AMENDED TRAFFIC AND PARKING IMPACT ASSESSMENT OF ALTERATIONS AND ADDITIONS TO ST GEORGE CHRISTIAN SCHOOL AT 47 - 49 & 51 - 69 WOIDS AVENUE, ALLAWAH

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Development Type: **Alterations and Additions to St George Christian School**

Site Address: **47 - 49 & 51 - 69 Woids Avenue, Allawah**

Prepared for: **NBRS Architecture**

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1 INTRODUCTION

McLaren Traffic Engineering (MTE) was commissioned by *NBRS Architecture* to provide a Amended Traffic and Parking Impact Assessment in regards to the proposed Alterations and Additions to St George Christian School at 47 - 49 & 51 - 69 Woids Avenue, Allawah. The relevant plans are reproduced in **Annexure A** for reference.

1.1 Description and Scale of Development

St George Christian School includes classes from year groups Year 3 to Year 12. A detailed description of the school operation is provided in **Section 3**, with a summary of the characteristics relevant to this Traffic and Parking Impact Assessment provided below:

- A total of 650 students enrolled in 2017 including (since 2017, the current numbers [2018] are 200 primary school students and 450 high school students):
    - 208 students in years 3 – 6 as per the following:
        - Year 3 – 53 students;
        - Year 4 – 57 students;
        - Year 5 – 48 students;
        - Year 6 – 50 Students.
    - 442 students in year 7 – 12 as per the following:
        - Year 7 – 83 students;
        - Year 8 – 72 students;
        - Year 9 – 77 students;
        - Year 10 – 80 students;
        - Year 11 – 71 students;
        - Year 12 - 59 students.
    - Typical absenteeism of 5%.
- Total of 90 staff members as per the following:
    - Secondary School staff:
        - 46 teachers, including casual teachers.
    - Primary School staff:
        - 16 teachers including casual teachers.
    - Administration Staff
        - 28 non-teaching staff
- Secondary High School start time of 8:45am, finish at 3:15pm.
- Primary School start time of 8:50am and finish @ 3:10pm.

There is no proposed increase in student numbers under the proposed alterations and additions. The purpose of the alterations and additions is to provide a modern learning environment for students, improve staff facilities and allow for greater flexibility in timetabling. The proposed development is a significant improvement over the existing design of the site, which also improves upon parking provision.

The proposed alterations and additions consist of the following:

- Seven net additional Secondary School teaching and learning spaces for a total of 38 classrooms;
- Increase of 194m^2 of Primary School area to a total of 614m^2;
- New basement car park, providing 39 additional parking spaces including one disabled car parking space and two motorcycle parking spaces;
- Four additional parking spaces provided along Bogie Lane (rear of 54 Bellevue Parade)
- Removal of eight (8) car parking spaces on Bogie Lane;

The existing site provides on-site parking for 28 cars as per the following:

- Eight car parking spaces along Bogie Lane (to be removed);
- Three car parking spaces accessed from Bogie Lane (rear of 50 Bellevue Parade);
- Five parallel parking spaces along Bogie Lane;
- Twelve car parking spaces within a basement car park accessed from Church Lane

The above alterations and additions results in a parking provision of 55 (39 + 4 + 3 + 5 + 12 less 8) onsite parking spaces. This is an overall increase of 27 car parking spaces, with no proposed increase in students.

It should be noted that under the proposed development vehicular access through Bogie Lane from Church Lane to First Avenue will be restricted to authorized school vehicles only and unavailable for public use as per the existing operation of the site.

1.2 State Environmental Planning Policy

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 unnecessary and Council officers can determine this proposal accordingly. As there is no proposed increase in children, there will be no expected change in traffic generation of the site.

Reference is made to the SEPP Educational Establishments and Child Care Centres 2017 Clause 57 which requires all educational establishments that are able to accommodate 50 or more additional students and that involves an enlargement or extension of existing premises, or new premises to be referred to the Roads and Maritime Services (RMS). Accordingly, a formal referral to the RMS is necessary.

The site is located within the jurisdiction of Georges River Council and is subject to their relevant plan controls.

1.3 Site Description

The subject site is located within the Georges River Council Local Government Area and is generally surrounded by low to medium density residential developments, with Allawah Train station situated to the north-east of the site within 500m walking distance and Hurstville Train Station located to the north-west of the site within 1 kilometre walking distance of the site.

The subject site has four (4) road frontages, being Bellevue Parade to the south-west, Woids Avenue to the north-east, Church Lane to the south and Bogie Lane running through the centre of the site parallel to Woids Avenue and Bellevue Parade. Existing vehicular access to the school is provided along Bogie Lane, with the primary area for parent drop-off and pick-up provided along Woids Ave and Bellevue Parade.

1.4 Site Context

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

Site Location

FIGURE 1: SITE CONTEXT – AERIAL PHOTO

Site Location

FIGURE 2: SITE CONTEXT – STREET MAP

2 EXISTING TRANSPORT AND PARKING CONTEXT

2.1 Road Hierarchy

The road network surrounding the site has the following characteristics.

2.1.1 Woids Avenue

- Unclassified LOCAL road;
- Approximately 11m in width facilitating one traffic flow lane in both directions and kerbside parking on both sides of the road;
- Signposted 50km/h speed restriction and 40km/h school zones;
- Pedestrian crossing located at the frontage of St George Christian School;
- Restricted "*No Parking between 8-9:30am and 2:30-4pm on school days*" signage along the southern side of the road at the sites frontage for parent pickup/drop-off facilities. Unrestricted kerbside parking permitted outside of this area.

2.1.2 Church Lane

- Unclassified LOCAL road;
- Approximately 4m in width facilitating traffic flow in one direction at a time with no provision of two-way passing;
- No speed limit signposted - 50km/h speed limit applies and 40km/h school zone;
- Signposted "*No Parking"* on both sides of the road.

2.1.3 Bellevue Parade

- Unclassified LOCAL / COLLECTOR road;
- Approximately 12m in width facilitating one traffic flow lane in both directions and kerbside parking on both sides of the road;
- Signposted 50km/h speed restriction and 40km/h school zones;
- Restricted "*No Parking between 8-9:30am and 2:30-4pm on school days*" signage along the northern side of the road at the sites frontage for parent pickup/drop-off. Unrestricted kerbside parking permitted outside of this area.

2.1.4 First Avenue

- Unclassified LOCAL road;
- Approximately 7m in width facilitating one traffic flow lane in both directions and kerbside parking on either side of the road with passing at driveways;
- Signposted 50km/h speed limit;
- Restricted "*No Stopping between 8-9:30am and 2:30-4pm on school days*" signage along the northern side of the road to allow two way passing during peak school periods. Unrestricted kerbside parking permitted outside of this restriction period.

2.1.5 Bogie Lane

- Unclassified Access Lane;
- Approximately 5m in width facilitating traffic flow in one direction at a time and two-way passing at low level speeds;
- Signposted 50km/h speed limit and 40km/h school zones;
- Parking restricted by the constraints of the laneway on both side of the road.

2.2 Existing Traffic Management

- Roundabout controlled intersection of Bellevue Parade / First Avenue;
- STOP sign controlled intersection of First Avenue / Woids Avenue;
- Pedestrian crossing along Woids Avenue at the frontage of St George Christian School.
- Priority controlled intersection of Church Lane / Bellevue Parade;
- Priority controlled intersection of Church Lane / Woids Avenue;
- Priority controlled intersection of Church Lane / Bogie Lane;
- Priority controlled intersection of First Avenue / Bogie Lane.

2.3 Existing Traffic Environment

2.3.1 Intersection Volumes

Existing intersection surveys were undertaken from 7:00 am - 10:00 am and 2:00 pm - 5:00 pm on Thursday 19th of October 2017, reflecting peak school drop-off and pick-up times during a typical weekday at the following intersections:

- Railway Parade / Bellevue Parade;
- Railway Parade / Woids Avenue;
- Railway Parade / Underpass;
- First Avenue / Bellevue Parade;
- First Avenue / Bogie Lane;
- First Avenue / Woids Avenue;
- Church Lane / Bellevue Parade;
- Church Lane / Woids Avenue;
- Church Lane / Staff Parking Entrance.

Detailed survey results are provided in **Annexure B** for reference.

2.3.2 Intersection Performances

The results of the intersection surveys have been assessed using SIDRA INTERSECTION 7.0 to determine the existing performance of the road network in terms of delays and queues. The results of this analysis are summarised in **Table 1**, with detailed results provided in **Annexure C**.

It should be noted that the intersections of First Avenue / Bogie Lane and Church Lane / Staff Parking Entrance have not been assessed due the intersection surveys showing a small number of turning movements at these junctions. It should be noted that vehicles travelling within Church Lane were recorded to be tidal in nature during peak periods, with all vehicles travelling in the north-easterly direction during the AM and PM peak period.

TABLE 1: INTERSECTION PERFORMANCES (SIDRA INTERSECTION 7)

Intersection	Peak Hour	Degree of Saturation[1]	Average Delay[2] (sec/veh)	Level of Service[3]	Control Type	Worst Movement
EXISTING PERFORMANCE						
Bellevue Pde / Railway Pde	AM	0.30	1.3 (Worst: 9.7)	**NA** (Worst: A)	Give Way	RT from Railway Parade (W)
	PM	0.41	1.4 (Worst: 12)	**NA** (Worst: A)		RT from Railway Parade (W)
Woids Ave / Railway Pde	AM	0.17	0.9 (Worst: 21)	**NA** (Worst: B)	Give Way	RT from Woids Ave
	PM	0.18	1 (Worst: 23.1)	**NA** (Worst: B)		RT from Woids Ave
Railway Pde / Underpass	AM	0.91	20.8	**B**	Signals	RT from Railway Parade (E)
	PM	0.89	29.4	**C**		RT from Railway Parade (E)
Bellevue Pde / First Ave	AM	0.17	6.8 (Worst: 10.6)	**A** (Worst: A)	Roundabout	UT from First Avenue (E)
	PM	0.15	6.3 (Worst: 10.1)	**A** (Worst: A)		UT from First Avenue (E)
Woids Ave / First Ave	AM	0.10	4.9 (Worst: 8.8)	**NA** (Worst: A)	Stop	RT from First Ave (W)
	PM	0.07	5.3 (Worst: 8.7)	**NA** (Worst: A)		RT from First Ave (W)
Bellevue Ave / Church Lane	AM	0.18	1.4 (Worst: 7.6)	**NA** (Worst: A)	Give Way	RT from Church Lane
	PM	0.13	0.9 (Worst: 7.1)	**NA** (Worst: A)		RT from Church Lane
Woids Ave / Church Lane	AM	0.06	2.2 (Worst: 6)	**NA** (Worst: A)	Give Way	RT from Church Lane
	PM	0.05	1.6 (Worst: 6)	**NA** (Worst: A)		RT from Church Lane

NOTES:
(1) The Degree of Saturation is the ratio of demand to capacity for the most disadvantaged movement.
(2) The average delay is the delay experienced on average by all vehicles. The value in brackets represents the delay to the most disadvantaged movement.
(3) The Level of Service is a qualitative measure of performance describing operational conditions. There are six levels of service, designated from A to F, with A representing the best operational condition and level of service F the worst. The LoS of the intersection is shown in bold, and the LoS of the most disadvantaged movement is shown in brackets.
(4) No overall Level of Service is provided for Give Way and Stop controlled intersections as the low delays associated with the dominant movements skew the average delay of the intersection. The Level of Service of the worst approach is an indicator of the operation of the intersection, with a worse Level of Service corresponding to long delays and reduced safety outcomes for that approach.

As shown, the surrounding intersections are operating at GOOD levels of service "A" condition (with the exception of Railway Parade / Underpass) with worst turning movements operating at Level of Service (LoS) "A" and "B" respectively. This indicates additional spare capacity.

The intersection of Railway Parade / Underpass operates as a signalised intersection and is operating at LoS "B" and "C" during the AM and PM peak period respectively, indicating that the intersection is operating at a SATISFACTORY condition.

It should be noted that SIDRA Intersection cannot model the impacts of a high turnover of on-street parking or of a pedestrian-dominant environment (as generally exists around schools). The SIDRA Intersection model demonstrate that there is ample capacity for the surrounding intersections to accept an increase in vehicles during the peak hours but cannot reflect other traffic conditions in the surrounds of the school due to possible delays caused by the short turnover of kerbside parking by parents during the pick-up / drop-off operation for the school.

2.4 Existing Parking Environment

Parking counts of the on-street parking supply within 200m walking distance of the site were undertaken on Wednesday 4th of October 2017 and Friday 6th of October 2017 (during school holidays) between the hours of 2:00pm to 5:00pm and 7:00am – 9:30am respectively to examine the availability of on-street parking during school holidays. Similarly, parking counts were undertaken on Thursday 26th and Friday 27th of October 2017 between the hours of 7:00am – 9:30am and 2:00pm to 5:00pm to examine the availability of on-street parking during the school drop-off and pick-up hours. The results of these surveys are summarised in **Table 2** below, with the detailed results provided in **Annexure D** for reference.

TABLE 2: PEAK PARKING DEMAND SUMMARY(1)

School Holidays			
Date	**Time Period**	**Parking Demand**	**Parking Availability(1)**
Friday 6th Oct	AM	223 (52%)	230 (48%)
Wednesday 4th Oct	PM	220 (51%)	211 (49%)
During School Term			
Date	**Time Period**	**Parking Demand**	**Parking Availability**
Thursday 26th Oct	AM	245 (57%)	186 (43%)
	PM	253 (59%)	178 (41%)
Friday 27th Oct	AM	219 (51%)	212 (49%)
	PM	232 (54%)	199 (46%)

Note: (1) Observed Capacity within 200m radius of school is 431

As shown above, during the school term the parking availability within 200m of the site is lower than that of the parking availability during school holidays. To grasp the impact that the school has had on long term parking demand within the environs of the site it is relevant

to visually look at the parking demand profiles across the surveyed time periods as shown in **Figure 3** and **4** below.

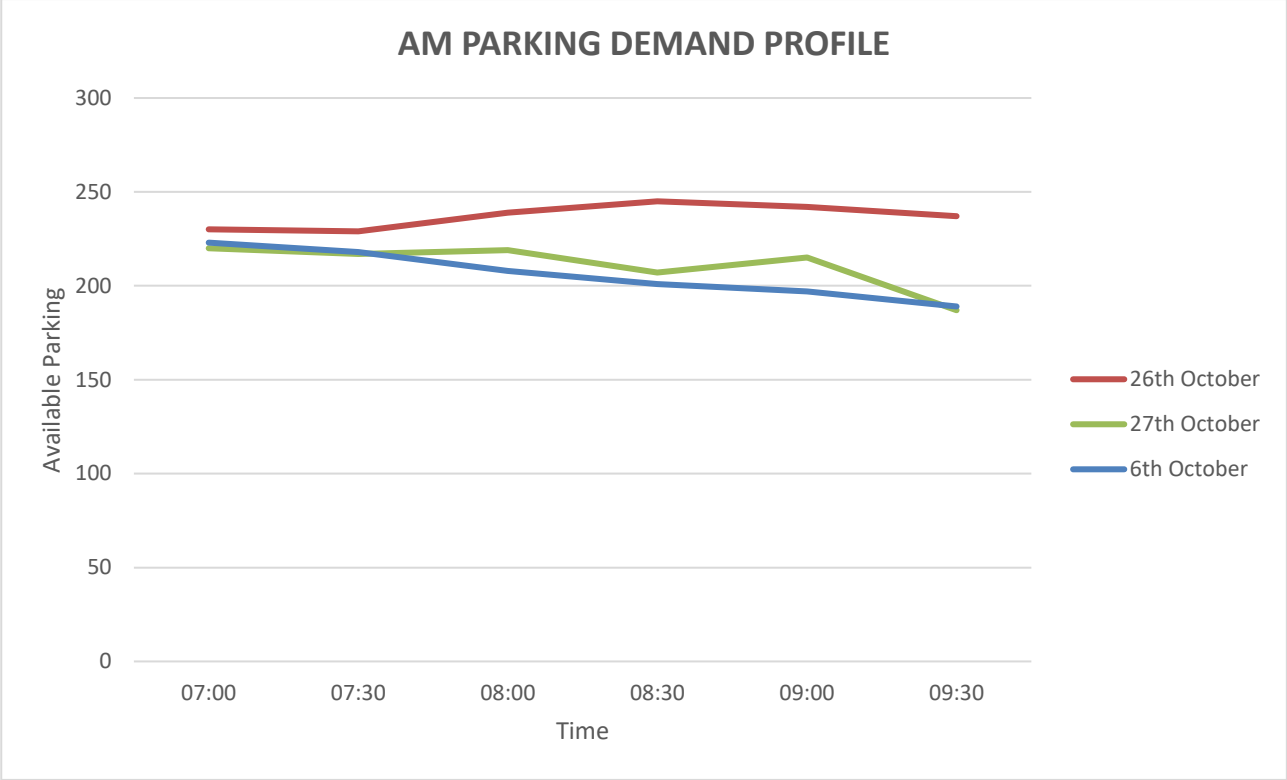


FIGURE 3: AM PARKING DEMAND PROFILE

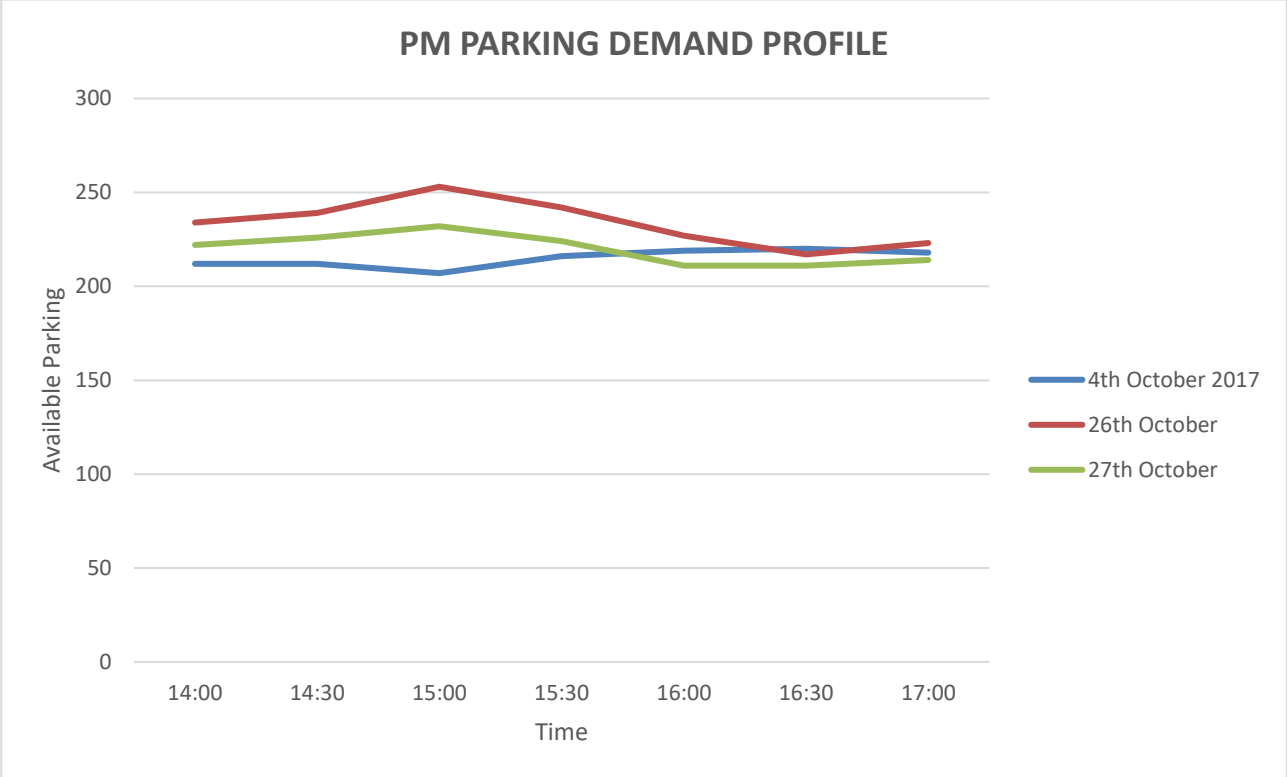


FIGURE 4: PM PARKING DEMAND PROFILE

As shown above, during the school holidays there is a decrease in parking demand during the morning peak period and an increase in the afternoon. This is typical of any residential subdivision as residents leave for work in the morning and returning in the afternoon. Further during the peak PM period, it can be seen that the peak parking period for the school occurs at 3:00pm, with a decrease in parking demand over the next hour to 4:00pm. After 4pm parking demand starts to increase (after the reduction) due to the return of residents at the end of the day. The end of day parking demand (5:00pm) converges to a similar point for all three survey days regardless of if school was in session or not.

