ROAD DELAY SOLUTIONS

Horsley Drive Business Park

Revised Structure Plan

Traffic Report

Prepared for...

australand

December 2014

Reference: 20140209

ROAD DELAY SOLUTIONS

Horsley Drive Business Park

Revised Master Plan

DOCUMENT STATUS

Document Location C:\Users\Glen\Documents\Australand\Horsley Drive Business Park\Section 96\Report 2.docx

		Date...	Prepared...	Verified...
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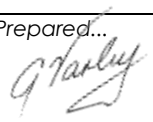
A	Original Issue	December 2014		

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ABSTRACT

Road Delay Solutions Pty Ltd has been engaged by Australand to assess the implications of the revised master plan for the Horsley Drive Business Park, Wetherill Park.

The conditions and traffic impacts reported in a Traffic Impact Assessment[1], dated May 2012, pertained to the original application and a structure plan detailing a site area of 21.4ha. The generation rate adopted in the fore mentioned report was 15 vehicles per hour per hectare and was recommended for use by the Roads and Maritime Services (RMS).

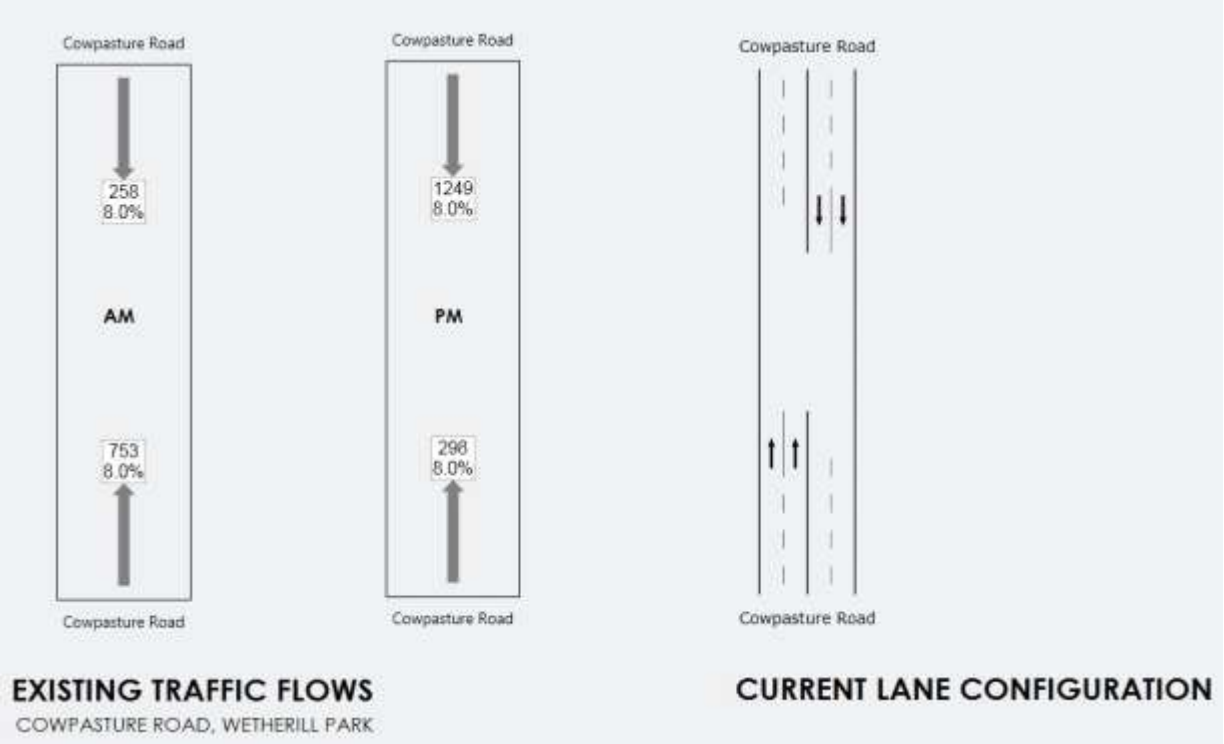
This generation rate has been applied to the revised structure plan and modelling of the Cowpasture Road intersection with the Horsley Drive Business Park Access, some 130m north of the Newton Road intersection, has been undertaken utilising the SIDRA program.

[1] *'Horsley Drive Business Park Traffic Impact Assessment for a Part 4 Concept Plan Application'* - Traffix, May 2012

EXISTING CONDITIONS

The current traffic volumes on Cowpasture Road, at the site of the proposed access to the Horsley Drive Business Park, are presented in *Figure 1*, below.

