TRAFFIC AND PARKING IMPACT ASSESSMENT OF RELOCATION OF THE RIVERINA CONSERVATORIUM OF MUSIC AT 1 SIMMONS STREET, WAGGA WAGGA

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Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness

190430.02FA - 6 March 2020

Development Type: **Relocation of the Riverina Conservatorium of Music**

Site Address: **1 Simmons Street, Wagga Wagga**

Prepared for: **NSW Public Works Advisory**

Document reference: **190430.02FA**

Status	Issue	Prepared By	Checked By	Date
Draft	A	SI/TS/ME	MM	13 February 2020
Draft	B	ME	MM	14 February 2020
Final	A	ME	MM	6 March 2020

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1 INTRODUCTION

M^CLaren Traffic Engineering (MTE) was commissioned by *NSW Public* Works Advisory to provide a traffic and parking impact assessment of the proposed relocation of the Riverina Conservatorium of Music to 1 Simmons Street, Wagga Wagga, with proposed plans reproduced in **Annexure A**.

1.1 Description and Scale of Development

The relocation of The Conservatorium will require the refurbishment of the existing building at 1 Simmons Street, which was formerly used as offices by the Roads and Maritime Services (RMS). The existing office premises has a gross floor area (GFA) of 1,301m^2 over two (2) levels. It is otherwise proposed that the Conservatorium will continue to operate as per its existing operations at Charles Sturt University. The existing operations include:

- Up to 20 concurrent music lessons on weekday afternoons;
- Weekly meetings of musical groups of up to 50 persons;
- Occasional recitals and group auditions for up to 150 persons.

A portion of the existing off-street car parking layout at 1 Simmons Street associated with the office premises is proposed to be altered to provide an efficient car parking scheme, with 38 off-street car parking spaces allocated to the conservatorium. No changes to the existing two-way access arrangements from Simmons Street is proposed as part of this application. The hardstand area associated with the existing laboratory and IT Cottage will not be altered.

1.2 State Environmental Planning Policy (Infrastructure) 2007

The proposed development does not qualify as a development with relevant size and/or capacity under *Clause 104* of the *SEPP (Infrastructure) 2007*. Accordingly, formal referral to the Roads and Maritime Services (RMS) is not necessary and City of Wagga Wagga Council officers can determine this proposal accordingly.

1.3 Site Description

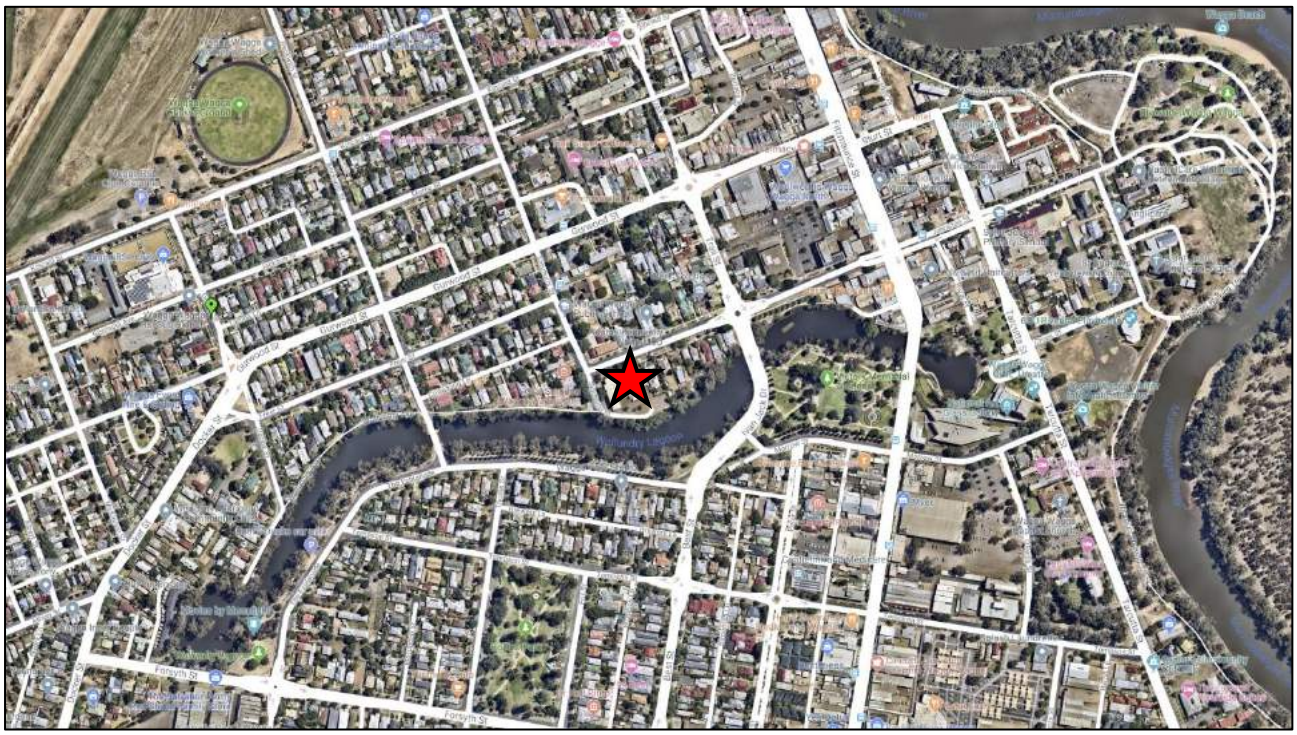
The proposal involves alterations and additions to the existing office building (formerly occupied by RMS) to provide a facility appropriate for the operations of the Riverina Conservatorium of Music.

The existing site has street frontages to both Simmons Street to the west and Johnston Street to the north and is generally surrounded by low-medium density residential buildings in all directions. The site is located in close proximity to the surrounding retail/commercial precinct located approximately 400m to the north-east of the site, with Wagga Wagga Public School is located approximately 100m north of the site along Simmons Street.

The subject site is currently zoned *B3 - Commercial Core* by the Wagga Wagga Local Environmental Plan 2010 and is subject to Council's planning controls.

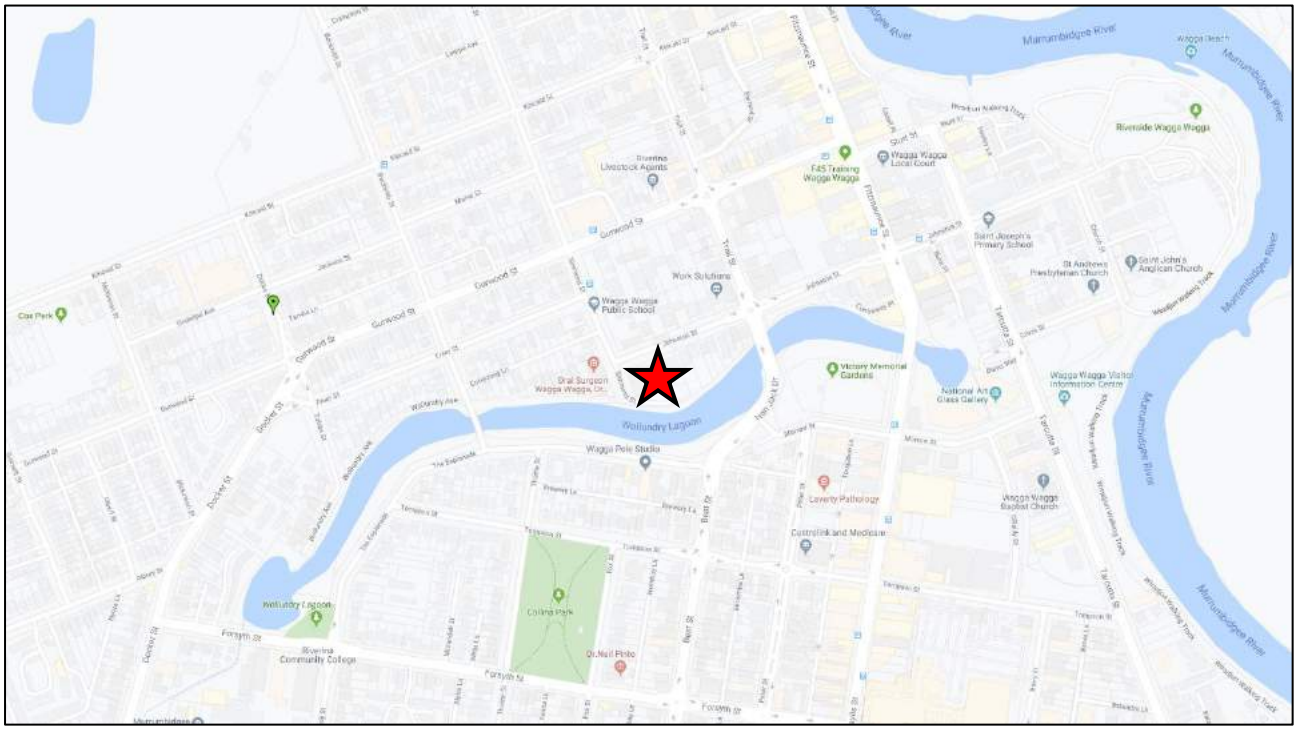
1.4 Site Context

The location of the site is shown on aerial imagery and a map in **Figure 1** & **Figure 2** respectively.



Site Location

FIGURE 1: SITE CONTEXT – AERIAL PHOTO



Site Location

FIGURE 2: SITE CONTEXT – STREET MAP

2 EXISTING TRAFFIC AND PARKING CONDITIONS

2.1 Road Hierarchy

The road network surrounding the site has characteristics as summarised in the following sub-sections.

2.1.1 Simmons Street

- Unclassified LOCAL road;
- Approximately 18m in width facilitating two traffic flow lanes (one in each direction) and kerbside parking on both sides of the road;
- Default 50km/h speed limit, with 40km/h speed limit during school zone hours;
- Generally, unrestricted kerbside parking permitted along both sides of the road along the site frontage with localised "*No Stopping*" signage present near pedestrian crossings and intersections;
- An 8m length signposted "*Loading Zone – 830am-6pm, Mon – Fri*" present along the site frontage;
- Time restricted two-hour kerbside parking and bus zones along both sides of the street with close proximity to Wagga Wagga Public School during school hours.

