School Infrastructure NSW

New Ultimo Pyrmont Public School – State Significant Development DA

Transport Assessment

Rev C | 25 October 2017

Job number 255340

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1 Introduction

Arup has been engaged by DesignInc on behalf of the School Infrastructure NSW, to prepare a transport assessment for the design development process. The proposed upgrades to the school include the development of a new shell space childcare centre and an increase to the current student and staff population.

The existing Ultimo Public School has 335 students accommodated in 13 permanent classrooms and 1 demountable. The New Ultimo Pyrmont Public School will be built in its place and be designed to accommodate up to 800 students. This is an increase of up to 465 students.

This report has been prepared to provide advice on future strategies for the school to minimise potential impacts of the proposed upgrades and the additional transport requirements to the school.

1.1 Scope

This report will be a Transport Assessment, supporting the proposed development, suitable for the SSD lodgement. The scope includes:

- A review of the existing transport conditions and infrastructure
- A review of the proposed upgrades to the school
- Discusses a range of transport strategies which the school can adopt
- Assesses the traffic, parking and drop-off / pick-up impacts the proposal would have on the surrounding network
- Key findings of the assessment

1.2 Workshops and consultation

School Infrastructure NSW (formerly the Department of Education) has conducted a workshop with the parents and carers of the existing Ultimo Public School students on 19 August 2015. It is essential that the built outcomes of the project truly capture the needs of both education and the community, considering the site as in integrated part of the overall neighbourhood. Key transport issues collected from the workshop include:

- 24 Hour Life / Activity
- Access in general – Bus, pedestrian and cycle
- Access and Wattle St traffic
- Noise – Western Distributor
- Enough capacity for the school catchment area
- Safety
- With regard to transport, it was noted that there should be pedestrian crossings at key intersections in the area, bus access should be improved (e.g. the route made more direct), and the connection to Pyrmont enhanced.

- The relocation process both to the temporary site and back to the new school when it is finished.

1.3 Background

School Infrastructure NSW will be developing a new primary school at the corner of Quarry and Jones Streets, Ultimo (existing school location). School Infrastructure NSW is seeking an innovative, integrated solution for the new Public School that will be an example of world's best practice and a point of pride for the community.

The new school will meet the educational needs and demands for school assets for the future. The need is generated by the following:

- Urban development and additional new housing which is driving population growth and projected increases in student enrolments and demand for additional teaching spaces and facilities over the next five years and beyond (to at least 2031) within City of Sydney
- Limited capacity of existing primary school assets to accommodate projected increases in student enrolments and population growth.

Temporary relocation

The temporary school will be located at the nearby Wentworth Park. The School Infrastructure NSW has considered a variety of locations. Wentworth Park was found to be the preferred site because it:

- Is close to the existing school to allow for current transport/school access methods to be maintained
- Has access to Wentworth Park as a facility
- Allows temporary buildings to be designed to be fit for purpose
- Allows for outdoor learning

Student drop-off and pick-up arrangements are not expected to change. Students will be able to access the temporary school via the Wattle Street pedestrian bridge.

There is an opportunity to reduce car parking for staff and transition to the measures outlined in the Green Travel Plan discussed in Section 7.

1.4 NSW State Environmental Planning Policy (Infrastructure) 2007

The Department of Planning and Environment issued the Secretary's Environmental Assessment Requirements for the New Ultimo Public School. The proposal qualified as State Significant Development.

The following details in Table 1 respond to the requirements raised in the SEARs report.

Table 1: Secretary's Environmental Assessment Requirements and response

#	SEARs Report	Arup response
Include a transport and accessibility impact assessment, which details, but is not limited to:		
1	the existing and proposed pedestrian and bicycle movements, travel routes and facilities within the vicinity of the site and to public transport facilities as well as measures to maintain road and personal safety in line with CPTED principles	Discussed in Section 2.3 where relevant to traffic and transport.
2	an estimate of the total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and cycle trips	Discussed in Section 5 and Section 6.
3	the adequacy of public transport, pedestrian and bicycle provisions to meet the likely future demand of the proposed development	Discussed in Section 2.3
4	impact of the proposed development on the operation of existing and future public transport infrastructure within the vicinity of the site (such as the CBD and South East Light Rail) in consultation with TfNSW and identify measures to integrate the development with the transport network;	The site is located near the existing Wentworth Park and Exhibition Centre light rail stops. No change is envisaged.
5	measures to promote travel choices that support sustainable travel, such as a location-specific sustainable travel plan, provision of end-of-trip facilities, green travel plans and wayfinding strategies	Discussed in Section 7
6	the daily and peak (AM, PM and events) vehicle movements impact on nearby intersections, with consideration of the cumulative impacts from other approved developments in the vicinity, and the need/associated funding for upgrading or road improvement works (if required);	Discussed in Section 6
7	the proposed active transport access arrangements and connections to public transport services	No changes are proposed as the existing provision is considered efficient

