

# **TRAFFIC AND TRANSPORT TECHNICAL INFORMATION**

APPENDIX F



## Northern surface track works and Chatswood dive site (northern)

**Table 1 Northern surface track works and Chatswood dive site (northern) assessment (AM and PM peak hour)**

Intersection / peak period	Base / Existing (2016)				With project (EIS) (without Gordon Avenue access)				With project (Submissions and Preferred Infrastructure Report)							
									Alternative route 1, including Gordon Avenue access				Alternative route 2, including Gordon Avenue access			
	Demand flow (PCU per hr)	Average delay (sec per veh)	Level of Service	Degree of Saturation	Demand flow (PCU per hr)	Average delay (sec per veh)	Level of Service	Degree of Saturation	Demand flow (PCU per hr)	Average delay (sec per veh)	Level of Service	Degree of Saturation	Demand flow (PCU per hr)	Average delay (sec per veh)	Level of Service	Degree of Saturation
<b>Pacific Highway / Fullers Road / Help Street (signalised)</b>																
AM peak	5,869	104	F	1.28	5,959	97	F	1.16	5,967	108	F	1.28	5,967	108	F	1.28
PM peak	5,569	43	C	0.92	5,603	44	D	0.94	5,613	44	D	0.94	5,613	43	D	0.94
<b>Pacific Highway / Victoria Avenue (signalised)</b>																
AM peak	4,507	15	A	0.82	4,597	15	A	0.85	4,605	15	A	0.85	4,605	15	A	0.85
PM peak	4,315	11	A	0.73	4,349	10	A	0.73	4,359	10	A	0.73	4,359	11	A	0.73
<b>Pacific Highway / Centennial Avenue (signalised)</b>																
AM peak	4,616	7	A	0.67	4,706	9	A	0.69	4,714	7	A	0.70	4,714	7	A	0.70
PM peak	4,549	7	A	0.72	4,583	8	A	0.72	4,593	7	A	0.73	4,593	7	A	0.73

Intersection / peak period	Base / Existing (2016)				With project (EIS) (without Gordon Avenue access)				With project (Submissions and Preferred Infrastructure Report)							
									Alternative route 1, including Gordon Avenue access				Alternative route 2, including Gordon Avenue access			
	Demand flow (PCU per hr)	Average delay (sec per veh)	Level of Service	Degree of Saturation	Demand flow (PCU per hr)	Average delay (sec per veh)	Level of Service	Degree of Saturation	Demand flow (PCU per hr)	Average delay (sec per veh)	Level of Service	Degree of Saturation	Demand flow (PCU per hr)	Average delay (sec per veh)	Level of Service	Degree of Saturation
<b>Pacific Highway / Albert Avenue / Oliver Road (signalised)</b>																
AM peak	4,861	20	B	0.77	4,951	21	B	0.95	4,959	18	B	0.77	4,959	18	B	0.77
PM peak	4,927	22	B	0.96	4,961	28	B	0.96	4,971	20	B	0.96	4,971	21	B	0.96
<b>Pacific Highway / Mowbray Road (signalised – upgrades in EIS only)</b>																
AM peak	6,628	59	E	1.05	6,695	64	E	1.03	6,691	67	E	1.10	6,703	67	E	1.10
PM peak	6,599	48	D	0.97	6,624	58	E	1.01	6,616	47	D	0.97	6,634	48	D	0.97
<b>Pacific Highway / Howarth Road / Norton Lane (signalised)</b>																
AM peak	4,667	6	A	0.61	4,667	6	A	0.60	4,663	6	A	0.62	4,675	6	A	0.62
PM peak	4,751	7	A	0.75	4,751	8	A	0.75	4,743	7	A	0.75	4,761	8	A	0.75
<b>Pacific Highway / Gore Hill Freeway ramps (signalised)</b>																
AM peak	5,239	76	F	1.07	5,239	87	F	1.12	5,247	74	F	1.04	5,247	74	F	1.04
PM peak	4,970	56	D	1.04	4,970	54	D	1.04	4,980	56	D	1.04	4,980	55	D	1.04
<b>Pacific Highway / Longueville Road (signalised)</b>																
AM peak	3,831	30	C	0.83	3,831	28	B	0.83	3,831	27	B	0.79	3,831	27	B	0.78
PM peak	3,602	27	B	0.79	3,602	27	B	0.79	3,602	27	B	0.77	3,602	27	B	0.79

