



Calvin Christian School
Classroom Additions
Traffic Impact Assessment
February 2023



Contents

1.	Introduction	4
1.1	Background	4
1.2	Traffic Impact Assessment (TIA)	4
1.3	Statement of Qualification and Experience	4
1.4	Project Scope	5
1.5	Subject Site	5
1.6	Reference Resources	6
2.	Existing Conditions	7
2.1	Transport Network	7
2.2	Road Safety Performance	8
3.	Proposed Development	9
3.1	Development Proposal	9
4.	Traffic Impacts	11
4.1	Trip Generation	11
4.2	Access Impacts	11
4.3	Sight Distance	11
4.4	Pedestrian Impacts	12
4.5	Road Safety Impacts	12
5.	Parking Assessment	13
5.1	Parking Provision	13
5.2	Planning Scheme Requirements	14
5.3	Car Parking Layout	15
6.	Conclusions	16

Figure Index

Figure 1	Subject Site & Surrounding Road Network	6
Figure 2	Maranoa Road	7
Figure 2	Proposed Development Plans	10
Figure 3	Car Parking Map	14

Table Index

Table 1	Existing Car Parking Areas	13
---------	----------------------------	----

1. Introduction

1.1 Background

Midson Traffic were engaged by Calvin Christian School to prepare a traffic impact assessment for proposed new classroom additions in their junior school campus.

1.2 Traffic Impact Assessment (TIA)

A traffic impact assessment (TIA) is a process of compiling and analysing information on the impacts that a specific development proposal is likely to have on the operation of roads and transport networks. A TIA should not only include general impacts relating to traffic management, but should also consider specific impacts on all road users, including on-road public transport, pedestrians, cyclists and heavy vehicles.

This TIA has been prepared in accordance with the Department of State Growth (DSG) publication, *Traffic Impact Assessment Guidelines*, August 2020. This TIA has also been prepared with reference to the Austroads publication, *Guide to Traffic Management*, Part 12: *Traffic Impacts of Developments*, 2019.

Land use developments generate traffic movements as people move to, from and within a development. Without a clear understanding of the type of traffic movements (including cars, pedestrians, trucks, etc), the scale of their movements, timing, duration and location, there is a risk that this traffic movement may contribute to safety issues, unforeseen congestion or other problems where the development connects to the road system or elsewhere on the road network. A TIA attempts to forecast these movements and their impact on the surrounding transport network.

A TIA is not a promotional exercise undertaken on behalf of a developer; a TIA must provide an impartial and objective description of the impacts and traffic effects of a proposed development. A full and detailed assessment of how vehicle and person movements to and from a development site might affect existing road and pedestrian networks is required. An objective consideration of the traffic impact of a proposal is vital to enable planning decisions to be based upon the principles of sustainable development.

This TIA also addresses the relevant clauses of Codes E5.0, *Road and Railway Assets Code*, and E6.0, *Parking and Access Code*, of the Kingborough Interim Planning Scheme, 2015.

1.3 Statement of Qualification and Experience

This TIA has been prepared by an experienced and qualified traffic engineer in accordance with the requirements of Council's Planning Scheme and The Department of State Growth's, *Traffic Impact Assessment Guidelines*, August 2020, as well as Council's requirements.

The TIA was prepared by Keith Midson. Keith's experience and qualifications are briefly outlined as follows:

- 27 years professional experience in traffic engineering and transport planning.
- Master of Transport, Monash University, 2006
- Master of Traffic, Monash University, 2004

- Bachelor of Civil Engineering, University of Tasmania, 1995
- Engineers Australia: Fellow (FIEAust); Chartered Professional Engineer (CPEng); Engineering Executive (EngExec); National Engineers Register (NER)

1.4 Project Scope

The project scope of this TIA is outlined as follows:

- Review of the existing road environment in the vicinity of the site and the traffic conditions on the road network.
- Provision of information on the proposed development with regards to traffic movements and activity.
- Identification of the traffic generation potential of the proposal with respect to the surrounding road network in terms of road network capacity.
- Review of the parking requirements of the proposed development. Assessment of this parking supply with Planning Scheme requirements.
- Traffic implications of the proposal with respect to the external road network in terms of traffic efficiency and road safety.

1.5 Subject Site

The subject site is located at the Calvin Christian School junior school campus that fronts onto Maranoa Road.

The subject site and surrounding road network is shown in Figure 1.

2. Existing Conditions

2.1 Transport Network

For the purposes of this report, the transport network consists of Maranoa Road and Denison Street.

