PHASING SUMMARY

Site: 101 [PM Union St/Edward St]

Network: N101 [PM Star Casino Network]

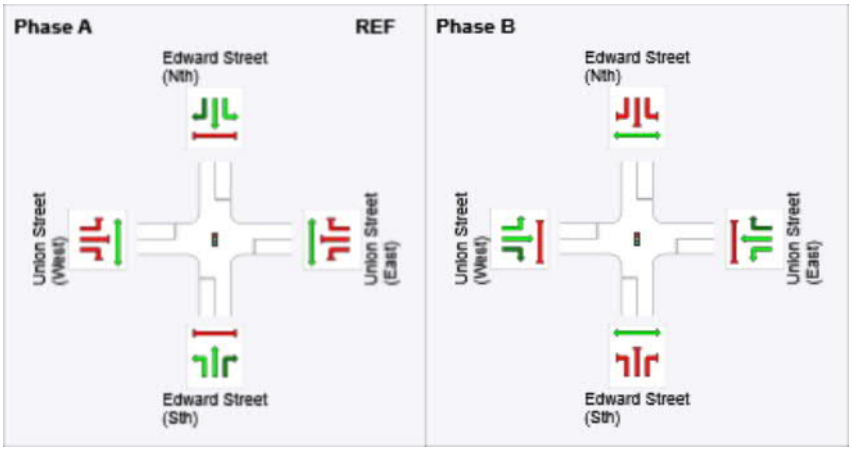
No Project
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Phase Times specified by the user
Phase Sequence: Existing Phasing - AM
Reference Phase: Phase A
Input Phase Sequence: A, B
Output Phase Sequence: A, B

Phase Timing Results

Phase	A	B
Phase Change Time (sec)	0	65
Green Time (sec)	59	29
Phase Time (sec)	65	35
Phase Split	65 %	35 %

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.



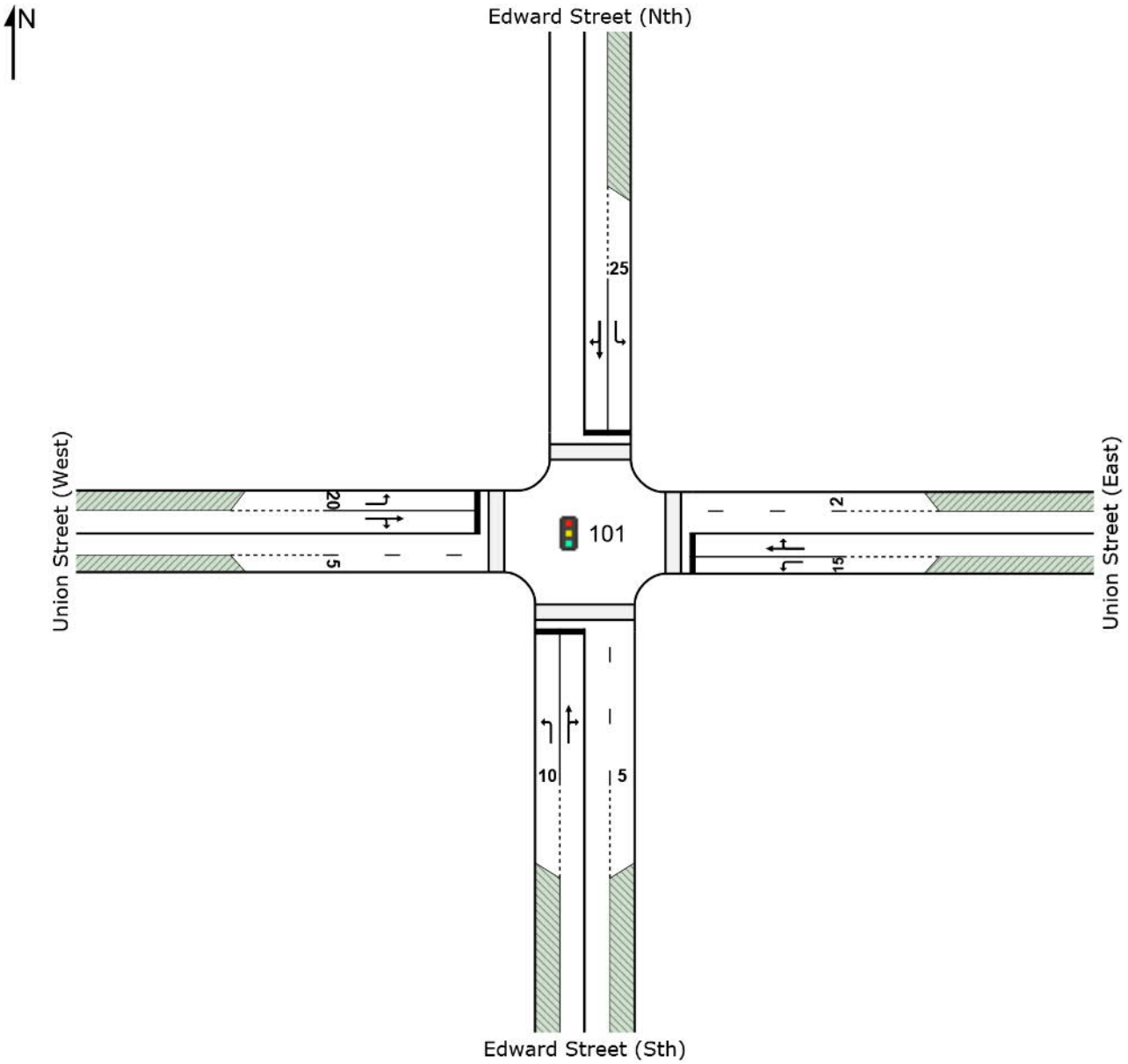
REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

SITE LAYOUT

Site: 101 [OP Union St/Edward St]

No Project
Signals - Fixed Time Isolated



MOVEMENT SUMMARY

Site: 101 [OP Union St/Edward St]

Network: N101 [OP Star Casino Network]

No Project
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Edward Street (Sth)													
1	L2	15	0.0	15	0.0	0.011	15.2	LOS B	0.5	3.5	0.73	0.67	15.0
2	T1	79	0.0	79	0.0	0.060	9.5	LOS A	2.7	18.7	0.71	0.58	28.6
3	R2	4	0.0	4	0.0	0.060	14.0	LOS B	2.7	18.7	0.71	0.58	19.9
Approach		98	0.0	98	0.0	0.060	10.5	LOS B	2.7	18.7	0.72	0.59	26.3
East: Union Street (East)													
4	L2	7	0.0	7	0.0	0.030	46.0	LOS D	0.3	2.1	0.90	0.66	6.2
5	T1	12	0.0	12	0.0	0.204	51.9	LOS D	1.0	6.7	0.98	0.70	5.4
6	R2	7	0.0	7	0.0	0.204	56.5	LOS E	1.0	6.7	0.98	0.70	9.6
Approach		26	0.0	26	0.0	0.204	51.5	LOS D	1.0	6.7	0.96	0.68	6.9
North: Edward Street (Nth)													
7	L2	28	3.6	28	3.6	0.022	9.1	LOS A	0.4	2.8	0.31	0.60	22.9
8	T1	37	0.0	37	0.0	0.137	4.6	LOS A	2.1	14.6	0.33	0.55	24.2
9	R2	103	0.0	103	0.0	0.137	9.2	LOS A	2.1	14.6	0.33	0.55	24.2
Approach		168	0.6	168	0.6	0.137	8.1	LOS A	2.1	14.6	0.33	0.55	23.9
West: Union Street (West)													
10	L2	31	3.2	31	3.2	0.591	63.3	LOS E	1.7	12.3	1.00	0.75	8.0
11	T1	71	0.0	71	0.0	0.368	50.1	LOS D	4.1	28.7	1.00	0.78	5.1
12	R2	11	0.0	11	0.0	0.368	54.6	LOS D	4.1	28.7	1.00	0.78	5.1
Approach		113	0.9	113	0.9	0.591	54.1	LOS D	4.1	28.7	1.00	0.77	6.1
All Vehicles		405	0.5	405	0.5	0.591	24.3	LOS C	4.1	28.7	0.65	0.63	13.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.6 %
Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	14	43.3	LOS E	0.0	0.0	0.93	0.93
P2	East Full Crossing	54	43.3	LOS E	0.1	0.1	0.93	0.93
P3	North Full Crossing	740	44.6	LOS E	2.0	2.0	0.96	0.96
P4	West Full Crossing	52	43.3	LOS E	0.1	0.1	0.93	0.93
All Pedestrians		859	44.4	LOS E			0.96	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

Site: 101 [OP Union St/Edward St]

Network: N101 [OP Star Casino Network]

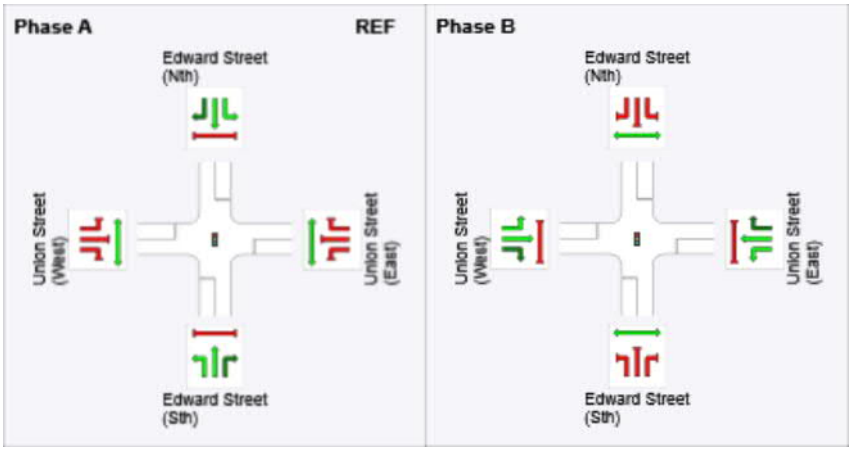
No Project
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Phase Times specified by the user
Phase Sequence: Existing Phasing - AM
Reference Phase: Phase A
Input Phase Sequence: A, B
Output Phase Sequence: A, B

Phase Timing Results

Phase	A	B
Phase Change Time (sec)	0	80
Green Time (sec)	74	14
Phase Time (sec)	80	20
Phase Split	80 %	20 %

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.



