Memorandum

To: Ry Stephen

From: Ken Hollyoak

Date: 25 August 2020

TTPP REF: 18173

CC: Jessica Duce, Santi Botross, Kenta Lam

RE: WESTMEAD CATHOLIC COMMUNITY RESPONSE TO SUBMISSIONS

As requested, please find herein The Transport Planning Partnership's (TTPP) response to submissions from agencies relating to traffic, transport and parking matters in relation to the State Significant Development (SSD-10383) as part of the Westmead Catholic Community Education Campus project.

Agencies which provided submissions include Department of Planning, Industry and Environment, City of Parramatta, and Transport for NSW. Responses to the submissions are provided herein.

Meeting with Parramatta City Council

It is noted that the Project Team met with Parramatta City Council representatives on Friday 24 July 2020 to discuss the submissions in detail. Council representatives expressed queries regarding vehicle queues occurring at the existing site access off Darcy Road (west of Mons Road). Council representatives recommended that the Project Team attend a site visit with a Council representative in the morning peak period to observe the traffic conditions.

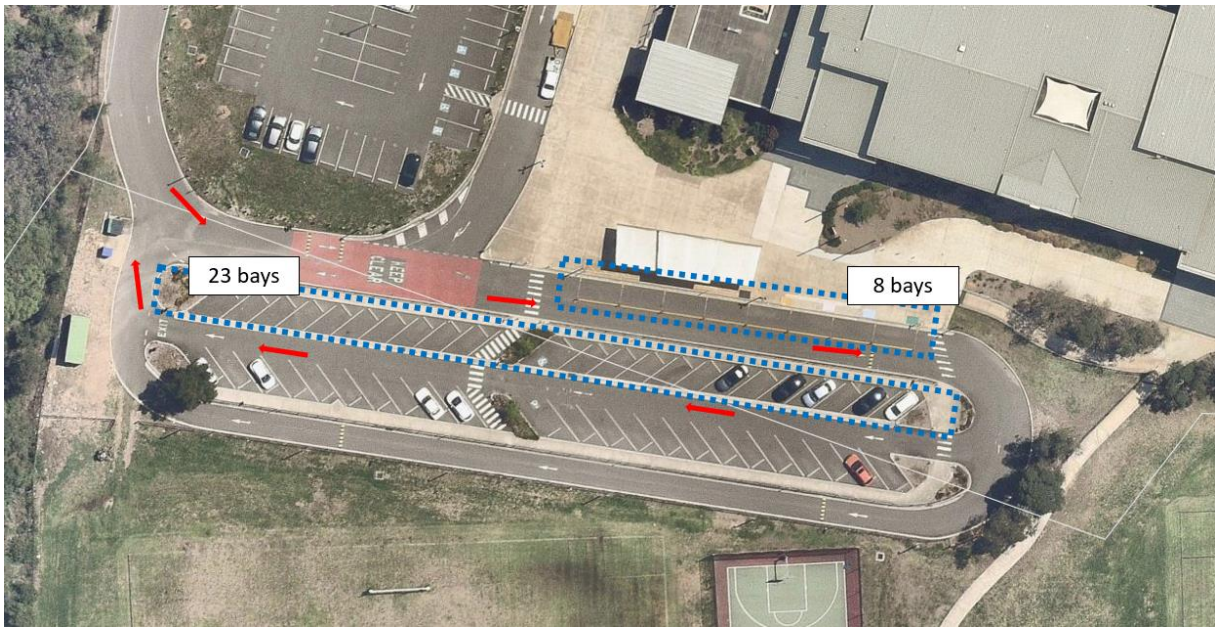
Members from CEDP, WINIM and TTPP attended the on-site inspection with Richard Searle, Traffic Engineer at City of Parramatta Council (CoPC). The site inspection took place on Tuesday 28 July during the morning peak period between 7.45am-9.00am. The inspection involved observations of vehicle queues on Darcy Road turning right and left into the site access driveway. At the busiest time in the peak hour, the right-turn and left-turn vehicle queues were observed to overflow from the respective short-turn lanes. The right-turn vehicle queue was seen to be between 10-14 cars long and the left-turn vehicle queue had reached the Mons Road-Darcy Road traffic signals (between 5-8 cars long).

On inspection, CoPC's traffic engineer noted that queues forming on Darcy Road appeared to be the result of vehicles queueing from within the site. Upon further investigation of the operation within the site, the internal queue was formed by vehicles entering the Kiss and Ride zone. As observed on-site, the average drop-off rate was between 30-60 seconds per vehicle which is less than half the rate which was adopted in the SSDA's Transport and Accessibility Impact Assessment i.e. 2 minutes per vehicle. Therefore, it was apparent that the queuing on-site was the result of a low capacity of vehicle bays to accommodate the drop-off demand. CoPC noted that the proposed new high school Kiss and Ride facility, which will be separate to the primary school Kiss and Ride facility, will significantly improve the current and future loads on the current facility along with the implementations discussed in this RtS.

Improvements to Future Primary School Kiss and Ride Layout

There are currently eight pick-up/ drop-off (PU/DO) vehicle bays on-site which are utilised by both the high schools and primary schools. As part of the SSDA, it was initially proposed to increase this number to a total of 31 PU/DO bays by utilising some of the angled parking spaces in the southern portion of the car park as shown in Figure 1.

Figure 1: SSDA Kiss and Ride – Initial Proposal



Following discussions with CoPC and upon further site investigations the configuration of the future primary school Kiss and Ride zone has been amended as shown in Figure 2. The amended layout is a refined design of the initial proposal providing traffic manoeuvring efficiencies and improved safety since it eliminates the need for vehicles to reverse into PU/DO bays. Under the amended arrangement, all PU/DO vehicular movements will occur in a forward direction which will ensure that the pick-up/drop-off activities occur as efficiently as possible and the drop-off rate could be maintained at 30-60 seconds per vehicle.

The amended layout incorporates 16 PU/DO bays in addition to the existing eight PU/DO bays. The additional PU/DO bays will be provided as parallel spaces within the former angled parking area. In order to facilitate student set-down safely on the passenger side of the vehicle, the direction of traffic flow will be switched from westbound flow to eastbound flow.

Minor adjustments to the raised kerb at both ends of the parking aisle will be proposed in order to facilitate vehicle ingress and egress movements from the new PU/DO bays. Also, the central pedestrian crossing will be removed which shall consolidate all pedestrian movements in this area to one crossing location. As a result, the amount of pedestrian-vehicle conflict points will be minimised and therefore can be more efficiently and safely managed while the Kiss and Ride facility is in operation.

By removal of the central pedestrian crossing, there will be a gain of two additional PU/DO bays at the end of the existing Kiss and Ride facility. Hence, there will be 10 PU/DO bays in the future where the Kiss and Ride facility is currently located. Overall, the amended layout for the future primary school Kiss and Ride facility provides 18 PU/DO bays in addition to the exiting eight bays. Therefore, the amended proposal will comprise a total of 26 PU/DO bays.

It is proposed to maintain the 45-degree angle parking spaces on the south side of the parking area. In order to maintain the rear-to-kerb parking arrangement with the new eastbound traffic flow, it is proposed to rotate the angled parking spaces towards the east as shown in Figure 2 and Figure 3.

A swept path analysis of a B99 car has been undertaken to assess vehicle circulation under the proposed traffic flow and parking arrangement. As shown in Figure 3, the swept path analysis indicates that a B99 car can adequately manoeuvre through the new layout.

Figure 2: SSDA Kiss and Ride – Amended Proposal

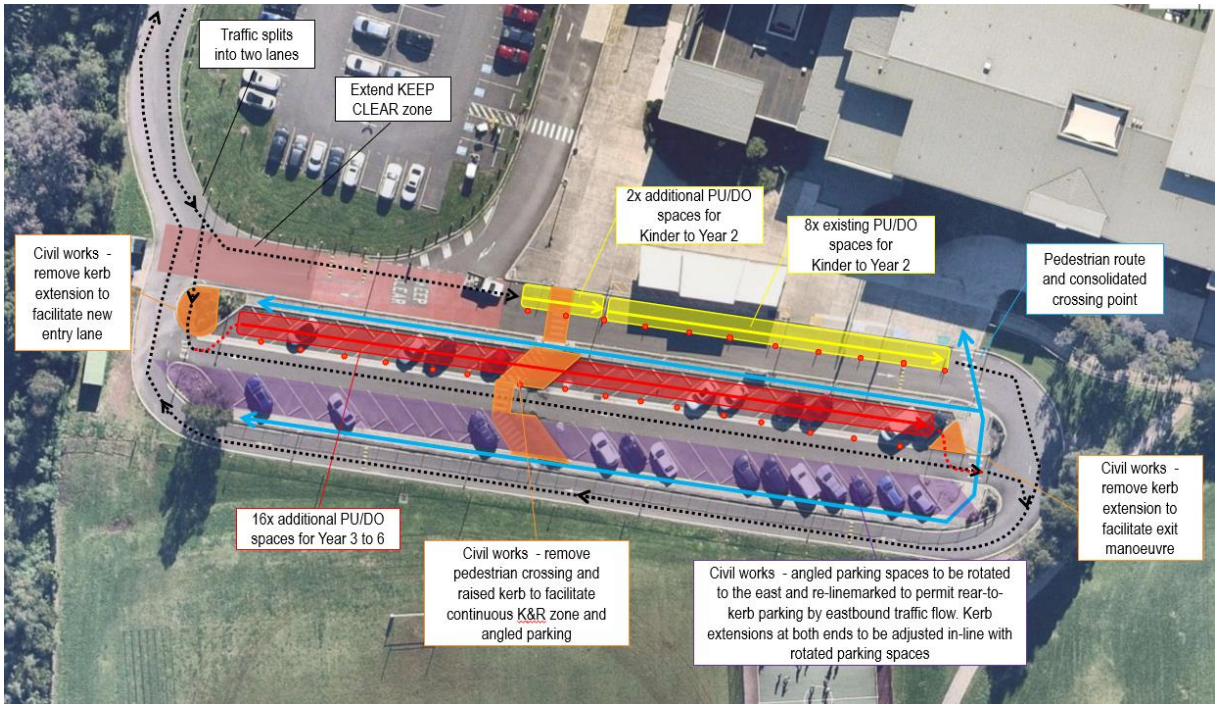


Figure 3: B99 Car Swept Path Analysis

A capacity analysis of the future primary school Kiss and Ride facility has been carried out to ensure it could accommodate the future peak period demand. As per the response to Submission #14 in this RtS, it is estimated that in the busiest 15-minute period in the peak hours there would be approximately 91 cars arriving to pick-up primary students via the existing Darcy Road site access. This reflects a 'worst-case' scenario whereby 40% of the primary student population attends the OOSH facility and these students travel to school before or after the school peak periods. It is anticipated that the vehicle generation would be further reduced in the future once the OOSH facility is operating at full capacity (48% of the primary student population) and Green Travel Plan initiatives have been implemented, generating a shift in mode share from car use to more sustainable transport modes. However, adopting a conservative estimate the worst-case scenario has been assessed here.

Based on a rate of 1 minute per vehicle (as observed on-site with the City of Parramatta Council and as will be maintained by forward traffic movements) each PU/DO bay can accommodate 15 vehicles in 15 minutes. Therefore, the 26 PU/DO bays could turnover a total of 390 cars in 15 minutes (26 bays multiplied by 15 vehicles). This indicates that the capacity of the Kiss and Ride facility (390 cars) is considerably greater than the future demand (91 cars) and can sufficiently accommodate the future peak hourly traffic arriving to the facility. In fact, only seven PU/DO bays would be required to accommodate the 91 cars arriving in the peak 15-minute period. Thus, provision of 26 PU/DO bays would allow the site to accommodate four times the site-generated demand (390 cars versus 91 cars).

On this basis, the amended Kiss and Ride facility for future primary students has been significantly improved from the initial proposal as it provides greater traffic flow and pedestrian flow efficiency as well as enhanced safety for students by removing reverse vehicle manoeuvres into angled PU/DO bays. Furthermore, the capacity of the future Kiss and Ride facility would be considerably greater than the site-generated demand (up to four times more) which would considerable relief for congestion within the site and, importantly, vehicle queues on approach to the Darcy Road site access during school peak periods.

In coordination with Council and to address the immediate concerns relating to the existing site queuing, CEDP is investigating an interim solution to improve the current Kiss and Ride operation and increase its capacity. It is anticipated that the temporary measure will be trialled by Q3 2020. This is expected to alleviate vehicle queuing into the site during peak periods. The Project Team will continue to work with Council on this matter.

Hence, the RTS herein responds to submissions relating to the Kiss and Ride facility based on the amended proposal for the future primary school Kiss and Ride facility.

As part of the amended proposal, there would be a minor reduction in the number of car parking spaces located within the existing at-grade car park. Currently, there are 46 parking spaces located within this portion of the car park. As shown in Figure 3, the number of spaces would be reduced to 40 spaces i.e. 16 parallel spaces plus 24 angled spaces. Therefore, there would be a reduction of six parking spaces. However, this would be offset by the six supplementary parking spaces as provided in the original SSDA submission (Figure 6.1 of TAIA report).

The on-site parking provision that is associated with each of the site uses as proposed in the TAIA shall be retained. Therefore, there would be no negative impact caused by the altered number of parking spaces under the amended proposal. A summary of the revised on-site car parking provision provided in the response to Submission #3 in this RtS.

Submissions by Department of Planning, Industry and Environment (DPIE)

Submission 1: It is unclear how the multi-storey car park on the site (proposed as part of a separate application) would be linked to the proposed development area via pedestrian safety/paths/linkages. In this regard, the Department is concerned about its operational adequacy in relation to the proposed development, being on the other side of the site.

