

December 2021

To whom it concerns,

Traffic Impact Statement for the Proposed Extension to the Existing St Paul's Anglican Church at 32 Moseley Street, Carlingford NSW 2118

Fernway Engineering has been engaged by St Paul's Anglican Church to provide a Traffic Impact Statement (TIS) for the proposed development which involves the demolition of the existing administration building and construction of a new Ministry Support Centre (MSC) at the St Pauls Anglican Church at 32 Moseley Street in Carlingford ('subject site').

Site Details

The subject site includes approximately 6,300m² of land area and is situated in a corner lot with frontage to Moseley Street (to south), Vickery Avenue (to east) and Trigg Avenue (to the north). The immediate vicinity of the site is characterised by residential uses, zoned R2 and R4 under the under Parramatta (former The Hills) Local Environmental Plan 2012. The Harold West Reserve is located opposite the site on Vickery Avenue.

Moseley Street, Vickery Avenue and Trigg Avenue are undivided local roads that cater for bi-directional traffic movements and include time unrestricted kerbside public parking on both sides. Moseley Street includes a paved pedestrian footpath along its northern side.

Figure 1 illustrates the location of the subject site in aerial view.

Public Transport Accessibility

A number of bus services can be accessed from the subject site, through short walks on Moseley Street. **Figure 2** shows the bus stop locations within the site locality. As can be seen from this map, the following bus services are accessible:



From Pennant Hills Road (350m / 5-minute walk, to/from the site):

- **Route 513:** West Ryde to Carlingford. Operates every 30-45 minutes between 6.30am to 6.30pm, on weekdays (no operations on Saturdays, Sundays, and public holidays).
- **Route 546:** Parramatta to Epping via Oatlands & North Rocks. Operates weekdays (between 6.30am to 10pm), Saturdays, Sundays, and public holidays with a frequency of 30-60 minutes.
- **Route 625:** Pennant Hills to Parramatta. Operates weekdays (between 5.45am to 7.20pm), Saturdays, Sundays, and public holidays with a frequency of 30-60 minutes.
- **Route 630:** Blacktown to Epping. Operates every 45-60 minutes between 6.30am to 5.45pm, on weekdays (no operations on Saturdays, Sundays, and public holidays).

From Jenkins Road (300m / 3-minute walk, to/from the site):

- **Route 550:** Parramatta to Macquarie Park via Epping. Operates weekdays (between 4.15am to 11.30pm), Saturdays, Sundays, and public holidays with a frequency of 10-20 minutes.



