

Technical Note: No 1a	Date: 20/03/2020
Project No: t20.057	
Project: Lot 701 Frankish Road, Northam – Proposed Educational Facility	
Subject: Traffic Assessment	

1.0 Introduction

This technical note is prepared by Transcore on behalf of Cunderdin Education Trust with regard to the proposed educational facility to be located at Lot 701 Frankish Road, in the Shire of Northam.

The subject site is bound by Frankish Road to the north and existing residential developments with larger lot sizes to the immediate east, south and west. The subject site is vacant land and vehicle access to the site is available from Frankish Road. There is no formal crossover in place at the site as it is not developed yet. Refer to **Figure 1** for more details.

Based on the information provided to Transcore, it is our understanding that the Shire has requested a simple report assessing the impact of the traffic from the proposed development. Accordingly, this technical note is prepared to address the traffic generation and distribution of the proposed development and provides commentary on the impact of the development traffic.

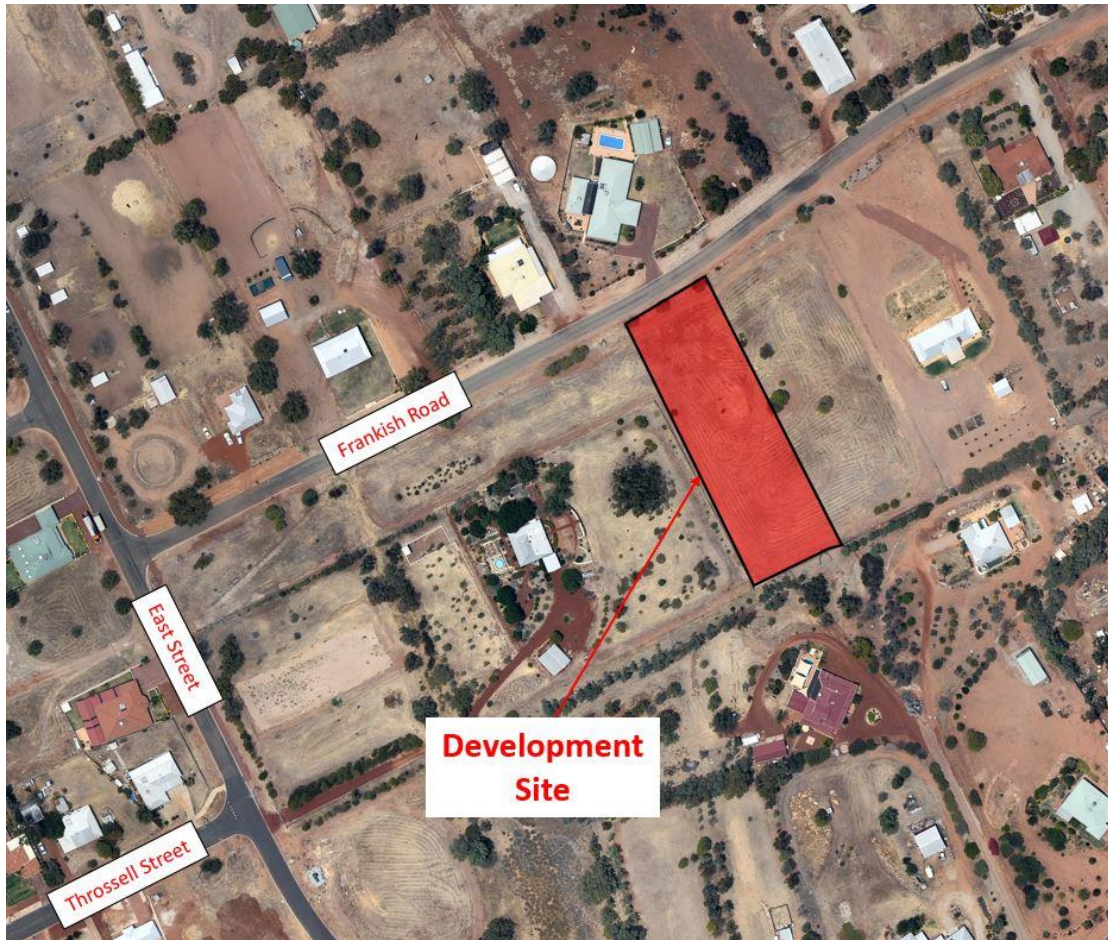


Figure 1. Location of the subject site

2.0 Proposed Development

The subject site is presently a vacant land and development application for the subject site proposes to accommodate an educational facility comprising an educational building, junior playground, seniors breakout, sports field, gym/hall and associated car park. The proposed development plan is included in **Appendix A**.

Based on the information provided to Transcore, it is understood that the proposed development caters for 45 students and 5 to 6 staff and is proposed to operate between 8:00am to 3:30pm from Monday to Friday.

Vehicle access to the parking areas will be provided by two driveway crossovers on Frankish Road.

As part of the development proposal a total of 15 parking bays, including one ACROD parking bay are proposed to address the parking demand. The car parking bays can directly be accessed from the two proposed crossovers on Frankish Road.

3.0 Daily Traffic Volumes and Vehicle Types

3.1 Existing Development Trip Generation

The subject site is currently a vacant land, so the existing traffic generation is zero.