#	SEARs Report	Arup response
8	the proposed access arrangements, including car and bus pickup/ drop-off facilities, and measures to mitigate any associated traffic impacts and impacts on public transport, pedestrian and cycle networks;	Discussed in Section 5. Mitigation measures discussed in Section 7.
9	proposed car and bicycle parking provision, including consideration of the availability of public transport and the requirements of the relevant parking codes and Australian Standards	Discussed in Section 3.
10	service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times); and	Discussed in Section 3.5
11	traffic and transport impacts during construction, including cumulative impacts associated with other construction activities, and how these impacts will be mitigated for any associated traffic, pedestrian, cyclists, parking and public transport, including the preparation of a draft Construction Traffic Management Plan to demonstrate the proposed management of the impact (which must include vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures for all demolition/construction activities).	Outlined in Section 8, with a separate CTMP outline prepared for the first stage of site works. (see Appendix B)

Relevant Policies and Guidelines:

- Guide to Traffic Generating Developments (Roads and Maritime Services)
- EIS Guidelines - Road and Related Facilities (DoPI)
- Cycling Aspects of Austroads Guides
- NSW Planning Guidelines for Walking and Cycling
- Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development
- Standards Australia AS2890.1 (Off-street car parking facilities)
- Standards Australia AS2890.2 (Commercial off-street parking facilities)
- Standards Australia AS2890.3 (Bicycle parking facilities)
- Standards Australia AS2890.6 (Parking for people with disabilities)

1.5 Consultation - RMS/TfNSW on-site meeting to discuss access arrangements

An on-site meeting was held on Friday 29 September 2017 to discuss the proposed access arrangements for the site. The meeting was attended by representatives from RMS, TfNSW, School Infrastructure NSW and the design team and a detailed account of the latest meeting is provided in Appendix A and below.

Issues raised in RMS response dated 14 September 2017 discussed on site.	Discussion and response
The location of the driveway needs to take into consideration Clause 101 of ISEPP – Development with frontage to classified roads, which requires lower order road to first be considered for use.	The topography of the site does not allow the loading dock to be located off Jones Street at the top of the site. Both Jones Street and Quarry Street provide frontages for drop-off and pick-up by private car and bus. Wattle Street most appropriate as it is at the bottom of the site and is where the current access is provided.
Any proposed vehicular access shall allow all vehicles to be accommodated on site before being required to stop. Any security gate will need to be recessed such that the largest vehicle can be contained wholly on site before being required to stop in order to prevent queuing onto the footpath of Wattle Street.	The security gate located on the boundary will be open during school hours enabling vehicles to enter the site without stopping. Security will be controlled at the internal pedestrian door location.
The swept path of the longest vehicle (including garbage trucks, maintenance and delivery vehicles) entering and exiting the subject site, as well as manoeuvrability through the site to loading areas, is to be in accordance with Austroads requirements.	The design vehicle swept paths are designed in accordance with AS2890.1 and AS2890.2 with the vehicle crossover being dimensioned to allow vehicles to enter and leave within the driveway.
It is noted that service vehicles will undertake reverse movements in the general car parking area. Pedestrian facilities should be provided within car parking areas to provide safe passage for pedestrians to the school from car parking spaces to eliminate potential pedestrian conflicts within heavy vehicles as far as practical (particularly for pedestrians with a mobility impairment).	Pedestrian safety within the car park will be achieved by: - Clearly marked pedestrian routes - Signage - Timing of deliveries during the day between school start and finish times.
Close proximity of driveway to Quarry Street traffic signals is not supported.	The key issue to address is the driver's ability to see the traffic lights at the Quarry Street intersection and the oncoming traffic along Wattle Street on departure. - The driveway will be moved a further 3 metres south to increase the separation. - The first 10m of car parking will be changed to No Stopping to improve sight lines. - The light pole to be investigated for removal and replacement on the western kerb of Wattle Street.

	- The gate opening should be wide enough to provide clear sight lines south. - The wall along the Wattle St frontage will be open grille to provide clear sight to pedestrians walking on the footpath. - Current design has only 1 standard and 2 accessible parking spaces to cater for special needs children and deliveries. - Garbage collection and loading is expected to be very low at 1 -2 vehicles per day. On the basis of these amendments to the plans, RMS supported the design based on low usage patterns. These issues have been document in this SSDA traffic report.

Further ongoing consultation has occurred throughout the initial design process as described below. There were three other contact points with Roads and Maritime Services and Transport for NSW.

