Operational Traffic Management Plan

St Catherine's School, Waverley
26 Albion Street, Waverley

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<td>v01</td>
<td>21/09/2016</td>
<td>Alexandra Kavanagh</td>
<td>Martin Mallia</td>
<td></td>
</tr>
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<td>Alexandra Kavanagh</td>
<td>Martin Mallia</td>
<td></td>
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<td>Alexandra Kavanagh</td>
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1. Introduction

Traffix has been commissioned by St Catherine’s School, Waverley, to prepare an Operational Traffic Management Plan (OTMP) for the State Significant Development (SSD) of the school which is located at 26 Albion Street, Waverley.

The SSD seeks to incorporate the operation of the new Research, Performing Arts and Aquatic Centre (RPAC) as Stage 1 of the development. The OTMP has been prepared to address the proposed increased capacity of St Catherine’s School to accommodate a student population of 1,200 and 212 staff by 2030 and the management of traffic for proposed increases and new events at the new Aquatic Centre.

The OTMP is a key workplace document that has legal standing. As such, potential hazards will be identified, risks are assessed and the proposed treatments can be found within this OTMP. The OTMP should be referred to for all management of traffic for the St Catherine’s School, Waverley.

The report is structured as follows:

Section 2: Objectives of the OTMP

Section 3: Site Operation Information

Section 4: Planning

Section 5: Implementation

Section 6: Monitoring and Measurement

Section 7: Management Review
2. Traffic Management Objectives

The target audience of this plan are the staff, students and visitors to St Catherine’s, Waverley. The aim of the OTMP is to ensure that the additional development on the site sees no net increase in private vehicle trips to the subject site. This OTMP addresses several conditions provided in the Development Consent by the Minister of Planning dated 6 April 2016. The OTMP highlights the measures undertaken by the school since the lodgement of the Development Application and proposed measures to meet the conditions in the future.

The primary objectives of the St Catherine’s OTMP are as follows:

- Ensure the safety of staff, the public and those who will be impacted by traffic during site operations;
- Ensure that road users are aware of any proposed changed traffic conditions and that risks are identified and mitigated; and
- Ensure that the local road network will not be impacted by traffic generated due to the school’s operation.
- Ensure the proposed development has no net increase on existing traffic volumes in the vicinity of the site.
3. Overview of Site Operations

3.1 Site Location

The school is located in Waverley approximately 5.5 km south east of Sydney CBD. The site is irregular in shape and has an area of approximately 22,330 m². The school has a north-eastern frontage to Bronte Road of approximately 33 metres and a south-eastern frontage to Leichhardt Street of approximately 55 metres. The school also has a southern frontage to Macpherson Street of approximately 165 metres and a western frontage to Albion Street of approximately 140 metres. The site is irregular in configuration and is also boarded by residential developments in the north and south-eastern sides of the site. The site location, site plan and road hierarchy are presented in Figures 1 – 3 below, and a photographic record is presented in Appendix A, which demonstrates an appreciation of the character of the site and the surrounding road network.
Figure 2: Site Plan
Figure 3: Road Hierarchy
3.2 Existing Site Capacity

The school population is capped at 1050 Students from Kindergarten to Year 12. It is envisaged that by 2029 the school will have a capacity of 1,200 students. Condition A6 of the Development Consent provides a breakdown of the staff and student population numbers which must not exceed 1,050 and 202 until 1 January 2021 after which the student numbers may increase subject to conditions contained in the development consent, in accordance with the Table 1 below.

Table 1: Number of Staff and Students

<table>
<thead>
<tr>
<th>Year</th>
<th>Students</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016 – 2020</td>
<td>1,050</td>
<td>202</td>
</tr>
<tr>
<td>2021</td>
<td>1,065</td>
<td>212</td>
</tr>
<tr>
<td>2022</td>
<td>1,080</td>
<td>212</td>
</tr>
<tr>
<td>2023</td>
<td>1,195</td>
<td>212</td>
</tr>
<tr>
<td>2024</td>
<td>1,110</td>
<td>212</td>
</tr>
<tr>
<td>2025</td>
<td>1,125</td>
<td>212</td>
</tr>
<tr>
<td>2026</td>
<td>1,140</td>
<td>212</td>
</tr>
<tr>
<td>2027</td>
<td>1,155</td>
<td>212</td>
</tr>
<tr>
<td>2028</td>
<td>1,170</td>
<td>212</td>
</tr>
<tr>
<td>2029</td>
<td>1,185</td>
<td>212</td>
</tr>
<tr>
<td>2030</td>
<td>1,200</td>
<td>212</td>
</tr>
</tbody>
</table>

3.3 Existing on-street unrestricted parking

There are a number of unrestricted kerbside parking spaces adjoining the frontage of the school. These spaces are not line marked. According to the Lyle Marshall and Associates December 2013 surveys, there are approximately 560 parking spaces within a 5 minute walk of the site, which is reduced to approximately 460 parking spaces during school pick up and drop off periods as these spaces are time restricted to provide on-street kiss and go facilities for the school.
3.4 Existing on-street bus stops

Bus Stops are currently provided for public use on Macpherson Street, Albion Street and Leichhardt Street. These bus stops are serviced by the routes provided in Table 2 below:

