Appendix B

Modelled Intersection Performance

Appendix B Modelled Intersection Performance

This section presents the results of the modelled intersection performance under the following scenarios:

- ‘2024 without this proposal’ (without construction vehicles)
- ‘2024 with this proposal as described in the Environmental Impact Statement’ (with construction vehicle numbers and routes as described within the Environmental Impact Statement
- ‘2024 with this proposal’ (with construction vehicle numbers and routes as described within this Submissions Report).

The intersection locations referred to in this table are shown in Figure 2-4 and Figure 2-7.

Modelled intersection performance – Pyrmont Station construction sites

Intersection and peak hour	2024 without this proposal					2024 with this proposal as described in the Environmental Impact Statement					2024 with this proposal as described within this Submissions Report				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)	
Pyrmont Bridge Road/Bank Street															
Morning	2,885	>100	F	NB	390	2,895	>100	F	NB	320	2,848	>100	F	NB	580
				EB	50				EB	70				EB	50
				SB	260				SB	270				SB	260
				WB	80				WB	130				WB	140
Evening	2,939	>100	F	NB	100	2,971	>100	F	NB	100	2,891	>100	F	NB	110
				EB	310				EB	310				EB	320
				SB	190				SB	210				SB	230
				WB	160				WB	160				WB	160
Pyrmont Bridge Road/Harris Street															
Morning	1,851	26	B	NB	70	1,897	30	C	NB	100	1,895	33	C	NB	140
				EB	120				EB	100				EB	140
				SB	70				SB	100				SB	60
				WB	30				WB	30				WB	30
Evening	1,751	26	B	NB	100	1,808	35	C	NB	150	1,745	22	B	NB	80
				EB	70				EB	90				EB	90
				SB	70				SB	80				SB	50
				WB	50				WB	50				WB	30
Pyrmont Bridge Road/Pyrmont Street															
Morning	1,688	19	B	NB	-	1,726	21	B	NB	-	1,748	21	B	NB	-
				EB	70				EB	70				EB	80
				SB	50				SB	50				SB	50
				WB	50				WB	50				WB	30
Evening	1,597	21	B	NB	-	1,675	21	B	NB	-	1,624	21	B	NB	-
				EB	60				EB	60				EB	70
				SB	70				SB	70				SB	80
				WB	40				WB	40				WB	30

Intersection and peak hour	2024 without this proposal					2024 with this proposal as described in the Environmental Impact Statement					2024 with this proposal as described within this Submissions Report				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)	
Darling Drive/Union Street/Murray Street															
Morning	992	26	B	NB	30	1,012	25	B	NB	30	1,011	25	B	NB	30
				EB	50				EB	70				EB	70
				SB	50				SB	50				SB	50
				WB	50				WB	50				WB	60
Evening	953	31	C	NB	40	1,004	30	C	NB	40	951	31	C	NB	40
				EB	30				EB	50				EB	30
				SB	120				SB	120				SB	120
				WB	80				WB	100				WB	50
Darling Drive/Harbourside Access Road															
Morning	476	4	A	NB	20	477	4	A	NB	20	477	5	A	NB	30
				EB	-				EB	-				EB	-
				SB	20				SB	30				SB	20
				WB	0				WB	0				WB	0
Evening	543	3	A	NB	30	543	3	A	NB	30	542	3	A	NB	10
				EB	-				EB	-				EB	-
				SB	10				SB	10				SB	10
				WB	10				WB	10				WB	10
Union Street/Edward Street															
Morning	322	15	B	NB	40	324	16	B	NB	40	327	15	B	NB	40
				EB	20				EB	20				EB	30
				SB	20				SB	20				SB	20
				WB	10				WB	30				WB	0
Evening	439	20	B	NB	30	429	18	B	NB	40	434	14	A	NB	40
				EB	30				EB	30				EB	30
				SB	20				SB	20				SB	20
				WB	50				WB	30				WB	0