Figure 1: Location of the Subject Site

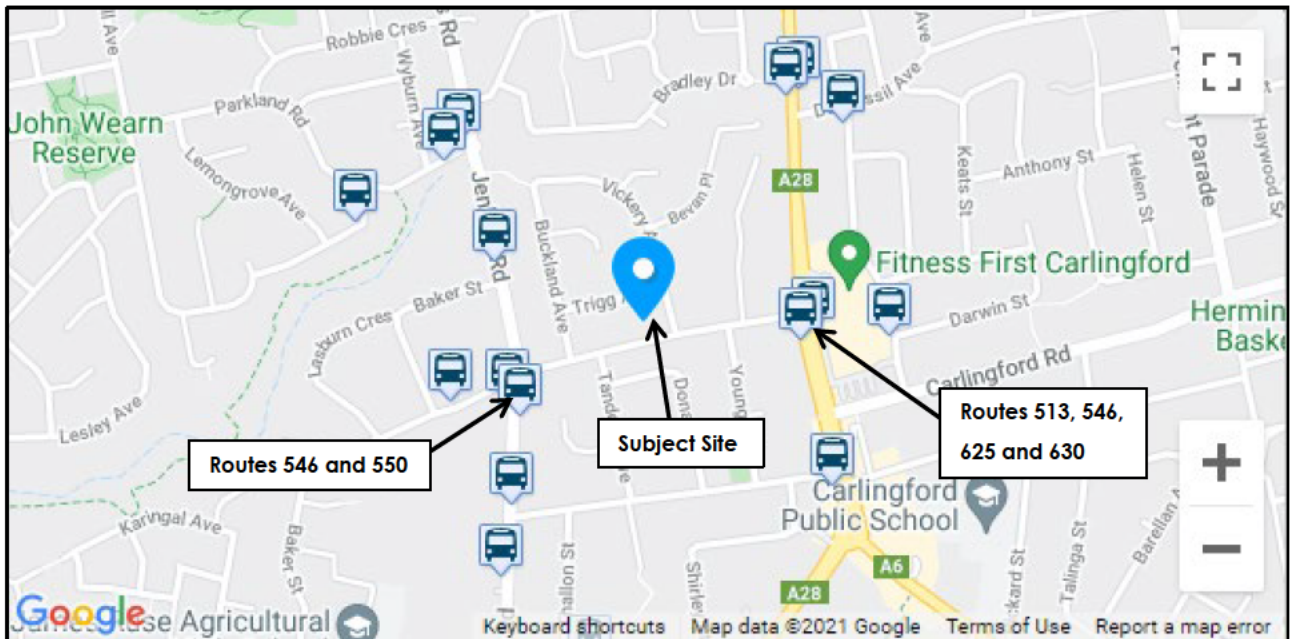


Figure 2: Bus stops within the site locality

As per the above, the subject site is located within convenient walking distance (max. 5 minutes) to numerous bus routes. Three of these routes operate on Sundays – therefore, the attendees of Sunday church sessions are also able to rely on these services.

Further to the above existing public transport services, major construction on Stage 1 of the Parramatta Light Rail, which will connect Westmead to Carlingford via the Parramatta CBD and Camellia, is currently underway and is expected to begin operations in 2023.

Figure 3 shows the location of the proposed light rail station in Carlingford with respect to the location of the subject site. The subject site is located approx. 800m (10-minute walk) from this light rail station. Therefore, the proposed light rail system represents a viable alternative to private vehicle trips for the patrons accessing the subject site in future.