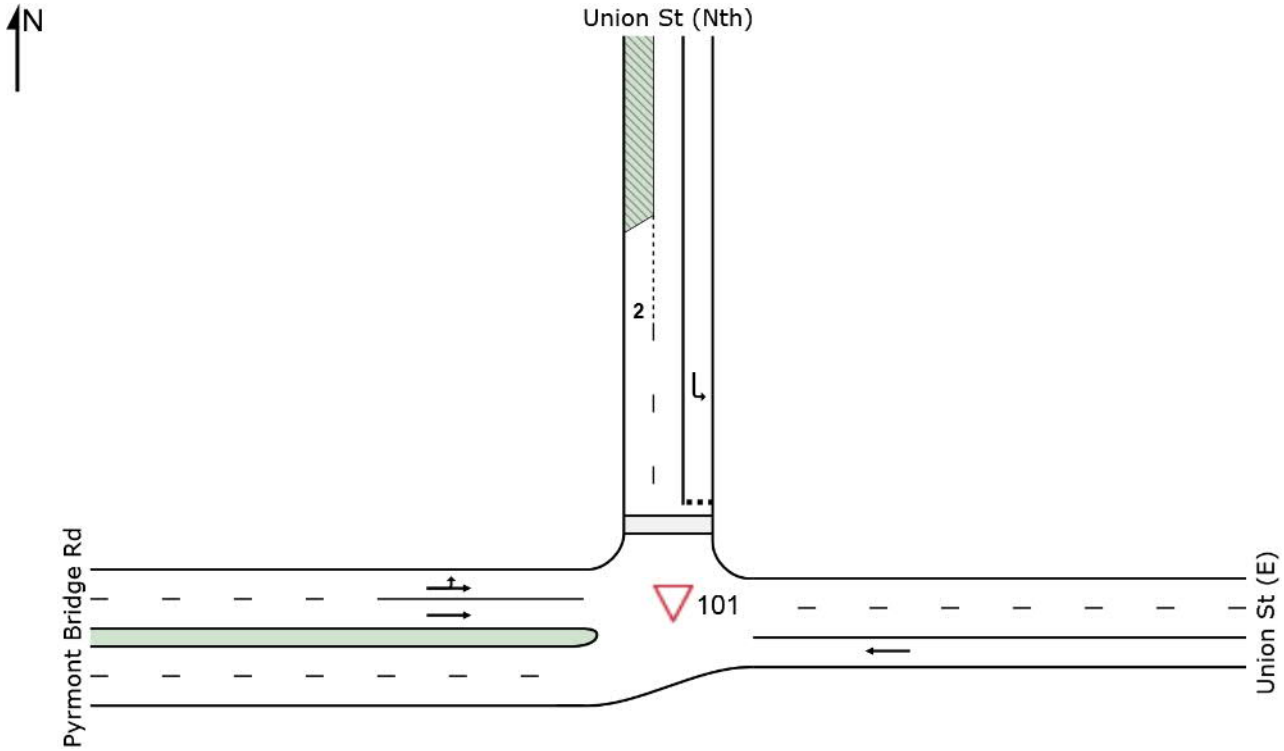
REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

SITE LAYOUT

Site: 101 [AM Pyrmont Bridge Rd/Union St]

No Project
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

Site: 101 [AM Pyrmont Bridge Rd/Union St]

Network: 1 [AM Star Casino Network]

No Project
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

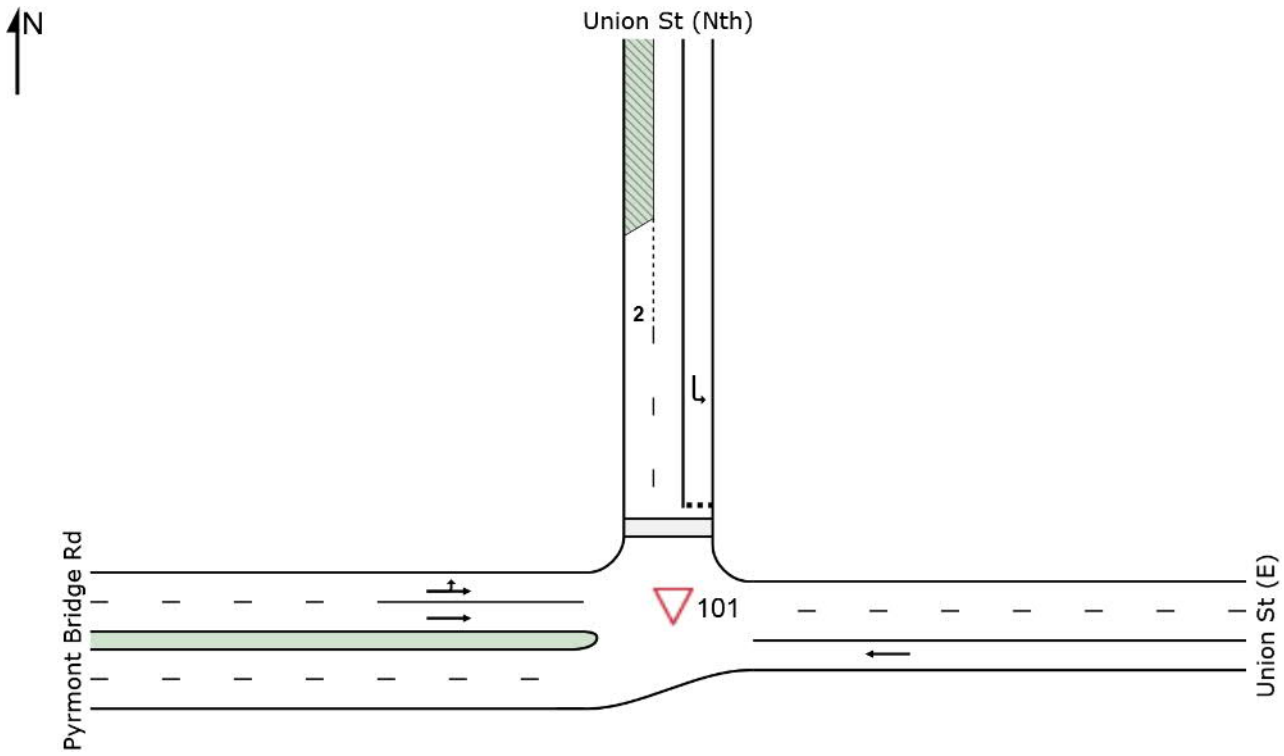
Mov ID	OD Mov	Demand Flows Total veh/h	Demand Flows HV %	Arrival Flows Total veh/h	Arrival Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Union St (E)													
5	T1	208	8.2	208	8.2	0.112	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		208	8.2	208	8.2	0.112	0.0	NA	0.0	0.0	0.00	0.00	50.0
North: Union St (Nth)													
7	L2	33	3.0	33	3.0	0.053	9.6	LOS A	0.2	1.2	0.62	0.76	20.3
Approach		33	3.0	33	3.0	0.053	9.6	LOS A	0.2	1.2	0.62	0.76	20.3
West: Pyrmont Bridge Rd													
10	L2	24	4.2	24	4.2	0.127	4.7	LOS A	0.0	0.0	0.00	0.08	48.0
11	T1	403	7.2	403	7.2	0.127	0.1	LOS A	0.0	0.0	0.00	0.04	48.9
Approach		427	7.0	427	7.0	0.127	0.3	NA	0.0	0.0	0.00	0.04	48.9
All Vehicles		668	7.2	668	7.2	0.127	0.7	NA	0.2	1.2	0.03	0.07	46.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.9 %
Number of Iterations: 10 (maximum specified: 10)

SITE LAYOUT

Site: 101 [PM Pyrmont Bridge Rd/Union St]

No Project
Giveway / Yield (Two-Way)



Organisation: MOTT MACDONALD | Created: 22 February 2018 09:48:50
Project: P:\Sydney\Projects\35xxxx\358488\04 Working\06 Traffic\MOD 13\DataRefresh\Sidra\180221 Existing + Construction.sip7

MOVEMENT SUMMARY

Site: 101 [PM Pyrmont Bridge Rd/Union St]

Network: N101 [PM Star Casino Network]

No Project
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

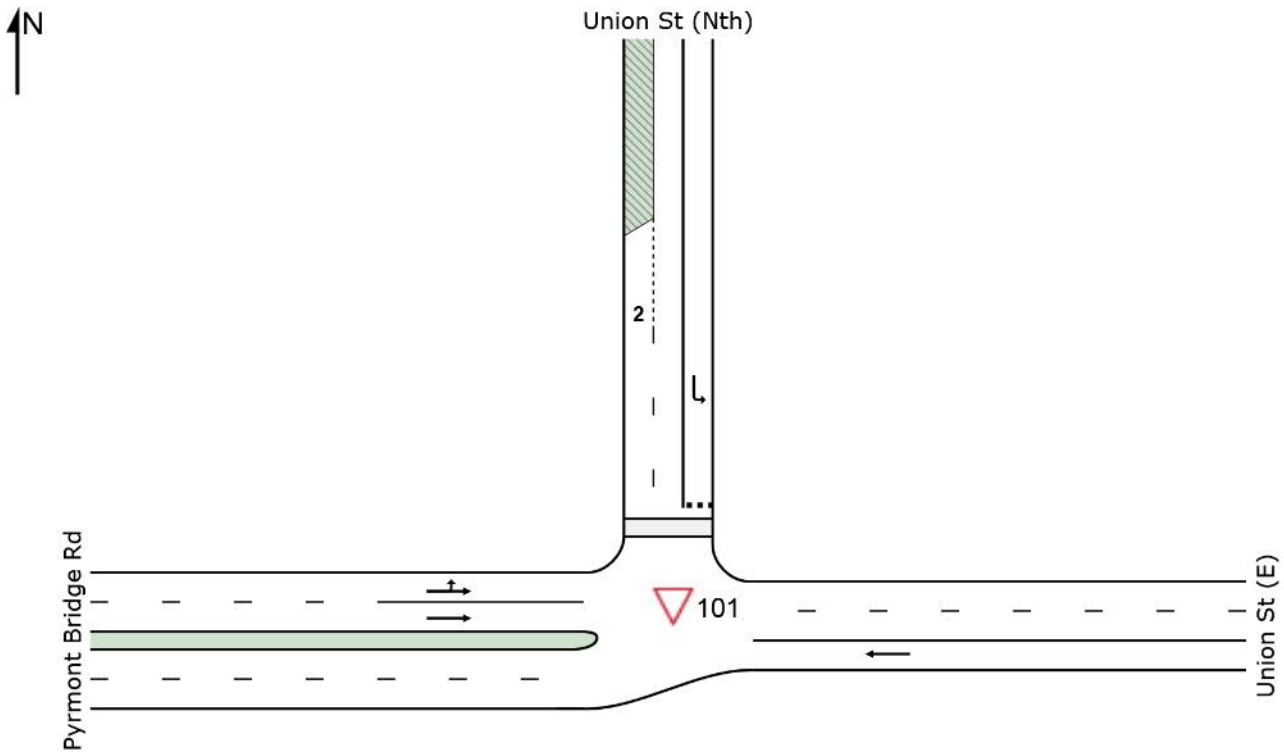
Mov ID	OD Mov	Demand Flows Total veh/h	Demand Flows HV %	Arrival Flows Total veh/h	Arrival Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Union St (E)													
5	T1	358	0.8	358	0.8	0.185	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		358	0.8	358	0.8	0.185	0.0	NA	0.0	0.0	0.00	0.00	50.0
North: Union St (Nth)													
7	L2	80	0.0	80	0.0	0.108	8.6	LOS A	0.4	2.6	0.57	0.75	21.5
Approach		80	0.0	80	0.0	0.108	8.6	LOS A	0.4	2.6	0.57	0.75	21.5
West: Pyrmont Bridge Rd													
10	L2	23	0.0	23	0.0	0.106	4.7	LOS A	0.0	0.0	0.00	0.09	47.8
11	T1	372	2.4	372	2.4	0.106	0.1	LOS A	0.0	0.0	0.00	0.04	48.9
Approach		395	2.3	395	2.3	0.106	0.3	NA	0.0	0.0	0.00	0.04	48.8
All Vehicles		833	1.4	833	1.4	0.185	1.0	NA	0.4	2.6	0.06	0.09	43.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.5 %
Number of Iterations: 10 (maximum specified: 10)

