Appendix D

Transport technical information

Appendix D Transport technical information

This appendix provides technical information relevant to the construction transport assessment undertaken of the proposed design refinements described in Chapter 2 (Environmental Impact Statement clarifications) of this Submissions Report.

The methodology and baseline environment for the construction transport assessment is provided in Technical Paper 2 (Construction transport) of the Environmental Impact Statement.

Pyrmont Station

Since exhibition of the Environmental Impact Statement, further work has been undertaken on the haul routes for Pyrmont Station to improve construction traffic outcomes. The refined construction haul routes would:

- avoid the use of Harris Street and would avoid potential traffic impacts to the Harris Street / Fig Street intersection, which currently performs at a level of service F during the AM peak due to high traffic volumes on all approaches
- provide flexibility with multiple access and egress points for the eastern construction site.

The refined haul routes, including both primary and secondary haul routes, are provided on Figure 1.

The refinement also includes the temporary (for the duration of construction) partial closure of two westbound traffic lanes on Union Street between Pyrmont Bridge Road and Edward Street to facilitate right turn construction vehicle access from Union Street into the eastern construction site. Eastbound traffic would continue to use the single through lane on Union Street. Access to the laneway that travels north-south between 52-72 Union Street and 84 Union Street, would also be maintained to provide access to relevant properties.

Modelled intersection performance for 2026 for scenarios without the proposal, with the proposal (EIS results) and with the proposal (Submissions Report) is provided in Table 1.

The modelled intersection performance with the proposal (Submissions Report) includes the diversion of general traffic onto Edward Street as a result of the temporary partial closure of two westbound traffic lanes on Union Street between Pyrmont Bridge Road and Edward Street.

Intersections exhibited in the Environmental Impact Statement that have been removed as part of this proposed refinement include:

- Union Street / Pyrmont Street (signalised)
- Harris Street / Allen Street (signalised)
- Harris Street / Fig Street / Western Distributor ramps (signalised).

Construction traffic impacts identified in the Environmental Impact Statement at these intersections would no longer occur as a result of this proposed refinement as these intersections are no longer on the primary haul route. Sydney Metro would continue to develop and confirm construction haul routes in consultation with key stakeholders including other parts of Transport for NSW to minimise construction traffic impacts on the road network. Potential traffic impacts would be managed in accordance with the Construction Traffic Management Framework (CTMF).

