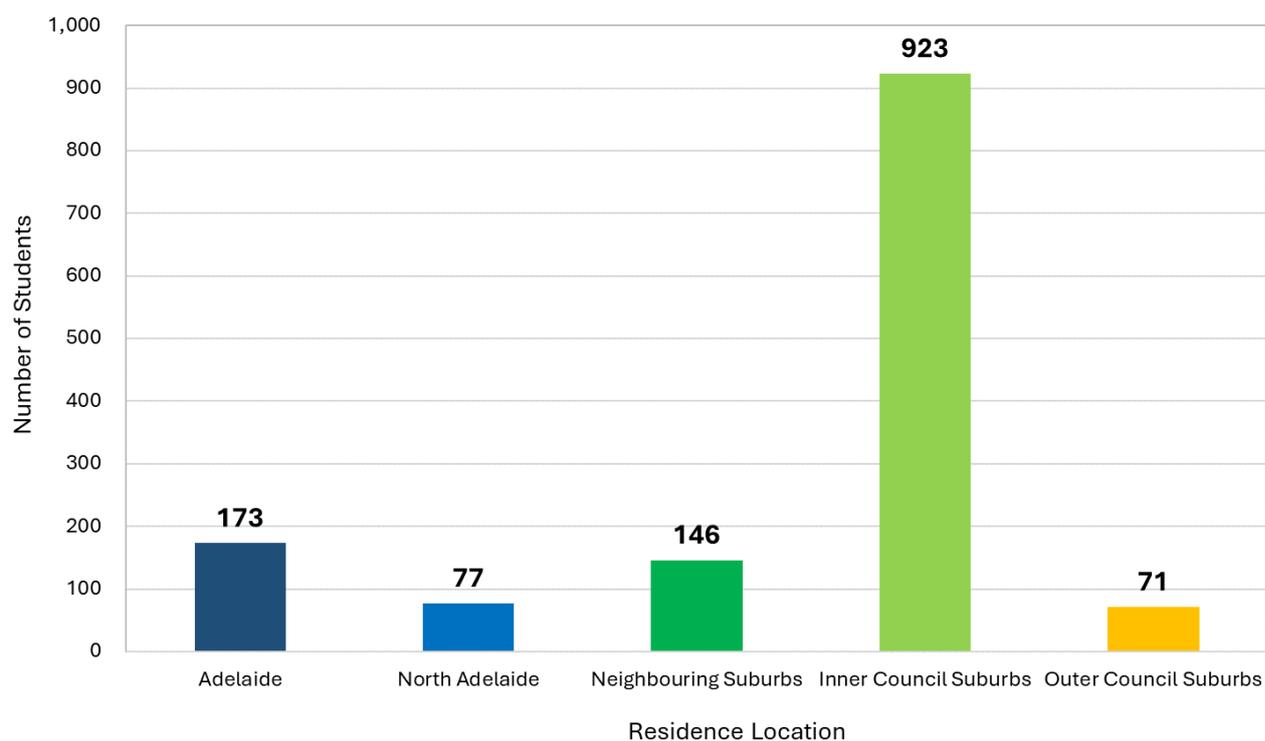


Figure 2.2 Adelaide Botanic High School Student Residence Location Analysis



2.3 Student Travel Demand

The existing school travel activity to and from the Adelaide Botanic High School was reviewed through site observations and a student travel mode survey on a typical school day. The student travel mode survey form is included in **Appendix A**.

The student travel mode survey was conducted by the teachers during the first morning class on Tuesday 28 May 2024 and Thursday 30 May 2024. The findings from the surveys were used to confirm the existing transport mode shares for:

- Car (as driver)
- Car (as passenger with drop-off)
- Walk for the entire trip
- Bus, Train or Tram
- Bicycle or e-bike
- Scooter

The student travel mode shares to school in the AM period and from school in the PM period on Tuesday 28 May are shown in Figure 2.3. The weather was fine and dry with a high temperature of 25 C. A total of 274 students completed the online survey organised by the school, which is about 20 per cent of the total enrolment. This provides an adequate sample of the students for the transport mode share analysis.

The car mode share was 26 per cent in the AM period and 22 per cent in the PM period. The PM departure period had four per cent more students using public transport than in the AM period, which correlates directly to the change in vehicle usage between both periods. This result is likely because parents drop off their children on the way to work in the CBD for the morning commute trip, but the students travel home by public transport when the parent is still working in the PM school departure period. The bicycle mode share was about 8 per cent and the walk mode share was 4 to 5 per cent.

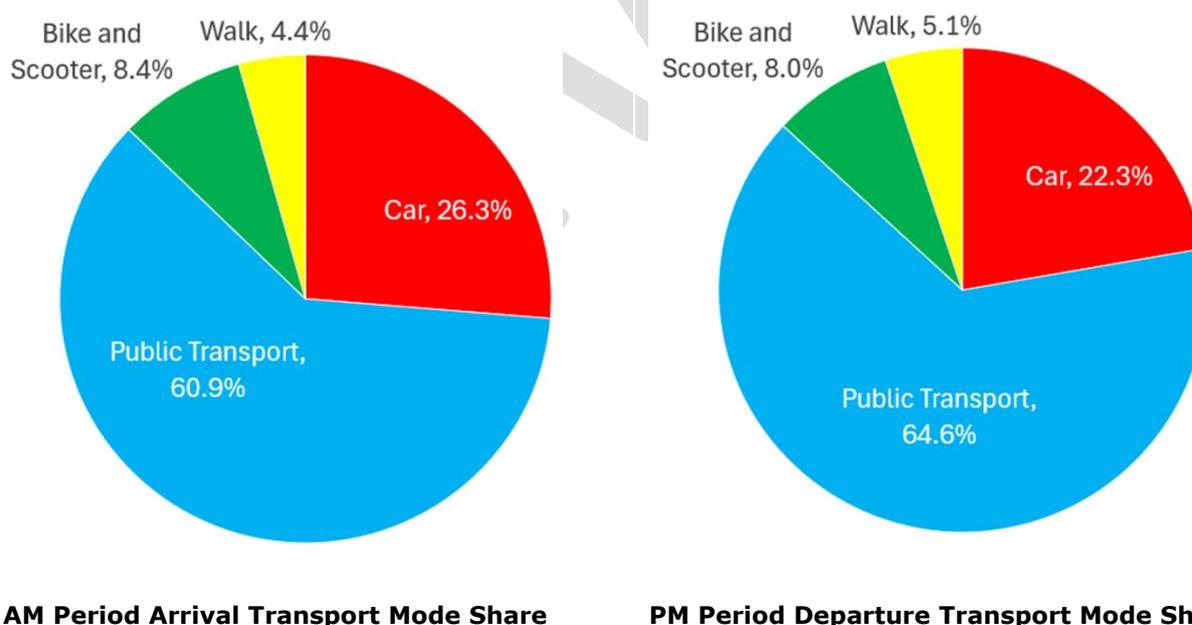


Figure 2.3 Adelaide Botanic High School Student Transport Mode Shares on 28 May 2024



The student travel mode shares to school in the AM period and from school in the PM period on Thursday 30 May are shown in Figure 2.4. The weather was wet and rainy in the AM period with a high temperature of 18 C. This survey shows that the travel to school is affected by the weather with a comparison between a fine dry weather day and a rainy cooler day in the same week. A total of 395 students completed the online survey organised by the school, which is about 28 per cent of the total enrolment. This provides an adequate sample of the students for the transport mode share analysis.

The car mode share in the AM period was 40 per cent which about 13 per cent higher than the Tuesday due to the rainy weather. The PM departure period had 13 per cent more students using public transport than in the AM period, which correlates directly to the change in vehicle usage between both periods. As a results of the wet weather day, the public transport mode share in the AM period reduced by nine per cent. The bicycle mode share was five per cent less than the Tuesday at three per cent, whereas the walk mode share at six per cent was slightly higher than on the fine weather day.