SITE LAYOUT

Site: 101 [OP Pyrmont Bridge Rd/Union St]

No Project
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

Site: 101 [OP Pyrmont Bridge Rd/Union St]

Network: N101 [OP Star Casino Network]

No Project
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

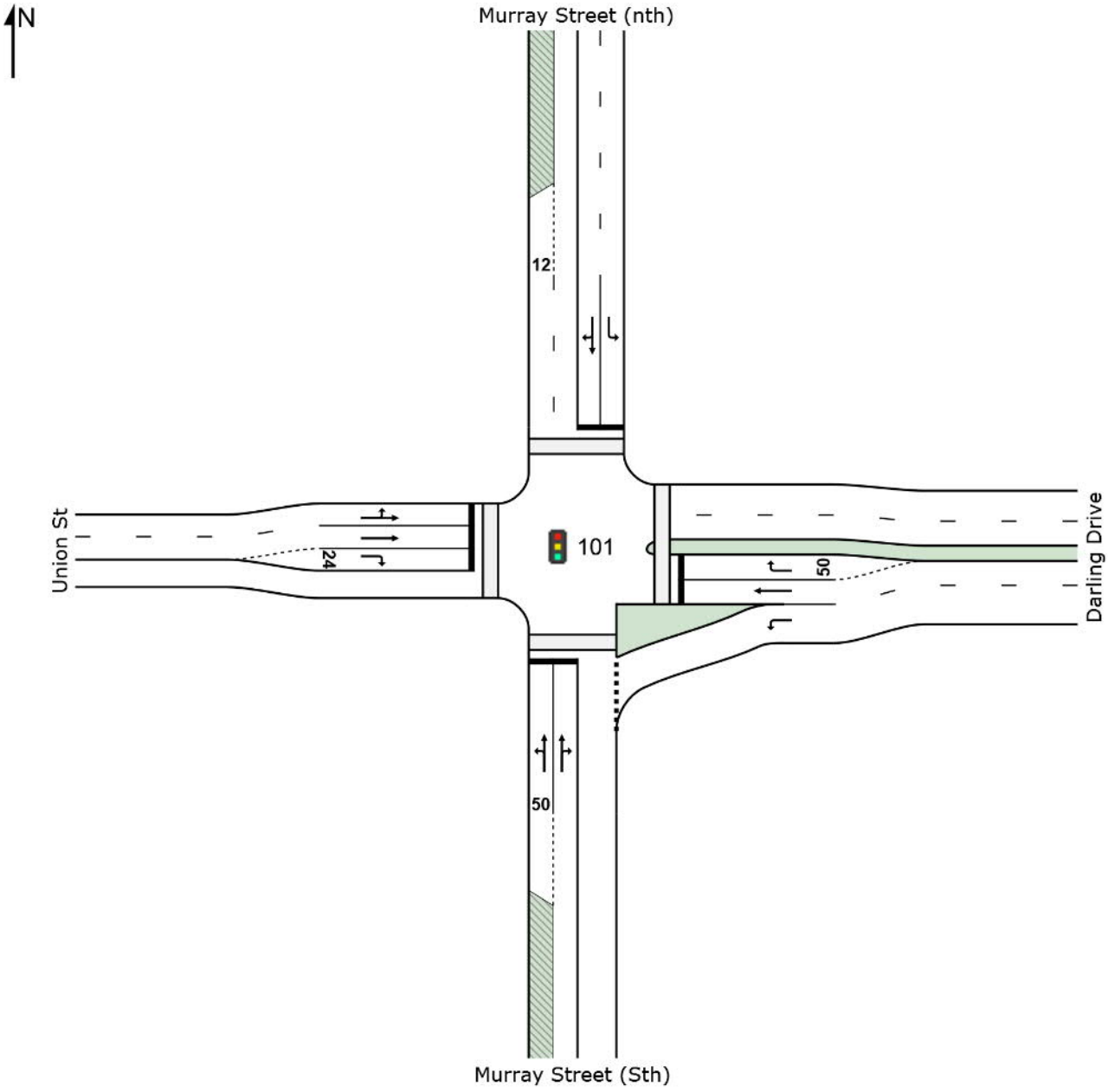
Mov ID	OD Mov	Demand Flows Total veh/h	Demand Flows HV %	Arrival Flows Total veh/h	Arrival Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Union St (E)													
5	T1	508	0.4	508	0.4	0.261	0.0	LOS A	7.4	52.2	0.00	0.00	50.0
Approach		508	0.4	508	0.4	0.261	0.0	NA	7.4	52.2	0.00	0.00	50.0
North: Union St (Nth)													
7	L2	84	0.0	84	0.0	0.086	5.9	LOS A	0.3	1.9	0.31	0.57	26.3
Approach		84	0.0	84	0.0	0.086	5.9	LOS A	0.3	1.9	0.31	0.57	26.3
West: Pyrmont Bridge Rd													
10	L2	24	0.0	24	0.0	0.162	4.7	LOS A	0.0	0.0	0.00	0.07	48.2
11	T1	448	1.8	448	1.8	0.162	0.1	LOS A	0.0	0.0	0.00	0.04	49.0
Approach		472	1.7	472	1.7	0.162	0.3	NA	0.0	0.0	0.00	0.04	49.0
All Vehicles		1064	0.9	1064	0.9	0.261	0.6	NA	7.4	52.2	0.02	0.06	46.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.6 %
Number of Iterations: 10 (maximum specified: 10)

SITE LAYOUT

Site: 101 [AM Union St/Murray St/Darling Drive]

No Project
Signals - Fixed Time Coordinated



MOVEMENT SUMMARY

Site: 101 [AM Union St/Murray St/Darling Drive]

Network: 1 [AM Star Casino Network]

No Project
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	Demand Flows HV %	Arrival Flows Total veh/h	Arrival Flows 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: Murray Street (Sth)													
1	L2	36	5.6	36	5.6	0.078	20.1	LOS B	0.7	5.3	0.78	0.69	17.2
2	T1	90	2.2	90	2.2	0.347	38.6	LOS C	5.2	38.6	0.91	0.74	10.8
3	R2	30	23.3	30	23.3	0.347	43.3	LOS D	5.2	38.6	0.91	0.74	26.9
Approach		156	7.1	156	7.1	0.347	35.2	LOS C	5.2	38.6	0.88	0.73	16.8
East: Darling Drive													
4	L2	136	5.9	136	5.9	0.093	5.7	LOS A	0.9	6.9	0.22	0.56	44.3
5	T1	144	11.1	144	11.1	0.379	37.1	LOS C	6.1	47.1	0.90	0.73	25.0
6	R2	207	1.9	207	1.9	0.869	60.1	LOS E	11.4	81.1	1.00	0.97	19.1
Approach		487	5.7	487	5.7	0.869	38.1	LOS C	11.4	81.1	0.75	0.79	25.6
North: Murray Street (nth)													
7	L2	39	7.7	39	7.7	0.062	25.5	LOS B	1.0	7.5	0.56	0.66	31.7
8	T1	72	2.8	72	2.8	0.259	34.3	LOS C	4.1	29.3	0.79	0.67	17.6
9	R2	39	0.0	39	0.0	0.259	38.8	LOS C	4.1	29.3	0.79	0.67	11.0
Approach		150	3.3	150	3.3	0.259	33.2	LOS C	4.1	29.3	0.73	0.67	20.8
West: Union St													
10	L2	194	4.1	194	4.1	0.380	20.9	LOS B	4.6	33.8	0.82	0.76	7.5
11	T1	153	11.8	153	11.8	0.380	34.3	LOS C	5.2	40.4	0.84	0.69	26.7
12	R2	85	3.5	85	3.5	0.369	47.6	LOS D	3.9	28.4	0.96	0.77	10.5
Approach		432	6.7	432	6.7	0.380	30.9	LOS C	5.2	40.4	0.85	0.74	18.5
All Vehicles		1225	6.0	1225	6.0	0.869	34.6	LOS C	11.4	81.1	0.80	0.75	22.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.9 %
Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	281	43.8	LOS E	0.8	0.8	0.94	0.94
P2	East Full Crossing	576	44.3	LOS E	1.6	1.6	0.95	0.95
P3	North Full Crossing	1523	46.2	LOS E	4.3	4.3	0.99	0.99
P4	West Full Crossing	281	43.8	LOS E	0.8	0.8	0.94	0.94
All Pedestrians		2661	45.3	LOS E			0.97	0.97

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

Site: 101 [AM Union St/Murray St/Darling Drive]

Network: 1 [AM Star Casino Network]

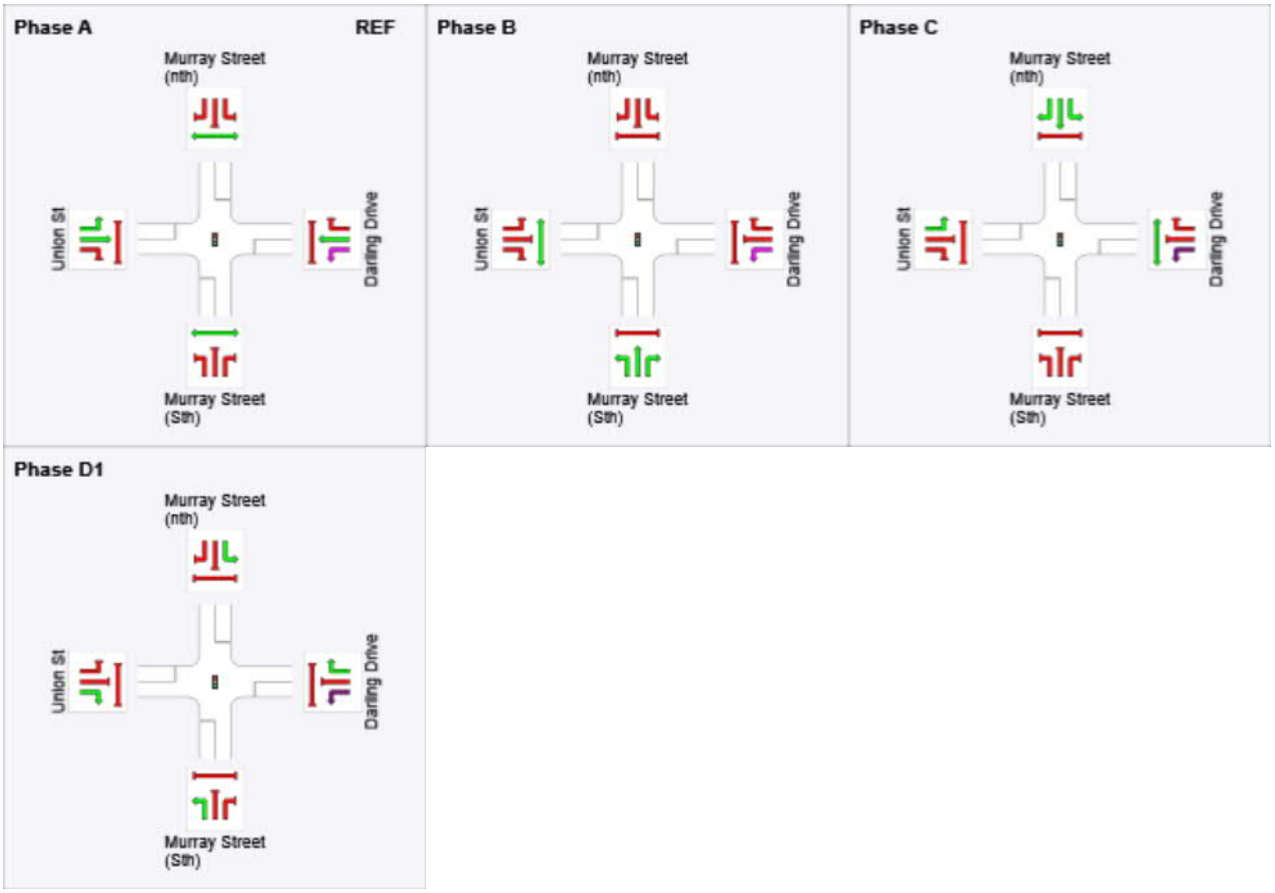
No Project
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Phase Times determined by the program
Green Split Priority applies
Phase Sequence: Existing Phasing - AM
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D1
Output Phase Sequence: A, B, C, D1

Phase Timing Results

Phase	A	B	C	D1
Phase Change Time (sec)	0	27	52	81
Green Time (sec)	21	19	23	13
Phase Time (sec)	27	25	29	19
Phase Split	27 %	25 %	29 %	19 %

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.



