A Traffic Addendum

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Attendion: Jenny Rudolph; Director

RE: 33-43 Phillip St, St Marys

Ason Group has been engaged by Elton Consulting to provide a Traffic Addendum Statement to support a Planning Proposal in relation to 33-43 Phillip St, St Marys within the local government area of Penrith City Council with a view to amend the Penrith Local Environmental Plan 2010.

The main purpose of this Addendum is to:

1. Confirm that the SIDRA modelling undertaken previously adequately reflects (or is higher than) the traffic generation of the development currently proposed.
2. Investigate whether relevant RMS signal "warrants" are satisfied to allow the provision of traffic signals within Phillip Street.

It is noted that Council intends to undertake a precinct-wide assessment of the St Marys Town Centre in early 2018 and accordingly, a cumulative impact and background growth analysis (as was previously being requested by Council) is not required at this time.

The current yield now sought for the site is less than previously contemplated by Ason Group's original Traffic Impact Assessment report, dated 29/09/2016. The table below provides a summary of the changes.

Table 1: Development Yield Changes Summary

Landuse	Previously Modelled	Revised Yield	Change
Residential	880 units	584	- 296
Commercial	2,200m²	2,210m²	10
Supermarket	3,250m²	4,500m²	1,250
General Retail	7,300m²	1,615m²	- 5685

In this regard, even though the current revised yield of supermarket increases by 1,250m², there are significant reductions in the number of residential apartments and the total ground floor area of general retail. The implication for projected traffic volumes and associated modelling is discussed below.

Traffic Generation

Traffic generation analysis was undertaken for the following scenarios:

- Scenario 1 Previous yield and traffic generation rates
- Scenario 2 Revised yield and council traffic generation rates

The traffic generation rates adopted for Scenario 1 are outlined below in **Table 2.**

Table 2: Traffic Generation Rates – Previous (Scenario 1)

Land Use	AM			PM		
	Traffic Generation Rate	Distribution		Traffic Generation Rate	Distribution	
		IN	OUT		IN	OUT
Residential	0.19 veh/hr per unit	20%	80%	0.15 veh/hr per unit	30%	70%
Commercial	1.6 veh/hr per 100m² GFA	90%	10%	1.2 veh/hr per 100m² GFA	20%	80%
Supermarket[1]	4.65 veh/hr per 100m² GFA	70%	30%	15.5 veh/hr per 100m² GFA	50%	50%
General Retail[1]	1.38 veh/hr per 100m² GFA	70%	30%	4.6 veh/hr per 100m² GFA	50%	50%

NOTE:

1. AM rate for supermarket and retail uses assumed to be 30% of peak PM peak trip rates

Council has provided LGA specific traffic generation rates to be adopted for the purposes of the Planning Proposal traffic assessment. These rates are outlined below in **Table 3**.

Table 3: Traffic Generation Rates – Council (Scenario 2)

Land Use	AM			PM		
	Traffic Generation Rate	Distribution		Traffic Generation Rate	Distribution	
		IN	OUT		IN	OUT
Residential	0.33 veh/hr per unit	20%	80%	0.33 veh/hr per unit	80%	20%
Commercial	1.6 veh/hr per 100m² GFA	80%	20%	1.2 veh/hr per 100m² GFA	20%	80%
Supermarket/ General Retail[1,2]	3.69 veh/hr per 100m² GFA	60%	40%	12.3 veh/hr per 100m² GFA	50%	50%

NOTE:

1. AM rate for supermarket and retail uses assumed to be 30% of peak PM peak trip rates
2. Combined Supermarket and General Retail area is less than 10,000m² therefore 12.3m²/100m² trip generation rate adopted

Table 4 below outlines the traffic generation for the previously adopted yield and generation rates.

Table 4: Traffic Generation - Scenario 1

Land Use	No. / Area	AM Peak			PM Peak		
		Two-way Volume	IN	OUT	Two-way Volume	IN	OUT
Residential	880	167	33	134	132	92	40
Commercial	2,200	35	32	3	26	5	21
Supermarket	3,250	151	106	45	504	252	252
General Retail	7,300	101	71	30	336	168	168
TOTAL		454	242	212	998	517	481

The table below details the traffic generation for the revised yield and Council traffic generation rates.

Table 5: Traffic Generation – Scenario 2

Land Use	No. / Area	AM Peak			PM Peak		
		Two-way Volume	IN	OUT	Two-way Volume	IN	OUT
Residential	584	193	39	164	193	154	39
Commercial	2,210	35	28	7	27	5	22
Supermarket	4,500	166	100	66	554	277	277
General Retail	1,615	61	37	24	202	101	101
TOTAL		455	204	251	976	537	439

Table 6: Net Change in Traffic Generation

Land Use	No. / Area	AM Peak			PM Peak		
		Two-way Volume	IN	OUT	Two-way Volume	IN	OUT
Residential	-296	26	6	20	61	62	-1
Commercial	0	0	-4	4	1	0	1
Supermarket	1,250	15	-6	21	50	25	25
General Retail	-5,685	-40	-34	-6	-134	-67	-67
TOTAL		1	-38	39	-22	20	-42

It can be seen that the traffic generated by the revised yield now proposed will have a negligible increase of 1 veh/hr during the morning peak, while there will be a moderate reduction of 22 veh/hr during the evening peak.

Signal Warrant Review

Based on previous SIDRA modelling, the future volumes along Phillip Street are as follows:

- AM Peak:
  - Eastbound: 393 veh/hr
  - Westbound: 386 veh/hr
- PM Peak:
  - Eastbound: 441 veh/hr
  - Westbound: 603 veh/hr

Section 2 – Warrants of the RMS Traffic Signal Design guideline outlines warrants to be satisfied based on traffic demand that requires *"for each four one-hour periods of an average day the major road flow exceeds 600 vehicles/hour in each direction"*.

It is evident from the above that future traffic volumes within Phillip Street, as result of the Proposal, would not satisfy the relevant traffic signal warrants.

Conclusion

The traffic generated under the revised yield and Council generation rates are generally consistent or lower than modelled previously. Therefore, the previous modelling undertaken adequately encompasses the traffic generation of the development currently proposed.

Future traffic volumes along Phillip Street do not satisfy the necessary warrants for provision of traffic signals. Accordingly, in the absence of significantly increased traffic volumes resulting from broader development across the town centre more generally, it is unlikely that signals will be provided and Council consideration should be given to unsignalised pedestrian crossing treatments such as pedestrian refuges instead.

We trust the above is of assistance and please contact the undersigned should you have any queries or require further information.

Yours sincerely,

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