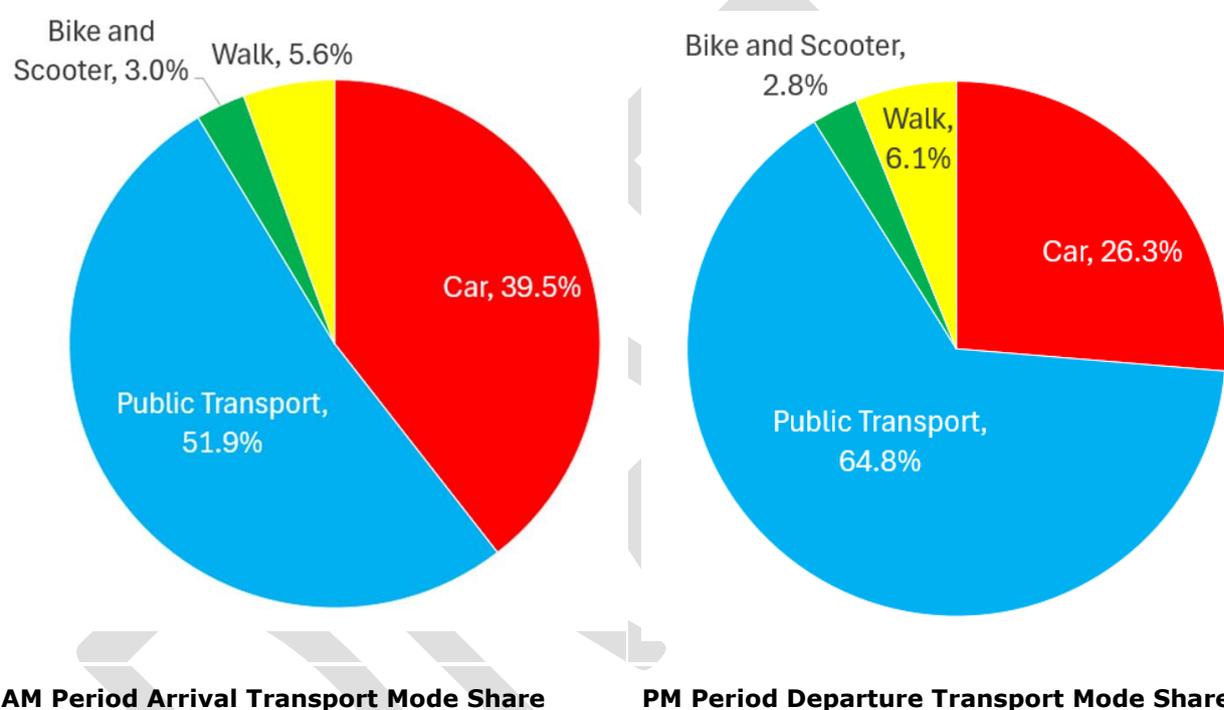


Figure 2.4 Adelaide Botanic High School Student Transport Mode Shares on 30 May 2024



2.4 Transport Access

Transport access to the school via road, public transport, cycling and walking and the availability of on-street, on-site and off-site parking is provided in this section. The facility is designed to support and encourage sustainable and healthy commuting by students and staff. Secure fenced and roofed storage for bicycles, scooters and other modes of non-vehicular transport is required for students and staff, in locations safe and convenient to users.

2.4.1 Road Network

Vehicular access to the to the underground level of the school is from the eastern side of Frome Road about 80 m south of the signalised intersection at Victoria Drive. Traffic only has left-in and left-out only from Frome Road with a space for unloading vehicles, such as delivery trucks to unload south of the existing main entrance, and for staff and students in cars, bicycles and scooters to use the ramp to the underground car parks and bicycle storage facilities.

Frome Road

Frome Road is a two-way four lane sub-arterial road aligned in a north to south direction and is under the care and control of the City of Adelaide. The road has a 12.3 m carriageway set within a 24 m road reserve. A 1.5 m wide off-road shared path exists on the eastern side and a 1.2 m wide on road bike lane on the western side of the road. Sealed bitumen footpaths are on both sides of Frome Road that range from 1.8 to 2.2 m in width. The traffic volumes in Frome Road at Victoria Drive is about 15,500 vehicles per day. It has a posted speed limit of 50 km/h. The kerbside usage, bicycle lanes and traffic lanes in Frome Road north of Victoria Drive next to Botanic Park is shown in Figure 3.1

Victoria Drive

The T-junction at Frome Road and Victoria Drive is a signalised traffic intersection that is located immediately northwest of the school as shown in Figure 3.4. The University of Adelaide campus is on the southwest corner and Park Lands on the northwest corner.

Plane Tree Drive in Botanic Park

Plane Tree Drive provides access to the north-eastern side of the school with a one-way loop road through Botanic Park with entry from Hackney Road as shown in Figure 3.5. The section of Plane Tree Drive closest to Frome Road is used for informal Kiss and Drop activity on school days where the students have a short walk from the school through Botanic Park.

Street access adjacent to the school and leading to the school are provided in Table 2.2

Table 2.2 Local Streets at Adelaide Botanic High School

Road	Classification	Relevance to the School
Frome Road	Local street	Front entrance
Victoria Drive	Local street	50 m opposite school entrance



The attributes of the local road network at Adelaide Botanic High School are summarised in Table 2.3. In areas where no data was provided, the field was labelled as not applicable (n/a). Generally, the posted speed limit was obeyed by drivers in the area.

Table 2.3 Local Road Network Attributes at Adelaide Botanic High School

Road	Number of Lanes	Daily Traffic Volumes	Posted Speed (km/h)	Average Speed	85 th Percentile Speed
Frome Road	4	6,820	50	42.6	49.8
Victoria Drive	2	n/a	50	n/a	n/a

Frome Road and Victoria Drive are not subject to 25km/h school zone during AM and PM peak times. Signalised crossing points are provided to pedestrians at the nearby intersection of Victoria Drive and Frome Road.

Table 2.4 Local Road Network Attributes at Adelaide Botanic High School

Road	25 km/h School Zone in Street	Type of Crossing in Street
Frome Road	No	Signalised Intersection at Victoria Drive PAC south of the school
Victoria Drive	No	Signalised Intersection

The signalised intersections in Frome Road that provide the safe pedestrian crossings to the high school are shown in Figure 2.5.



Looking west from Frome Road at Victoria Drive where students cross Frome Road to walk to bus stop 1A to and from the northbound bus services.



Looking south to the PAC in Frome Road south of the school at the access road to the Wilson's car park that is used by staff and some Year 12 students.

Figure 2.5 Pedestrian Crossings leading to Adelaide Botanic High School



2.4.2 Crash Analysis

A review of the latest crash data from 2018 to 2022 (five-year period) has been sourced from DataSA. During this time there has been the following crashes within direct vicinity of the school:

- Frome Road: 2 property damage crashes
- Victoria Drive: 1 property damage crash

The crash statistics from 2018 to 2022 are shown by location in Figure 2.6.