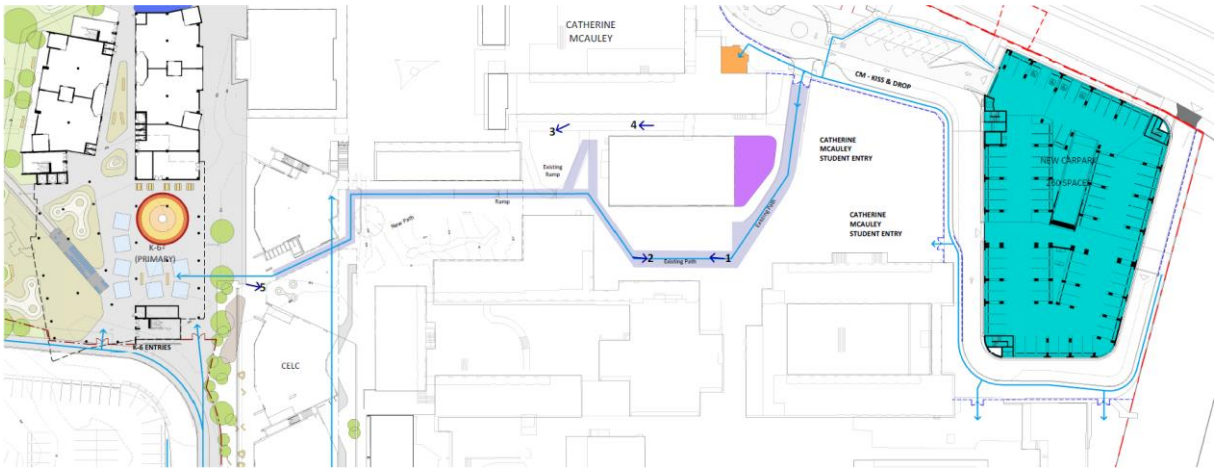
The multi-storey car park would be located within the site boundary with connections provided at the northern interface of the high schools. The multi-storey car park would serve high school staff and visitors, and a small number primary school staff later in the project development (in year 2033). This would allow for the core high school uses (staff and visitor/ parent parking) to be located together in the northern portion of the site. Similarly for the southern portion of the site, the core primary school, CELC and parish uses would be located together (staff, visitor/parent and parish parking). It is anticipated that this will significantly improve the current traffic congestion that has been raised by CoPC in and around the site in the short and long term.

The pick-up and drop-off activities associated with the high schools would occur at the new multi-level car park while primary school and CELC pick-up/drop-off will occur at the existing south-western car park of the campus. Hence, primary school or CELC students, parents or visitors will not be required to cross the site which would eliminate the concerns around pedestrian safety and linkages.

A small number of primary school staff car parking spaces will be allocated within the new multi-storey car park, which predominately serves the high schools. However, this will not impact the operational adequacy for the site since these staff members would be attending school on a daily basis and will be familiar with pathways through the site. Further details on the parking allocation is provided in the response to Submission 3.

An existing pathway connection will be used to link the multi-storey car park and the proposed development area as shown in Figure 4. This will provide a connection for those primary school between the multi-storey car park and the primary school. A large-scale site plan containing the pathway connection is included in Attachment One.

Figure 4: Multi-Storey Car Park Connection to Existing Site Uses



Submission 2: If the proposed development intends to use the multi-storey car park in the future, please indicate how the car park would function in relation to the proposed development and be used by the community during out of hours. In this regard, copies of any legal agreements for access through the other schools or alternative routes, usage hours etc should be provided to demonstrate that the car park can be legally utilised by the users of this school.

The proposed car park will not be available for public or commercial use. It will be used solely by the schools, parish church and any associated Westmead Catholic community uses on the site. Based on the aforementioned users, there is no need to enter into any legal agreements regarding use of the car parks or access across the campus.

Submission 3: A detailed plan is to be provided on the allocation of car parking spaces for each of the use (primary school, high schools, early learning centre, church).

Parking provision serving the core of CELC staff and primary school staff, would be provided within the existing at-grade car park which is located a short walking distance to the related buildings and primary school kiss and ride zone. As well, parking for the parish church patrons and primary school visitors would be accommodated within this car park which is located in the south-western portion of the campus. A small number of primary school staff parking spaces would be allocated within the new multi-storey car park. The allocation of parking spaces pertaining to each use within the site is summarised in Table 1 and shown in Attachment One.

Table 1: Parking Allocation

Car Park	Location/ Level	High School Staff	Primary School Staff	CELC Staff	Visitor	Parish	Non Use-Specific Accessible spaces
Multi-storey	Basement level	89	-		-	-	-
	Ground level	-	-		74	-	4
	Level 1	55	19		19	-	-
Sub-total		**260**					
At-grade	Main car park	-	76 (includes 3 accessible spaces)	24 (includes 1 accessible space)	-	66	-
	45-degree angle parking	-	-	-	24 (includes 1 accessible space)	-	-
	Parallel parking	-	-	-	16 (a)	-	-
Sub-total		**206**					

Note:
(a) Bays restricted as Kiss and Ride between 7am-9am & 2.30pm-4pm, while visitor parking permitted at other times.

Submission 4: It is unclear where the pick-up/drop-off zones would be for the early learning centre. An assessment of pick-up/drop-off zones for the proposed early learning centre is to be provided. Additionally, clarification is to be provided demonstrating the location of pick-up/drop-off zones for the early learning centre on a site plan.

Given the young age of children attending the CELC, parents would park and walk their child into the centre. CELC peak periods would occur before and after peak school parking periods (i.e. before 7am and after 4pm). Therefore, there would be no double-up of parking demand of CELC parents with school visitors/ parents.

Parents dropping-off and picking-up children attending the CELC would utilise the visitor/ parent parking spaces located within the 45-degree angle parking or parallel parking of the at-grade car park as shown in Attachment One. These parking spaces are located in the south-western portion of the campus, in close proximity and short walking distance of the CELC and connected by direct footpaths and marked crossing.

Submission 5: The submitted EIS states that based on Cycling Aspects of Austroads Guides, the site would require 676 bicycle spaces. However, it is unclear where these spaces are located on the site. Accordingly, details are to be provided on the location of the bicycle locations on the site plan.

The Transport and Accessibility Impact Assessment (TAIA) which accompanied the EIS submission has assessed that the site should progressively provide 209 bicycle spaces on-site in order to meet the cycling demands of the proposal, whilst also having consideration for a 3% to 5% mode shift towards cycling amongst students and staff.

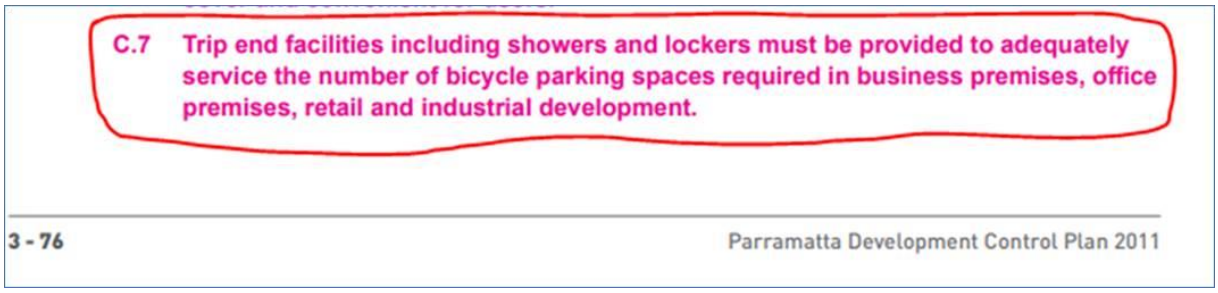
Bicycle parking provision according to the Cycling Aspects of Austroads Guides was reviewed in the TAIA. However, the provision of 676 bicycle spaces as per Cycling Aspects of Austroads Guides has been considered to be an **oversupply** for this site. Therefore, bicycle parking spaces should be progressively provided to reach 209 bicycle spaces as per Table 2. The location of bicycle racks is shown on a site plan contained in Attachment Two.

Table 2: Bicycle Parking

Group	Population	Cycling Mode Share		
		Existing (0.5%)	Mode Shift - Low End (3%)	Mode Shift - High End (5%)
Primary Students	1680	8	50	84
High School Students	2237	11	67	112
Sub-Total	**3917**	**20**	**118**	**196**
Primary School Staff	100	1	3	5
High School Staff	166	1	5	8
Sub-Total	**266**	**1**	**8**	**13**
Total	**-**	**21**	**126**	**209**

Submission 6: No details of end of trip facilities within the site have been provided. The site plan / floor plans should be amended to include these details.

The Parramatta DCP 2011 details the following regarding end of trip facilities:


C.7 Trip end facilities including showers and lockers must be provided to adequately service the number of bicycle parking spaces required in business premises, office premises, retail and industrial development.

3 - 76 Parramatta Development Control Plan 2011

From the above, there is no clear specification for the provision of end of trip facilities to be provided. As such, the City of Sydney DCP rates may be applied.

However, the City of Sydney DCP stipulates the following rates for staff end of trip facilities:

- *Showers:*
  - *1 for up to 10 bike parking spaces*
  - *2 for 11 to 20 bike parking spaces*
  - *2 for each additional 20 bike parking spaces or part thereof.*
- *Lockers*
  - *1 for each bike parking space.*

Applying the above rates, given there is no showers being provided for students the proposal would be required to provide one shower for primary school staff. This is proposed as an accessible shower and change room within the administration building as shown on the Parking Allocation & Site Circulation Plan in Attachment One. Lockers will be provided for use by staff who cycle within the staff room area, while bicycle racks would be located as shown in the Parking Allocation & Site Circulation Plan contained in Attachment One.

Submissions by City of Parramatta

Submission 7: The State Significant Application includes traffic modelling for 11 intersections in the area. Of these, the intersection of Darcy Road and the Primary School Driveway is the most effected by the proposed development. The proposed development also has a significant effect on the intersection of Darcy Road and Bridge Road. The traffic from the development that is of most concern is that associated with the pickup and set down from the primary school as it has a high volume and is concentrated in a short period.

As part of the original Proposal, an Out of School Hours (OOSH) facility has been proposed to operate at the site between 6am and 6pm Monday to Friday. The OOSH facility, which was addressed in the EIS, has had a review of its associated trips considered within this Response to Submissions letter and Addendum to the TAIA which has been provided in Attachment Three.

The OOSH facility will be provided for parents who are required to drop-off students and pick-up students earlier and later than the standard school periods, for example, shift-work parents. Therefore, the arrival time of students at the OOSH facility would be earlier than the morning school peak period (i.e. before 7:30am). Similarly, the departure time for OOSH students would be later than the afternoon school peak period (i.e. after 4:00pm). There would be ample parking spaces on-site located within the visitor parking (and parish parking which will be unutilised before 7:30am and after 4pm) to accommodate OOSH and CELC parents.

The proposed OOSH facility will have the capacity to accommodate up to 48% of the ultimate primary school population of 1,680 students. Having consideration for some variability in daily attendance, CEDP expects that daily attendance at the OOSH facility will range between 40% and 48% (maximum) of the ultimate primary school population. This equates to 670 - 800 students attending the OOSH facility during each of the before-school and after-school periods

Based on the above OOSH accommodation rates, there would be a significant reduction in the number of car trips during the school peak periods. This is the result of less parents transporting students to school during the school peak periods as they will be attending the OOSH facility.

An Addendum to the TAIA has been prepared by TTPP which assesses changes to future site-generated trips and the surrounding road network conditions which result from inclusion of the OOSH facility. The Addendum has been provided in Attachment Three of this letter.

Having consideration for the proposed OOSH facility, the Addendum has assessed that there would be a significant reduction in peak hourly site-generated trips which will alleviate the traffic congestion within the local road network in peak periods. The Addendum presents the reduction in site-generated trips across various future scenarios which have been modelled since the TAIA.

Further to this, the Framework Travel Plan measures will also help reduce the number of car trips during the school peak periods. The TAIA assessed a 10% modal shift away from car usage which will have further benefits to the local road network operation and performance. Initiatives to be implemented by the school for encouraging modal shift are detailed within the Framework Travel Plan measures as prepared by Frank Turquoise Group which has been included in Attachment Two. A summary of these measures has been included in the response to Submission 10 below.

It is also noted that all future cases which were modelled as part of the TAIA presented conservative scenarios, having consideration for background traffic growth within the local road network. It is not yet known specifically what traffic rate reduction Parramatta Light Rail, Sydney Metro West, and improved bus services will induce on the Westmead locality whose purpose is to reduce the number of car trips in the future by providing public transport alternatives. Furthermore, it will not be known until the first few years of these major infrastructure projects being operational.

Notwithstanding this, these major transport infrastructure projects are predicted to remove tens of thousands of cars off Sydney roads every day; namely, the Sydney Metro West EIS forecasts that there will be 83,000 fewer car trips every weekday by 2036. It is be expected that the Westmead precinct would experience a reduction in traffic loads once these key transport infrastructure projects become operational. Such benefits would begin to become apparent in 2023 once Parramatta Light Rail opens, which is also the opening year for the Proposal. Furthermore, growth in the Westmead Precinct is forecasted to bring 4,400 new dwellings within the area which will also increase the number of walking, cycling and public transport trips within the Westmead precinct as well as to/from the Westmead precinct.

Submission 7: The level of service at the Primarily School Site access will be F during the AM and PM peak after construction of the development. This will lead to queuing beyond the right and left turn bays into the site, which will disrupt traffic flow not associated with the school, which is unacceptable given the role of the medical and health services role of the Westmead precinct.

As per the response to Submission 6 above, the OOSH facility on-site will result in a significant reduction in the number of car trips during the school peak periods. The primary school site access will gain the greatest benefit from the proposed OOSH operation. The OOSH facility will result in the spread of car trips outside of the school peak periods into off-peak shoulder periods.