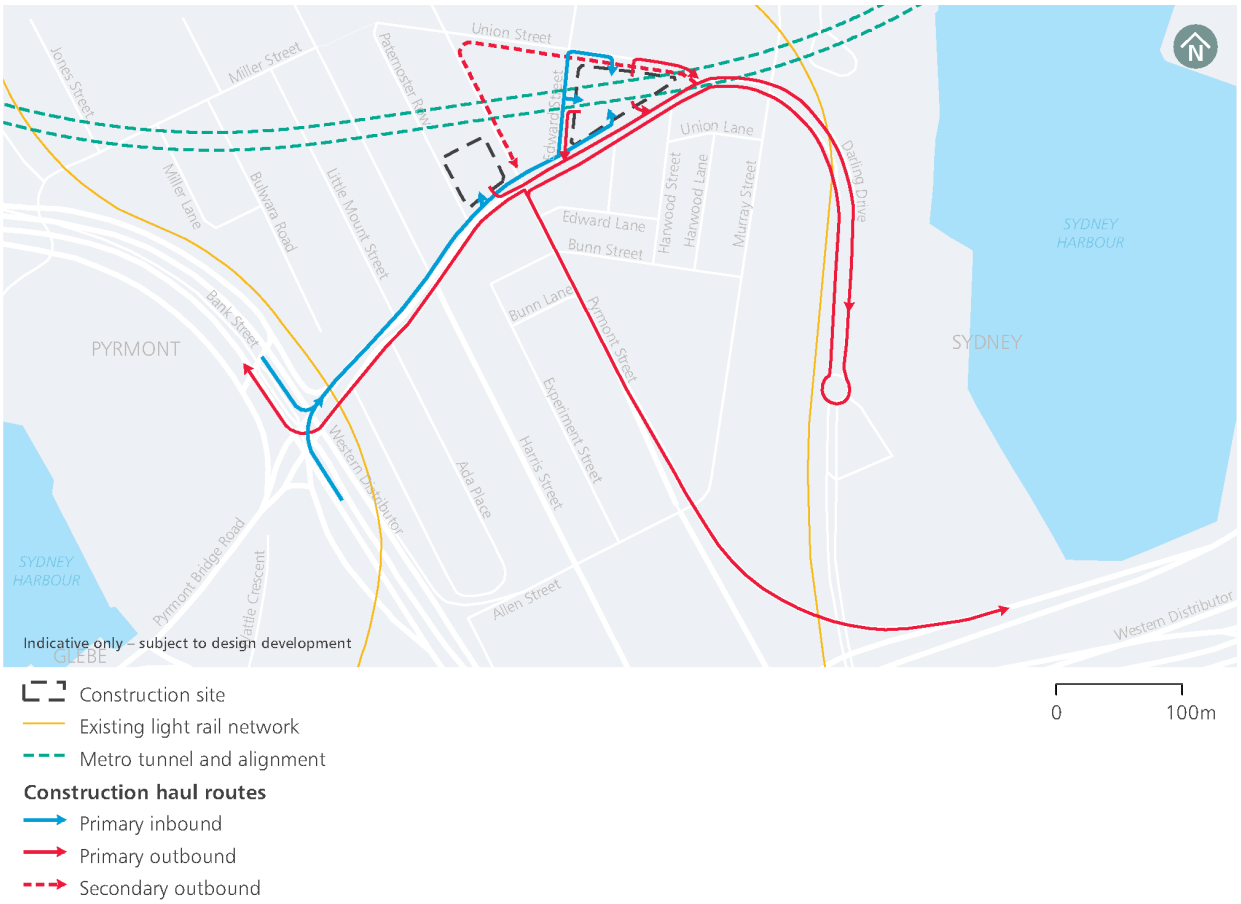

Figure 1 Refined haul routes - Pyrmont Station construction sites

Table 1 Modelled intersection performance – Pyrmont Station construction sites

Intersection and peak hour	2026 without proposal					2026 with proposal (EIS)					2026 with proposal (Submissions Report)				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)	
Pyrmont Bridge Road / Bank Street / Western Distributor EB entry ramp and WB exit ramp (signalised)															
Morning	3,420	>100	F	NB	380	3,451	>100	F	NB	380	3,481	>100	F	NB	480
				EB	165				EB	170				EB	170
				SB	80				SB	80				SB	80
				WB	10				WB	10				WB	10
Evening	2,928	46	D	NB	110	2,959	46	D	NB	110	2,989	47	D	NB	110
				EB	130				EB	130				EB	130
				SB	70				SB	70				SB	70
				WB	10				WB	10				WB	10
Bank Street / Western Distributor WB entry ramp and EB exit ramp (signalised)															
Morning	1,479	>100	F	NB	75	1,509	>100	F	NB	75	1,509	>100	F	NB	70
				EB	-				EB	-				EB	-
				SB	245				SB	265				SB	265
				WB	125				WB	125				WB	125

Intersection and peak hour	2026 without proposal					2026 with proposal (EIS)					2026 with proposal (Submissions Report)				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)	
Evening	892	59	E	NB	10	922	58	E	NB	20	9,22	58	E	NB	20
				EB	-				EB	-				EB	-
				SB	145				SB	145				SB	145
				WB	40				WB	40				WB	40
Pyrmont Bridge Road / Western Distributor EB exit ramp (priority controlled)															
Morning	1,888	10	A	NB	-	1,981	12	A	NB	-	1,981	11	A	NB	-
				EB	<5				EB	<5				EB	<5
				SB	40				SB	55				SB	50
				WB	180				WB	195				WB	215
Evening	1,515	7	A	NB	-	1,607	7	A	NB	-	1,607	7	A	NB	-
				EB	<5				EB	<5				EB	<5
				SB	15				SB	15				SB	15
				WB	145				WB	150				WB	150