2.1.2 Johnston Street

- Unclassified LOCAL road;
- Approximately 18m in width facilitating two traffic flow lanes (one in each direction) and 60-degree front-to-kerb angled parking;
- Default 50km/h speed limit applies;
- Time restricted two-hour angled parking with sections of unrestricted angled parking.

2.1.3 Existing Traffic Management

- "GIVE WAY" sign-controlled intersection of Simmons Street/Johnston Street with priority given to Johnston Street;
- Roundabout controlled intersection of Johnston Street/Ivan Jack Drive;
- Children's crossing on Simmons Street, adjacent to Wagga Wagga Public School (during peak school hours).

2.2 Existing Traffic and Parking Characteristics

2.2.1 Existing Conservatorium Site

Traffic and parking surveys of the existing Riverina Conservatorium within the grounds of Charles Sturt University, South Campus, Hely Avenue, Wagga Wagga were undertaken on Wednesday 6 November 2019 between the hours of 2:00 pm to 7:00 pm, representing an average operational afternoon. It is noted that Wednesday evenings were nominated by the Conservatorium as the busiest afternoon in terms of weekly operations.

The number of cars parked on-site between 2:00 pm and 7:00 pm is illustrated in **Figure 3**, with the total traffic generation illustrated in **Figure 4**. Full survey results are reproduced in **Annexure B** for reference.

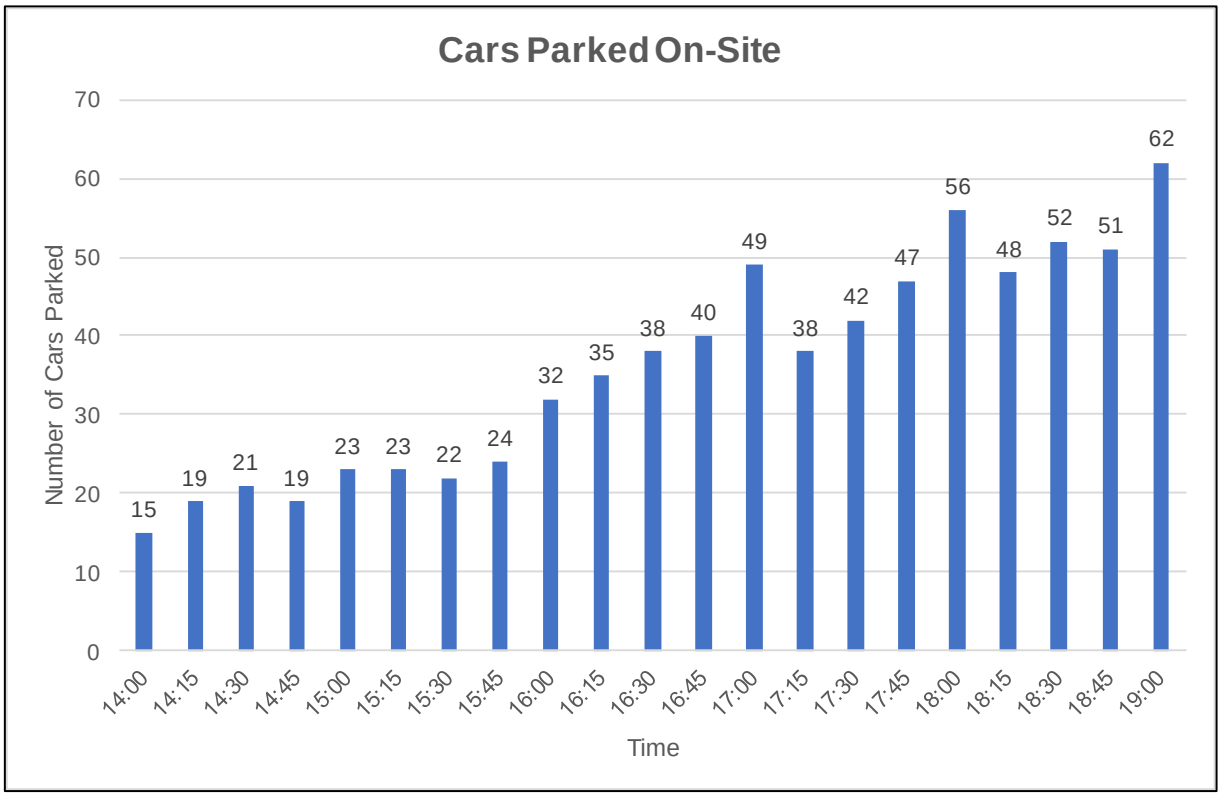


FIGURE 3: CAR PARKING SURVEY RESULTS – EXISTING SITE

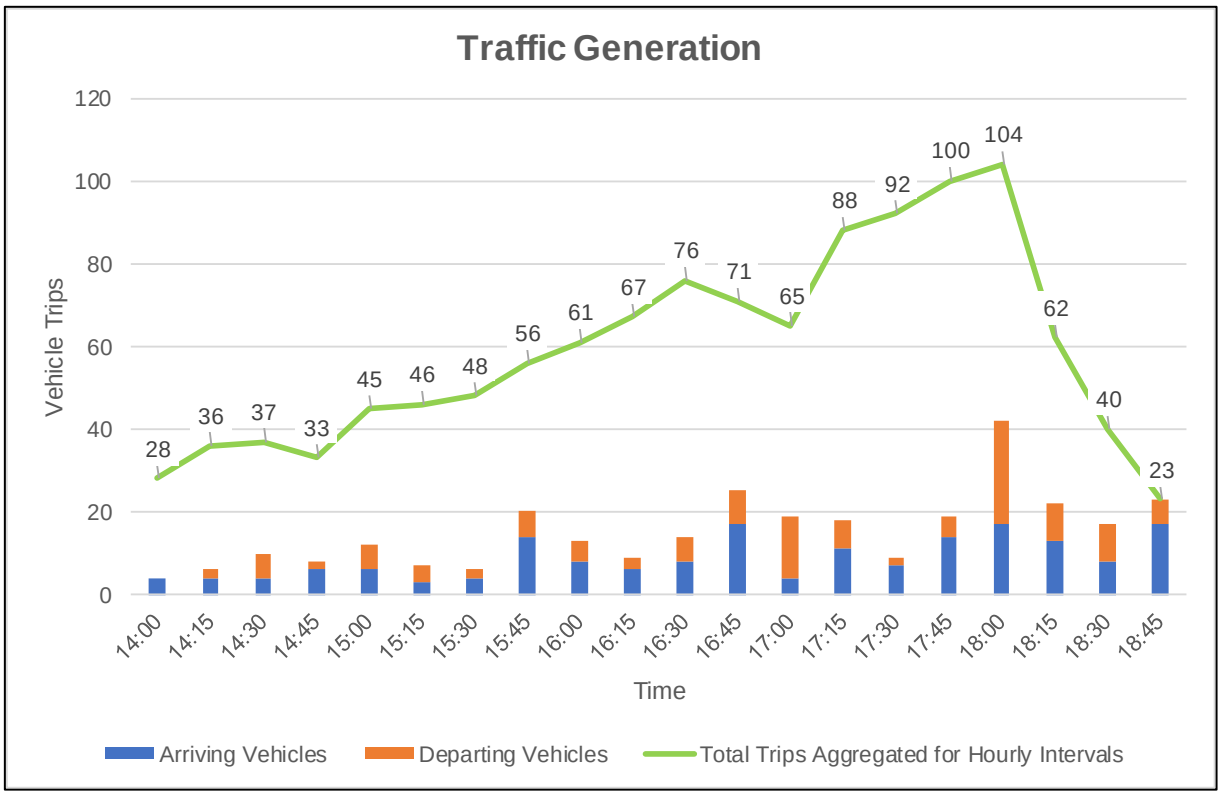


FIGURE 4: TRIP GENERATION SURVEY RESULTS

As shown, the car parking demands of the site peaked at 7:00pm, immediately prior to the commencement of the rehearsal of an ensemble group, which is the largest musical group which regularly rehearses at the conservatorium. The car parking demands for music lessons peaked at 6:00pm, with 56 cars observed on-site for this purpose.

Traffic generation was observed to peak at 104 vehicles per hour between 6:00pm and 7:00pm, which accounts for a total of 55 vehicles arriving and 49 vehicles departing. This peak corresponds to the arrival of the ensemble group and the arrival/departure movements of both staff and students involved in tuition.

2.2.2 Student and Staff Surveys

In addition to the surveys of the car parking areas of the existing conservatorium, surveys were undertaken to ascertain the existing travel behaviour of staff and students. The detailed results of these surveys are reproduced in **Annexure B**.

All but one (1) of the 20 staff that were working on that day drove to and from the site and noted that they were unlikely to change their travel mode choice if the location of the conservatorium changed.

Students were asked how they arrived at their lesson and how they will depart. If they were dropped off, they were asked whether their driver will wait for them outside or if they will leave and return. The results of these surveys are illustrated in **Figure 5**. As shown, the vast majority of students travel both to and from the site by car. Taking into consideration their times of arrival and departure and whether the vehicle that delivered them is staying or returning, it is possible to determine how many vehicles associated with students are parked on-site at any given time. The results of this analysis are presented in **Figure 6**, showing that prior to 5:00pm, a maximum of 12 vehicles associated with students were parents parked outside the site waiting for students to complete their lessons. After 5:00pm the number of vehicles parked on the site associated with students increases sharply up to a peak of 49 at 7:30pm. This is approximately consistent with the parking survey results when the 19 vehicles associated with staff are added.