Attendees	Date	Type of Consultation	Discussion
Roads and Maritime Services + Transport for NSW + +Andrew Hulse + Katie Fairbrother + Thierry Lacoste + Belinda Dawes + Sandeep Amin	21.06.17	Meeting	Construction traffic access Confirmation of traffic surveys for SSDA submission Discussion on proposed school drop-off/pick-up zones Discussion on proposed loading dock/ car park driveway access on Wattle Street
Roads and Maritime Services + Transport for NSW	22.08.17	Emailed memo	Driveway location on Wattle Street proximity to existing traffic signals Access control of vehicles entering site so that they did not block footpath
Roads and Maritime Services development officer	15.09.17	Phone call	Response to Roads and Maritime Services Letter dated 14 September 2017 that Roads and Maritime Services do not support driveway located on Wattle Street

2 Existing Conditions

Ultimo Public School has a current enrolment of 335 students, with 13 permanent classrooms and one demountable. This section discusses the existing transport and access infrastructure around the school.

2.1 Location

The school is located on the corner of Wattle Street and Quarry Street in Ultimo, just outside of the Sydney CBD. The school is bounded by Wattle Street which is a State Road, Quarry Street and Jones Street which are local roads.

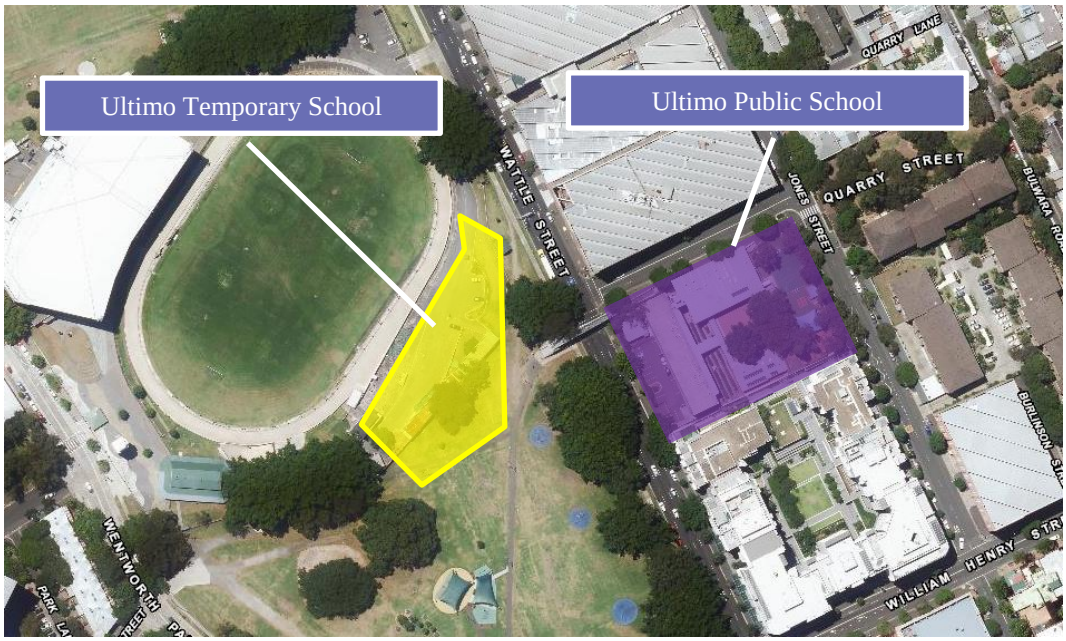

Figure 1: Site location

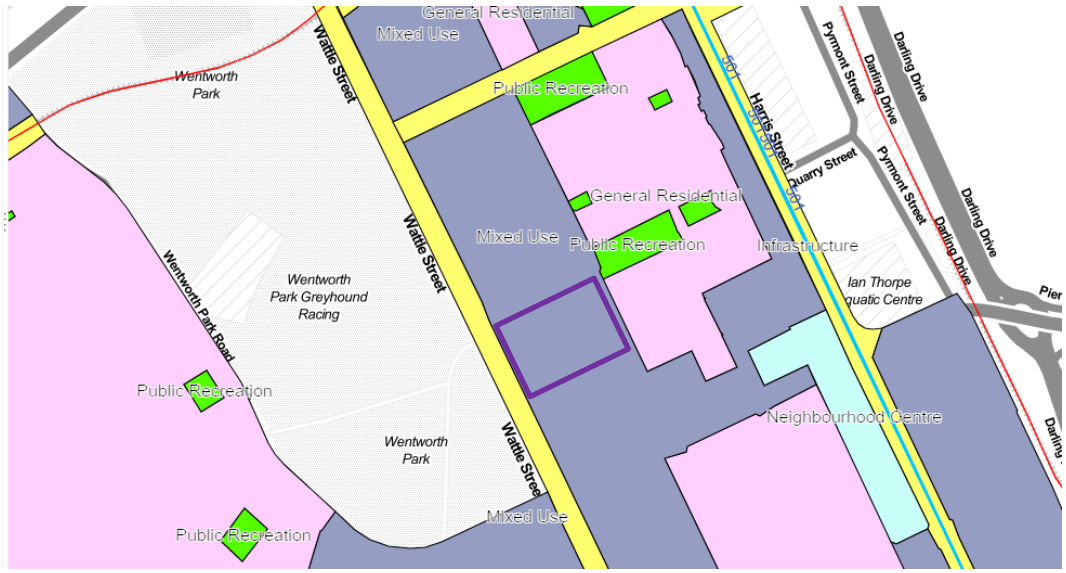

Figure 2: Current land zoning

2.2 Catchment

The indicative existing school catchment is shown in Figure 3. It extends approximately 800 metres south to Broadway and 1.5km north of the Pyrmont peninsula. The school is highly accessible by walking given the elaborate network of footpaths and park connectors. Most of the students are within a reasonable walking distance to the school. It should be noted that the school catchment is subject to change in the future. The image provided is for the planning purpose of this report only.

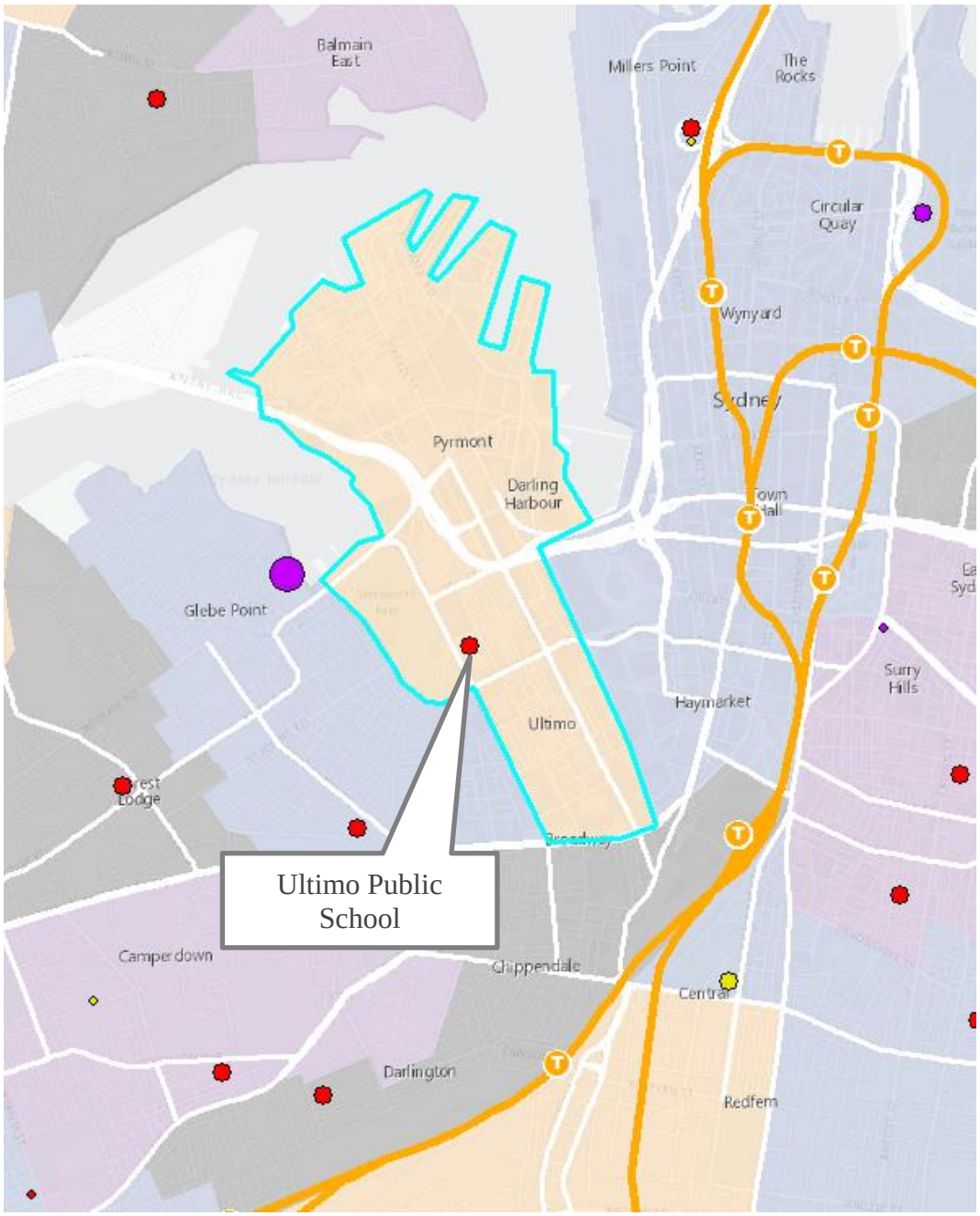

Figure 3: Ultimo Public School estimated existing catchment. Other existing public schools are indicated by the coloured points (indicative only)

2.3 Public transport

The site is in direct proximity to various transport modes – including primarily light rail and bus. Both heavy rail and ferry options exist in an approximate 20 minute walking travel catchment. The distribution of public transport services can be seen illustrated in Figure 4.

