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By email
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6 March 2018

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Dear Sean

East West Connector Road - Statement of Environmental Effects - Traffic

This letter has been prepared in support of a Statement of Environment Effects for the proposed East-west Connector Road.

The East-west Connector Road is located within the St Marys Development Site and provides a road connection between Central Precinct (Jordan Springs East), Eastern Precinct (Ropes Crossing), North Dunheved and South Dunheved Precincts.

This letter summarises traffic modelling results from the *Jordan Springs East – Internal Road and Intersection Assessment with Rezoning, November 2017 (WSP)* and the *St Marys Development Site Traffic Modelling, Traffic and Transport Assessment, October 2017 (WSP)* reports. Both reports adopt a future scenario whereby approximately 38 hectares of 'employment' land within Central Precinct is rezoned to residential. The purpose for adopting this scenario is that is more conservative and better aligned to the long-term vision for the St Marys Development Site.

Purpose of the East West Connector Road

The East-west Connector Road is a key collector road within the greater St Mary Development Site. The East-west Connector Road is proposed to be a two-way two-lane road that connects Jordan Springs East to the west and Ropes Crossing to the east with a southern connection to Dunheved Industrial Precinct via Dunheved Link Road.

The East-west Connector Road is a necessary second access / egress route from Jordan Springs East which is currently restricted to a singular access through Jordan Springs. Modelling estimates that the existing road network within Jordan Springs would begin to underperform when approximately 1,050 residential dwellings become occupied within Jordan Springs East. As such, the delivery of the East-west Connector Road is important to ensure that the internal road network within the St Marys Development Site performs appropriately.

The East-west Connector Road will transition into existing development at Ropes Crossing at an existing roundabout on Ropes Crossing Boulevard and a proposed roundabout at its western extent (i.e.,

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Jordan Springs East). The East-west Connector Road will also contain an internal roundabout where a connection to the Dunheved Precinct and beyond will be afforded.

The East-west Connector Road will have limited access to property with no urban development proposed to front it along its length and is expected to be speed limited to 60 km/hour.

Mid-Block Traffic Volumes during the 2021 AM and PM peak with rezoning

Mid-block traffic volumes on the East-west Connector Road in the Year 2021 are estimated to be approximately 850 vehicles in total (total for both directions) during the AM peak and 1,250 vehicles in total (total for both directions) in the PM peak at its busiest section between Jordan Springs East and Dunheved Link Road. Figure 1 below shows road traffic flows and intersection level of service performance.

A mid-block capacity of 1,000 vehicles per lane per hour per direction has been applied for the East-west Connector Road.

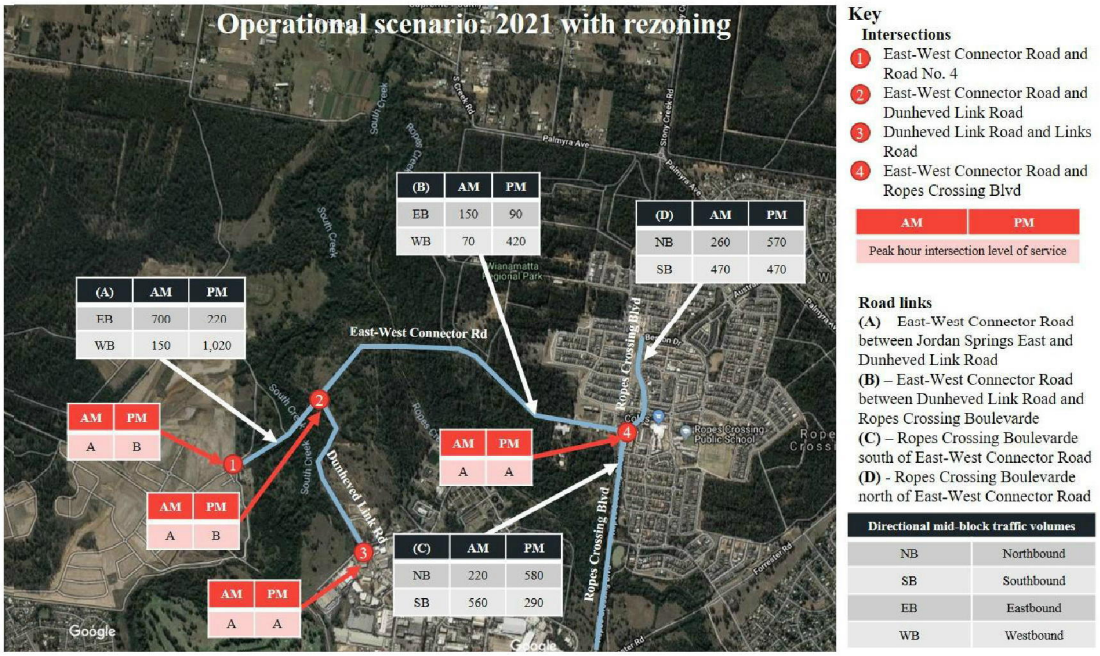

Figure 1 Road traffic flows and intersection performance

Section of East-west Connector Road between Jordan Springs East and Dunheved Link Road