2.1.1 Maranoa Road

Maranoa Road is a minor collector road that connects between Redwood Road at a roundabout at its southern end, and Channel Highway at its northern end. It provides access to predominantly residential properties along its length, as well as the secondary access to Woolworths Kingston Town Shopping Centre, and several commercial properties.

Maranoa Road carries approximately 7,000 vehicles per day between Denison Street and Sophia Street. It carries a much lower traffic volume between Denison Street and Channel Highway.

A school crossing is located in Maranoa Road between the primary and secondary campuses of Calvin (immediately north of the Sophia Street intersection).

Maranoa Road near the subject site is shown in Figure 2.

Figure 2 Maranoa Road



2.1.2 Denison Street

Denison Street connects between Maranoa Road and Freeman Street. Denison Street connects to Maranoa Road at its southern end as a continuous carriageway, with the northern extent of Maranoa connecting to a T-junction. Denison Street carries approximately 5,500 vehicles per day.

A large commuter car park is located in Denison Street opposite the Kingston Christian Reformed Church.

2.2 Road Safety Performance

Crash data can provide valuable information on the road safety performance of a road network. Existing road safety deficiencies can be highlighted through the examination of crash data, which can assist in determining whether traffic generation from the proposed development may exacerbate any identified issues.

Crash data was obtained from the Department of State Growth for a 5½ year period between 1st January 2014 and 30th June 2019 for Maranoa Road between Channel Highway and Denison Street.

The findings of the crash data is summarised as follows:

- A total of 5 crashes were reported during this time.
- Severity. 1 crash involved minor injury and 4 crashes involved property damage only.
- Day of week. All crashes occurred on weekdays, with 3 crashes reported on Mondays, 1 crash on a Tuesday and 1 crash on a Friday.
- Time of day. All crashes were reported between 12:00PM and 5:30PM.
- Vulnerable road users. No crashes were reported that involved a vulnerable road user (pedestrian, bicyclist or motorcyclist).
- Crash types. There were insufficient crashes reported to highlight any crash type trends. 2 crashes involved 'other-curve'; 1 crash involved 'emerging-from-driveway'; 1 crash involved 'rear-end'; and 1 crash involved 'other-on-path'.

The crash history does not provide an indication that there are any pre-existing road safety deficiencies in the road network that might be exacerbated by traffic generated by the proposed development. The crash history is consistent with a low volume local road on the fringe of a town centre.

3. Proposed Development

3.1 Development Proposal

The proposed development involves the construction of new classrooms. The four classrooms will be for primary classes, including small-group breakout rooms and outdoor learning spaces:

- Replace one existing temporary classroom.
- Accommodate an existing class being conducted in a learning support space.
- Two new additional primary classes.

The associated changes in student and staff numbers within the primary school are as follows:

- Students – existing 259, forecast 334
- Staff – existing 47 FTE, forecast 51 FTE

No changes to existing parking or access are proposed.

The proposed development is shown in Figure 3.

4. Traffic Impacts

4.1 Trip Generation

Schools generate traffic by staff movements, student drop-off and pick-up, visitors, and deliveries.

Based on surveys undertaken by Midson Traffic at similar schools¹, it is known that typical peak traffic generation rates for school peak periods is equal to 0.55 times the student enrolments. This takes into account the fact that some students utilise bus transport, walk and cycle, as well as some vehicles transporting more than one student.

The increased traffic generation relates to the increase in student and staff numbers. The forecast increase is 75 students and 4 staff. This equates to an increase in traffic generation of the school of approximately 47 vehicles per hour during peak periods. Note that staff movements would generally occur outside the normal school drop-off/ pick-up period.

The daily traffic generation increase is likely to be approximately 102 vehicles per day (twice the peak hour plus 2 vehicle movements per additional staff).

The traffic generation will occur within the surrounding network (typically Maranoa Road).

4.2 Access Impacts

The Acceptable Solution A3 of Clause E5.5.1 of the Planning Scheme states "*The annual average daily traffic (AADT) of vehicle movements, to and from a site, using an existing access or junction, in an area subject to a speed limit of 60km/h or less, must not increase by more than 20% or 40 vehicle movements per day, whichever is the greater*".

In this case the development will generate background traffic, some of which will be experienced at the car park access in Maranoa Road.

Assuming that 50% of the increased student movements utilise the Maranoa car park (with the balance utilising on-street areas and other car parks associated with the school), then the increase represents 19% increase in the existing traffic utilising the car park access (the existing traffic volume is estimated to be 250 vehicles per day² - 50% of student increase volume = 47 vehicles per day).