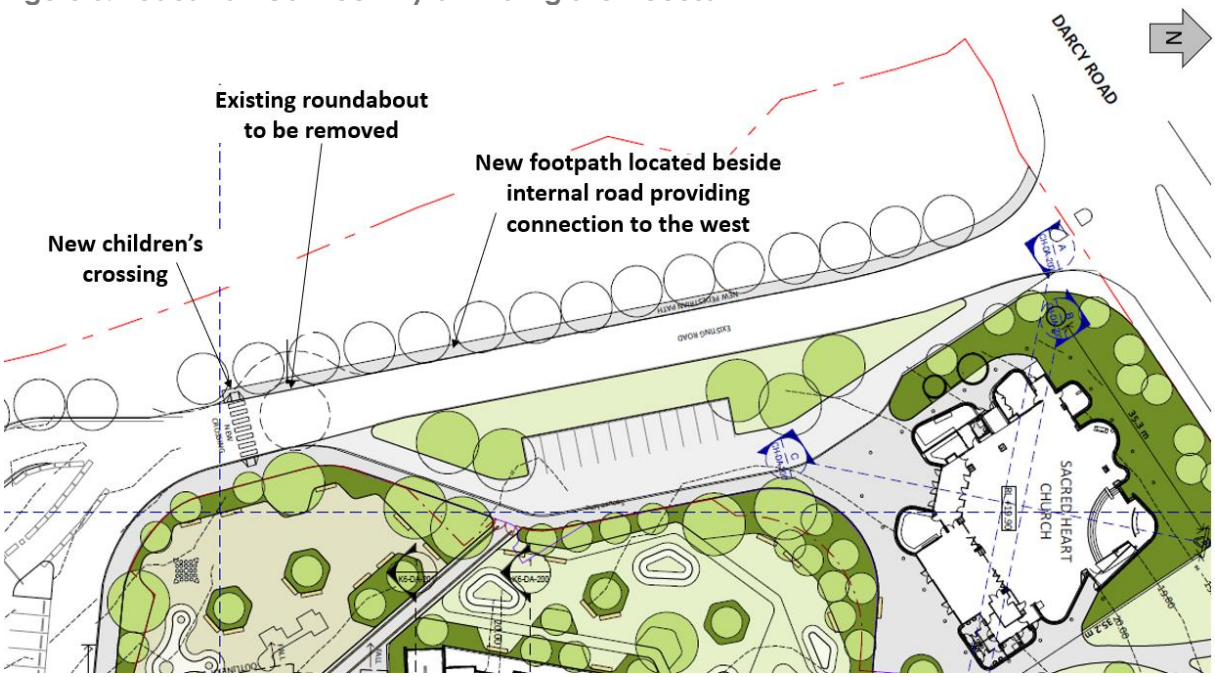
The impacts of the proposed OOSH facility have been assessed in an Addendum to the TAIA which has been provided in Attachment Three of this letter. Having consideration for the proposed OOSH facility, the Addendum has assessed that there would be a significant reduction in peak hourly site-generated trips which will alleviate the traffic congestion within the local road network in peak periods. The Addendum presents the reduction in site-generated trips across various future scenarios which have been modelled since the TAIA.

Submission 8: The State Significant Application also fails to provide information on how pedestrians crossing the primary school driveway at Darcy Road will be managed.

Pedestrian access to/from the school would be provided via a new pathway cross-over within the site. This would provide connectivity towards the west for pedestrians travelling to and from the site as shown in Figure 5, which eliminates the need for children to cross at Darcy Road. The children's crossing would be managed during school peak periods by a member of staff or school crossing supervisor. Transport for NSW shall be consulted to determine the appropriate personnel for managing the crossing. This is a significant safety improvement and in-line with GTP recommendation to improve pedestrian access site.

The existing pedestrian refuge shall remain at the site access driveway which will facilitate pedestrians walking along the public footpath and crossing the site driveway on Darcy Road.

Figure 5: Pedestrian Connectivity at Existing Site Access



Submission 9: Similarly, the intersection of Bridge Road and Darcy Road deteriorates from a Level of Service (LoS) C to a (LoS) F in the AM and PM peak as a result of the proposed development.

As per the response to Submission 6 above, the combination of the GTP and the OOSH facility on-site will result in a significant reduction in the number of car trips during the AM and PM peak periods, which will alleviate traffic impacts at the intersection of Bridge Road-Darcy Road. The revised traffic modelling analysis is contained in the Addendum to the TAIA which is provided in Attachment Three of this letter.

Submission 10: The impacts of the level of service at these intersections is considered to be unacceptable. The scheme needs to be amended to address these significant impacts.

As part of the original Proposal, an Out of School Hours (OOSH) facility has been proposed to operate at the site between 6am and 6pm Monday to Friday. The OOSH facility, which was addressed in the EIS, has had a review of its associated trips considered within this Response to Submissions documentation which shall be included in all future traffic analysis reporting going forward (i.e. addendum to the TAIA).

As per the response to Submission 6 and Submission 7 above, the impact of the reduced peak load due to the OOSH facility will be a considerable reduction in the number of car trips on the surrounding road network.

In addition, the Framework Travel Plan initiatives will be implemented by the school to encourage a 10% modal shift away from car usage and more trips by active travel and public travel, such as walking and bus use. Frank Turquoise Group's Travel Plan includes the following measures:

- Implementation of a Travel Access Guide (TAG), to promote modes which already serve the school and communicates transport expectations with students, parents and staff. The Travel Access Guide:
    - Consolidates all transport policies and transport access information
    - Maps active and public transport access for the CEDP community
    - Demonstrates site transport infrastructure, including footpaths to bus stops and stations, on-site scooter, bicycle and car parking
    - Showcases transport offers and benefits negotiated by CEDP for staff and students
    - Directs transport feedback to Send Snap Solve or cedp.transport@parra.catholic.edu.au and Council's Cycleways Advisory Committee have links provide bicycle feedback to Mark Crispin, the current council contact for this: mcrispin@cityofparramatta.nsw.gov.au.
    - Links parents to Transport for NSW information and resources for gaining a free student public transport pass or discounted public transport pass.
- Implementation of a Travel Coordinator shared between the four schools at the site. The Travel Coordinator will use the communications plan to the Westmead Catholic Community transport programs, the TAG and the monitoring strategy to report to CEDP and the school Principals regarding participation in the programs and progress on the Framework Travel Plan targets. The Travel Coordinator may also provide a central point of contact to coordinate travel-related initiatives with other Westmead health and education precinct partners.

- A Communications Plan. With the TAG documenting transport options to site and a Travel Coordinator regularly communicating transport options, it is possible to shift transport behaviour. The Communications Plan sets out how to communicate the Travel Plan and transport options currently available for staff, students and parents. Communication channels will include the school website "how to get here" page, E-newsletter and school Facebook page and other media channels. The Plan would be communicated to the CEDP community at the start of Term 3 to induce change ahead of the following year, and again in Term 4 2020 and Term 1 2021; prior to construction; and during the relation of the Sacred Heart Primary School.

- Monitoring and Evaluation Plan, which will involve:

    - Travel Coordinator Trip Planning Sessions. This will provide personalised trip-planning assistance to staff, students and families who are not easily able to find a transport option that meets their requirements.

    - Launch of the TAG, and recording the number of document clicks from the E-newsletter or hits on the website.

    - Annual travel questionnaire, to understand the transport mode choices for the journey to school.

    - Demonstrate interest and participation in school transport programs, to be monitored daily/ weekly by way of clicks/ hits on the TAG and website, and use of bicycle parking.

Submission 11: The draft Westmead Innovation District Masterplan includes a link from the Primary School Car Park direct to Bridge Road. This link would alleviate traffic flows at the two problem locations detailed above. Note that the link in the draft plan continues through the school site, which whilst not necessary from a traffic perspective helps to address concerns in relation to connectivity raised above.

CEDP agrees that a fine grain network of connections would assist with accessibility and connectivity around the Westmead precinct. Future stages of the WCC Masterplan seek to address this and include new pedestrian and vehicular connections into and through the site. This includes an east-west connection as suggested by Council in the draft Westmead Innovation District Masterplan.

CEDP is willing to provide support and provide these connections within the site as part of the ongoing development of the site. However, it is incumbent on Council and surrounding landowners to ensure that meaningful connections can be made. In CEDP's recent submission to the exhibition of the EIS for Sydney Metro West (SSI-10038) they encouraged Sydney Metro to ensure that there are adequate connections in and around the station precinct, both for WCC and broader users of the precinct. In the interim, a Framework Travel Plan has been prepared to encourage and support walkability and active transport to the site.

Submission 12: An additional measure that could be undertaken would be to reduce the number of students at the primary school.

This is not a viable option. There is significant demand for primary school enrolments in the area; growth in the Westmead Precinct is forecasted to bring 4,400 new dwellings as per Council's Local Strategic Planning Statement (LSPS).

As outlined at Section 1.2 of the submitted EIS, the site sits within the Westmead Health and Education Precinct, which is the largest health and education precinct in Greater Sydney. The location of the Westmead Catholic Community presents a unique opportunity to collaborate with existing institutions as the precinct is developed. The Central City District Plan outlines that growth in the Westmead precinct is a priority.

To support this predicted growth, additional infrastructure, such as improved schools, will be required to service the growing worker and resident population. Specifically, demographic modelling undertaken by DPIE shows that the number of school-aged children is projected to increase over the next 20 years. In the Central City District, an extra 89,360 students will need to be accommodated in both government and non-government schools by 2036. 32% of this predicted growth in school students is predicted to occur in Parramatta, whilst 34% of the anticipated growth of children four years and younger in the Central City District will also occur in Parramatta. CoP LSPS forecasts additional 30,000 school students in LGA

The Central City District Plan identifies that this will require planning early education and school facilities, which should encourage innovative approaches to the use of land and floor-space, including co-locating with compatible uses such as primary schools and office buildings, and close to transport facilities.

The WCC project is ideally situated to assist in supporting this demand. and allied health services. The existing site benefits from a high level of accessibility, close to rail, bus and road connections, as well as the future Parramatta Light Rail and planned Sydney Metro West.

Submission 13: There are other intersections that deteriorate in future as a result of this development and other surrounding growth. However, for the other intersections there are other factors that apply. For example, the intersection of Hawkesbury Road and Alexandra Parade will be modified as part of West Metro. For other intersections the school traffic has a relatively small affect compared to traffic from other developments.

Noted, the Sydney Metro West EIS has been reviewed for the modified arrangement of the Hawkesbury Road and Alexandra Parade junction.

It is noted that traffic modelling carried out as part of the Sydney Metro West EIS includes the road network immediately surrounding the Sydney Metro West site which is concentrated to the south of the rail line. Conversely, the WCC project modelling is focused on the intersections surrounding the Darcy Road site, that is, north and west of the rail line.

Whilst there is minimal overlap of the modelling junctions undertaken as part of the WCC project and Sydney Metro West EIS, modifications to the junction of Hawksbury Road-Alexandra Parade shall be considered in the revised SIDRA network model, with consideration for the OOSH facility at the WCC site.

Submission 14: There is no calculation provided to detail how these numbers of cars picking up or dropping of in the 15 minute period is determined. The calculation of capacity (233 vehicles in 15 minutes) is considered to be accurate.

Student travel information has been obtained to understand how students arrive and depart school based on 15-minute intervals. The number of students and proportion of primary school students is presented in Table 3. Further to this, Section 7.2 of the TAIA explains that the typical proportion of students arriving and departing the site in the morning peak and afternoon peak periods are as follows:

- Of students travelling to/from the subject site by car:
    - 75% would arrive during the morning peak.
    - 85% would depart during the afternoon peak.

Table 3: Primary Students Arrival and Departures

AM		Before 7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	After 8:45			Peak Hour Arrival Rate	Total
Existing		**18.00%**	**18.00%**	**20.00%**	**24.00%**	**13.00%**	**7.00%**			**75%**	**100%**
2023	**210**	38	38	42	**50**	27	15				**210**
2033	534	96	96	107	**128**	69	37				**533**

PM		Before 2:15	2:15-2:30	2:30-2:45	2:45-3:00	3:00-3:15	3:15-3:30	3:30-3:45	After 4:00	Peak Hour Departure Rate	Total
Existing		**10.00%**	**15.00%**	**32.00%**	**28.00%**	**10.00%**	**4.00%**	**1.00%**	**0.00%**	**85%**	**100%**
2023	**238**	24	36	**76**	67	24	10	2	0		**237**
2033	606	61	91	**194**	170	61	24	6	0		**601**

Table 3 indicates that, in the busiest 15-minute period of the school peak hours, the number of car arrivals and departures would have been as reported in Section 6.8 of the TAIA; namely:

In Year 2023:

- Approximately 50 cars dropping off students in a 15-minute period (AM), and
- Approximately 76 cars picking up students in a 15-minute period (PM).

In Year 2033:

- Approximately 128 cars dropping off students in a 15-minute period (AM), and
- Approximately 194 cars picking up students in a 15-minute period (PM).

However, having consideration of the OOSH facility the revised number of cars dropping-off and picking-up students in the peak 15-minute period will be as follows:

Year	No OOSH (as presented in TAIA and above)		OOSH, as 40% of Primary School Population		OOSH, as 48% of Primary School Population	
	AM (Cars dropping-off)	PM (Cars picking-up)	AM (Cars dropping-off)	PM (Cars picking-up)	AM (Cars dropping-off)	PM (Cars picking-up)
2023	50	76	24	36	18	28
2033	128	194	60	91	46	70

Submission 15: Primary Schools that have a large population can function adequately if their catchment is over a small geographic area. This allows a large portion of the students to walk to and from the school. It also helps if there is a permeable road network with lots of route options for motorists to disperse the traffic. The proposed development has neither of these characteristics and is inherently flawed. It is considered that a number of smaller primary schools, dispersed over multiple suburbs would provide a satisfactory arrangement.

Growth in the Westmead Precinct is forecasted to bring 4,400 new dwellings as per CoP LSPS. As such, there is significant demand for primary school enrolments in the area. The site sits within the Westmead Health and Education Precinct, which is the largest health and education precinct in Greater Sydney. The location of the Westmead Catholic Community presents a unique opportunity to collaborate with existing institutions as the precinct is developed. The Central City District Plan outlines that growth in the Westmead precinct is a priority.

To support this predicted growth, additional infrastructure, such as improved schools, will be required to service the growing worker and resident population.

The Central City District Plan identifies that this will require planning early education and school facilities, which should encourage innovative approaches to the use of land and floor-

space, including co-locating with compatible uses such as primary schools and office buildings, and close to transport facilities.

The WCC project is ideally situated to assist in supporting this demand. and allied health services. The existing site benefits from a high level of accessibility, close to rail, bus and road connections, as well as the future Parramatta Light Rail and planned Sydney Metro West.

CEDP agrees that a fine grain network of connections would assist with accessibility and connectivity around the Westmead precinct. Future stages of the WCC Masterplan seek to address this and include new pedestrian and vehicular connections into and through the site. This includes an east-west connection as suggested by Council in the draft Westmead Innovation District Masterplan.

CEDP is willing to provide support and provide these connections within the site as part of the ongoing development of the site. However, it is incumbent on Council and surrounding landowners to ensure that meaningful connections can be made. In CEDP's recent submission to the exhibition of the EIS for Sydney Metro West (SSI-10038) they encouraged Sydney Metro to ensure that there are adequate connections in and around the station precinct, both for WCC and broader users of the precinct. In the interim, a Framework Travel Plan has been prepared to encourage and support walkability and active transport to the site.