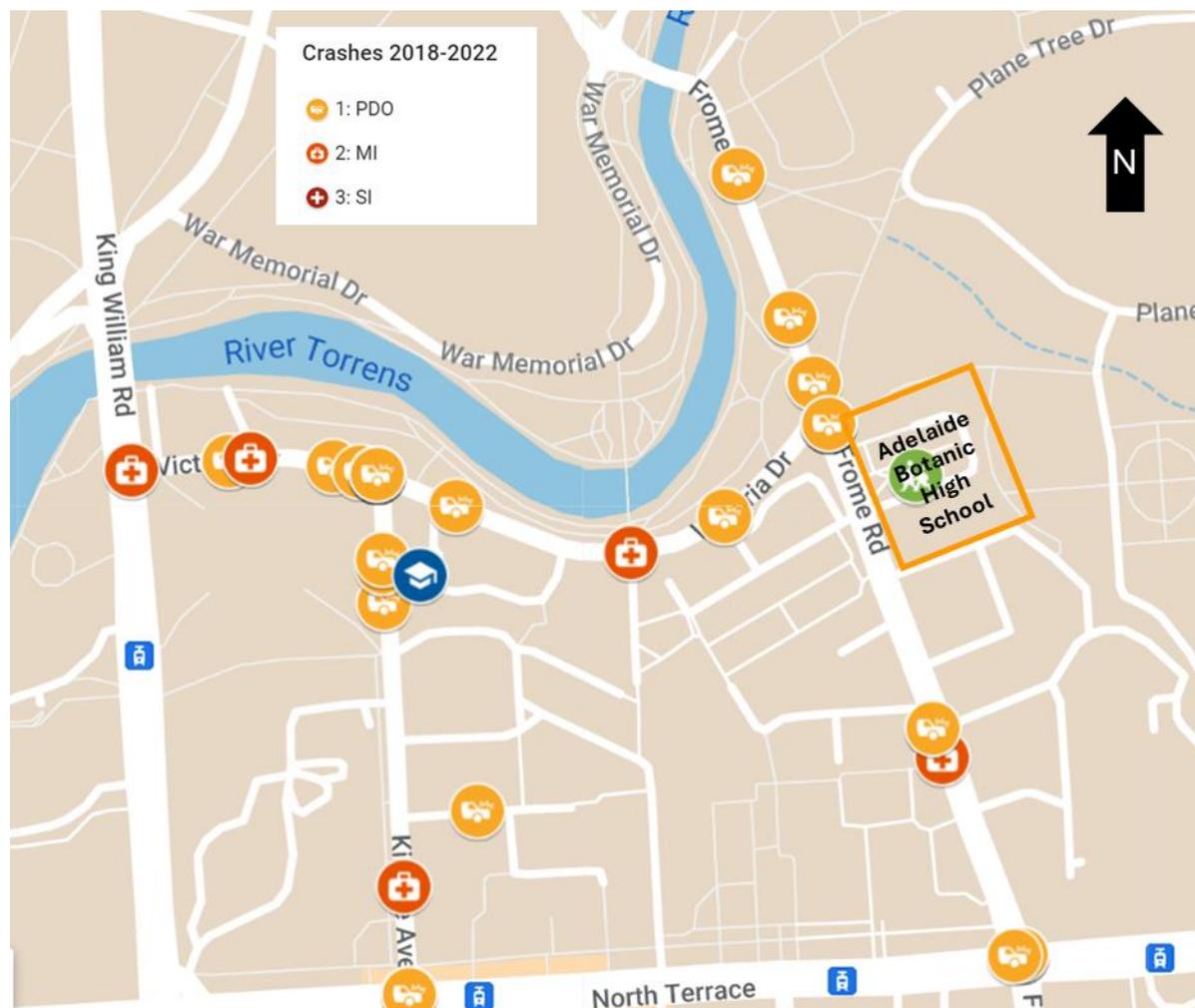


Figure 2.6 Crashes on School Days at Adelaide Botanic High School



2.4.3 Parking and Kiss and Drop Areas

The types of carparking provided in the streets surrounding the school are provided in Table 2.5. The on-street car parking controls along the streets in the vicinity of the school are shown in Figure 2.7.

Table 2.5 Parking Types at Adelaide Botanic High School

Road	Type of Parking
Frome Road (North of Victoria Drive)	Angled Timed, Parallel Timed
Frome Road (South of Victoria Drive)	Bus zone, No Stopping at all times
Victoria Drive	Motorcycle All Times, Angled Timed

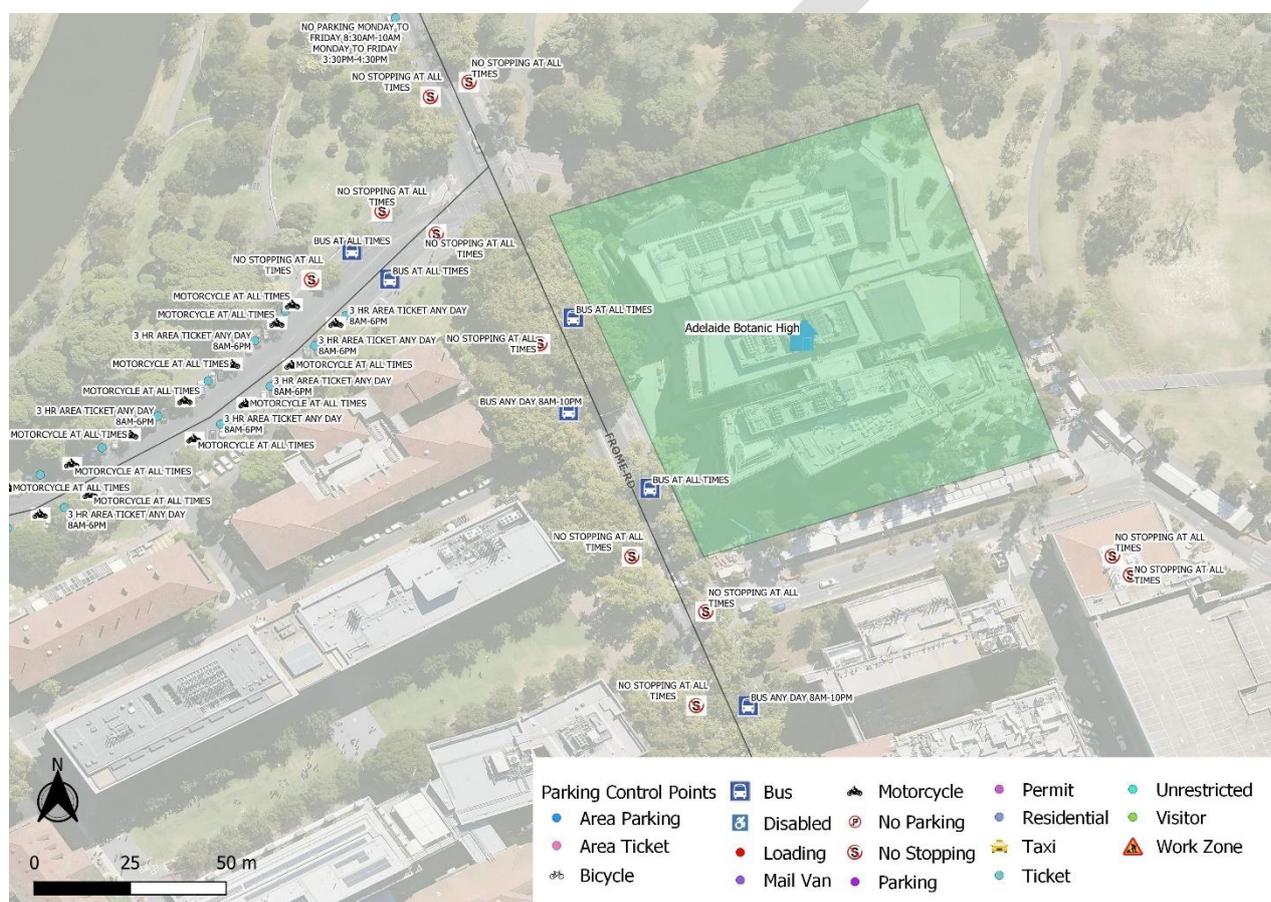


Figure 2.7 On-street Parking Controls at Adelaide Botanic High School

On-street parking on both sides of Frome Road north of Victoria Drive is used for Kiss and Drop activity on school days as well as for visitors to the university, the Park Lands and Botanic Park is shown in Figure 2.8.



Looking south in Frome Road at Kiss and Drop parking spaces north of Victoria Drive



Motorcycle parking is located immediately south of the on-street car parking in Frome Road north of Victoria Drive

Figure 2.8 On-street Parking and Kiss and Drop Areas at Adelaide Botanic High School

The on-street parking along Frome Road north of Victoria Drive has passenger loading zones from 8:30 am to 10 am and 3:30 pm to 4:30 pm on school days as shown in Figure 2.9.



Existing parking controls in Frome Road north of Victoria Drive vary by time of day and day of the week.



Looking south on the east side of Frome Road at timed car parking spaces north of Victoria Drive

Figure 2.9 On-street Parking Restrictions in Frome Road at Adelaide Botanic High School

Wilson Parking offer affordable and secure parking at Lot Fourteen Car Park, located with access from Frome Road. It has 24/7 access, the car park offers Hourly, Early Bird, Night and Weekend parking and discount online parking options. Parking customers can pay as you go with a Wilson Parking Card, or get unlimited 24/7 access when you subscribe to Monthly Parking. The "pay as you go" Wilson Parking Card avoids the need for drivers to avoid the queue as they simply swipe in and out of the car park, with one monthly invoice based on the actual usage with no additional fees.

Parents who do not work in the CBD are unlikely to regularly drive into the CBD to drop off or pick up their child. Most students are capable of travelling on their own and use public transport.



2.4.4 Public Transport

Adelaide CBD is the focus of the bus, tram and train network with the walkable access from Adelaide Botanic High School at:

- bus stops in Frome Road, King William Road, North Terrace and Grenfell Street,
- the Botanic Gardens tram stop in North Terrace that is a 400 m via the walk route between the buildings in Lot Fourteen or along the eastern side of Frome Road, and
- Adelaide railway station which is a 1.2 km walk west of Frome Road via Victoria Drive or using the 98A/98C Free City Connector bus.