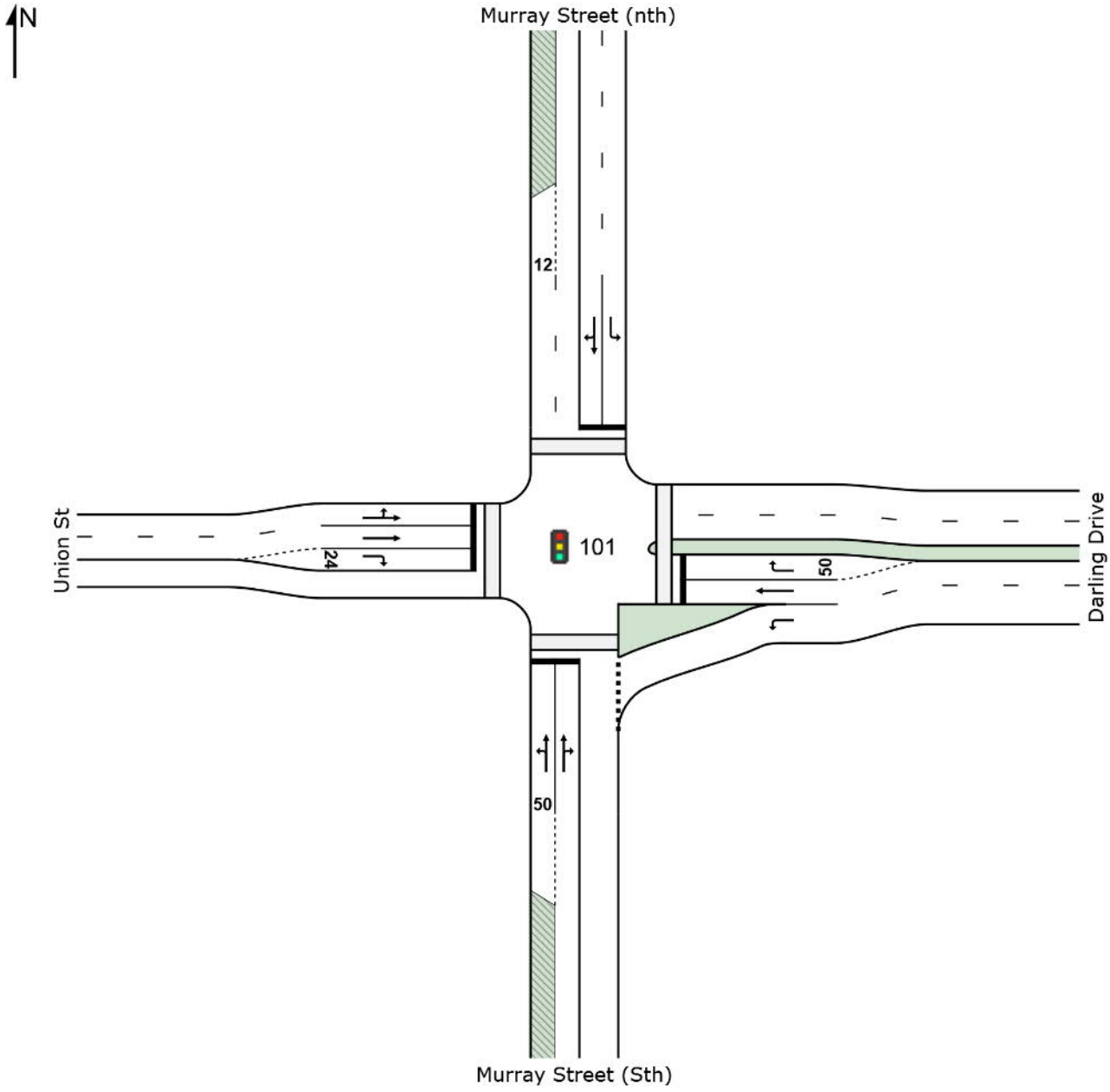
REF: Reference Phase
VAR: Variable Phase

 Other Movement Class (MC) Stopped  Phase Transition Applied

SITE LAYOUT

Site: 101 [PM Union St/Murray St/Darling Drive]

No Project
Signals - Fixed Time Coordinated



MOVEMENT SUMMARY

Site: 101 [PM Union St/Murray St/Darling Drive]

Network: N101 [PM Star Casino Network]

No Project
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Murray Street (Sth)													
1	L2	48	0.0	48	0.0	0.104	20.8	LOS C	1.0	7.3	0.80	0.71	16.7
2	T1	114	0.9	114	0.9	0.430	39.2	LOS D	6.8	48.2	0.93	0.76	10.6
3	R2	41	2.4	41	2.4	0.430	43.8	LOS D	6.8	48.2	0.93	0.76	26.8
Approach		203	1.0	203	1.0	0.430	35.8	LOS D	6.8	48.2	0.90	0.75	16.8
East: Darling Drive													
4	L2	145	0.7	145	0.7	0.101	6.2	LOS A	1.2	8.7	0.25	0.58	44.2
5	T1	165	1.2	165	1.2	0.536	42.7	LOS D	7.6	53.8	0.97	0.78	23.3
6	R2	178	2.2	178	2.2	0.885	62.7	LOS E	10.0	71.2	1.00	0.99	18.6
Approach		488	1.4	488	1.4	0.885	39.2	LOS D	10.0	71.2	0.77	0.80	25.3
North: Murray Street (nth)													
7	L2	136	5.1	136	5.1	0.187	22.4	LOS C	3.3	24.3	0.53	0.68	33.2
8	T1	169	0.0	169	0.0	0.529	31.1	LOS C	11.1	78.2	0.81	0.73	18.5
9	R2	128	1.6	128	1.6	0.529	35.7	LOS D	11.1	78.2	0.81	0.73	11.7
Approach		433	2.1	433	2.1	0.529	29.7	LOS C	11.1	78.2	0.72	0.72	22.7
West: Union St													
10	L2	247	2.4	247	2.4	0.406	16.8	LOS B	4.3	30.6	0.71	0.74	8.9
11	T1	116	0.9	116	0.9	0.380	41.5	LOS D	5.0	35.0	0.90	0.71	24.4
12	R2	79	1.3	79	1.3	0.398	49.8	LOS D	3.7	26.5	0.97	0.76	10.2
Approach		442	1.8	442	1.8	0.406	29.2	LOS C	5.0	35.0	0.81	0.73	16.7
All Vehicles		1566	1.7	1566	1.7	0.885	33.3	LOS C	11.1	78.2	0.78	0.75	21.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.5 %
Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	156	43.5	LOS E	0.4	0.4	0.94	0.94
P2	East Full Crossing	371	43.9	LOS E	1.0	1.0	0.94	0.94
P3	North Full Crossing	889	44.9	LOS E	2.4	2.4	0.97	0.97
P4	West Full Crossing	201	43.6	LOS E	0.5	0.5	0.94	0.94
All Pedestrians		1617	44.4	LOS E			0.95	0.95

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

Site: 101 [PM Union St/Murray St/Darling Drive]

Network: N101 [PM Star Casino Network]

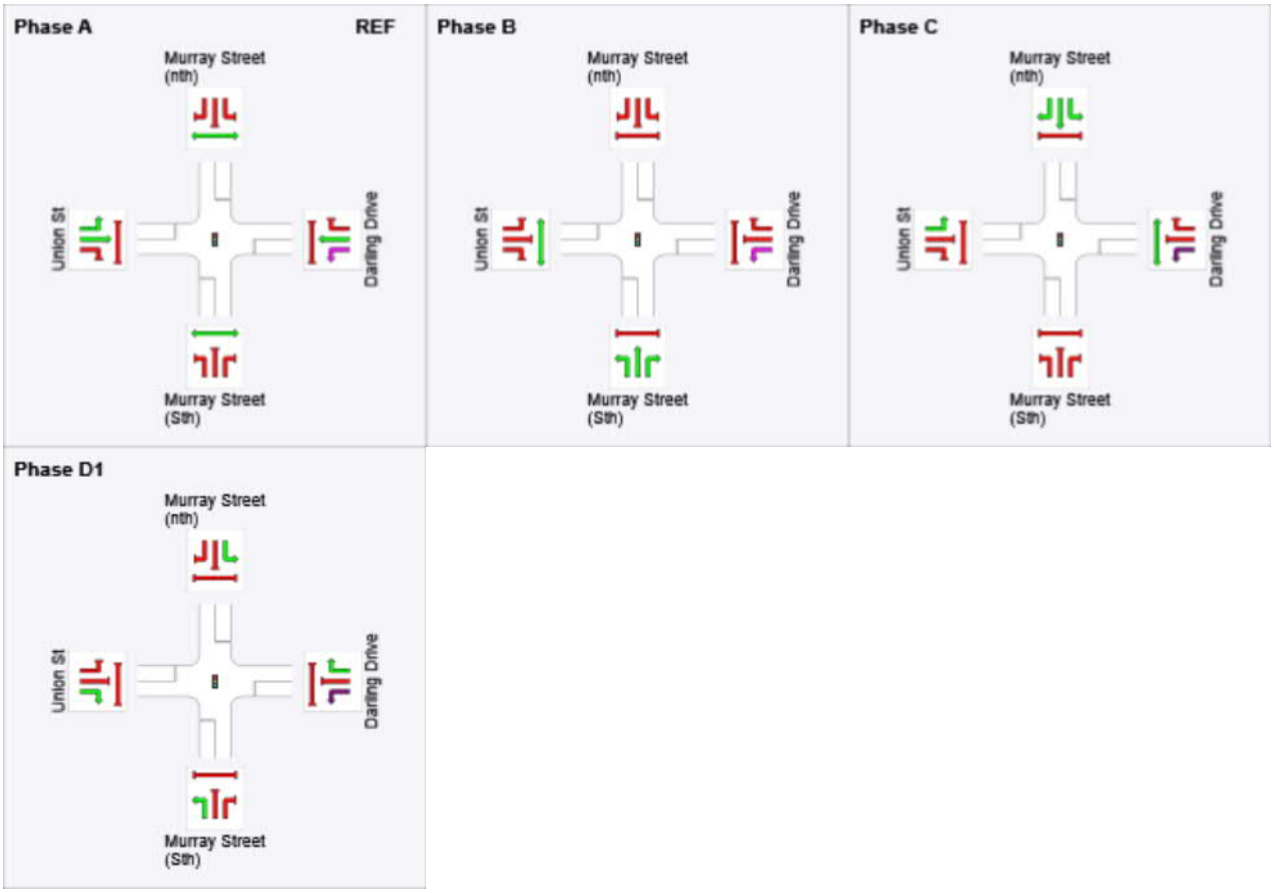
No Project
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Phase Times specified by the user
Phase Sequence: Existing Phasing - AM
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D1
Output Phase Sequence: A, B, C, D1

