Horsley Drive Business Park

Revised Structure Plan

Traffic Report







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
		Date	Prepared	Verified
		Date	Prepared	Verified
Α	Original Issue	Date December 2014	Prepared Glarby	Verified

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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.

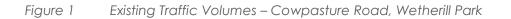
The conditions and traffic impacts reported in a Traffic Impact Assessment¹, dated May 2012, pertained to the original application and a structure plan detailing a site area of 21.4ha. The generation rate adopted in the fore mentioned report was 15 vehicles per hour per hectare and was recommended for use by the Roads and Maritime Services (RMS).

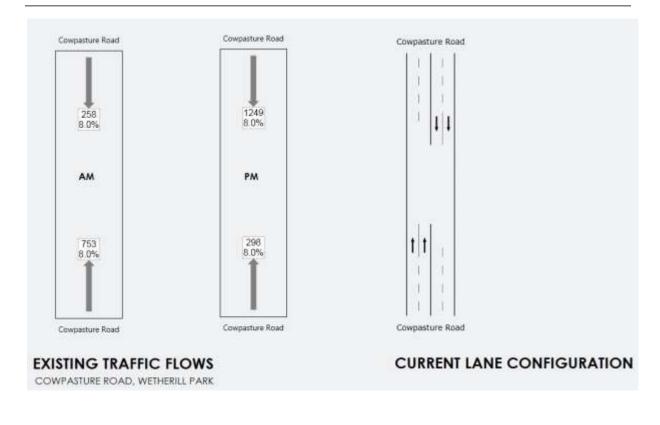
This generation rate has been applied to the revised structure plan and modelling of the Cowpasture Road intersection with the Horsley Drive Business Park Access, some 130m north of the Newton Road intersection, has been undertaken utilising the SIDRA program.

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.





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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...

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

Table 1RMS Traffic Generation Rates

Lot	Development Component	Area (m²)	Daily RTA Trip Rate	Peak Hour RTA Trip Rate	Peak Hour Generation (vph)
1	Warehouse Stage 1 A	6,085	4/100m² (GFA)	0.5/100m ² (GFA)	30
1	Office Stage 1A	600	10/100m² (GFA)	2/100m ² (GFA)	12
1	Warehouse Stage 1B	6,980	4/100m² (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	10/100m² (GFA)	2/100m ² (GFA)	16
	Total Peak Hour Generation		4,607		684

ROAD DELAY SOLUTIONS

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.

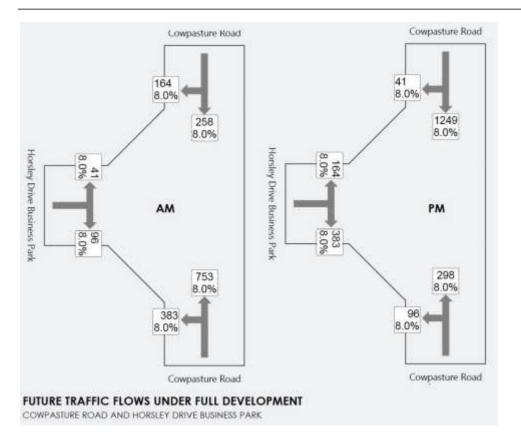


Figure 3 Future Traffic Flows

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.

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

Table 2 Horsley Drive Business Park Access - Operational Performance

MOVEMENT SUMMARY

Site: AM Cowpasture Road and HDBP Revised Structure SECT 96

AM Cowpasture Road and HDBP Access Roundabout

		Certury		Dea	Avenue	Level of	36% Elack of	Dunie	Prop	ERCOVE	Average
Max ID	Turn	Flow	1	Deg Satiti WC	Dotay	Service	Votacles	Distance	Quirued	Etop Rate per von	Spend
South: Cow	pasture Road										
01	L	403	6.0	0.501	8.8	LOSA	4.0	30.1	0.44	0.66	47.8
2	T	793	8.0	0,501	7.6	LOSA	4.0	30.1	0.44	0.59	48.3
Approach		1196	8.0	0.501	8.0	LOBA	4,0	30.1	Ω. 4 4	0.61	48.1
North: Cowj	pasture Road										
8	.T.	272	0.0	0.181	6.9	LOSA	9.1	8.5	0.26	0.52	49.4
	8	173	0.0	0.181	11.6	LOSA	1.1	8.4	0.26	0.20	45.7
Approach		444	0.0	0.161	8.7	LOSA	1.1	8.5	0.26	0.59	47.9
West Horst	ey Drive Busine	as Pan									
10	L	43	8.0	0.076	11.6	LOSA	0.4	2.5	0.60	0.81	45.6
12	R	101	0.0	0.128	13.9	LOSA	0.7	5.2	0.60	0.54	44.0
Approach		144	0.0	0.128	13.2	LOSA	0.7	5.3	0.60	0.83	44.5
All Vehicles		1784	0.0	0.50t	8.6	LOSA	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