Intersection and peak hour	2026 without proposal					2026 with proposal (EIS)					2026 with proposal (Submissions Report)				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)	
Pyrmont Bridge Road / Harris Street (signalised)															
Morning	2,311	22	B	NB	70	2,435	22	B	NB	70	2,403	22	B	NB	70
				EB	180				EB	195				EB	195
				SB	75				SB	75				SB	75
				WB	45				WB	50				WB	45
Evening	2,137	26	B	NB	60	2,261	26	B	NB	60	2,229	26	B	NB	60
				EB	110				EB	120				EB	120
				SB	100				SB	105				SB	105
				WB	50				WB	60				WB	50
Pyrmont Bridge Road / Pyrmont Street (signalised)															
Morning	1,747	25	B	NB	-	1,872	26	B	NB	-	1,872	26	B	NB	-
				EB	70				EB	85				EB	80
				SB	110				SB	120				SB	105
				WB	25				WB	25				WB	25

Intersection and peak hour	2026 without proposal					2026 with proposal (EIS)					2026 with proposal (Submissions Report)				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)	
Evening	1,682	27	B	NB	-	1,806	28	B	NB	-	1,806	27	B	NB	-
				EB	35				EB	40				EB	40
				SB	105				SB	115				SB	105
				WB	25				WB	25				WB	25
Pyrmont Bridge Road / Union Street (priority controlled)															
Morning	796	14	A	NB	-	908	16	B	NB	-	920	17	B	NB	-
				EB	<5				EB	<5				EB	<5
				SB	<5				SB	<5				SB	<5
				WB	<5				WB	<5				WB	<5
Evening	737	13	A	NB	-	841	15	B	NB	-	861	16	B	NB	-
				EB	<5				EB	<5				EB	<5
				SB	<5				SB	<5				SB	<5
				WB	<5				WB	<5				WB	<5

Intersection and peak hour	2026 without proposal					2026 with proposal (EIS)					2026 with proposal (Submissions Report)				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)	
Darling Drive / Union Street / Murray Street (signalised)															
Morning	1,166	28	B	NB	20	1,227	28	B	NB	20	1,291	29	C	NB	20
				EB	45				EB	55				EB	65
				SB	15				SB	15				SB	15
				WB	30				WB	40				WB	50
Evening	1,100	32	C	NB	15	1,161	33	C	NB	15	1,224	34	C	NB	15
				EB	30				EB	35				EB	50
				SB	60				SB	60				SB	60
				WB	50				WB	65				WB	80
Darling Drive / Harbourside access road (roundabout)															
Morning	654	10	A	NB	10	683	11	A	NB	10	715	11	A	NB	15
				EB	-				EB	-				EB	-
				SB	10				SB	10				SB	10
				WB	<5				WB	<5				WB	<5

Intersection and peak hour	2026 without proposal					2026 with proposal (EIS)					2026 with proposal (Submissions Report)				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)	
Evening	479	10	A	NB	10	508	11	A	NB	10	540	11	A	NB	10
				EB	-				EB	-				EB	-
				SB	<5				SB	5				SB	10
				WB	<5				WB	<5				WB	<5
Union Street / Edward Street (signalised)															
Morning	558	16	B	NB	25	588	16	B	NB	20	568	16	B	NB	25
				EB	5				EB	5				EB	5
				SB	<5				SB	<5				SB	<5
				WB	-				WB	<5				WB	-
Evening	712	17	B	NB	25	755	17	B	NB	20	722	17	B	NB	25
				EB	10				EB	10				EB	10
				SB	20				SB	20				SB	20
				WB	-				WB	<5				WB	-

Intersection and peak hour	2026 without proposal					2026 with proposal (EIS)					2026 with proposal (Submissions Report)				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)	
Pyrmont Bridge Road / Edward Street (priority controlled)															
Morning	941	<5	A	NB	-	-	-	-	NB	-	1,076	<5	A	NB	-
				EB	<5				EB	-				EB	<5
				SB	<5				SB	-				SB	<5
				WB	10				WB	-				WB	30
Evening	793	<5	A	NB		-	-	-	NB	-	927	<5	A	NB	
				EB	<5				EB	-				EB	<5
				SB	<5				SB	-				SB	<5
				WB	20				WB	-				WB	40

Hunter Street Station (Sydney CBD)

Since exhibition of the Environmental Impact Statement, further work has been undertaken on the haul routes for Hunter Street Station (Sydney CBD) to improve traffic outcomes. The refined construction haul routes would:

- avoid the need for construction vehicles to cross George Street and interface with light rail
- simplify the inbound route to the western construction site.

The refined haul routes are provided on Figure 2.