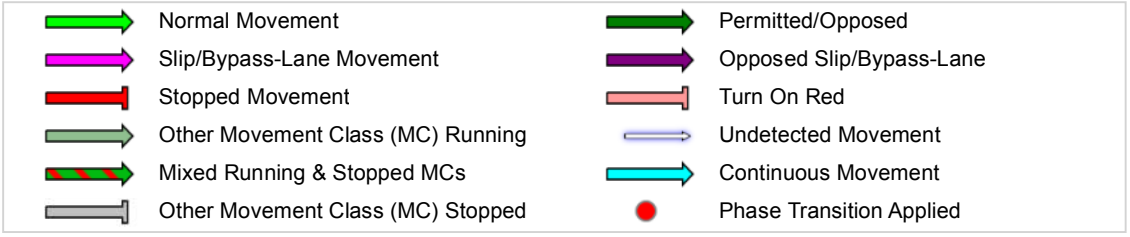
Phase Timing Results

Phase	A	B	C	D1
Phase Change Time (sec)	0	22	47	83
Green Time (sec)	16	19	30	11
Phase Time (sec)	22	25	36	17
Phase Split	22 %	25 %	36 %	17 %

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.



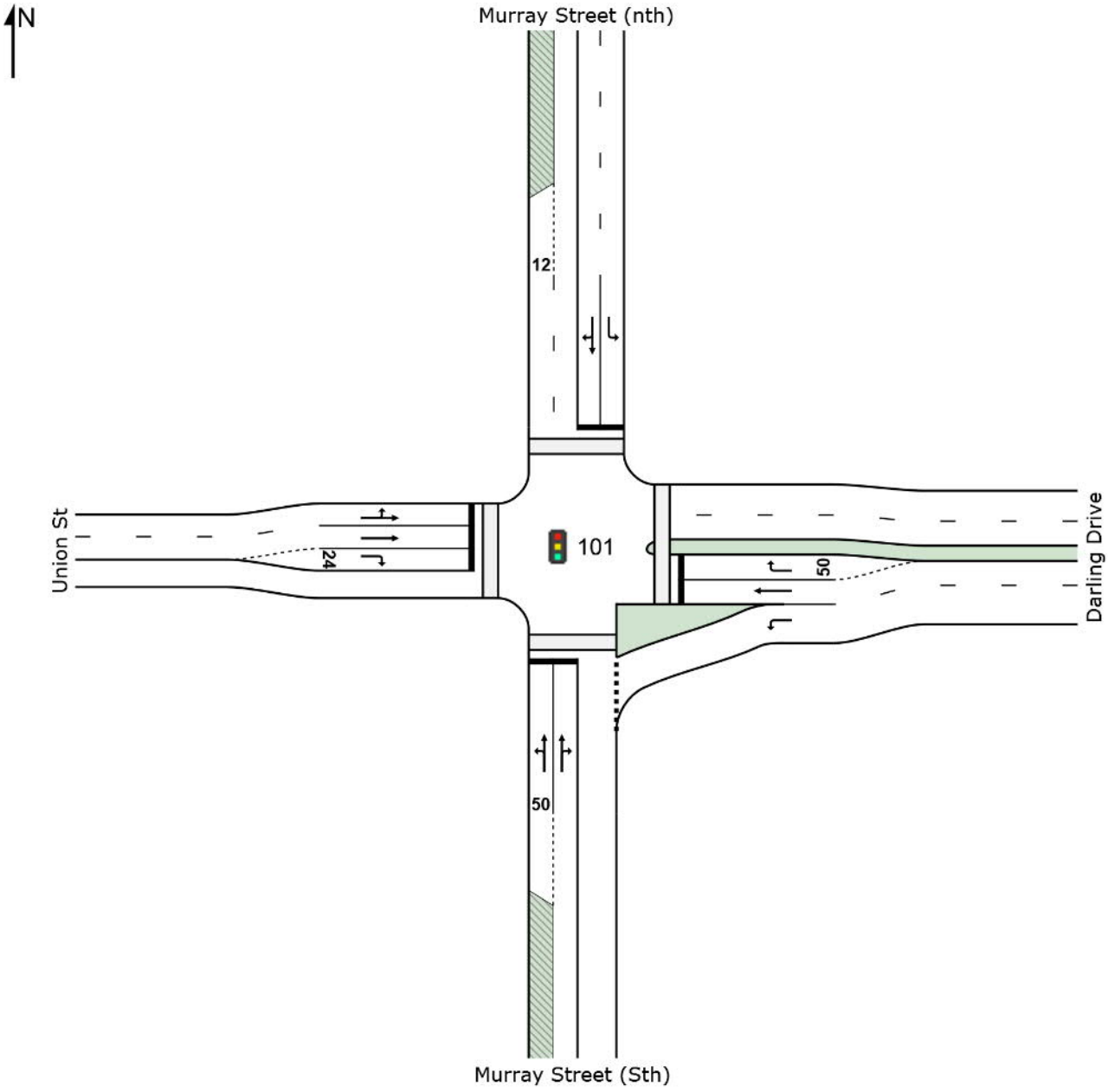
REF: Reference Phase
VAR: Variable Phase



SITE LAYOUT

Site: 101 [OP Union St/Murray St/Darling Drive]

No Project
Signals - Fixed Time Coordinated



MOVEMENT SUMMARY

Site: 101 [OP Union St/Murray St/Darling Drive]

Network: N101 [OP Star Casino Network]

No Project
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Murray Street (Sth)													
1	L2	87	0.0	87	0.0	0.205	22.1	LOS C	1.9	13.2	0.84	0.74	16.1
2	T1	129	0.0	129	0.0	0.538	40.2	LOS D	8.8	61.4	0.95	0.79	10.4
3	R2	66	0.0	66	0.0	0.538	44.7	LOS D	8.8	61.4	0.95	0.79	26.4
Approach		282	0.0	282	0.0	0.538	35.7	LOS D	8.8	61.4	0.92	0.77	17.5
East: Darling Drive													
4	L2	107	0.0	107	0.0	0.072	6.0	LOS A	0.8	5.9	0.24	0.57	44.4
5	T1	165	0.0	165	0.0	0.425	38.3	LOS D	7.2	50.1	0.92	0.75	24.6
6	R2	154	0.6	154	0.6	0.926	68.2	LOS E	9.0	63.4	1.00	1.03	17.6
Approach		426	0.2	426	0.2	0.926	41.0	LOS D	9.0	63.4	0.78	0.80	24.6
North: Murray Street (nth)													
7	L2	220	0.0	220	0.0	0.324	27.0	LOS C	6.5	45.2	0.64	0.73	31.2
8	T1	146	0.0	146	0.0	0.792	38.7	LOS D	18.9	133.0	0.95	0.88	15.9
9	R2	265	0.8	265	0.8	0.792	43.3	LOS D	18.9	133.0	0.95	0.88	9.7
Approach		631	0.3	631	0.3	0.792	36.6	LOS D	18.9	133.0	0.84	0.83	20.1
West: Union St													
10	L2	317	2.5	317	2.5	0.493	16.2	LOS B	5.7	40.7	0.72	0.75	9.2
11	T1	163	0.0	163	0.0	0.452	38.3	LOS D	6.7	46.9	0.87	0.71	25.4
12	R2	57	0.0	57	0.0	0.348	51.6	LOS D	2.7	19.2	0.98	0.75	9.9
Approach		537	1.5	537	1.5	0.493	26.7	LOS C	6.7	46.9	0.80	0.74	18.4
All Vehicles		1876	0.6	1876	0.6	0.926	34.6	LOS C	18.9	133.0	0.83	0.79	20.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.6 %
Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	156	43.5	LOS E	0.4	0.4	0.94	0.94
P2	East Full Crossing	371	43.9	LOS E	1.0	1.0	0.94	0.94
P3	North Full Crossing	889	44.9	LOS E	2.4	2.4	0.97	0.97
P4	West Full Crossing	201	43.6	LOS E	0.5	0.5	0.94	0.94
All Pedestrians		1617	44.4	LOS E			0.95	0.95

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

Site: 101 [OP Union St/Murray St/Darling Drive]

Network: N101 [OP Star Casino Network]

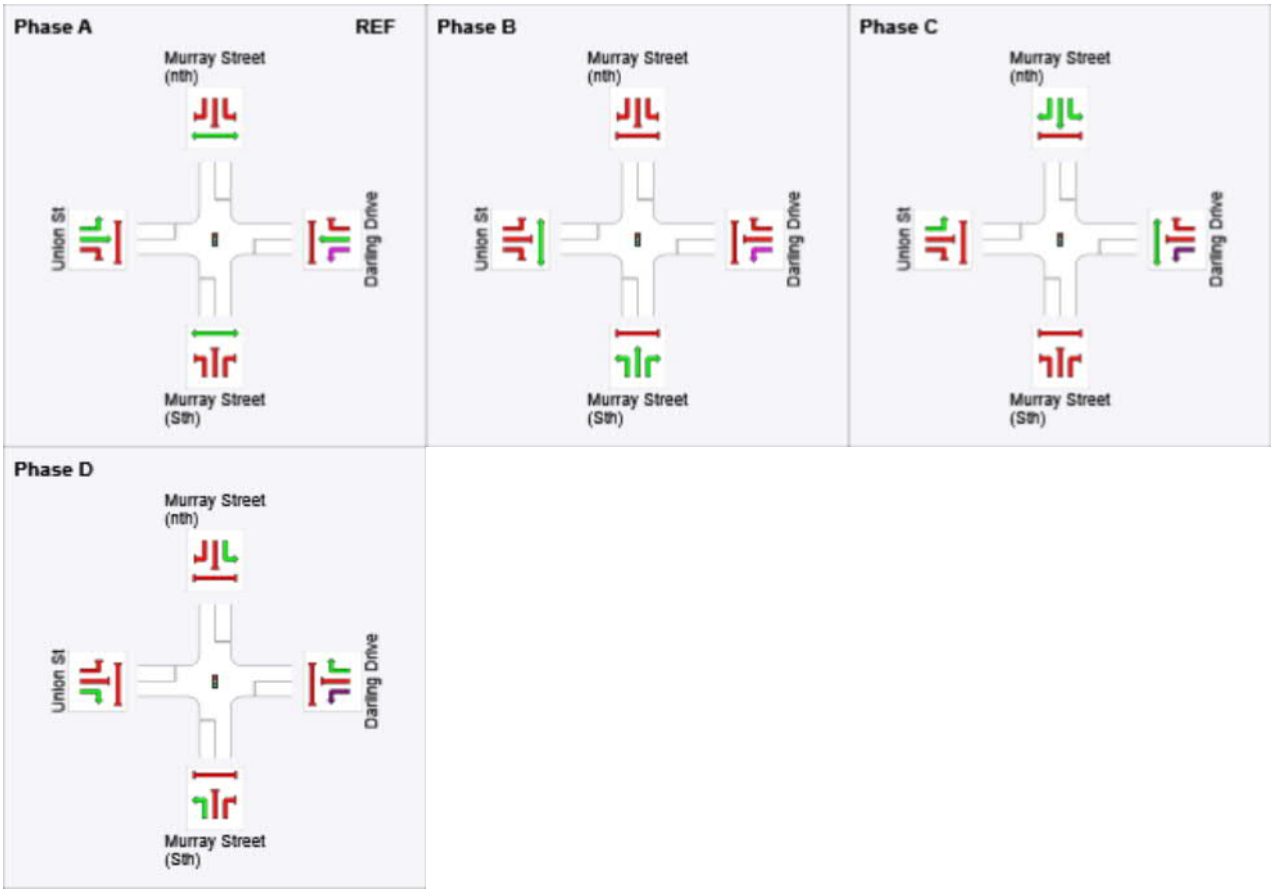
No Project
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Phase Times specified by the user
Phase Sequence: Existing Phasing - AM
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Phase Change Time (sec)	0	26	51	85
Green Time (sec)	20	19	28	9
Phase Time (sec)	26	25	34	15
Phase Split	26 %	25 %	34 %	15 %

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.