### Table 2: Existing Bus Services and Attributes

<table>
<thead>
<tr>
<th>Route Number</th>
<th>Stop</th>
<th>Destination</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>314</td>
<td>Albion Street</td>
<td>Coogee</td>
<td>30 minutes</td>
</tr>
<tr>
<td>316</td>
<td>Albion Street</td>
<td>Eastgardens</td>
<td>30 minutes</td>
</tr>
<tr>
<td>317</td>
<td>Albion Street</td>
<td>Eastgardens</td>
<td>30 minutes</td>
</tr>
<tr>
<td>348</td>
<td>Albion Street</td>
<td>Woll Creek</td>
<td>30 minutes</td>
</tr>
<tr>
<td>353</td>
<td>Albion Street</td>
<td>Eastgardens</td>
<td>30 minutes</td>
</tr>
<tr>
<td>400</td>
<td>Albion Street</td>
<td>Burwood</td>
<td>10 minutes</td>
</tr>
<tr>
<td>410</td>
<td>Albion Street</td>
<td>Rockdale</td>
<td>10 minutes</td>
</tr>
<tr>
<td>360</td>
<td>Leichhardt Street</td>
<td>North Clovelly</td>
<td>30 minutes</td>
</tr>
<tr>
<td>440</td>
<td>Albion Street / Macpherson Street</td>
<td>Railway Square / Bronte</td>
<td>10 minutes</td>
</tr>
</tbody>
</table>

Additionally, school bus services operate from the Albion Street bus stop during the afternoon peak period between 3:30pm and 4:00pm. These services are described in Table 3 and routes and stops within 800 meters of the School are shown on Figure 4 below.
Figure 4: Public Transport
### Table 3: Existing School Bus Services and Attributes

<table>
<thead>
<tr>
<th>Route Number</th>
<th>Origin</th>
<th>Destination</th>
<th>Departure Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>Waverley College</td>
<td>Eastgardens</td>
<td>3:35pm</td>
</tr>
<tr>
<td>604</td>
<td>St Clare’s College</td>
<td>King St / Botany Road</td>
<td>3:31pm</td>
</tr>
<tr>
<td>657</td>
<td>Bunnerong Street / Franklin St</td>
<td></td>
<td>3:31pm</td>
</tr>
<tr>
<td>661</td>
<td>Cranebrook School</td>
<td>Randwick Junction</td>
<td>3:42pm</td>
</tr>
<tr>
<td>662</td>
<td></td>
<td>Maroubra Junction</td>
<td>3:57pm</td>
</tr>
</tbody>
</table>

### 3.5 Existing Site Operations Details

#### 3.5.1 Site Access Arrangements

The site currently has a number of access points for both vehicles and pedestrians. Vehicular access can be gained from Albion Street via a two-way driveway at the sites southernmost point, and two (2) single entry and exit driveways further north. An entry and access driveway is also present on Macpherson Street outside the Dame Joan Sutherland Centre, and an emergency vehicular access is located on Bronte Road. It is noted that there are currently a total of 56 car parking spaces available for use on the site, of which 31 are accessed from Albion Street and 25 from Macpherson Street. These parking spaces are available to staff only.

Pedestrian access can be gained from multiple access points on Albion Street, Macpherson Street and Leichhardt Street.

#### 3.5.2 Existing School Pick-up / drop-off zones

Currently, the site provides pick-up and drop off zones on Albion Street, Macpherson Street and Leichhardt Street. The school has assigned specific year groups to each pick-up / drop-off zone, mainly to ensure that the students are picked up and dropped off at the correct school entrance. Currently there is a supervised pick-up and drop-off management system in place for the Leichhardt Street pick-up and drop-off zone. The school operates a car line to cater for the Junior School at this location. The
Macpherson Street and Albion Street pick-up and drop off zones are currently unsupervised. A summary of the existing pick-up and drop off locations is provided in Table 4 overleaf.

### Table 4: Existing on-street pick up and drop off provision

<table>
<thead>
<tr>
<th>Street</th>
<th>Side</th>
<th>Restriction</th>
<th>Number of Spaces</th>
<th>Year Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albion Street</td>
<td>Eastern</td>
<td>No Parking 8:00am – 9:00 am:30pm – 4:15pm, School Days</td>
<td>6</td>
<td>7-12</td>
</tr>
<tr>
<td></td>
<td>Western</td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Macpherson Street</td>
<td>Northern</td>
<td>Kiss &amp; Go: stay with your car 2 minute limit. No Parking 8:00am – 9:15am 2:45pm – 4:15 pm, School Days</td>
<td>18</td>
<td>5-12</td>
</tr>
<tr>
<td></td>
<td>Southern</td>
<td>No pick-up and drop-off provision</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leichhardt Street</td>
<td>Eastern</td>
<td>No pick-up and drop-off provision</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Western</td>
<td>No Parking 7:45 am – 9:00 am, 2:30 pm – 4:00 pm, School Days</td>
<td>8</td>
<td>1-4</td>
</tr>
</tbody>
</table>

#### 3.5.3 Existing Staff Travel

In 2014, Arup undertook a School Travel Survey to identify travel modes for staff. Of the 202 staff on site in 2013, 150 drove, 37 used public transport, 11 walked and four (4) car pooled. Based on this survey, with 56 parking spaces currently available on site for staff through an allocation based on tenure or seniority, 94 staff vehicles are parked on neighbouring streets.

#### 3.5.4 Existing School Bus Service

St Catherine’s School provides three (3) heavily subsidised private bus services available to all students. Due to the ever changing student demographic and needs of the parents, routes and stops are reviewed periodically with parents encouraged to contact the School if they would like to see stops added or removed.
The bus routes have been implemented at great cost to the School to help to reduce the impact of private car travel generated by the School. To encourage parents away from private car travel, the School offered the first two terms of 2016 free of charge to parents. The fees for using the service for subsequent terms have been heavily subsided and align with those charge by local government transport operators. The bus service is discussed in more detail in Section 4 of this report.