Based upon the above, the on-street parking demand of the school and nearby residential dwellings do not overlap during both the AM and PM peak period. As summarised in **Table 2** above, there is additional spare capacity for long term parking available within 200m of the site (additional on-street parking demand is not generated as a result of this proposed development).

Based upon the above results, if there was additional long-term parking demand proposed as part of the development, the use of that additional parking would not generally coincide with the peak on-street parking demand for residents in both the AM and PM peak parking periods.

2.5 Public Transport

The subject site has access to existing bus route 958 and 947 provided by Transdev NSW with the closest bus stop located on George Street and at Allawah Train Station approximately 500m walk from the subject site. The 958 and 947, bus services provide access to Hurstville, Kogarah and Dolls Point. Allawah Train Station and Hurstville Train Station is on the T4 Eastern Suburbs & Illawarra Line with the stations located approximately 500m and 1,000m walking distance from the subject site respectively. These Train Lines provide access to Bondi Junction, Cronulla and Waterfall.

The location of the site relative to the surrounding public transport infrastructure is shown in **Figure 5** below.

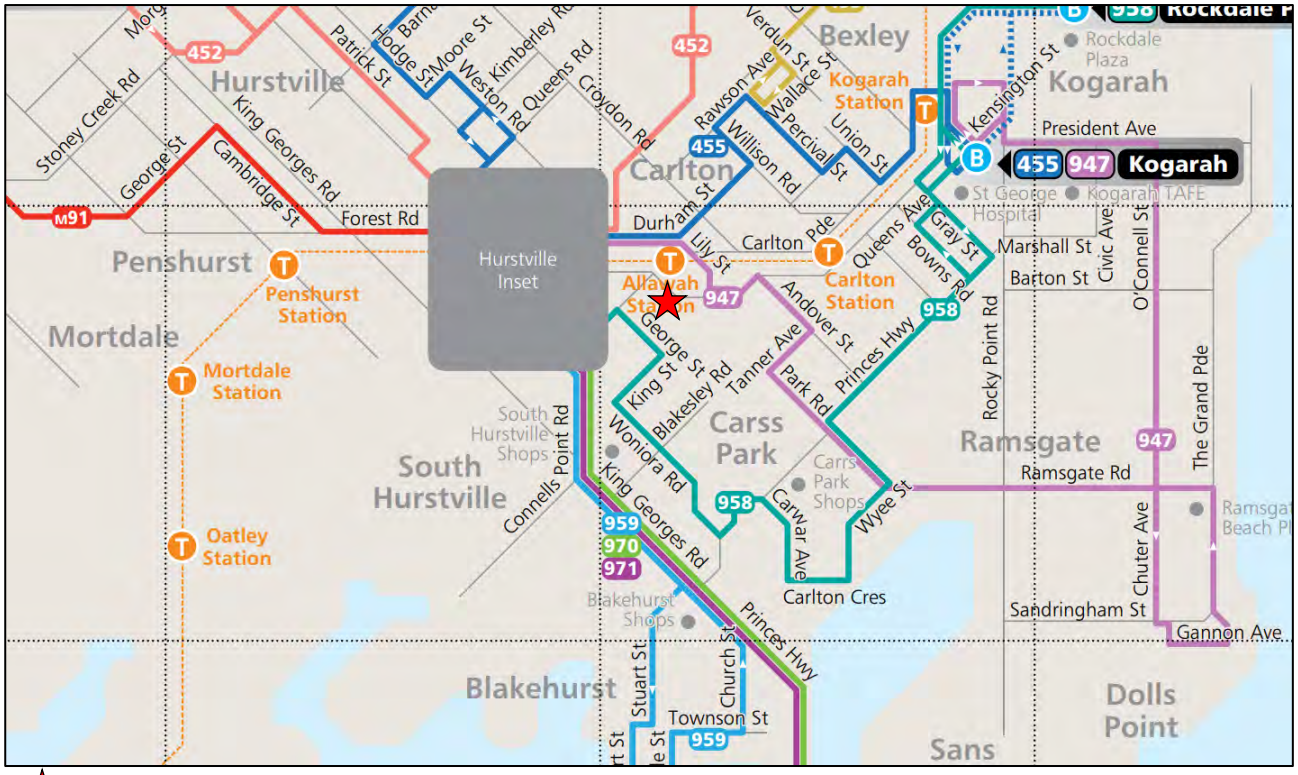


FIGURE 5: PUBLIC TRANSPORT MAP

In addition to the public transport provided by public buses and trains, one (1) school bus is provided for students that provides access to / from the eastern suburbs. The school bus route is shown in **Figure 6** below.

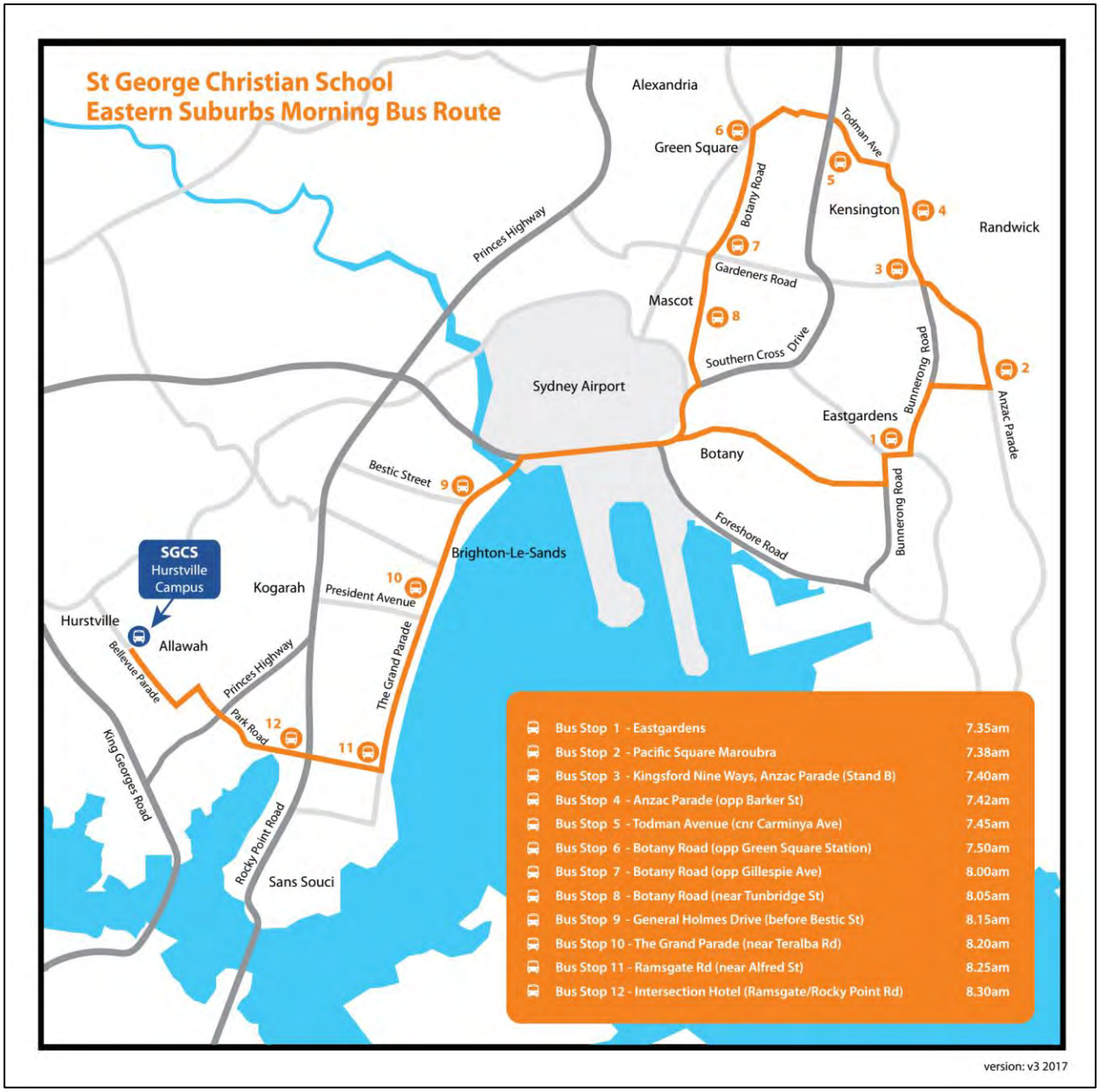


FIGURE 6: SCHOOL BUS MAP

2.6 Future Road and Infrastructure Upgrades

From Georges River Council 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 EXISTING SCHOOL OPERATIONS

Student and Teacher travel mode surveys were undertaken and provided by St George Christian School for the campus located at the subject site to determine the typical way in which students and teachers travel to and from school every day. The detailed results of the survey sheets are reproduced in **Annexure E** for reference with a summary of the findings provided in the following subsections.

3.1 Student and Staff Numbers

St George Christian School caters for Years 3 – 12, with a total of 650 students distributed as detailed in **Table 3** below:

TABLE 3: 2017 SCHOOL STRUCTURE - STUDENTS

Year Group	3	4	5	6	7	8	9	10	11	12
Students	53	57	48	50	83	72	77	80	71	59

It should be noted that the school exhibits a typical 5% absenteeism (corresponding to some 33 students).

The school employs a total of 90 staff as per the following:

- 62 teaching staff;
- 28 administration staff;
- Private vehicle staff traffic mode of 98%, resulting in some 88 private vehicle trips / car parking spaces by staff.

It is expected with the proposed provision of **55** car parking spaces, from the existing provision of **28** spaces, there will be removal of staff parking from the surrounding local streets. This is expected to create additional parking availability above what was observed in the parking surveys, resulting in a net improvement over the existing operation of the school. It is reiterated that the proposed development is not proposing to increase students numbers, such that the additional parking spaces provided should be looked upon favourably considering the existing shortfall of parking.

3.2 Transport Characteristics

In-class surveys were undertaken on Tuesday 24th October 2017 and Wednesday 25th October 2017 to determine student mode of transport when travelling both to and from school. The detailed results of the surveys are shown in **Annexure E** and summarised in **Table 4** & **Table 5** below:

TABLE 4: 2017 PRIMARY SCHOOL STUDENT TRANSPORT MODE RESULTS (YEARS 3 – 6, 197 STUDENTS SURVEYED)

Direction	Public Bus	School Bus	Train	Family Car	Friend Car	Own Car as Driver	With Staff Member	Walking	Bicycle	Other
Travelling to School	1%	0%	3%	91%	3%	0%	1%	1%	0%	0%
Number of Trips Made	**2**	**0**	**6**	**180**	**6**	**0**	**1**	**2**	**0**	**0**
Travelling From School	4%	2%	6%	80%	3%	0%	0%	5%	0%	0%
Number of Trips Made	**7**	**4**	**12**	**158**	**6**	**0**	**0**	**10**	**0**	**0**

Note: Applying a 5% absentee rate results in 11 students absent. Totalling 208 students in accordance with the provided student numbers for **years 3-6.**

TABLE 5: HIGH SCHOOL STUDENT TRANSPORT MODE RESULTS (YEARS 7 – 12, 342 STUDENTS SURVEYED)

Direction	Public Bus	School Bus	Train	Family Car	Friend Car	Own Car as Driver	With Staff Member	Walking	Bicycle	Other
Travelling to School	9%	0%	16%	63%	1%	1%	1%	8%	0%	1%
Total	**31**	**0**	**59**	**226**	**3**	**5**	**4**	**29**	**0**	**1**
Travelling From School	13%	2%	27%	42%	1%	2%	1%	12%	0%	0%
Total	**50**	**6**	**102**	**155**	**3**	**8**	**4**	**44**	**0**	**1**

Note: Applying a 5% absentee rate results in 23 students absent plus 59 Year 12 students results in a total of 424 students. This is 18 students less from the provided numbers. It is noted that High School where Students state that they do not utilise a private car but have multiple modes of transport as shown in the Table above (totals do not equal 342). The 18 students unobserved during the survey is not expected to have an impact on the overall survey.

The resulting transport mode for the High School and Primary School is summarised in **Table 6** below, split between morning and afternoon travel modes and by private vehicle trips and non-private vehicle trips. The resulting existing traffic generation (based upon the travel mode survey) of the school students is than summarised in **Table 7** below.

TABLE 6: STUDENT TRANSPORT CHARACTERISTICS

Year Group	Time Period	Alternative Transport (Includes Car Share)[1][2]	Parent Trips / Family Car	Student Trips
3-6	Morning	9%	91%	0%
	Afternoon	20%	80%	0%
7-11	Morning	36%	63%	1%
	Afternoon	56%	42%	2%
12[4]	Morning	33%	59%	8%
	Afternoon	55%	32%	13%

Notes: 1) Includes all trips made by Bus, Train, Walking, Bicycle, passenger trips and other

2) Includes students traveling with friends or staff member

3) Does not include deductions for siblings

4) Assumed traffic mode for Year 12 follows that of Year 11 survey observations.

5) Parents trips generate 2 vehicle trips (1 inbound and 1 outbound).

TABLE 7: ESTIMATED EXISTING AND FUTURE TRAFFIC GENERATION OF STUDENTS BASED UPON SURVEY RESULTS

Year Groups	Time period	Number of Students	Vehicle trips[1]	Direction
3-6	Morning	198	360	180 In, 180 Out
	Afternoon		316	158 In, 158 Out
7-11	Morning	358	455	230 In, 225 Out
	Afternoon	373	321	156 In, 165 Out
12[4]	Morning	61	77	41 In, 36 Out
	Afternoon	60	46	19 In, 27 Out

Notes: 1) Parents trips generate 2 vehicle trips (1 inbound and 1 outbound).

As shown above, the existing site is estimated to generate some 892 vehicle trips in the morning drop off period (451 in, 563 out) and 683 vehicle trips during the PM (333 in, 350 out) pick up period.

It is expected that the morning drop-off period experiences larger private vehicle trips than the afternoon period, as typically parents drop their children off on the way to work.

Based upon the staff travel mode surveys provided by St George Christian School, approximately 98% of school staff drive to school and park on or around the site corresponding to a total of 88 parking spaces; 55 of which can park on-site under the proposed alterations and additions. This would result in a further 88 inbound vehicle trips in the AM peak hour period and 88 outbound vehicle trips in the PM peak hour period, assuming all staff arrive and leave the site during the peak parent period. This is unlikely to occur, as not all staff are teaching staff and it is expected that some staff would have after hours duties.

It should be noted that the above table could be further broken down by providing a parking rate for each year group if any proposed increase in students was a part of the DA, to assess the additional impact of traffic upon the surrounding road network.

The trips outlined in **Table 7** above, would occur from 7:00am to 9:00am and 2:30pm to 4:00pm in accordance with the 40km/h school zone operating hours with the peak occurring around the school start and finish times.

4 PARKING IMPACT ASSESSMENT

4.1 Staff Parking

4.1.1 Council Parking Requirement

Reference is made to Kogarah Council's *DCP 2013: Section B4 – Parking and Traffic* which states the following with regards to the provision of parking for Schools:

> *Educational establishments*
>
> *Primary School – 1 space/100m^2 of gross floor area*
>
> *Secondary School – 2 spaces/classroom, plus 1 space per 10 students over 17 years*
>
> *"Note: Numbers are to be rounded up to the next whole number."*

As previously identified, the development does not seek to increase the number of students or staff from the existing numbers however the increase in the number of rooms results in an increase in parking rate for the site. The DCP parking requirements are summarised in **Table 8** below.

TABLE 8:EXISTING AND PROPOSED DCP PARKING REQUIREMENTS

Land Use	Stage	Type		Scale[(1)]	Rate	Spaces Required	Spaces Provided
School	Existing	Primary School		420m^2 GFA	1 per 100m^2	4.2	28
		High School	Staff	31 classrooms	2 per classroom	62	
			Student	130 students over 17	1 per 10 students over 17	13	0
Total	**-**	**-**		**-**	**-**	**79.2 (80)**	**28**
School	Proposed	Primary School		614m^2 GFA	1 per 100m^2	6.15	55
		High School	Staff	38 classrooms	2 per classroom	76	
			Student	130 students over 17	1 per 10 students over 17	13	0
Total	**-**	**-**		**-**	**-**	**95.15 (96)**	**55**

Note: (1) As a worst case all students in year 11 and year 12 have been assumed to be over 17 years old.

As shown above, under Kogarah Council's DCP, the existing school requires a total of **80** car parking spaces. The school currently provides **28** on-site car parking spaces representing in a numerical shortfall of **52** car parking spaces. The proposed school requires a total of **96** car parking spaces under Kogarah Council's DCP. The school proposes **55** on-

site car parking spaces representing a numerical shortfall of **41** car parking spaces, a net reduction of **11** spaces from the existing parking shortfall.

The proposed development provides for **55** car parking spaces, which will typically be restricted to staff use only. The increase of **27** car parking spaces, in comparison to the increase in staff (increase of nil staff), is expected to remove **27** on-street parking spaces from the existing parking demand. This is an overall improvement to the surrounding on-street car parking availability.

While the strict application of the DCP requires **96** car parking spaces for the proposed development, the actual likely increase in parking demand is nil parking spaces (no expected increase in students or staff, as there is no proposed increase in the number of students or staff). Hence, the overall addition of **27** spaces is a superior outcome in terms of the overall parking provided on-site.

While the proposed school falls short from the strict application of Council's DCP parking requirement by **41** car parking spaces, the proposed additions and alterations only requires the provision of **16** spaces. By providing an additional **27** additional car parking spaces the school provides an excess of **11** spaces in excess of Council's DCP for the proposed additions.

4.2 Parent Drop-Off and Pick-Up

The existing school currently benefits from large site frontages along both Bellevue Parade and Woids Avenue, measuring approximately 110m and 120m in length respectively. The frontages along Bellevue Parade and Woids Avenue have approximately 83m and 42 of existing *"No Parking"* signage between 8:00am to 9:30am and 2:30pm to 4:00pm, providing a minimum of **21** drop-off / pick-up parking spaces for parents to utilise during peak student arrival and departure times.

Council have assisted in improving school related traffic circulation around the school to access these parking spaces by installing part time *"No Stopping"* restrictions along the northern side of First Avenue east of Bellevue Parade during school zone times. Further, the existing roundabout at the Bellevue Parade / First Avenue intersection allows parents to access the spaces along Bellevue Parade during the morning and afternoon peak periods by undertaking a safe U-turn manoeuvre.

As part of the development, consideration should be made to optimising the circulation within the surrounding road network, namely the use of the given section of Church Lane east of Bellevue Parade to assist traffic circulation between Bellevue Parade to Woids Avenue. The existing use of Church Lane has been observed to exhibit tidal flows during the peak AM and PM period with the vast majority of vehicles travelling in the north-east direction (only 3 and 6 vehicles travelled south-west in the AM and PM respectively, against the 95 and 46 vehicles north-east during the AM and PM period respectively). It is considered that there are strong grounds based upon observed behaviour, to alter this segment of Church Lane from its existing two-way flow condition to a ONE WAY Eastbound direction (east of Bellevue

Parade). This would eliminate vehicular conflicts within this narrow laneway next to the school. As the laneway only measures approximately 4.0m in width, modifying the direction to ONE WAY (eastbound) would improve vehicular safety in regards to two-way passing within the laneway. The intersection of Church Lane / Woids Avenue would need to be signposted *"No Entry"* under this proposal and the modification to a ONE WAY lane would need to be approved by Georges River Council's Local Traffic Committee (LTC) after it has been formally submitted to the LTC.

