Appendix Y:

Sensitivity Traffic Modelling

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Dear Ewen

1.0 Impact testing of various scenarios based on different operating hours

The site is expected to service approximately 1495 heavy vehicles per week and each of these vehicles has both an inbound and outbound trip. It is proposed that all trucks currently would arrive between 6:00 am and 10:00pm 6.5 days a week and this leads to approximately 15 heavy vehicles entering and exiting the site during the AM and PM peak.

Clarification in the EIS has been sought over sensitivity testing of various scenarios with different operating hours.

In response AECOM has investigated several alternative scenarios based on differing operating hours being utilised by the facility whilst keeping the overall number of truck movements per week constant. This scenario testing helps indicate the level of impact that these heavy vehicles are expected to have on the surrounding network. The scenarios to be considered are shown in Table 1.

Table 1: Operating hours scenarios

Scenario Name	Description
Current Scenario	All trucks would arrive between 6:00am to 10:00pm (6.5 days)
Scenario 1	All trucks would arrive between 7:30am and 5pm (6.5 days)
Scenario 2	Commercial, Freight, Recycling trucks between the hours of 6.00am and 10.00pm (6.5 days). Government Trucks between hours of 7.30 and 5.00pm (5 days)
Scenario 3	Commercial, Freight, Recycling trucks between the hours of 7.30 and 5.00pm (6.5 days). Government trucks between the hours of 7.30 and 2.00pm (5 days)
Scenario 4	Commercial, Freight, Recycling trucks between the hours of 6.00am and 5.00pm (6.5 days). Government trucks between the hours of 7.30 and 12.00pm (5 days)

It is unlikely that government trucks would only utilise the site 5 days a week. These trips are likely to be distributed across the full 6.5 days. The 5-day scenarios have been provided to show a conservative estimate of the peak demands.

2.0 Scenario Testing

The number of movements (including both the inbound and outbound movements) are shown in Table 2.

Table 2: Determination of inbound and outbound movements per week

	Daily Total	Weekly	Inbound and Outbound Movements per week
Government	104	676	1352

	Daily Total	Weekly	Inbound and Outbound Movements per week
Non-Government	126	819	1638

These movements are then used and redistributed based on the operating hours of each scenario to provide an estimate of expected AM and PM heavy vehicle traffic generated by the site. This is shown in Table 3.

In Scenario 3 and Scenario 4 the government trucks conclude arriving at the site at 2:00pm and 12:00pm respectively. This means that these vehicles do not utilise the PM peak that according to previous traffic counts occurs between 4:15pm and 5:15pm.

Many of the other scenarios have operating hours that conclude at 5pm and so do not include the full 4:15pm to 5:15pm peak. In this case to be conservative, the full hour is included rather than adjusting for the 15 minutes.

Table 3: AM and PM peak movements predicted for the various scenarios

Scenario	Government			Commercial			Peak Hour Heavy Vehicle Movements	
	Days	Daily Traffic	Hours of Operation	Days	Daily Traffic	Hours of Operation	AM Peak (8am-9am)	PM Peak (4:15pm-5:15pm)
Current Scenario	6.5	208	16	6.5	252	16	28.8	28.8
Scenario 1	6.5	208	9.5	6.5	252	9.5	48.4	48.4
Scenario 2	5	270.4	9.5	6.5	252	16	44.2	44.2
Scenario 3	5	270.4	6.5	6.5	252	9.5	68.1	26.5
Scenario 4	5	270.4	4.5	6.5	252	11	83.0	22.9

While the differing operating hours results in an increase in the number of heavy vehicles expected to be entering and exiting the site compared to the case originally presented the overall network impacts should be considered. Table 2 shows the percentage increase on Ipswich Street due to the addition of these expected heavy vehicle volumes. Depending on the scenario the additional heavy vehicles on Ipswich Street range between 0.8% and 2.3% which indicates a relatively small impact on the network. It should also be reiterated that these are not new trips on the road network but rather re distributed movements from other locations around Canberra.

Table 4: Comparison of the predicted heavy vehicle volumes and the existing traffic on Ipswich Street

Scenario	Peak Hour		Existing Traffic on Ipswich Street		% Increase on Ipswich Street	
	AM	PM	AM Peak (8am-9am)	PM Peak (4:15pm-5:15pm)	AM Peak (8am-9am)	PM Peak (4:15pm-5:15pm)
Current Scenario	28.8	28.8	3560	3546	0.8%	0.8%
Scenario 1	48.4	48.4	3560	3546	1.4%	1.4%
Scenario 2	44.2	44.2	3560	3546	1.2%	1.2%
Scenario 3	68.1	68.1	3560	3546	1.9%	0.7%
Scenario 4	83.0	83.0	3560	3546	2.3%	0.6%

3.0 Conclusion

Overall the scenario analysis indicates that while the operating hours of the facility does generate greater movements in the AM peak that it is unexpected to impose a sizeable negative effect on traffic conditions in the area. The percentage of additional traffic caused by the development on Ipswich Street is expected to range between 0.8% and 2.3% dependent on the operating hours tested in these scenarios. Scenario 4 is believed to be relatively conservative as it imposes the following restrictions which is believed to be relatively stringent:

- Government trucks between the hours of 7.30 and 12.00pm (5 days)
- Commercial, Freight, Recycling trucks between the hours of 6.00am and 5.00pm (6.5 days)

Yours faithfully

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