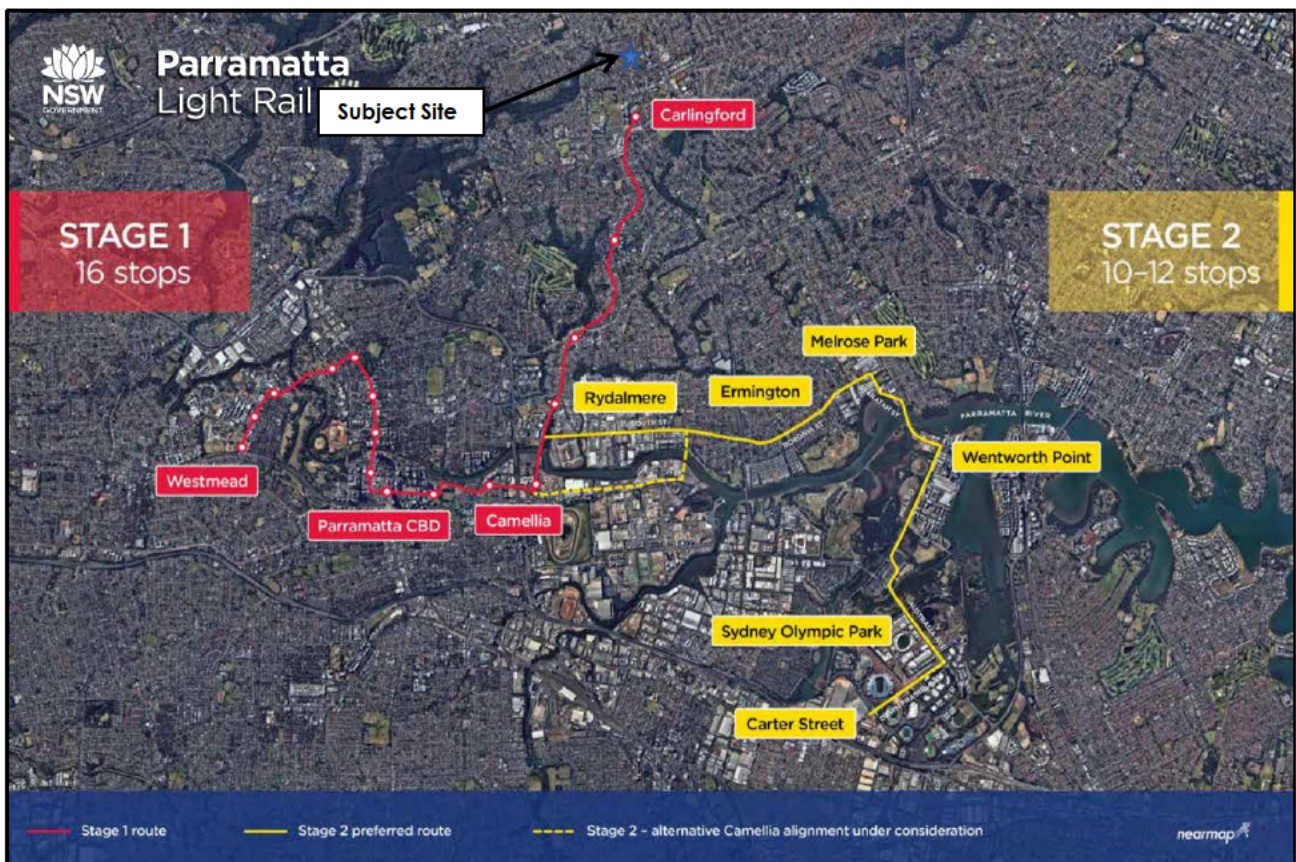


Figure 3: Location of Carlingford light rail station with respect to the subject site

Walkability Conditions

A WalkScore tool was used to investigate the walking catchment area for the subject site. The WalkScore (app.targomo.com) measures the walkability of any address by considering the available walking routes and surrounding land uses.

Figure 4 illustrates the walking catchment areas for the subject site.

As can be seen from this figure, the walking catchment areas (5 minutes to 20 minutes) of the subject site covers a large radius that includes many residential areas from which local patrons and staff are likely to originate. The patrons living in these residential areas can simply walk over to the subject site without reliance on private vehicles. Therefore, this would reduce the peak period traffic generation potential, and the parking demand generated from the subject proposal.



Figure 4: Walking catchment areas for the subject site

Proposed Development

It is understood that on 13 June 2016, DA338/2016 was approved for the alterations and additions to the existing place of public worship (St Paul's Carlingford). That DA approved a church footprint area that comprised a main 455-seat hall, another 150-seat hall (existing) and a separate administration building (existing).

The existing administration building is the subject of the current proposal. In particular, the current proposal seeks to provide a Ministry Support Centre (MSC), that will include additional floor space to better manage the uses that take place concurrently in the main hall and to provide better connectivity between the main hall and MSC. The MSC will provide for an increase in office spaces to cater for the church staff, as well as multi-purpose spaces that are to be used for Sunday school groups, youth groups, as well as general meeting spaces on weekdays.

Figure 5 provides a summary of the existing and proposed net floor areas. **Figure 6** shows the proposed development layout plan.

<u>Existing Building</u>	
Store	109.51m ²
Ground Floor Admin and Hall	310.57m ²
First Floor Auditorium	617.94m ²
First Floor Halls and Amenities	565.10m ²
TOTAL	1603.12m²
<u>Proposed MC Building</u>	
Ground Floor	663.52m ²
First Floor	796.01m ²
TOTAL	1459.53m²
TOTAL COMBINED AREA – 3062.65m²	

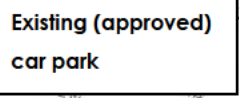
Figure 5: Existing and proposed floor area summary



It is noted that the MSC development proposal does not seek to increase the currently approved maximum total seating capacity of the main auditorium in the church building (which is 455 patrons). However, it will facilitate the delivery of classes for the children who will be accompanied by the adults who are attending the church sessions as well as accommodate church administrative staff and a venue for other services provided by St Paul's.