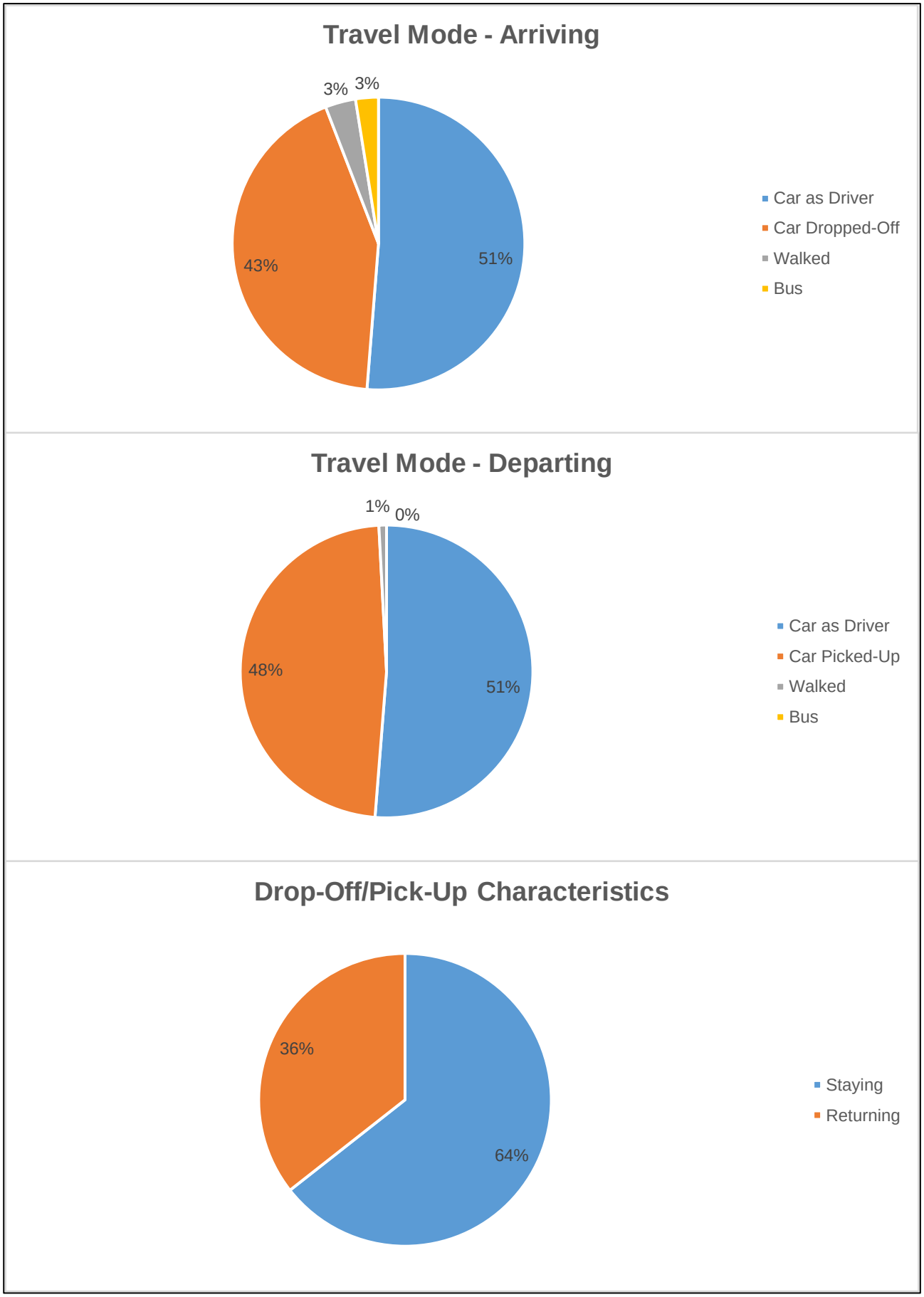


FIGURE 5: STUDENT TRAVEL MODE CHOICES

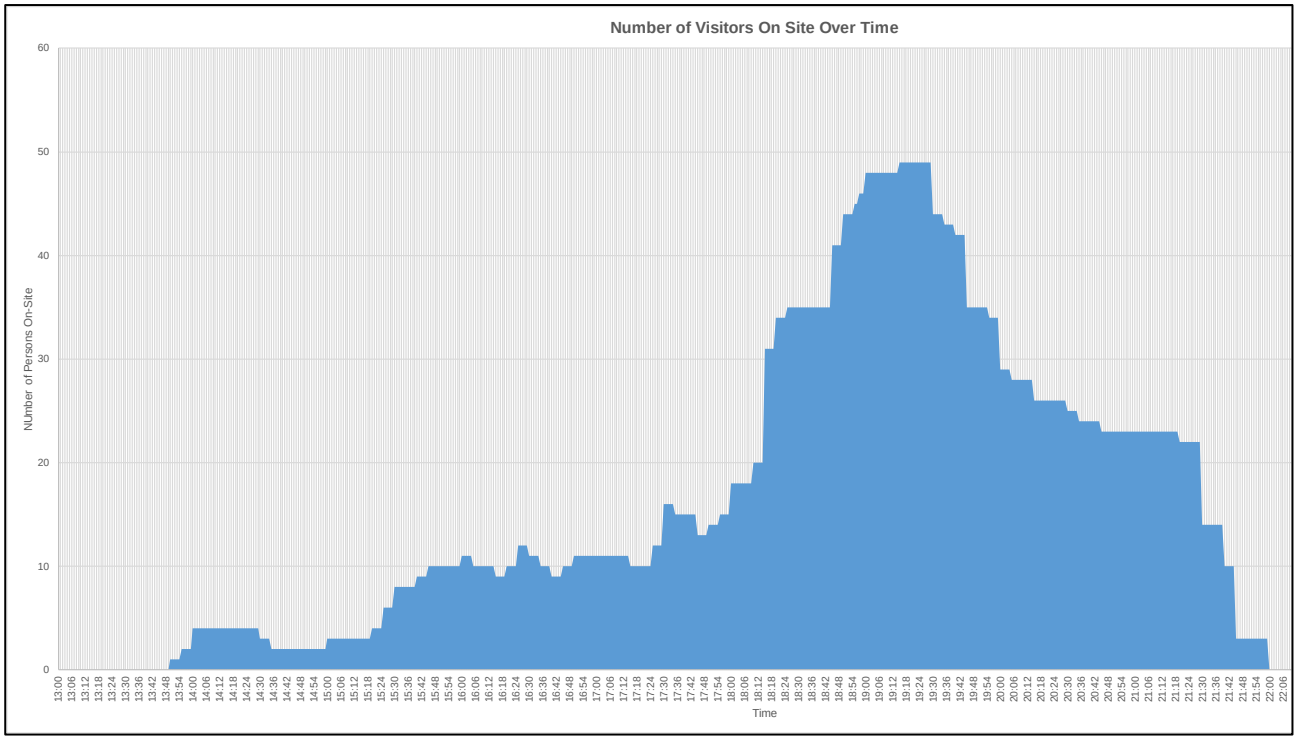


FIGURE 6: VISITOR ACCUMULATION ON-SITE

2.2.3 Proposed Site (Simmons Street)

Car parking surveys were undertaken, on Wednesday 5 February 2019 between the hours of 3:00pm and 8:00pm, representing a typical weekday in close proximity to the proposed site on Simmons Street. The areas included in the car parking surveys are depicted in **Figure 7**, with the results illustrated in **Figure 8**. The detailed results of the surveys are reproduced in **Annexure B** for reference.

As shown, the publicly available car parking in the surrounds of the site increases markedly after 4:30pm in the afternoon, with the available capacity increasing from 186 to 231 spaces between 4:30pm and 5:00pm. It should be noted that at 5:00pm, a total of 55 car parking spaces were available on Johnston Street between Simmons Street and Trail Street and along the site frontage to Simmons Street.