3.5.5 Existing Major Events Held in Auditorium

For existing major events that are held at the School, all visitor vehicles currently park on-street as the on-site car park is reserved for staff only. A list of major events currently held at the Auditorium is provided in Appendix B. It is noteworthy that the school currently provides one (1) outdoor swimming pool which is utilised by students of the school and also external children through the learn to swim programmes and on weekends for inter-school sport competitions.
4. Implemented Travel Strategies

Since the Development Application was lodged in 2014, the school has implemented several travel strategies with the aim of creating travel mode shifts away from the reliance on private vehicles for travel to and from the school. This section of the report details the initiatives that have been implemented to date and discusses their success.

4.1 Car Pooling

In December 2015, the School implemented a carpooling programme in an effort to reduce the number of private vehicle trips made to and from the School for both staff and students. After a review of potential services, Sydney Carpool, endorsed by Transport for NSW, were identified as the most suitable service provider. Sydney Carpool provide both web and app based platforms that allow users to register, search for a ride and link up with other users. The annual service subscription fee for 2016 was $6,000.00. Staff and parents were invited to join the closed Carpool group in February 2016 via the School’s internal portal with a further invitation sent by the headmistress in her letter to parents in March 2016.

To date the School have received 12 staff and 2 parent registrations. With journey data not available from the Sydney Carpool platform, the School estimate the number of trips made through Sydney Carpool to be less than 10 trips. Despite the School offering two spaces for on-site parking to staff and numerous notifications to parents, the initiative is considered to have been unsuccessful. The School will look to launch its own internal Carpooling site during the second part of 2017, with a relaunch of the initiative to happen shortly after.

4.2 Bicycle Parking and Active Travel

In February 2017, the School installed bicycle rack offering 10 bicycle parking spaces. A note was then circulated with details of the changing facilities offered by the School and available to all staff. During a meeting with the School’s Executive, concerns were raised over student safety and promoting cycling as an alternative mode. Due to additional co-curricular items students are required to carry, it was decided that the initiative was not appropriate for students and that other more suitable initiatives be identified. The number of bicycles parked in the rack ranges from 2 – 5 bikes per day.

The School also participated in the ‘Walk safely to School’ day on 20 May 2016. Students were able to attend School on the day in casual clothing with participation levels encouraging from both the junior
and senior schools. During 2017, the School will again support the 'Walk safely to School' day and work with prefects and students to launch their own St Cath’s monthly walk to School initiative.

4.3 Bus Service

In November 2015, the School tendered for, and nominated, a bus company to provide private transport for students to and from the School campus. In January 2016, the School also launched their internal St Catherine’s Transport page. The page provides parents with access to all the initiatives offered by the School. The trial of three (3) separate routes, Taren Point, Randwick and Bondi were advertised to parents via the portal at the beginning of Term 1, with details of the suburbs serviced presented below:

- Taren Point: Taren Point, Little Bay, Malabar, Maroubra and Randwick
- Randwick: Kingsford, Kensington, Centennial Park, Clovelly, Randwick
- Bondi: North Bondi, Bondi Beach, Bronte Beach, Clovelly

Routes and utilisation were carefully monitored with data taken from the online bus booking form, and an electronic booking form developed internally. At the conclusion of Term 1 it was evident that the Bondi service was significantly underutilised compared to the Taren Point and Randwick services. At the beginning of Term 2, a service covering Maroubra, Coogee and Waverley was introduced.

The utilisation of the bus services during the AM arrival and PM departure periods for the four (4) school terms in 2016 are demonstrated in Figures 5 and 6 overleaf. It is noted that Term 1 and 3 had 48 days and Term 2 and 4 had 42 days in 2016.

In addition to route changes, the school has trialled differing payment options for the Bus Service. During Term 1 and 2 a fully subsidised service was offered to students. For Term 3 and a charge of $1.20 per journey or $198 full term was applicable.
Figure 5: Bus Service Utilisation for AM arrivals in 2016

Figure 6: Bus Service Utilisation for PM departures in 2016
4.4 Travel Pass

Certain students may be eligible for a School Opal Pass. The pass allows for free travel on public transport for students on public transport between home and school on trains, buses and ferries within the Opal network. Students are required to live a minimum distance from the school to be eligible for the School Opal Pass. The minimum distance requirements are provided in Table 5 below.

### Table 5: School Opal Card Requirements

<table>
<thead>
<tr>
<th>Grade</th>
<th>Distance Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years K-2 infants</td>
<td>No requirement</td>
</tr>
<tr>
<td>Years 3-6 Primary</td>
<td>1.6km straight line distance or 2.3km walking or further</td>
</tr>
<tr>
<td>Years 7-12 Secondary</td>
<td>2.0km straight line distance or 2.9km walking or further</td>
</tr>
</tbody>
</table>

The school is currently awaiting feedback from Transport for NSW regarding how many students obtained and utilised School Opal passes in 2016.

4.5 Green Travel Plan

A comprehensive Green Travel Plan is considered to be the most effective travel planning measure to encourage travel by alternative means other than private car for students, staff and visitors to the school. The Green Travel Plan allows for the school to measure existing travel modes and set goals for future travel mode splits. As part of a Green Travel Plan, a Travel Access Guide (TAG) is usually developed to inform and educate users about alternate modes of transport.