Submission 16: The TAIA also mentions that suitable public transport strategies should be pursued by preparing and implementing a Green Travel Plan to encourage a modal shift from single- occupant private vehicle trips and influence the way people move to/from a site to deliver better environmental outcomes to encourage sustainable travel and reduce traffic and parking impacts within communities. Although Council supports this suggestion, the Green Travel Plan is unlikely to reduce the primary school pick up and set down enough to address the concerns raised.

In response to Council's comments, a Framework Travel Plan has been prepared by Frank Turquoise to set out CEDP's process to manage travel demand at the WCC site. The Framework outlines the structure for the Travel Access Guide, Communications Plan and Monitoring and Evaluation Plan which will be used to guide the achievement of the mode share targets.

The combination of the GTP and the proposed OOSH facility will result in a significant reduction in the number of car trips during the AM and PM peak periods, which will alleviate traffic impacts at the intersection of Bridge Road-Darcy Road.

The impacts of the proposed OOSH facility have been assessed in an Addendum to the TAIA which has been provided in Attachment Three of this letter. Having consideration for the proposed OOSH facility, the Addendum has assessed that there would be a significant reduction in peak hourly site-generated trips which will alleviate the traffic congestion within the local road network in peak periods.

Submission 17: The traffic conditions in Westmead are of significance to the Local and State government as the precinct includes Westmead Hospital and Westmead Children's Hospital. These two hospitals form the basis of the Westmead Medical Precinct supported by a private hospital, research institutes, a proposed University of Sydney campus and multiple ancillary medical uses. A large primary school in this precinct puts the expansion of the precinct, and the jobs that go with it, at risk due to the traffic it generates from parent pick up and set down in peak periods. Council is also concerned that traffic delays may also affect ambulance and emergency response times.

As mentioned throughout this RTS, the WCC site sits within the Westmead Health and Education Precinct, and will support the predicted residential growth within the Westmead Precinct.

As described earlier in this RTS, site-generated car trips during the school peak periods will be reduced due to operation of the OOSH facility on-site. The OOSH facility will result in the spread of car trips into the school off-peak periods and flattening the peak traffic curves during the school peak periods. The impacts of the proposed OOSH facility on the local road network are reported in the Addendum to the TAIA (Attachment Three).

Notwithstanding this, emergency vehicles have priority on the road network at all times. In Westmead, and specifically surrounding the WCC site, emergency vehicles are further prioritised over general vehicle traffic by having access to the T-Way.

Submission 18: While the State government is investing heavily in public transport in this area, it is anticipated that with the growth in the suburb there will still be an increase in parking and traffic associated with the development described above. Increased traffic congestion associated with the primary school could restrict the development envisaged for the area, which in turn could result in some of the new public transport services not being used to the extent that they otherwise would. Note that a large primary school in this location is unlikely to benefit significantly from the improved public transport.

Improved public transport services within the precinct are perceived to directly affect those who can make independent travel choices, including adults, teenagers and the elderly. However, this would highly benefit young students whose parents would have previously driven them to school on their way to work, but would then use these new modes of transport in the future. Two-fold, this would encourage travel behaviour change from a younger age in such primary school students.

Furthermore, the Framework Travel Plan initiatives will encourage greater use of public transport travel to school by educating staff, students and parents of the available routes, and helping develop further measures to bridge gaps in the network which will benefit the site and the surrounding precinct.

Schools are a vital service in any new area of development and should be accommodated to support the growth of a precinct. The provision of OOSH, with the implementation of the Framework Travel Plan initiatives will all reduce the potential for short-term congestion identified with school peak periods.

Submission 19: An alternative access to this site is required between the school buildings and the playing fields that can be connected to Farmhouse Road South to the east and Bridge Road to the west.

The street block in which the school is located is bounded by Hawkesbury Road, Darcy Road, Bridges Road and the railway. It is extremely large and not conducive to walking. With the introduction of the light rail and potentially the Metro it is essential that publicly accessible streets and/or shareways are introduced to reduce the size of this block and provide better connectivity to the public transport. The Draft Westmead Innovation District Masterplan sets out a vision for a connected precinct and includes a number of principles, included at Attachment 1, that highlight the importance of an appropriate street network.

Farmhouse Road South is a new street at the eastern end of this block that connects directly to Hawkesbury Road. On the western end there is the potential to connect to Bridges Road as redevelopment of these sites take place. The sketches included below illustrate the difference in distance and improved accessibility a new shareway can make. It should also be noted that the topography is such that a new path between the school buildings and the playing fields provides a more level access to Hawkesbury Road than via Darcy Street. It also has the potential to have canopy trees and provide a far less hostile environment than Darcy Road.

As outlined above, the Council objects to the proposal on lack of connectivity grounds.

Submission 20: As discussed in detail above the proposal fails to connect the site into the wider Westmead area. This exacerbates access issues. A new thoroughfare would greatly reduce the distances to the transport hubs towards Hawkesbury and Darcy Roads, including the majority of buses, the train station and future Parramatta Light Rail.

The pathways should connect accessible buildings, facilities and spaces including the transport stops, parking areas including any accessible passenger loading areas, drop off zones, and the public streets and footpaths surrounding the site.

CEDP agrees that a fine grain network of connections would assist with accessibility and connectivity around the Westmead precinct. Future stages of the WCC Masterplan seek to address this and include new pedestrian and vehicular connections into and through the site. This includes an east-west connection as suggested by Council in the draft Westmead Innovation District Masterplan.

CEDP is willing to provide support and provide these connections within the site as part of the ongoing development of the site. However, it is incumbent on Council and surrounding landowners to ensure that meaningful connections can be made. In CEDP's recent submission to the exhibition of the EIS for Sydney Metro West (SSI-10038) they encouraged Sydney Metro to ensure that there are adequate connections in and around the station precinct, both for WCC and broader users of the precinct. In the interim, a Framework Travel Plan has been prepared to encourage and support walkability and active transport to the site.

Submissions by Transport for NSW

Submission 21: Major construction to deliver the Parramatta Light Rail (PLR) project has begun in 2020 with the network expected to commence services in 2023. The proponent can find additional information on the PLR project at http://www.parramattalightrail.nsw.gov.au.

As advised by TfNSW during project consultation, the Parramatta Light Rail EIS was reviewed as part of the SSDA analysis which is available at the website link above.

Submission 22: It is unclear if the proposed multi-storey car park (which is subject to a separate Early Works DA to be submitted to City of Parramatta Council, as noted in section 1.2.1 of the Environmental Impact Statement) is included in the traffic modelling outputs presented in section 7 of the TAIA. Clarification should be provided in regards to the modelling results which should demonstrate the entire impact of the proposed development, which includes the function of the multi-storey car park.

The SSDA analysis is reported based on car park inclusion.

Submission 23: Table 2.2 of the TAIA does not reflect changes to bus services in the area, this information should be updated.

Noted. Updated bus services are provided in Table 4 below.

In comparison to the services reported in the TAIA, there are a more bus services currently, and there have been changes to bus route ID numbers.

Table 4: Nearby Bus Services

Service No.	Route Description	Frequency (Peak / Off-Peak)
660	Castlewood to Parramatta	20 mins / 60 mins
661	Blacktown to Parramatta via Kings Langley & North West T-way	20 mins / 60 mins
662	Castle Hill to Parramatta via Bella Vista & North West T-way	15-25 mins / 60 mins
663	Rouse Hill Station to Parramatta via Kellyville Ridge	15-20 mins / 60 mins
664	Rouse Hill Station to Parramatta via Kellyville	10-12 mins / 30 mins
665	Rouse Hill Station to Parramatta	15 mins / 15 mins
705	Blacktown to Parramatta via Seven Hills	30 mins / 60 mins
708	Constitution Hill to Parramatta via Pendle Hill	No service / Single service
711	Blacktown to Parramatta via Wentworthville	20 mins / 30 mins
712	Westmead Childrens Hospital to Parramatta	30 mins / 30 mins
818	Westmead to Merrylands	60 mins / 60 mins

Submission 24: Section 6.3.2 of the TAIA states that "…peak demand, as well as weekend and weekday services, would be sufficiently accommodated off-street by the approximate 472 car parking spaces to be located on-site".

Noted.

Submission 25: As the adequacy of on-site parking provision would depend on the proposed multi-storey car park which is subject to a separate approval, the Response to Submissions should give elaboration on how the parking demand could be managed within the context of the SSD proposal should the proposed multi-storey car park not be available.

The SSDA analysis is reported based on car park inclusion.

Submission 26: Information has not been provided on how/if school access points and school zones will be impacted as part of the new proposal and how drop off/students will be managed moving forward.

The location of school zones will be reviewed in consultation with TfNSW based on the location of site access points, in particular, the new eastern-most site access driveway to the multi-storey car park (subject to separate DA to Council).

In the future, peak period student pick up and drop off will be managed by marshals or teachers on morning and afternoon duty of both the primary school and high school kiss and ride zones. Specifically, for the primary school, marshals will observe the unique student ID that is displayed on the vehicle dashboard and will call-up the corresponding student to the vehicle. Marshals will assist primary students into and out of vehicles to ensure a smooth and efficient pick-up and drop-off operation. Then, marshals will usher students away from the vehicle into school, and usher vehicles to exit. Parents must stay in the vehicle at all times; teachers will be present to supervise this.

Kiss and ride zones for primary students and high school students will occur at separate locations on-site as addressed in the response to Submission 1, which will alleviate the peak drop-off and pick-up loads during the school peak periods.

CELC and OOSH children and parents will arrive/ leave the site before and after the school peak periods, and the associated car trips would be spread across a wider time period which occur outside of the school peak periods as well. As such, these loads would be less concentrated in comparison to the school peak periods and would not require management or supervision by staff members.

Submission 27: Details of daily service vehicle movements have not been demonstrated. Details of the number of anticipated daily service vehicle movements associated with the operation of the new school and the Parish Church, i.e. tuck-shop, grounds keeping, waste removal and other deliveries should be provided.

Delivery, waste collection and maintenance vehicle movements would continue to occur as current; namely, during teaching times and outside of school peak periods via the existing site access to the existing at-grade car park.

CEDP has advised that daily deliveries to the site will be as follows:

- Waste collection - 3 times per week before 6am undertaken by a rigid truck.
- Canteen - 3 times per day (1 for each school) before 8am undertaken by a van.
- Post - 1 daily at approximately 11am undertaken by a van.
- Adhoc/ maintenance - as required, occurring during school operating hours.

Submission 28: Details of how coaches to be deployed servicing the proposed development have not been demonstrated. Details of how coaches will be catered for and managed onsite, including access, pick up / drop off and layover should be provided.

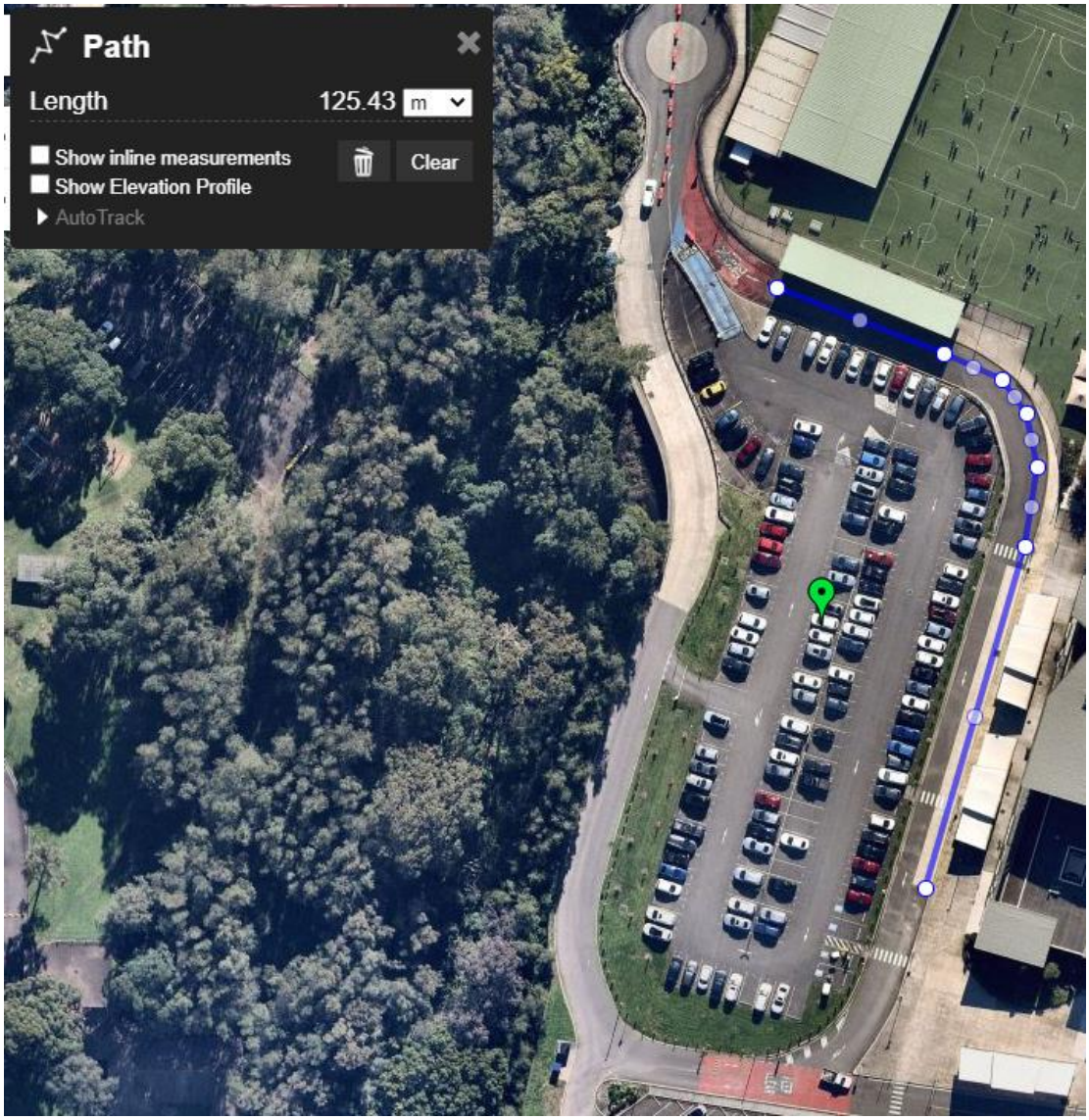
Coaches would access the site and existing bus bay via the existing site access driveway located west of Mons Road. The site is currently designed to cater for coaches on-site. However, it is noted that coaches access the site only on special occasions, such as sporting events or school camps.