Performanc	e - Vehicles									
Tum	Flow	-	Deg. Satu	Average Delay	Level of Service	Vitilities	Ouese Distance	Prop. Convert	Effective Ship Plate	Average Speed
asture Road	1.00	-	100 March 100	1.000		202		2-11-21-12		2005
L.	101	8.0	0.15E	7.5	LOSA	1.0	7.7	0.17	0.62	49.0
T	314	8.0	0.156	6.7	LOSA	1.0	7.7	0.17	0.50	50.0
	415	8.0	0.156	7.0	LOBA	1.0	7.7	0.17	0.53	49.8
esture Road										
T	1315	0.8	0.716	12.2	LOSA	9.3	69.3	0.82	0.92	45.1
R	43	8.0	0.710	17.0	LOS B	9.2	68.6	0.82	1.00	42.4
	1358	8.0	0.716	12.3	LOS B	9.3	69.3	0.82	0.92	45.0
y Drive Busin	ess Park									
L.	173	8.0	0.214	9.7	LOSA	2.1.1	8.3	0.44	0.72	47.6
R	403	6.0	0.379	12.0	LOSA	2.5	17.3	0.47	0.76	44.7
	.576	8.0	0.379	11.7	LOSA	2.5	17.3	0.46	0.75	45.5
	2348	6.0	0.716	11.2	LOSA	9.3	69.3	0.62	0.61	45.9
	Turn asture Road L T asture Road T R y Down Busin L	Flow Provi asthire Road 101 L 101 T 314 415 415 asthire Road 121 T 1316 T 1315 R 43 1558 1558 y Drive Business Park 173 L 173 R 403 576 576	Destination Provide enture Road	Date Destined Provide Prov Provide Prov Provide Prov Provide extrure Road	Date Destination (Note) Performent (Note) Performent (Note) Average (Note) extract Road	Dentitied Provide Provide Provide Provide Provide Provide Provide Level of Data Level of Data Level of Data Level of Data Level of Data Level of Data Service sature Road	Dentitied Provide Provide Provide Provide Provide Provide Provide Desc Provide Average Delay Level of Service Service Service	Destinant Prov. Dest Prov. Dest Prov. Average Prov. Level of Service 675 fact of Obseue Unitables Distance Unitables enture Road	Defined Flow Within Deg Service Average Service Level of Service Sock of Obese Vertices Prop Elitiance with m call 0166 7.9 LOB.A 10 7.7 0.17 1 101 8.0 0.156 7.0 LOB.A 1.0 7.7 0.17 1 314 6.0 0.156 7.0 LOB.A 1.0 7.7 0.17 415 8.0 0.156 7.0 LOB.A 1.0 7.7 0.17 2415 8.0 0.156 7.0 LOB.A 1.0 7.7 0.17 2415 8.0 0.156 7.0 LOB.A 1.0 7.7 0.17 314 6.0 0.716 12.2 LOB.A 9.3 69.3 0.82 T 1315 6.0 0.716 12.3 LOB.B 9.2 68.6 0.82 Y Draw Business Paix U 1.03.8 9.3 69.3 0.82 2 Y Draw Business Paix	Destand Flow Deg (Not) Deg (Not) Antropy (Not) Level of Service Service Ortholics (Malling) Flog (Malling) Flog (Malling) Eller Marc (Malling) enture Road 0 0.166 7.9 LOSA 1.0 7.7 0.17 0.62 1 0.1 0.166 7.9 LOSA 1.0 7.7 0.17 0.53 2 314 6.0 0.156 6.7 LOSA 1.0 7.7 0.17 0.53 exture Road 1 0.166 7.0 LOSA 1.0 7.7 0.17 0.53 exture Road 1 0.156 7.0 LOSA 1.0 7.7 0.17 0.53 exture Road 1 1.05A 1.0 7.7 0.17 0.53 active Road 1.0 7.7 0.17 0.53 0.92 0.92 T 7358 8.0 0.716 12.3 1.05 B 9.2 68.6 0.82 1.00

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