Modelled intersection performance for 2026 for scenarios without the proposal, with the proposal (EIS results) and with the proposal (Submissions Report) is shown on Table 2.

Intersections reported in the Environmental Impact Statement that have been removed as part of the revised haul routes this assessment include:

- Hunter Street / George Street (signalised)
- Margaret Street / George Street (signalised)
- Margaret Street / Carrington Steet (signalised)
- Margaret Street / York Street (signalised)
- Margaret Street / Clarence Street (signalised)
- Clarence Street / Jamison Street (signalised).

Construction traffic impacts identified in the Environmental Impact Statement at these intersections would no longer occur as a result of this proposed refinement as these intersections are no longer on the primary haul route. Sydney Metro would continue to develop and confirm construction haul routes in consultation with key stakeholders including other parts of Transport for NSW to minimise construction traffic impacts on the road network. Potential traffic impacts would be managed in accordance with the Construction Traffic Management Framework (CTMF).

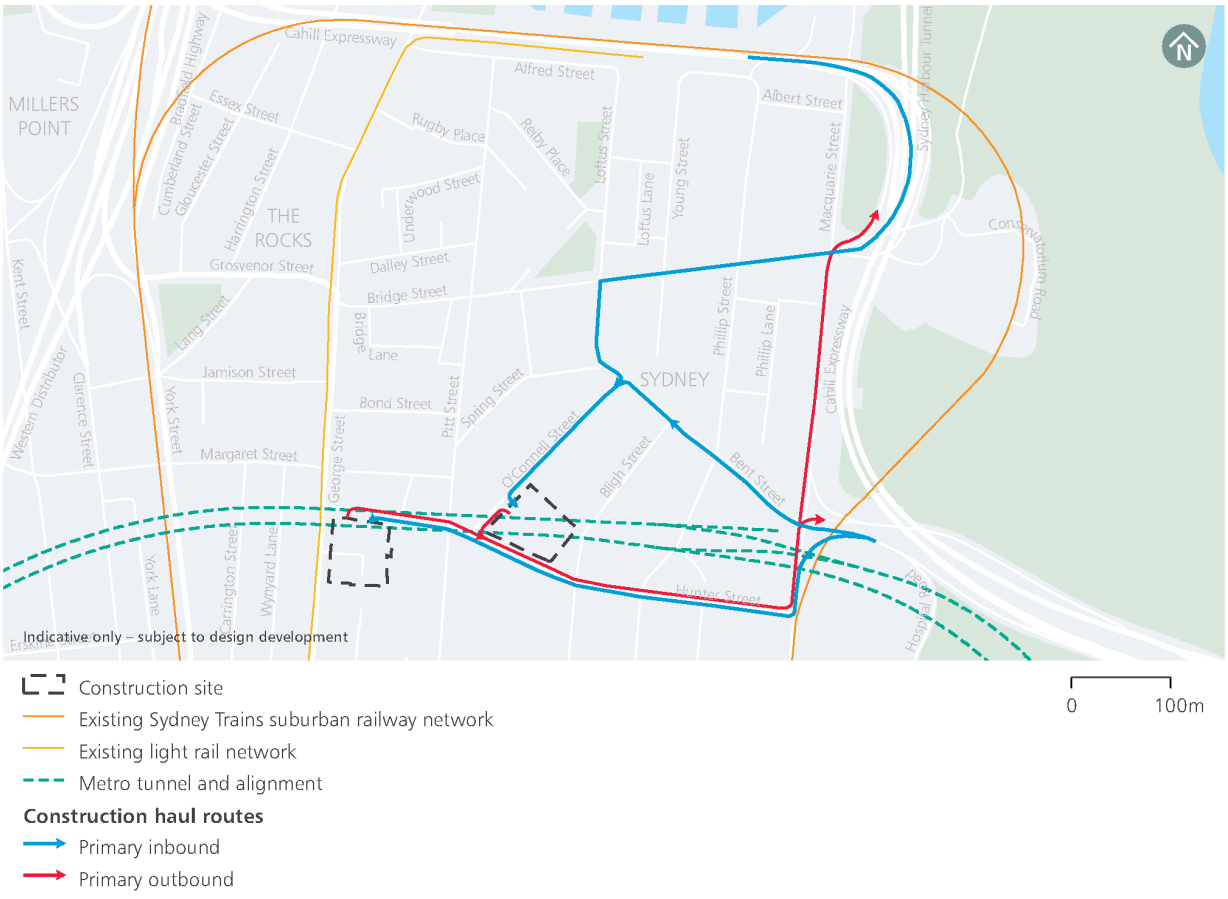

Figure 2 Refined haul routes - Hunter Street Station (Sydney CBD)