The proposed alterations and additions to the existing school includes the transformation of 47 and 49 Woids Avenue to School facilities. As such, modifications to the existing *"No Parking"* signage could be extended along the frontages of these two properties to provide additional on-street drop-off / pick-up facilities for parents during peak school times. As there is no proposed increase in student numbers, as part of the subject proposal an overall increase in parking for the proposed development for the benefit of student set-down / pick-up is not expected to be required.

It is envisaged that the school will continue to operate under the existing drop-off / pick-up parking facilities, with an overall improvement to the on-street parking availability due to providing additional off-street parking spaces for some 27 staff cars that presently park on-street. Notwithstanding the above, it is recommended to provide the additional *"No Parking"* signage along the frontages of 47 and 49 Woids Avenue to further improve the capacity of kerbside parent drop-off / pick-up facilities during the AM and PM period. A concept has been provided and is shown in **Annexure F** for reference, indicating that the site would gain an additional 31m of kerbside parking, resulting in an additional five (5) car parking spaces for parents. It is also relevant to note that with the proposed driveway from Woids Avenue would remove one (1) parent drop-off / pick-up space, resulting in a net increase of some four (4) car parking spaces, subject to approval of the extended *"No Parking"* signage.

It should be noted that during the surveys it was observed that vehicles at the intersection of Bellevue Parade / First Avenue resulted in vehicles slowing at the intersection. The impact that this had upon the intersection is considered to be negligible as it only occurred briefly (5-10 seconds) and never caused any impact upon the operation of the intersection in terms of maintaining access for vehicles on the roundabout. The slowing of vehicles is most likely caused by vehicles (parents) leaving / entering the drop-off / pick-up area for students, typical of any school drop-off / pick-up operation.

The provision of additional on-site parking spaces for staff, recommended dedicated *"No Parking"* signage along Woids Avenue and recommended restriction of Church Lane to ONE WAY (eastbound) will improve the existing traffic flow conditions during the peak AM and PM student arrival and departure periods, as well as improving the efficiency and safety of the pick-up / drop-off operation within the immediate influence of the school grounds.

4.3 Bicycle & Motorcycle Parking Requirements

Georges River Council does not provide bicycle or motorcycle parking rates for schools. It should be noted that there is an extremely low usage of bicycles to travel to and from the site, with no students recorded using bicycles to travel to and from school in the travel survey. The proposed basement carpark provides two (2) motorcycle and four (4) bicycle racks to be used by staff which should be looked upon favourably by Council.

4.4 Servicing & Loading

The existing waste management procedures of the site will not be altered by the proposed development nor the operation for any deliveries to the school.

4.5 Disabled Parking

Council's DCP does not provide any disabled parking provision rates for the subject land use. However, the BCA classifies schools as a class 9B building and therefore requires 1 space for every 100 car parking spaces or part thereof. The proposed carpark requires the provision of one (1) disabled parking space which has been provided to meet the BCA requirements.

4.6 Car Park Design & Compliance

The proposed car parking layout has been assessed to generally achieve the relevant objectives and requirements of AS2890.1, AS 2890.2 and AS2890.6. The carpark achieves the following:

- Minimum parking spaces with dimensions of 5.4m length by 2.4m width sufficient for use by staff;
- Disabled car parking spaces with minimum dimensions of 5.4m length by 2.4m width and adjacent shared space with minimum dimensions of 5.4m length by 2.4m width;
- Minimum 2.2m head clearance along circulation paths;
- Minimum 2.5m headroom above disabled car parking space and associated shared space;
- Minimum 6.0 aisle widths, exceeding the minimum by 0.2m;
- 5.5m driveway width;
- 1m blind aisle extensions where required.

Swept path testing has been undertaken for the proposed Ground Floor car park and are reproduced in **Annexure G** any required changes are also shown in **Annexure G**.

While we have assessed the plans to be compliant with the relevant Australian Standards, it is usual and expected that a design certificate be required at the Construction Certificate stage to account for any design changes during the Development Application process.

5 TRAFFIC ASSESSMENT

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

5.1 Traffic Generation

As previously identified, the proposal does not result in an increase in students or staff and as such there will be no additional vehicle trips to or from the school during the morning or afternoon peak hour periods.

It is expected that there will be a slight change to the traffic distribution within the local road network caused by staff who will be accessing the proposed off-street car park from Woids Avenue. This is not considered to have any detrimental impact upon the surrounding network. The SIDRA results shown in **Section 2.3.2** showed that the surrounding intersections were operating satisfactorily and are generally expected to maintain this level of service under the subject proposal.

6 RESPONSE TO COUNCIL AND PLANNING PANEL

The proposed development application was previously submitted to Council and assessed as part of the Sydney South Planning Panel (SSPP). The SSPP raised issues relating to building height and parking. The concerns raised by the SSPP relevant to traffic and parking are shown below (italicised) with a response shown thereafter.

> *Need to meet the standards of the education SEPP 2017*

MTE Response: Refer to **Section 1.2** for traffic and parking considerations under the educational SEPP 2017.

> *Need for an overall site strategy and masterplan to demonstrate accommodation of future needs. Alternative options for site development could have been considered.*

MTE Response: There is no current masterplan strategy proposed, nor an increase in student numbers. The aim of the proposed development is to provide an improved learning environment for students, improve staff facilities and allow for greater flexibility in timetabling. The proposed development also seeks to reduce the existing parking shortfall. Under the strict application of Council's DCP the proposed development increases the parking requirements, although based upon the proposal, the development is not expected to generate additional parking demand over this existing operation of the site. Hence, the proposal is removing overflow of parking from the surrounding streets by providing additional parking. Further, it is expected that in the future, if further development was proposed, that additional parking would accompany that development application.

> *Car parking allocation non-compliance – need to meet the minimum requirements*

MTE Response: Refer to **Section 4.1.1** and the response above.

Based upon the proposal, the site is only required to provide **16** additional car parking spaces. The development seeks to provide **27** additional parking spaces without any expected increase in parking demand. While this does not meet the strict application of Council's DCP, it is an improvement over the existing operation and is fully supported.

Impact of increased traffic, drop-off and car parking overflow on surrounding streets

MTE Response: There is no proposed increase in student or staff numbers as part of the proposed development, resulting in nil expected additional traffic generated from the site. It is expected that the drop-off / pick-up areas will continue to operate as per the existing conditions. An application can be made to Council's Local Traffic Committee as part of a consent condition to increase the drop off / pick-up area in Woids Avenue, which was recommended as part of the previous report and this report. The proposed development is expected to reduce the on-street parking demand by some 27 spaces.

7 CONCLUSION

The traffic and parking impacts of the proposed alterations and additions to the existing St George Christian School (Primary and Secondary), as illustrated in **Annexure A**, have been assessed and are fully supportable in terms of the traffic and parking impacts. The following points are relevant to note:

- Under the proposal there is no increase in student or staff numbers to the existing St George Christian School, as such there is no increase in traffic generation within the local road network. Due to the provision of additional on-site staff parking spaces the trip distribution for staff may change resulting in slight changes to the surrounding intersections. This change is not expected to have a detrimental impact in terms of the operation of the nearby intersections.

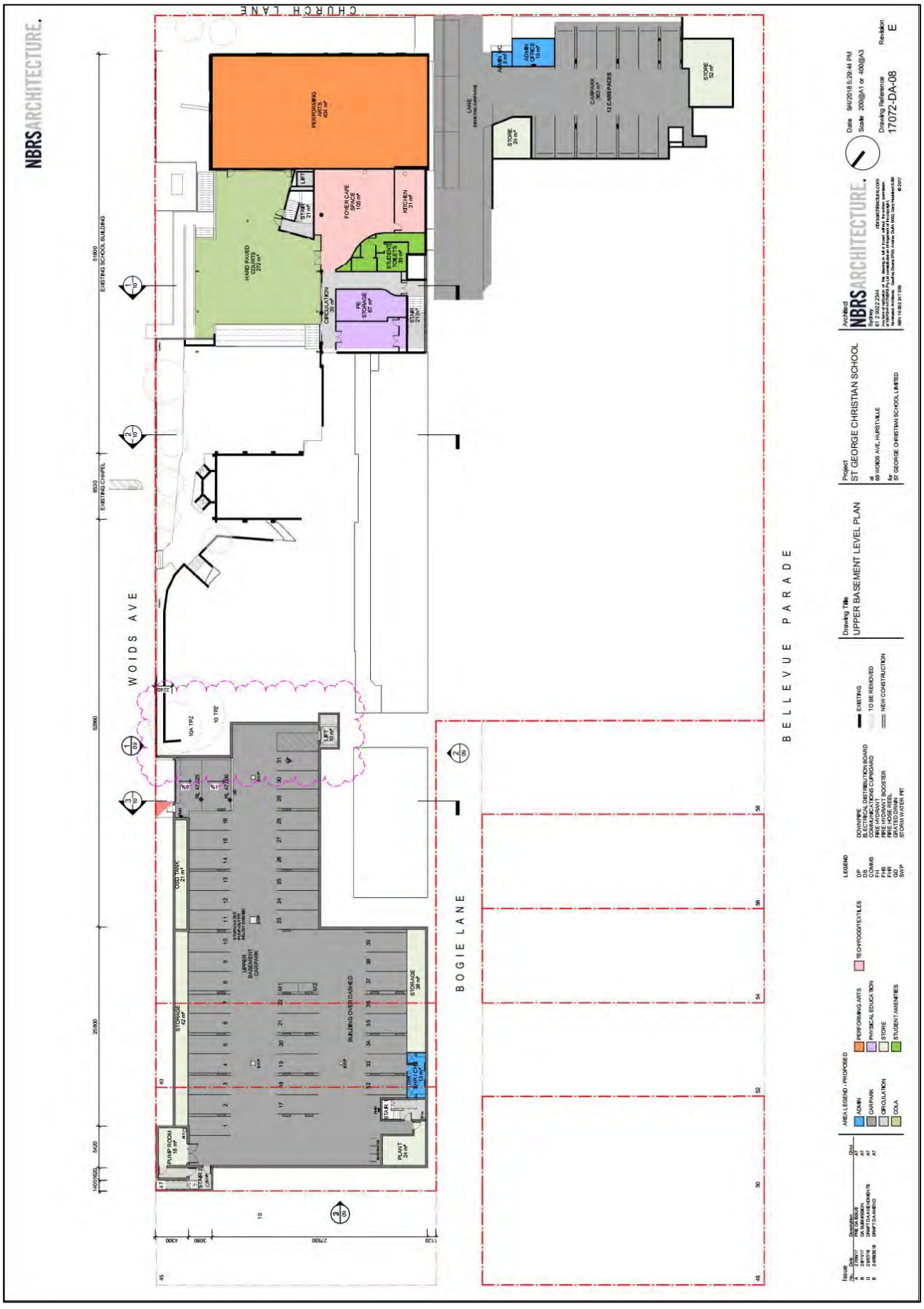
- The proposed Ground Floor car park has been assessed for compliance against AS2890.1:2004 and AS2890.6:2009 and is deemed to comply subject to any recommendations outlined in **Annexure G**.

- Council's DCP requires the provision of **16** additional car parking spaces under the proposed alterations and additions. The development provides an additional **27** car parking spaces, exceeding Council's parking requirement by **11** spaces. It is relevant to note that there will be no expected increase in parking demand of the site due to no change in staff or student's numbers. It is expected that the provision of **27** on-site car parking spaces will increase the existing on-street car parking supply by **27** spaces, which is an overall improvement for the surrounding area.

- Council's DCP does not provide any parking rates for bicycle and motorcycle parking for schools. Based upon the student surveys no student recorded using bicycles, although this could change depending on if any bicycle parking was provided. As part of the development two (2) motorcycle and four (4) bicycle racks have been provided within the basement car park for staff use, exceeding Council's DCP requirements.

- The provision of **27** additional on-site parking spaces for staff, recommended dedicated part-time *"No Parking"* signage along Woids Avenue (during school zone times) and recommended restriction of Church Lane to ONE WAY (eastbound) will improve the existing traffic flow conditions during the peak AM and PM periods, as well as improve upon the efficient and safe operation of the drop-off / pick-up facilities provided along the frontage of the school.

ANNEXURE A: PROPOSED PLANS
(Sheet 1 of 2)



ANNEXURE A: PROPOSED PLANS
(Sheet 2 of 2)

ANNEXURE B: TRAFFIC AND PARKING SURVEYS
(Sheet 1 of 16)

TRANS TRAFFIC SURVEY trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Bellevue Pde and Railway Pde, Allawah

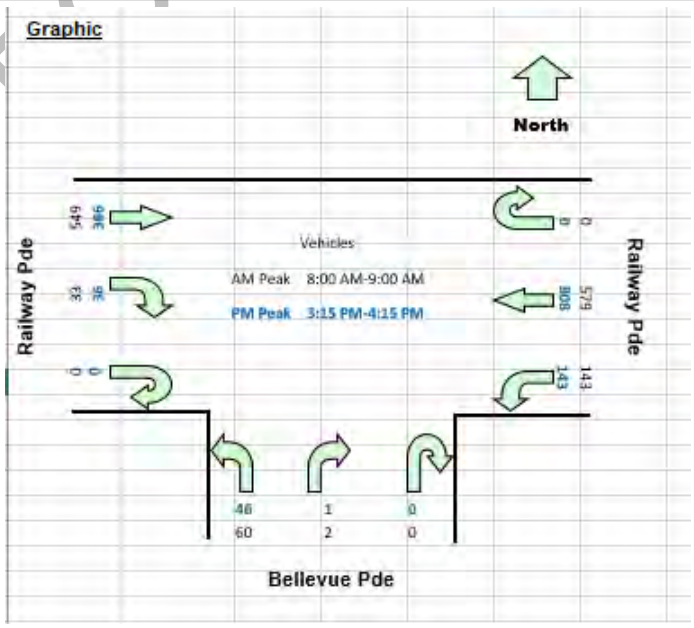
Date:	Thu 19/10/17	***North:***	N/A	**Survey Start**	AM:	7:00	PM: 14:00
Weather:	Overcast	***East:***	Railway Pde	**Vehicular Peakhour**		**Pedestrians Peakhour**	
Suburban:	Allawah	***South:***	Bellevue Pde	AM:	8:00 AM-9:00 AM	AM:	N/A
Customer:	McLaren	***West:***	Railway Pde	PM:	3:15 PM-4:15 PM	PM:	N/A

All Vehicles

Time		East Approach Railway Pde			South Approach Bellevue Pde			West Approach Railway Pde			Hourly Total	
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	Hour	Peak
7:00	7:15	0	113	13	0	0	13	0	4	134	1146	
7:15	7:30	0	95	10	0	0	14	0	6	142	1173	
7:30	7:45	0	110	10	0	0	5	0	3	131	1282	
7:45	8:00	0	142	22	0	0	20	0	8	151	1365	
8:00	8:15	0	121	42	0	1	8	0	7	125	1366	Peak
8:15	8:30	0	158	33	0	0	23	0	9	153	1355	
8:30	8:45	0	134	46	0	0	17	0	9	136	1252	
8:45	9:00	0	166	22	0	1	12	0	8	135	1204	
9:00	9:15	0	137	13	0	0	10	0	9	124	1139	
9:15	9:30	0	117	17	0	0	9	0	5	125		
9:30	9:45	0	132	23	0	0	7	0	2	130		
9:45	10:00	0	113	20	0	0	8	0	5	133		
14:00	14:15	0	173	24	0	0	7	0	2	77	1238	
14:15	14:30	0	160	14	0	0	6	0	6	84	1306	
14:30	14:45	0	188	31	0	0	8	0	4	120	1396	
14:45	15:00	0	185	32	0	1	8	0	4	104	1399	
15:00	15:15	0	200	42	0	0	17	0	8	84	1407	
15:15	15:30	0	214	40	0	0	13	0	13	80	1420	Peak
15:30	15:45	0	211	21	0	0	10	0	4	108	1400	
15:45	16:00	0	193	38	0	0	9	0	11	91	1360	
16:00	16:15	0	190	44	0	1	14	0	8	107	1330	
16:15	16:30	0	182	31	0	0	17	0	11	99		
16:30	16:45	0	156	41	0	0	8	0	8	101		
16:45	17:00	0	149	39	0	2	17	0	12	93		

Peak Time	East Approach Railway Pde	South Approach Bellevue Pde	West Approach Railway Pde	Peak

Graphic



TRANS TRAFFIC SURVEY

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TURNING MOVEMENT SURVEY

Intersection of Woids Ave and Railway Pde, Allawah

Date:	Thu 19/10/17
Weather:	Overcast
Suburban:	Allawah
Customer:	McLaren

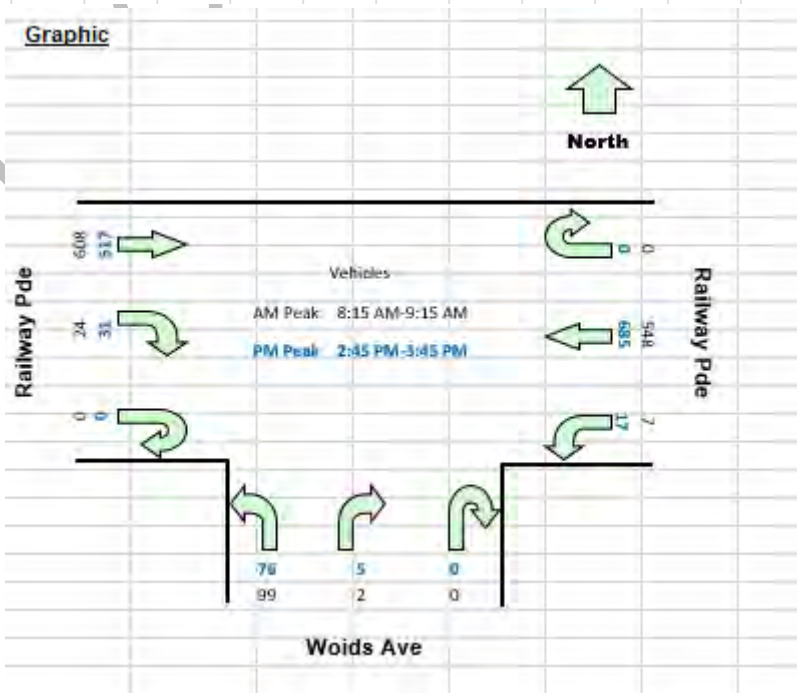
North:	N/A
East:	Railway Pde
South:	Woids Ave
West:	Railway Pde

Survey Start	AM:	7:00	PM:	14:00
Vehicular Peakhour		**Pedestrians Peakhour**		
AM:	8:15 AM-9:15 AM	AM:	N/A	
PM:	2:45 PM-3:45 PM	PM:	N/A	

All Vehicles

Time		East Approach Railway Pde			South Approach Woids Ave			West Approach Railway Pde			Hourly Total	
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	Hour	Peak
7:00	7:15	0	111	3	0	1	7	0	1	135	1096	
7:15	7:30	0	87	2	0	3	10	0	2	143	1119	
7:30	7:45	0	96	4	0	1	17	0	2	145	1214	
7:45	8:00	0	137	1	0	1	17	0	7	163	1270	
8:00	8:15	0	121	3	0	2	16	0	5	134	1264	
8:15	8:30	0	144	3	0	0	26	0	4	165	1288	Peak
8:30	8:45	0	114	3	0	0	40	0	8	156	1229	
8:45	9:00	0	142	1	0	2	21	0	6	148	1232	
9:00	9:15	0	148	0	0	0	12	0	6	139	1202	
9:15	9:30	0	130	3	0	1	6	0	3	140		
9:30	9:45	0	153	2	0	0	15	0	1	153		
9:45	10:00	0	118	0	0	3	14	0	5	150		
14:00	14:15	0	152	2	0	1	11	0	5	107	1182	
14:15	14:30	0	141	0	0	0	12	0	7	108	1227	
14:30	14:45	0	162	0	0	0	9	0	8	140	1307	
14:45	15:00	0	154	5	0	0	16	0	6	136	1331	Peak
15:00	15:15	0	185	6	0	1	14	0	8	109	1309	
15:15	15:30	0	177	3	0	4	32	0	13	119	1293	
15:30	15:45	0	169	3	0	0	14	0	4	153	1233	
15:45	16:00	0	167	1	0	1	14	0	7	105	1168	
16:00	16:15	0	144	7	0	0	9	0	1	146	1164	
16:15	16:30	0	135	2	0	2	13	0	4	132		
16:30	16:45	0	123	3	0	0	18	0	9	125		
16:45	17:00	0	128	7	0	3	12	0	12	129		