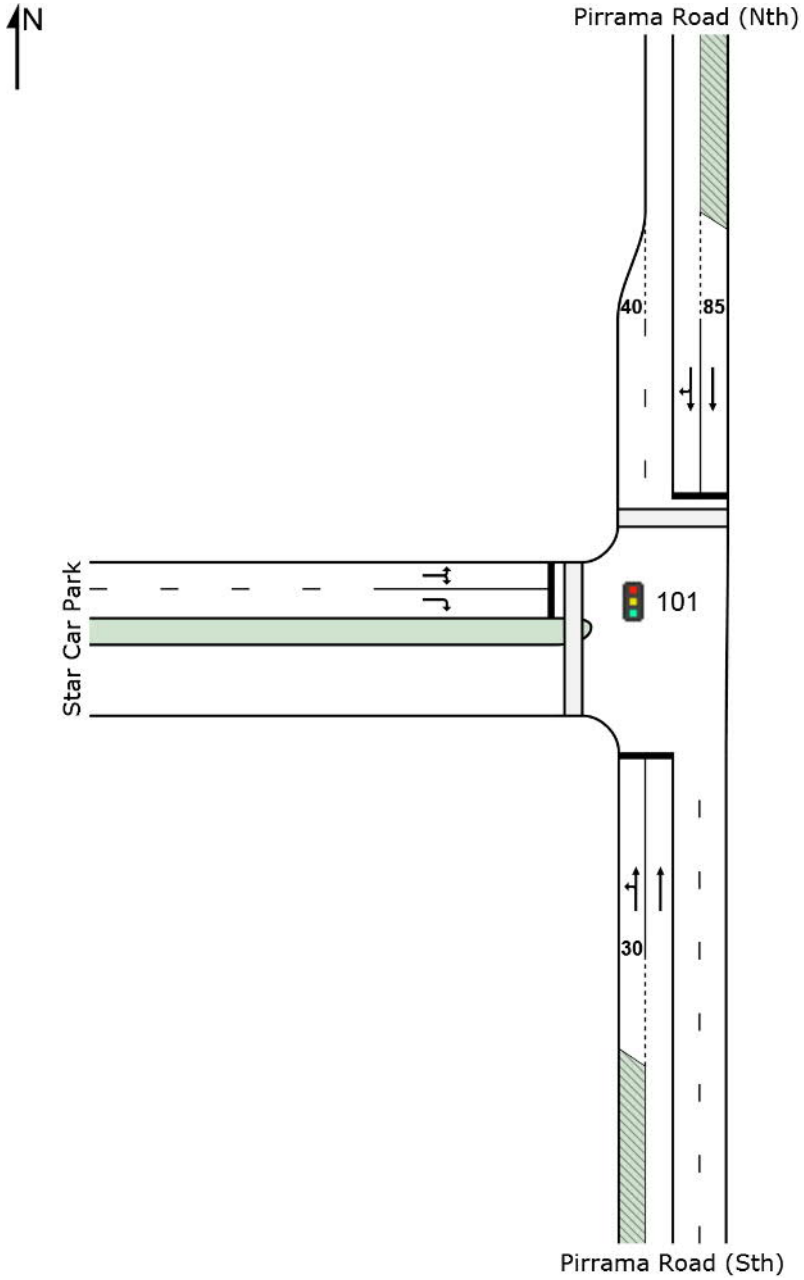
REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

SITE LAYOUT

Site: 101 [AM Pirrama Rd/Star Car Park Entrance]

No Project
Signals - Fixed Time Coordinated



MOVEMENT SUMMARY

Site: 101 [AM Pirrama Rd/Star Car Park Entrance]

Network: 1 [AM Star Casino Network]

No Project
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pirrama Road (Sth)													
1	L2	164	0.6	164	0.6	0.134	7.0	LOS A	1.0	6.7	0.13	0.57	25.3
2	T1	279	6.5	279	6.5	0.204	0.4	LOS A	0.3	2.5	0.03	0.02	48.0
Approach		443	4.3	443	4.3	0.204	2.8	LOS A	1.0	6.7	0.06	0.23	34.5
North: Pirrama Road (Nth)													
8	T1	94	8.5	94	8.5	0.051	4.1	LOS A	0.9	6.7	0.30	0.28	39.6
9	R2	20	0.0	20	0.0	0.051	10.2	LOS A	0.7	5.0	0.34	0.44	31.8
Approach		114	7.0	114	7.0	0.051	5.2	LOS A	0.9	6.7	0.31	0.31	37.7
West: Star Car Park													
10	L2	4	0.0	4	0.0	0.062	41.9	LOS C	0.6	4.3	0.91	0.63	4.0
12	R2	26	0.0	26	0.0	0.062	41.2	LOS C	0.7	4.8	0.90	0.63	4.2
Approach		30	0.0	30	0.0	0.062	41.3	LOS C	0.7	4.8	0.90	0.63	4.1
All Vehicles		587	4.6	587	4.6	0.204	5.2	LOS A	1.0	6.7	0.15	0.26	30.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.9 %
Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	105	43.4	LOS E	0.3	0.3	0.93	0.93
P4	West Full Crossing	126	43.5	LOS E	0.3	0.3	0.93	0.93
All Pedestrians		232	43.5	LOS E			0.93	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

Site: 101 [AM Pirrama Rd/Star Car Park Entrance]

Network: 1 [AM Star Casino Network]

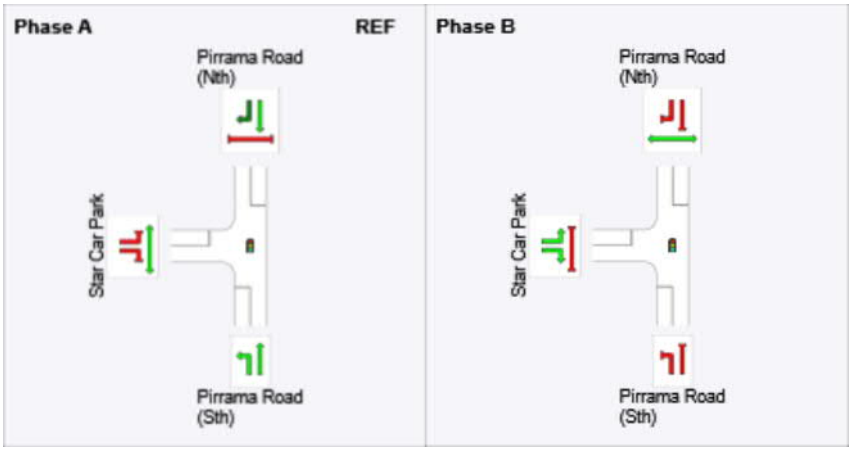
No Project
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Phase Times specified by the user
Phase Sequence: Existing Phasing - AM
Reference Phase: Phase A
Input Phase Sequence: A, B
Output Phase Sequence: A, B

Phase Timing Results

Phase	A	B
Phase Change Time (sec)	0	80
Green Time (sec)	74	14
Phase Time (sec)	80	20
Phase Split	80 %	20 %

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.



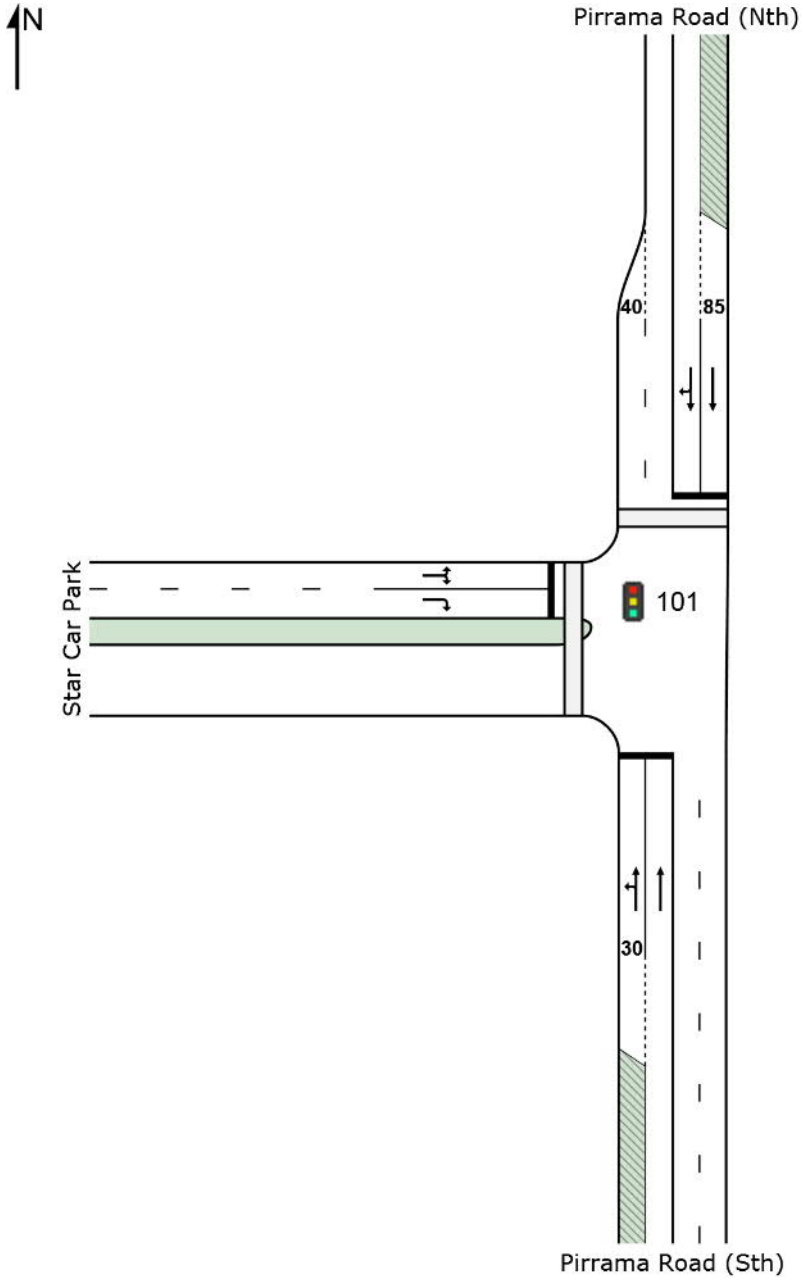
REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