On this basis the Acceptable Solution A1 of Clause E5.5.1 of the Planning Scheme is met.

4.3 Sight Distance

The development does not provide any new access to the road network. As such the assessment of sight distance is not applicable. The sight distance associated with the school's Maranoa car park was assessed

¹ Traffic generation surveys have been undertaken for schools including The Hutchins School, Illawarra Primary School, Dominic College and Scotch Oakburn.

² Calvin Christian School Primary School Car Park Traffic Impact Assessment, December 2019.

in the TIA dated December 2019. The available sight distance at the car park access meets the requirements of Acceptable Solution A1 of Clause E5.6.4 of the Planning Scheme.

4.4 Pedestrian Impacts

The School currently generates a moderate amount of pedestrian traffic within the network, particularly during school drop-off and pick-up periods. The proposed development will not significantly alter these pedestrian movements.

4.5 Road Safety Impacts

No significant adverse road safety impacts are foreseen for the proposed classrooms. This is based on the following:

- There is sufficient spare capacity in the Maranoa Road and the surrounding road network to absorb the traffic generated from the proposed development, noting that the traffic generation is associated with a minor increase in student and staff numbers.
- The existing road safety performance of Maranoa Road near the subject site does not indicate that there are any specific road safety deficiencies that might be exaggerated by traffic accessing the car park.
- The access is located on school grounds and as such, vehicle movements into and out of the site will not be unexpected for motorists on Maranoa Road.

5. Parking Assessment

5.1 Parking Provision

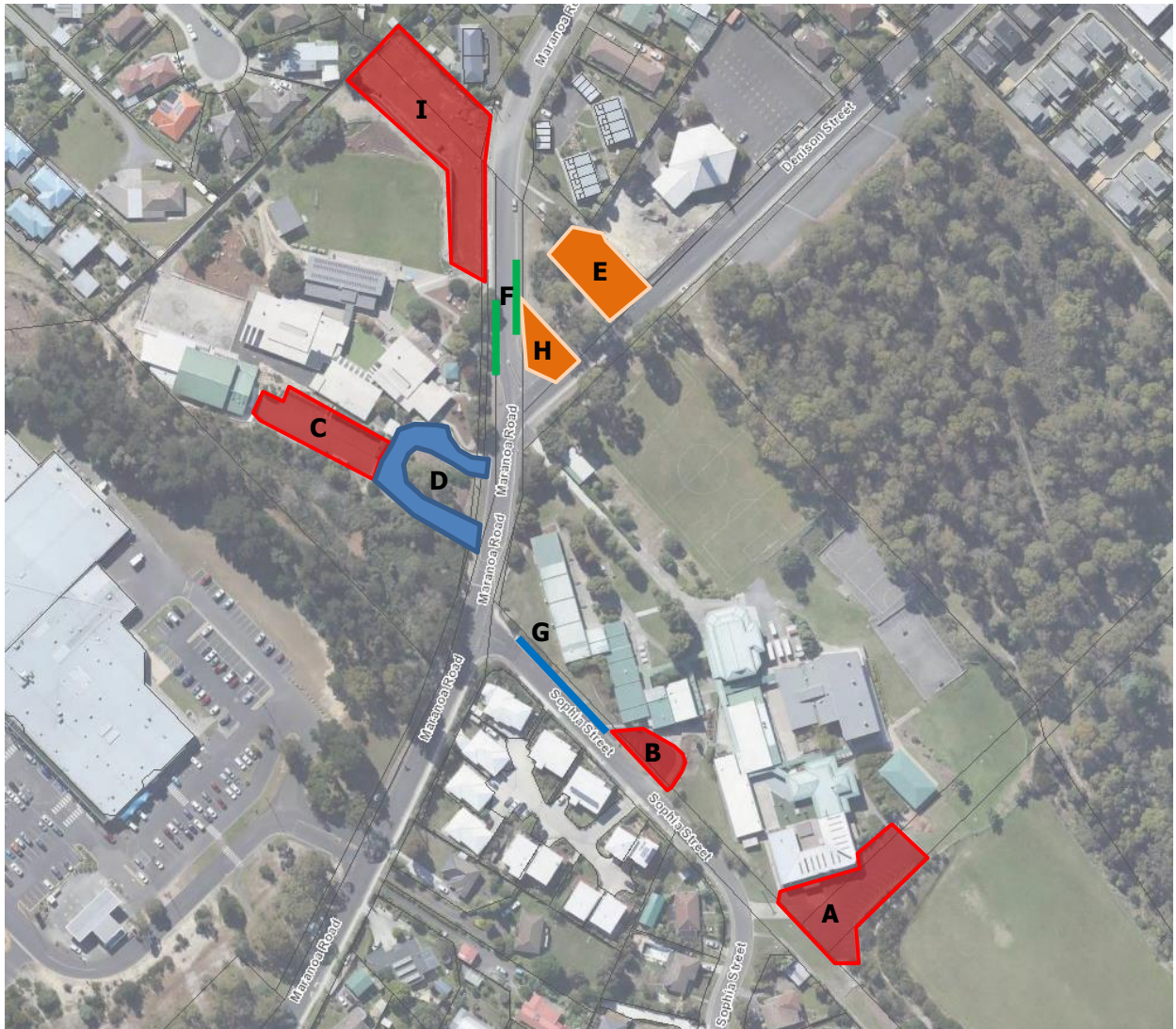
No changes to the car parking provision associated with the school are proposed.