Graphic



TRANS TRAFFIC SURVEY

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TURNING MOVEMENT SURVEY

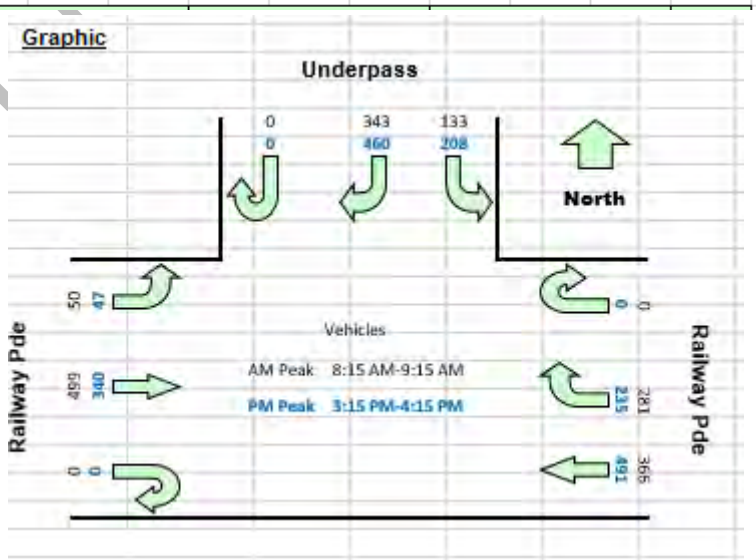
Intersection of Underpass and Railway Pde, Allawah

Date:	Thu 19/10/17	***North:***	Underpass	**Survey Start**	AM:	7:00	PM: 14:00
Weather:	Overcast	***East:***	Railway Pde	**Vehicular Peakhour**		**Pedestrians Peakhour**	
Suburban:	Allawah	***South:***	N/A	AM:	8:15 AM-9:15 AM	AM:	N/A
Customer:	McLaren	***West:***	Railway Pde	PM:	3:15 PM-4:15 PM	PM:	N/A

All Vehicles

Time		North Approach Underpass			East Approach Railway Pde			West Approach Railway Pde			Hourly Total	
Period Start	Period End	U	R	L	U	R	WB	U	EB	L	Hour	Peak
7:00	7:15	0	36	18	0	28	90	0	118	16	1305	
7:15	7:30	0	32	13	0	24	73	0	132	10	1367	
7:30	7:45	0	45	25	0	38	75	0	122	9	1511	
7:45	8:00	0	70	26	0	60	94	0	144	7	1627	
8:00	8:15	0	79	26	0	53	84	0	113	13	1652	
8:15	8:30	0	80	25	0	59	111	0	144	9	1672	Peak
8:30	8:45	0	100	40	0	74	80	0	124	12	1594	
8:45	9:00	0	95	32	0	70	93	0	122	14	1543	
9:00	9:15	0	68	36	0	78	82	0	109	15	1476	
9:15	9:30	0	60	29	0	62	74	0	114	11		
9:30	9:45	0	45	36	0	58	110	0	118	12		
9:45	10:00	0	59	35	0	58	74	0	120	13		
14:00	14:15	0	76	41	0	42	121	0	71	6	1555	
14:15	14:30	0	69	41	0	48	105	0	74	10	1617	
14:30	14:45	0	95	38	0	47	124	0	110	10	1746	
14:45	15:00	0	106	46	0	59	111	0	96	9	1779	
15:00	15:15	0	97	39	0	54	145	0	78	6	1764	
15:15	15:30	0	123	64	0	78	131	0	68	12	1781	Peak
15:30	15:45	0	107	59	0	58	125	0	98	10	1722	
15:45	16:00	0	103	37	0	53	128	0	75	16	1668	
16:00	16:15	0	127	48	0	46	107	0	99	9	1652	
16:15	16:30	0	122	48	0	57	91	0	88	11		
16:30	16:45	0	117	44	0	61	80	0	90	11		
16:45	17:00	0	107	54	0	59	81	0	87	8		

Graphic



ANNEXURE B: TRAFFIC AND PARKING SURVEYS
(Sheet 4 of 16)

TRANS TRAFFIC SURVEY trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Bellevue Pde and First Ave, Allawah

Date:	Thu 19/10/17
Weather:	Overcast
Suburban:	Allawah
Customer:	McLaren

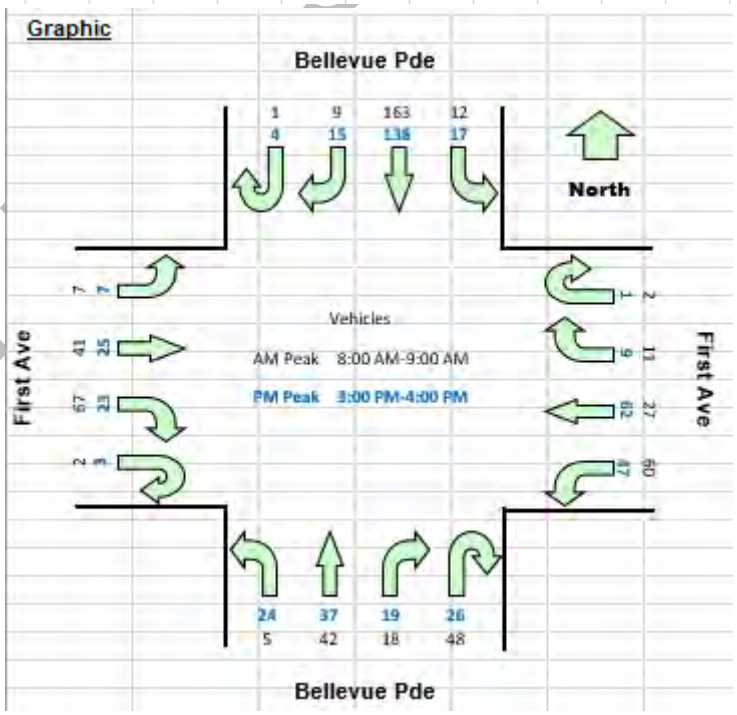
North:	Bellevue Pde
East:	First Ave
South:	Bellevue Pde
West:	First Ave

Survey Start	AM:	7:00	PM:	14:00
Vehicular Peakhour		**Pedestrians Peakhour**		
AM:	8:00 AM-9:00 AM	AM:	N/A	
PM:	3:00 PM-4:00 PM	PM:	N/A	

All Vehicles

Time		North Approach Bellevue Pde				East Approach First Ave				South Approach Bellevue Pde				West Approach First Ave				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
7:00	7:15	0	4	9	2	0	2	2	0	0	1	7	0	0	6	7	2	199	
7:15	7:30	1	2	12	1	0	0	10	0	0	0	8	0	0	2	4	3	262	
7:30	7:45	0	1	13	1	0	1	2	2	1	3	6	0	0	2	8	1	348	
7:45	8:00	1	0	22	3	0	2	5	5	3	5	11	0	0	6	9	1	500	
8:00	8:15	0	3	44	2	0	0	7	8	7	4	7	4	0	8	10	1	515	Peak
8:15	8:30	0	0	41	6	0	3	4	12	13	2	18	0	0	18	11	1	461	
8:30	8:45	1	4	46	3	1	5	12	29	23	9	12	1	0	35	11	1	373	
8:45	9:00	0	2	32	1	1	3	4	11	5	3	5	0	2	6	9	4	228	
9:00	9:15	0	2	15	4	0	1	5	2	0	2	8	1	0	2	6	3	187	
9:15	9:30	0	1	18	3	0	0	2	0	0	3	9	1	0	1	3	0		
9:30	9:45	2	3	16	3	0	0	1	1	2	2	4	2	0	2	9	1		
9:45	10:00	0	2	21	0	1	1	1	2	0	1	7	1	0	2	7	1		
14:00	14:15	0	2	25	0	1	2	7	0	0	1	4	1	0	1	2	1	250	
14:15	14:30	0	1	29	3	0	2	8	2	0	2	4	1	0	2	2	1	320	
14:30	14:45	0	1	29	2	0	0	7	0	0	3	5	3	0	3	8	0	416	
14:45	15:00	0	1	36	3	0	0	3	7	3	3	13	2	1	5	5	3	442	
15:00	15:15	3	7	34	4	0	0	8	11	9	7	9	6	2	7	7	3	457	Peak
15:15	15:30	0	5	45	4	1	2	19	27	10	6	12	12	0	6	4	0	425	
15:30	15:45	0	1	24	4	0	6	13	8	6	2	7	2	0	5	7	2	365	
15:45	16:00	1	2	35	5	0	1	22	1	1	4	9	4	1	5	7	2	369	
16:00	16:15	0	4	40	3	0	2	8	5	0	2	10	2	0	1	1	7	371	
16:15	16:30	0	4	32	4	0	1	4	5	0	2	12	7	0	3	10	9		
16:30	16:45	0	0	42	2	0	1	8	6	1	1	9	7	1	2	9	2		
16:45	17:00	3	11	34	1	1	2	14	3	0	6	13	4	0	2	6	2		

Graphic



ANNEXURE B: TRAFFIC AND PARKING SURVEYS

(Sheet 5 of 16)

TRANS TRAFFIC SURVEY trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Laneway and First Ave, Allawah

Date:	Thu 19/10/17
Weather:	Overcast
Suburban:	Allawah
Customer:	McLaren

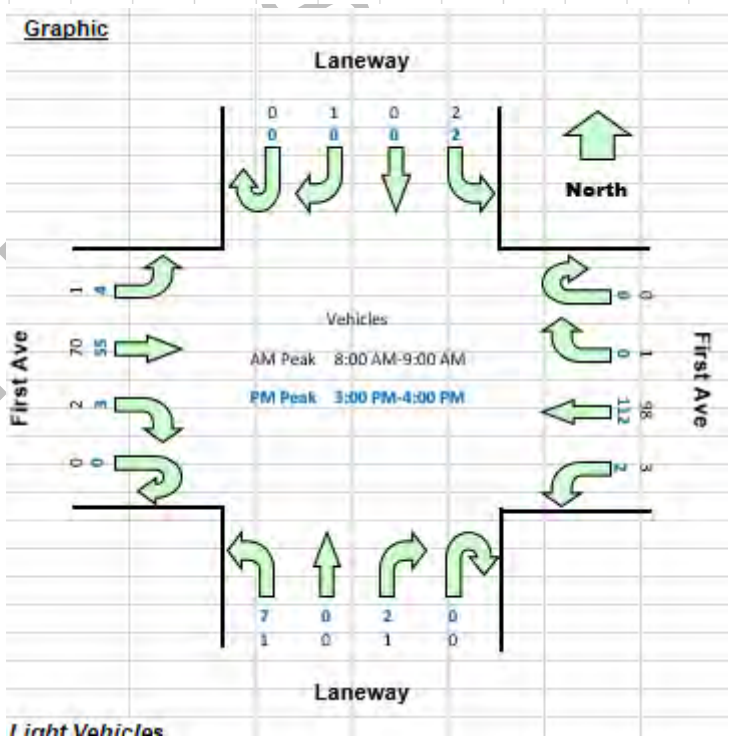
North:	Laneway
East:	First Ave
South:	Laneway
West:	First Ave

Survey Start	AM:	7:00	PM:	14:00
Vehicular Peakhour		Pedestrians Peakhour		
AM:	8:00 AM-9:00 AM	AM:	N/A	
PM:	3:00 PM-4:00 PM	PM:	N/A	

All Vehicles

Time		North Approach Laneway				East Approach First Ave				South Approach Laneway				West Approach First Ave				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
7:00	7:15	0	1	0	0	0	0	3	0	0	0	0	0	0	1	9	0	76	
7:15	7:30	0	0	0	0	0	0	10	0	0	0	0	0	0	0	5	0	94	
7:30	7:45	0	0	0	0	0	0	5	0	0	0	0	0	0	1	11	0	121	
7:45	8:00	0	1	0	1	0	0	10	0	0	0	0	1	0	1	15	1	177	
8:00	8:15	0	0	0	1	0	0	15	0	0	0	0	0	0	1	14	1	180	Peak
8:15	8:30	0	0	0	0	0	0	18	3	0	1	0	1	0	0	19	0	170	
8:30	8:45	0	0	0	1	0	1	47	0	0	0	0	0	0	0	24	0	140	
8:45	9:00	0	1	0	0	0	0	18	0	0	0	0	0	0	1	13	0	83	
9:00	9:15	0	0	0	1	0	0	7	1	0	0	0	1	0	0	11	1	66	
9:15	9:30	0	0	0	0	1	0	2	0	0	0	0	0	0	0	9	0		
9:30	9:45	0	0	0	0	0	0	2	0	0	0	0	0	0	2	12	0		
9:45	10:00	0	0	0	2	0	0	5	0	0	0	0	0	0	0	9	0		
14:00	14:15	0	0	0	0	0	0	10	0	0	0	0	0	0	0	4	0	79	
14:15	14:30	0	0	0	1	0	0	12	0	0	0	0	0	0	0	7	0	104	
14:30	14:45	0	1	0	1	0	1	5	0	0	0	0	1	0	0	13	0	149	
14:45	15:00	0	0	0	1	0	0	10	1	0	0	0	0	0	0	11	0	169	
15:00	15:15	0	0	0	1	0	0	18	1	0	0	0	1	0	2	15	1	187	Peak
15:15	15:30	0	0	0	0	0	0	46	1	0	0	0	3	0	1	14	0	169	
15:30	15:45	0	0	0	1	0	0	26	0	0	1	0	1	0	0	11	2	130	
15:45	16:00	0	0	0	0	0	0	22	0	0	1	0	2	0	0	15	1	115	
16:00	16:15	0	1	0	0	0	0	12	0	0	0	0	2	0	0	6	0	109	
16:15	16:30	0	2	0	0	0	0	8	0	0	0	0	0	0	0	15	1		
16:30	16:45	0	1	0	0	0	0	14	0	0	0	0	0	0	0	12	0		
16:45	17:00	0	1	0	0	1	0	19	0	0	0	0	0	0	0	13	1		

Graphic



Light Vehicles

ANNEXURE B: TRAFFIC AND PARKING SURVEYS
(Sheet 6 of 16)

TRANS TRAFFIC SURVEY trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Woids Ave and First Ave, Allawah

Date:	Thu 19/10/17
Weather:	Overcast
Suburban:	Allawah
Customer:	McLaren

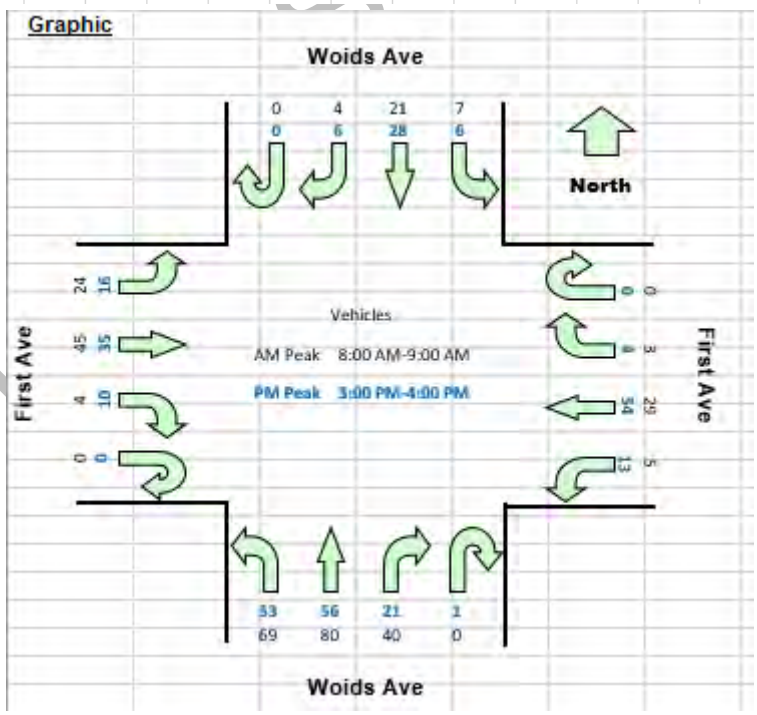
North:	Woids Ave
East:	First Ave
South:	Woids Ave
West:	First Ave

Survey Start	AM:	7:00	PM:	14:00
Vehicular Peakhour		Pedestrians Peakhour		
AM:	8:00 AM-9:00 AM	AM:	N/A	
PM:	3:00 PM-4:00 PM	PM:	N/A	

All Vehicles

Time		North Approach Woids Ave				East Approach First Ave				South Approach Woids Ave				West Approach First Ave				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
7:00	7:15	0	1	2	1	0	0	1	1	0	2	5	1	0	0	7	2	143	
7:15	7:30	0	1	1	0	0	0	7	0	0	2	8	2	0	0	4	1	181	
7:30	7:45	1	0	3	2	0	1	2	2	0	5	11	1	0	0	9	2	229	
7:45	8:00	0	0	7	1	0	0	3	3	0	8	10	7	0	4	7	5	318	
8:00	8:15	0	0	6	2	0	1	5	2	0	6	14	10	0	0	11	4	331	Peak
8:15	8:30	0	1	4	2	0	2	2	0	0	8	17	18	0	1	14	5	305	
8:30	8:45	0	2	8	1	0	0	19	0	0	15	31	27	0	3	14	8	260	
8:45	9:00	0	1	3	2	0	0	3	3	0	11	18	14	0	0	6	7	158	
9:00	9:15	0	1	4	0	0	1	4	2	0	0	8	3	0	0	9	3	118	
9:15	9:30	0	0	4	2	0	0	1	2	0	4	4	2	0	1	7	2		
9:30	9:45	1	0	1	0	0	0	1	0	0	1	9	1	0	1	8	3		
9:45	10:00	0	1	4	0	0	0	1	0	0	0	8	3	0	0	6	5		
14:00	14:15	0	0	6	0	0	1	8	0	1	3	10	2	0	0	3	1	153	
14:15	14:30	0	0	3	2	0	0	10	2	0	1	10	2	0	1	6	1	185	
14:30	14:45	0	1	6	0	0	0	4	1	0	0	4	1	0	1	12	1	268	
14:45	15:00	0	0	11	0	0	0	9	2	0	1	12	2	0	2	7	3	300	
15:00	15:15	0	2	6	4	0	1	6	6	1	4	10	11	0	6	7	3	303	Peak
15:15	15:30	0	4	10	2	0	1	14	7	0	10	30	29	0	0	10	4	269	
15:30	15:45	0	0	7	0	0	2	16	0	0	4	10	9	0	1	11	3	187	
15:45	16:00	0	0	5	0	0	0	18	0	0	3	6	4	0	3	7	6	181	
16:00	16:15	0	1	6	1	0	0	8	2	0	1	5	3	0	1	3	2	192	
16:15	16:30	0	0	4	2	0	1	6	0	0	2	7	2	0	1	10	4		
16:30	16:45	0	0	10	2	0	1	8	2	0	3	13	6	0	4	6	2		
16:45	17:00	0	3	14	2	0	1	14	3	0	3	6	3	0	1	7	6		

Graphic



ANNEXURE B: TRAFFIC AND PARKING SURVEYS
(Sheet 7 of 16)