The bus stops that are located at or in the immediate vicinity of Adelaide Botanic High School in Frome Road and Victoria Drive are shown in Figure 2.10

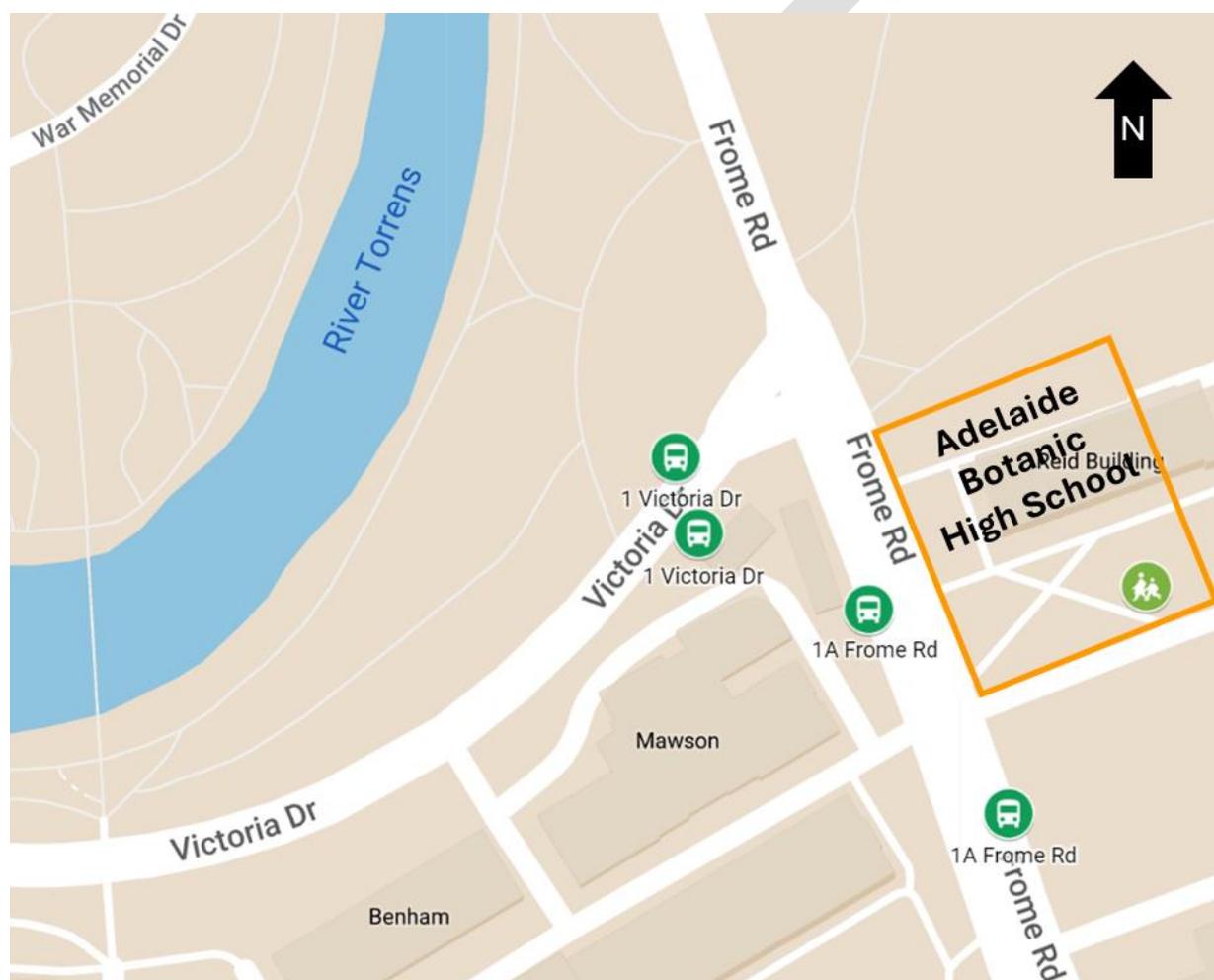


Figure 2.10 Bus Stops at Adelaide Botanic High School



The bus and tram routes and timetabled services that students can walk to within 400 m of the school are provided in Table 2.6. Routes 271 and 273 are part of the high frequency Go Zone in Frome Road.

Table 2.6 Public Transport Services at Adelaide Botanic High School

Road	Closest Bus or Tram Stop	Walk Distance to Closest Stop (m)	Routes	Relevant Services on School Days
Frome Road	Stop 1A Frome Road - East side	20 m	271 and 273 to Adelaide CBD via Frome Road, Grenfell Street and Currie Street	9:17 am, 9:28 am, 9:34 am, 9:42 am, 9:49 am, 10:04 am 4:01 pm, 4:18 pm, 4:31 pm, 4:45 pm
	Stop 1A Frome Road – West side	40 m with crossing Frome Road	271 and 273 to Tea Tree Plaza or Paradise via Melbourne Street and North East Road	9:17 am, 9:31 am, 9:41 am, 9:53 am, 10:10 am 4:09 pm, 4:24 pm, 4:37 pm
Victoria Drive	Stop 1 Victoria Drive – North side	50 m with crossing of Frome Road	98A Connector Bus (free) to North Adelaide and from Adelaide railway station	9:15 am, 9:45 am 4:15 pm, 4:45 pm
	Stop 1 Victoria Drive - South side	50 m with crossing of Frome Road	98C Connector Bus (free) from North Adelaide to Adelaide railway station	9:28 am, 9:58 am 3:58 pm, 4:28 pm
North Terrace	Botanic Gardens tram stop	400 m south through Lot Fourteen walkway	Botanic Gardens to Entertainment Centre tram line	Every 10 minutes from 7:00 am to 7:00 pm



2.4.5 Cycling

The bicycle network in vicinity of the school with the connecting link to surrounding Park Land trails and the inner metropolitan cycling network is shown in Figure 2.11. Frome Road has an on-road bicycle lane on the western side and an off-road 1.5 m wide bike lane on the eastern side. Sealed shared paths exist throughout the Adelaide Park Lands. Two shared bicycle paths are parallel to the River Torrens and one path is along the Adelaide Botanic Gardens. The Frome Street Bikeway is about 600 m south of the school.

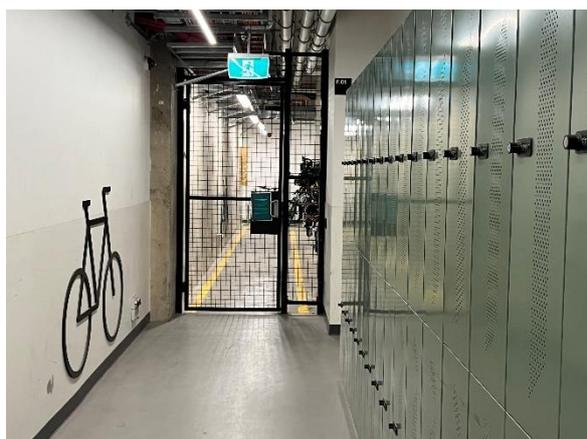


Figure 2.11 Cycling Network to Adelaide Botanic High School

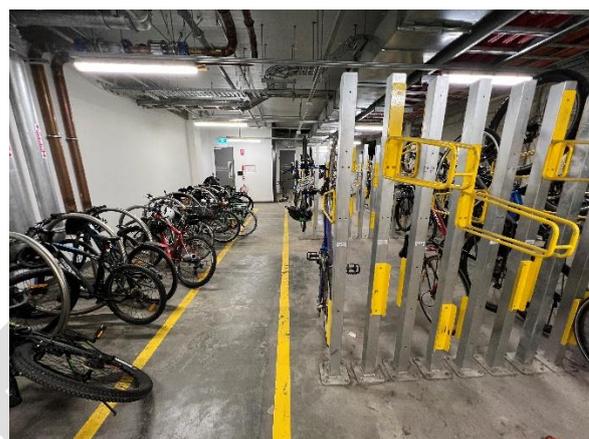
In the immediate vicinity of the school, the bicycle path along the eastern side of Frome Road is located between the footpath and the verge area of Frome Road. This creates a safety hazard during the AM school peak period between 8:30 am and 9:30 am and to 10:15 am on Wednesdays) when students and staff are arriving at the school and after 4 pm when they are leaving the school. In order to mitigate the risks, the school has staff monitor the situation with a safety instruction for all students on bicycles to walk their bicycle in the area immediate in front of the school building.