In the AM peak, this section carries approximately 700 vehicles eastbound and 150 vehicles westbound and in the PM peak, 220 vehicles eastbound and 1,020 vehicles westbound. It should be noted that this section of road is uninterrupted, has no intersections or fronting development and ideally would have increased lane capacity above 1,000 vehicles per lane per hour and therefore accommodate these volumes.

Section of East-west Connector Road between Dunheved Link Road and Ropes Crossing Boulevard

In the AM peak, this section carries 150 vehicles eastbound and 70 vehicles westbound and in the PM peak, 90 vehicles eastbound and 420 vehicles westbound.

The East-west Connector Road would operate within capacity and at capacity in the westbound direction in the PM peak for the section between Jordan Springs East and Dunheved Link Road.

Intersection Performance

Intersection performance in the Year 2021 for the East-west Connector Road roundabout intersections and the Dunheved Link Road and Links Road roundabout intersection are detailed in Table 1 below. Please also refer to Figure 1.

Table 1 Intersection Performance in Year 2021 with Jordan Springs East Rezoning

INTERSECTION	2021 AM PEAK			2021 PM PEAK		
	LoS	Delay (secs)	Queue (m)	LoS	Delay (secs)	Queue (m)
East West Connector Road / Road No 4 at Jordan Spring East	A	12	28	B	17	63
East West Connector Road / Dunheved Link Road	A	9	34	B	22	143
East West Connector Road / Ropes Crossing Boulevard	A	12	16	A	12	30
Dunheved Link Road / Links Road	A	6	32	A	8	29

Table 1 shows that all the above intersections will operate at good levels of service with minimal queuing and vehicle delay.

Impact on Adjacent Precincts

The impacts on the adjacent precincts of Jordan Springs East have been addressed in the *Jordan Springs East – Internal Road and Intersection Assessment with Rezoning, November 2017 (WSP)* and the Ropes Crossing and Dunheved Industrial Precincts in the *St Marys Development Site Traffic Modelling, Traffic and Transport Assessment, October 2017 (WSP)*.

The intersection of East-west Connector Road and Ropes Crossing Boulevard will perform within capacity at good levels of service. Likewise, the Dunheved Links Road and Links Road intersection. Further detailed intersection traffic modelling for Ropes Crossing Boulevard is provided in the *St Marys Development Site Traffic Modelling, Traffic and Transport Assessment, October 2017 (WSP)*.

Mid-block traffic volumes on Ropes Crossing Boulevard south of the East-west Connector Road will be approximately 870 vehicles in total (total for both directions) of which 560 vehicles will be southbound and 220 northbound in the AM peak and 290 vehicles will be southbound and 580 vehicles northbound in the PM peak.

Mid-block traffic volumes on Ropes Crossing Boulevard north of the East West Connector Road will be approximately 1,040 vehicles in total (total for both directions) of which 470 vehicles will be southbound and 260 northbound in the AM peak and 470 vehicles will be southbound and 570 vehicles northbound in the PM peak

A mid-block capacity of 1,000 vehicles per lane per hour per direction has been applied for Ropes Crossing Boulevard. These volumes are within the mid-block road capacity of Ropes Crossing Boulevard.

Conclusion

The East-west Connector will deliver infrastructure that has long been envisioned as part of the overarching St Marys Development Site and will provide direct connections between each of the Precincts.

The East-west Connector Road will also provide a second access / egress from Jordan Springs East which will reduce the impacts on the internal road network within Jordan Springs. It is estimated that the Jordan Springs internal road network will begin to temporarily underperform prior to the East-west Connector Road being constructed should 1,050 residential dwellings become occupied within Jordan Springs East.

Modelling has been undertaken and confirms that the existing and proposed intersections within and at the extents of the East-west Connector Road will operate satisfactorily and that the proposed road will have sufficient capacity to accommodate estimated traffic volumes generated by the St Marys Development Site.

Yours sincerely

Ryan Miller
Principal Traffic Engineer

Encl: Jordan Springs East - Internal Road and Intersection Assessment with Rezoning, November 2017 (WSP)