In line with the existing approval for the site, the total number of persons on site will not exceed 550 at any given time. A maximum of 30 permanent staff members will work from the whole site at any one time with up to 60 volunteers assisting with various activities including worship, bible study or the children's and youth activities.

The proposed activities within the subject site and their respective patron capacities are outlined in **Figure 7**. A detailed Plan of Management (PoM) accompanying the proposal will be submitted as a part of the DA package. The most intensive regular activities (i.e. with patron numbers over 100) are identified with Red boxes in **Figure 7**.



The existing on-site car park includes 84 functional car spaces (including 2 accessible spaces). Based on Table D3.5 (Car parking numbers for people with a disability) in BCA, Class 9b buildings (places of assembly), should provide 1 accessible space for every 50 car parking spaces or part thereof. Based on this rate, the proposal requires provision for 2 accessible car spaces. Therefore, the proposed provision of 2 accessible car spaces is compliant with the BCA requirement.

Monday					
Time	Activity Name	Nature of Activity	Location	Estimated Current Numbers - 2021	Estimated Future Numbers - 2031
9:00am-5:00pm	Church admin & Ministry	Administration and Ministry activities	Ministry Support Centre and Church Building	12 persons	Max of 30 persons
9:30am-10:30am	Organisational meeting	Organisational meeting of staff & members	Ministry Support Centre	10 persons	14 persons
10:30am-11:30am	Organisational meeting	Organisational meeting of staff & members	Church Building	10 persons	14 persons
9:30am-11:00am	Community Playgroup	Parents and children's group	Church building	20 persons (carers and children)	50 persons (carers and children)
7:00pm-10:00pm	Various meetings	Governance, Growth Group leaders, missionary meetings (15 times per yr)	Church building or Ministry Support Centre	10 - 30 persons, up to 150 occasionally	10 - 30 persons, up to 220 occasionally
Tuesday					
Time	Activity Name	Nature of Activity	Location	Estimated Current Numbers - 2021	Estimated Future Numbers - 2031
9:00am-5:00pm	Church admin & Ministry	Administration and Ministry activities	Ministry Support Centre and Church Building	8 persons	16 persons
9:00am-1:00pm	Community ESL classes	English as a second language classes for the community	Church building	65 persons	150 persons
7:30pm-9:30pm	Introducing God course	Course for the community (12 times per year)	Church building or Ministry Support Centre	18 persons	40 persons
Wednesday					
Time	Activity Name	Nature of Activity	Location	Estimated Current Numbers - 2021	Estimated Future Numbers - 2031
9:00am-5:00pm	Church admin & Ministry	Administration and Ministry activities	Ministry Support Centre and Church Building	6 persons	12 persons
9:30am-12:00pm	Women's bible study	Bible study group	Church building	75 persons	110 persons
Thursday					
Time	Activity Name	Nature of Activity	Location	Estimated Current Numbers - 2021	Estimated Future Numbers - 2031
10:00am-11:30am	Senior's bible study	Bible study group	Church building	20 persons	35 persons
9:30am-11:00am	Community Playgroup	Parents and children's group	Church building	25 persons (carers and children)	60 persons (carers and children)
8:00pm-9:30pm	Music practice	Music practice	Church building	10 persons	10 persons
Friday					
Time	Activity Name	Nature of Activity	Location	Estimated Current Numbers - 2021	Estimated Future Numbers - 2031
9:00am-5:00pm	Church admin & Ministry	Administration and Ministry activities	Ministry Support Centre and Church Building	8 persons	16 persons
6:00pm-7:00pm	Kids club	Children's group	Church building	45 persons (leaders & children)	100 persons (leaders & children)
7:00pm-9:30pm	Youth group	Youth group	Church building or Ministry Support Centre	140 persons (leaders and youth)	280 persons (leaders and youth)