A TAG has been developed by the school to distribute to staff, students, parents and visitors. A copy of the TAG is provided in Appendix C for reference. The TAG provides relevant transport and access information. The TAG has been made available on both the internal and external websites of the school and hard copies have been distributed to staff and students in 2016.

From the initiatives that have been discussed in this section of the OTMP, it is evident that some have been more successful than others. As the school proposes to increase its student body population and the Development Consent requires no net increase in private vehicle splits, the school will be required to achieve a mode shift to more sustainable transport modes. However, it is envisaged that active travel
and further utilisation of Public Transport are the more viable alternatives for the specific site, as opposed to car-pooling schemes and the provision of bicycle parking.
5. Establishing Baseline Data

5.1 Traffic Surveys

In order to measure the effectiveness of this OTMP and to have an accurate way of monitoring the condition of consent stating that no increase in traffic volumes from the schools operations will be permitted, traffic surveys in the form of automatic tube counts and peak period turning counts at the critical intersections surrounding the site have been undertaken in March 2014 by Arup. The results of the survey are summarised in Table 6 below with the locations of the counters shown in Figure 7, overleaf, and will establish the baseline data that will be used to assess all future traffic impacts from the schools operations.

<table>
<thead>
<tr>
<th>Location</th>
<th>AM Peak (8am-9am)</th>
<th>PM School Peak (3pm-4pm)</th>
<th>PM Commuter Peak (5pm-6pm)</th>
<th>Weekend Peak (12pm-1pm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leichhardt Street</td>
<td>1,173</td>
<td>1,180</td>
<td>1,253</td>
<td>1,277</td>
</tr>
<tr>
<td>Albion Street</td>
<td>903</td>
<td>833</td>
<td>517</td>
<td>897</td>
</tr>
<tr>
<td>Macpherson Street</td>
<td>1,138</td>
<td>1,190</td>
<td>1,131</td>
<td>1,282</td>
</tr>
</tbody>
</table>

It is proposed that further counts be undertaken in March 2017. To maintain a consistent approach to the assessment, the same locations will be surveyed for one (1) week during the school term, with an additional week in the school holidays also surveyed. This will enable the growth in background traffic to be assessed so an accurate assessment of traffic generated by the school can be achieved. The proposed traffic surveys in 2017 will also take into account the existing travel strategies that have been implemented to help identify any reductions in traffic volumes that have already been achieved. The reduction in private vehicle usage will therefore act as credit for the site, enabling the additional proposed enrolment of students, with no net increase in traffic generation to the site.
Figure 7: Location of Traffic Surveys
5.2 Travel Mode Surveys

In April 2014, Arup undertook a travel mode survey of both the staff and students on site. The survey results as presented in the ARUP St Catherine’s School Travel Strategies Transport Report dated 23 September 2015 established the existing mode share for both students and staff travelling to the and from the site. From the surveys conducted by ARUP the existing travel mode splits for staff and students are as provided in Table 7 and 8 below, respectively.

Table 7: ARUP 2015 Staff Travel Mode Splits

<table>
<thead>
<tr>
<th>Travel Mode</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car Driver</td>
<td>71%</td>
</tr>
<tr>
<td>Car Passenger</td>
<td>3%</td>
</tr>
<tr>
<td>Public Transport</td>
<td>19%</td>
</tr>
<tr>
<td>Walk</td>
<td>5%</td>
</tr>
<tr>
<td>Other</td>
<td>2%</td>
</tr>
</tbody>
</table>

Table 8: ARUP 2015 Student Travel Mode Splits

<table>
<thead>
<tr>
<th>Travel Mode</th>
<th>AM Peak Period</th>
<th>PM Peak Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Vehicle</td>
<td>60%</td>
<td>46%</td>
</tr>
<tr>
<td>Walk</td>
<td>16%</td>
<td>24%</td>
</tr>
<tr>
<td>Bus</td>
<td>4%</td>
<td>7%</td>
</tr>
<tr>
<td>Public Transport</td>
<td>15%</td>
<td>18%</td>
</tr>
<tr>
<td>Other</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Future travel mode surveys will also be undertaken once the school expansion and development has been completed in order to measure the future mode share and the success of the travel strategies implemented to reduce the reliance on private car travel.
6. Future Travel Strategies

6.1 Objectives

A number of travel strategies have been put into place to encourage active travel, reduce the reliance on private vehicle travel for staff and students and to minimise the traffic impacts from the school expansion and construction of the RPAC. The 2015 ARUP report provided travel mode targets for staff and students to achieve no net increase in vehicular trips to the proposed school as follows:

**Students:**
- Additional 5% to utilise bus service
- Additional 5% to car pool
- Additional 5% to utilise public transport

**Staff:**
- 10% to utilise public transport
- 5% to participate in active travel
- 5% to car pool

The following section of the OTMP detail how these targets will be met by the completion of the expansion of the school in 2030.

6.2 Bus Service

6.2.1 Objectives and targets

St Catherine’s School currently offers a private subsidised bus service as discussed previously. The timetable and detailed breakdown of the stops has been presented in Appendix D with the Bus Routes map provided in Figure 8. The school have set a target to increase patronage of this bus service across the school, and consider that this is the most effective way to create a positive odal shift away from private car travel. If successful, additional routes and buses will be considered.
6.2.2 Timing

The additional two (2) routes of the bus service have been available for students to use since 2016 and will continue from Term 1 in 2017. Parents of prospective students will be informed of the new service before the school term starts to ensure they have sufficient time to enrol their children.

6.2.3 Responsibility

The School’s Head of Finance and Operations is the central authority for the bus service. The School’s administration staff are responsible for ensuring the operations of the services, including registration of students on the services and queries.