The secure bicycle storage area in the basement of the school has over 250 spaces available for staff and students. The new facilities are shown in Figure 2.12. Students enter the basement level from a ramp with access from Frome Road. They must use their student card to access the secure parking area that is validated only for students with bicycles. In addition to the storage area, a bicycle repair room is located adjacent to the lock-up that is used for regular courses about how to repair and maintain your bicycle as part of the school program to support a culture for sustainable transport.



Students can only enter the secure bicycle storage area with their validated access card.



Secure bicycle storage in the basement level of the high school is provided for over 250 bicycles.

Figure 2.12 Secure Bicycle Storage Facility at Adelaide Botanic High School

2.4.6 Pedestrian Access

Walking to and from the school is an important transport mode for students, staff and visitors who walk for their entire trip or as an access mode to the bus stops in Frome Road, Victoria Drive and the CBD, tram stops in North Terrace and train services at Adelaide Railway Station. The footpath network along Frome Road, Victoria Drive and through the Park Lands in Botanic Park needs to be well maintained and kept clear of fallen trees and debris by the City of Adelaide.

The high school has good pedestrian access from all directions from Adelaide CBD, through Botanic Park and from Victoria Drive. Two signalised intersections with pedestrian crossings are at the intersection of Frome Road and Victoria Drive and with the PAC across Frome Road which is 130 m south of Victoria Drive.

Pedestrian access routes to the high school are via:

- Sealed footpaths exist along on both sides of Frome Road.
- Footpaths through the path network in Botanic Park and from Plane Tree Drive.
- Along both sides of Victoria Drive to the west along the northern side of the university campuses and to Adelaide Railway Station via a signalised pedestrian crossing in King William Road.
- An alternative pedestrian route through Lot Fourteen to the Wilson car park and to North Terrace. However, students are discouraged to use this route through the construction zone in Lot Fourteen until the public domain works are completed, possibly by 2026.

The 1 km, 1.5 km and 2 km walkable access catchment areas to Adelaide Botanic High School that were calculated using the footpath network are shown in Figure 2.13.

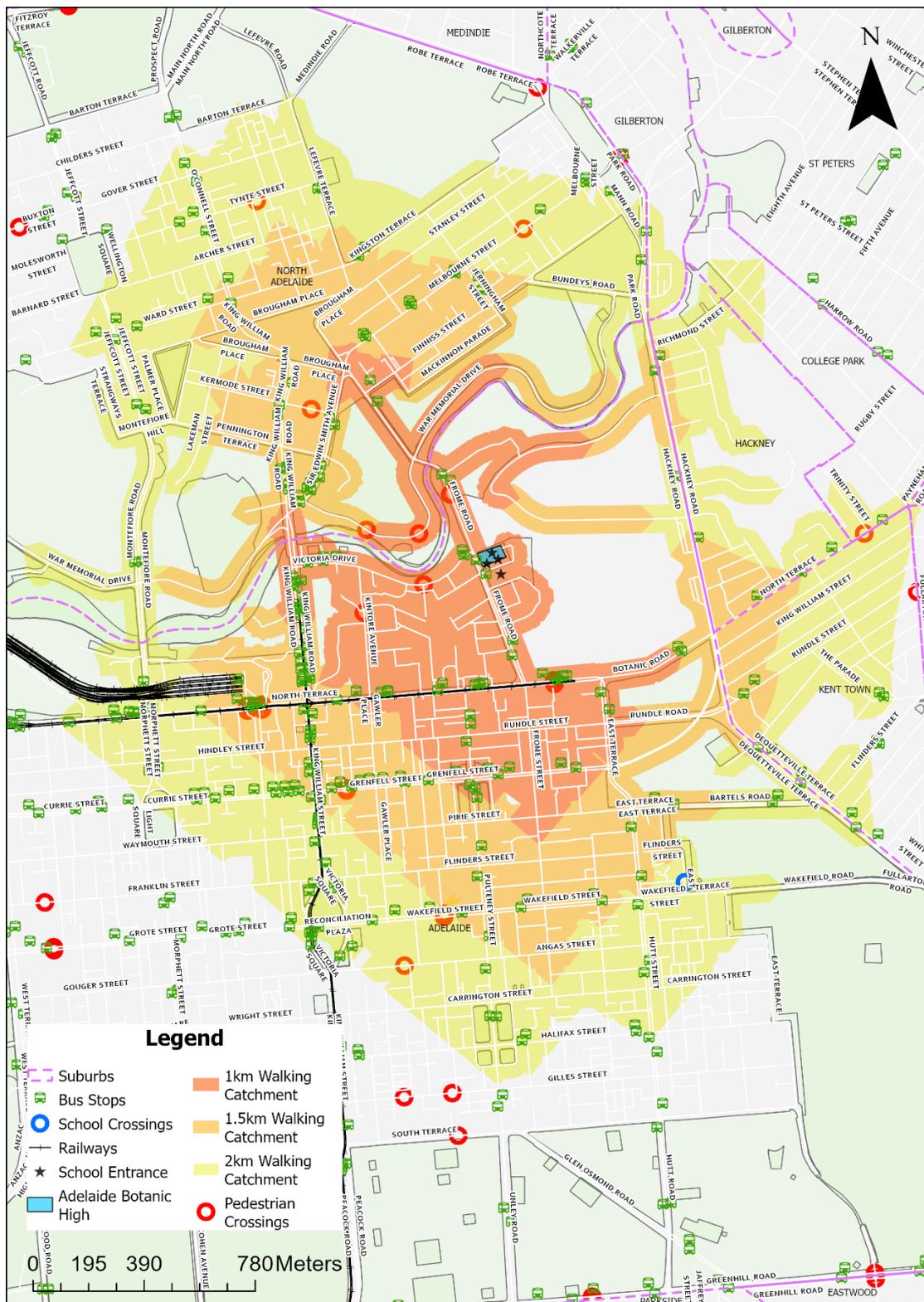


Figure 2.13 Walkable Access Catchment to Adelaide Botanic High School



3 Issues and Opportunities

The issues and opportunities were identified with discussions with the school administration staff and site observations conducted during the AM drop-off period and the PM pick-up period.

3.1 Stakeholder Discussions

A meeting and tour of the high school was held with Andrea West on Tuesday 28 May 2024. The following issues regarding student travel were discussed:

- The school expansion that was completed in June 2024 will be fully operational for Term 3 2024 at the end of July.
- The Frome Bikeway project is under construction by the City of Adelaide and will be completed by the end of November 2024. This project will address several safety issues for students such as:
 - The relocation of the bus stop north of Victoria Drive to provide a safer queuing area for students waiting for the southbound buses in the afternoon.
 - Close off the slip lane for the left turning traffic from Victoria Drive to Frome Road north to provide a safer pedestrian crossing at this intersection.
 - Separate the bicycle lane from the footpath to provide segregation between the pedestrians, students and cyclists in Frome Road.
- A total of 306 bicycles spaces are provided in the secure basement level that will cater for the growth in the bicycle demand from students and staff. For the ultimate school capacity of 1,950 students and 169 FTE staff, the bicycle demand is estimated to be for 230 spaces which can be catered by the bicycle racks.
- The school has plans to upgrade the landscaping on the north side of the building, including the walk access to the northern student entrance from Frome Road.

3.2 Site Observations

The existing staff and student transport mode activity to and from the Adelaide Botanic High School were observed during the AM peak arrival period and the PM peak departure period on typical school days in Term 2 2024 during May 2024. The site visits were conducted on Tuesday 28 May 2024 for the AM peak and the PM peak periods. The weather was fine and 18 C.

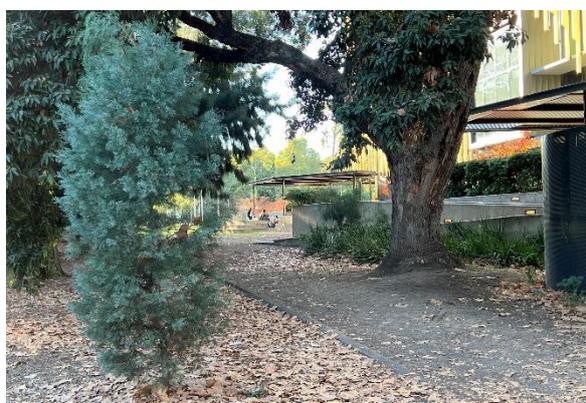
3.2.1 AM Arrival Period

The pedestrian, cyclist, bus passenger and Kiss and Drop activity was observed during AM arrival period from 8:30 am to 9:30 am. The AM period arrival profile was relatively distributed over the hour before the school start time, with the peak activity of arrivals between 9:05 am and 9:20 am.