Figure 7 (1 of 2): Nature of proposed activities

Saturday					
Time	Activity Name	Nature of Activity	Location	Estimated Current Numbers - 2021	Estimated Future Numbers - 2031
10:00am–5:00pm	Various occasional meetings	Wedding, funerals, Beach Mission, Parish Council etc. (two per month)	Church building or Ministry Support Centre	50-240 persons	50-240 persons
Sunday					
Time	Activity Name	Nature of Activity	Location	Estimated Current Numbers - 2021	Estimated Future Numbers - 2031
7:45am–8:45am	Traditional Church	Church service	Church building – East/West Hall	30 persons	30 persons
9:15m–10:30am	Morning Church Service	Adult family Church service (English)	Church building – Main auditorium	230 persons (adults)	350 persons (adults)
9:15am–10.30am	Morning Church – children's & youth programs	Children's & youth groups associated with Morning Church	Church building – other spaces and Ministry Support Centre	90 persons (children, youth & leaders)	200 persons (children, youth & leaders)
11:15am-12:00pm	Chinese Church	Adult family Church service (Mandarin)	Church building – Main auditorium	120 persons (adults)	250 persons (adults)
11:15am-12:00pm	Chinese Church - children's & youth programs	Children's & youth groups associated with Chinese Church	Church building – other spaces and Ministry Support Centre	120 persons (children, youth & leaders)	250 persons (children, youth & leaders)
12.30pm-2.30pm	Chinese Church bible study	Bible study group	Church building – other spaces and Ministry Support Centre	100 persons	200 persons
4:00pm–5:15pm	Iranian Group	Iranian group meeting	Ministry Support Centre	15 persons	30 persons
4:00pm–5:15pm	Afternoon Church	Afternoon Church service	Church building – Main auditorium	95 persons	250 persons
6:00pm–8:00pm	Night Church	Night Church service	Church building – Main auditorium	220 persons	400 persons

Figure 7 (2 of 2): Nature of proposed activities

Parking Provision Requirements

Section 1 – Parking within Part C of The Hills DCP 2012 prescribes the following car parking rate for 'Place of public worship' developments:

1 car space per 5 seats

Note that the current proposal does not seek to provide any additional seating capacity. As such, applying the above rate to the maximum total seating capacity of the main auditorium in the church building (which is 455 patrons) leads to a parking provision requirement of 91 car spaces.

The subject site includes 84 on-site car parking spaces. This represents a shortfall of 7 car spaces against the DCP requirement established above.

To identify if the kerbside parking available within the immediate locality of the site can accommodate the above-identified shortfall of car spaces, parking surveys were conducted. The results of these parking surveys are presented in the next section.

Parking Survey Results

As a part of this assessment, a parking survey was undertaken considering the on-street public parking spaces within easy walking distance (<200m/2-minute walk) of the subject site. **Figure 8** shows the street sections considered in the parking surveys.

The parking surveys were carried out on the following days/times, in line with the most intensive use times of the premise (as per the times identified in **Figure 7**):

- On a Friday (22nd October) – between 7pm to 9pm
- On a Sunday* (24th October) – 9am to 2pm and 4pm to 6pm

*these surveys are expected to be reflective also of the conditions on Saturdays



Figure 8: Street sections considered in the parking surveys

Table 1 and **Table 2** summarise the parking survey results obtained (note that parking available on Trigg Avenue has not been considered in this assessment, given the predominantly local/residential nature of this street). The detailed parking survey results are provided in **Attachment A** of this report.