Intersection / peak period	Base / Existing (2016)				With project (EIS) (without Gordon Avenue access)				With project (Submissions and Preferred Infrastructure Report)							
									Alternative route 1, including Gordon Avenue access				Alternative route 2, including Gordon Avenue access			
	Demand flow (PCU per hr)	Average delay (sec per veh)	Level of Service	Degree of Saturation	Demand flow (PCU per hr)	Average delay (sec per veh)	Level of Service	Degree of Saturation	Demand flow (PCU per hr)	Average delay (sec per veh)	Level of Service	Degree of Saturation	Demand flow (PCU per hr)	Average delay (sec per veh)	Level of Service	Degree of Saturation
<b>Mowbray Road / Orchard Road / Elizabeth Street (signalised)</b>																
AM peak	2,581	33	C	0.71	2,540	29	B	0.72	2,569	30	C	0.68	2,569	30	C	0.68
PM peak	2,766	38	C	0.74	2,710	41	C	0.68	2,748	38	C	0.74	2,748	38	C	0.74
<b>Mowbray Road / Hampden Road (existing - priority controlled, with project - signalised)</b>																
AM peak	2,716	141	F	1.04	2,742	43	D	0.97	2,783	32	C	0.89	2,795	32	C	0.89
PM peak	2,514	9	A	0.38	2,483	22	B	0.69	2,539	24	B	0.65	2,557	24	B	0.64
<b>Orchard Road / Albert Avenue (signalised)</b>																
AM peak	959	23	B	0.39	959	21	B	0.38	1,000	24	B	0.44	1,000	23	B	0.40
PM peak	1,298	22	B	0.37	1,298	23	B	0.45	1,354	23	B	0.51	1,354	23	B	0.51
<b>Hampden Road / Brand Street (roundabout)</b>																
AM peak	1,801	12	A	0.82	1,801	12	A	0.82	1,813	22	B	0.83	1,813	22	B	0.83
PM peak	1,518	5	A	0.60	1,518	5	A	0.60	1,536	9	A	0.60	1,536	9	A	0.60
<b>Hampden Road / Broughton Road (priority controlled)</b>																
AM peak	1,744	4	A	0.38	1,744	4	A	0.38	1,756	4	A	0.40	1,744	4	A	0.38
PM peak	1,454	4	A	0.38	1,454	4	A	0.38	1,472	4	A	0.38	1,454	4	A	0.38

Intersection / peak period	Base / Existing (2016)				With project (EIS) (without Gordon Avenue access)				With project (Submissions and Preferred Infrastructure Report)							
									Alternative route 1, including Gordon Avenue access				Alternative route 2, including Gordon Avenue access			
	Demand flow (PCU per hr)	Average delay (sec per veh)	Level of Service	Degree of Saturation	Demand flow (PCU per hr)	Average delay (sec per veh)	Level of Service	Degree of Saturation	Demand flow (PCU per hr)	Average delay (sec per veh)	Level of Service	Degree of Saturation	Demand flow (PCU per hr)	Average delay (sec per veh)	Level of Service	Degree of Saturation
<b>Broughton Road / Buller Road (roundabout)</b>																
AM peak	529	3	A	0.18	529	3	A	0.18	541	3	A	0.18	529	3	A	0.18
PM peak	454	2	A	0.22	454	2	A	0.22	472	2	A	0.22	454	2	A	0.22
<b>Pacific Highway / Rimmington Street (priority controlled)</b>																
AM peak	2,735	34	C	0.57	2,735	40	C	0.61	2,743	37	C	0.62	2,743	35	C	0.58
PM peak	2,117	22	B	0.44	2,117	20	B	0.43	2,127	24	B	0.49	2,127	22	B	0.44

Note:

- Level of Service reported for signalised intersections is for the overall intersection, and for roundabouts and priority controlled intersections is the worst performing approach.
- Existing and 'with project' results are based on 2016 traffic counts.
- Outputs from LinSig Version 3.2

