

22 July 2020

P1738 PD Arise Christian College traffic assessment

Paynter Dixon
Level 2, 2 Richardson Place
Riverside Corporate Park
North Ryde NSW 2113

Attn: Brian Booth

Dear Brian,

Proposed Special Learning Centre, Arise Christian College, 75-81 Chelmsford Drive, Metford, NSW.

We have now completed our site work and review of the documentation provided for the proposed special learning centre located within the existing Arise Christian College site off Chelmsford Drive and provide the following assessment of parking demands, traffic generation and access arrangements for the development. This assessment has been completed with regard to the relevant requirements outlined in the Guide to Traffic Generating Developments (GtGD) and Australian Standard AS2890.1: Off-street Car Parking Facilities.

Background

The subject site is located at off Chelmsford Drive in Metford as shown below in Figure 1.

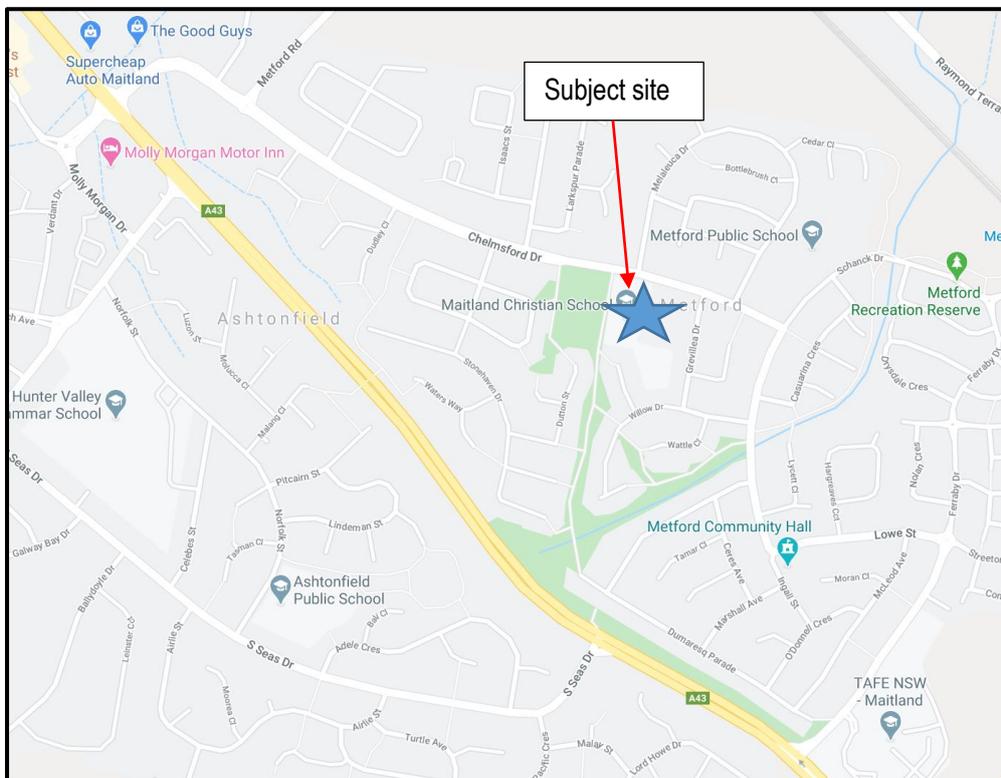


Figure 1 – Subject site in the context of the local road network

The subject site consists of an existing college with road frontage to Chelmsford Drive only. The proposed works for this project are located to the rear of the existing college site and is currently vacant.

The assessment of the traffic impacts associated with this project have been impacted upon by the Covid-19 pandemic, which has impacted upon travel patterns and students demands for the existing college. Whilst observations of the traffic movements and demands have been completed it is noted that normal traffic patterns for the school were not occurring. Advice from the study team indicates that the number of students accessing the college by bus has reduced from normal patterns and students are instead relying on private motor vehicles to access the school. This has increased the traffic demands associated with the drop-off and pick-up times accordingly.