Intersection and peak hour	2024 without this proposal					2024 with this proposal as described in the Environmental Impact Statement					2024 with this proposal as described within this Submissions Report				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)	
Union Street/Pyrmont Street															
Morning	554	14	A	NB	40	552	19	B	NB	30	554	17	B	NB	40
				EB	10				EB	10				EB	10
				SB	50				SB	50				SB	50
				WB	40				WB	50				WB	50
Evening	736	14	A	NB	40	740	14	A	NB	40	737	14	A	NB	50
				EB	30				EB	30				EB	20
				SB	70				SB	50				SB	70
				WB	40				WB	40				WB	40
Harris Street/Allen Street															
Morning	1,608	26	B	NB	70	1,612	26	B	NB	70	1,599	26	B	NB	70
				EB	90				EB	90				EB	100
				SB	70				SB	50				SB	40
				WB	-				WB	-				WB	-
Evening	1,387	28	B	NB	50	1,394	28	B	NB	50	1,393	28	B	NB	50
				EB	80				EB	80				EB	80
				SB	50				SB	50				SB	50
				WB	-				WB	-				WB	-
Harris Street/Fig Street/Western Distributor															
Morning	3,484	56	D	NB	60	3,488	56	D	NB	60	3,479	56	D	NB	60
				EB	140				EB	140				EB	140
				SB	80				SB	70				SB	80
				WB	290				WB	290				WB	290
Evening	3,014	38	C	NB	50	3,017	38	C	NB	50	3,015	38	C	NB	50
				EB	100				EB	100				EB	100
				SB	70				SB	70				SB	70
				WB	90				WB	90				WB	90

Modelled intersection performance – Hunter Street Station (Sydney CBD) construction sites (preferred route)

Intersection and peak hour	2025 without this proposal					2025 with this proposal as described in the Environmental Impact Statement					2025 with this proposal as described within this Submissions Report				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)	
Macquarie Street/Bridge Street															
Morning	2,175	27	B	NB	80	2,177	27	B	NB	90	2,188	27	B	NB	80
				EB	50				EB	50				EB	50
				SB	30				SB	30				SB	30
				WB	70				WB	150				WB	70
Evening	2,547	27	B	NB	80	2,537	27	B	NB	70	2,562	27	B	NB	80
				EB	80				EB	80				EB	80
				SB	90				SB	90				SB	90
				WB	20				WB	40				WB	30
Macquarie Street/Bent Street/Shakespeare Place															
Morning	3,422	30	C	NB	70	3,409	31	C	NB	70	3,457	30	C	NB	70
				EB	40				EB	40				EB	50
				SB	100				SB	140				SB	100
				WB	160				WB	140				WB	140
Evening	4,014	41	C	NB	90	4,041	41	C	NB	90	4,060	39	C	NB	90
				EB	100				EB	100				EB	90
				SB	140				SB	160				SB	150
				WB	140				WB	140				WB	160
Macquarie Street/Hunter Street															
Morning	2,120	28	B	NB	160	2,090	30	C	NB	200	2,086	30	C	NB	230
				EB	140				EB	100				EB	100
				SB	70				SB	50				SB	50
				WB	-				WB	-				WB	-
Evening	2,183	38	C	NB	190	2,187	40	C	NB	210	2,216	35	C	NB	160
				EB	150				EB	120				EB	140
				SB	90				SB	80				SB	80
				WB	-				WB	-				WB	-

Intersection and peak hour	2025 without this proposal					2025 with this proposal as described in the Environmental Impact Statement					2025 with this proposal as described within this Submissions Report				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)	
Hunter Street/Elizabeth Street															
Morning	1,948	30	C	NB	70	1,914	31	C	NB	70	1,913	39	C	NB	70
				EB	60				EB	60				EB	60
				SB	100				SB	100				SB	80
				WB	100				WB	70				WB	150
Evening	2,001	29	C	NB	160	2,000	27	B	NB	170	1,987	34	C	NB	160
				EB	60				EB	50				EB	60
				SB	70				SB	50				SB	50
				WB	50				WB	50				WB	50
Hunter Street/Castlereagh Street															
Morning	1,194	22	B	NB	-	1,196	21	B	NB	-	1,197	42	C	NB	-
				EB	110				EB	100				EB	110
				SB	120				SB	100				SB	120
				WB	30				WB	30				WB	50
Evening	1,030	13	A	NB	-	1,027	10	A	NB	-	1,031	17	B	NB	-
				EB	100				EB	40				EB	60
				SB	50				SB	30				SB	40
				WB	30				WB	40				WB	40
Hunter Street/Pitt Street/O'Connell Street															
Morning	1,145	24	B	NB	60	1,148	26	B	NB	60	1,172	42	C	NB	60
				EB	70				EB	80				EB	120
				SB	70				SB	70				SB	100
				WB	50				WB	50				WB	60
Evening	897	19	B	NB	50	874	21	B	NB	60	884	20	B	NB	50
				EB	50				EB	50				EB	50
				SB	30				SB	30				SB	30
				WB	60				WB	70				WB	60