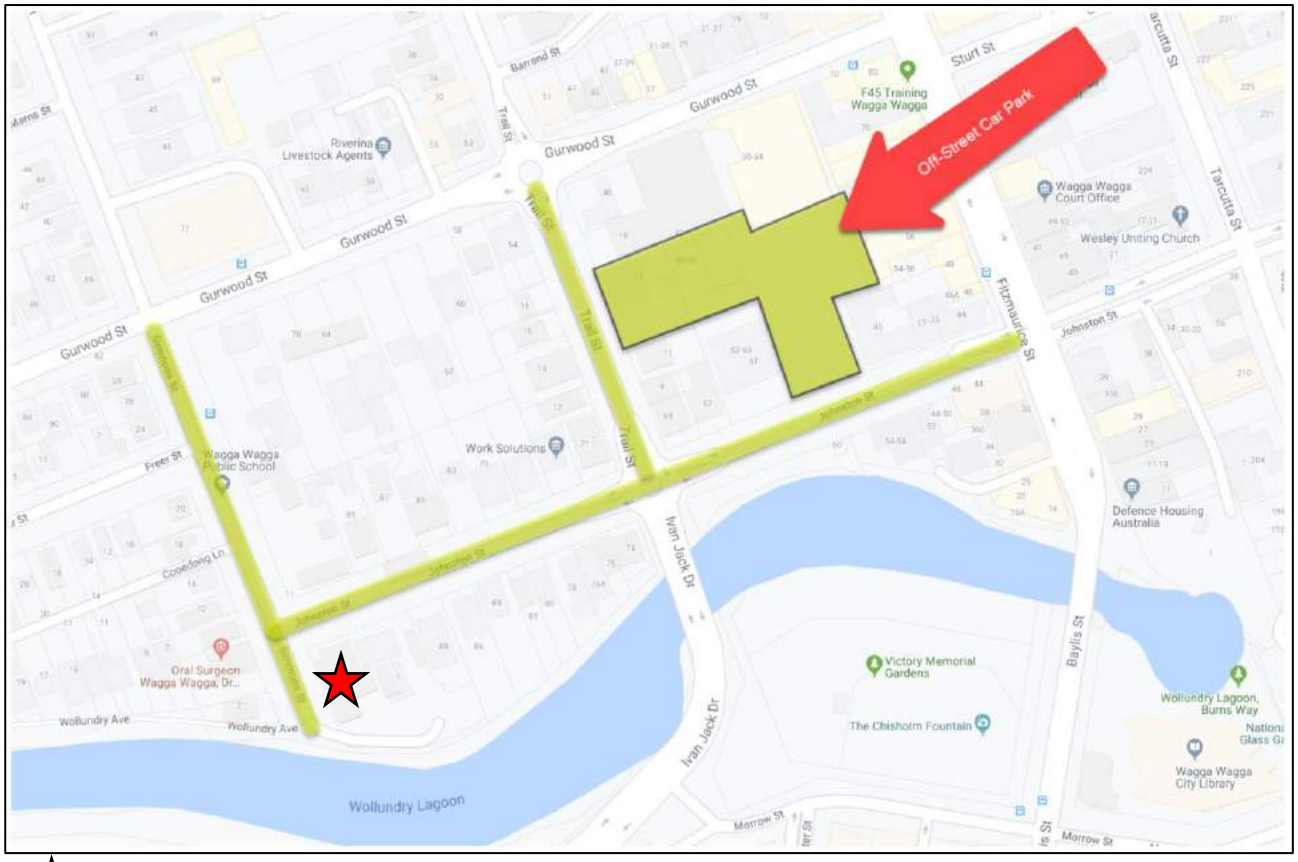


FIGURE 7: CAR PARKING SURVEY AREAS– PROPOSED SITE

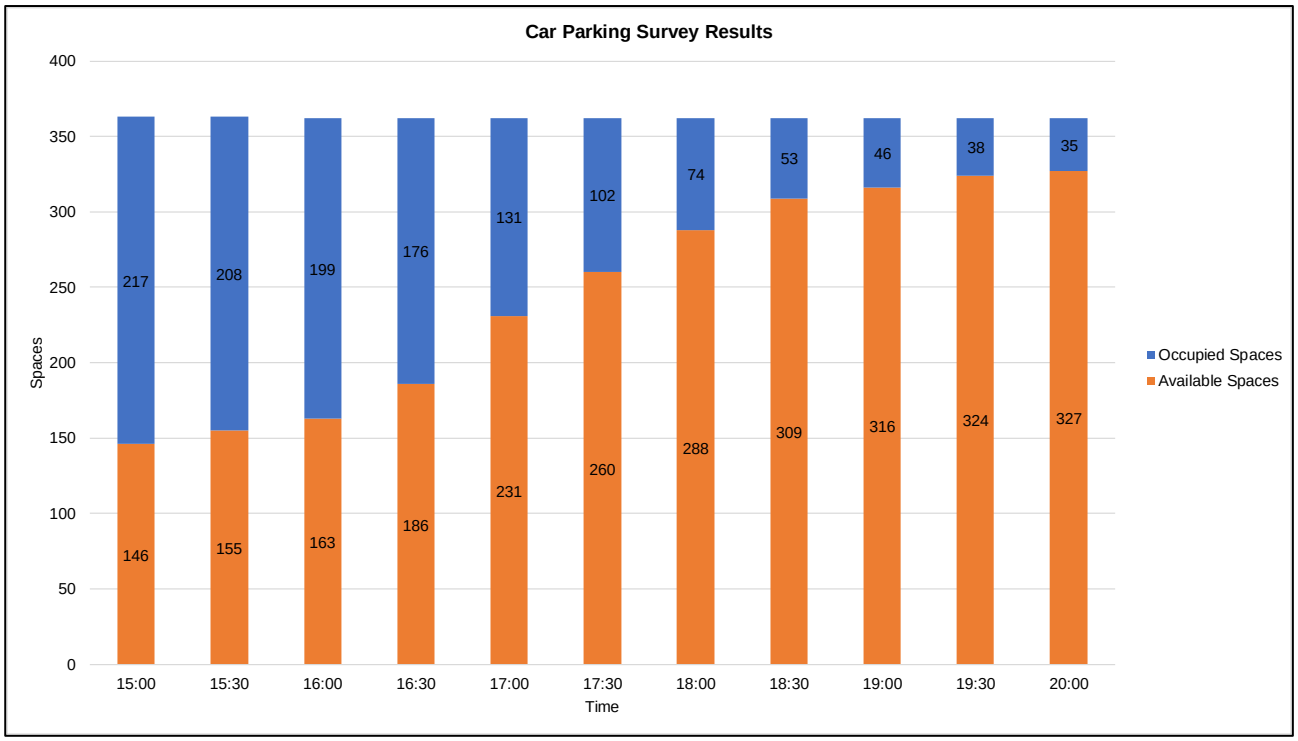


FIGURE 8: CAR PARKING SURVEY RESULTS – PROPOSED SITE

2.3 Public Transport

The subject site has access to the existing bus stops (ID: 2605096, ID:265083) located on Simmons Street and Gurwood Street. The bus stops service routes 2W (Coolamon to Wagga Wagga via Ganmain), 25 (Wagga Wagga to Junee via Old Junee) and 1W (Coolamon to Wagga Wagga via Downside) provided by Allen's Coaches (1W, 2W) and Junee Buses (25).

2.4 Future Road and Infrastructure Upgrades

From City of Wagga Wagga Council's Development Application tracker and website, it appears that there are no future planned road or public transport changes that will affect traffic conditions within the immediate vicinity of the subject site

3 PARKING ASSESSMENT

3.1 Parking Requirements

Reference is made to the *Wagga Wagga Development Control Plan 2010* which does not provide parking rates which directly apply to the subject development. It is reasonable then to assume that the parking characteristics of the development will be similar to those of the existing conservatorium.

The proposed conservatorium development will operate in a manner consistent with the existing conservatorium:

- Up to 20 concurrent music lessons on weekday afternoons;
- Weekly meetings of musical groups of up to 50 persons;
- Occasional recitals and group auditions for up to 150 persons.

As detailed in **Section 2.2**:

- Prior to 5:00pm, a maximum of some 12 cars wait on site during lessons;
- Almost all of the 20 staff drive to work;
- The peak parking accumulation occurs at approximately 7:30pm;
- On-street parking in the surrounds of the proposed site experiences a sharp drop in demand after 4:30pm.

On the basis of the above, the proposed development requires the provision of **32** car parking spaces, comprising of 20 staff spaces and 12 medium stay spaces for visitors. The proposed car parking design provides a provision of **38** car parking spaces comprising of 20 staff parking spaces, 12 medium stay spaces for visitors and six (6) short term spaces for visitors, satisfying and exceeding the expected demand during the afternoon operating hours of the conservatorium.

The surplus of six (6) short term visitor spaces allows additional capacity for drop-off and pick-up of students before/after lessons. This is in addition to the proposed “kiss and drop” zone proposed along the Simmons Street frontage of the site which has capacity for a further five (5) vehicles to undertake drop-off and pick-up operations. The provision of the “kiss and drop” facility has been assessed within **MTE**’s letter dated 4 February 2020, reference: 190430.03FA, as attached in **Annexure C**. The change of signage in this area is required to be approved by Council’s Local Traffic Committee.

In any case, after 5:00pm there is more than adequate on-street parking capacity in the surrounds of the site to accommodate the demands of the site without adversely affecting surrounding residents or businesses.

3.2 Bicycle & Motorcycle Parking Requirements

City of Wagga Wagga Council's Development Control Plan does not require the provision of bicycle or motorcycle parking. It is recommended that bicycle storage racks be provided to encourage alternative transport use to and from the conservatorium by both staff and students.

3.3 Servicing & Loading

Reference is made to *City of Wagga Wagga Council's DCP – Part D – Section 10: Business Development* which states the following requirement for the proposed development:

> *Development near residential areas*
>
> *C8 A site management plan may be required where extended out of hours activity are likely outside an enclosed building, such as truck or vehicle movements, loading noises and the like, or for any use that might generate impacts that could affect residential amenity.*

All loading and servicing operations will be accommodated on-site, with sufficient loading facilities provided for vehicles up to an 8.8m length Medium Rigid Vehicle. A vehicle of this size will be sufficient to undertake all waste collection operations as well as all deliveries to the site. Swept path testing is reproduced in **Annexure D** depicting successful forward entry and exit to the proposed loading bay from Simmons Street.

It is noted that during servicing of the site, three (3) short-term drop-off bays are to be vacant. To ensure this, servicing is to be scheduled outside of the peak operations of the site under a Plan of Management.

3.4 Disabled Parking

The development will be treated as an assembly building which is classified as a Class 9b facility under the *Building Code of Australia.* The disabled parking requirements for a Class 9b building are as follows:

> *Class 9b*
>
> *(b) Other assembly building —*
>
> *(i) up to 1000 carparking spaces:*
>
> *1 space for every 50 car parking spaces or part thereof*

The above parking requirements result in a total requirement for the provision of one (**1**) disabled parking spaces. The proposed car parking layout provides for two (**2**) disabled car parking spaces designed in accordance with *AS2890.6:2009*, meeting and exceeding the relevant requirements of the BCA.

3.5 Car Park Design & Compliance

The changes to the existing car parking layout as depicted in **Annexure A**, have been assessed to achieve the relevant clauses and objectives of *AS2890.1:2004*, *AS2890.2:2002* and *AS2890.6:2009*. Swept path testing has been undertaken and are reproduced within **Annexure D** for reference. The proposed changes to the car parking layout involve:

- The reline-marking of Spaces 1 - 11 incorporating:
    - Two (2) disabled spaces with minimum 2.4m width, 5.5m length and with adjacent associated 5.5m length, 2.4m width shared space;
    - Six (6) short-term visitor parking spaces with minimum 2.6m width, 5.4m length;
    - Three (3) medium-term visitor parking spaces with minimum 2.5m width, 5.5m length.
- The addition of a pedestrian crossing adjacent to spaces 5 – 7 to provide pedestrian access to the conservatorium building;
- The addition of a loading bay able to accommodate an 8.8m Medium Rigid Vehicle (MRV);
- The reline-marking of spaces 12 and 13 with minimum 2.9m width, 5.5m length;
- The reline-marking of spaces 14 – 19 with minimum 2.55m width, 5.4m length;
- Alterations to the existing car park to retain minimum aisle widths of 5.8m for vehicles;
- Alterations to the existing car park to retain minimum 0.3m clearance to high objects.

Whilst the plans have been assessed to comply with the relevant standards, it is usual and expected that a design certificate be required at the Construction Certificate stage to account for any changes following the development application.

4 TRAFFIC ASSESSMENT

The impact of the expected traffic generation levels associated with the subject proposal is discussed in the following sub-sections.

4.1 Previous Traffic Generation of Site

Traffic generation rates for the relevant land uses are provided in the *Roads and Maritime Services (RMS) Guide to Traffic Generating Developments (2002)* and recent supplements and are as follows:

> *3.5 Office and commercial*
>
> *Evening peak hour vehicle trips = 2 per 100 m2 gross floor area.*

The resulting traffic generation is summarised in **Table 1**. It is noted that as the conservatorium only operates in the afternoon and evening, only the PM peak period has been assessed.