## Barangaroo – Crossover

**Table 2 Modelled intersection performance on the Barangaroo construction site haulage routes (AM and PM peak hour)**

Intersection / peak period	Base				With project (as presented in the EIS)				With project including Barangaroo crossover construction			
	Demand flow (PCUs per hour)	Average delay (seconds per vehicle)	Level of Service	Degree of saturation	Demand flow (PCUs per hour)	Average delay (seconds per vehicle)	Level of Service	Degree of saturation	Demand flow (PCUs per hour)	Average delay (seconds per vehicle)	Level of Service	Degree of saturation
<b>Shelley Street / Sussex Street (signalised)</b>												
AM peak	1,295	14	A	0.61	1,329	14	A	0.63	1,387	14	A	0.66
PM peak	1,008	12	A	0.35	1,042	12	A	0.37	1,100	12	A	0.40
<b>Sussex Street / Napoleon Street (signalised)</b>												
AM peak	1,464	22	B	0.70	1,498	22	B	0.68	1,556	22	B	0.68
PM peak	1,177	18	B	0.55	1,211	18	B	0.55	1,269	19	B	0.59
<b>Kent Street / Napoleon Street / Margaret Street (signalised)</b>												
AM peak	1,660	20	B	0.52	1,660	20	B	0.52	1,660	20	B	0.52
PM peak	1,135	15	B	0.37	1,135	15	B	0.37	1,135	15	B	0.37
<b>Kent Street / Clarence Street / Harbour Bridge on-ramp (signalised)</b>												
AM peak	2,027	63	E	1.00	2,027	63	E	1.00	2,027	63	E	1.00
PM peak	1,758	47	D	0.93	1,758	47	D	0.93	1,758	47	D	0.93
<b>Sussex Street / Erskine Street (signalised)</b>												
AM peak	2,347	34	C	0.80	2,381	34	C	0.77	2,439	35	C	0.76
PM peak	1,901	28	B	0.59	1,935	28	B	0.59	1,993	28	B	0.59

Sussex Street / King Street (signalised)												
AM peak	3,137	35	C	0.90	3,171	36	C	0.92	3,229	39	C	0.93
PM peak	2,224	25	B	0.72	2,258	25	B	0.73	2,316	26	B	0.76
Sussex Street / Market Street (signalised)												
AM peak	2,308	23	B	0.82	2,325	23	B	0.83	2,354	24	B	0.84
PM peak	2,337	20	B	0.76	2,354	20	B	0.77	2,383	21	B	0.79

\*Note: Level of Service reported for signalised intersections is for the overall intersection. Base and 'with project' results are based on 2016 traffic counts.

Note: Outputs from LinSig Version 3.2

## Martin Place

**Table 3 Modelled intersection performance on the Martin Place haulage routes (AM and PM peak hour)**

Intersection / peak period	Base				With project (as presented in the EIS)				With project (including O'Connell Street construction site)			
	Demand flow (PCUs per hour)	Average delay (seconds per vehicle)	Level of Service	Degree of saturation	Demand flow (PCUs per hour)	Average delay (seconds per vehicle)	Level of Service	Degree of saturation	Demand flow (PCUs per hour)	Average delay (seconds per vehicle)	Level of Service	Degree of saturation
Macquarie Street / Bent Street / Eastern Distributor ramps (signalised)*												
AM peak	4,078	141	F	1.25	4,612	156	F	1.27	4,146	144	F	1.25
PM peak	3,751	130	F	1.20	4,468	167	F	1.29	3,819	139	F	1.31
Bent Street / Phillip Street (signalised)*												
AM peak	2,012	20	B	0.61	2,461	17	B	0.74	2,063	21	B	0.68
PM peak	2,017	25	B	0.79	2,414	25	B	0.71	2,068	24	B	0.79



<b>Bent Street / Bligh Street (signalised)</b>												
AM peak	1,104	4	A	0.33	-	-	-	-	1,121	3	A	0.34
PM peak	1,047	5	A	0.32	-	-	-	-	1,064	5	A	0.33
<b>Loftus Street / Bent Street / O'Connell Street (priority controlled)</b>												
AM peak	1,106	5	A	0.40	-	-	-	-	1,123	4	A	0.40
PM peak	1,127	6	A	0.36	-	-	-	-	1,144	6	A	0.36
<b>Castlereagh Street / Hunter Street / Bligh Street (signalised)*</b>												
AM peak	1,322	18	B	0.48	1,228	15	B	0.45	1,356	16	B	0.58
PM peak	1,179	16	B	0.54	1,263	16	B	0.50	1,213	17	B	0.48
<b>Elizabeth Street / Phillip Street / Hunter Street (signalised)*</b>												
AM peak	2,308	26	B	0.77	2,656	23	B	0.83	2,359	28	B	0.75
PM peak	2,155	22	B	0.73	2,689	23	B	0.81	2,206	22	B	0.74

\*Note: For the PIR / SR assessment, intersection includes haulage vehicles generated by the Castlereagh Street and Elizabeth Street construction sites.

\*\*Note: Level of Service reported for signalised intersections is for the overall intersection, and for priority controlled intersections is the worst performing approach. 'With project (as presented in the EIS)' results are based on 2015 traffic counts while the base and 'with project (including O'Connell Street construction site)' results are based on 2016 traffic counts.

Note: Outputs from LinSig Version 3.2