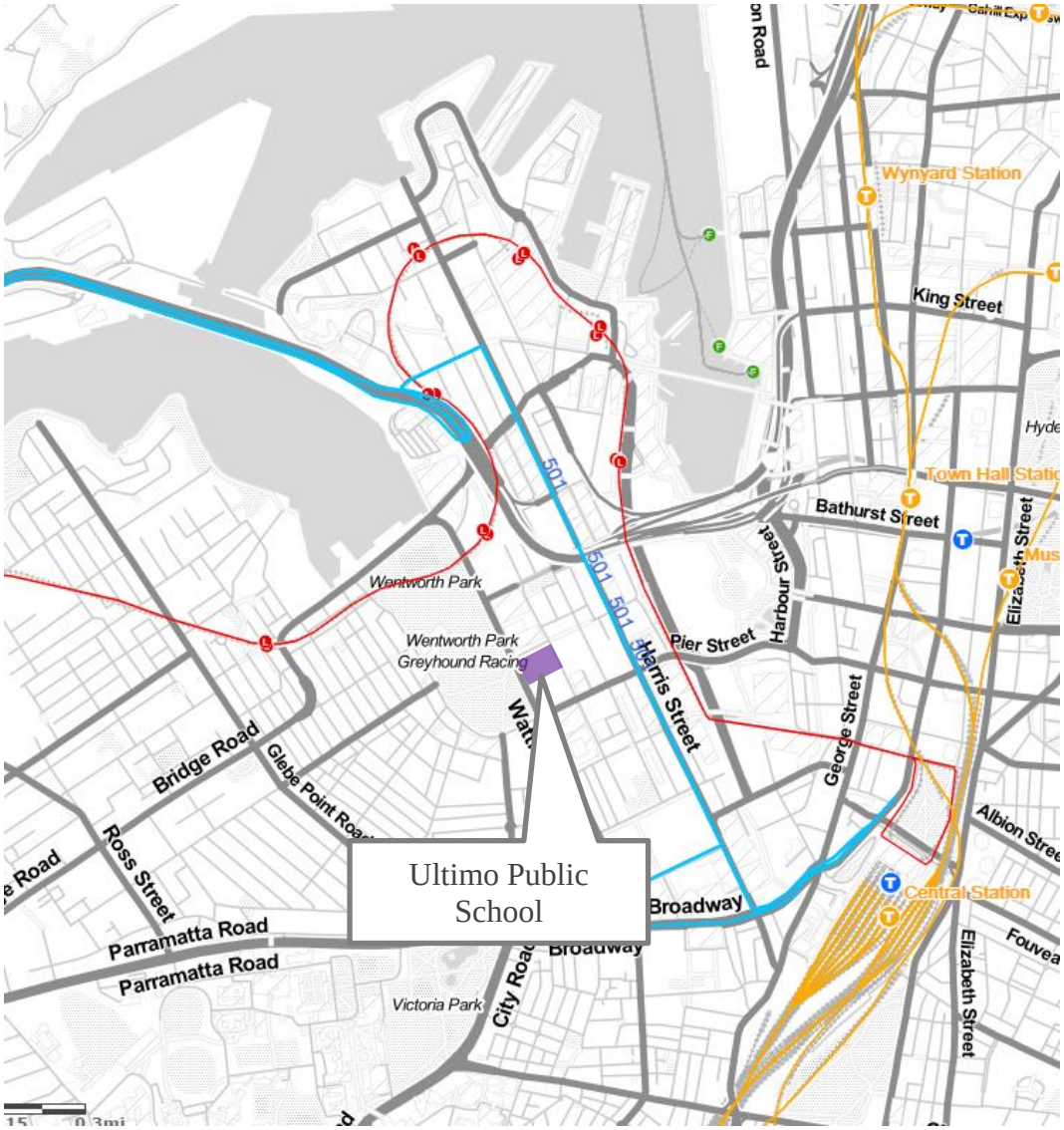

Figure 4: Site location and existing public transport

2.3.1 Trains

The closest train stations to the school are all in very similar walk distance and travel times to each other:

- Central Station, located 1.5km away, or a 19 minute walk
- Museum Station, located 1.5km away, or a 20 minute walk
- Town Hall Station, located 1.4km away, or a 18 minute walk

Train arrivals are highly frequent and serve the extensive rail network. The stations are connected to the school through a good network of footpaths, local streets and crossing facilities.