6.2.4 Funding

Only one (1) payment option will be available from Term 1, 2017. The full term option allows students to use the required service every morning and afternoon for the full term (48 days), and will cost $150.00 per term. There will be no pay per journey option available.

6.2.5 Implementation

The bus service will continue to operate on the routes used in Term 4 of 2016, as previously discussed. However, due to the success of the initiative, the school will maintain the existing service and attempt to build on it to increase maximise the service. The focus of the initiative will be to fill each bus and potentially add additional services to the existing routes, depending on demand.

6.2.6 Strategy Monitoring

As the bus operations are being managed in house, the monitoring of the uptake of this service can be easily achieved. Postcode data for students will be available to the school for future route planning purposes for when students leave, new students join or when existing students move. The bus routes will need to be reviewed annually to ensure effective coverage of the entire school catchment area.

6.2.7 Monitoring Targets

The School will publish the results of the monitoring and independent auditing publicly available on the school’s website and available to the Community Consultative Committee.
Figure 8: St Catherine's Bus Service Routes
6.3 On-site staff parking management

6.3.1 Objectives and targets

St Catherine’s School currently has 56 off-street parking spaces. The development application proposed an additional 19 off-street parking spaces to accommodate a total of 75 off-street car parking spaces. From Arup’s 2013 survey results (discussed in more detail in Section 7.4), it was established that 150 staff members were travelling to the site via private vehicle. This equates to 74% of staff. It is considered that the future development will have up to 212 staff and if travel modes are maintained this will see up to 157 private vehicles requiring parking with up to 82 vehicles utilising on-street facilities.

St Catherine’s School is proposing to promote active travel and public transport amongst staff to see a shift in the mode splits as previous efforts to promote car pooling and offering guaranteed on-site parking for car poolers has failed, possibly due to the abundance of available parking in the direct vicinity of the school. Additionally, car pooling will continued to be promoted internally amongst staff to encourage higher car occupancy rates.

6.3.2 Timing

Car parking spaces on site will continue to be dedicated to staff based on seniority, however active travel and public transport will be promoted by the school from the beginning of 2017 in light of the proposed modal shift targets. Travel mode surveys are also anticipated to be undertaken in 2017 to help with staff travel planning.

6.3.3 Responsibility

The development consent required the school to employ a Traffic Control Officer. This will occur in Term 1 2017. The Traffic Control Officer will work with staff on a car pooling initiative.

6.3.4 Funding

Due to the lack of demand for car pooling, there is a commitment from school that car pooling scheme will be implemented internally in the second half of 2017.

6.3.5 Implementation

Initiatives to encourage car pooling, like fuel vouchers and on-site spots will be considered for the relaunch of staff carpooling.
6.3.6 Monitoring

Monitoring of the car pooling scheme will be the responsibility of the Traffic Control Officer.

6.3.7 Monitoring Targets

The School will publish the results of the car pooling rates on the school’s website and provide the rates to the Community Consultative Committee.

6.4 On-street parking alterations / pedestrian crossing relocation

6.4.1 Objectives and targets

The objectives of the relocation of the Macpherson Street pedestrian crossing is to maximise the kerbside space, adjacent to the school, for the utilisation of pick up and drop off parking. This initiative will ensure that the additional students to the school can be accommodated for with minimal impact to the surrounding neighbourhood. Additionally, the relocation will consider the existing bus zones and relate to the new school pedestrian access via the RPAC building, resulting in increased queueing capacity. Kerb extensions will be provided on each side of the pedestrian crossing so that the crossing is better defined and complies with RMS guidelines for approach and departure No Stopping lengths. This will improve operational safety. The bus zones will be relocated so that it is on the departure side of the zebra crossing which results in increased queuing capacity and improved operational safety. With the relocation a continuous ‘no parking’ drop off / pick-up zone for up to nineteen (19) vehicles will be created and will permit an efficient flow of vehicles. This equates to an increase of approximately three (3) vehicles.

The School currently provides marshalling areas for different year groups along Albion, Macpherson and Leichhardt Street which are shown in Figure 9 below. There are no proposed changes to the existing marshalling areas. Leichhardt Street will continue to be constantly supervised, and the other area will be marshalled on a needs must basis to ensure efficient operation by a newly appointed permanent part time Traffic Control Officer, who will also be responsible for managing all transport operation moving forward.

6.4.2 Timing

The Traffic Control Officer will be appointed in Term 1, 2017.
6.4.3 Responsibility

The Macpherson Street Crossing relocation will be completed in accordance with the development Consent. The design of the relocation of the pedestrian crossing and Bus Stop on Macpherson Street must be completed and submitted to the Waverley local traffic committee. The traffic committee must approve the design prior to the issue of a construction certificate for the works. The works must be completed prior to any increase in student population above enrolments at the date of the development consent determination.

6.4.4 Funding

The costs of the relocation of the crossing will be discussed between St Catherine’s and Waverley Council. The continued provision of a School Crossing Supervisor on the Leichhardt Street crossing will be jointly funded by Waverley Council and the Roads and Maritime Services.

6.4.5 Implementation

The design of the relocation of the pedestrian crossing and bus stops on Macpherson Street will be provided to the local traffic committee for approval. Once approved, a copy of the design will be submitted to the Department and the Certifying Authority.