Table 2 Modelled intersection performance - Hunter Street Station (Sydney CBD)

Intersection and peak hour	2026 without proposal					2026 with proposal (EIS)					2026 with proposal (Submissions Report)				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)	
Macquarie Street / Bridge Street / Cahill Expressway ramps (signalised)															
Morning	3,127	>100	F	NB	450	3,188	>100	F	NB	485	3,179	>100	F	NB	420
				EB	50				EB	50				EB	50
				SB	20				SB	30				SB	20
				WB	205				WB	240				WB	270
Evening	3,406	35	C	NB	135	3,467	39	C	NB	145	3,458	44	D	NB	165
				EB	50				EB	50				EB	50
				SB	65				SB	65				SB	65
				WB	45				WB	120				WB	85
Bridge Street / Phillip Street (signalised)															
Morning	2,519	42	C	NB	160	2,554	43	D	NB	160	2,536	40	C	NB	160
				EB	115				EB	115				EB	115
				SB	20				SB	20				SB	20
				WB	50				WB	50				WB	50

Intersection and peak hour	2026 without proposal					2026 with proposal (EIS)					2026 with proposal (Submissions Report)				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)	
Evening	2,891	>100	F	NB	185	2,925	>100	F	NB	195	2,907	>100	F	NB	220
				EB	115				EB	115				EB	115
				SB	30				SB	30				SB	30
				WB	50				WB	50				WB	50
Bridge Street / Young Street (signalised)															
Morning	2,191	18	B	NB	5	2,226	19	B	NB	5	2,208	19	B	NB	5
				EB	105				EB	105				EB	105
				SB	30				SB	30				SB	30
				WB	100				WB	105				WB	105
Evening	2,806	>100	F	NB	25	2,841	>100	F	NB	20	2,823	>100	F	NB	20
				EB	105				EB	105				EB	105
				SB	90				SB	90				SB	90
				WB	95				WB	50				WB	85

Intersection and peak hour	2026 without proposal					2026 with proposal (EIS)					2026 with proposal (Submissions Report)				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)	
Bridge Street / Loftus Street (signalised)															
Morning	2,425	17	B	NB	40	2,460	17	B	NB	40	2,442	17	B	NB	40
				EB	175				EB	185				EB	175
				SB	-				SB	-				SB	-
				WB	105				WB	105				WB	105
Evening	2,396	>100	F	NB	450	2,431	>100	F	NB	395	2,413	>100	F	NB	450
				EB	>500				EB	>500				EB	>500
				SB	-				SB	-				SB	-
				WB	80				WB	40				WB	40
Macquarie Street / Bent Street / Eastern Distributor ramps (signalised)															
Morning	4,025	48	D	NB	100	4,106	56	D	NB	110	4,141	63	E	NB	115
				EB	110				EB	130				EB	130
				SB	225				SB	240				SB	265
				WB	180				WB	210				WB	220

Intersection and peak hour	2026 without proposal					2026 with proposal (EIS)					2026 with proposal (Submissions Report)				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)	
Evening	4,708	63	E	NB	115	4,789	75	F	NB	115	4,824	86	F	NB	115
				EB	215				EB	220				EB	225
				SB	400				SB	415				SB	>500
				WB	120				WB	130				WB	125
Bent Street / Phillip Street (signalised)															
Morning	2,067	>100	F	NB	220	2,099	>100	F	NB	220	2,082	>100	F	NB	220
				EB	10				EB	10				EB	10
				SB	190				SB	245				SB	245
				WB	400				WB	485				WB	>500
Evening	2,264	92	F	NB	105	2,305	>100	F	NB	115	2,279	>100	F	NB	105
				EB	35				EB	35				EB	35
				SB	80				SB	80				SB	80
				WB	445				WB	>500				WB	>500