Table 1: Summary of parking survey results for Friday

Street Name	Total kerbside parking spaces	Occupied car spaces		
		7pm	8pm	9pm
Vickery Avenue	65	7	12	13
Moseley Street	45	3	4	5
TOTAL	110	10	16	18
Vacant car spaces		100	94	92

Table 2: Summary of parking survey results for Sunday

Street Name	Total kerbside parking spaces	Occupied car spaces								
		9am	10am	11am	Noon	1pm	2pm	4pm	5pm	6pm
Vickery Avenue	65	1	2	2	1	0	0	15	31	36
Moseley Street	45	2	2	3	4	4	2	2	1	1
TOTAL	110	3	4	5	5	4	2	17	32	37
Vacant car spaces		107	106	105	105	106	108	93	78	73

As per the above-presented parking survey results, it is evident that there are some 110 time unrestricted kerbside public parking spaces available within easy walking distance of the subject site. It is noted that during the Sunday surveys (after 4pm), the parking spaces on Vickery Avenue included generally high levels of occupancy, reflecting those using the Harold West Reserve playground for sporting activities. However, at all times surveyed, there were at least 73 vacant car spaces available within the site locality.

COVID-19 Impact on Parking Occupancy Levels

The parking surveys presented in the previous section were undertaken outside the NSW Covid lockdown period (22nd and 24th of October 2021). However, to determine the impact of Covid related reduced activity levels on parking occupancies recorded in the surveys, comparisons are made against the parking survey results contained within a traffic assessment prepared for a previous application for the subject site. **Table 3** illustrates an extract of the results of a kerbside parking survey presented in the previous traffic assessment for this site (prepared by Thompson Stanbury Associates, dated: November 2015).



Table 3: Parking survey results from the previous traffic assessment for the subject site

(prepared by Thompson Stanbury Associates, dated: November 2015)

TABLE 2 EXISTING PARKING DEMAND OF ON-STREET PARKING AREAS SURROUNDING THE SUBJECT SITE DURING SUNDAY WORSHIP SERVICES											
	Capacity	1 st of November 2015					8 th of November 2015				
		7:45am	9:15am	11:00am	4:00pm	6:00pm	7:45am	9:15am	11:00am	4:00pm	6:00pm
Moseley Street											
North	20	0	5	8	4	1	1	2	4	0	1
South	19	0	2	4	3	4	2	1	4	2	3
Vickery Avenue											
East	52	9	38	24	5	40	10	41	24	6	40
West	19	1	6	5	0	7	4	0	7	1	11
Trigg Avenue											
North	22	0	1	5	1	13	0	4	5	0	10
South	14	0	7	1	0	7	0	8	0	0	9
TOTAL	146	10	59	47	13	72	29	56	44	9	74

Tables 4 and 5 summarise the level of parking available on each Sunday as outlined in **Table 3**.

Note that given the predominantly local/residential nature of Trigg Avenue, the parking available on this road has been excluded from the summaries presented in **Tables 4 and 5**.

Table 4: Summary of parking survey results for 1st November 2015 (based on the findings presented in the traffic assessment prepared by Thompson Stanbury Associates, dated: November 2015)

Street Name	Total kerbside parking spaces	Occupied spaces (1st November 2015)				
		7.45am	9.15am	11am	4pm	6pm
Vickery Avenue	71	10	44	29	5	47
Moseley Street	39	0	7	12	7	5
TOTAL	110	10	51	41	12	52
Vacant car spaces		100	59	69	98	58

Table 5: Summary of parking survey results for 8th November 2015 (based on the findings presented in the traffic assessment prepared by Thompson Stanbury Associates, dated: November 2015)

Street Name	Total kerbside parking spaces	Occupied spaces (8th November 2015)				
		7.45am	9.15am	11am	4pm	6pm
Vickery Avenue	71	14	41	31	7	51
Moseley Street	39	3	3	8	2	4
TOTAL	110	17	44	39	9	55
Vacant car spaces		93	66	71	101	55

The above summaries of the parking surveys presented in the previous traffic assessment confirm the availability of 110 time unrestricted kerbside parking opportunities on Vickery Avenue and Moseley Street within the site locality. The parking spaces available on Vickery Avenue have higher occupancy levels compared with those in Moseley Street – this is due to the patrons attending the sporting activities at Harold West Reserve using these kerbside spaces which are closest to that facility. However, at all times surveyed, there were at least 55 vacant car spaces available.