Otherwise, buses with the dimensions of a standard 12.5m heavy rigid vehicle, access the site on a daily basis which are also currently accommodated on-site. The bus bay has a total length of 125 m and can accommodate up to seven buses at any one time (avoiding queuing over crossings) as shown in Figure 6.

Morning and afternoon school bus data gathered at the existing site indicates that there may be up to three buses occupying the bus bay at any one time, which can be adequately accommodated with the existing bus bay.

Subject to consultation with TfNSW and CDC NSW, there will be opportunities in the future to broaden the existing catchment for bus services to the site and/or precinct more generally. There is sufficient capacity within the existing bus bay in order to accommodate potential additional school bus services within the site during the morning and afternoon school peak periods.

Figure 6: Existing Bus Bay



Submission 29: Section 8 and other relevant sections do not take into consideration of the impact of Sydney Metro West. A new Metro station will be located at Westmead and bus services to the precinct will be improved. Consideration should be accounted for in the GTP in regards to the potential assistance to mode shift in relation to the future improvement to bus connections from areas south of the Western Line into Westmead.

Noted. The Framework Travel Plan prepared by Frank Turquoise Group reviews the modal shift potential for the WCC site; considering all of the upcoming transport infrastructure within the Westmead precinct, a feasible medium-high modal shift target range is between 9.5%-12.5%. On this basis, the 10% modal shift which has been adopted in the TAIA is deemed to be an appropriate target for the site.

Notwithstanding this, there is future potential for greater modal shift of up to 12.5% by advocating infrastructure and connection improvements in partnership with Council and the surrounding Health and Education Precinct. In particular, there will be opportunities in the future to broaden the existing catchment for bus services across the four schools. Frank Turquoise Group has undertaken a mapping exercise showing the current school bus routes and student residences and is provide in the Framework Travel Plan (Attachment Two). The mapping indicates that there are suburbs within Sydney which require a transport connection to the site which would be achievable by implementing a new bus service.

Also, data collection of morning and afternoon school bus services at the existing site shows that some bus services are currently running close to or at capacity. A summary of the bus capacity data is presented in Table 5. The data indicates that bus travel is a popular choice for students residing in such areas. In light of this, new bus services in areas currently lacking good transport connections to the site would result in an uptake in bus travel and reduction in car trips, which is in-line with initiatives for encouraging modal shift.

The provision of new bus services and additional bus services (to current services) is subject to consultation with SCO/ Service Planning Team within TfNSW and CDC NSW.

Table 5: Capacity Data of Existing School Bus Services

AM BUS ROUTE No.	ARRIVAL	CAPACITY %
2042	7:51	5
9101	7:53	80
2049	7:54	80
7011	7:55	80
7021	8:17	60
8007	8:21	40
2044	8:22	15
7015	8:23	85
8005	8:23	10
9039	8:29	0

PM BUS ROUTE No.	ARRIVAL	CAPACITY %
2330	15:15	80
7520	15:20	100
9632	15:27	90
2558	15:28	70
8610	15:28	110
7517	15:31	85
9630	15:34	80
2529	15:35	10
2570	15:40	70
2540	15:41	50
7515	15:59	50

Submission 30: Green Travel Plan

The proposed development would result in a significant increase in student enrolments and staff. The Green Travel Plan (GTP) should be further developed with information and more robust actions, including:

- ***Specific mode share targets that support sustainable transport outcomes. Greater emphasis is required to reduce private vehicle trips (currently journey to school (by private vehicle) trips are significantly higher than the state average. The current GTP seeks for a mode shift of 10% towards public transport. Initiatives should be further developed to support higher targets towards walking, cycling and public transport;***

  The Framework Travel Plan prepared by Frank Turquoise Group reviews the modal shift potential for the WCC site; considering all of the upcoming transport infrastructure within the Westmead precinct, a feasible medium-high modal shift target range is between 9.5%-12.5%. On this basis, the 10% modal shift which has been adopted in the TAIA is deemed to be an appropriate target for the site. As mentioned in the response to Submission 29, there is potential for greater modal shift of up to 12.5% in the future. As addressed in Submission 10, the Framework Travel Plan will promote a Travel Access Guide providing information on active travel and public transport routes as well as ways to sign-up for free and discounted student public transport travel; a robust Communications Plan for communicating the TAG, targets and achievements with the Westmead Catholic Community; and, a Monitoring and Evaluation Plan which will be used to guide the achievement of the mode share targets.

- ***Analysis of the locations which staff travel from should be carried out to inform higher mode share targets and strategies for staff;***

  The Framework Travel Plan undertaken by Frank Turquoise Group contains mapping for staffing residences and proposes initiatives for encouraging modal shift amongst the student and staffing communities. The Framework has been included as an Appendix to the overall RTS submission.

- ***Provide details of measures to encourage sustainable transport choices amongst parents, students and staff for example information on walking routes, cycling routes as well and information packs for parents and students;***

  The response to Submission 10 addresses the Framework Travel Plan initiatives which will be implemented by the schools to encourage sustainable travel choices. In summary, the Framework outlines the structure for the Travel Access Guide, Communications Plan and Monitoring and Evaluation Plan which will be used to guide the achievement of the mode share targets.

- ***Consider wayfinding measures such as local street signage to identify direction and distance to school and consider establishing parent or teacher-led walking groups;***

To reach for the maximum potential for modal shift, CEDP will liaise with Council regarding the installation of way-finding signage and pavement stencils from the bus stops and station and conduct travel training to help parents and students identify a public transport option and travel time that supports their travel needs.

- ***Details of students who are eligible for STSS and those who are within walking/ cycling distance/ catchment, and promote the use of STSS and School Term Travel Pass;***

An analysis undertaken by Frank Turquoise Group has identified the following information.

School transport potential

*Based on 2020 student enrolment data for the 4 schools, a total of **500** the 2,854 (18%) of Westmead students live within the exclusion zone for the SSTS, that is **160** (27%) primary students and **340** (15%) secondary students live "too close to school" or within 1.6km as the crow flies. This shows how important fine-grain footpath improvements are for these students to be able to walk, bike or scoot to school. A further **688** (24%) students are within public transport distance to school – bringing the total that rely on walking for all or part of the journey to **1,188** (42%). These students rely on the fine-grain footpath network and signal priority to walk from the nearby bus stops and rail station.*

	Mother Teresa and Sacred Heart (590 students)				Parramatta Marist and Catherine McAuley (2,264 students)			
	Crow flies	Actual	Crow flies	Actual	Crow flies	Actual	Crow flies	Actual
0-399m	15	14	3%	2%	14	13	0%	0%
400-799m	44	24	7%	4%	46	17	1%	
800-1199m	34	28	6%	5%	76	50	2%	
1200-1599m	67	14	11%		204		6%	
Eligible for SSTS		456		77%		1,924		85%
Transport option		184		31%		504		22%
but excl from SSTS		61		10%		158		7%
and eligible SSTS		123		21%		218		20%

- ***Provide sufficient end of trip facilities and storage facilities (for large items and to reduce daily trips with these items) for students to encourage active travel to school;***

  End of trip facilities, including showers and change rooms for staff, and secure lockers will be available to staff and students who cycle to the site will be provided secure lockers to store personal belongings.

- ***Consider bike share schemes for students;***

  Further initiatives to be implemented by the school will include provision of promotional codes to school students offered by nearby bicycle shop/s, as well as Bicycle NSW membership and insurance coverage sign up codes.

  Depending on the success of the cycling uptake amongst students in the future, bike share schemes for students may be considered.

- ***Include a behaviour change program to encourage greater sustainable transport choices that target specific student groups e.g. encourage early sustainable behaviours through Bike Education in primary years and targeted programs for high school students;***

  A Travel Coordinator would be implemented for all four schools. The Travel Coordinator's role will involve expansion of the Framework Travel Plan and integration of sustainable travel with in-school teaching and learning. CEDP appreciates that there will be great benefit in establishing bicycle education programs for primary students, and will be willing to consider such programs for students in the future.

- ***Details of the appointed travel co-ordinator and the stages in which the GTP will be implemented;***

  As outlined in the Framework Travel Plan, a Travel Coordinator will be implemented and shared across the four schools. The following timeline is proposed:

  • Communicate the available transport modes for staff and students to use, starting in Term 3

  • Confirm and launch programs in Term 4 2020 and Term 1 2021

  • Prior to and during construction, promote the active and public transport options for existing Westmead Catholic Community staff and students (Mother Teresa Primary School, Parramatta Marist and Catherine McAuley)

  • During the relocation from Sacred Heart Primary School, promote active and public transport options for these "new" Westmead Catholic Community staff and students

- ***Determine how annual travel surveys will be conducted and identify the evaluation process including how mitigations, and any changes be implemented;***

  A Travel Coordinator, shared between the four schools is proposed to be implemented to facilitate ongoing transport promotion and robust promotion of active and public transport as outlined within the Framework Travel Plan. Re-running these analyses annually will form part of the Monitoring Strategy as outlined in the response to Submission 10 above.

- ***Information on school operation hours including before and after school care as well as extra circular activities and the implications for spread of the demand throughout these operational hours;***

  OOSH would operate from 6am to 6pm daily, which will have a significant impact in alleviating traffic congestion during school peak periods as mentioned throughout this RTS. Specifically, the reduction of car trips in school peak periods as a result of the OOSH facility are outlined in the response to Submission 7.

  At this time, CEDP advises that it does not expect extra-curricular activities will take place for the primary school. At the high school, specialist HSC classes may run before and/or after school. However, this is not likely to impact site-generated trips given that the majority of high school students travel by public transport.

- ***Information on special event trips for school activities such as school carnivals, swim school, excursions etc.;***

  School-wide special events, such as swimming and athletic carnivals will be held off-site. On such event days, students will travel to/ from school as per usual and will travel to the off-site facility by private buses. Buses will leave the school after the AM school peak period, and arrive back to school before the PM school peak period.

  Other special events may include a school liturgy or awards ceremony to be held on-site. These events would typically occur during the middle of the day, and therefore would not coincide with the school peak periods.

- ***Greater detail in the TAG including examples of material to be provided, relevance to target different age groups and how they will be distributed;***

  The Travel Access Guide will contain information on active travel routes and nearby public transport modes which students with parents, and staff are available within close vicinity the site which should be used when travelling to school. The TAG will contain web links to TfNSW's journey planner tool which will especially assist parents of primary students to investigate travel modes alternative to private car.

  Hills Bus and Transit Systems are the school bus operators for the site. Ongoing consultation will occur with these operators to ensure easy-to-read maps are accessible online for parents and students to investigate the bus routes available to them. Web links and/or maps showing school bus routes may be included in the TAG to inform parents of the available school bus services.

The TAG will be distributed to the school community via the school websites, E-newsletter and School Facebook page and other social channels.

Further details of the Transport Access Guide and Communications Plan are detailed within the Framework Travel Plan.

- ***A Communications plan detailing how the GTP will be communicated to the school community; and***

  The following Communications Plan has been developed by Frank Turquoise Group, and detailed in the Framework Travel Plan:

  The Communications Plan sets out how to communicate the Framework Travel Plan and transport options currently available to staff, students and parents. CEDP will use this plan to clearly communicate transport options for staff and student travel behaviour change.

  The schools currently communicate with staff, student and parents through these "channels":

  - School website "how to get here" page
  - E-newsletter
  - School Facebook page and other social channels

  <u>Introducing the Travel Plan:</u>

  - 4-5 short news items for distribution in the school e-newsletter, social media channels and school website

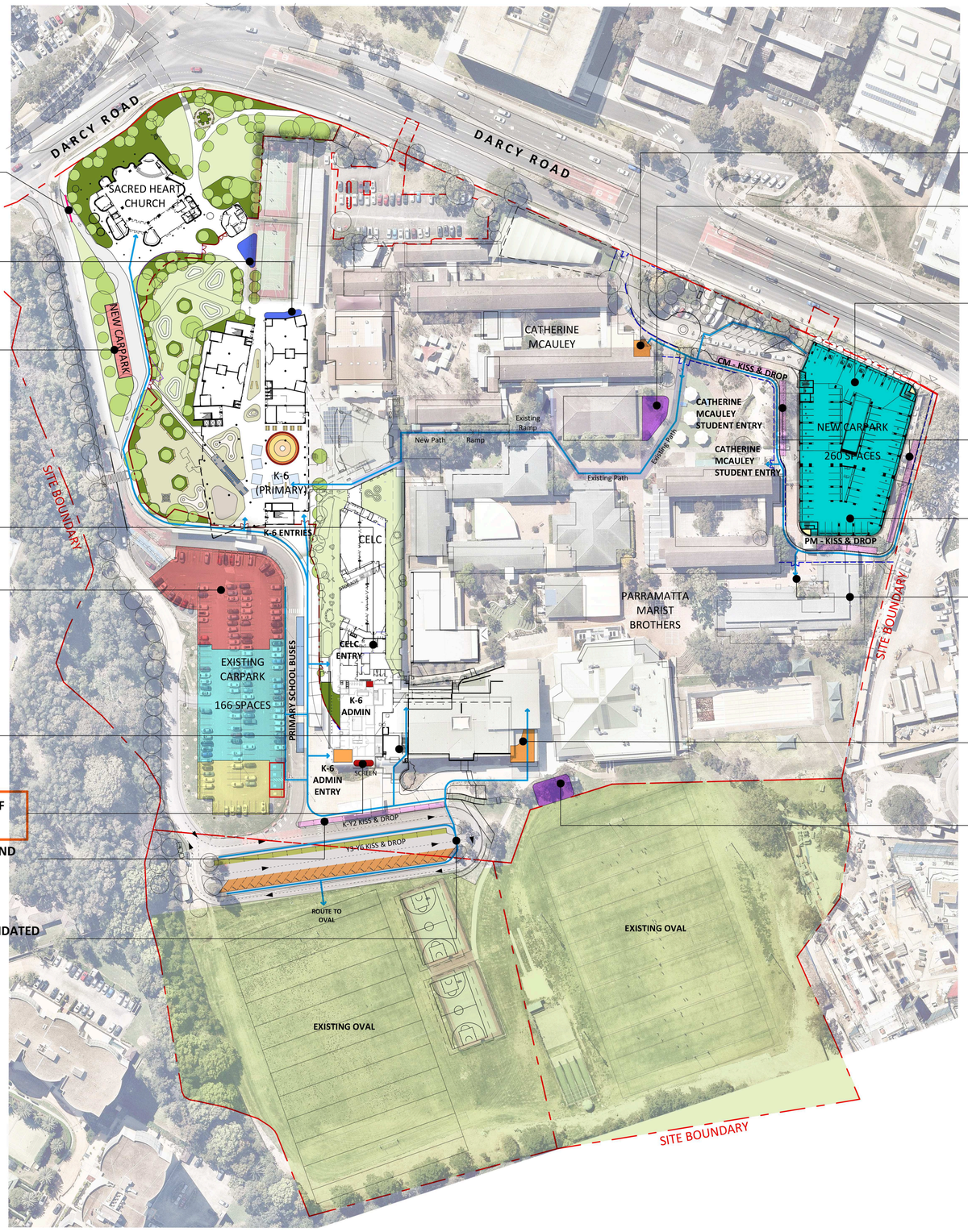
  <u>Timeline:</u>

  - Communicate the available transport modes for staff and students to use, starting in Term 3
  - Prior to and during construction, promote the active and public transport options for existing Westmead Catholic Community staff and students (Mother Teresa Primary School, Parramatta Marist and Catherine McAuley)
  - During the relocation from Sacred Heart Primary School, promote active and public transport options for these "new" Westmead Catholic Community staff and students

- ***A statement of support from the Principal to encourage sustainable transport outcomes identified in the GTP.***

School to provide.