SITE LAYOUT

Site: 101 [PM Pirrama Rd/Star Car Park Entrance]

No Project
Signals - Fixed Time Coordinated



MOVEMENT SUMMARY

Site: 101 [PM Pirrama Rd/Star Car Park Entrance]

Network: N101 [PM Star Casino Network]

No Project
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pirrama Road (Sth)													
1	L2	182	0.5	182	0.5	0.130	4.8	LOS A	0.1	0.9	0.02	0.54	28.0
2	T1	341	5.0	341	5.0	0.250	0.5	LOS A	0.6	4.2	0.04	0.03	47.1
Approach		523	3.4	523	3.4	0.250	2.0	LOS A	0.6	4.2	0.03	0.21	36.8
North: Pirrama Road (Nth)													
8	T1	232	6.0	232	6.0	0.107	4.5	LOS A	2.0	14.9	0.32	0.30	39.1
9	R2	24	0.0	24	0.0	0.107	10.1	LOS B	1.7	12.5	0.34	0.37	33.1
Approach		256	5.5	256	5.5	0.107	5.0	LOS A	2.0	14.9	0.32	0.30	38.4
West: Star Car Park													
10	L2	47	0.0	47	0.0	0.500	46.2	LOS D	5.2	36.6	0.98	0.77	3.7
12	R2	202	0.0	202	0.0	0.500	44.3	LOS D	6.4	45.1	0.97	0.77	3.9
Approach		249	0.0	249	0.0	0.500	44.6	LOS D	6.4	45.1	0.97	0.77	3.9
All Vehicles		1028	3.1	1028	3.1	0.500	13.1	LOS B	6.4	45.1	0.33	0.37	20.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.5 %
Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	217	43.6	LOS E	0.6	0.6	0.94	0.94
P4	West Full Crossing	263	43.7	LOS E	0.7	0.7	0.94	0.94
All Pedestrians		480	43.7	LOS E			0.94	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

Site: 101 [PM Pirrama Rd/Star Car Park Entrance]

Network: N101 [PM Star Casino Network]

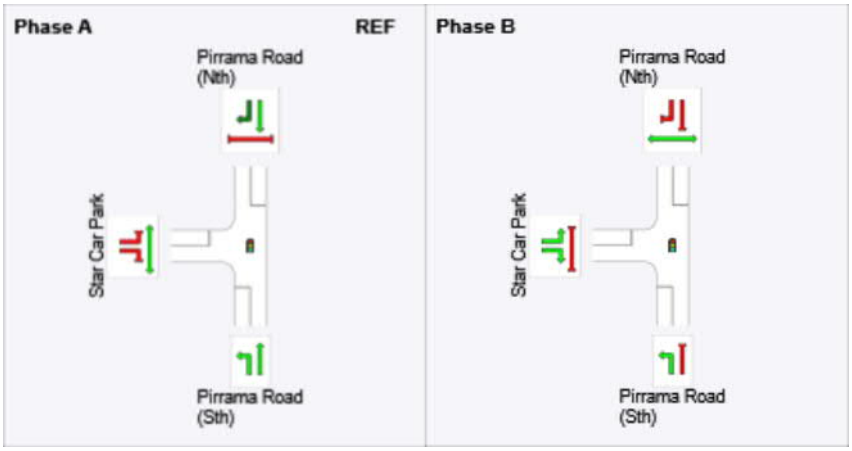
No Project
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Phase Times specified by the user
Phase Sequence: Existing Phasing - AM
Reference Phase: Phase A
Input Phase Sequence: A, B
Output Phase Sequence: A, B

Phase Timing Results

Phase	A	B
Phase Change Time (sec)	0	79
Green Time (sec)	73	15
Phase Time (sec)	79	21
Phase Split	79 %	21 %

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.



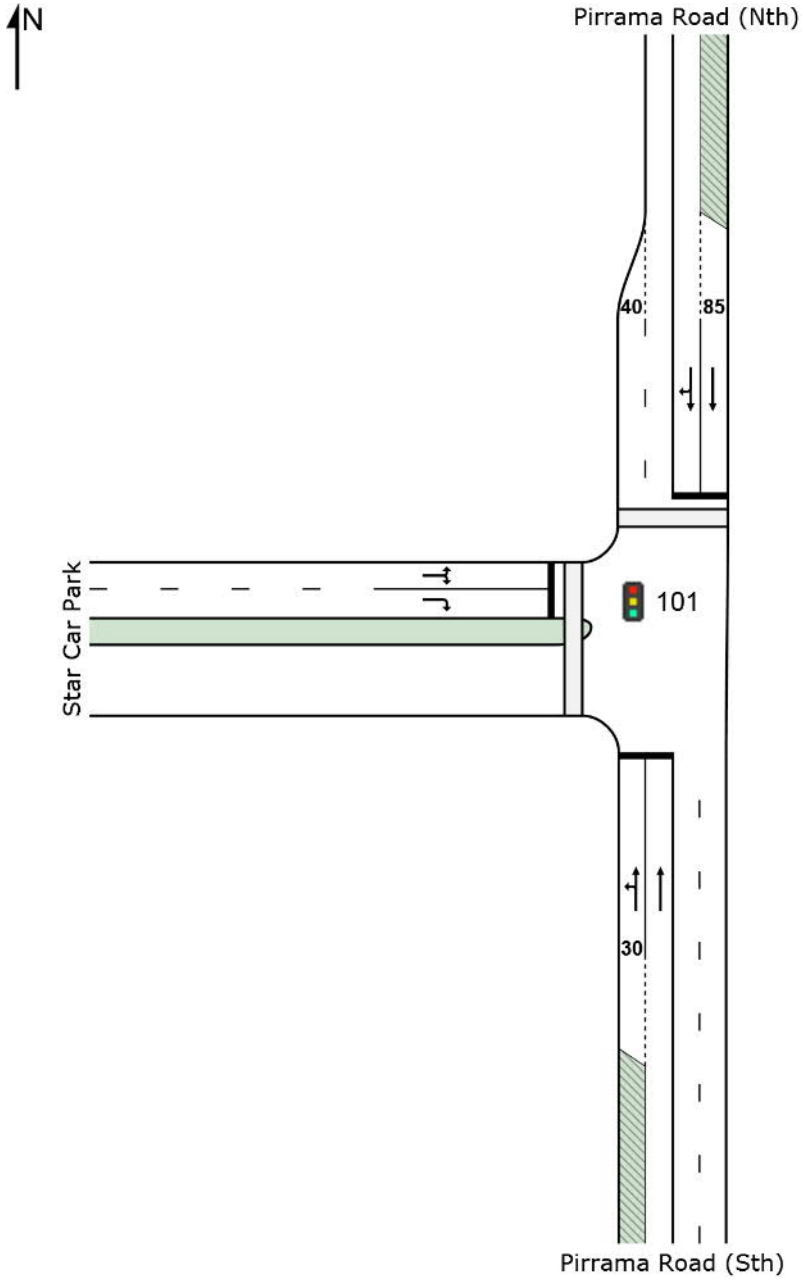
REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

SITE LAYOUT

Site: 101 [OP Pirrama Rd/Star Car Park Entrance]

No Project
Signals - Fixed Time Coordinated



MOVEMENT SUMMARY

Site: 101 [OP Pirrama Rd/Star Car Park Entrance]

Network: N101 [OP Star Casino Network]

No Project
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pirrama Road (Sth)													
1	L2	163	1.2	163	1.2	0.118	4.8	LOS A	0.1	0.8	0.02	0.54	28.0
2	T1	427	1.4	427	1.4	0.306	0.6	LOS A	0.8	5.5	0.04	0.04	47.0
Approach		590	1.4	590	1.4	0.306	1.7	LOS A	0.8	5.5	0.04	0.18	38.3
North: Pirrama Road (Nth)													
8	T1	335	1.2	335	1.2	0.155	4.8	LOS A	3.1	22.3	0.34	0.32	38.7
9	R2	36	0.0	36	0.0	0.155	10.7	LOS B	2.6	18.2	0.37	0.40	32.5
Approach		371	1.1	371	1.1	0.155	5.4	LOS A	3.1	22.3	0.34	0.33	37.9
West: Star Car Park													
10	L2	39	0.0	39	0.0	0.687	47.8	LOS D	7.8	54.4	1.00	0.89	3.6
12	R2	309	0.0	309	0.0	0.687	46.6	LOS D	9.3	65.3	1.00	0.89	3.8
Approach		348	0.0	348	0.0	0.687	46.7	LOS D	9.3	65.3	1.00	0.89	3.8
All Vehicles		1309	0.9	1309	0.9	0.687	14.7	LOS B	9.3	65.3	0.38	0.41	19.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.6 %
Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P3	North Full Crossing	278	43.8	LOS E	0.7	0.7	0.94	0.94
P4	West Full Crossing	546	44.3	LOS E	1.5	1.5	0.95	0.95
All Pedestrians		824	44.1	LOS E			0.95	0.95

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

Site: 101 [OP Pirrama Rd/Star Car Park Entrance]

Network: N101 [OP Star Casino Network]

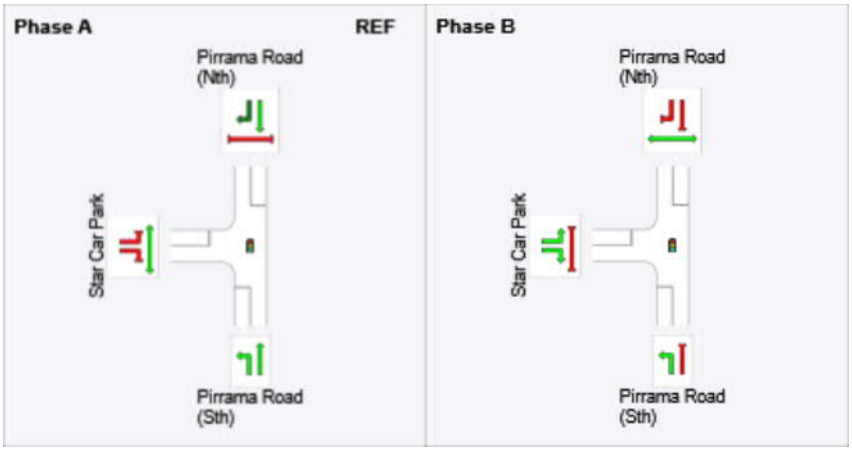
No Project
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Phase Times specified by the user
Phase Sequence: Existing Phasing - AM
Reference Phase: Phase A
Input Phase Sequence: A, B
Output Phase Sequence: A, B

Phase Timing Results

Phase	A	B
Phase Change Time (sec)	0	79
Green Time (sec)	73	15
Phase Time (sec)	79	21
Phase Split	79 %	21 %

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.