As part of the project work, we have discussed the usual traffic patterns with staff as well as discussed the existing conditions with Council. A summary of the comments provided by Council is provided below:

- Council will require an assessment of the traffic and parking impacts associated with the project
- It was accepted that current traffic demands associated with the school do not represent normal patterns and as such any traffic data collected as part of this assessment should be carefully considered with regard to impacts of the Covid-19 pandemic
- There are some traffic issues along Chelmsford Drive adjacent to the college, but these may not all be due to the school demands. The roundabout controlled intersection of Chelmsford Drive and Metford Road would appear to create delays (due to the imbalance of traffic demands / movements) which can create queues back from this roundabout to the school at peak times (approximately 1,000 metres).

Road Hierarchy

The **New England Highway** to the west of the site is the major road passing through the locality forming part of the regional road network and providing an important line between Newcastle to the south-east and Maitland and beyond to the north-west. It carries the bulk of the through traffic movements in this location and the major intersections are controlled by traffic signals. Reflective of its status in the overall road network, it carries significant traffic flows, especially during the traditional morning and afternoon peak periods.

Chelmsford Drive is located along the site's boundary and provides the only road connection to the existing college on the site. It provides a high standard of residential collector road, with a single lane of travel in both directions and a parking / cycle lane to both sides of the road. It operates under the posted speed limit of 50 km/h with a footpath to both sides and street lighting along much of its length. It connects with Metford Road at its northern end via a 3-way roundabout controlled intersection and Schanck Drive at its southern end via a T intersection. Traffic on Chelmsford Drive to Schanck Drive south-east bound have priority with Schanck Drive northbound being give-way controlled as is Schanck Drive southbound.

There are a number of residential roads connecting with Chelmsford Drive via give-way controlled T-intersections with Chelmsford Drive being the priority road.

Current Road Network Operation

Seca Solution has undertaken traffic observations as part of our work on site and these show that the traffic flows on Chelmsford Drive are reasonably high, but well within the capacity of the road network. During the morning drop-off and afternoon pick-up periods the traffic flows are impacted upon by the school traffic demands, with delays for the through traffic in both directions created by traffic turning in and out of the school and the adjacent parking area by the playing fields. In the afternoon this was more apparent as the afternoon demands are more of a peak with all students finishing at the same time.

The roundabout at the intersection of Chelmsford Drive and Metford Road was also observed and the current imbalance in traffic demands creates delays for traffic on Chelmsford Drive south of Metford Road. The traffic movements at this roundabout are predominantly a left turn from Chelmsford Drive into Metford Road and the reverse movement, with very low traffic demands for traffic to continue south through the roundabout. This means that gaps in the traffic movements from Metford Road are very limited with this movement operating nearly continual. This means that there are very few gaps in the traffic for vehicles to exit from Chelmsford Drive south at this location. During the afternoon peak in particular this creates significant delays and associated queues for northbound traffic on Chelmsford Drive.

Other Developments

The major development occurring in this location is the construction of the new Maitland Hospital on Metford Road to the north of the roundabout controlled intersection of Metford Road and Chelmsford Drive. This will significantly increase the traffic movements at this roundabout controlled intersection with similar traffic patterns to those observed during our site work. As part of the construction work for this hospital the roundabout at the intersection of Metford Road and Chelmsford Drive will be upgraded. The traffic modelling assessment completed for the hospital project shows that with this upgrade the roundabout will operate very well with a level of service of A or B and minor delays for traffic on Chelmsford Drive south approach.

Car Parking

On-street carparking is available along the local roads surrounding the site and on the various side roads. Adjacent to the school are public sports pitches which has a car park with direct frontage to Chelmsford Drive. This car park area is used for drop-off and pick-up purposes associated with the college.

Parking was observed on both sides of Chelmsford Drive in the vicinity of the college, with no parking noted on the side roads. There is also an on-site car park with 33 parking spaces. These were full during the survey work associated with the project with staff parking in these spaces only.