2.3.2 Buses

Bus stops along Harris Street located 100 metres east of the school serve bus route 501. The bus operates between West Ryde Station to Railway Square via Rozelle with the following peak hour frequencies

Departing Central Station,

- 4 buses between 7:30am to 8:30am
- 3 buses between 2:30pm to 3:30pm

Departing West Ryde Station

- 5 buses between 7:30am to 8:30am
- 3 buses between 2:30pm to 3:30pm

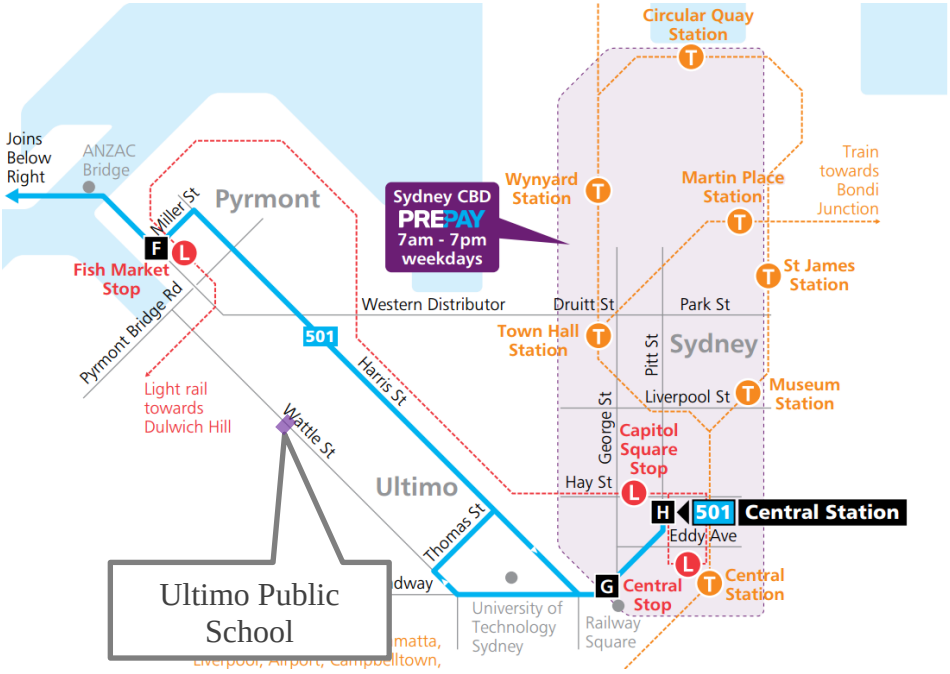

Figure 5: Route map of bus 501

2.3.3 Light Rail

Wentworth Park and Exhibition Centre light rail stations are located just 500 metres from the school. The light rail routes provide access between Dulwich Hill and Capitol Square with high frequencies:

Inbound services

- 8 services between 7:30am to 8:30am
- 7 services between 2:30pm to 3:30pm

Outbound services

- 7 services between 7:30am to 8:30am
- 7 services between 2:30pm to 3:30pm

Figure 6: Wentworth Park light rail

2.3.4 Pedestrian access

The main pedestrian access is located along Quarry Street with surrounding intersections having a form of pedestrian crossing facility, illustrated in Figure 7. Wentworth Park provides a green connector with uninhibited pedestrian access towards the school. A pedestrian overbridge equipped with a lift provides pedestrian access to the entrance and Wentworth Park, shown in Figure 8.

Figure 7: Surrounding pedestrian infrastructure

Figure 8: Pedestrian overbridge to Wentworth Park and the school entrance

2.3.5 Cycle routes

The nearby cycle paths in the school's vicinity is shown in Figure 9. Bulwara Road has bicycle lanes providing a north south connection. Wentworth Park provides a western and southern connection to other local roads with lower volumes of traffic.

Figure 9: City of Sydney cycle paths surrounding the school

2.4 Road network

To manage the extensive network of roads for which council is responsible under the *Roads Act 1993*, RMS in partnership with local government established an administrative framework of *State*, *Regional*, and *Local Road* categories. State Roads are managed and financed by RMS and Regional and Local Roads are managed and financed by councils.

Regional Roads perform an intermediate function between the main arterial network of State Roads and council controlled Local Roads. Due to their network significance RMS provides financial assistance to councils for the management of their Regional Roads.