Other findings from the AM observations are:

- Most of the drop off activity for students occurred on from the eastern side of Frome Road with the busiest period between 9:00 am and 9:30 am with no safety issues or traffic delays.
- A low level of drop off activity was observed in Plane Tree Drive with less than 20 vehicles.
- The busiest time for students crossing at the Frome Road / Victoria Drive signalised intersection was from 9:15 am to 9:20 am.

The existing condition of the footpath for walk access to the northern student entrance is shown in Figure 3.1.



The pedestrian desire line to the northern student entrance to the school is an unpaved path.



Looking west along the unpaved walk route to the northern student entrance.

Figure 3.1 Walk Access to the Northern Student Entrance during the AM Arrival Period

The most significant safety hazard is the risk of conflicts between pedestrians including students from the buses and cyclists along the eastern side of Frome Road as shown in Figure 3.2



Students alighting from a bus need to watch for cyclists on the bicycle lane heading to Adelaide CBD to cross to the school entrance.



Looking south along the footpath and bicycle lane on the eastern side of Frome Road at Victoria Drive.

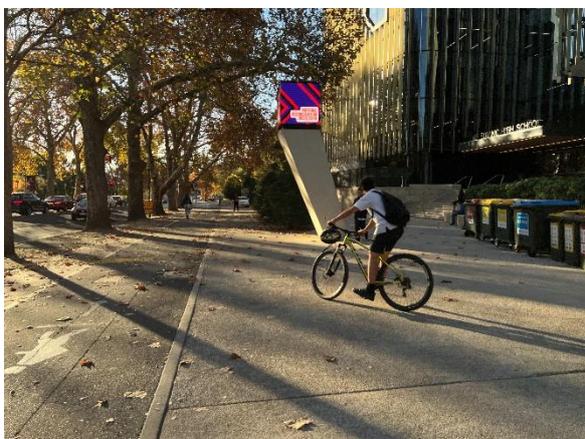
Figure 3.2 Unsafe Pedestrian and Cyclist Movements along Frome Road during the AM Arrival Period

3.2.2 PM Departure Period

The pedestrian, cyclist, bus passenger and Kiss and Drop activity was observed during PM departure period from 4:00 pm to 4:30 pm. The PM period departure profile was relatively distributed over the hour before the school start time, with the peak activity of departures from 4:05 pm to 4:15 pm. The key findings from the observations are shown in Figure 3.3.

Other findings from the PM observations are:

- The peak period for departure activity was between 4:10 pm to 4:20 pm with most students crossing at the Frome Road / Victoria Drive signalised intersection with 50 to 70 students crossing per signal phase.
- Pick-up activity occurred on both sides of From Road with minor traffic delays and no safety issues.
- Students riding bicycles along Frome Road on the east side in the northbound direction creates safety hazards for pedestrians.
- Students used the Frome Road bus stop at the front entrance to the school.



A student exits the basement cycling across the forecourt and footpath in Frome Road that is against the school safety policy.



A large group of students wait to board the southbound bus to the City block the footpath in front of the main entrance to the school.

Figure 3.3 Unsafe Pedestrian and Cyclist Movements in the PM Departure Period

Parents were observed in cars waiting for students along both sides of Frome Road shown in Figure 3.4.



Parents in cars waiting for students in Frome Road north of Victoria Drive.



The parked cars on both sides of Frome Road created some vehicle queues for a short period.

Figure 3.4 Parking along Frome Road north of Victoria Drive in the PM Departure Period

3.3 Summary of the Issues and Opportunities

Issues for pedestrians accessing the high school are mostly for the City of Adelaide to address and are:

- The footpath along the eastern side of Frome Road south of the Victoria Drive intersection is flooded during heavy rain periods requiring pedestrians to walk around via the grassed area in Botanic Park. This footpath is planned to be upgraded to a bus zone by the City of Adelaide.
- During the autumn and winter months, fallen leaves that are wet from the rain are a hazard for pedestrians on the footpaths on both side of Frome Road, in particular in front of the school and on the paths leading to the school. These paths need to be kept clear of debris, including fallen branches, by the City of Adelaide to avoid any trip and fall risks for students, staff and the general public.
- Students walking from the south to the school must cross the path of the access driveway to the basement bicycle storage facility that cyclists use. They walk around to the northern entrance of the school as they are not permitted to use the existing main entrance in Frome Road.



4 Travel Safety Options and Assessment

4.1 Student Travel Safety Options

Options to improve the travel safety for students were developed under three categories, namely:

- Infrastructure treatments requiring civil works with changes to signals or pedestrian crossings.
- Operational efficiencies, with changes to parking controls, Kiss and Drop areas or school zones.
- Safety promotions to increase awareness of the school with warning signage or information.

The options for the assessment are provided in Table 4.1 with a description of the initiative and the issue to be addressed.

Table 4.1 School Travel Safety Options for North Adelaide Primary School

Type of Option	Description	Issue Addressed
Infrastructure Treatments	Relocate the southbound bus stop 1A to be relocated north of Victoria Drive	To remove the queuing of students in the PM departure period from blocking the footpath and bicycle lane on the eastern side of Frome Road in front of the main entrance to the school. The location of the bus stop north of Victoria Drive will align closer to the signal and pedestrian crossing that is immediately south and closer to the north student entrance.
	Remove the left turn slip lane at Victoria Drive and Frome Road as shown in Figure 4.1.	The slip lane is a pedestrian safety hazard as they must wait for the free flowing traffic to stop.
	Build a separate the footpath and bicycle lane along Frome Road as per the Frome Bikeway plans from the City of Adelaide.	The pedestrians and cyclists who are City commuters, attending or working at businesses at Lot Fourteen or at the university block the access for the students to the school entrances.
	Landscape the northern side of the school to include a sealed footpath.	Students who enter and exit the northern entrance to the school currently are walking from Frome Road at Victoria Road through a gravel path with slippery leaves during the wet weather.
Operational Efficiencies	Manage the distribution of students to enter and exit the school between north and south sides of the high school with Term 3 2024 with the full opening of the school expansion. Students will not use the Frome Road main entrance.	In Term 2 2024, most students were entering the school from the northern entrance via Frome Road or from the east through the Park Lands and from the walkways in Lot Fourteen. This created a large queue of students at the northern entrance in the morning that is considered difficult to manage.



Type of Option	Description	Issue Addressed
Safety Promotions	Promote safe travel to school with the preparation of a School Travel Access Guide that includes the school building entry locations, bus route and timetable information, other public transport information, safe walking and cycling routes and tips for safe cycling.	The travel mode share for non-car transport can be increased with more promotional information that provides all of the transport options to the school.