Attachment One



WIRE CHAIN OR COLLAPSABLE BOLLARDS FOR CONTROLLED ACCESS TO PARISH DRIVEWAY AND PARKING

84 SPACES - PRIMARY STUDENT BICYCLE PARKING

12 SPACES - PARISH CHURCH

END OF TRIP FACILITY FOR PRIMARY SCHOOL STAFF

PARKING ALLOCATIONS PER USE
- 66 PARISH
- 76 (INC. 3 ACCESSIBLE) PS STAFF
- 24 (INC. 1 ACCESSIBLE) CELC STAFF
- 16 VISITOR SHARED WITH BEFORE/ AFTER SCHOOL PU/DO
- 24 (INC. 1 ACCESSIBLE) VISITOR
- **TOTAL = 206 SPACES**

CATHERINE MCAULEY - STUDENT ENTRY (EXISTING)

9 SPACES - PRIMARY AND HIGH SCHOOL STAFF BICYCLE PARKING WITH SCREENING

10 SPACES - PRIMARY STUDENTS DROP OFF AND PICK UP ZONE K-Y2

PROPOSED PEDESTRIAN ROUTE AND CONSOLIDATED CROSSING POINT

CATHERINE MCAULEY ADMIN ENTRY (EXISTING)

60 SPACES - HIGH SCHOOL STUDENT & STAFF BICYCLE PARKING

PARKING ALLOCATION PER LEVEL
- BASEMENT - 89 HS STAFF
- GROUND - 74 VISITOR, 4 ACCESSIBLE (NON USE-SPECIFIC)
- LVL 1 - 55 HS STAFF, 19 PS STAFF, 19 VISITOR
- **TOTAL = 260 SPACES**

NEW 3 LEVEL CARPARK & SENIORS DROP OFF (SUBJECT TO SEPERATE APPROVAL)

21 SPACES - SENIOR STUDENTS DROP OFF AND PICK UP ZONE

PARKING ALLOCATION PER USE
- 144 HS STAFF
- 19 PS STAFF
- 93 HS VISITOR
- 4 ACCESSIBLE (NON USE-SPECIFIC)
- **TOTAL = 260 SPACES**

PARRAMATTA MARIST STUDENT ENTRY

PARRAMATTA MARIST ADMIN ENTRY (EXISTING)

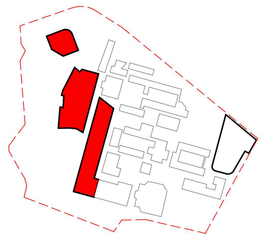
56 SPACES - HIGH SCHOOL STUDENT BICYCLE PARKING

SUMMARY OF BICYCLE PARKING
60 + 56 + 84 + 9 = 209

SUMMARY OF PARKING ALLOCATION (DEMAND) PER USE
- 144 HS STAFF
- 19 + 76 = 95 PS STAFF
- 24 CELC STAFF
- 66 PARISH
- 16 + 24 = 40 PS VISITOR
- 93 HS VISITOR
- **TOTAL = 462 SPACES**

FINAL ON-SITE PARKING PROVISION
260 + 206 = 466 (VS PREVIOUS 472, REDUCTION DUE TO LOSS RESULTING FROM NEW PARALLEL PU/DO SPACES)

DIFFERENCE BETWEEN SUPPLY (466) AND DEMAND (462) = 4 SPACES (i.e. NON USE-SPECIFIC ACCESSIBLE SPACES IN MULTI STOREY CAR PARK)



LEGEND

CAR PARKING
- PARISH CHURCH PARKING
- PRIMARY SCHOOL PARKING
- CELC STAFF PARKING
- K-Y2 KISS AND DROP ZONE
- K3-6 KISS AND DROP ZONE
- RECONFIGURED FRONT TO KERB PARKING
- PRIMARY SCHOOL BUS PARKING
- HIGH SCHOOL STAFF AND VISITOR PARKING

BICYCLE PARKING
- PRIMARY SCHOOL STUDENT BICYCLE PARKING
- PRIMARY/ HIGH SCHOOL STAFF BICYCLE PARKING
- HIGH SCHOOL STUDENT BICYCLE PARKING
- END OF TRIP FACILITY FOR PRIMARY SCHOOL STAFF
  PROPOSED ADDITION OF SHOWER & BENCH TO EXISTING ACCESSIBLE TOILET LOCATED IN THE ADMINISTRATION BUILDING
- NEW THROUGH SITE LINK
- PEDESTRIAN PATHWAYS

Revised Development Application Issue	BK	20.08.2020	E
Revised Development Application Issue	BK	18.08.2020	D
Revised Development Application Issue	BK	10.08.2020	C
Revised Development Application Issue	LB	29.06.2020	B
For Development Application	LB	10.06.2020	A
subject	p.a	date	issue

architect
ALLEANZA ARCHITECTURE
Nominated Architect: Charles Glanville, NSW Registration No. 3130

project
Westmead Catholic Community

address
Darcy Road, Westmead

client
Catholic Eduction Office
Diocese of Parramatta

DEVELOPMENT APPLICATION

drawn:	DO
checked:	LB
verified:	CG
sheet size:	A1
scale:	As indicated

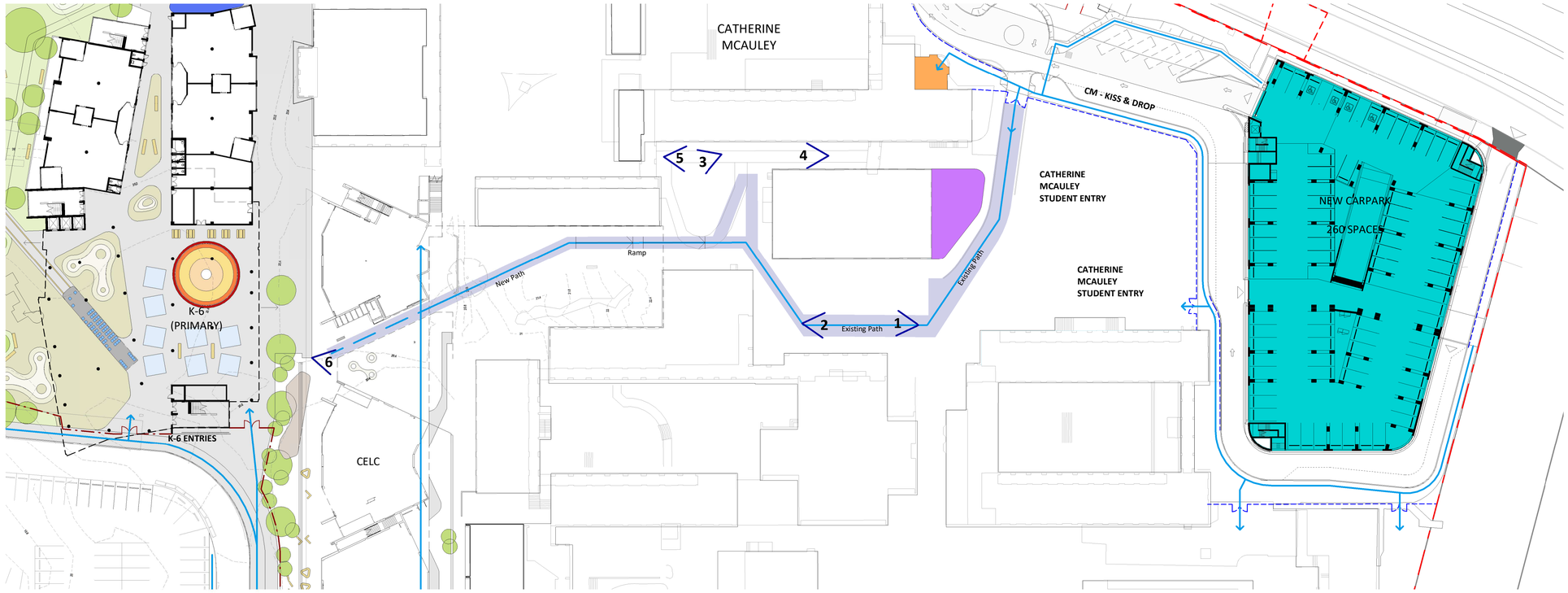
north

0 15 38 60m

PARKING ALLOCATIONS AND SITE CIRCULATION
sheet

project_no.	sheet_no.	issue
19122	MP-DA-950	E

Attachment Two



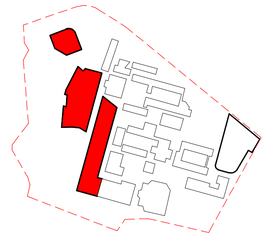


PHOTO 1

PHOTO 2

PHOTO 3

PHOTO 4

PHOTO 5

PHOTO 6

For Development Application	LB	29.06.2020	A
subject	p.a	date	issue

architect

ALLEANZA ARCHITECTURE

Nominated Architect: Charles Glanville, NSW Registration No. 3130

project

Westmead Catholic Community

address

Darcy Road, Westmead

client

Catholic Eduction Office
Diocese of Parramatta

DEVELOPMENT APPLICATION

drawn:	**LB**
checked:	**LB**
verified:	**CG**
sheet size:	**A1**
scale:	**1 : 500**

north

0 15 38 60m

THROUGH SITE LINK

sheet

19122	MP-DA-951	A
project_no.	sheet_no.	issue

Attachment Three

Our Ref: 18173

25 August 2020

WINIM Developments Pty Ltd
Suite 214, 40 Yeo Street
NEUTRAL BAY NSW 2089

Attention: Mr Ry Stephen

Dear Ry,

RE: WESTMEAD CATHOLIC COMMUNITY
OUT OF SCHOOL HOURS (OOSH) CHILD CARE AND GREEN TRAVEL PLAN UPDATED TRAFFIC MODELLING SCENARIOS

As requested, please find herein The Transport Planning Partnership (TTPP) traffic modelling assessment for the proposed OOSH facility at 2 Darcy Road, Westmead (the subject site).

Background

As part of the SSDA for the Westmead Catholic Community – Education Precinct Project, it is proposed to operate an Out of School Hours (OOSH) child care facility within the subject site. As per a separate DA, it is proposed to construct a multi-storey car park with high school Kiss and Ride facility within the eastern portion of the subject site.

The traffic modelling analysis presented in the SSDA Transport and Accessibility Impact Assessment (TAIA) presented the impacts associated with the proposed primary student population growth, introduction of a Catholic Early Learning Centre (CELC) plus the relocation of high school staff and visitor parking to the new multi-storey car park and high school pick-up and drop-off activities to the new Kiss and Ride facility.

Since the preparation of the TAIA, the traffic modelling analysis has been updated to include the OOSH facility in the future years. The updated traffic modelling results of the surrounding road network have been provided herein.

Generally, the impact of the OOSH facility will be that the number of trips to the subject site in the school peak periods would reduce, therefore flattening of the peak curves which are generated by school drop-off and pick-up peak periods at the subject site.

Description of OOSH Facility

Existing OOSH

Currently at the subject site is an OOSH facility which operates between 6am and 6pm Monday to Friday. The exiting OOSH facility accommodates for an average of 11% of the primary school population on-site (420 students), equivalent to 46 students. The OOSH facility will accommodate up to 82 students (approximately 20% of the student population) during the busiest period which occurs in the after-school care period.

The typical arrival time and departure time of children attending the OOSH facility is before 7:30am and after 4:30pm, respectively. The arrival and departure times of OOSH attendees fall outside of the school peak periods and surrounding road network peak periods, namely 7:45am to 8:45am and 3:00pm to 4:00pm.

The OOSH facility is accessed via the existing subject site driveway and footpath which are located off Darcy Road west of Mons Road.

Proposed OOSH

The OOSH facility at the subject site will have the capacity to accommodate up to 48% of the ultimate primary school population of 1,680 students. Having consideration for some variability in daily attendance, the Proponent expects that daily attendance at the OOSH facility will range between 40% and 48% (maximum) of the ultimate primary school population. This equates to 672 to 806 students attending the OOSH facility during each of the before-school and after-school periods.

It is proposed to maintain the same hours of operation as per existing. Also, the arrival and departure times of OOSH attendees would be expected to remain as current.

Vehicle and pedestrian access to the future OOSH facility will be maintained via the existing site access off Darcy Road.

Proposal Milestones and Associated Trip Generation

Co-location of Scared Heart Primary School with Mother Teresa Primary School at the subject site is proposed by Year 2023 which will be followed by population growth of the primary student population on-site. Future growth of the primary student population will occur gradually year-by-year between 2023 and 2033. The project will be staged such that infrastructure upgrades would be provided over the course of the student population growth plan.

Based on this, the traffic impact analysis has been carried out for two key milestones years, namely:

- Year 2023 – Opening year for the proposed development
- Year 2033 – Stabilisation year where growth of the student population would be complete.

Table 1 has been reproduced from the TAIA and summarises the population of students at staff on-site in each milestone year.