6.4.6 Monitoring

The existing zebra crossing on Macpherson Street will be relocated and modified to improve existing conditions. Monitoring of the pick-up and drop off efficiencies will be included in quarterly reports by the School’s Traffic Control Officer to the Community Consultative Committee.
Figure 9: Allocated marshalling years for pick up and drop off.
6.5 Walking and Cycling Routes

6.5.1 Objectives and targets

Walking and cycling routes are a great way for staff and students to be more active and reduce reliance on private vehicles and congestion around school sites. The objective of providing walking and cycling routes to staff and students is to promote active travel and to encourage a mode shift in journey to work travel methods.

6.5.2 Timing

Walking and cycling routes have been provided in Figure 10 of this OTMP. The routes should be reviewed annually to ensure any changes or additions to routes in the local area are reflected. The school shall provide active travel education to all students annually and promote active travel through annual events such as ‘Walk to School’ and ‘Walk to Work’ days.

6.5.3 Responsibility

It is the responsibility of the School’s Traffic Control Officer to maintain route updates, organise active travel promotional documentation and ensure facilities are provided to enable staff and students to utilise walking and cycling routes. Additionally, the school’s Environmental Prefect will be responsible to organising and promoting active travel.

6.5.4 Funding

Funding for walking and cycling routes will be provided by the St Catherine’s School and managed by the School’s Traffic Control Officer.

6.5.5 Implementation

Walking and cycling routes are presented in this OTMP. A comprehensive Travel Access Guide (TAG) is considered to be the most effective travel planning measure to encourage travel by alternative means other than private car. The TAG provides relevant transport and access information that would be relayed to school employees. In addition, the school proposes bicycle parking on the site in order to encourage additional cycle trips with employees safe in the knowledge that secure bike parking is available. This TAG information that would be provided to staff includes:
• Local public transport facilities and network maps;
• Local walking and cycling route maps; and
• Car pool information

The development of a TAG is encouraged to promote alternative modes of transport however it is highly noteworthy that such a document is generally more effective for new developments. Whilst the Department’s objective to reduce private vehicle usage is acknowledged, it is clear that if no parking was provided on site, then staff would continue to utilise the on-street parking in the area. Therefore, the travel targets in this case must be uniquely tailored to encourage alternative modes of transport. A TAG has been and will continue to be distributed to staff members on staff days prior to the commencement of a semester and to new staff when starting employment with the school. The TAG is presented in Appendix C.

6.5.6 Monitoring

St Catherine’s school has pedestrian entrances on Albion, Macpherson and Leichhardt Street all which provide footpaths on either side of the street, which will ensure safe and efficient access to Sydney Bus Services for pedestrians.

A signalised crossing is provided on Albion Street, to allow safe crossing for students between the pick-up and drop off zone on the western side of Albion Street and the school. Two (2) pedestrian crossings are also provided, one (1) on Macpherson Street and one (1) on Leichhardt Street. It is noted that the Leichhardt Street crossing is manned by a School Crossing Supervisor, provided conjointly by Waverley Council and the Roads and Maritime Services.
6.6 Bicycle Parking Provision

6.6.1 Objectives and targets

The objective of providing bicycle parking is to see a mode shift from reliance on private vehicle usage to other modes of transport. The school will however be looking to provide an appropriate level of bicycle parking based on expected demand, whilst building in spare capacity to help ensure that facilities are available for the increased demand.

6.6.2 Timing

Condition B8 of the Development Consent requires the school to provide a minimum of 100 bicycle parking spaces as part of the Stage 1 works. Details of this provision shall be provided to the Certifying Authority prior to the issue of a Construction Certificate.

6.6.3 Responsibility

It is the responsibility of the School to provide the bicycle parking. Sandrick Projects will be responsible for the installation of the bicycle parking and Traffix will ensure the design and installation of the facility comply with AS2890.3 (1993) Parking Facilities Part 3: Bicycle Parking Facilities.
6.6.4 Funding

The cost of supply and installation of bicycle racks will be provided by the school.

6.6.5 Implementation

The bicycle parking will be installed prior to the completion of the proposed development in 2030. Approximately one-third of the bicycle parking spaces and associated facilities will be provided as part of the RPAC development.

6.6.6 Monitoring Targets

The School will publish the results of the travel mode / bicycle parking surveys on the school’s website and provide the rates to the Community Consultative Committee.
7. Monitoring and Measurement

A monitoring and review process for the OTMP will be set out by the Head of Finance and Operations of St Catherine's School to ensure that the OTMP reflects any changes to the public transport network and end-of-trip facilities related to the subject site. A Travel Control Officer will be designated with the responsibility of maintaining the OTMP. This Traffic Control Officer will also assess the modal-split for staff and students accessing the site, once operational and revisit the proposed targets if necessary.

Regular review of the success measures outlined in this plan should be undertaken to determine whether alternative or supplementary measures are necessary. It is recommended that a survey will be conducted by students and staff every 12 months to monitor the progress of targets as documented above, which will be undertaken by the Traffic Control Officer. The survey will include (and will not be limited to) transport modal splits for both staff and students. This evaluation will provide a reliable overview of the areas in which the OTMP is operating effectively and which areas require more attention. However, it is noted that the above targets are primarily indicative and the travel plan and targets will require on-going evaluation and fine-tuning.

Throughout 2016 St Catherine's School has considered other transport initiatives which were unsuccessful. These initiatives included: a walking school bus, scooters and carpooling (discussed earlier). A walking school bus and scooters were considered to be too risky for the school to implement. When considering student safety, the school elected to pursue other initiatives first. While car pooling has not been successful to date, it will be revisited later in 2017. Consequently, this OTMP has omitted these travel modes.