TRANS TRAFFIC SURVEY trafficsurvey.com.au

TURNING MOVEMENT SURVEY

Intersection of Bellevue Pde and Church Ln, Allawah

Date:	Thu 19/10/17
Weather:	Overcast
Suburban:	Allawah
Customer:	McLaren

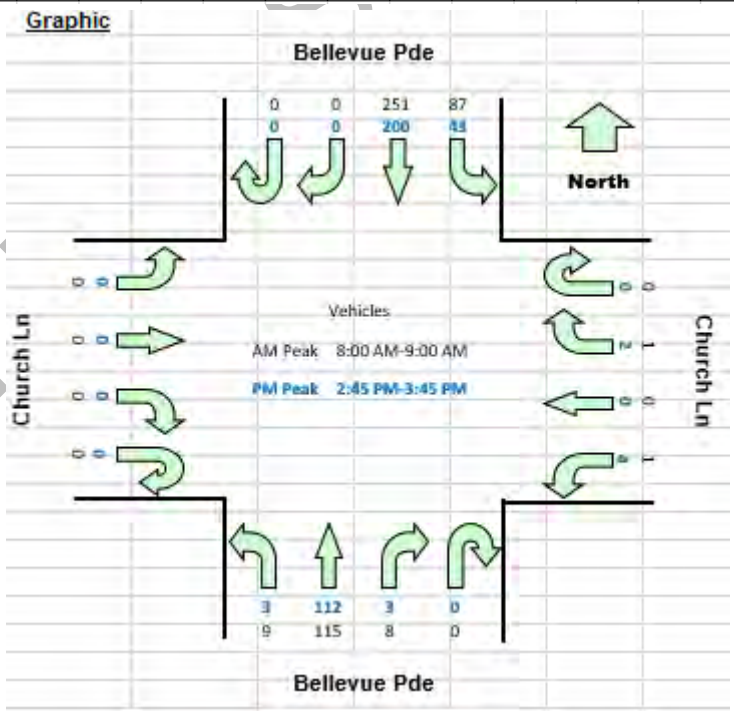
North:	Bellevue Pde
East:	Church Ln
South:	Bellevue Pde
West:	Church Ln

Survey Start	AM:	7:00	PM:	14:00
Vehicular Peakhour			Pedestrians Peakhour	
AM:	8:00 AM-9:00 AM		AM:	N/A
PM:	2:45 PM-3:45 PM		PM:	N/A

All Vehicles

Time		North Approach Bellevue Pde				East Approach Church Ln				South Approach Bellevue Pde				West Approach Church Ln				Hourly Total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak
7:00	7:15	0	0	15	0	0	0	0	0	0	0	8	0	0	0	0	0	144	
7:15	7:30	0	0	13	1	0	0	0	0	0	2	10	2	0	0	0	0	222	
7:30	7:45	0	0	15	3	0	0	0	0	0	0	14	0	0	0	0	0	316	
7:45	8:00	0	0	30	6	0	0	0	0	0	3	19	3	0	0	0	0	464	
8:00	8:15	0	0	54	13	0	0	0	0	0	5	24	5	0	0	0	0	472	Peak
8:15	8:30	0	0	65	19	0	1	0	1	0	1	33	2	0	0	0	0	404	
8:30	8:45	0	0	91	42	0	0	0	0	0	0	45	2	0	0	0	0	319	
8:45	9:00	0	0	41	13	0	0	0	0	0	2	13	0	0	0	0	0	172	
9:00	9:15	0	0	18	1	0	0	0	1	0	1	11	1	0	0	0	0	140	
9:15	9:30	0	0	18	1	0	0	0	0	0	2	14	2	0	0	0	0		
9:30	9:45	0	0	19	2	0	0	0	0	0	0	10	2	0	0	0	0		
9:45	10:00	0	0	23	2	0	0	0	0	0	0	12	0	0	0	0	0		
14:00	14:15	0	0	26	0	0	0	0	1	0	0	6	0	0	0	0	0	199	
14:15	14:30	0	0	32	1	0	0	0	0	0	0	7	0	0	0	0	0	258	
14:30	14:45	0	0	31	1	0	0	0	2	0	1	11	1	0	0	0	0	352	
14:45	15:00	0	0	50	1	0	0	0	0	0	2	24	2	0	0	0	0	367	Peak
15:00	15:15	0	0	45	16	0	1	0	0	0	0	30	0	0	0	0	0	348	
15:15	15:30	0	0	66	22	0	0	0	4	0	0	41	1	0	0	0	0	318	
15:30	15:45	0	0	39	4	0	1	0	0	0	1	17	0	0	0	0	0	245	
15:45	16:00	0	0	40	1	0	1	0	0	0	0	16	0	0	1	0	1	253	
16:00	16:15	0	0	45	1	0	1	0	1	0	0	14	0	0	0	0	0	257	
16:15	16:30	0	0	39	1	0	0	0	0	0	0	21	0	0	0	0	0		
16:30	16:45	0	0	47	5	0	2	0	0	0	0	16	0	0	0	0	0		
16:45	17:00	0	0	38	1	0	4	0	0	0	1	19	1	0	0	0	0		

Graphic



ANNEXURE B: TRAFFIC AND PARKING SURVEYS
(Sheet 8 of 16)

TRANS TRAFFIC SURVEY trafficsurvey.com.au

TURNING MOVEMENT SURVEY

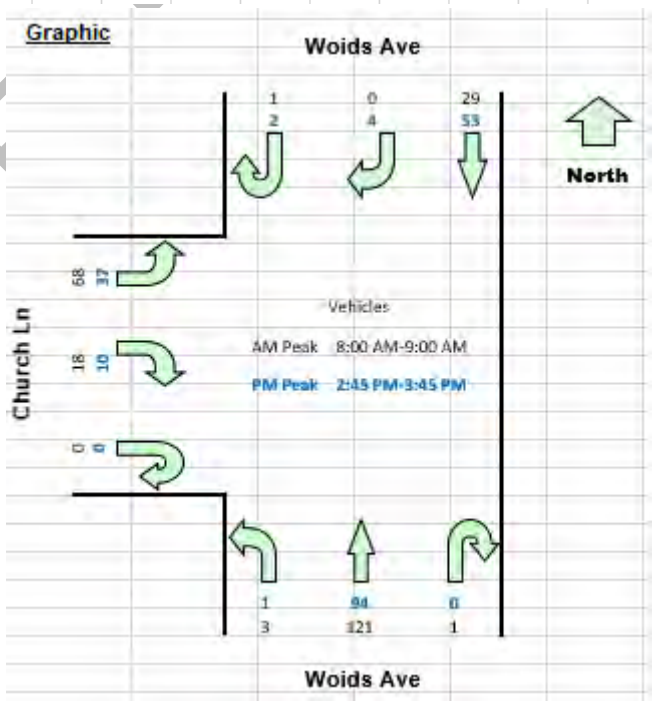
Intersection of Woids Ave and Church Ln, Allawa

Date:	Thu 19/10/17	***North:***	Woids Ave	**Survey Start**	AM:	7:00	PM: 14:00
Weather:	Overcast	***East:***	N/A	**Vehicular Peakhour**		**Pedestrians Peakhour**	
Suburban:	Allawah	***South:***	Woids Ave	AM:	8:00 AM-9:00 AM	AM:	N/A
Customer:	McLaren	***West:***	Church Ln	PM:	2:45 PM-3:45 PM	PM:	N/A

All Vehicles

Time		North Approach Woids Ave			South Approach Woids Ave			West Approach Church Ln			Hourly Total	
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	Hour	Peak
7:00	7:15	1	0	2	0	6	0	0	0	0	82	
7:15	7:30	0	1	0	0	10	0	0	0	2	114	
7:30	7:45	1	0	4	0	13	0	0	0	3	154	
7:45	8:00	0	0	14	0	20	0	0	0	5	231	
8:00	8:15	1	0	7	0	19	0	0	4	10	241	Peak
8:15	8:30	0	0	5	1	29	2	0	2	14	216	
8:30	8:45	0	0	11	0	46	1	0	12	28	181	
8:45	9:00	0	0	6	0	27	0	0	0	16	96	
9:00	9:15	0	0	5	0	9	0	0	0	2	63	
9:15	9:30	1	0	7	0	8	0	0	1	1		
9:30	9:45	0	0	2	0	9	0	0	0	2		
9:45	10:00	0	0	4	0	10	0	0	1	1		
14:00	14:15	1	0	6	0	15	0	0	0	0	83	
14:15	14:30	0	0	6	0	13	0	0	0	0	107	
14:30	14:45	0	0	8	0	4	0	0	0	1	183	
14:45	15:00	1	0	14	0	12	0	0	0	2	201	Peak
15:00	15:15	1	1	17	0	12	0	0	2	13	194	
15:15	15:30	0	2	15	0	54	1	0	8	15	168	
15:30	15:45	0	1	7	0	16	0	0	0	7	90	
15:45	16:00	0	0	8	0	12	1	0	0	1	98	
16:00	16:15	0	0	9	0	9	0	0	2	0	106	
16:15	16:30	0	0	6	0	9	0	0	0	2		
16:30	16:45	0	1	14	0	18	0	0	2	4		
16:45	17:00	0	1	17	0	8	0	0	0	4		

Graphic



TRANS TRAFFIC SURVEY

trafficsurvey.com.au

TURNING MOVEMENT SURVEY

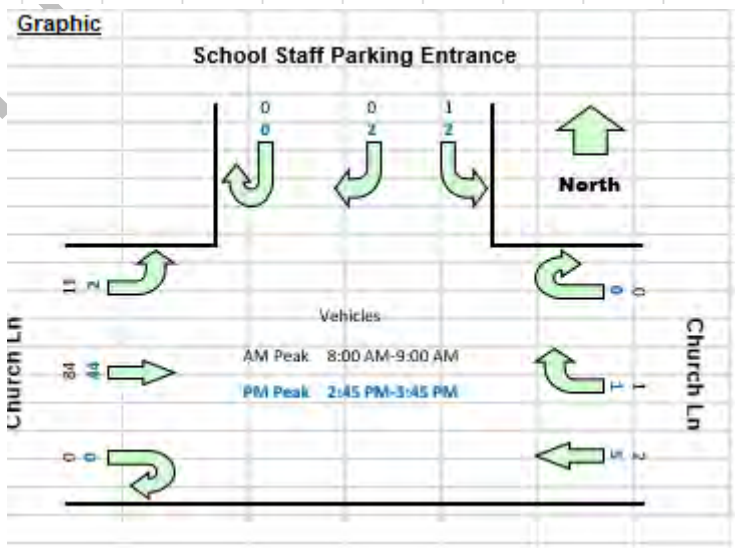
Intersection of School Staff Parking Entrance and Church Ln, Allawah

Date:	Thu 19/10/17	***North:***	School Staff Parking Entrance	**Survey Start**	AM:	7:00	PM: 14:00
Weather:	Overcast	***East:***	Church Ln	**Vehicular Peakhour**		**Pedestrians Peakhour**	
Suburban:	Allawah	***South:***	N/A	AM:	8:00 AM-9:00 AM	AM:	N/A
Customer:	McLaren	***West:***	Church Ln	PM:	2:45 PM-3:45 PM	PM:	N/A

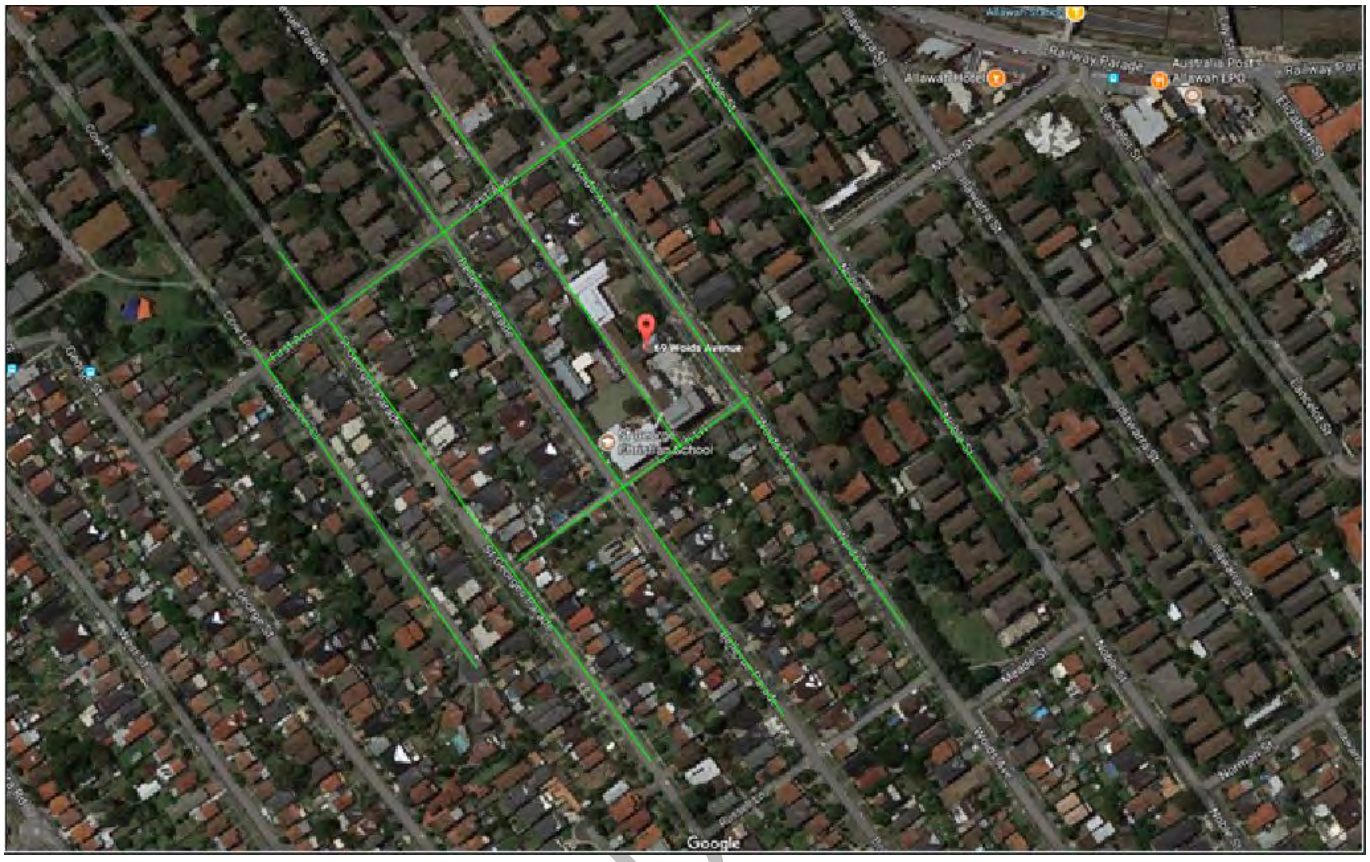
All Vehicles

Time		roach School Staff Parking			East Approach Church Ln			West Approach Church Ln			Hourly Total	
Period Start	Period End	U	R	L	U	R	WB	U	EB	L	Hour	Peak
7:00	7:15	0	0	0	0	0	0	0	0	0	16	
7:15	7:30	0	0	0	0	1	0	0	2	1	34	
7:30	7:45	0	0	0	0	0	0	0	3	0	52	
7:45	8:00	0	0	0	0	0	0	0	5	4	92	
8:00	8:15	0	0	0	0	0	0	0	14	4	99	Peak
8:15	8:30	0	0	0	0	0	2	0	16	4	84	
8:30	8:45	0	0	0	0	1	0	0	40	2	65	
8:45	9:00	0	0	1	0	0	0	0	14	1	24	
9:00	9:15	0	1	0	0	0	0	0	2	0	10	
9:15	9:30	0	0	0	0	0	0	0	2	1		
9:30	9:45	0	0	0	0	0	0	0	2	0		
9:45	10:00	0	0	0	0	0	0	0	2	0		
14:00	14:15	0	1	0	0	0	0	0	0	0	9	
14:15	14:30	0	0	0	0	0	0	0	0	1	25	
14:30	14:45	0	2	0	0	0	0	0	1	1	52	
14:45	15:00	0	0	0	0	0	0	0	2	1	56	Peak
15:00	15:15	0	0	0	0	0	1	0	15	1	55	
15:15	15:30	0	2	1	0	1	2	0	22	0	42	
15:30	15:45	0	0	1	0	0	2	0	5	0	15	
15:45	16:00	0	0	0	0	0	1	0	1	0	15	
16:00	16:15	0	2	1	0	0	0	0	1	0	20	
16:15	16:30	0	0	0	0	0	0	0	1	0		
16:30	16:45	0	1	1	0	0	1	0	5	0		
16:45	17:00	0	2	1	0	0	2	0	2	0		

Graphic



ANNEXURE B: TRAFFIC AND PARKING SURVEYS
(Sheet 10 of 16)



Site **200m measured from the extremities of the school**

ANNEXURE B: TRAFFIC AND PARKING SURVEYS
(Sheet 11 of 16)

Curtis Traffic Surveys

Job: 171002mcl (17_522)
Client: McLaren Traffic Engineering
Day, date Friday, 27 October 2017
Location: Allawah
Weather Fine
Surveyor MC

Total vehicles in zone(followed by parents in parenthesis)

Parking round commencing...

Zone	Street	From	To	Side of Street	Capacity	Restriction	14:00	14:30	15:00	15:30	16:00	16:30	17:00
a	Woids Av	1st Av	200m	west	18	u	9	9	9	8	8	8	8
b	Woids Av	200m	1st Av	east	12	u	7	7	7	8	9	9	9
c	1st Av	Woids Av	Noble St	north	3	u	3	3	2	2	2	2	3
d	Noble St	1st Av	200m	west		ns	0	0	0	0	1	1	1
e	Noble St	200m	1st Av	east	1	u	1	1	1	1	1	1	1
f	1st Av	Noble St	200m	north		ns	0	0	0	0	0	0	0
g	1st Av	200m	Noble St	south	3	u	2	2	2	2	2	2	2
h	Noble St	1st Av	Mona St	east	14	u	11	11	11	11	12	12	15
I	Noble St	Mona St	200m	east	14	u	8	8	7	7	7	7	7
j	Noble St	200m	1st Av	west	34	u	23	23	22	23	25	25	25
k	1st Av	Noble St	Woids Av	south	12	u	5	5	5	5	6	6	6
l	Woids Av	1st Av	100m	east	29	u	18	18	18(1)	18	14	14	14
m	Woids Av	100m	200m	east	12	u	6	6	7	7	7	7	7
n	Woids Av	200m	100m	west	7	u	6	6	6	6	6	6	6
o	Woids Av	100m	Church Ln	west	7	u	8	8	8	7	6	6	6
p	Church Ln	Woids Av	Belleview Pd	both		np	0	0	0	0	0	0	0
q	Bogie Ln	Church Ln	1st Av	both	7	u	3	3	3	2	2	2	2
r	Woids Av	Church Ln	1st Av	west	26	20u+6*np	15	15	20(3)	17(1)	13	13	12
s	1st Av	Woids Av	Bogie Ln	south	4		3	3	3	2	1	1	1
t	1st Av	Woids Av	Bogie Ln	north	3	ns2	0	0	0	0	0	0	0
u	Bogie Ln	1st Av	200m	west		too narrc	1	1	1	1	1	1	1
v	Bogie Ln	200m	1st Av	east	13	u	0	0	0	0	0	0	0
w	1st Av	Bogie Ln	Belleview Pd	south	2	u	3	3	3	2	2	2	2
x	1st Av	Bogie Ln	Belleview Pd	north	2	ns1	0	0	0	0	0	0	0
y	Belleview Pd	1st Av	200m	west	9	u	7	7	7	6	6	7	7
z	Belleview Pd	200m	1st Av	east	11	u	6	6	6	6	6	6	6
aa	Belleview Pd	1st Av	Church Ln	east	27	13u+14*	7	8(1)	9(2)	7	8	8	8
ab	Belleview Pd	1st Av	Church Ln	west	15	u	11	13(2)	13(2)	11	9	9	8
ac	Belleview Pd	Church Ln	100m	east	7	u	5	5	5	7(2)	4	3	3
ad	Belleview Pd	Church Ln	100m	west	6	u	4	4	5	7	5	4	4
ae	Church Ln	Belleview Pd	steps	south		too narrc	0	0	0	0	0	0	0
af	Church Ln	steps	Belleview Pd	north		too narrc	1	1	1	1	1	1	1
ag	Belleview Pd	100m	200m	east	10	u	5	6(1)	7(2)	8(3)	4	4	4
ah	Belleview Pd	200m	100m	west	10	u	4	4	5	3	2	1	2
ai	1st Av	Belleview Pd	St Georges F	north	7	u	3	3	3	3	2	2	2
aj	1st Av	Belleview Pd	St Georges F	south	8	u	4	4	3	3	3	3	3
ak	St Georges F	1st Av	200m	east	20	u	7	7	7	7	7	8	8
aL	St Georges F	200m	1st Av	west	36	u	14	14	14	14	16	18	18
am	1st Av	St Georges F	Burraneer C	south	3	u	2	2	2	2	2	2	2
an	Burraneer C	1st Av	end	east	10	u	2	2	2	2	2	2	2
ao	Burraneer C	end	1st Av	west	23	u	5	5	5	5	5	5	5
ap	1st Av	Burraneer C	St Georges F	north	2	u	0	0	0	0	0	0	0
aq	St Georges F	1st Av	200m	west	3	u	2	2	2	2	3	2	2
ar	St Georges F	200m	1st Av	east	1	u	1	1	1	1	1	1	1
							14:00	14:30	15:00	15:30	16:00	16:30	17:00