TABLE 1: ESTIMATED TRAFFIC GENERATION

Use	Scale	Generation Rate	Trips	PM Split (1)
Office	1,301 m^2 GFA	2 per 100m^2 GFA	26	3 in, 23 out

Note: (1) Assumes 10% inbound, 90% outbound for PM peak period.

As shown, the expected traffic generation associated with the existing use of the site is in the order of **26** vehicle trips in the PM (3 IN, 23 OUT) peak hour period.

4.2 Future Traffic Generation of Site

Considering that the site will operate similarly to the existing conservatorium, the future traffic generation of the site can be reasonably assumed to match that of the existing site. The existing traffic generation of the site was outlined in **Section 2.2**, with a peak hourly traffic generation of 104 trips (55 IN, 49 OUT) observed occurring between 6:00pm and 7:00pm.

It is noted that this hour-period does not align with the expected peak of an office premises, which generally occurs during the commuter peak period of 4:00pm-6:00pm. The expected peak hourly traffic generation of the conservatorium during the PM commuter peak period is 76 trips (40 IN, 36 OUT) occurring between 4:30pm and 5:30pm.

The former, future and net traffic generation of the site is summarised in **Table 2**.

TABLE 2: ESTIMATED TRAFFIC GENERATION

Land Use	Trips IN	Trips OUT	Total Trips
RMS Office	3	23	26
Conservatorium	40	36	76
Net Change	**+37**	**+13**	**+50**

It should be noted that the above estimates for the traffic generation of the site are considered to be conservative. The site is significantly better placed with regards to the locations of schools and accessibility via public transport than the former site and it is likely that there will a reduction in vehicle trips as students will be more likely to walk or catch public transport to the site.

4.3 Traffic Impact

The surveyed peak hour period of the conservatorium occurs between 6:00pm and 7:00pm on weekdays, falling outside the evening commuter peak period of 4:00pm to 6:00pm. Further, the surveyed traffic generation of the existing conservatorium during evening commuter peak period is 76 vehicle trips, some 28 trips less than the peak hour traffic generation from 6:00pm.

Wagga Wagga Public School is located less than 100m directly to the north of site, with a road frontage to Simmons Street. Due to its location, traffic flow is expected to be dispersed along Simmons Street to the collector road of Gurwood Street or along Johnston Street to the collector roads of Trail Street or Ivan Jack Drive. This traffic distribution is expected to be similar to that of the conservatorium, with vehicles dispersing throughout Wagga Wagga in the same manner.

The Wagga Wagga Public School development weekday PM peak occurs between 3:00pm and 4:00pm at the completion of the school day (class dismissed at 3:10pm), with parents arriving, picking up their children and leaving the area. As outlined in the *Wagga Wagga Public School Annual Report 2018* the school services 456 enrolled students between Kindergarten to Year 6. With primary school numbers generally expected to remain consistent year to year and no building extension or works resulting in an increase in enrolment found on the City of Wagga Wagga DA Tracker Website since 2018, it is expected that a similar number of students are currently enrolled at the school.

The level of traffic caused by over 450 students leaving the area during the afternoon peak period is of a much larger scale than the net increase of **50** trips during the PM peak period as a result of the conservatorium relocation to Simmons Street. As such, it is expected that the existing road network can readily and adequately accommodate the traffic associated with the conservatorium, with the peak generation of the site occurring outside of commuter peak periods.

The expected increase in traffic associated with conservatorium can be readily accommodated by the existing road network, with no noticeable impact to existing conditions and traffic flows.

5 CONCLUSION

The traffic and parking impacts of the proposed relocation of the Riverina Conservatorium of Music to 1 Simmons Street, Wagga Wagga, as shown in reduced plans in **Annexure A** to this report, have been assessed. The scale and operations of the conservatorium development are not expected to change as a result of the relocation.

The car parking area associated with the conservatorium includes **38** car parking spaces, comprising of 20 staff spaces, 12 medium-term visitor spaces and six (6) short-term drop-off/pick-up spaces. This provision satisfies the expected demands of the conservatorium prior to 5:00pm, with any overflow parking to utilise vacant on-street parking within close proximity to the site and the proposed drop-off zone along the frontage of the site to Simmons Street.

Any changes to the existing car parking areas have been assessed to comply with the relevant objectives and requirements of *AS2890.1:2004*, *AS2890.2:2018* and *AS2890.6:2009*.

Servicing is to be undertaken on site by up to an 8.8m length Medium Rigid Vehicle (MRV) within the designated loading bay area. It is noted that three (3) short-term visitor parking spaces are to be vacant when the loading vehicle is accessing site. This is to be ensured under a Plan of Management whereby a servicing is undertaken outside of peak visitor periods.

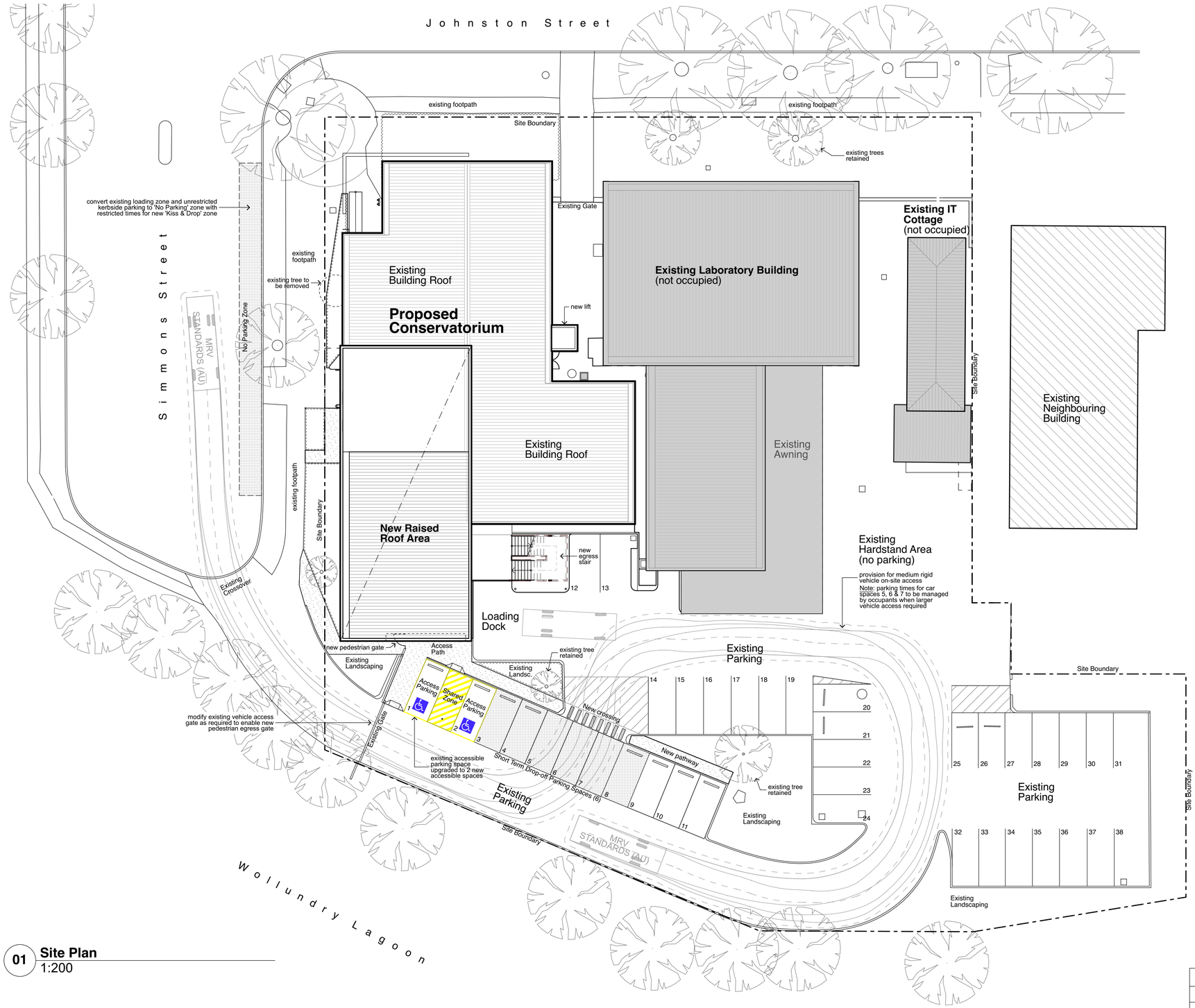
The net increase in traffic generation associated with the conservatorium relocation has been conservatively estimated at some +50 vehicle trips during the commuter evening peak hour period. This level of traffic is significantly less than the nearby public-school development which accommodates over 450 students. The surrounding road network currently accommodate the school pick-up peak occurring between 3:00pm and 4:00pm and as such, the minor increase in traffic as a result of the conservatorium relocation will not have an adverse impact upon the existing road network.

In view of the foregoing, the traffic and parking impacts of the relocation of the Riverina Conservatorium of Music are fully supported.