Intersection and peak hour	2026 without proposal					2026 with proposal (EIS)					2026 with proposal (Submissions Report)				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)	
Bent Street / Bligh Street (signalised)															
Morning	871	17	B	NB	-	902	17	B	NB	-	885	10	A	NB	-
				EB	10				EB	10				EB	10
				SB	-				SB	-				SB	-
				WB	50				WB	50				WB	50
Evening	926	6	A	NB	-	958	6	A	NB	-	941	6	A	NB	-
				EB	15				EB	10				EB	15
				SB	-				SB	-				SB	-
				WB	40				WB	40				WB	45
Bent Street / Loftus Street / O'Connell Street (priority controlled)															
Morning	707	12	A	NB	-	774	15	B	NB	-	739	14	A	NB	-
				EB	<5				EB	<5				EB	<5
				SB	<5				SB	5				SB	5
				WB	<5				WB	<5				WB	<5

Intersection and peak hour	2026 without proposal					2026 with proposal (EIS)					2026 with proposal (Submissions Report)				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)	
Evening	779	13	A	NB	-	845	17	B	NB	-	811	16	B	NB	-
				EB	<5				EB	<5				EB	<5
				SB	<5				SB	5				SB	<5
				WB	<5				WB	<5				WB	<5
Hunter Street / Pitt Street / O'Connell Street (signalised)															
Morning	1,547	74	F	NB	15	1,632	>100	F	NB	15	1,648	>100	F	NB	15
				EB	35				EB	45				EB	50
				SB1	165				SB1	190				SB1	190
				SB2	90				SB2	135				SB2	135
				WB	170				WB	175				WB	175
Evening	1,467	37	C	NB	30	1,552	52	D	NB	30	1,568	48	D	NB	30
				EB	25				EB	30				EB	35
				SB1	55				SB1	75				SB1	65
				SB2	40				SB2	80				SB2	70
				WB	70				WB	105				WB	110

Intersection and peak hour	2026 without proposal					2026 with proposal (EIS)					2026 with proposal (Submissions Report)				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)	
Hunter Street / Castlereagh Street / Bligh Street (signalised)															
Morning	1,273	56	D	NB	-	1,322	54	D	NB	-	1,374	50	D	NB	-
				EB	50				EB	50				EB	60
				SB	25				SB	30				SB	30
				WB	220				WB	190				WB	225
Evening	1,320	45	D	NB	-	1,369	43	D	NB	-	1,421	52	D	NB	-
				EB	45				EB	60				EB	65
				SB	25				SB	25				SB	25
				WB	195				WB	185				WB	225
Hunter Street / Elizabeth Street / Chifley Square (signalised)															
Morning	2,669	26	B	NB	155	2,719	27	B	NB	160	2,771	27	B	NB	165
				EB	80				EB	90				EB	90
				SB	90				SB	90				SB	90
				WB	80				WB	80				WB	85

Intersection and peak hour	2026 without proposal					2026 with proposal (EIS)					2026 with proposal (Submissions Report)				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)	
Evening	2,272	22	B	NB	120	2,321	22	B	NB	120	2,373	23	B	NB	120
				EB	50				EB	55				EB	60
				SB	65				SB	60				SB	65
				WB	50				WB	50				WB	55
Hunter Street / Macquarie Street (signalised)															
Morning	2,568	21	B	NB	125	2,618	21	B	NB	135	2,669	22	B	NB	140
				EB	95				EB	125				EB	135
				SB	65				SB	60				SB	80
				WB	-				WB	-				WB	-
Evening	2,611	23	B	NB	180	2,660	45	D	NB	280	2,712	51	D	NB	335
				EB	100				EB	215				EB	275
				SB	60				SB	75				SB	90
				WB	-				WB	-				WB	-

Intersection and peak hour	2026 without proposal					2026 with proposal (EIS)					2026 with proposal (Submissions Report)				
	Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)		Demand flow (vehicles per hour)	Average delay (seconds per vehicle)	LOS	Maximum queue length by directional approach (metres)	
Hunter Street / Site Access (signalised)															
Morning	355	<5	A	NB	<5	422	9	A	NB	10	422	9	A	NB	15
				EB	10				EB	20				EB	20
				SB	-				SB	-				SB	-
				WB	30				WB	50				WB	30
Evening	466	<5	A	NB	<5	534	7	A	NB	15	534	7	A	NB	15
				EB	15				EB	20				EB	20
				SB	-				SB	-				SB	-
				WB	45				WB	65				WB	45