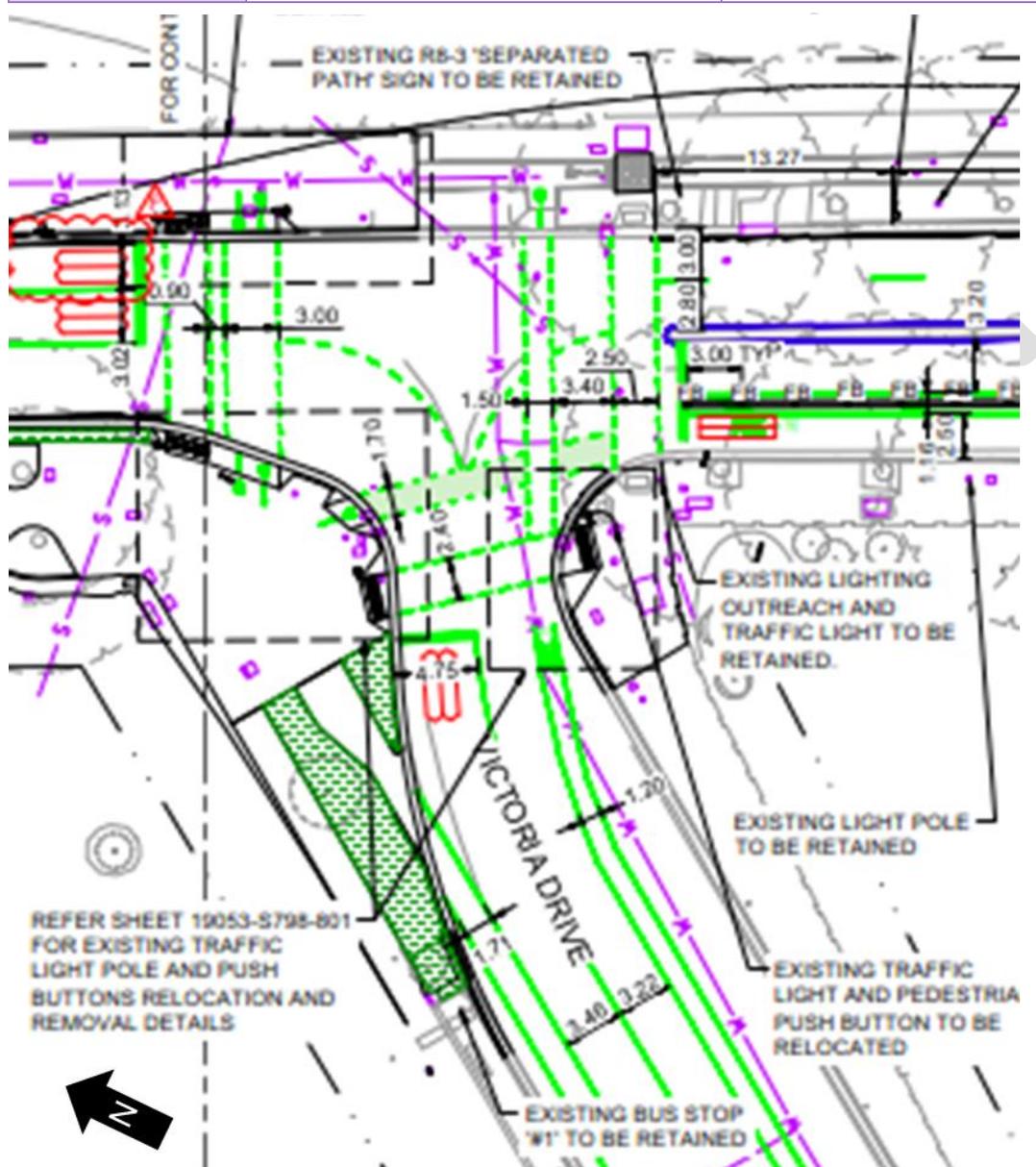


Figure 4.1 Redesign of the Victoria Drive/Frome Road Intersection



4.2 Recommended School Travel Safety Initiatives

The recommended school travel safety initiatives are shown on Figure 4.2. They include:

- Southbound bus stop 1A will be relocated north of Victoria Drive so that the queues of students in the afternoon can be organised to stand in the open area north of the northern side of the school.
- The left turn slip lane from Victoria Drive for northbound traffic into Frome Road will be removed to remove this pedestrian safety risk at this intersection as shown in Figure 4.1.
- The bicycle lanes in Frome Road will be redesigned and rebuilt to be separated from the footpaths on both sides of Frome Road south of Victoria Drive and as a two-way cycleway on the westside of Frome Road north of Victoria Drive. This will provide a safer location for the north-south cycling route with the hazards with pedestrians sharing the path.
- The high school to complete the landscaping project on the northern side of the school to include a sealed footpath from Frome Road at Victoria Drive for a safer walk route to the student entrance on the northern side of the school.



Figure 4.2 Recommended Initiatives at Adelaide Botanic High School

Other initiatives proposed to improve the safety and access and support the higher use of public transport and active transport modes to the high school are:

- Maintain the clearance of debris, fallen tree branches and leaves from the footpath in front of the entire school building, especially during the autumn and winter months when wet leaves are a trip hazard for pedestrians and cyclists.
- Develop ongoing travel demand management education and training with regular activities and promotions to encourage more students to walk, cycle and use public transport modes instead of the private vehicle.
- Opportunities to adjust the bus arrival times or add additional bus services 10 minutes before the AM school start time and 10 minutes after the 4 pm departure time exist if the growth in the bus demand supports the need for extra services. The timetables that more conveniently suit the student arrival



times in the AM period and to minimise the waiting times and queuing for bus services after the 4 pm departure time would attract higher bus patronage. Some of the timetables on the existing bus routes in Frome Road arriving before 9:25 am (10:15 am on Wednesdays) and after 4 pm are proposed to be reviewed by South Australia Public Transport Authority (SAPTA) bus planners.

- Consider promoting safe travel to school with the preparation of a School Travel Access Guide that includes the school building entry locations, bus route and timetable information, other public transport information, safe walking and cycling routes and tips for safe cycling. An example of the type of information provided a Travel Access Guide for a high school in Sydney is included in **Appendix B**.

4.3 Assessment and Indicative Cost Estimates

The school travel safety options were assessed under the safe systems approach and indicative cost estimates are provided for each travel safety option in Table 4.2. The options were given labels under the following categories:

- T for Traffic control device or treatment that requires civil works and construction with cost estimates.
- I for information to the school community with signage or online promotional brochure.

Table 4.2 Indicative Cost Estimates for the Travel Safety Options at North Adelaide Primary School

Option ID	Description	Indicative Cost Estimate	Comments
T1	Southbound bus stop 1A will be relocated north of Victoria Drive.	In the Frome Bikeway project	Part of the Frome Bikeway project that will be completed by November 2024.
T2	Remove the left turn slip lane from Victoria Drive for northbound traffic into Frome Road.	In the Frome Bikeway project	Part of the Frome Bikeway project that will be completed by November 2024.
T3	Rebuild the bicycle lanes in Frome Road.	In the Frome Bikeway project	Part of the Frome Bikeway project that will be completed by November 2024.
T4	Complete the landscaping project on the northern side of the school to include a sealed footpath from Frome Road at Victoria Drive for a safer walk route to the student entrance on the northern side of the school.	Not a cost for the City of Adelaide	This is a project for the Department for Education to complete on the school grounds.
I1	Consider promoting safe travel to school with the preparation of a School Travel Access Guide	Internal cost to the school	This is an initiative for the school to consider.



5 References

The following references were used in the preparation of the school travel safety review.

- Guide to Traffic Management Part 8, Local Area Traffic Management, Austroads, Sydney, 2016, Section 7.5.7 School Zones, page 114
- Guide to Traffic Management Part 10, Traffic Control and Communication Devices, Austroads, Sydney, 2019, Section 6.5.8 Zig Zag Markings, page 105,
- Speed Limit Guideline for South Australia, Department for Infrastructure and Transport, October 2023, Appendix C School Zones
- Supplement to AS 1742.10, Manual of uniform traffic control devices, Part 10, Pedestrian control and protection, Department for Infrastructure and Transport, April 2024
- Manual of Legal Responsibilities and Technical Requirements for Traffic Control Devices Part 2: Code of Technical Requirements, Department for Infrastructure and Transport, March 2024, Section 9.3 Drop off and pick up zones, page 34
- School Transport Policy, Department for Education, South Australia, January 2024
- Adelaide Botanic High School, Traffic Impact Assessment Report, Stantec, September 2022
- Adelaide Bicycle Extension in Frome Road to the River Torrens, 2024



Appendix A – Student Travel Survey Form

 CITY OF ADELAIDE			
School Travel Survey for Students			
School:		Adelaide Botanic High School	
<p><i>Tonkin on behalf of the City of Adelaide is conducting a survey to determine the main modes of travel for students to understand the travel behaviour to the school. Please assist us by undertaking a short student survey during the first period class.</i></p>			
Questions for the Teacher			
Date (day/month/year):			
Weather (Daytime temperature and sky conditions):			
Please enter the name or number of your class or year group.			
How many students are absent today in your class?			
Questions for the Students in Your Class / Year Group			
<i>Please ask the students with a 'hands-up' survey in the classroom.</i>			
AM Period Travel			
<i>How did you travel to school this morning? (If you travelled by more than one mode, please answer with the longest part of your journey - e.g. "car" for "car and scooter".)</i>			
Main Mode of Travel in the AM Period		Number of Students	
Car (as driver)			
Car (as passenger with drop-off)			
Walk for the entire trip			
Bus			
Train			
Tram			
Bicycle or e-bike			
Scooter			
PM Period Travel			
<i>How will you travel from school this afternoon? (If you will travel by more than one mode, please answer with the longest part of your journey - e.g. "car" for "car and scooter".)</i>			
Main Mode of Travel in the PM Period		Number of Students	
Car (as driver)			
Car (as passenger with pick-up)			
Walk for the entire trip			
Bus			
Train			
Tram			
Bicycle or e-bike			
Scooter			
If you travelled by car, would you prefer any of these modes? (multiple answers)			
Walking for the entire trip			
Bicycle, e-bike or scooter			
Public Transport (bus, tram or train)			



Appendix B – NSW School Travel Access Guide

NSW Department of Education – School Infrastructure



Marsden High School Travel Access Guide

Effective: January 2023

Introduction

Our school community of parents/carers, staff and students live within a reasonable walk, cycle or bus trip of the school. This Travel Access Guide provides suggested safe and accessible options for travelling to and from school.