ANNEXURE A: PLANS

(1 SHEET)

0 2000 4000 6000 8000 10 000 20 000
scale: 1:200 @A1



01 Site Plan
1:200

Schedule of Parking	
Accessible	2
Short Term Drop-Off	6
Visitor	10
Staff	20
Total Parking	**38**

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Rev	Issue	Date
01	Development Application Issue	14.02.20
02	Parking Layout Updated	24.02.20
03	Parking Layout Adjusted	24.02.20
04	Parking Layout Amended	02.03.20

Stanton Dahl Architects

RIVERINA CONSERVATORIUM OF MUSIC
WAGGA WAGGA

NSW GOVERNMENT

Riverina Conservatorium of Music

1 Simmons Street,
Wagga Wagga NSW

Drawn; TS
Checked; DMB
Plot date; 2/3/20

Scale; 1:200 as noted @ AI

Project No;
2360.18

Drawing No; DA03
Revision#; 04

Site Plan

ANNEXURE B: TRAFFIC, PARKING AND TRAVEL MODE SURVEY RESULTS

(3 SHEETS)

Riverina Conservatorium Traffic and Parking Survey Results

Curtis Traffic Surveys							
Job:	191003mcl						
Day, date	06/11/19						
Location:	Riverina Conservatorium						
Weather:	Fine						
Surveyor:	MC						
	Parking			Vehicle movements			
Time Start	A northern	B eastern	C southern	College Av access		Hely Av access	
14:00	7	4	4	In	Out	In	Out
14:15	11	4	4	4	0	0	0
14:30	14	3	4	3	1	1	1
14:45	13	3	3	3	4	1	2
15:00	16	3	4	5	2	1	0
15:15	15	2	6	5	5	1	1
15:30	14	2	6	2	3	1	1
15:45	15	2	7	3	1	1	1
16:00	17	4	11	8	4	6	2
16:15	19	2	14	6	5	2	0
16:30	19	6	13	5	3	1	0
16:45	19	6	15	6	4	2	2
17:00	20	13	16	12	6	5	2
17:15	15	9	14	3	12	1	3
17:30	17	9	16	7	4	4	3
17:45	18	12	17	5	1	2	1
18:00	17	14	25	10	5	4	0
18:15	19	13	16	12	20	5	5
18:30	20	16	16	9	6	4	3
18:45	20	16	15	7	7	1	2
19:00	21	16	25	10	2	7	4

Student Travel Mode Survey Results

	Travel To		Travel From		Staying/Returning
Car as Driver	61	Car as Driver	61	Staying	38
Car Dropped-Off	51	Car Picked-Up	57	Returning	21
Walked	4	Walked	1	Staying	64%
Bus	3	Bus	0	Returning	36%
Car as Driver	51%	Car as Driver	51%		
Car Dropped-Off	43%	Car Picked-Up	48%		
Walked	3%	Walked	1%		
Bus	3%	Bus	0%		

Staff Travel Mode Survey Results

Respondent	How did you travel to?	How will you travel from?	Parking Location	Would Transport Change if conservatorium were moved to Johnston Street?	Summarised Comment
1	Car as Driver	Car as Driver	Onsite	No	
2	Car as Driver	Car as Driver	Onsite	Maybe	Depending on work gear
3	Car as Driver	Car as Driver	Onsite	No	
4	Car Dropped-Off	Car Picked-Up	N/A	No	
5	Car as Driver	Car as Driver	Onsite	Yes	Sometimes walk or cycle
6	Car as Driver	Car as Driver	Onsite	No	
7	Car as Driver	Car as Driver	Onsite	No	
8	Car as Driver	Car as Driver	Onsite	No	If parked on-street, woould park near blackmore building or near foundation
9	Car as Driver	Car as Driver	Onsite	No	
10	Car as Driver	Car as Driver	Onsite	No	
11	Car as Driver	Car as Driver	Onsite	No	
12	Car as Driver	Car as Driver	Onsite	No	
13	Car as Driver	Car as Driver	Onsite	No	
14	Car as Driver	Car as Driver	Onsite	No	
15	Car as Driver	Car as Driver	Onsite	No	
16	Car as Driver	Car as Driver	Onsite	No	
17	Car as Driver	Car as Driver	Onsite	No	
18	Car as Driver	Car as Driver	Onsite	No	
19	Car as Driver	Car as Driver	Onsite	No	
20	Car as Driver	Car as Driver	Onsite	No	

Proposed Site (Simmons Street) Traffic and Parking Survey Results

Curtis Traffic Surveys																	
Job:	200205mcl																
Client:	McLaren Traffic Engineering																
Day, date	5/02/20																
Location:	Nth Wagga Wagga																
Weather:	Fine																
Surveyor	MC																
								Parking round commencing…									
Zone	Street	From	To	Side of Street	Capacity	Restriction	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00	19:30	20:00
a	Off Street				162	30u+3dis+129*2p	117	112	109	94	75	65	58	38	31	24	22
b	Johnston St	Trail St	Fitzmaurice St	north	15	12*1p(std)+3*bz4	7	11	9	6	3	3	3	2	2	2	2
c	Johnston St	Fitzmaurice St	I. Jack Dr	south	18	3*1p(std)+11u+4*2p(std)	19	19	16	15	12	8	1	1	1	1	1
d	Johnston St	I. Jack Dr	Simmons St	south	40	u (60 degree)	37	32	32	32	20	11	5	5	5	4	3
e	Simmons St	Johnston St	end	east	5	1*lz5+4u	2	2	2	1	1	1	0	0	0	0	0
f	Simmons St	end	Freer St	West & end	19	17u+2ns1	6	7	7	6	4	3	2	1	1	1	1
g	Simmons St	Freer St	Gurwood St	west	8	u	5	4	3	2	3	3	2	2	2	2	2
h	Simmons St	Gurwood St	Johnston St	east	23	6*bz2+7*ns1+6*bz3+4*2p(std)	4	2	2	1	2	1	0	0	0	0	0
I	Johnston St	Simmons St	Trail St	north	44	u (60 degree)	17	17	17	19	9	6	2	3	3	3	3
j	Trail St	Johnston St	Gurwood St	west	14	1p(std)	1	2	1	0	0	0	1	0	0	0	0
k	Trail St	Gurwood St	Johnston St	east	14	1p(std)	2	0	1	0	2	1	0	1	1	1	1

ANNEXURE C: MTE LETTER 190430.03FA

4 FEBRUARY 2020

(2 SHEETS)

M^CLAREN TRAFFIC ENGINEERING

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Division of RAMTRANS Australia ABN: 45067491678 RPEQ: 19457

Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness

4 February 2020 Reference: 190430.03FA

NSW Public Works Advisory
Department of Industry Planning & Environment
4 Coleman Street
Wagga Wagga NSW 2650
Attention: Amelia Parkins

PARKING ADVICE RE: PROPOSED CHANGE OF PARKING RESTRICTIONS TO BENEFIT THE PROPOSED RELOCATION OF THE RIVERINA CONSERVATORIUM OF MUSIC TO 1 SIMMONS STREET, WAGGA WAGGA

Dear Amelia,

Reference is made to your request to provide parking advice with regards to the proposed change to the parking restrictions along Simmons Street to support the proposed relocation of the Riverina Conservatorium of Music to 1 Simmons Street, Wagga Wagga. The proposed changes to parking changes include:

- The removal of a signposted loading zone on Simmons Street;
- The addition of parking signage stating "*No Parking, 3pm-7pm, Monday-Friday*" on Simmons Street between Johnston Street and the end of the road (cul-de-sac) (approximately 35m).

The subject loading zone is located on the eastern side of Simmons Street, offset approximately 10m from the southern edge of Johnston Street and is approximately 8m in length. The loading zone signage displays '*Loading Zone – 8:30am-6pm, Mon-Fri*'. The remaining eastern side of Simmons Street has no parking restrictions or signage other than standard "*No Stopping*" signage near the intersection of Simmons Street/Johnston Street. A Google Map Street View image of the subject signposted area of Simmons Street, including loading zone and no stopping signage, is depicted in **Figure 1**.

FIGURE 1: GOOGLE MAP STREET VIEW

The change of use of the subject development at 1 Simmons Street from an office development to a music conservatorium is expected to change the loading requirements of the site. Loading and delivery of larger goods to the conservatorium will be undertaken onsite within the proposed car park layout, which will be designed to accommodate the proposed loading arrangements. It is noted that no other developments in the near vicinity require the use of a dedicated loading zone in the existing location.

The removal of the loading zone will also increase the on-street car parking quantum of the area by at least one (1) car parking space. This will aid in accommodating drop-off and pick-up operations when the conservatorium is in operation. The removal of the existing loading zone signage will act to improve the parking conditions of the area and is a supportable and acceptable outcome.

On this basis, it is proposed that the eastern side of Simmons Street between Johnston Street and the end of the road (cul-de-sac of Simmons Street) be signposted "*No Parking, 3pm-7pm, Monday-Friday*". This creates a drop-off/pick-up area for parents of students attending the conservatorium for music tutorials and ensures there is on-street parking capacity during peak conservatorium operational hours.

Please contact the undersigned should you require further information or assistance.

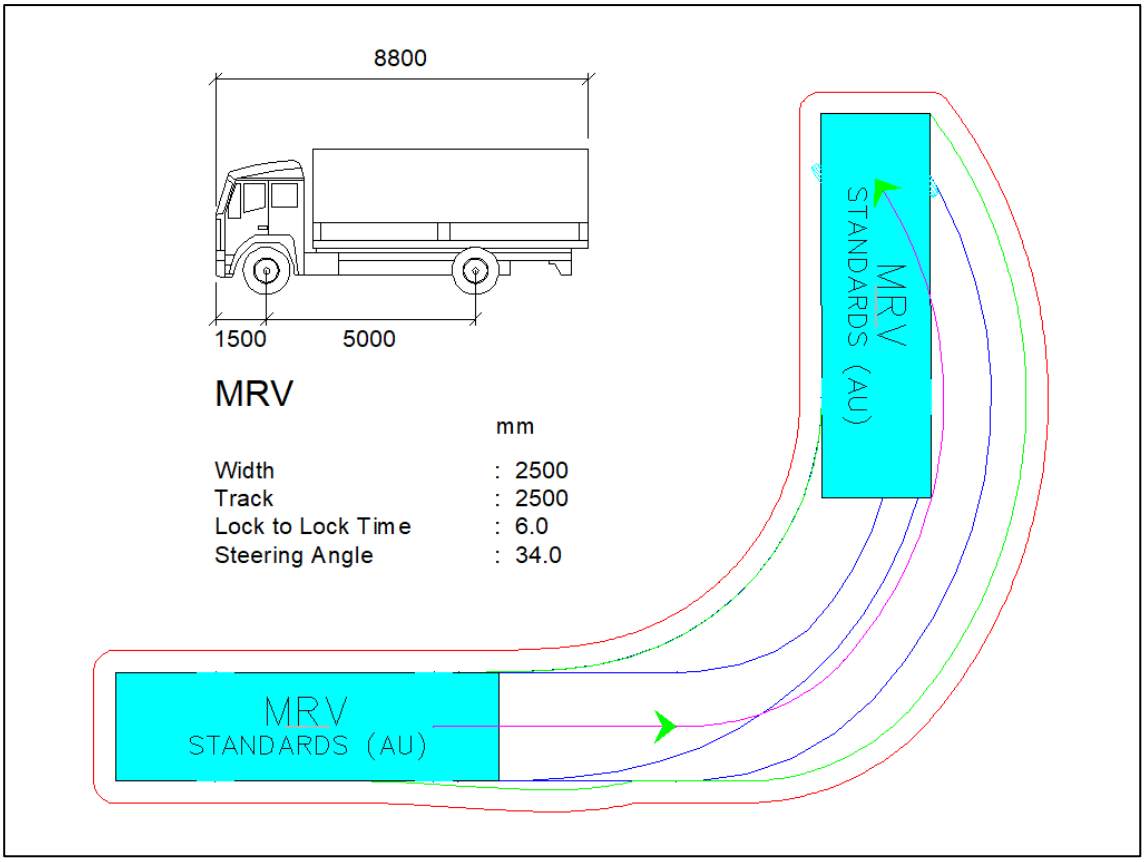
Yours faithfully,

M^{c}Laren Traffic Engineering

Tom Steal
Senior Traffic Engineer
BE Civil AMAITPM MIEAust
RMS Accredited Level 1 Road Safety Auditor
RMS Accredited Work Zone Traffic Management Plan Designer and Inspector