ANNEXURE B: TRAFFIC AND PARKING SURVEYS
(Sheet 12 of 16)

Curtis Traffic Surveys

Job: 171002mcl (17_522)
Client: McLaren Traffic Engineering
Day, date Friday, 27 October 2017
Location: Allawah
Weather Rain
Surveyor MC

							Parking round commencing…					
Zone	Street	From	To	Side of Street	Capacity	Restriction	7:00	7:30	8:00	8:30	9:00	9:30
a	Woids Av	1st Av	200m	west	18	u	6	6	6	7	8	0
b	Woids Av	200m	1st Av	east	12	u	8	7	6	6	6	6
c	1st Av	Woids Av	Noble St	north	3	u	2	2	2	2	2	2
d	Noble St	1st Av	200m	west		ns	1	1	1	1	0	0
e	Noble St	200m	1st Av	east	1	u	1	1	1	1	1	1
f	1st Av	Noble St	200m	north		ns	0	0	0	0	0	0
g	1st Av	200m	Noble St	south	3	u	2	2	2	2	2	2
h	Noble St	1st Av	Mona St	east	14	u	9	10	11	10	9	9
I	Noble St	Mona St	200m	east	14	u	7	7	7	7	6	6
j	Noble St	200m	1st Av	west	34	u	24	24	24	24	23	20
k	1st Av	Noble St	Woids Av	south	12	u	7	7	7	6	6	6
l	Woids Av	1st Av	100m	east	29	u	18	18	18(1)	18(2)	17(1)	17
m	Woids Av	100m	200m	east	12	u	8	8	8	8	8	7
n	Woids Av	200m	100m	west	7	u	7	7	7	6	6	6
o	Woids Av	100m	Church Ln	west	7	u	6	7	7	6	5	5
p	Church Ln	Woids Av	Belleview Pd	both		np	0	0	0	0	0	0
q	Bogie Ln	Church Ln	1st Av	both	7	u	1	1	1	3	3	3
r	Woids Av	Church Ln	1st Av	west	26	20u+6*np	13	14	15	15(2)	13	12
s	1st Av	Woids Av	Bogie Ln	south	4		3	3	3	4	4	4
t	1st Av	Woids Av	Bogie Ln	north	3	ns2	2	1	0	0	0	0
u	Bogie Ln	1st Av	200m	west		too narrc	1	1	1	1	1	0
v	Bogie Ln	200m	1st Av	east	13	u	0	0	0	0	1	0
w	1st Av	Bogie Ln	Belleview Pd	south	2	u	2	2	2	2	2	1
x	1st Av	Bogie Ln	Belleview Pd	north	2	ns1	2	2	1	3	2	1
y	Belleview Pd	1st Av	200m	west	9	u	7	7	6	5	5	5
z	Belleview Pd	200m	1st Av	east	11	u	8	8	7	7	7	6
aa	Belleview Pd	1st Av	Church Ln	east	27	13u+14*	9	9	12	11	11	10
ab	Belleview Pd	1st Av	Church Ln	west	15	u	6	7	12	14	13	11
ac	Belleview Pd	Church Ln	100m	east	7	u	1	1	2	6	6	5
ad	Belleview Pd	Church Ln	100m	west	6	u	2	2	2	5	5	4
ae	Church Ln	Belleview Pd	steps	south		too narrc	0	0	0	0	0	0
af	Church Ln	steps	Belleview Pd	north		too narrc	1	1	1	1	1	1
ag	Belleview Pd	100m	200m	east	10	u	3	3	3	3	3	2
ah	Belleview Pd	200m	100m	west	10	u	2	3	4	4	3	3
ai	1st Av	Belleview Pd	St Georges F	north	7	u	4	4	4	4	4	4
aj	1st Av	Belleview Pd	St Georges F	south	8	u	5	5	4	4	4	2
ak	St Georges F	1st Av	200m	east	20	u	9	7	6	5	5	5
aL	St Georges F	200m	1st Av	west	36	u	18	16	14	12	12	11
am	1st Av	St Georges F	Burraneer C	south	3	u	2	2	1	0	0	0
an	Burraneer C	1st Av	end	east	10	u	2	2	2	2	1	1
ao	Burraneer C	end	1st Av	west	23	u	7	6	5	4	4	3
ap	1st Av	Burraneer C	St Georges F	north	2	u	1	0	0	1	1	1
aq	St Georges F	1st Av	200m	west	3	u	3	3	4	4	4	3
ar	St Georges F	200m	1st Av	east	1	u	0	0	0	1	1	2
Friday, 27 October 2017							7:00	7:30	8:00	8:30	9:00	9:30

ANNEXURE B: TRAFFIC AND PARKING SURVEYS
(Sheet 13 of 16)

Curtis Traffic Surveys

Job: 171002mcl (17_522)
Client: McLaren Traffic Engineering
Day, date Thursday, 26 October 2017
Location: Allawah
Weather Shower at 16:00, otherwise fine
Surveyor MC

Parent queue in Belleview Pd at 15:15 18 vehicles(worst case)
Parent queue in Woids Av at 15:20 8 vehicles

Total vehicles in zone(followed by parents in parenthesis)

Parking round commencing...

Zone	Street	From	To	Side of Street	Capacity	Restriction	14:00	14:30	15:00	15:30	16:00	16:30	17:00
a	Woids Av	1st Av	200m	west	18	u	9	9	9	8	8	8	8
b	Woids Av	200m	1st Av	east	12	u	8	8	8	7	7	7	7
c	1st Av	Woids Av	Noble St	north	3	u	3	3	2	2	2	2	2
d	Noble St	1st Av	200m	west		ns	0	0	0	1	1	1	1
e	Noble St	200m	1st Av	east	1	u	1	1	1	1	1	1	1
f	1st Av	Noble St	200m	north		ns	0	0	0	0	0	0	0
g	1st Av	200m	Noble St	south	3	u	2	2	2	2	2	2	2
h	Noble St	1st Av	Mona St	east	14	u	11	10	13	12	12	13	13
I	Noble St	Mona St	200m	east	14	u	7	6	8	8	8	8	8
j	Noble St	200m	1st Av	west	34	u	25	25	26	27	26	26	28
k	1st Av	Noble St	Woids Av	south	12	u	4	4	5	3	3	3	5
l	Woids Av	1st Av	100m	east	29	u	19	19	19(2)	19(2)	17(1)	15	15
m	Woids Av	100m	200m	east	12	u	9	9	9	8	8	8	8
n	Woids Av	200m	100m	west	7	u	5	5	5	5	5	5	5
o	Woids Av	100m	Church Ln	west	7	u	7	7	7	7	6	5	6
p	Church Ln	Woids Av	Belleview Pd	both		np	0	0	0	0	0	0	0
q	Bogie Ln	Church Ln	1st Av	both	7	u	3	3	3	3	3	3	3
r	Woids Av	Church Ln	1st Av	west	26	20u+6*np	11	12	15(4)	15(4)	14(3)	11	12
s	1st Av	Woids Av	Bogie Ln	south	4		3	3	3	2	2	2	2
t	1st Av	Woids Av	Bogie Ln	north	3	ns2	0	0	0	0	0	0	0
u	Bogie Ln	1st Av	200m	west		too narrc	2	2	2	2	2	2	2
v	Bogie Ln	200m	1st Av	east	13	u	0	0	0	0	0	0	0
w	1st Av	Bogie Ln	Belleview Pd	south	2	u	2	2	2	2	3	3	3
x	1st Av	Bogie Ln	Belleview Pd	north	2	ns1	0	0	0	1	1	1	1
y	Belleview Pd	1st Av	200m	west	9	u	7	7	7	8	8	8	8
z	Belleview Pd	200m	1st Av	east	11	u	9	9		8	8	9	9
aa	Belleview Pd	1st Av	Church Ln	east	27	13u+14*r	9	9(2)	9(2)	10	9	8	8
ab	Belleview Pd	1st Av	Church Ln	west	15	u	13	15(2)	14(3)	11	8	6	7
ac	Belleview Pd	Church Ln	100m	east	7	u	4	5	8	5	3	2	2
ad	Belleview Pd	Church Ln	100m	west	6	u	4	5	8	4	3	2	2
ae	Church Ln	Belleview Pd	steps	south		too narrc	0	0	0	0	0	0	0
af	Church Ln	steps	Belleview Pd	north		too narrc	1	1	1	1	1	1	0
ag	Belleview Pd	100m	200m	east	10	u	5	7(1)	9(2)	5	3	2	2
ah	Belleview Pd	200m	100m	west	10	u	2	3	5	2	2	2	2
ai	1st Av	Belleview Pd	St Georges F	north	7	u	3	3	4	5(1)	4	4	4
aj	1st Av	Belleview Pd	St Georges F	south	8	u	5	5	5	4	4	4	4
ak	St Georges F	1st Av	200m	east	20	u	15	15	15	15	16	16	16
aL	St Georges F	200m	1st Av	west	36	u	13	12	12	12	11	11	11
am	1st Av	St Georges F	Burraneer C	south	3	u	1	1	2	2	2	2	2
an	Burraneer C	1st Av	end	east	10	u	2	2	3	3	2	2	2
ao	Burraneer C	end	1st Av	west	23	u	5	5	5	5	5	5	5
ap	1st Av	Burraneer C	St Georges F	north	2	u	1	1	2	2	2	2	2
aq	St Georges F	1st Av	200m	west	3	u	1	1	2	2	2	2	2
ar	St Georges F	200m	1st Av	east	1	u	3	3	3	3	3	3	3
							14:00	14:30	15:00	15:30	16:00	16:30	17:00

ANNEXURE B: TRAFFIC AND PARKING SURVEYS
(Sheet 14 of 16)

Curtis Traffic Surveys

Job: 171002mcl (17_522)
Client: McLaren Traffic Engineering
Day, date Thursday, 26 October 2017
Location: Allawah
Weather Fine
Surveyor MC

							Parking round commencing…					
Zone	Street	From	To	Side of Street	Capacity	Restriction	7:00	7:30	8:00	8:30	9:00	9:30
a	Woids Av	1st Av	200m	west	18	u	10	9	9	9	9	8
b	Woids Av	200m	1st Av	east	12	u	10	9	8	8	8	6
c	1st Av	Woids Av	Noble St	north	3	u	1	1	1	2	2	3
d	Noble St	1st Av	200m	west		ns	0	0	0	0	0	0
e	Noble St	200m	1st Av	east	1	u	1	1	1	1	1	1
f	1st Av	Noble St	200m	north		ns	0	0	0	0	0	0
g	1st Av	200m	Noble St	south	3	u	2	2	2	2	2	1
h	Noble St	1st Av	Mona St	east	14	u	11	11	11	11	10	9
I	Noble St	Mona St	200m	east	14	u	6	6	6	6	6	7
j	Noble St	200m	1st Av	west	34	u	25	25	25	23	22	21
k	1st Av	Noble St	Woids Av	south	12	u	6	6	6	4	4	4
l	Woids Av	1st Av	100m	east	29	u	18	18	17	17	18(2)	21
m	Woids Av	100m	200m	east	12	u	8	8	8	8	8	8
n	Woids Av	200m	100m	west	7	u	7	7	7	7	7	7
o	Woids Av	100m	Church Ln	west	7	u	9	9	8	7	7	7
p	Church Ln	Woids Av	Belleview Pd	both		np	0	0	0	0	0	0
q	Bogie Ln	Church Ln	1st Av	both	7	u	0	0	0	1	1	2
r	Woids Av	Church Ln	1st Av	west	26	20u+6*n	11	11	12(1)	15(3)	15(2)	15
s	1st Av	Woids Av	Bogie Ln	south	4		2	2	1	3	2	0
t	1st Av	Woids Av	Bogie Ln	north	3	ns2	1	1	1	0	0	0
u	Bogie Ln	1st Av	200m	west		too narr	2	2	2	2	2	3
v	Bogie Ln	200m	1st Av	east	13	u	0	0	0	0	0	0
w	1st Av	Bogie Ln	Belleview Pd	south	2	u	3	3	3	3	3	1
x	1st Av	Bogie Ln	Belleview Pd	north	2	ns1	2	2	2	2	2	2
y	Belleview Pd	1st Av	200m	west	9	u	9	8	7	7	7	8
z	Belleview Pd	200m	1st Av	east	11	u	6	6	6	7	7	8
aa	Belleview Pd	1st Av	Church Ln	east	27	13u+14*	7	8	12	13	13	14
ab	Belleview Pd	1st Av	Church Ln	west	15	u	5	6	10	14	14	14
ac	Belleview Pd	Church Ln	100m	east	7	u	1	2	4	5	5	5
ad	Belleview Pd	Church Ln	100m	west	6	u	3	3	4	4	4	5
ae	Church Ln	Belleview Pd	steps	south		too narr	0	0	0	0	0	0
af	Church Ln	steps	Belleview Pd	north		too narr	1	1	1	1	1	1
ag	Belleview Pd	100m	200m	east	10	u	2	2	3	3	3	2
ah	Belleview Pd	200m	100m	west	10	u	2	2	2	2	2	2
ai	1st Av	Belleview Pd	St Georges F	north	7	u	5	5	5	5	6	6
aj	1st Av	Belleview Pd	St Georges F	south	8	u	5	4	4	4	4	3
ak	St Georges F	1st Av	200m	east	20	u	13	13	13	13	13	12
aL	St Georges F	200m	1st Av	west	36	u	18	18	20	20	18	14
am	1st Av	St Georges F	Burraneer C	south	3	u	3	3	3	2	2	2
an	Burraneer C	1st Av	end	east	10	u	2	2	3	3	3	3
ao	Burraneer C	end	1st Av	west	23	u	8	8	8	5	5	6
ap	1st Av	Burraneer C	St Georges F	north	2	u	1	1	1	1	1	1
aq	St Georges F	1st Av	200m	west	3	u	2	2	3	3	3	3
ar	St Georges F	200m	1st Av	east	1	u	2	2	0	2	2	2
Thursday, 26 October 2017							7:00	7:30	8:00	8:30	9:00	9:30

Curtis Traffic Surveys

Job: 171002mcl (17_522)
Client: McLaren Traffic Engineering
Day, date Friday, 6 October 2017
Location: Allawah
Weather Fine
Surveyor MC

Parking round commencing…

Zone	Street	From	To	Side of Street	Capacity	Restriction	7:00	7:30	8:00	8:30	9:00	9:30
a	Woids Av	1st Av	200m	west	18	u	11	11	10	9	10	10
b	Woids Av	200m	1st Av	east	12	u	9	9	8	8	8	7
c	1st Av	Woids Av	Noble St	north	3	u	2	2	2	2	2	2
d	Noble St	1st Av	200m	west		ns	0	0	0	0	0	0
e	Noble St	200m	1st Av	east	1	u	1	1	1	1	1	1
f	1st Av	Noble St	200m	north		ns	0	0	0	0	0	0
g	1st Av	200m	Noble St	south	3	u	2	2	2	2	2	2
h	Noble St	1st Av	Mona St	east	14	u	14	14	14	14	13	12
I	Noble St	Mona St	200m	east	14	u	9	9	8	8	7	7
j	Noble St	200m	1st Av	west	34	u	21	21	20	21	21	22
k	1st Av	Noble St	Woids Av	south	12	u	7	7	7	7	8	8
l	Woids Av	1st Av	100m	east	29	u	18	18	18	17	17	13
m	Woids Av	100m	200m	east	12	u	9	9	8	8	8	8
n	Woids Av	200m	100m	west	7	u	9	9	9	9	9	8
o	Woids Av	100m	Church Ln	west	7	u	6	5	5	5	4	4
p	Church Ln	Woids Av	Belleview Pd	both		np	0	0	0	0	0	0
q	Bogie Ln	Church Ln	1st Av	both	7	u	0	0	0	0	0	0
r	Woids Av	Church Ln	1st Av	west	26	20u+6*n	16	16	17	17	17	17
s	1st Av	Woids Av	Bogie Ln	south	4		2	2	2	2	2	2
t	1st Av	Woids Av	Bogie Ln	north	3	ns2	0	0	0	0	0	0
u	Bogie Ln	1st Av	200m	west		too narr	2	2	2	2	1	1
v	Bogie Ln	200m	1st Av	east	13	u	0	0	0	0	0	0
w	1st Av	Bogie Ln	Belleview Pd	south	2	u	3	3	3	3	2	3
x	1st Av	Bogie Ln	Belleview Pd	north	2	ns1	1	1	1	1	1	1
y	Belleview Pd	1st Av	200m	west	9	u	6	6	6	6	6	5
z	Belleview Pd	200m	1st Av	east	11	u	8	7	7	6	6	5
aa	Belleview Pd	1st Av	Church Ln	east	27	13u+14*	10	9	8	7	7	6
ab	Belleview Pd	1st Av	Church Ln	west	15	u	5	4	4	5	5	5
ac	Belleview Pd	Church Ln	100m	east	7	u	0	0	0	0	0	0
ad	Belleview Pd	Church Ln	100m	west	6	u	7	6	5	5	5	5
ae	Church Ln	Belleview Pd	steps	south		too narr	0	0	0	0	0	0
af	Church Ln	steps	Belleview Pd	north		too narr	2	2	2	2	2	2
ag	Belleview Pd	100m	200m	east	10	u	4	4	3	3	3	3
ah	Belleview Pd	200m	100m	west	10	u	3	3	2	2	2	2
ai	1st Av	Belleview Pd	St Georges F	north	7	u	2	2	2	2	2	2
aj	1st Av	Belleview Pd	St Georges F	south	8	u	3	3	3	3	3	3
ak	St Georges F	1st Av	200m	east	20	u	8	8	7	6	6	6
aL	St Georges F	200m	1st Av	west	36	u	12	12	11	10	10	10
am	1st Av	St Georges F	Burraneer C	south	3	u	2	2	2	2	1	1
an	Burraneer C	1st Av	end	east	10	u	2	2	2	1	1	1
ao	Burraneer C	end	1st Av	west	23	u	0	0	0	0	0	0
ap	1st Av	Burraneer C	St Georges F	north	2	u	0	0	0	0	0	0
aq	St Georges F	1st Av	200m	west	3	u	5	5	5	4	4	4
ar	St Georges F	200m	1st Av	east	1	u	2	2	2	1	1	1
Friday, 6 October 2017							7:00	7:30	8:00	8:30	9:00	9:30

ANNEXURE B: TRAFFIC AND PARKING SURVEYS
(Sheet 16 of 16)

Curtis Traffic Surveys

Job: 171002mcl (17_522)
Client: McLaren Traffic Engineering
Day, date Wednesday, 4 October 2017
Location: Allawah
Weather Fine
Surveyor MC