Figure 1 Existing Traffic Volumes – Cowpasture Road, Wetherill Park



FUTURE CONDITIONS

REVISED STRUCTURE PLAN

Figure 2 Revised Structure Plan

Source AUSTRALAND Holdings, 2014

Based on the RMS '*Guide to Traffic Generating Developments*', the revised Business Park structure will generate 4,607 vehicle trips daily, with 1,368 vehicle trips, including heavy vehicles trips, occurring during the morning and evening commuter peak periods, combined. The AM and PM peak commuter peak hours will generate 684vph, respectively.

With a vehicle distribution, during the morning peak hour, of 85% inbound and 15% outbound, and 70% of vehicles arriving from the M7 and 30% from the M4 and/or Greystanes precinct,the following movements, at the proposed access, are anticipated…

- *383vph left turn from Cowpasture Road,*
- *164vph right turn from Cowpasture Road,*
- *41vph left turn onto Cowpasture Road, and*
- *96vph right turn onto Cowpasture Road.*

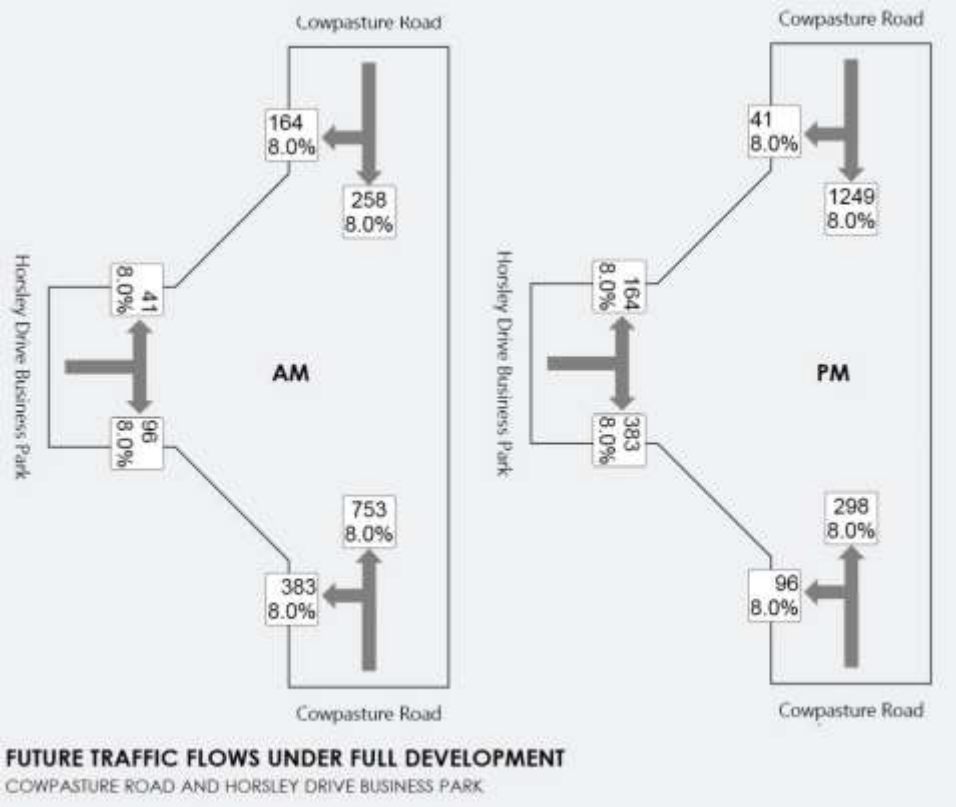
Table 1 RMS Traffic Generation Rates

Lot	Development Component	Area (m^2)	Daily RTA Trip Rate	Peak Hour RTA Trip Rate	Peak Hour Generation (vph)
1	Warehouse Stage 1A	6,085	4/100m^2 (GFA)	0.5/100m^2 (GFA)	30
1	Office Stage 1A	600	10/100m^2 (GFA)	2/100m^2 (GFA)	12
1	Warehouse Stage 1B	6,980	4/100m^2 (GFA)	0.5/100m^2 (GFA)	35
1	Office Stage 1B	600	10/100m^2 (GFA)	2/100m^2 (GFA)	12
2	Warehouse Stage 2	21,330	4/100m^2 (GFA)	0.5/100m^2 (GFA)	107
2	Office Stage 2	800	10/100m^2 (GFA)	2/100m^2 (GFA)	16
3	Warehouse Stage 3	24,160	4/100m^2 (GFA)	0.5/100m^2 (GFA)	121
3	Office Stage 3	1,000	10/100m^2 (GFA)	2/100m^2 (GFA)	20
4	Warehouse Stage 3	20,055	4/100m^2 (GFA)	0.5/100m^2 (GFA)	100
4	Office Stage 3	1,000	10/100m^2 (GFA)	2/100m^2 (GFA)	20
5	Warehouse Stage 5A	6,255	4/100m^2 (GFA)		31
5	Office Stage 5A	800	10/100m^2 (GFA)		16
5	Warehouse Stage 5B	6,255	4/100m^2 (GFA)		31
5	Office Stage 5B	800	10/100m^2 (GFA)		16
6	Warehouse Stage 6A	8,930	4/100m^2 (GFA)		45
6	Office Stage 6A	800	10/100m^2 (GFA)		16
6	Warehouse Stage 6B	7,935	4/100m^2 (GFA)	2/100m^2 (GFA)	40
6	Office Stage 6B	800	10/100m^2 (GFA)	2/100m^2 (GFA)	16
	Total Peak Hour Generation		4,607		**684**