ANNEXURE D: SWEPT PATHS

(2 SHEETS)

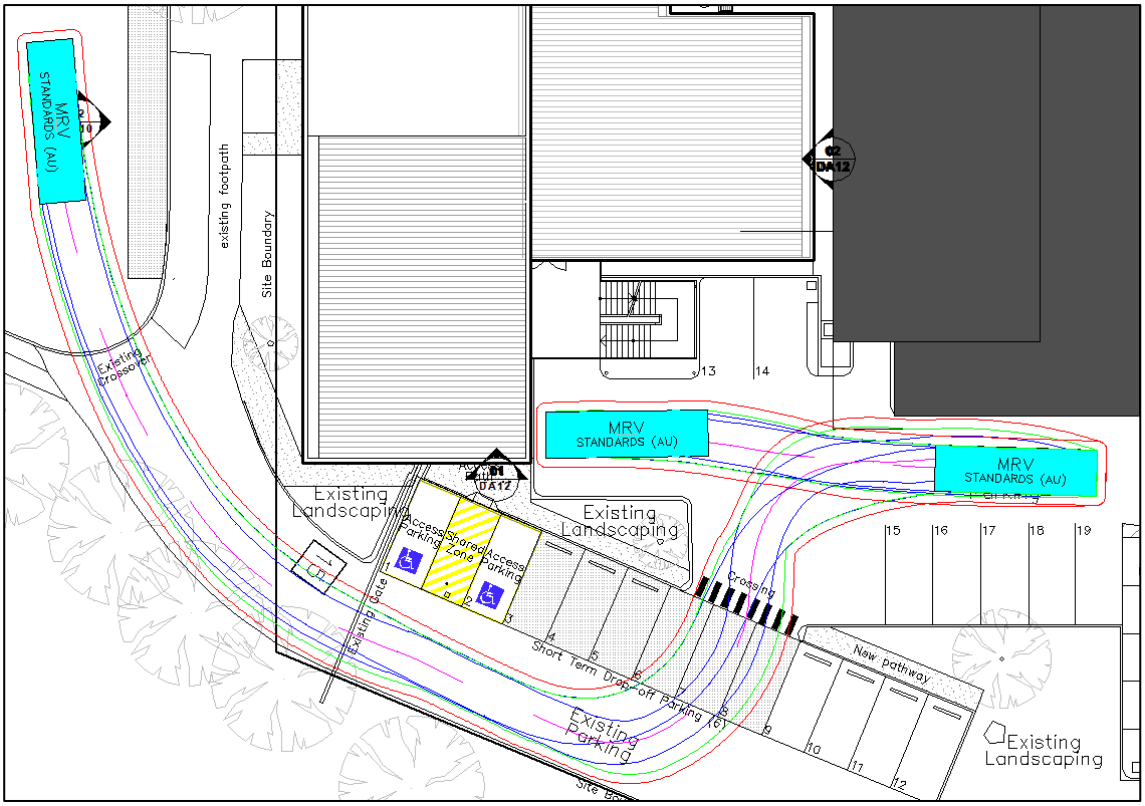


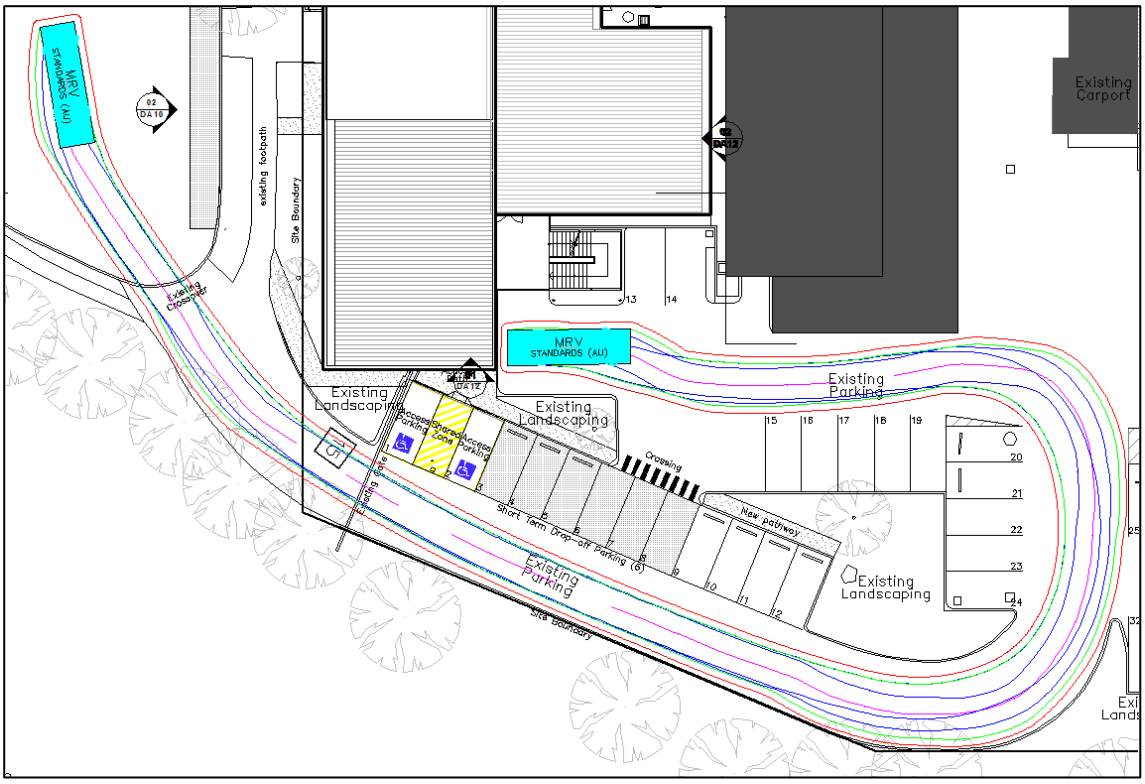
AUSTRALIAN STANDARD 8.8M LENGTH MEDIUM RIGID VEHICLE (MRV)

Blue – Tyre Path

Green – Vehicle Body

Red – 500mm Clearance





8.8M LENGTH MRV ENTRY AND EXIT TO PROPOSED LOADING BAY

Successful – Forward entry and exit achieved from the site.

M^CLAREN TRAFFIC ENGINEERING

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Division of RAMTRANS Australia ABN: 45067491678 RPEQ: 19457

Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness

21 April 2020 Reference: 190430.04FB

NSW Public Works Advisory
Department of Industry Planning & Environment
4 Coleman Street
Wagga Wagga NSW 2650
Attention: Amelia Parkins

SUPPLEMENTARY TRAFFIC AND PARKING ADVICE WITH REGARDS TO THE PROPOSED RELOCATION OF THE RIVERINA CONSERVATORIUM OF MUSIC TO 1 SIMMONS STREET, WAGGA WAGGA

Dear Amelia,

Reference is made to your request to provide supplementary traffic and parking advice with regards to the proposed relocation of the Riverina Conservatorium of Music to 1 Simmons Street, Wagga Wagga. This letter provides a detailed response to the matters raised by Wagga Wagga City Council's traffic engineer and should be read in conjunction with the submitted Traffic and Parking Impact Assessment by M^CLaren Traffic Engineering dated 6 March 2020 (M^cLaren TPIA). Each of the comments provided by Council's engineer are reproduced and responded to in the following sub-sections.

1 Timing of Peak Traffic Generation

> *The report states that traffic generated by the site peaks between 6.00pm-7.00pm. However, from Figure 4 it can be observed that traffic generation peaks between 5.15pm – 6.00pm and drops rapidly following this period.*
>
> *The observed generation falls within the commuter peak period 4.00pm-6.00pm. The applicant will need to reassess traffic impacts from the development based on the above observed peak.*

For ease of reference, Figure 4 from the M^cLaren TPIA as referenced above has been reproduced below as **Figure 1**. The method by which the peak traffic generation shown by the "Total Trips Aggregated for Hourly Intervals" line is formed is by adding the traffic generation for the proceeding four hours. The table used to calculate this is reproduced as **Table 1**.

Considering **Table 1** and the notes provided underneath the Table, it's evident that the peak traffic generation of the existing conservatorium occurred between 18:00 and 19:00, which is outside of the commuter peak hours on the adjacent roads.