							Parking round commencing…						
Zone	Street	From	To	Side of Street	Capacity	Restriction	14:00	14:30	15:00	15:30	16:00	16:30	17:00
a	Woids Av	1st Av	200m	west	18	u	11	11	11	11	11	11	10
b	Woids Av	200m	1st Av	east	12	u	8	8	7	7	7	7	6
c	1st Av	Woids Av	Noble St	north	3	u	1	1	2	2	1	1	1
d	Noble St	1st Av	200m	west		ns	0	0	0	0	0	0	0
e	Noble St	200m	1st Av	east	1	u	1	1	1	1	1	1	1
f	1st Av	Noble St	200m	north		ns	0	0	0	0	0	0	0
g	1st Av	200m	Noble St	south	3	u	2	2	2	2	2	2	2
h	Noble St	1st Av	Mona St	east	14	u	12	11	10	10	10	11	11
I	Noble St	Mona St	200m	east	14	u	9	8	8	9	9	9	9
j	Noble St	200m	1st Av	west	34	u	25	25	25	25	25	24	23
k	1st Av	Noble St	Woids Av	south	12	u	6	6	5	6	7	7	8
l	Woids Av	1st Av	100m	east	29	u	14	14	14	14	13	13	14
m	Woids Av	100m	200m	east	12	u	5	6	6	6	5	5	5
n	Woids Av	200m	100m	west	7	u	4	4	4	3	4	4	3
o	Woids Av	100m	Church Ln	west	7	u	6	6	6	6	6	6	6
p	Church Ln	Woids Av	Belleview Pd	both		np	0	0	0	0	0	0	0
q	Bogie Ln	Church Ln	1st Av	both	7	u	1	1	1	1	1	1	1
r	Woids Av	Church Ln	1st Av	west	26	20u+6*n	11	10	8	11	12	12	11
s	1st Av	Woids Av	Bogie Ln	south	4		1	1	1	1	0	0	0
t	1st Av	Woids Av	Bogie Ln	north	3	ns2	0	0	0	0	0	1	1
u	Bogie Ln	1st Av	200m	west		too narr	0	0	1	1	1	1	1
v	Bogie Ln	200m	1st Av	east	13	u	0	0	0	0	0	0	0
w	1st Av	Bogie Ln	Belleview Pd	south	2	u	3	3	2	2	3	3	3
x	1st Av	Bogie Ln	Belleview Pd	north	2	ns1	1	0	0	0	1	1	1
y	Belleview Pd	1st Av	200m	west	9	u	11	11	11	11	11	11	11
z	Belleview Pd	200m	1st Av	east	11	u	14	13	13	13	13	13	13
aa	Belleview Pd	1st Av	Church Ln	east	27	13u+14*	4	6	7	8	9	11	13
ab	Belleview Pd	1st Av	Church Ln	west	15	u	4	4	3	4	5	5	4
ac	Belleview Pd	Church Ln	100m	east	7	u	2	2	1	1	1	1	2
ad	Belleview Pd	Church Ln	100m	west	6	u	0	1	2	2	1	1	1
ae	Church Ln	Belleview Pd	steps	south		too narr	0	0	0	0	0	0	0
af	Church Ln	steps	Belleview Pd	north		too narr	1	1	1	1	0	0	0
ag	Belleview Pd	100m	200m	east	10	u	1	1	1	0	0	0	0
ah	Belleview Pd	200m	100m	west	10	u	3	3	3	3	3	3	2
ai	1st Av	Belleview Pd	St Georges F	north	7	u	1	1	1	1	1	1	1
aj	1st Av	Belleview Pd	St Georges F	south	8	u	4	4	5	5	5	4	4
ak	St Georges F	1st Av	200m	east	20	u	8	8	8	9	9	10	10
aL	St Georges F	200m	1st Av	west	36	u	16	16	15	17	18	18	19
am	1st Av	St Georges F	Burraneer C	south	3	u	3	3	3	3	3	2	2
an	Burraneer C	1st Av	end	east	10	u	3	3	3	4	4	4	4
ao	Burraneer C	end	1st Av	west	23	u	6	7	8	8	8	8	8
ap	1st Av	Burraneer C	St Georges F	north	2	u	1	1	0	0	0	0	0
aq	St Georges F	1st Av	200m	west	3	u	5	5	5	5	5	5	4
ar	St Georges F	200m	1st Av	east	1	u	4	4	3	3	4	3	3
Wednesday, 4 October 2017							14:00	14:30	15:00	15:30	16:00	16:30	17:00

MOVEMENT SUMMARY

Site: 101 [Railway Pde / Bellevue Pde EX AM]

Railway Parade / Bellevue Parade
Existing conditions
AM peak period
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bellevue Parade											
1	L2	62	0.0	0.047	5.5	LOS A	0.0	0.0	0.00	0.58	53.6
Approach		62	0.0	0.047	5.5	LOS A	0.0	0.0	0.00	0.58	53.6
East: Railway Pde (E)											
4	L2	143	0.0	0.077	5.5	LOS A	0.0	0.0	0.00	0.58	53.6
5	T1	579	0.0	0.297	0.0	LOS A	0.0	0.0	0.00	0.00	59.9
Approach		722	0.0	0.297	1.1	NA	0.0	0.0	0.00	0.11	58.6
West: Railway Parade (W)											
11	T1	549	0.0	0.164	0.5	LOS A	0.6	4.2	0.10	0.04	59.1
12	R2	33	0.0	0.164	9.7	LOS A	0.6	4.2	0.23	0.09	56.1
Approach		582	0.0	0.164	1.0	NA	0.6	4.2	0.10	0.04	58.9
All Vehicles		1366	0.0	0.297	1.3	NA	0.6	4.2	0.04	0.10	58.5

MOVEMENT SUMMARY

Site: 101 [Railway Pde / Bellevue Pde EX PM]

Railway Parade / Bellevue Parade
Existing conditions
PM peak period
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bellevue Parade											
1	L2	47	0.0	0.036	5.6	LOS A	0.2	1.1	0.07	0.55	53.4
Approach		47	0.0	0.036	5.6	LOS A	0.2	1.1	0.07	0.55	53.4
East: Railway Pde (E)											
4	L2	143	0.0	0.086	5.5	LOS A	0.0	0.0	0.00	0.52	54.1
5	T1	808	0.0	0.406	0.1	LOS A	0.0	0.0	0.00	0.01	59.8
Approach		951	0.0	0.406	0.9	NA	0.0	0.0	0.00	0.09	58.9
West: Railway Parade (W)											
11	T1	386	0.0	0.133	1.2	LOS A	0.8	5.5	0.15	0.06	58.3
12	R2	36	0.0	0.133	12.0	LOS A	0.8	5.5	0.44	0.17	53.5
Approach		422	0.0	0.133	2.1	NA	0.8	5.5	0.17	0.07	57.9
All Vehicles		1420	0.0	0.406	1.4	NA	0.8	5.5	0.05	0.10	58.4

MOVEMENT SUMMARY

Site: 101 [Railway Pde / Woids Ave EX AM]

Railway Parade / Woids Avenue
Existing conditions
AM peak period
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Woids Ave											
1	L2	99	0.0	0.105	6.7	LOS A	0.4	2.7	0.37	0.62	52.5
3	R2	2	0.0	0.105	21.0	LOS B	0.4	2.7	0.37	0.62	52.3
Approach		101	0.0	0.105	7.0	LOS A	0.4	2.7	0.37	0.62	52.5
East: Railway Pde (E)											
4	L2	7	0.0	0.142	5.6	LOS A	0.0	0.0	0.00	0.02	58.2
5	T1	548	0.0	0.142	0.0	LOS A	0.0	0.0	0.00	0.01	59.9
Approach		555	0.0	0.142	0.1	NA	0.0	0.0	0.00	0.01	59.9
West: Railway Parade (W)											
11	T1	608	0.0	0.171	0.2	LOS A	0.3	2.1	0.05	0.02	59.5
12	R2	24	0.0	0.171	8.8	LOS A	0.3	2.1	0.12	0.05	57.0
Approach		632	0.0	0.171	0.6	NA	0.3	2.1	0.06	0.02	59.4
All Vehicles		1288	0.0	0.171	0.9	NA	0.4	2.7	0.06	0.06	59.0

MOVEMENT SUMMARY

Site: 101 [Railway Pde / Woids Ave EX PM]

Railway Parade / Woids Avenue
Existing conditions
PM peak period
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Woids Ave											
1	L2	76	0.0	0.103	7.1	LOS A	0.4	2.6	0.44	0.66	51.7
3	R2	5	0.0	0.103	23.1	LOS B	0.4	2.6	0.44	0.66	51.5
Approach		81	0.0	0.103	8.0	LOS A	0.4	2.6	0.44	0.66	51.7
East: Railway Pde (E)											
4	L2	17	0.0	0.180	5.6	LOS A	0.0	0.0	0.00	0.03	58.1
5	T1	685	0.0	0.180	0.0	LOS A	0.0	0.0	0.00	0.01	59.8
Approach		702	0.0	0.180	0.2	NA	0.0	0.0	0.00	0.01	59.8
West: Railway Parade (W)											
11	T1	517	0.0	0.156	0.5	LOS A	0.5	3.2	0.09	0.04	59.0
12	R2	31	0.0	0.156	10.0	LOS A	0.5	3.2	0.23	0.09	56.0
Approach		548	0.0	0.156	1.1	NA	0.5	3.2	0.10	0.04	58.9
All Vehicles		1331	0.0	0.180	1.0	NA	0.5	3.2	0.07	0.06	58.8

MOVEMENT SUMMARY

Site: 101 [Railway Pde / Underpass EX AM]

Railway Parade / Underpass
Existing conditions
AM peak period
Signals - Fixed Time Isolated Cycle Time = 40 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Railway Parade (E)											
5	T1	366	0.0	0.912	16.0	LOS B	12.1	84.8	0.81	0.81	46.7
6	R2	281	0.0	0.912	37.8	LOS C	12.1	84.8	1.00	1.29	36.8
Approach		647	0.0	0.912	25.5	LOS B	12.1	84.8	0.89	1.02	41.8
North: Underpass											
7	L2	133	0.0	0.854	27.2	LOS B	11.5	80.2	1.00	1.04	40.7
9	R2	343	0.0	0.854	27.2	LOS B	11.5	80.2	1.00	1.04	40.5
Approach		476	0.0	0.854	27.2	LOS B	11.5	80.2	1.00	1.04	40.6
West: Railway Parade (W)											
10	L2	50	0.0	0.354	14.9	LOS B	3.9	27.0	0.74	0.65	50.1
11	T1	499	0.0	0.354	9.3	LOS A	3.9	27.2	0.74	0.63	51.7
Approach		549	0.0	0.354	9.8	LOS A	3.9	27.2	0.74	0.63	51.5
All Vehicles		1672	0.0	0.912	20.8	LOS B	12.1	84.8	0.87	0.90	44.2

MOVEMENT SUMMARY

Site: 101 [Railway Pde / Underpass EX PM]

Railway Parade / Underpass
Existing conditions
PM peak period
Signals - Fixed Time Isolated Cycle Time = 70 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Railway Parade (E)											
5	T1	491	0.0	0.889	25.8	LOS B	20.5	143.5	0.85	0.86	41.5
6	R2	235	0.0	0.889	43.5	LOS D	20.5	143.5	1.00	1.14	35.2
Approach		726	0.0	0.889	31.6	LOS C	20.5	143.5	0.90	0.95	39.2
North: Underpass											
7	L2	208	0.0	0.868	35.4	LOS C	26.0	181.9	0.98	0.99	37.3
9	R2	460	0.0	0.868	35.3	LOS C	26.0	181.9	0.98	0.99	37.2
Approach		668	0.0	0.868	35.3	LOS C	26.0	181.9	0.98	0.99	37.2
West: Railway Parade (W)											
10	L2	47	0.0	0.241	20.0	LOS B	4.3	30.0	0.69	0.62	46.6
11	T1	340	0.0	0.241	14.4	LOS A	4.3	30.4	0.69	0.59	48.1
Approach		387	0.0	0.241	15.1	LOS B	4.3	30.4	0.69	0.59	47.9
All Vehicles		1781	0.0	0.889	29.4	LOS C	26.0	181.9	0.88	0.89	40.0

MOVEMENT SUMMARY

Site: 101 [First Ave / Bellevue Pde EX AM]

First Avenue / Bellevue Parade
Exisitng conditions
AM peak period
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bellevue Pde (S)											
1	L2	5	0.0	0.091	5.5	LOS A	0.5	3.3	0.19	0.61	51.6
2	T1	42	0.0	0.091	5.1	LOS A	0.5	3.3	0.19	0.61	52.3
3	R2	18	0.0	0.091	7.8	LOS A	0.5	3.3	0.19	0.61	51.9
3u	U	48	0.0	0.091	9.2	LOS A	0.5	3.3	0.19	0.61	52.3
Approach		113	0.0	0.091	7.3	LOS A	0.5	3.3	0.19	0.61	52.2
East: First Avenue (E)											
4	L2	60	0.0	0.104	6.9	LOS A	0.5	3.7	0.46	0.63	51.8
5	T1	27	0.0	0.104	6.5	LOS A	0.5	3.7	0.46	0.63	52.6
6	R2	11	0.0	0.104	9.2	LOS A	0.5	3.7	0.46	0.63	52.2
6u	U	2	0.0	0.104	10.6	LOS A	0.5	3.7	0.46	0.63	52.5
Approach		100	0.0	0.104	7.1	LOS A	0.5	3.7	0.46	0.63	52.1
North: Bellevue Pde (N)											
7	L2	12	0.0	0.174	6.4	LOS A	0.9	6.5	0.38	0.57	52.3
8	T1	163	0.0	0.174	5.9	LOS A	0.9	6.5	0.38	0.57	53.0
9	R2	9	0.0	0.174	8.6	LOS A	0.9	6.5	0.38	0.57	52.6
9u	U	1	0.0	0.174	10.0	LOS A	0.9	6.5	0.38	0.57	53.0
Approach		185	0.0	0.174	6.1	LOS A	0.9	6.5	0.38	0.57	53.0
West: First Ave (W)											
10	L2	7	0.0	0.105	5.9	LOS A	0.5	3.7	0.30	0.60	51.7
11	T1	41	0.0	0.105	5.5	LOS A	0.5	3.7	0.30	0.60	52.4
12	R2	67	0.0	0.105	8.2	LOS A	0.5	3.7	0.30	0.60	52.0
12u	U	2	0.0	0.105	9.6	LOS A	0.5	3.7	0.30	0.60	52.4
Approach		117	0.0	0.105	7.1	LOS A	0.5	3.7	0.30	0.60	52.1
All Vehicles		515	0.0	0.174	6.8	LOS A	0.9	6.5	0.33	0.59	52.4

MOVEMENT SUMMARY

Site: 101 [First Ave / Bellevue Pde EX PM]

First Avenue / Bellevue Parade
Exisitng conditions
PM peak period
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bellevue Pde (S)											
1	L2	24	0.0	0.092	5.8	LOS A	0.5	3.3	0.26	0.59	51.8
2	T1	37	0.0	0.092	5.4	LOS A	0.5	3.3	0.26	0.59	52.5
3	R2	19	0.0	0.092	8.0	LOS A	0.5	3.3	0.26	0.59	52.1
3u	U	26	0.0	0.092	9.4	LOS A	0.5	3.3	0.26	0.59	52.5
Approach		106	0.0	0.092	6.9	LOS A	0.5	3.3	0.26	0.59	52.3
East: First Avenue (E)											
4	L2	47	0.0	0.115	6.5	LOS A	0.6	4.1	0.39	0.59	52.2
5	T1	62	0.0	0.115	6.1	LOS A	0.6	4.1	0.39	0.59	52.9
6	R2	9	0.0	0.115	8.7	LOS A	0.6	4.1	0.39	0.59	52.5
6u	U	1	0.0	0.115	10.1	LOS A	0.6	4.1	0.39	0.59	52.9
Approach		119	0.0	0.115	6.4	LOS A	0.6	4.1	0.39	0.59	52.6
North: Bellevue Pde (N)											
7	L2	17	0.0	0.147	5.8	LOS A	0.8	5.3	0.27	0.53	52.6
8	T1	138	0.0	0.147	5.4	LOS A	0.8	5.3	0.27	0.53	53.3
9	R2	15	0.0	0.147	8.0	LOS A	0.8	5.3	0.27	0.53	52.9
9u	U	4	0.0	0.147	9.5	LOS A	0.8	5.3	0.27	0.53	53.3
Approach		174	0.0	0.147	5.8	LOS A	0.8	5.3	0.27	0.53	53.2
West: First Ave (W)											
10	L2	7	0.0	0.051	5.8	LOS A	0.2	1.7	0.25	0.58	52.0
11	T1	25	0.0	0.051	5.4	LOS A	0.2	1.7	0.25	0.58	52.7
12	R2	23	0.0	0.051	8.0	LOS A	0.2	1.7	0.25	0.58	52.3
12u	U	3	0.0	0.051	9.4	LOS A	0.2	1.7	0.25	0.58	52.7
Approach		58	0.0	0.051	6.7	LOS A	0.2	1.7	0.25	0.58	52.5
All Vehicles		457	0.0	0.147	6.3	LOS A	0.8	5.3	0.30	0.57	52.7

MOVEMENT SUMMARY

Site: 101 [First Ave / Woids Ave EX AM]

First Avenue / Woids Avenue
Exisitng conditions
AM peak period
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Woids Ave (S)											
1	L2	69	0.0	0.101	5.6	LOS A	0.3	2.0	0.06	0.33	55.4
2	T1	80	0.0	0.101	0.0	LOS A	0.3	2.0	0.06	0.33	56.8
3	R2	40	0.0	0.101	5.5	LOS A	0.3	2.0	0.06	0.33	54.8
Approach		189	0.0	0.101	3.2	NA	0.3	2.0	0.06	0.33	55.8
East: First Ave (E)											
4	L2	5	0.0	0.038	8.1	LOS A	0.1	0.9	0.16	0.99	51.5
5	T1	29	0.0	0.038	8.7	LOS A	0.1	0.9	0.16	0.99	51.3
6	R2	3	0.0	0.038	8.7	LOS A	0.1	0.9	0.16	0.99	51.0
Approach		37	0.0	0.038	8.6	LOS A	0.1	0.9	0.16	0.99	51.3
North: Woids Ave (N)											
7	L2	7	0.0	0.017	5.7	LOS A	0.0	0.2	0.09	0.19	56.3
8	T1	21	0.0	0.017	0.1	LOS A	0.0	0.2	0.09	0.19	57.8
9	R2	4	0.0	0.017	5.9	LOS A	0.0	0.2	0.09	0.19	55.7
Approach		32	0.0	0.017	2.0	NA	0.0	0.2	0.09	0.19	57.2
West: First Ave (W)											
10	L2	24	0.0	0.068	8.3	LOS A	0.3	1.8	0.23	0.94	51.7
11	T1	45	0.0	0.068	8.6	LOS A	0.3	1.8	0.23	0.94	51.5
12	R2	4	0.0	0.068	8.8	LOS A	0.3	1.8	0.23	0.94	51.2
Approach		73	0.0	0.068	8.5	LOS A	0.3	1.8	0.23	0.94	51.6
All Vehicles		331	0.0	0.101	4.9	NA	0.3	2.0	0.11	0.52	54.4

MOVEMENT SUMMARY

Site: 101 [First Ave / Woids Ave EX PM]

First Avenue / Woids Avenue
Exisitng conditions
AM peak period
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Woids Ave (S)											
1	L2	53	0.0	0.070	5.6	LOS A	0.2	1.1	0.05	0.33	55.4
2	T1	56	0.0	0.070	0.0	LOS A	0.2	1.1	0.05	0.33	56.9
3	R2	22	0.0	0.070	5.5	LOS A	0.2	1.1	0.05	0.33	54.8
Approach		131	0.0	0.070	3.2	NA	0.2	1.1	0.05	0.33	55.9
East: First Ave (E)											
4	L2	13	0.0	0.067	8.1	LOS A	0.2	1.7	0.16	0.98	51.7
5	T1	54	0.0	0.067	8.5	LOS A	0.2	1.7	0.16	0.98	51.4
6	R2	4	0.0	0.067	8.4	LOS A	0.2	1.7	0.16	0.98	51.2
Approach		71	0.0	0.067	8.4	LOS A	0.2	1.7	0.16	0.98	51.5
North: Woids Ave (N)											
7	L2	6	0.0	0.021	5.7	LOS A	0.0	0.3	0.09	0.17	56.5
8	T1	28	0.0	0.021	0.1	LOS A	0.0	0.3	0.09	0.17	58.1
9	R2	6	0.0	0.021	5.7	LOS A	0.0	0.3	0.09	0.17	56.0
Approach		40	0.0	0.021	1.8	NA	0.0	0.3	0.09	0.17	57.5
West: First Ave (W)											
10	L2	16	0.0	0.058	8.2	LOS A	0.2	1.5	0.20	0.94	51.8
11	T1	35	0.0	0.058	8.3	LOS A	0.2	1.5	0.20	0.94	51.5
12	R2	10	0.0	0.058	8.7	LOS A	0.2	1.5	0.20	0.94	51.3
Approach		61	0.0	0.058	8.4	LOS A	0.2	1.5	0.20	0.94	51.6
All Vehicles		303	0.0	0.070	5.3	NA	0.2	1.7	0.11	0.58	54.1