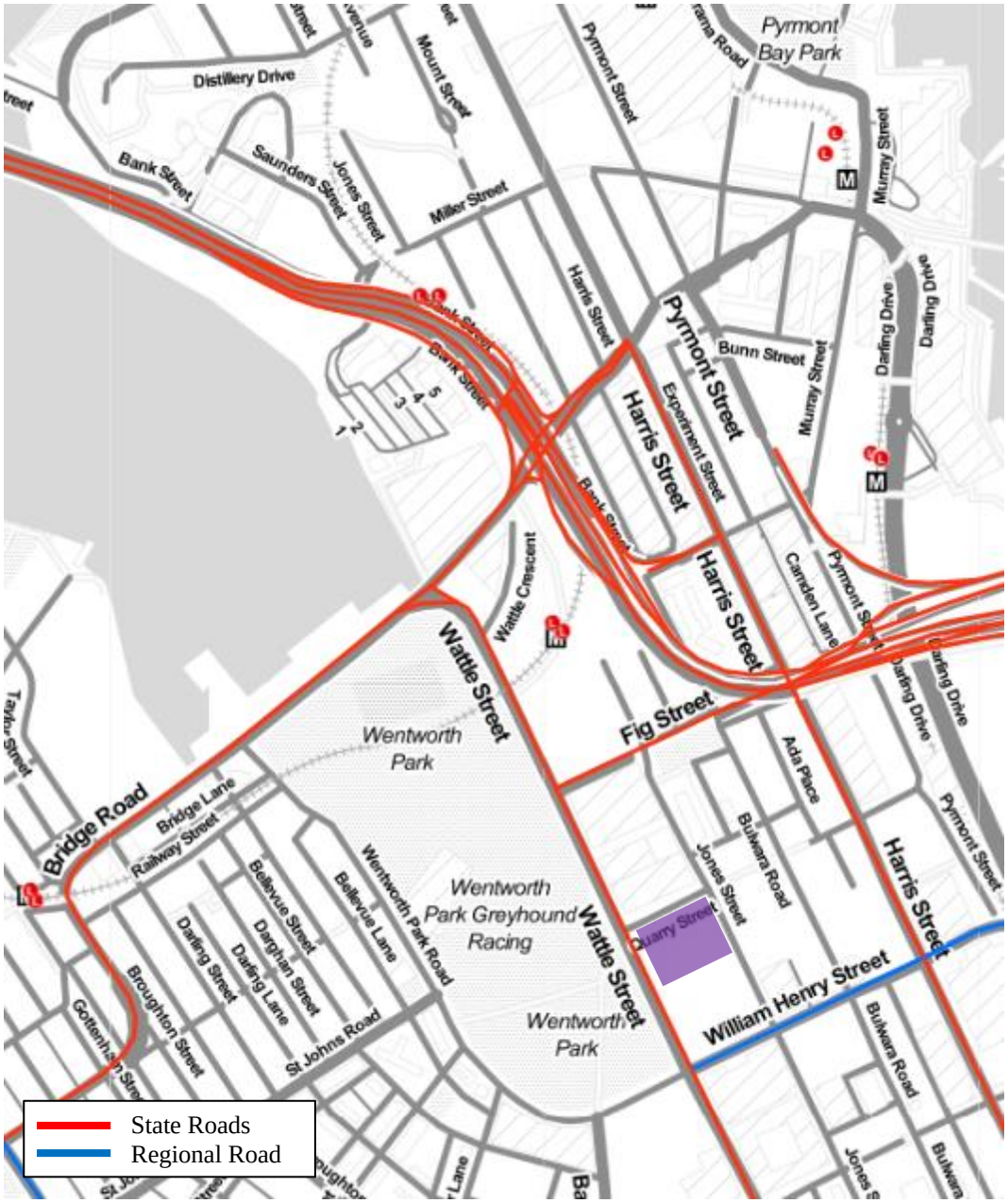

Figure 10: Classified roads within the vicinity of the school

Wattle Street

Wattle Street which is a state road, is a one-way northbound road which provides access to the existing school staff car park. Parking and drop-off bays are provided on either sides of the road.

Quarry Street

Quarry Street is a local road with steep grades. It is the main pedestrian access to the school with drop-off bays provided on the southern side of the road during school peak periods. Time restricted parking is provided on the northern side of the road.

Jones Street

Jones Street is a local road fronting the school. Parking and bus zone are provided on either side of the street. A bus zone is provided on the western side of the street and is currently only used for school bus drop-off and pick-up.

Photo 1: Jones Street currently used for school bus only drop-offs and pick-ups

Quarry Street / Wattle Street intersection

The Quarry Street / Wattle Street intersection was found to operate efficiently during School morning and afternoon peak periods. Queues were found to be minimal with queued vehicles clearing within a single cycle.

Photo 2: Wattle Street, facing south at 3:05pm

Photo 3: Wattle Street, facing north at 3:05pm

2.5 Accessibility

2.5.1 Off-street staff parking and loading

The existing staff car park is located off Wattle Street and has a capacity of 16 car spaces including 1 disabled parking space. Site observations on 10 August 2017 at 10:00am found all the spaces to be fully occupied. With the school having some 21 staff, this indicates that some 80% drive to work. The surrounding road network within the vicinity of the school does not provide any form of unrestricted on-street parking which allows staff to park.

This area is also used for general deliveries, loading and refuse collection.

Figure 11: Existing staff car park off Wattle Street, Thursday 10 August2017

Figure 12: Existing staff car park off Wattle Street, Thursday 10 August2017

2.5.2 On-street parking restrictions

The existing on-street restrictions along with their approximate number of parking bays are shown in Figure 13.

