

## 4 TRAFFIC ASSESSMENT

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

### 4.1 *Traffic Generation*

Considering the location of the school and the poor access to public transport, it is assumed that all students and staff in Stage 1 will drive to and from school. Based on surveys of the associated St Hermizd Assyrian Primary School families in the community have 1.85 children on average, which can be conservatively assumed as the average vehicle occupancy.

In addition to the above assumptions, a conservative 80% student private vehicle use rate has been assumed for the completed school (at which time it is expected a bus service will be in operation). The resulting estimated AM and PM peak hourly traffic generations are provided in **Table 4** and **Table 5** respectively.

**TABLE 4: ESTIMATED TRAFFIC GENERATION (AM)**

Type	Scale	Rate	Trips	Direction
<b>STAGE 1</b>				
Staff	12	1 per staff	12	12 IN, 0 OUT
Student	210	0.54 two-way trips per student <sup>(1)</sup>	227	113 IN, 113 OUT
<b>Total</b>			<b>239</b>	<b>125 IN, 113 OUT</b>
<b>FINAL DEVELOPMENT</b>				
Staff	35	1 per staff	35	35 IN, 0 OUT
Student	630	0.43 two-way trips per student <sup>(2)</sup>	544	272 IN, 272 OUT
<b>Total</b>			<b>579</b>	<b>307 IN / 272 OUT</b>

Notes:

- (1) Based on 1.85 children per vehicle;
- (2) Based on 1.85 children per vehicle, and a 20% use of public transport.

**TABLE 5: ESTIMATED TRAFFIC GENERATION (PM)**

Type	Scale	Rate	Trips	Direction
<b>STAGE 1</b>				
Staff	12	1 per staff	12	0 IN, 12 OUT
Student	210	0.54 two-way trips per student <sup>(1)</sup>	227	113 IN, 113 OUT
<b>Total</b>			<b>239</b>	<b>113 IN, 125 OUT</b>
<b>FINAL DEVELOPMENT</b>				
Staff	35	1 per staff	35	0 IN, 35 OUT
Student	630	0.53 two-way trips per student <sup>(2)</sup>	544	272 IN, 272 OUT
<b>Total</b>			<b>579</b>	<b>272 IN / 307 OUT</b>

Notes:

- (1) Based on 1.85 children per vehicle;
- (2) Based on 1.85 children per vehicle, and a 20% use of public transport.

As shown, the traffic generation has been estimated at some 239 trips for Stage 1 and 579 trips for the final development scale. The AM peak hour has, for the purposes of traffic modelling, been assumed to be similar to the PM with the direction of staff travel reversed. The PM peak is a worst case as students will typically arrive for school over a longer period of time than when departing in the afternoon.

## **4.2 Traffic Assignment**

The surrounding road network, the routes to and from the site, school catchment areas (reproduced in **Annexure F**) and Journey to Work data as provided by the NSW Bureau of Transport Statistics have been examined and the following trip assignment assumed:

### **4.2.1 AM Traffic to the Site**

- 30% from the north via The Horsley Drive:
  - 20% from the east;
  - 10% from the west.
- 70% from the south via Elizabeth Drive:
  - 50% from the east;
  - 10% from the west;
  - 10% from the south (via the M7 exit).

### **4.2.2 AM Traffic from the Site**

- 40% to the north:
  - 35% to the east at The Horsley Drive;
  - 5% to the west at The Horsley Drive.
- 60% to the south
  - 55% to the east at Elizabeth Drive;
  - 5% to the west at Elizabeth Drive.

The above distribution is reversed in the PM when parents will typically be returning from their place of work to collect their child and then driving home.

## **4.3 Traffic Impact**

The traffic generation estimated previously in **Section 4.1** has been distributed into the existing traffic volumes as per the traffic assignment provided in **Section 4.2** and assessed using SIDRA Intersection 7.0. The results of this assessment are summarised in the subsections below.

### **4.3.1 Stage 1 Development – School for 210 Students**

The impacts of Stage 1 of the development on the surrounding road network have been assessed using the existing traffic volumes. The results of the SIDRA Intersection analysis are summarised in **Table 6**.