MOVEMENT SUMMARY

Site: 101 [Church Lane / Bellevue Ave EX AM]

Church Lane / Bellevue Avenue
Existing Conditions
AM peak period
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bellevue Ave (S)											
1	L2	9	0.0	0.070	6.2	LOS A	0.1	0.6	0.08	0.08	57.4
2	T1	115	0.0	0.070	0.1	LOS A	0.1	0.6	0.08	0.08	59.0
3	R2	8	0.0	0.070	6.7	LOS A	0.1	0.6	0.08	0.08	56.8
Approach		132	0.0	0.070	0.9	NA	0.1	0.6	0.08	0.08	58.7
East: Church Lane											
4	L2	1	0.0	0.003	6.3	LOS A	0.0	0.1	0.38	0.56	52.8
5	T1	1	0.0	0.003	5.9	LOS A	0.0	0.1	0.38	0.56	52.9
6	R2	1	0.0	0.003	7.6	LOS A	0.0	0.1	0.38	0.56	52.3
Approach		3	0.0	0.003	6.6	LOS A	0.0	0.1	0.38	0.56	52.7
North: Belluvue Ave (N)											
7	L2	87	0.0	0.176	5.5	LOS A	0.0	0.1	0.00	0.15	57.0
8	T1	251	0.0	0.176	0.0	LOS A	0.0	0.1	0.00	0.15	58.6
9	R2	1	0.0	0.176	5.9	LOS A	0.0	0.1	0.00	0.15	56.4
Approach		339	0.0	0.176	1.4	NA	0.0	0.1	0.00	0.15	58.2
West: Church Lane											
10	L2	1	0.0	0.003	5.8	LOS A	0.0	0.1	0.28	0.55	52.9
11	T1	1	0.0	0.003	6.1	LOS A	0.0	0.1	0.28	0.55	53.1
12	R2	1	0.0	0.003	7.3	LOS A	0.0	0.1	0.28	0.55	52.4
Approach		3	0.0	0.003	6.4	LOS A	0.0	0.1	0.28	0.55	52.8
All Vehicles		477	0.0	0.176	1.4	NA	0.1	0.6	0.03	0.14	58.3

MOVEMENT SUMMARY

Site: 101 [Church Lane / Bellevue Ave EX PM]

Church Lane / Bellevue Avenue
Existing Conditions
PM peak period
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Bellevue Ave (S)											
1	L2	3	0.0	0.061	6.0	LOS A	0.0	0.2	0.03	0.03	58.0
2	T1	112	0.0	0.061	0.0	LOS A	0.0	0.2	0.03	0.03	59.6
3	R2	3	0.0	0.061	6.2	LOS A	0.0	0.2	0.03	0.03	57.4
Approach		118	0.0	0.061	0.3	NA	0.0	0.2	0.03	0.03	59.5
East: Church Lane											
4	L2	4	0.0	0.006	6.1	LOS A	0.0	0.2	0.31	0.55	52.9
5	T1	1	0.0	0.006	5.5	LOS A	0.0	0.2	0.31	0.55	53.0
6	R2	2	0.0	0.006	7.1	LOS A	0.0	0.2	0.31	0.55	52.4
Approach		7	0.0	0.006	6.3	LOS A	0.0	0.2	0.31	0.55	52.7
North: Belluvue Ave (N)											
7	L2	43	0.0	0.126	5.6	LOS A	0.0	0.1	0.00	0.11	57.4
8	T1	200	0.0	0.126	0.0	LOS A	0.0	0.1	0.00	0.11	59.0
9	R2	1	0.0	0.126	5.8	LOS A	0.0	0.1	0.00	0.11	56.8
Approach		244	0.0	0.126	1.0	NA	0.0	0.1	0.00	0.11	58.7
West: Church Lane											
10	L2	1	0.0	0.003	5.8	LOS A	0.0	0.1	0.27	0.54	53.2
11	T1	1	0.0	0.003	5.5	LOS A	0.0	0.1	0.27	0.54	53.3
12	R2	1	0.0	0.003	7.0	LOS A	0.0	0.1	0.27	0.54	52.6
Approach		3	0.0	0.003	6.1	LOS A	0.0	0.1	0.27	0.54	53.0
All Vehicles		372	0.0	0.126	0.9	NA	0.0	0.2	0.02	0.09	58.8

MOVEMENT SUMMARY

Site: 101 [Church Lane / Woids Ave EX AM]

Church Lane / Woids Avenue
Existing Conditions
AM peak period
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Woids Ave (S)											
1	L2	3	0.0	0.064	5.5	LOS A	0.0	0.0	0.00	0.01	58.2
2	T1	122	0.0	0.064	0.0	LOS A	0.0	0.0	0.00	0.01	59.9
Approach		125	0.0	0.064	0.1	NA	0.0	0.0	0.00	0.01	59.8
North: Woids Ave (N)											
8	T1	29	0.0	0.016	0.0	LOS A	0.0	0.0	0.02	0.02	59.7
9	R2	1	0.0	0.016	5.8	LOS A	0.0	0.0	0.02	0.02	57.5
Approach		30	0.0	0.016	0.2	NA	0.0	0.0	0.02	0.02	59.7
West: Church Lane											
10	L2	68	0.0	0.062	5.9	LOS A	0.2	1.7	0.22	0.56	53.0
12	R2	18	0.0	0.062	6.0	LOS A	0.2	1.7	0.22	0.56	52.4
Approach		86	0.0	0.062	5.9	LOS A	0.2	1.7	0.22	0.56	52.9
All Vehicles		241	0.0	0.064	2.2	NA	0.2	1.7	0.08	0.21	57.1

MOVEMENT SUMMARY

Site: 101 [Church Lane / Woids Ave EX PM]

Church Lane / Woids Avenue
Existing Conditions
PM peak period
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Woids Ave (S)											
1	L2	1	0.0	0.049	5.5	LOS A	0.0	0.0	0.00	0.01	58.3
2	T1	94	0.0	0.049	0.0	LOS A	0.0	0.0	0.00	0.01	59.9
Approach		95	0.0	0.049	0.1	NA	0.0	0.0	0.00	0.01	59.9
North: Woids Ave (N)											
8	T1	53	0.0	0.031	0.0	LOS A	0.0	0.3	0.05	0.06	59.3
9	R2	6	0.0	0.031	5.7	LOS A	0.0	0.3	0.05	0.06	57.1
Approach		59	0.0	0.031	0.6	NA	0.0	0.3	0.05	0.06	59.0
West: Church Lane											
10	L2	37	0.0	0.033	5.8	LOS A	0.1	0.9	0.18	0.55	53.1
12	R2	10	0.0	0.033	6.0	LOS A	0.1	0.9	0.18	0.55	52.5
Approach		47	0.0	0.033	5.8	LOS A	0.1	0.9	0.18	0.55	53.0
All Vehicles		201	0.0	0.049	1.6	NA	0.1	0.9	0.06	0.15	57.9

ANNEXURE E: SUMMARY OF TRAFFIC MODE SURVEYS

(Sheet 1 of 2)

Survey Date:	25/10/2017		STUDENTS USUAL MODE OF TRAVEL FROM HOME TO SCHOOL												
Data Entry	Year Group	Class	Public Bus	School Bus	Train	Family Car (as passenger)	Friend Car (as passenger)	Own Car As Driver	With staff member (As passenger)	Walking	Bicycle	Other (detail)	Totals	Number of Students
1	3					27							27	27
2	3		1		1	21	1						24	24
3	4					25	2						27	27
4	4		1			22	1			1			25	25
5	5	5H				23							23	23
6	5					22			1			1 - absent	23	24
7	6	6W			4	20	1						25	25
8	6	6M			1	20	1			1			23	23
Total			2	0	6	180	6	0	1	2	0		197	198
			1.02%	0.00%	3.05%	91.37%	3.05%	0.00%	0.51%	1.02%	0.00%			

Survey Date:	25/10/2017		STUDENTS USUAL MODE OF TRAVEL FROM SCHOOL TO HOME											
Data Entry	Year Group	Class	Public Bus	School Bus	Train	Family Car (as passenger)	Friend Car (as passenger)	Own Car As Driver	With staff member (As passenger)	Walking	Bicycle	Other (detail)	Totals	Number of Students
0														
1	3					27							27	27
2	3		3		1	19	1						24	24
3	4				3	23				1			27	27
4	4		1			22	1			1			25	25
5	5	5H		2		20				1			23	23
6	5		1	2		15				5		1 - absent	23	24
7	6	6W	1		4	17	3						25	25
8	6	6M	1		4	15	1			2			23	23
Total			7	4	12	158	6	0	0	10	0		197	198
			4%	2%	6%	80%	3%	0%	0%	5%	0%			

ANNEXURE E: SUMMARY OF TRAFFIC MODE SURVEYS (Sheet 2 of 2)

Survey Date:	24/07/2017		STUDENTS USUAL MODE OF TRAVEL FROM HOME TO SCHOOL											
Data Entry	Year Group	Class	Public Bus	School Bus	Train (as passenger)	Family Car passenger	Friend Car	Own Car As Driver	With staff member (As passenger)	Walking	Bicycle	Other (detail)	Totals	Number of Students
1	7	7C	1		2	23			1				27	27
2	7	7T	3		3	18				1			25	25
3	7	7L			4	21			1	2			28	28
4	8	8L	1		4	8				1			14	14
5	8	8R	3		5	11				1			20	20
6	8	8M			6	16	1			1			24	24
7	9	9M	8		11	21	1			12			53	38
8	9	9F	6		5	19			2	1			33	33
9	10	10M	1		5	31				1		1	39	39
10	10	10F	4		5	22				3			34	32
11	11 // 12	11/12M	3		5	21	1	2		3			35	35
12	11 // 12	11/12F	1		4	15		3		3			26	27
Total			**31**	**0**	**59**	**226**	**3**	**5**	**4**	**29**	**0**	**1**	**358**	**342**
			9%	0%	16%	63%	1%	1%	1%	8%	0%	0%		

Survey Date:	24/07/2017		STUDENTS USUAL MODE OF TRAVEL FROM SCHOOL TO HOME											
Data Entry	Year Group	Class	Public Bus	School Bus	Train (as passenger)	Family Car passenger	Friend Car	Own Car As Driver	With staff member (As passenger)	Walking	Bicycle	Other (detail)	Totals	Number of Students
1	7	7C	1	6	2	16			1	2			28	27
2	7	7T	1		5	16				3			25	25
3	7	7L	3		6	14	1		1	3			28	28
4	8	8L			3	8				3			14	14
5	8	8R	5		9	8				2			24	20
6	8	8M	4		10	8				2			24	24
7	9	9M	11		18	14	1		1	16			61	38
8	9	9F	8		5	18			1	1			33	33
9	10	10M	4		13	20				2		1	40	39
10	10	10F	7		11	14	1			3			36	32
11	11 // 12	11/12M	2		14	10		5		4			35	35
12	11 // 12	11/12F	4		6	9		3		3			25	27
Total			**50**	**6**	**102**	**155**	**3**	**8**	**4**	**44**	**0**	**1**	**373**	**342**
			13%	2%	27%	42%	1%	2%	1%	12%	0%	0%		

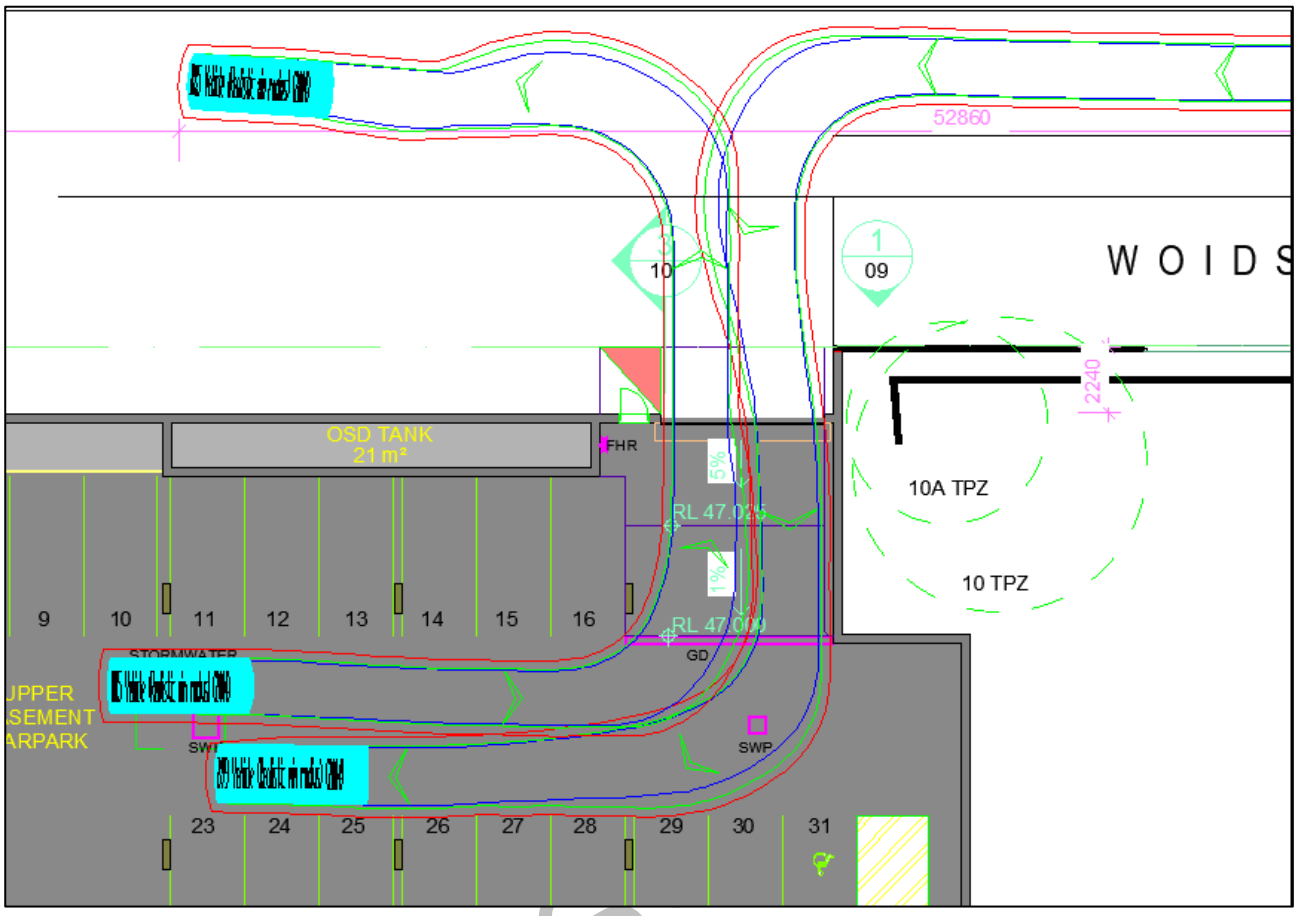
ANNEXURE F: RECOMMENDED EXTERNAL WORKS
(Sheet 1 of 2)

Proposed extension to existing "*No Parking" zone for parent drop-off / pick-up.*
Note: The kerb length of 31.3m would equate to five (5) parallel parking spaces

ANNEXURE F: RECOMMEND EXTERNAL WORKS
(Sheet 2 of 2)

Proposed ONE WAY (eastbound) Laneway Concept

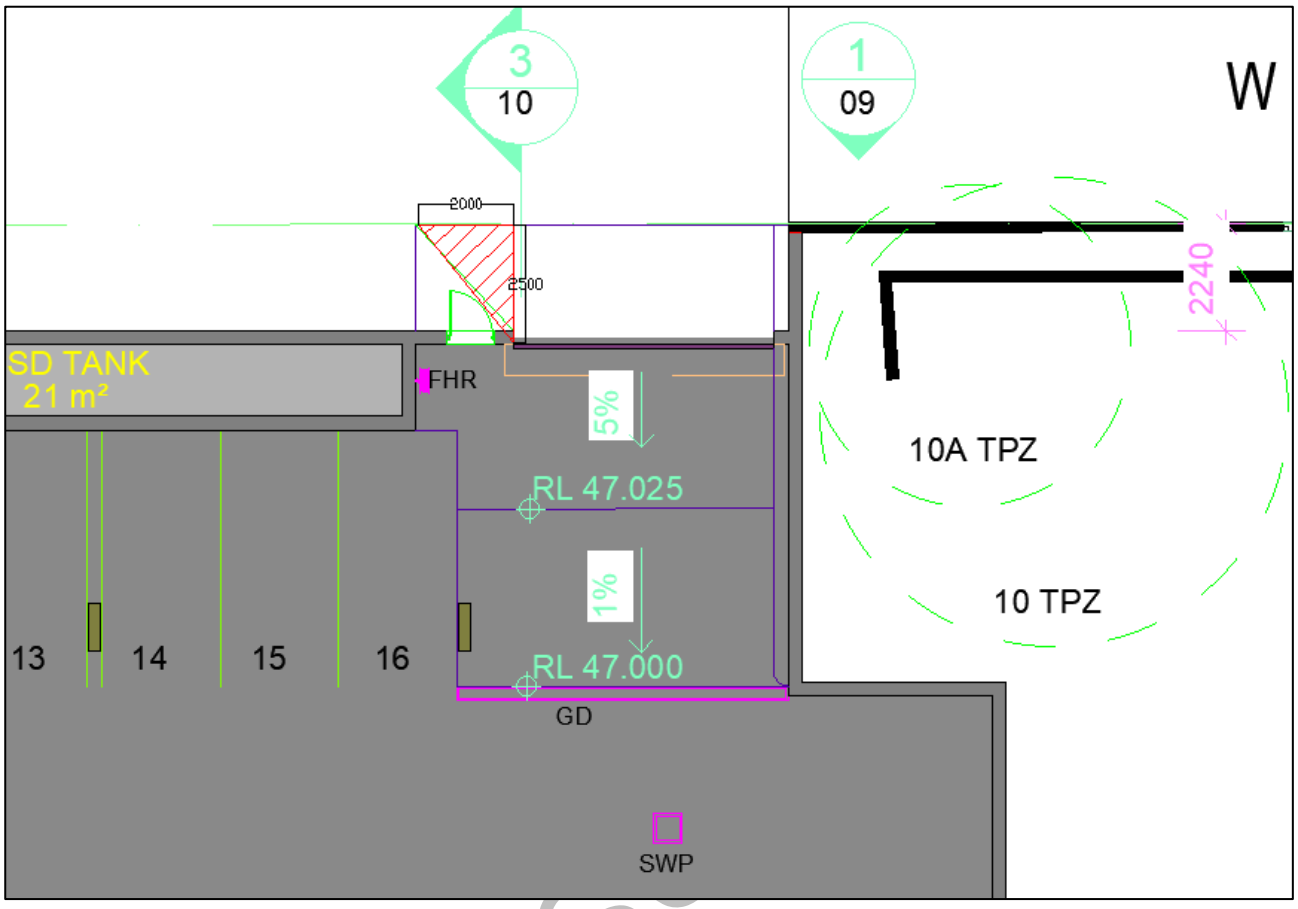
ANNEXURE G: COMPLIANCE + SWEPT PATH TESTING
(Sheet 1 of 2)



B99 Passing B85 upon entry
Tested @ 5km/h
Successful – Passing is achieved along straights

Blue – Vehicle Tyres
Green – Vehicle Body
Red – 300mm clearance

ANNEXURE G: COMPLIANCE + SWEPT PATH TESTING
(Sheet 2 of 2)



Pedestrian sight triangle shown in red above to be free of obstructions greater than 600mm in height.