Active ways to get to school



Walking to and from school

- Walking is a fun way to keep active and healthy.
- Stay alert and watch out for any potential hazards, including cars reversing out of driveways, bikes and other pedestrians.
- Remember to STOP, LOOK, LISTEN and THINK every time you cross the road.



Ride your bike

- 278 bike racks are available for everyone.
- All bicycle riders are required by law to wear a correctly fitted Australian standards approved helmet and is highly recommended when riding a scooter.
- Children under the age of 16 are allowed to cycle on the footpath, keeping them safer and more protected from road traffic.

Kiss and drop expectations

- For parents/carers who drive their child/ren to school, the kiss and drop zone is located along Rhodes Street starting from Hermitage Road.
- This space is a 'No Parking' zone, meaning that you may stop for up to a maximum of 2 minutes and move no more than 3 metres from the vehicle.

Message from our principals

- Marsden High School supports sustainable and environmentally friendly transport practices.
- We strongly encourage our school community to walk or ride to school either independently or with parental supervision.

School bell times

Start Times

9:00 am

End Times

3:00 pm

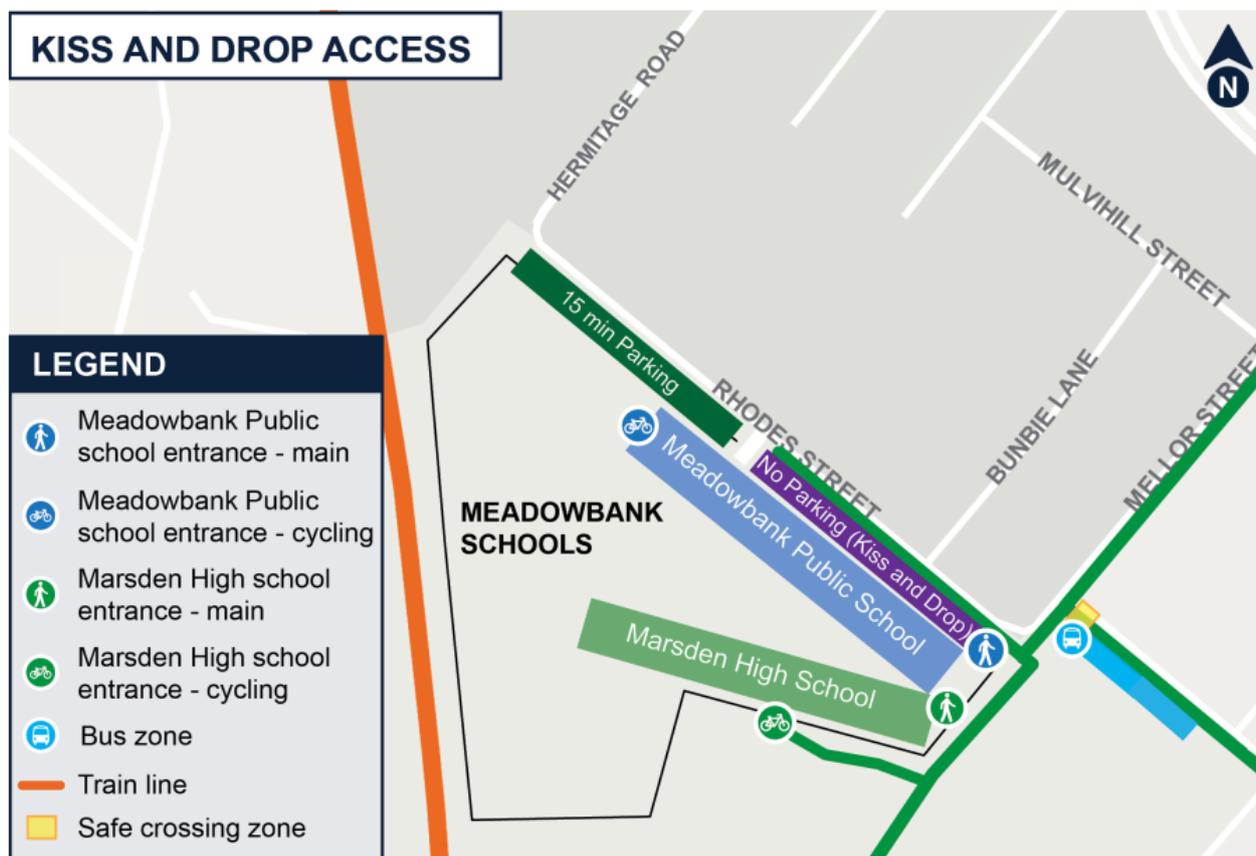
For more information contact:

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





NSW Department of Education – School Infrastructure



Safety tips for drivers using the Kiss and Drop zone

- Always drop off or pick up your child from the designated zone and follow the school's procedures.
- Drivers should remain in their vehicles **at all times** in the Kiss and Drop zone.
- Make sure children use the Safety Door (the rear footpath side door) to get in and out of the car.
- Always park legally.
- U-turns and three-point turns are banned **at all times** in Rhodes Street in front of the school.

Safety tips for students

- Always get in and out of the vehicle through the Safety Door, the rear footpath-side door.
- Stay buckled up until the vehicle has stopped in the Kiss and Drop area.
- Make sure your school bag and other items are in a safe position, such as on the floor.
- Be ready to get out of the vehicle with your belongings when the car has stopped and you have unbuckled your seatbelt



Kids and Traffic Safety
Door sticker
RTA45091021K

For more information contact:

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





Walking Route

WALK ROUTE TO MEADOWBANK TRAIN STATION AND BUS STOPS ON BOWDEN STREET AND VICTORIA ROAD



For more information contact:

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



NSW Department of Education – School Infrastructure

Where do you ride?

Footpath/shared path/cycleway:

- Children under 16 can ride on a footpath.
- Adults supervising children under 16 can also ride on the footpath.
- Be careful of cars entering and exiting driveways.
- Watch out for pedestrians, other riders and animals.

Look out for pedestrians on shared paths.

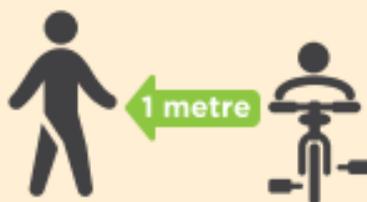


Crossing the road:

- Be extra careful.
- Walk your bicycle when you cross at a pedestrian crossing.

Give a metre:

Give pedestrians 1 metre of space when riding past.



3 steps to follow when riding a bike:

Clip, check, chime.

Clip your helmet

1



You must **always** wear a helmet when riding your bike.

Check your brakes

2



Make sure your brakes are working.

Chime your bell

3



If you pass another rider or pedestrian, chime your bell.

Things to remember

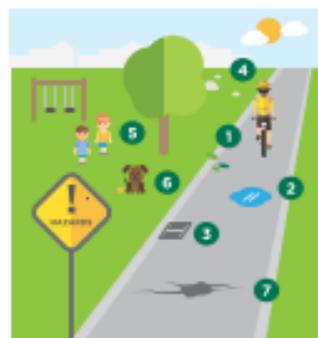
- Always ask your parents permission to ride.
- Loose clothing and items can get caught in your wheels. Secure any loose items, like backpack straps



- Shoes with a good tread on the soles will help you grip the pedals and protect your feet. Make sure your laces are tied.



Always remember to watch out for hazards



- 1 Wet leaves
- 2 Big puddles
- 3 Storm grates
- 4 Gravel or rocks
- 5 Little kids
- 6 Animals
- 7 Changes in the road/footpath/cycleway surfaces

For more information contact:

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