Based on the above, the shortfall of 7 car spaces identified for the subject site can be conveniently accommodated within the existing parking inventory within the site locality. The 7 car spaces represent only 13% of the total vacant kerbside car spaces at the peak time (55 vacant car spaces identified at 6pm on 8th November). As such, the shortfall of on-site car parking will not exhaust the overall availability of vacant kerbside parking spaces within the site locality.

Potential Parking Reduction Measures

Implementation of the following measures are recommended in order to reduce the peak parking demands generated from the subject site:

- The existing on-site car park does not provide formal parking opportunities for bicycles. As such, provision should be made within the on-site car park for bike racks to encourage cycling.
- The church committee should provide the patrons with information on the available public transport services. This can be in the form of printed leaflets or as a note on the website.
- The church committee should encourage carpooling for both patrons and staff. This process can be facilitated through the demographic information available within the internal systems (so that patrons travelling from/to the same suburbs can share car trips).
- The church could adopt a Green Travel Plan which sets out mode share targets for future years and measures to encourage staff and patrons to adopt sustainable modes of travel. The Green Travel Plan can be treated as a live document and updated every 6 to 12 months based on travel mode surveys to determine the progress made towards achieving the mode share targets set out.

Anticipated Traffic Impacts

The current proposal will not generate any additional traffic beyond those generated by the already approved use of the site. The key objective of the proposed MSC component is to facilitate the delivery of classes for the children who will be accompanied by the adults who are already attending the church sessions on Sundays. In this regard, the MSC component will be an ancillary use to the existing church.

It is noted that the peak operational periods for the church occur on Sunday. Therefore, the peak traffic generating period for this use is outside the general network peak periods (i.e. weekday AM and PM peak periods).

All trips accessing the church will be realised at the intersection of Pennant Hills Road/Moseley Street and Jenkins Road/Moseley Street. It is noted that Pennant Hills Road includes storage bays for vehicles turning right and left into Moseley Street. As such, vehicles accessing Moseley Street can do so without impacting the through traffic on Pennant Hills Road. The intersection of Moseley Street with Jenkins Road is signalised and therefore is expected to have sufficient capacity.

Consideration

This traffic impact statement has been prepared for the proposed development which involves the demolition of the existing administration building and construction of a new Ministry Support Centre at the St Pauls Anglican Church at 32 Moseley Street in Carlingford. It has revealed the following:

- The existing on-site car park includes 84 functional car spaces (including 2 accessible spaces).
- Based on the accessible parking rate provided in BCA, the proposal requires provision for 2 accessible car spaces. Therefore, the proposed provision of 2 accessible car spaces is deemed compliant with the BCA requirement.
- The subject site has good connections to numerous bus services within a 5-minute walk, with three routes operating on Sundays during the peak operational periods of the church.
- Stage 1 of the Parramatta Light Rail, which will connect Westmead to Carlingford via the Parramatta CBD and Camellia, is currently underway and is expected to begin operations in 2023. The subject site is located approx. 800m (10-minute walk) from this light rail station. Therefore, the proposed light rail system represents a viable alternative to private vehicle trips for the patrons accessing the subject site in future.
- The 5 to 20-minute walking catchment of the subject site covers areas with high residential use densities. Therefore, the patrons and staff living within the locality of the church can simply walk without reliance on private vehicles.
- Based on the parking rate for 'Place of public worship' developments within The Hills DCP 2012, the site which has a maximum seating capacity of 455 patrons should provide 91 car spaces. The subject site includes 84 on-site car parking spaces. This represents a shortfall of 7 spaces against the DCP requirement established above.
- The parking surveys reveal that there are 110 time unrestricted kerbside parking opportunities on Vickery Avenue and Moseley Street within the site locality.
- At all times surveyed, there were at least 55 vacant car spaces available (based on pre-Covid conditions). Therefore, the shortfall of 7 car spaces identified for the subject site can be conveniently accommodated within the existing parking inventory within the site locality.
- The 7 car space shortfall at the subject site represent only 13% of the total vacant car kerbside spaces at the peak time. As such, the shortfall of on-site car parking will not exhaust the overall availability of vacant kerbside parking spaces within the site locality.