NB: No retail operations are envisaged at the site.

With the advent of traffic generation associated with the Horsley Drive Business Park and the proposed access via a two (2) lane circulating roundabout controlled junction, some 130m north of the Newton Road intersection, a detailed analysis of the operational performance has been undertaken utilising Sidra.

Figure 3 Future Traffic Flows



The future operation of the proposed access reports a good Level of Service (*LoS*) 'A' during both the morning and evening commuter peak periods generating 95th percentile queue lengths in Cowpasture of 30m northbound in the AM and 69m southbound in the PM.

Table 2 Horsley Drive Business Park Access - Operational Performance

COWPASTURE ROAD AND HDBP ACCESS ROAD			
Time Period	**DS**	**AVD**	**LoS**
Future AM	0.501	8.6	A
Future PM	0.716	11.2	A

MOVEMENT SUMMARY

Site: AM Cowpasture Road and HDBP Revised Structure SECT 96

AM Cowpasture Road and HDBP Access
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop Queued	Effective Stop Rate per veh	Average Speed km/h
South: Cowpasture Road											
1	L	403	8.0	0.501	8.8	LOS A	4.0	30.1	0.44	0.66	47.8
2	T	793	8.0	0.501	7.6	LOS A	4.0	30.1	0.44	0.59	48.3
Approach		1196	8.0	0.501	8.0	LOS A	4.0	30.1	0.44	0.61	48.1
North: Cowpasture Road											
8	T	272	8.0	0.161	6.9	LOS A	1.1	8.5	0.26	0.52	49.4
9	R	173	8.0	0.161	11.6	LOS A	1.1	8.4	0.26	0.70	45.7
Approach		444	8.0	0.161	8.7	LOS A	1.1	8.5	0.26	0.59	47.9
West: Horsley Drive Business Park											
10	L	43	8.0	0.076	11.6	LOS A	0.4	2.8	0.60	0.81	45.6
12	R	101	8.0	0.128	13.9	LOS A	0.7	5.3	0.60	0.84	44.0
Approach		144	8.0	0.128	13.2	LOS A	0.7	5.3	0.60	0.83	44.5
All Vehicles		1784	8.0	0.501	8.6	LOS A	4.0	30.1	0.41	0.62	47.7

MOVEMENT SUMMARY

Site: PM Cowpasture Road and HDBP Revised Structure SECT 96

PM Cowpasture Road and HDBP Access
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop Queued	Effective Stop Rate per veh	Average Speed km/h
South: Cowpasture Road											
1	L	101	8.0	0.156	7.9	LOS A	1.0	7.7	0.17	0.62	49.0
2	T	314	8.0	0.156	6.7	LOS A	1.0	7.7	0.17	0.50	50.0
Approach		415	8.0	0.156	7.0	LOS A	1.0	7.7	0.17	0.53	49.8
North: Cowpasture Road											
8	T	1315	8.0	0.716	12.2	LOS A	9.3	69.3	0.82	0.92	45.1
9	R	43	8.0	0.719	17.0	LOS B	9.2	68.6	0.82	1.00	42.4
Approach		1358	8.0	0.716	12.3	LOS B	9.3	69.3	0.82	0.92	45.0
West: Horsley Drive Business Park											
10	L	173	8.0	0.214	9.7	LOS A	1.1	8.3	0.44	0.72	47.6
12	R	403	8.0	0.379	12.6	LOS A	2.3	17.3	0.47	0.76	44.7
Approach		576	8.0	0.379	11.7	LOS A	2.3	17.3	0.46	0.75	45.5
All Vehicles		2348	8.0	0.716	11.3	LOS A	9.3	69.3	0.62	0.81	45.9