7.1 Roles and Responsibilities

Table 9 below identifies the roles and responsibilities in the delivery of this OTMP
Table 9: Contact details for responsible personnel

<table>
<thead>
<tr>
<th>Role</th>
<th>Person Responsible</th>
<th>Contact Details</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Control Officer</td>
<td>To be appointed</td>
<td>School to Provide</td>
<td>Manage all OTMP initiatives including, but not limited to: car pooling initiatives; walking and cycling route initiatives; organise active travel promotional documentation; ensure facilities are provided to enable staff and students to utilise walking and cycling routes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Maintaining the St Catherine’s OTMP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Collecting and collating of travel mode information for annual reporting to the Community Consultative Committee.</td>
</tr>
<tr>
<td>School Bus Operations</td>
<td>Director of Administration</td>
<td><a href="mailto:transport@stcaths.nsw.edu.au">transport@stcaths.nsw.edu.au</a></td>
<td>Operations of daily bus services including registration of students and queries</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Review of bus routes and student uptake</td>
</tr>
<tr>
<td>Transport Initiatives</td>
<td>Head of Finance and Operations</td>
<td><a href="mailto:headoffinance@stcaths.nsw.edu.au">headoffinance@stcaths.nsw.edu.au</a></td>
<td>Central authority for bus service and new transport initiatives</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Monitoring and review of the St Catherine’s OTMP.</td>
</tr>
<tr>
<td>School Crossing Supervisor</td>
<td>RMS Representative</td>
<td>Waverley Council to provide</td>
<td>Assist children in safely crossing roads on their way to and from school</td>
</tr>
<tr>
<td>Waverley Council Traffic Engineer</td>
<td></td>
<td></td>
<td>Request and receive annual traffic reports from St Catherine’s.</td>
</tr>
</tbody>
</table>
7.2 Collecting and collating information

Annual surveys should be conducted with both staff and students to monitor travel modes of staff and students. These surveys will also include analysis of bicycle parking facilities, car occupancy rates and utilisation of pick-up and drop-off zones. This information should be reported annually with existing active travel incentives reviewed. An evaluation of the schools bus service should be conducted at this time which includes a financial evaluation to establish the benefits of additional services. Survey data can also be reviewed to establish alternate minibus routes.

Survey distribution and collating survey results is the responsibility of St Catherine’s School however it is envisaged that the annual reports will be provided to Waverley Council upon request.

7.3 Promotional Information

Promotional information should be provided to staff, parents and neighbouring properties in the lead up to any major events being held at the auditorium or research centre. This information can be provided in a bulletin or a letter to advise the community of upcoming events at the school. The document should include the following information and be distributed to surrounding properties two (2) weeks in advance of any major event:

- Date and time of the event
- Description of the event
- Expected times of additional volumes of traffic in the area
- Outline of measures taken to mitigate the impact of additional traffic
- Contact details of event organiser or link to website for further information
- Contact details of School Transport Organiser.

All correspondence should include a School logo and signature of the event organiser. The School currently letter drops its immediate neighbours for such events. The development consent imposes conditions on the School to publish an annual event calendar, as part of opening the RPAC.
7.4 Goal Setting

7.4.1 Staff

The proposed development requires 212 staff. In this regard, the expected travel modes for staff have been obtained for the local area.

The current travel modes based on the staff travel survey conducted by ARUP in 2014. The OTMP seeks to increase the use of alternate (non-private vehicle) transport for the development. The current reliance upon non-car related transport to the school relates to approximately 23% of full time staff and 29% of part-time staff (train, bus and walking). However with this in mind, it is envisaged that the subject OTMP will encourage increased use of sustainable modes of transport, such as train, bus, bicycle and walking, with the proposed targets outlined in Section 6.1 of this report. A summary of the existing travel mode split and proposed targets are shown below in Table 10.

<table>
<thead>
<tr>
<th>Travel Mode</th>
<th>Current Percentage</th>
<th>Future Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car Driver</td>
<td>71%</td>
<td>51%</td>
</tr>
<tr>
<td>Car Passenger</td>
<td>3%</td>
<td>8%</td>
</tr>
<tr>
<td>Public Transport</td>
<td>19%</td>
<td>29%</td>
</tr>
<tr>
<td>Active Travel</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td>Other</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>

7.4.2 Students

The current travel modes based on the student travel survey conducted by ARUP in 2014. The OTMP seeks to increase the use of alternate (non-private vehicle) transport for the development. The current reliance upon car related transport to the school relates to approximately 76% of students. However with this in mind, it is envisaged that the subject OTMP will encourage increased use of sustainable modes of transport, such as train, bus, bicycle and walking and utilization of the school bus service. The breakdown of the existing travel mode split and proposed targets are shown below in Table 11 below.
Table 11: ARUP 2014 Staff Travel Mode Splits

<table>
<thead>
<tr>
<th>Travel Mode</th>
<th>Existing AM Peak Period</th>
<th>Future AM Peak Period</th>
<th>Existing PM Peak Period</th>
<th>Future PM Peak Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop-off / Pick up</td>
<td>60%</td>
<td>45%</td>
<td>46%</td>
<td>31%</td>
</tr>
<tr>
<td>*Walk / Active Travel</td>
<td>16%</td>
<td>18.5%</td>
<td>24%</td>
<td>26.5%</td>
</tr>
<tr>
<td>Bus</td>
<td>4%</td>
<td>9%</td>
<td>7%</td>
<td>12%</td>
</tr>
<tr>
<td>*Public Transport</td>
<td>15%</td>
<td>22.5%</td>
<td>18%</td>
<td>25.5%</td>
</tr>
</tbody>
</table>