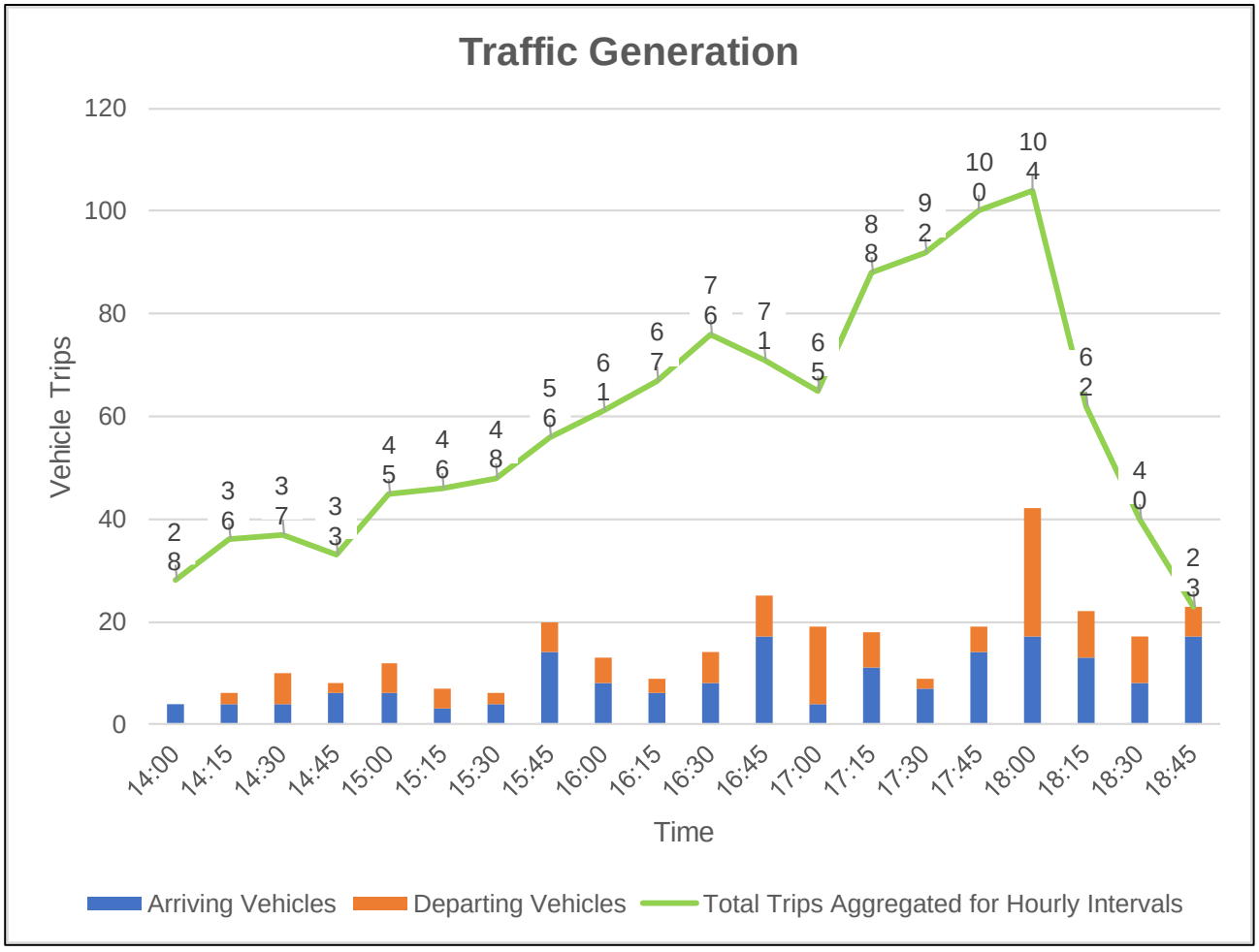

FIGURE 1: TRIP GENERATION SURVEY RESULTS (M^{C}LAREN TPIA FIGURE 4)

TABLE 1: TRIP GENERATION SUMMARY

Time Start	Per 15 Minute Period			Hourly		
	Arriving Vehicles	Departing Vehicles	Total Trips	Arriving Vehicles[1]	Departing Vehicles[2]	Total Trips Aggregated for Hourly Intervals[3]
14:00	4	0	4	18	10	28
14:15	4	2	6	20	16	36
14:30	4	6	10	19	18	37
14:45	6	2	8	19	14	33
15:00	6	6	12	27	18	45
15:15	3	4	7	29	17	46
15:30	4	2	6	32	16	48
15:45	14	6	20	36	20	56
16:00	8	5	13	39	22	61
16:15	6	3	9	35	32	67
16:30	8	6	14	40	36	76
16:45	17	8	25	39	32	71
17:00	4	15	19	36	29	65
17:15	11	7	18	49	39	88
17:30	7	2	9	51	41	92
17:45	14	5	19	52	48	100
18:00	17	25	42	55	49	104
18:15	13	9	22	38	24	62
18:30	8	9	17	25	15	40
18:45	17	6	23	17	6	23

Notes:

(1) Hourly Arriving Vehicles is calculated by taking the sum of the subject 15-minute time period and the three 15-minute time periods following. Ie. For 15:15 = 3+4+14+8 = 29

(2) Hourly Departing Vehicles is calculated by taking the sum of the subject 15-minute time period and the three 15-minute time periods following. Ie. For 15:15 = 4+2+6+5 = 17

(3) Total Trips Aggregated for Hourly Intervals is the sum of the Hourly Arriving Vehicles and the Hourly Departing Vehicles. Ie. For 15:15 = 29+17 = 46

2 Temporary Parking Bays and Revised Parking Design

The proposal to install temporary parking bays, obstructing through vehicle movements and in close proximity to the pedestrian crossing is not supported.

With regard to the proposed car parking arrangement, the applicant is to submit plans detailing the following:

i. circulating roadways and parking aisle widths

ii. Direction of travel and paths taken by vehicles entering and exiting the facility

iii. Loading bay operation times

Taking into consideration Council's comments, it is proposed that the parking layout be amended such that the parking bays previously marked as "temporary" be made permanent and that the service vehicle enter and leave the loading area using a reverse movement as depicted in swept path tests in **Figure 2**.

It is noted that all loading operations will be undertaken outside of peak drop-off and pick-up times and that the service vehicle manoeuvring will not significantly conflict with other vehicles in the car park.

Prior to amending the plans to depict this arrangement and the other items requested, it would be appreciated if Council's traffic engineer could provide comment as to whether this alternative is acceptable.

3 Proposed Change to Parking Restrictions

The applicant is to consult businesses in the vicinity (letterbox-drop) about its proposal to convert the loading zone on the eastern side of Simmons Street to a No Parking zone between 3.00pm – 7.00pm

The results of this consultation is to form part of the report to the LTC on this matter.

For clarity, the "No Parking" restrictions are sought between 3:00 PM and 7:30 PM.

It is agreed that communication with local residents and businesses is required and that this communication will occur during the DA notification period.

Please contact the undersigned should you require further information or assistance.

Yours faithfully,

McLaren Traffic Engineering

Tom Steal
Senior Traffic Engineer
BE Civil AMAITPM MIEAust
RMS Accredited Level 1 Road Safety Auditor
RMS Accredited Work Zone Traffic Management Plan Designer and Inspector

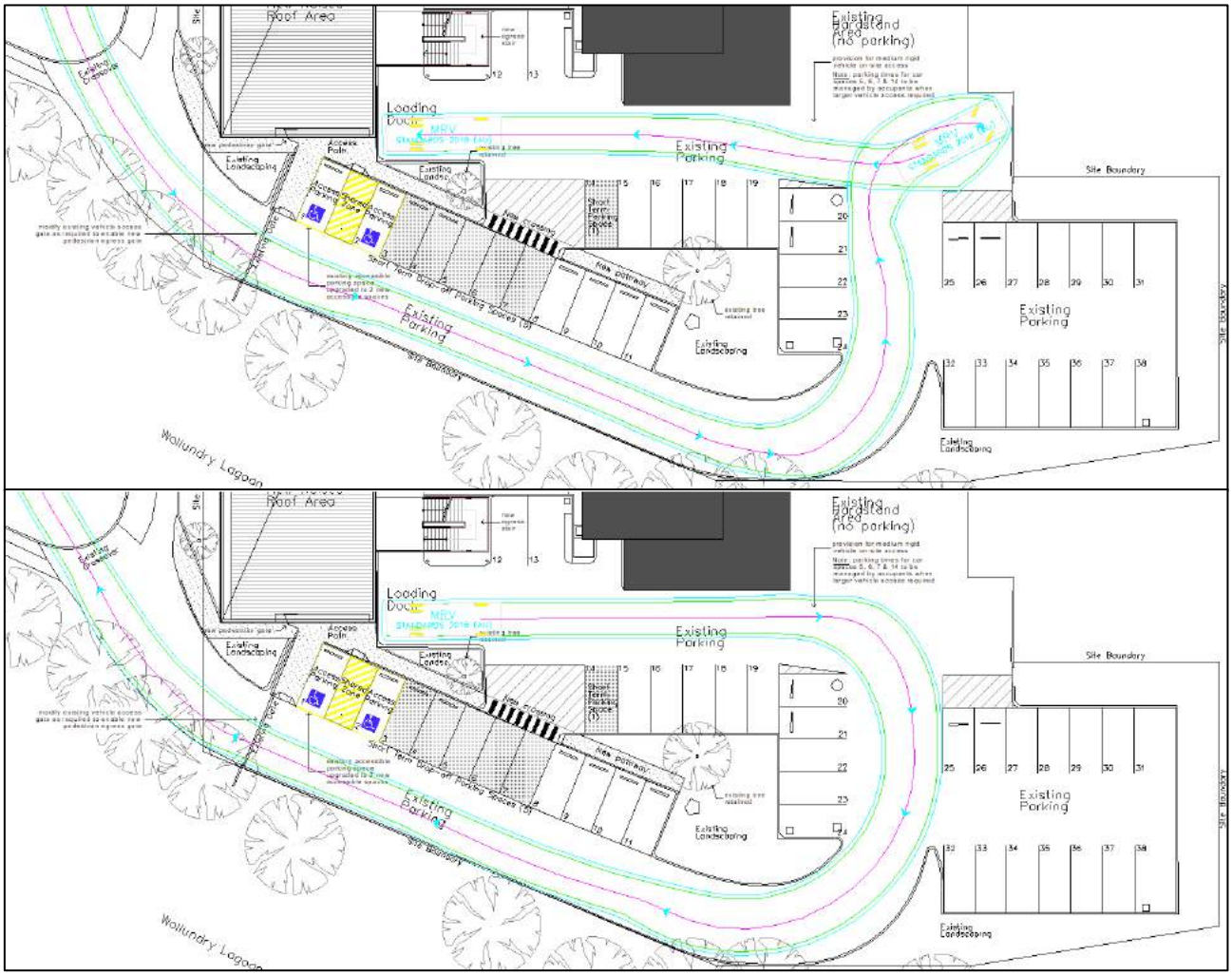

FIGURE 2: MRV ENTRY AND EXIT FROM LOADING DOCK