3.2 Proposed Development Trip Generation

For the proposed educational facility, the trip rates used are from WAPC guidelines and is 1vph per student during school peak hour periods (typically 8-9am and 3-4pm) and 2vpd per student overall during the day.

Based on the information provided to Transcore, it is understood that 24 students will be picked up by two minibuses in the morning and dropped off in the afternoon. For the rest of the students (21 students in total), although more than one student is likely to travel in one vehicle, it is conservatively assumed 1vph per student during peak hour and 2vpd per student per day in accordance with WAPC guidelines.

Accordingly, the trip rates and trip generation calculations for the proposed development are as follows:

- ✚ Weekday daily: 2vpd per one student + 4vpd per one minibus = 2 x 21 (students) + 4 x 2 (minibuses) = 50 vehicles;
- ✚ Weekday AM peak hour: 1vph per one student + 2vph per one bus = 1 x 21 (students) + 2 x 2 (minibuses) = 25vph; and,
- ✚ Weekday PM peak hour: 1vph per one student + 2vph per one bus = 1 x 21 (students) + 2 x 2 (minibuses) = 25vph.

Accordingly, it is conservatively estimated that the proposed educational facility would generate a total of approximately **50** vehicular trips per regular weekday with about **25** trips during the typical weekday AM peak hour and **25** trips during the typical weekday PM peak hour. These trips include both inbound and outbound vehicle movements.

The traffic generation and peak hour split detailed in **Table 1** was based on the following directional split assumptions for peak hour periods:

- ✚ Morning (AM) peak split estimated at 50%/ 50% for inbound/ outbound trips associated with school facility; and,
- ✚ Afternoon (PM) peak split estimated at 50%/ 50% for inbound/ outbound trips associated with school facility.

Table 1. Estimated peak hour trips for the proposed development

Land Use	AM Peak			PM Peak		
	Traffic Split	In	Out	Traffic Split	In	Out
Educational Facility	50% in	13		50% in	12	
	50% out		12	50% out		13
Total		25			25	

With respect to the location of the development, permeability and layout of the surrounding road network and the actual traffic operation conditions at local intersections, the assumed directional split for traffic arriving to the site is assumed as follows:

- 5% from East of Frankish Road;
- 45% from South of East Street; and,
- 50% from North of East Street.

The directional morning, afternoon and total daily trip distribution of the development-generated traffic is illustrated in **Figure 2**.



Figure 2. Estimated traffic movements for the subject development – morning, afternoon peak hours and total daily trips

3.3 Existing Road Network

East Street, Frankish Road, Throssell Street and Woodley Farm Drive are all classified as Local Roads in the Main Roads WA Functional Road Hierarchy and the built up area default speed limit of 50km/h applies on these streets.

East Street, Throssell Street and Woodley Farm Drive are constructed as kerbed, two-lane undivided roads with pavement width of approximately 7m (on East Street and Woodley Farm Drive) or 8m (on Throssell Street).

Frankish Road is kerbed on the north side for its full length but only kerbed on the south side for the first 70m from East Street, with a sealed width of approximately 7m.

3.4 Impact on Surrounding Road Network

The WAPC Transport Impact Assessment Guidelines for Developments (2016) provides guidance on the assessment of traffic impacts:

“As a general guide, an increase in traffic of less than 10 percent of capacity would not normally be likely to have a material impact on any particular section of road but increases over 10 percent may. All sections of road with an increase greater than 10 percent of capacity should therefore be included in the analysis. For ease of assessment, an increase of 100 vehicles per hour for any lane can be considered as equating to around 10 percent of capacity. Therefore, any section of road where the development traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis.”

It is evident that the estimated traffic increase from the proposed educational facility would be significantly less than the critical threshold (100vph per lane) with the most pronounced traffic increases being 12vph on Frankish Road (west of the development) and 6vph on East Street during the peak hours.

Based on the project Transcore undertook in 2016 within the locality, it was recorded that Frankish Road (east of East Street) carried the total daily traffic volume of approximately 150vpd on a regular weekday. Accordingly, the total weekday daily volume increase of 50vpd from the proposed development would result in approximately 200vpd on Frankish Road. Therefore, the estimated total daily traffic on Frankish Road would still be significantly less than the minimum capacity of 1000vpd for a local road.

Therefore, the impact on the surrounding road network is not considered to be significant.

4.0 Conclusion

This technical note provides information on the proposed educational facility to be located at Lot 701 Frankish Road, in the Shire of Northam. The proposed development comprises an educational building, junior playground, seniors breakout, sports field, gym/hall and associated car park.

A total of 15 parking bays including one ACROD parking bay are provided for the use of employees and patrons. The car parking bays can directly be accessed from two proposed driveway crossovers on Frankish Road.

The traffic analysis undertaken in this technical note shows that the traffic generation of the proposed development is estimated to be in the order of 50 daily and 25 and 25 morning and afternoon peak hour trips (total of both inbound and outbound movements), respectively. These levels of traffic generation are relatively minor and therefore, the traffic impact of the proposed educational facility on the surrounding road network will be insignificant.

Finally, it is concluded that traffic-related issues should not form an impediment to the approval of the proposed development.

Appendix A

PROPOSED DEVELOPMENT PLAN