Proposed Development

The proposed development is for the construction of a special learning centre with the capacity to provide education facility for up to 50 students. There will also be 5 full time equivalent teachers associated with this project, with 3 of these future staff members already working with the existing college. The current school has a population of 475 students, so this proposal represents an increase of 10.5% over the existing school population together with 2 additional staff.

The project involves the construction of a new building to the rear of the existing school grounds within an area which is currently open grass. The building will provide 4 separate classrooms together with associated amenities.

Access and parking

Access for students using this new education facility will not operate in a similar manner to the existing school, as the students require assistance / guidance when accessing the school building. All students will be dropped off / picked up within the existing car park to the front of the main college building. The students will be accompanied between the drop off / pick up point and the building along the existing internal driveway. No vehicle access will be permitted within the school grounds along this internal driveway for drop off or pick up of students.

Students enrolled in this school will also have specific travel patterns, with the vast majority of the students utilising designated special travel via mini bus type vehicle e.g. Toyota Hi-Ace with up to 12 seats or can use the existing buses that service the school. There will also be parents / carers who will drop the students direct to the school and pick up who may carry more than one student.

The proposed building will provide a facility for 50 students but is expected to commence with 15 to 20 students and then increase over time to the full capacity of 50 students.

Two parking spaces will be provided within the school grounds to accommodate the parking demands for the two additional staff members

Traffic Impact

When assessing the traffic impacts for the project, it is important to note that the requirements for the students for drop off and pick up are not as per normal school students, due to the specialist needs of the various students enrolled at this school. These needs are varied and specific to each student. As discussed above, around 50% or more of the students will arrive and depart the school via a dedicated school bus that will utilise a drop-off / pick-up zone within the main car park to the front of the school, with students then travelling between this zone and the new school building via the existing internal driveway.

Given the special needs of these students, no students will walk or cycle to the school.

Based on the maximum future capacity of 50 students, the following additional traffic demands are predicted for the school:

- 50% of student (25 in total) arriving in dedicated school buses. This shall be 2 or 3 mini-bus type vehicles.
- 50% of students (25) arriving by private motor vehicle, with sharing of vehicles allow for a typically occupancy rate of 2 students per car. This would give 13 cars in the morning drop off and 13 in the afternoon pick up period.

When reviewed against the current traffic flows along Chelmsford Drive and the existing traffic demands associated with the school, it can be seen that the additional 15-16 vehicles in the morning drop-off period and a similar number on the afternoon pick-up period shall have a minimal impact upon the overall operation of the local road network. The major issue for the local road network, which creates significant delays and congestion is the poor operation of the roundabout controlled intersection of Chelmsford Drive and Metford Road. This roundabout will be upgraded as part of the development of the new Maitland Hospital and the traffic modelling post this upgrade demonstrates that this roundabout will operate very well with minor delays and congestion.

Peak Hour Impact on Intersections

The development will result in a small increase in vehicle movements at the roundabout controlled intersection of Chelmsford Drive and Metford Road. As discussed above, this roundabout currently operates poorly and creates delays with queues forming back to the school frontage. With the proposed upgrades associated with the new Maitland Hospital this intersection will operate well in the future (levels of service of A / B) and the additional traffic movements associated with this project shall have a minor impact upon this roundabout.

Conclusion

Overall, the proposed special learning centre shall have a minor and acceptable impact upon traffic and parking in the local area with no impediment to approval.

The students associated with this project will be dropped off / picked up by dedicated school buses or in private vehicles with typically 2 students per car. The school building, when fully occupied with 50 students, could generate some 15-16 vehicles for drop off and similar for the pick-up and as such will have a minor impact upon the local road network.

The students will be dropped off / picked up within the existing school grounds and escorted by staff between this location and the building, along the existing internal driveway.

The project will require two additional staff members and parking will be provided within the college grounds to accommodate this.

Please feel free to contact our office on 4032 7979 should you require any additional information.

Yours sincerely



Sean Morgan

Director

Attachment B: Site Plan