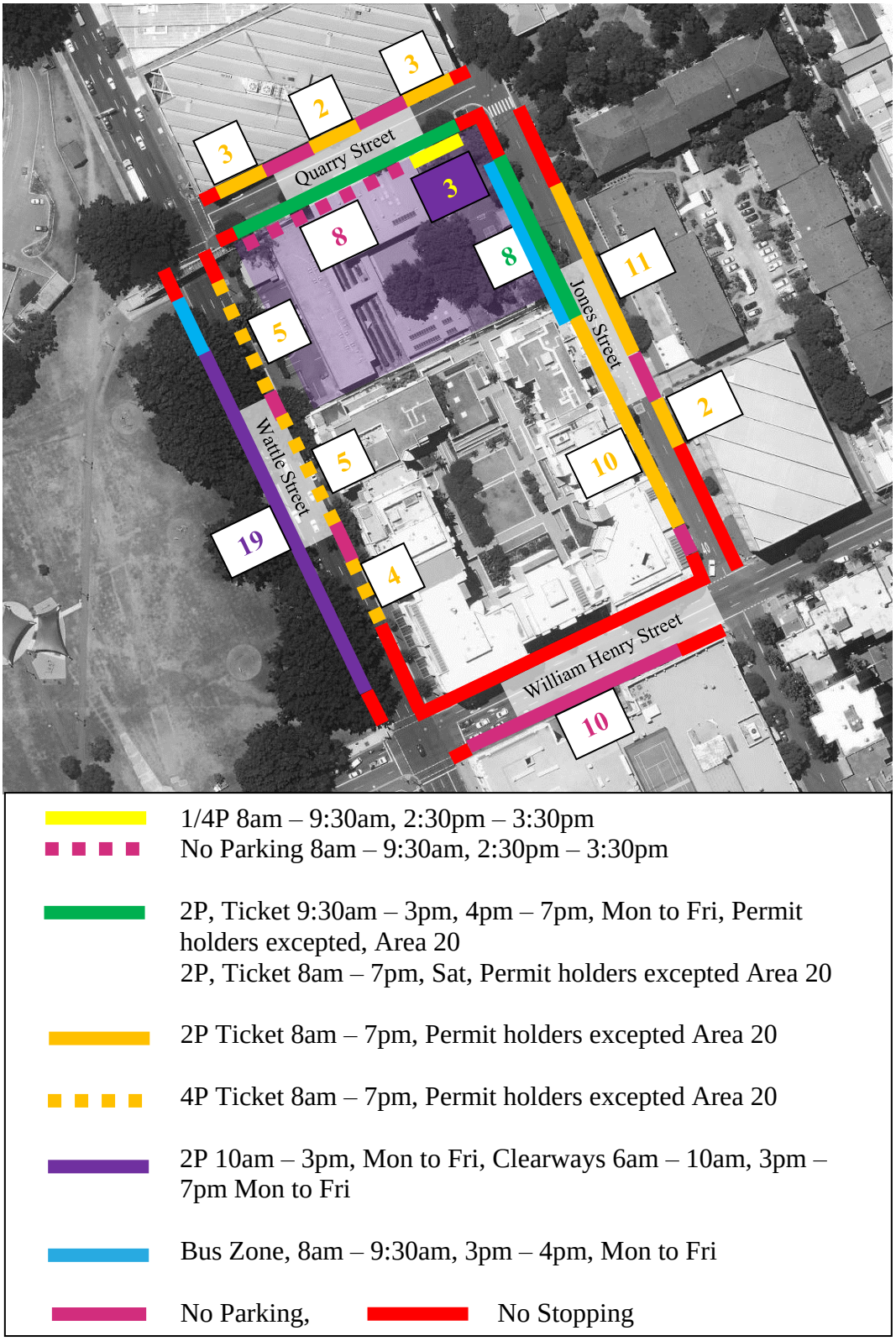

Figure 13: Existing on-street restrictions

2.5.3 Existing on-street parking occupancy

Arup conducted parking surveys on 14 June 2017 during the following periods:

- 8:00am to 9:00am
- 2:30pm to 3:30pm

The existing on-street parking occupancy along Wattle Street, Jones Street and Quarry Street were found to be close to capacity during both school peak periods. These surrounding local streets were predominantly time restricted with exception to residents (Permit Holders Area 20). A total of 6 unoccupied and unrestricted spaces were recorded at the time of the survey.

Surveys found a low turn-over rate with an average occupancy along the streets ranging from 86% to 100%. This equated to no more than one or two spaces being vacant along the streets at any time. As such, drop-offs and pick-up activity was only available along the southern side of Quarry Street.

Photo 4: Jones Street parking occupancy 3:00pm

Photo 5: Wattle Street parking occupancy 8:45am