- Several measures that will enable reducing the peak parking demand generated from the site has been presented in this report. Council should consider conditioning these requirements as a part of the development consent.
- The current proposal will not generate any additional traffic beyond what will be realised due to the already approved church component. As such, the proposal is unlikely to have any additional traffic impacts.

Should you require any further information relating to this assessment, please contact our office.

Yours sincerely,



Supun S. Perera, PhD

Director | Principal Traffic Engineer

Fernway Engineering Pty Ltd

M 0416 137635 E supun.perera@fernway.net.au W www.fernway.net.au



Attachment A: Detailed Parking Survey Results

Friday (22nd October 2021)

Street Name	Side of Street	Between	Restriction	Applicable Hours	Supply	19:00	20:00	21:00
Trigg Ave	North	Buckland Ave & Vickery Ave	No Restriction		24	1	2	2
	South	Vickery Ave & Buckland Ave	No Restriction		25	3	4	6
Total					49	4	6	8
% Capacity						8%	12%	16%
Vickery Ave	West	House #23 Vickery Ave & Trigg Ave	No Restriction		7	1	2	3
		Trigg Ave & Moseley St	Disabled		3	0	1	0
			No Stopping					
			No Restriction		6	3	4	5
	East	Opp. House #23 Vickery Ave & Moseley St	No Restriction	90' Angle Parking	37	1	4	3
			Disabled	90' Angle Parking	2	0	0	0
			No Restriction	90' Angle Parking	10	2	1	2
Total					65	7	12	13
% Capacity						11%	18%	20%
Moseley St	North	Vickery Ave & Buckland Ave	No Parking					
			No Restriction		15	0	0	1
	South	Opp. Vickery Ave & Tanderra Ave	No Restriction		25	2	3	3
		Tanderra Ave & Buckland Ave	No Restriction		5	1	1	1
Total					45	3	4	5
% Capacity						7%	9%	11%

Sunday (24th October 2021)

Street Name	Side of Street	Between	Restriction	Applicable Hours	Supply	9:00	10:00	11:00	12:00	13:00	14:00	16:00	17:00	18:00	
Trigg Ave	North	Buckland Ave & Vickery Ave	No Restriction		24	0	0	0	0	1	1	2	2	1	
	South	Vickery Ave & Buckland Ave	No Restriction		25	2	2	3	3	3	3	1	1	1	
Total					49	2	2	3	3	4	4	3	3	2	
% Capacity						4%	4%	6%	6%	8%	8%	6%	6%	4%	
Vickery Ave	West	House #23 Vickery Ave & Trigg Ave	No Restriction		7	0	0	0	0	0	0	0	0	0	
		Trigg Ave & Moseley St	Disabled		3	0	0	0	0	0	0	0	0	0	0
			No Stopping												
			No Restriction		6	0	0	0	0	0	0	3	5	5	
	East	Opp. House #23 Vickery Ave & Moseley St	No Restriction	90' Angle Parking	37	1	2	2	1	0	0	11	23	25	
			Disabled	90' Angle Parking	2	0	0	0	0	0	0	0	0	0	
			No Restriction	90' Angle Parking	10	0	0	0	0	0	0	1	3	6	
Total					65	1	2	2	1	0	0	15	31	36	
% Capacity						2%	3%	3%	2%	0%	0%	23%	48%	55%	
Moseley St	North	Vickery Ave & Buckland Ave	No Parking												
			No Restriction		15	0	0	1	2	2	1	1	0	0	
	South	Opp. Vickery Ave & Tanderra Ave	No Restriction		25	1	1	1	1	1	0	0	0	0	
		Tanderra Ave & Buckland Ave	No Restriction		5	1	1	1	1	1	1	1	1	1	
Total					45	2	2	3	4	4	2	2	1	1	
% Capacity						4%	4%	7%	9%	9%	4%	4%	2%	2%	