Table 1: Subject Site Population (Reproduced from TAIA)

Group	Existing	Proposed Development Opening Year - 2023	Proposed Development Stabilisation Year - 2033
Student Population			
CELC Children	0	100	200
Primary School Students	420	660	1,680
High School Students	2,186	2,237 (a)	2,237
FTE Staff Population (b)			
CELC Staff	0	15	25
Primary School Staff	24	40	100
High School Staff	166	166	166

Notes:
(a) Marginal increase in high school student population between 2019 and 2023 is related to "natural growth" of students, and is unrelated to proposal.
(b) Full-time equivalent staff.

By 2023, Sacred Heart Primary School will be co-located with Mother Teresa Primary School at the subject site and the total primary student population will be 660 students. Also, there will be an increase in the number of primary school staff on-site to 40 full-time equivalent (FTE) staff. Ancillary to the revised traffic modelling analysis in this addendum yet still included in the SSD proposal, there will be 100 CELC children and 15 CELC staff on-site in 2023. Also, there will be a marginal increase in the high school population which is relates to *natural growth* across Catherine McAuley Westmead and Parramatta Marist High School. The CELC and high school additions were previously captured in the TAIA traffic modelling scenarios.

By 2033, the primary school will have reached its full student and staff population growth (1,680 students and 100 FTE staff). Also, the number of CELC children will have increased to 200 and CELC staff to 25 FTE employees.

For both future years 2023 and 2033, a number of scenarios have been assessed which reflect varying trip generation volume. The scenarios which have been modelled are as follows:

- Scenario 0 – "Do Nothing" – Primary School growth with no changes (i.e. no new multi-storey car park, high school Kiss and Ride facility, and OOSH facility).
- Scenario 1 – Primary school growth with new multi-storey car park and high school Kiss and Ride facility, and existing OOSH facility with 10% mode shift (i.e. as per TAIA report).
- Scenario 2 - Primary school growth with new multi-storey car park and high school Kiss and Ride facility, with OOSH facility having 40% attendance of the primary school population and 10% mode shift.
- Scenario 3 - Primary school growth with new multi-storey car park and high school Kiss and Ride facility, with OOSH facility having 48% attendance of the primary school population and 10% mode shift.

The Proposal seeks to amend the primary student population, therefore the number of vehicle trips to/from the subject site will change in the future. The number of vehicle movements in each scenario are presented in Figure 1 and Figure 2. The graphs reflect the vehicle movements during the AM and PM school peak/ surrounding road network peak periods respectively.

Table 2 provides a summary of the vehicle movements per scenario as well as the reduction in vehicle trips in comparison to the Scenario 0 - "Do Nothing" case.

Figure 1: Site-Generated Trips at Existing Site Access (AM Peak Hour)

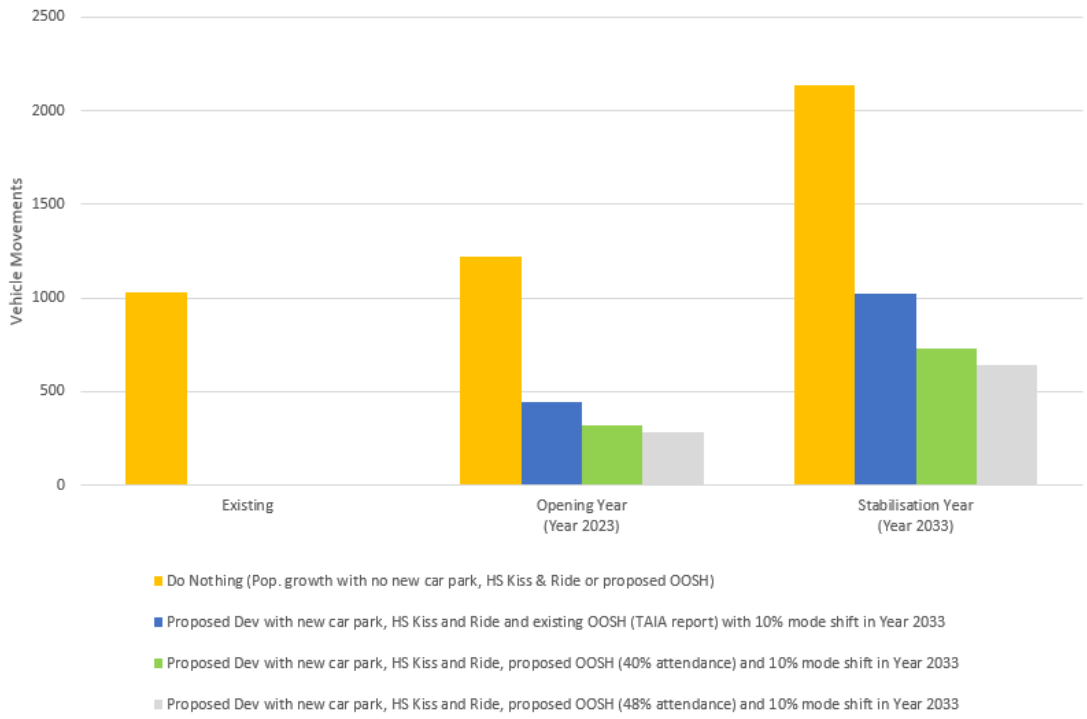


Figure 2: Site-Generated Trips at Existing Site Access (PM Peak Hour)

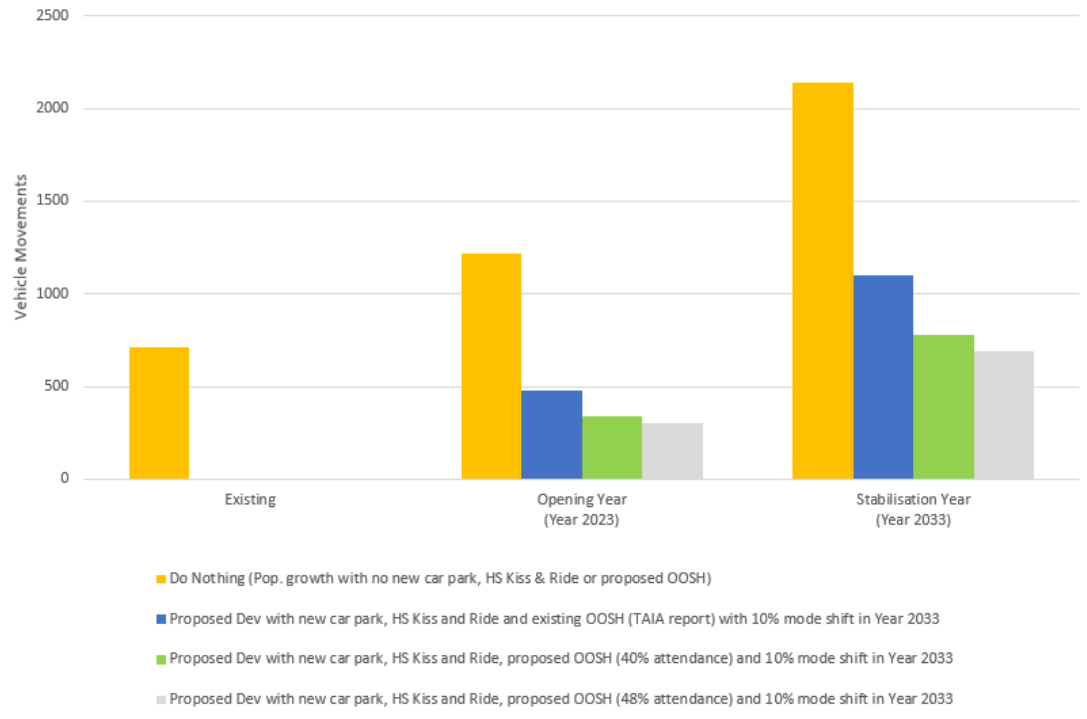


Table 2: Number of Vehicle Movements at Site Access

Scenario	Existing	Opening Year - 2023		Stabilisation Year - 2033	
	Vehicle Movements	Vehicle Movements	Reduction (%) [b]	Vehicle Movements	Reduction (%) [b]
AM Peak					
0	1,031	1,217	-	2,139	-
1	-	448	769 (63%)	1,026	1,113 (52%)
2	-	318	899 (74%)	728	1,411 (66%)
3	-	282	935 (77%)	646	1,493 (70%)
PM Peak					
0	713 [a]	1,217	-	2,139	-
1	-	480	737 (61%)	1,099	1,040 (49%)
2	-	341	876 (72%)	780	1,359 (64%)
3	-	302	915 (75%)	692	1,447 (68%)

Notes:
(a) Theoretical vehicle movements.
(b) Reduction in vehicle movements is a comparison with Scenario 0 - "Do Nothing".

Opening Year 2023

As shown in Figure 1 and Figure 2, the greatest reduction in vehicle movements at the existing site access is due to the relocation of high school staff and visitor parking to the new multi-storey car park and high school pick-up and drop-off activities to the new Kiss and Ride facility. These user groups would access the site off Darcy Road via a new ingress and egress in the eastern portion of the subject site. This scenario was captured in the TAIA and has simply been reproduced in this addendum for comparison with the OOSH scenarios.

The greatest benefit will experienced in the Opening Year 2023 once the new multi-storey car park and high school Kiss and Ride facility would be operational, yet growth of the primary school population will not have commenced (however Sacred Heart PS and Mother Teresa PS will be co-located at the subject site). In Figure 1 and Figure 2, this reduction in vehicle movements between Scenario 0 and Scenario 1 is reflected by the difference in between the yellow column and blue column in 2023. From Table 2, this reduction will range between 61% and 63% with variability dependent on the peak period.

Furthermore, a greater reduction in vehicle movements at the site access is attributed to the OOSH facility whereby parents dropping-off/ picking-up children would access the site earlier than 7:30am and later than 4:30pm. As a result, trips will be spread into the before-school and after-school shoulder periods.

By comparison of Scenario 0 and Scenario 2 (i.e. new multi-storey car park + separate high school Kiss and Ride + OOSH at 40% capacity of the primary school population), there will be a reduction of 72% - 74% vehicle movements in the future scenarios. In Figure 1 and Figure 2, this is represented by the difference between the yellow column and green column. This is a further 11% reduction (139 less vehicle movements) with the OOSH facility in operation in comparison with Scenario 1. In Figure 1 and Figure 2, this is represented by the difference between the blue column and green column.

Stabilisation Year 2033

Comparatively, 2033 peak hourly vehicle movements will be higher than in 2023; this is attributed to the population growth of primary students (from 660 to 1,680) and staff (from 40 to 100) on-site.

It is noted that the 10% mode shift is applied to the Stabilisation Year 2033 only since mode shift will be a progressive change to shift student/ parent and staff travel behaviour. The shift would take place with every new cohort on-site, hence its application to 2033 future cases.

The proposed OOSH facility (OOSH 40% and OOSH 48% cases) with 10% mode shift away from private cars would reduce the site-generated trips by a further 14% to 19% (depending on the peak period). Equivalently, that is a reduction of between 298 vehicles movements (OOSH 40% case in the AM peak period) and 407 vehicles movements (OOSH 48% case in the PM peak period) from Scenario 1. In Figure 1 and Figure 2, this is represented by the difference between the blue column with the green and grey columns in the Stabilisation Year 2033.

Notwithstanding this, 2033 trip generation with the proposed OOSH (and 10% mode shift in 2033) would be relatively equal to or less than the Existing trip generation in the peak periods. In Figure 1, this is shown by the green and grey columns in the Year 2033 being almost equal to or less than the yellow column in the Existing year.

SIDRA Network Modelling Results

RMS uses level of service (LoS) as a measure of performance for all intersection types operating under prevailing traffic conditions. The level of service ranges from LoS A to LoS F which is directly related to the average intersection delays experienced by traffic travelling through the intersection. Performance levels ranging between LoS A to LoS D are considered to be acceptable with LoS A providing better performance than LoS D. LoS E and LoS F are considered to provide unsatisfactory intersection performance.

For priority (give-way and stop sign) controlled intersections, the average delay relates to the worst movement.

Table 3 shows the criteria that SIDRA Network software adopts in assessing the LoS.

Table 3: Roads and Maritime LoS Criteria

Level of Service (LoS)	Average Delay per vehicle (s/veh)	Traffic Signals, Roundabout	Give Way & Stop Sign
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Near capacity	Near capacity, accident study required
E	57 to 70	At capacity	At capacity, requires other control mode.
F	Greater than 70	Unsatisfactory, requires additional capacity	Unsatisfactory, requires other control mode or major treatment

The revised SIDRA Network modelling results during the AM and PM school peak/ surrounding road network peak periods are provided in Table 4 to Table 7 below.

From the revised modelling results, it is evident that the OOSH facility will significantly improve the intersection operation of the existing site access with Darcy Road. Also, the reduced peak hourly trip generation in the OOSH scenarios will result in further improvements at the nearby intersections of Darcy Road – Institute Road – Mons Road and Darcy Road – Bridge Road – Coles Car Park. A summary of these improvements is provided as follows:

- In the Opening Year 2023:
  - AM Peak:
    - Hawkesbury Rd – Railway Pde: LoS improves from C to B in both OOSH scenarios.
  - PM Peak:
    - Darcy Rd – Site Access (Mother Teresa): LoS improves from B to A in both OOSH scenarios.
    - Darcy Road – Bridge Road – Coles Car Park: LoS improves from C to B in both OOSH scenarios.
- In the Stabilisation Year 2033:
  - In AM peak:
    - Darcy Rd – Site Access (Mother Teresa): LoS improves from F to A in both OOSH scenarios.
    - Darcy Road – Bridge Road – Coles Car Park: LoS improves from F to C and B in the OOSH 40% and OOSH 48% scenarios, respectively.

- In PM peak:
    - Darcy Rd – Site Access (Mother Teresa): LoS improves from F to C and B in the OOSH 40% and OOSH 48% scenarios, respectively.
    - Darcy Rd – Institute Rd – Mons Rd: LoS improves from F to D in both OOSH scenarios.

In addition to the above, generally the surrounding road network will experience an improvement through reductions in average delay.

At some intersections, there would be an increase in average delay by a few seconds which is the result of the traffic modelling software optimising the signal phase timing across all movements at the junction. As a result, the intersection level of service has shifted one LoS rating. Specifically, this is shown to occur at the following intersections:

- Darcy Rd – Site Access (Catherine McAuley) – Westmead Hospital would change from LoS C to D in the 2023 AM peak period due to an increase of two seconds in average delay (from 42 seconds to 44 seconds).
- Hawkesbury Rd – Railway Pde would change from LoS C to D in the 2033 AM peak period due to an increase of between 6-10 seconds in average delay (from 41 to 47 seconds and 51 seconds).