Intersection and peak hour	2025 without this proposal					2025 with this proposal as described in the Environmental Impact Statement					2025 with this proposal as described within this Submissions Report				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)	
Bent Street/Phillip Street															
Morning	1,416	27	B	NB	70	1,447	31	C	NB	60	1,505	28	B	NB	70
				EB	10				EB	20				EB	10
				SB	120				SB	120				SB	120
				WB	80				WB	90				WB	80
Evening	1,911	54	D	NB	160	1,950	55	D	NB	160	1,941	54	D	NB	160
				EB	40				EB	40				EB	30
				SB	210				SB	200				SB	200
				WB	100				WB	100				WB	100
Bent Street/Bligh Street															
Morning	665	5	A	NB	-	684	8	A	NB	-	760	6	A	NB	-
				EB	40				EB	50				EB	40
				SB	-				SB	-				SB	-
				WB	30				WB	40				WB	30
Evening	876	7	A	NB	-	913	8	A	NB	-	879	9	A	NB	-
				EB	50				EB	50				EB	50
				SB	-				SB	-				SB	-
				WB	30				WB	50				WB	40
Hunter Street/George Street/Margaret Street															
Morning	712	21	B	NB	-	694	22	B	NB	-	698	19	B	NB	-
				EB	90				EB	80				EB	100
				SB	-				SB	-				SB	-
				WB	70				WB	70				WB	70
Evening	609	28	B	NB	-	577	27	B	NB	-	575	28	B	NB	-
				EB	100				EB	110				EB	110
				SB	-				SB	-				SB	-
				WB	80				WB	70				WB	90

Intersection and peak hour	2025 without this proposal					2025 with this proposal as described in the Environmental Impact Statement					2025 with this proposal as described within this Submissions Report				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	Level of Service	Maximum queue length by directional approach (metres)	
Margaret Street/York Street															
Morning	1,716	18	B	NB	-	1,681	18	B	NB	-	1,674	18	B	NB	-
				EB	70				EB	60				EB	60
				SB	70				SB	70				SB	80
				WB	80				WB	80				WB	80
Evening	1,408	21	B	NB	-	1,392	21	B	NB	-	1,385	21	B	NB	-
				EB	50				EB	60				EB	50
				SB	80				SB	70				SB	80
				WB	120				WB	120				WB	120
Margaret Street/Clarence Street															
Morning	1,063	59	E	NB	100	1,044	55	D	NB	80	1,076	59	E	NB	190
				EB	80				EB	80				EB	80
				SB	-				SB	-				SB	-
				WB	40				WB	40				WB	40
Evening	1,316	53	D	NB	190	1,319	53	D	NB	190	1,309	52	D	NB	170
				EB	80				EB	80				EB	80
				SB	-				SB	-				SB	-
				WB	50				WB	40				WB	50
Clarence Street/Jamison Street															
Morning	731	18	B	NB	60	774	27	B	NB	70	756	27	B	NB	70
				EB	-				EB	-				EB	-
				SB	-				SB	-				SB	-
				WB	40				WB	50				WB	50
Evening	1,017	14	A	NB	70	1,002	14	A	NB	70	1052	15	B	NB	70
				EB	-				EB	-				EB	-
				SB	-				SB	-				SB	-
				WB	40				WB	40				WB	40