*Note: The ARUP targets set out 5% of travel to shift to car-pooling. Due to the limited uptake in this travel mode in 2016 the school is proposing to further increase public transport and active travel modes to reduce reliance on private vehicles.
8. Management Review

8.1 OTMP Review and Improvement

8.1.1 Surveys

An annual survey shall be distributed to all students and staff. A copy of the survey distributed for the 2014 survey has been included in Appendix E. It is considered that the survey should only be updated if new trends develop, however the original questions should be maintained to effectively assess the impacts of the OTMP. The surveys should be distributed and results analysed by the Traffic Control Officer. The results of the surveys should be reported annually to the Community Consultative Committee with a copy of the report being published on the schools website and a copy provided to Council, if requested.
9. Special Events

9.1 Increase in Attendees for Existing Events

The new Performing Arts Auditorium will allow for additional capacity. The timetable of existing events which are expected to have increased attendances are provide in Table 12 below.

**Table 12: Existing events for the St Catherine’s School**

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Days per year</th>
<th>Existing Attendance</th>
<th>Additional Attendees</th>
<th>Additional Car Parking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Showcase</td>
<td>7:00pm – 9:00pm</td>
<td>1</td>
<td>220</td>
<td>280</td>
<td>90</td>
</tr>
<tr>
<td>St Cath’s Got Talent</td>
<td>6:30pm – 9:00pm</td>
<td>1</td>
<td>250</td>
<td>250</td>
<td>80</td>
</tr>
<tr>
<td>Trinity Evening</td>
<td>6:30pm – 10:00pm</td>
<td>1</td>
<td>250</td>
<td>250</td>
<td>80</td>
</tr>
<tr>
<td>BTC Showcase Event</td>
<td>6:30pm – 9:00pm</td>
<td>2</td>
<td>250</td>
<td>250</td>
<td>80</td>
</tr>
<tr>
<td>Infants Christmas Musical</td>
<td>9:00 am – 12:00 pm</td>
<td>1</td>
<td>250</td>
<td>50</td>
<td>16</td>
</tr>
<tr>
<td>Junior Musical</td>
<td>6:30 pm – 9:30 pm</td>
<td>2</td>
<td>250</td>
<td>150</td>
<td>48</td>
</tr>
<tr>
<td>Stage 2 Music Evening</td>
<td>6:30 pm – 9:30 pm</td>
<td>1</td>
<td>250</td>
<td>50</td>
<td>16</td>
</tr>
<tr>
<td>Stage 3 Music Evening</td>
<td>6:30 pm – 9:30 pm</td>
<td>1</td>
<td>250</td>
<td>100</td>
<td>32</td>
</tr>
<tr>
<td>Evening of Eminence Junior School (Multi – Purpose Hall)</td>
<td>6:30 pm – 8:30 pm</td>
<td>1</td>
<td>160</td>
<td>90</td>
<td>29</td>
</tr>
</tbody>
</table>
9.2 New Events

Two (2) additional events which are currently accommodated off-site at NIDA, are proposed to be accommodated in the new Auditorium. One new event for parents will be held in the Research Centre and will not coincide with events held in the Auditorium. The new events are presented in Table 13 below.

Table 13: Proposed Events for the St Catherine’s School.

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Days per year</th>
<th>Proposed Attendees</th>
<th>Additional Car Parking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rehearsal Senior School Musical</td>
<td>9am – 2pm</td>
<td>5</td>
<td>60</td>
<td>19</td>
</tr>
<tr>
<td>Senior School Musical Event (biennially)</td>
<td>6:30 pm – 9:30 pm</td>
<td>2*</td>
<td>500</td>
<td>160</td>
</tr>
<tr>
<td>Parent Event (Research Centre)</td>
<td>During School Hours</td>
<td>4</td>
<td>50</td>
<td>16</td>
</tr>
</tbody>
</table>

9.3 Traffic Assessment

A Traffic and Transport Assessment was completed by Arup date 18 August 2014. The findings of that report which are associated with this OTMP are summarised below.

9.3.1 Event management

- Annual events held on-site will be relocated to the Performing Arts Auditorium which will increase the capacity of events from 250 to 500. There are a number of new events also planned with a capacity of 500 that will be held in the Auditorium.
- Venues will be limited for external hire.

9.3.2 Parking assessment

- A total site parking provision of 75 car spaces (19 space) increase.
9.4 Travel Strategies

Travel Strategies to be discussed in more depth including the proposed management of RPAC and DJSC car parks and the provision of travel information.

I) All car spaces (min 47) within the DJSC and RPAC basements are made available for aquatic centre users after 6pm weekdays and all day during the weekend

II) All car spaces on site (min 75) are made available to attendees of all major events held in the auditorium or all where non-students are in attendance

III) The aquatic centre is not available to external attendees when there is any evening or weekend event occurring on site.

9.5 Monitoring and Reporting Requirements

The monitoring and reporting should be completed by the Traffic Control Officer and explore, detail and rank the effectiveness of the supplementary redundancy measures noted in the development consent on the premise that the reconfiguration of the Macpherson Street crossing has been unsuccessful in improving drop-off / pick-up procedures and traffic flow.

The report should also include a redundancy strategy if the objective of a net no increase in private vehicles is being achieved.

Additional reporting should be provided at the conclusion of any major event held. More details to be provided.
Appendix A
Photographic Record
Appendix B

Major Events Schedule
Appendix C

St Catherine’s Travel Access Guide
Appendix D

Mini Bus Timetable and Stop Locations
Appendix E

Travel Mode Survey