The net change is a marginal increase, yet it triggers a shift in LoS as shown by RMS' Level of Service Criteria in Table 3. Notwithstanding this, the intersection would be expected to perform similarly to as previously assessed.

At the intersection of Darcy Road – Bridge Road – Coles Car Park, the intersection is shown to operate at a LoS F in the 2033 PM peak period. As addressed in the Response to Submissions, future stages of the WCC Masterplan seek to include new pedestrian and vehicular connections into and through the site. This includes an east-west connection as suggested by Parramatta City Council in the draft Westmead Innovation District Masterplan.

CEDP is willing to provide support and provide these connections within the site as part of the ongoing development of the site. However, it is incumbent on Council and surrounding landowners to ensure that meaningful connections can be made. In CEDP's recent submission to the exhibition of the EIS for Sydney Metro West (SSI-10038) they encouraged Sydney Metro to ensure that there are adequate connections in and around the station precinct, both for WCC and broader users of the precinct.

As such, a future east-west connection would be expected to enhance the operation of the Darcy Road – Bridge Road – Coles Car Park junction by alleviating the traffic flow through the existing junction across multiple road connections to/from the subject site. Therefore, whilst the intersection is shown to operate poorly under the current road network configuration, it is acknowledged there will be future improvements in the vicinity.

Table 4: SIDRA Network Results in the AM Peak Period - Year 2023

Intersection	Intersection Type	Reproduced from TAIA						New Scenarios to Replace *"2023 Background Growth + Dev"* Scenario			
		Existing		2023 Background Growth		2023 Background Growth + Dev		2023 Background Growth + Dev (OOSH 40%)		2023 Background Growth + Dev (OOSH 48%)	
		Ave. Delay	LOS	Ave. Delay	LOS	Ave. Delay	LOS	Ave. Delay	LOS	Ave. Delay	LOS
Darcy Rd – Site Access (Mother Teresa)	Priority (Stop)	13s	A	15s	B	9s	A	8s	A	7s	A
Darcy Rd – Institute Rd – Mons Rd	Signalised	36s	C	33s	C	34s	C	34s	C	34s	C
Darcy Rd – Site Access (Catherine McAuley)	Priority	4s	A	4s	A	4s	A	4s	A	4s	A
Darcy Rd – Site Access (Catherine McAuley) – Westmead Hospital	Signalised	27s	B	21s	B	42s	C	44s	D	44s	D
Darcy Rd – Site Access (Proposed Car Park Entry)	Priority	5s	A	5s	A	4s	A	4s	A	4s	A
Darcy Rd – UWS – Westmead Hospital	Signalised	26s	B	23s	B	26s	B	26s	B	26s	B
Darcy Rd - Hawkesbury Rd	Signalised	33s	C	34s	C	39s	C	38s	C	38s	C
Hawkesbury Rd – Railway Pde	Signalised	18s	B	16s	B	24s	C	16s	B	16s	B
Hawkesbury Rd – Alexandra Ave	Signalised	71s	F	71s	F	>100s	F	>100s	F	>100s	F
Alexandra Ave – Bridge Rd	Priority	17s	B	19s	B	19s	B	19s	B	19s	B
Darcy Rd – Bridge Rd – Coles Car Park	Signalised	32s	C	35s	C	23s	B	21s	B	21s	B

Table 5: SIDRA Network Results in the PM Peak Period - Year 2023

Intersection	Intersection Type	Reproduced from TAIA						New Scenarios to Replace *"2023 Background Growth + Dev"* Scenario			
		Existing		2023 Background Growth		2023 Background Growth + Dev		2023 Background Growth + Dev (OOSH 40%)		2023 Background Growth + Dev (OOSH 48%)	
		Ave. Delay	LOS	Ave. Delay	LOS	Ave. Delay	LOS	Ave. Delay	LOS	Ave. Delay	LOS
Darcy Rd – Site Access (Mother Teresa)	Priority (Stop)	10s	A	11s	A	12s	B	10s	A	10s	A
Darcy Rd – Institute Rd – Mons Rd	Signalised	48s	D	47s	D	50s	D	50s	D	50s	D
Darcy Rd – Site Access (Catherine McAuley)	Priority	4s	A	4s	A	4s	A	4s	A	4s	A
Darcy Rd – Site Access (Catherine McAuley) – Westmead Hospital	Signalised	13s	A	13s	A	20s	B	20s	B	20s	B
Darcy Rd – Site Access (Proposed Car Park Entry)	Priority	5s	A	5s	A	5s	A	4s	A	5s	A
Darcy Rd – UWS – Westmead Hospital	Signalised	21s	B	19s	B	19s	B	19s	B	19s	B
Darcy Rd - Hawkesbury Rd	Signalised	37s	C	45s	C	55s	D	53s	D	54s	D
Hawkesbury Rd – Railway Pde	Signalised	27s	B	36s	C	38s	C	38s	C	38s	C
Hawkesbury Rd – Alexandra Ave	Signalised	38s	C	42s	C	46s	D	45s	D	46s	D
Alexandra Ave – Bridge Rd	Priority	12s	A	13s	A	13s	A	13s	A	13s	A
Darcy Rd – Bridge Rd – Coles Car Park	Signalised	25s	B	30s	C	41s	C	27s	B	27s	B

Table 6: SIDRA Network Results in the AM Peak Period - Year 2033

Intersection	Intersection Type	Reproduced from TAIA						New Scenarios to Replace *"2033 Background Growth + Dev"* Scenario			
		Existing		2033 Background Growth		2033 Background Growth + Dev with 10% Mode Shift		2033 Background Growth + Dev (OOSH 40%)		2033 Background Growth + Dev (OOSH 48%)	
		Ave. Delay	LOS	Ave. Delay	LOS	Ave. Delay	LOS	Ave. Delay	LOS	Ave. Delay	LOS
Darcy Rd – Site Access (Mother Teresa)	Priority (Stop)	13s	A	15s	B	>100s	F	12s	A	11s	A
Darcy Rd – Institute Rd – Mons Rd	Signalised	36s	C	33s	C	32s	C	33s	C	33s	C
Darcy Rd – Site Access (Catherine McAuley)	Priority	4s	A	4s	A	5s	A	5s	A	5s	A
Darcy Rd – Site Access (Catherine McAuley) – Westmead Hospital	Signalised	27s	B	21s	B	32s	C	32s	C	32s	C
Darcy Rd – Site Access (Proposed Car Park Entry)	Priority	5s	A	5s	A	6s	A	6s	A	5s	A
Darcy Rd – UWS – Westmead Hospital	Signalised	26s	B	23s	B	23s	B	23s	B	23s	B
Darcy Rd - Hawkesbury Rd	Signalised	33s	C	34s	C	>100s	F	92s	F	81s	F
Hawkesbury Rd – Railway Pde	Signalised	18s	B	16s	B	41s	C	47s	D	51s	D
Hawkesbury Rd – Alexandra Ave	Signalised	71s	F	71s	F	>100s	F	>100s	F	>100s	F
Alexandra Ave – Bridge Rd	Priority	17s	B	19s	B	25s	B	28s	B	29s	B
Darcy Rd – Bridge Rd – Coles Car Park	Signalised	32s	C	35s	C	71s	F	28s	C	26s	B

Table 7: SIDRA Network Results in the PM Peak Period - Year 2033

Intersection	Intersection Type	Reproduced from TAIA						New Scenarios to Replace *"2033 Background Growth + Dev"* Scenario			
		Existing		2033 Background Growth		2033 Background Growth + Dev with 10% Mode Shift		2033 Background Growth + Dev (OOSH 40%) with 10% Mode Shift		2033 Background Growth + Dev (OOSH 48%) with 10% Mode Shift	
		Ave. Delay	LOS	Ave. Delay	LOS	Ave. Delay	LOS	Ave. Delay	LOS	Ave. Delay	LOS
Darcy Rd – Site Access (Mother Teresa)	Priority (Stop)	10s	A	14s	A	>100s	F	30s	C	21s	B
Darcy Rd – Institute Rd – Mons Rd	Signalised	48s	D	46s	D	73s	F	51s	D	51s	D
Darcy Rd – Site Access (Catherine McAuley)	Priority	4s	A	4s	A	5s	A	4s	A	5s	A
Darcy Rd – Site Access (Catherine McAuley) – Westmead Hospital	Signalised	13s	A	13s	A	16s	B	17s	B	17s	B
Darcy Rd – Site Access (Proposed Car Park Entry)	Priority	5s	A	5s	A	5s	A	5s	A	5s	A
Darcy Rd – UWS – Westmead Hospital	Signalised	21s	B	18s(a)	B	18s	B	18s	B	18s	B
Darcy Rd – Hawkesbury Rd	Signalised	37s	C	237s	F	>100s	F	>100s	F	>100s	F
Hawkesbury Rd – Railway Pde	Signalised	27s	B	113s	F	>100s	F	>100s	F	>100s	F
Hawkesbury Rd – Alexandra Ave	Signalised	38s	C	83s	F	89s	F	81s	F	80s	F
Alexandra Ave – Bridge Rd	Priority	12s	A	16s	B	14s	A	15s	B	15s	B
Darcy Rd – Bridge Rd – Coles Car Park	Signalised	25s	B	40s	C	92s	F	81s	F	78s	F

Queuing at the Existing Site Access

There is a short right-turn lane on Darcy Road (eastbound) into the existing site access which has been assessed for vehicle queues to determine whether it would cause an impact to through traffic movements in the future scenarios. The right-turn lane is 75m in length which can accommodate approximately 10 cars.

Based on observations of the queue lengths at the time of the traffic surveys, the existing queue into the site is approximately three cars in length (approximately 19m) in the AM peak period and nine cars in length (approximately 62m) in the PM peak period.

It is noted that the Project Team met with Parramatta City Council representatives on Friday 24 July 2020 to discuss the submissions in detail. Council representatives expressed queries regarding vehicle queues occurring at the existing site access off Darcy Road (west of Mons Road). Council representatives recommended that the Project Team attend a site visit with a Council representative in the morning peak period to observe the traffic conditions.

Members from CEDP, WINIM and TTPP attended the on-site inspection with Richard Searle, Traffic Engineer at City of Parramatta Council (CoPC). The site inspection took place on Tuesday 28 July during the morning peak period between 7.45am-9.00am. The inspection involved observations of vehicle queues on Darcy Road turning right and left into the site access driveway. At the busiest time in the peak hour, the right-turn and left-turn vehicle queues were observed to overflow from the respective short-turn lanes. The right-turn vehicle queue was seen to be between 10-14 cars long and the left-turn vehicle queue had reached the Mons Road-Darcy Road traffic signals (between 5-8 cars long).

On this basis, the 95th percentile queue length during the existing AM peak period as shown in Table 8 has been updated to reflect the observations from the on-site inspection attended with CoPC. Assuming similar conditions during the after school peak period, the 95th percentile queue length in the PM peak has also been updated in Table 8.

Table 8: 95th Percentile Queue Length

Peak	Existing	2023 Background Growth + Dev + Car Park + HS Kiss&Ride	2023 Background Growth + Dev + Car Park + HS Kiss&Ride + OOSH 40%	2023 Background Growth + Dev + Car Park + HS Kiss&Ride + OOSH 48%	2033 Background Growth + Dev + Car Park + HS Kiss&Ride	2033 Background Growth + Dev + Car Park + HS Kiss&Ride + OOSH 40%	2033 Background Growth + Dev + Car Park + HS Kiss&Ride + OOSH 48%
AM	10 to 14 cars (70-100m)	1 car (8m)	1 car (5m)	1 car (5m)	5 cars (36m)	3 cars (18m)	2 cars (15m)
PM	10 to 14 cars (70-100m)	1 car (5m)	< 1 car (3m)	< 1 car (2m)	9 cars (64m)	3 cars (20m)	2 cars (15m)

As shown by the queue lengths in Table 8, the new multi-storey car park and high school Kiss and Ride facility will provide immediate relief to the peak queues in the Opening Year 2023 Also, the proposed OOSH facility will further reduce queueing once it has become operational from 2023 onwards.

By 2033, the primary school will have reached its full student and staff population growth therefore vehicle movements at the existing site access will have increased since 2023. In 2033, the right-turn queue length would reach approximately five cars (AM peak) and nine cars (PM peak). However, by spreading vehicle movements into the shoulder periods by the OOSH operation would reduce traffic demand in the school peak periods/ road network peak period and alleviate the right-turn queue into the site. Operation of the school in 2033, in conjunction with the new car park, separate high school Kiss and Ride and OOSH facility would significantly reduce the right-turn queue (and left-turn queue) during both the school AM and PM peak periods.

The amended PU/DO proposal as described in the RtS would help maintain the short queue length for the right-turn movement. By achieving traffic flow and pedestrian flow efficiencies, the amended proposal would further help reduce internal traffic congestion allowing the site to accommodate a greater volume of cars on-site in comparison with the initial proposal. As a result, this would significantly minimise the number of cars queuing on Darcy Road. However, the greatest reduction in queuing on Darcy Road would be due to flattening of peak curves through implementation of the new car park, separate high school Kiss and Ride and OOSH facility as discussed within this Addendum.

The future traffic modelling shows that the right-turn queue would be contained within the short-lane length in future scenarios with the OOSH facility, and would not impact through traffic movements on Darcy Road.

Summary and Conclusion

In conjunction with the proposed multi-storey car park and separate high school Kiss & Ride facility, the proposed OOSH facility will have a significant impact on alleviating site-generated trips during the school peak periods and surrounding road network peak periods. As assessed in future years 2023 and 2033, the OOSH facility would spread site-generated trips into the before-school and after-school shoulder periods therefore flattening the peak traffic curves.

By the analysis presented by in this Addendum, it is evident that the proposed facilities will provide significant improvements to the road network operation as assessed in the TAIA. Such improvements are most apparent the intersection of the existing site access with Darcy Road, and nearby intersections with Darcy Road - Mons Road and Darcy Road - Bridge Road.

We trust the above is to your satisfaction. Should you have any queries regarding the above or require further information, please do not hesitate to contact the undersigned on 8437 7800.

Yours sincerely,

Ken Hollyoak
Director