The parking areas used by the school for normal activities are summarised in Table 1 and Figure 4. The parking areas are relatively disbursed around the school. Note that some of the parking areas shown are not on School land. The primary school component of Calvin has a total of approximately 51 on-site car parking spaces (Areas C, D and I in Table 1). The primary school parking spaces are also shown in Figure 3.

Table 1 Existing Car Parking Areas

Car Parking Area	Ref.	Spaces	Use	Comments
Main Car Park, Sophia St	A	24 spaces	Staff & Visitors	
Admin Car Park	B	4 spaces 1 bus	Visitors & bus	School bus manoeuvres into this area during afternoon pick up.
Primary School Car Park	C	19 spaces (approx)	Staff and Visitors	
Bus Parking	D	3 buses or 6 cars	School Buses, other parking outside bus times	
Church Car Park	E	20 spaces	Drop-off/ pick-up activity	Not owned or controlled by School.
Maranoa St – On-Street	F	Approx 10 spaces	Drop-off/ pick-up activity	
Sophia St Bus Parking	G	2 buses	On-street parking	
Informal Road Verge Parking	H	Approx 10 spaces	Informal road verge parking	Council land.
Primary school car park	I	27 spaces and 5 drop-off/ pick-up spaces	Drop-off/ pick-up activity	
TOTAL		114 car spaces	6 buses	

Figure 4 Car Parking Map



5.2 Planning Scheme Requirements

The Acceptable Solution A1 of Clause E6.6.1 of the Planning Scheme states “*the number of on-site car parking spaces must be no less than the number specified in Table E6.1*”.

For Use Class “Educational and Occasional Care (Primary School)”, the parking requirements are: 0.67 spaces for each employee and a pick-up and set-down area with 1 space for each 30 students.

This is a requirement for 34 spaces (staff) and 11 pick-up and set-down spaces. The total requirement is therefore 45 spaces. The total car parking spaces available within the primary school grounds is 51 spaces, thus meeting the requirements of Acceptable Solution A1 of Clause E6.6.1 of the Planning Scheme.

5.3 Car Parking Layout

No additional parking is proposed as part of the proposed development. The car parking layout associated with the most recently constructed on-site car park was undertaken in a TIA in December 2019. The car park met the requirements of Acceptable Solution A1 of Clause E6.7.5 of the Planning Scheme.

6. Conclusions

This traffic impact assessment (TIA) investigated the traffic and parking impacts of a proposed classroom development at Calvin Christian School.

The key findings of the TIA are summarised as follows:

- The proposed development involves the construction of new classrooms within the primary school campus.
- The growth in student and staff numbers results in traffic generation increase of 102 vehicles per day, with a peak of 47 vehicles per hour.
- The traffic generation of the development meets the requirements of Acceptable Solution A1 of Clause E5.5.1 of the Planning Scheme.
- No additional parking is proposed. The existing parking associated with the primary school campus of Calvin meets the requirements of the Acceptable Solution A1 of Clause E6.6.1 of the Planning Scheme.

Based on the findings of this report the proposed development is supported on traffic grounds.

Midson Traffic Pty Ltd ABN: 26 133 583 025

28 Seaview Avenue

Taroona TAS 7053

T: 0437 366 040 E: admin@midsontraffic.com.au W: www.midsontraffic.com.au

© Midson Traffic Pty Ltd 2023

This document is and shall remain the property of Midson Traffic Pty Ltd. The document may only be used for the purposes for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.

Document Status

Revision	Author	Review	Date
0	Keith Midson	Zara Kacic-Midson	27 February 2023