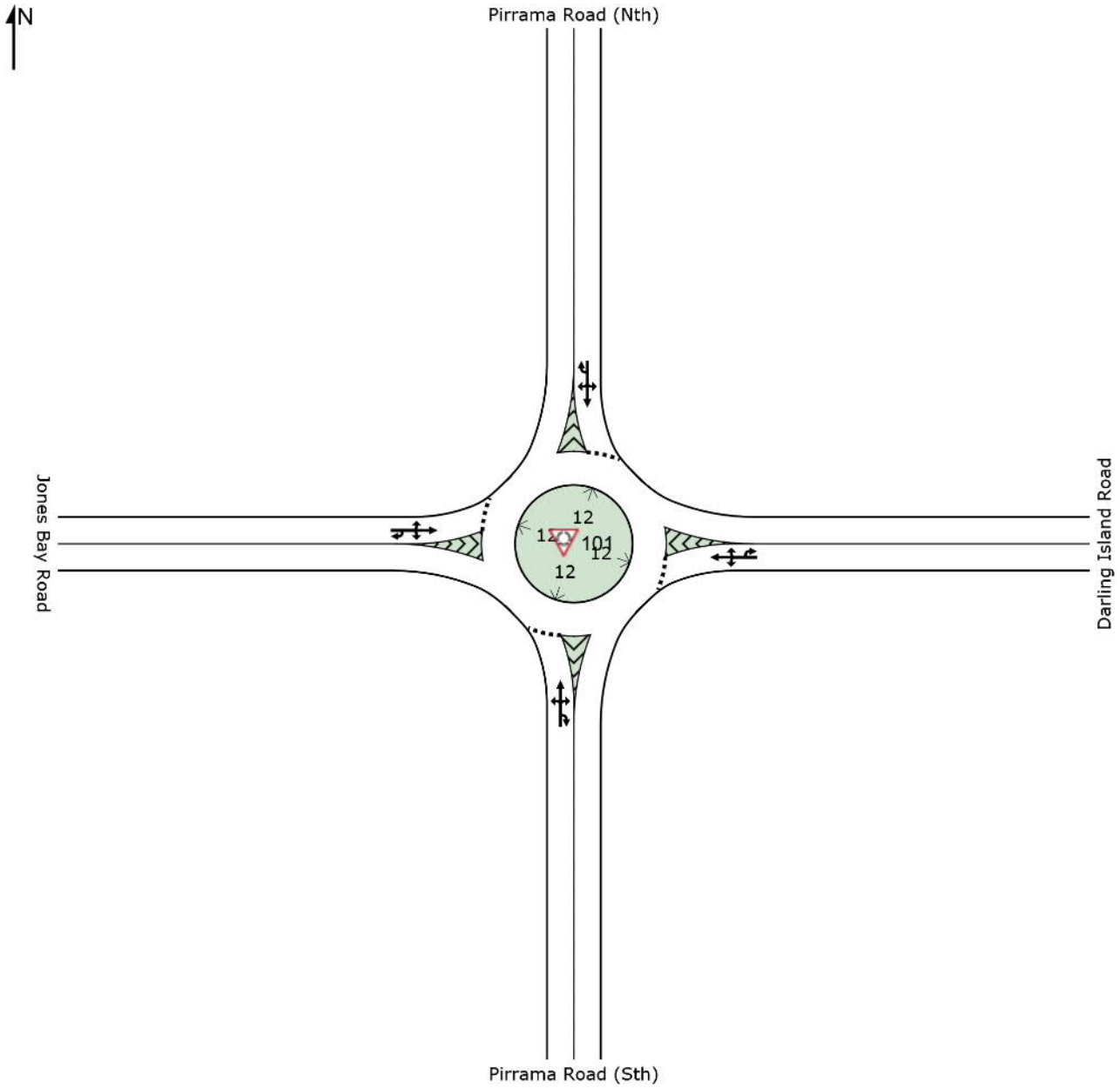
REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

SITE LAYOUT

Site: 101 [AM Jones Bay Rd/Pirrama Rd]

No Project
Roundabout



MOVEMENT SUMMARY

Site: 101 [AM Jones Bay Rd/Pirrama Rd]

Network: 1 [AM Star Casino Network]

No Project
Roundabout

Movement Performance - Vehicles

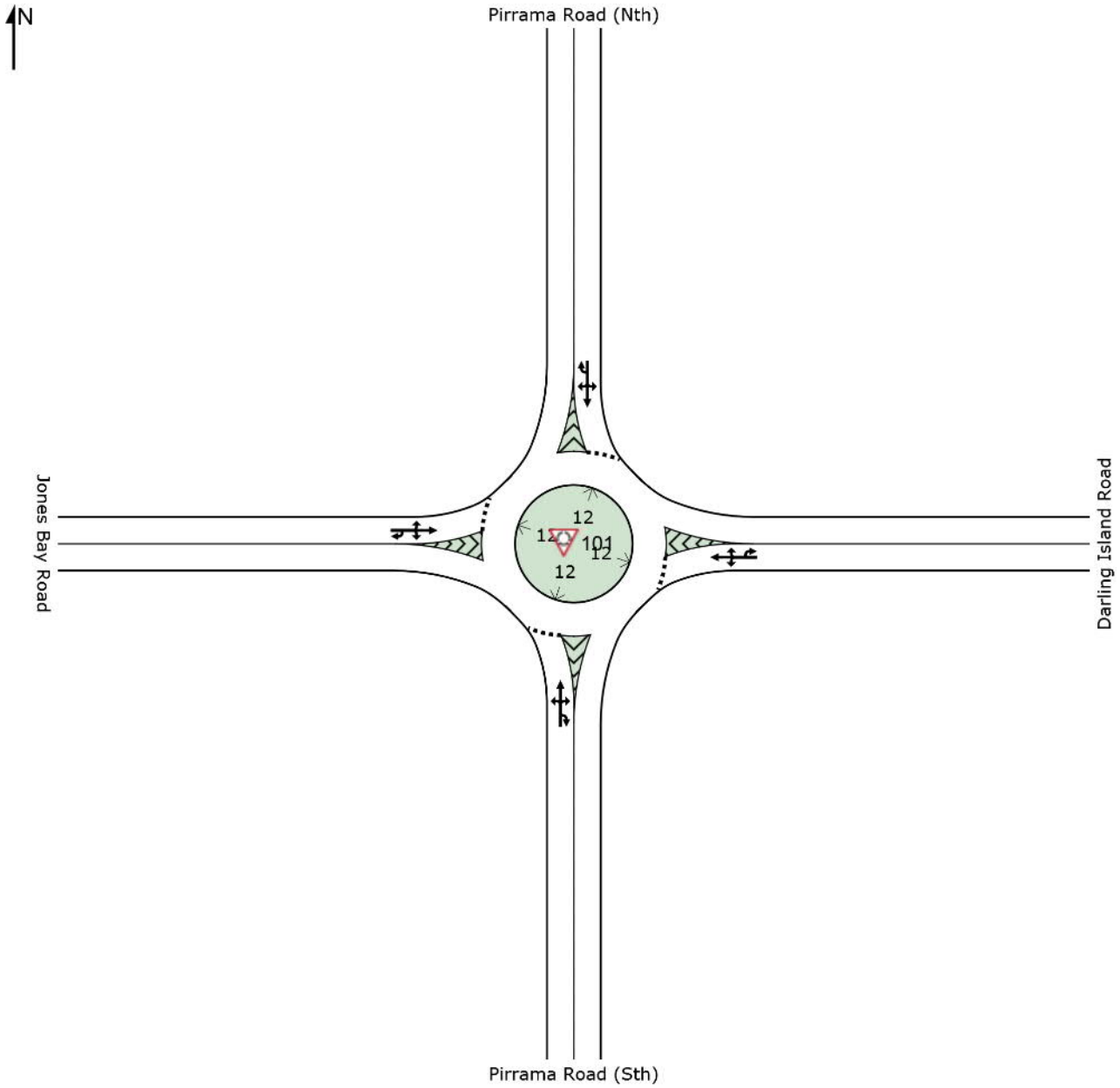
Mov ID	OD Mov	Demand Flows Total veh/h	Demand Flows HV %	Arrival Flows Total veh/h	Arrival Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pirrama Road (Sth)													
1	L2	97	8.2	97	8.2	0.246	4.3	LOS A	1.2	9.1	0.28	0.54	37.8
2	T1	89	7.9	89	7.9	0.246	4.2	LOS A	1.2	9.1	0.28	0.54	45.5
3	R2	92	5.4	92	5.4	0.246	7.7	LOS A	1.2	9.1	0.28	0.54	34.8
3u	U	11	10.0	11	10.0	0.246	9.4	LOS A	1.2	9.1	0.28	0.54	37.8
Approach		289	7.3	289	7.3	0.246	5.6	LOS A	1.2	9.1	0.28	0.54	40.6
East: Darling Island Road													
4	L2	18	0.0	18	0.0	0.070	5.2	LOS A	0.3	2.3	0.34	0.53	30.6
5	T1	41	12.2	41	12.2	0.070	5.3	LOS A	0.3	2.3	0.34	0.53	30.6
6	R2	7	0.0	7	0.0	0.070	8.9	LOS A	0.3	2.3	0.34	0.53	50.2
6u	U	1	0.0	1	0.0	0.070	10.7	LOS A	0.3	2.3	0.34	0.53	24.7
Approach		67	7.5	67	7.5	0.070	5.8	LOS A	0.3	2.3	0.34	0.53	35.9
North: Pirrama Road (Nth)													
7	L2	11	0.0	11	0.0	0.111	5.9	LOS A	0.6	4.3	0.44	0.62	40.3
8	T1	43	14.0	43	14.0	0.111	6.4	LOS A	0.6	4.3	0.44	0.62	47.6
9	R2	44	2.3	44	2.3	0.111	9.7	LOS A	0.6	4.3	0.44	0.62	47.6
9u	U	4	0.0	4	0.0	0.111	11.3	LOS A	0.6	4.3	0.44	0.62	52.9
Approach		102	6.8	102	6.8	0.111	8.0	LOS A	0.6	4.3	0.44	0.62	46.9
West: Jones Bay Road													
10	L2	87	0.0	87	0.0	0.224	5.7	LOS A	1.4	9.7	0.44	0.60	48.6
11	T1	86	3.5	86	3.5	0.224	5.9	LOS A	1.4	9.7	0.44	0.60	28.2
12	R2	34	0.0	34	0.0	0.224	9.4	LOS A	1.4	9.7	0.44	0.60	32.1
12u	U	28	3.7	28	3.7	0.224	11.2	LOS A	1.4	9.7	0.44	0.60	32.1
Approach		235	1.7	235	1.7	0.224	7.0	LOS A	1.4	9.7	0.44	0.60	39.7
All Vehicles		693	5.4	693	5.4	0.246	6.4	LOS A	1.4	9.7	0.36	0.57	41.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.9 %
Number of Iterations: 10 (maximum specified: 10)

SITE LAYOUT

Site: 101 [PM Jones Bay Rd/Pirrama Rd]

No Project
Roundabout



MOVEMENT SUMMARY

Site: 101 [PM Jones Bay Rd/Pirrama Rd]

Network: N101 [PM Star Casino Network]

No Project
Roundabout

Movement Performance - Vehicles

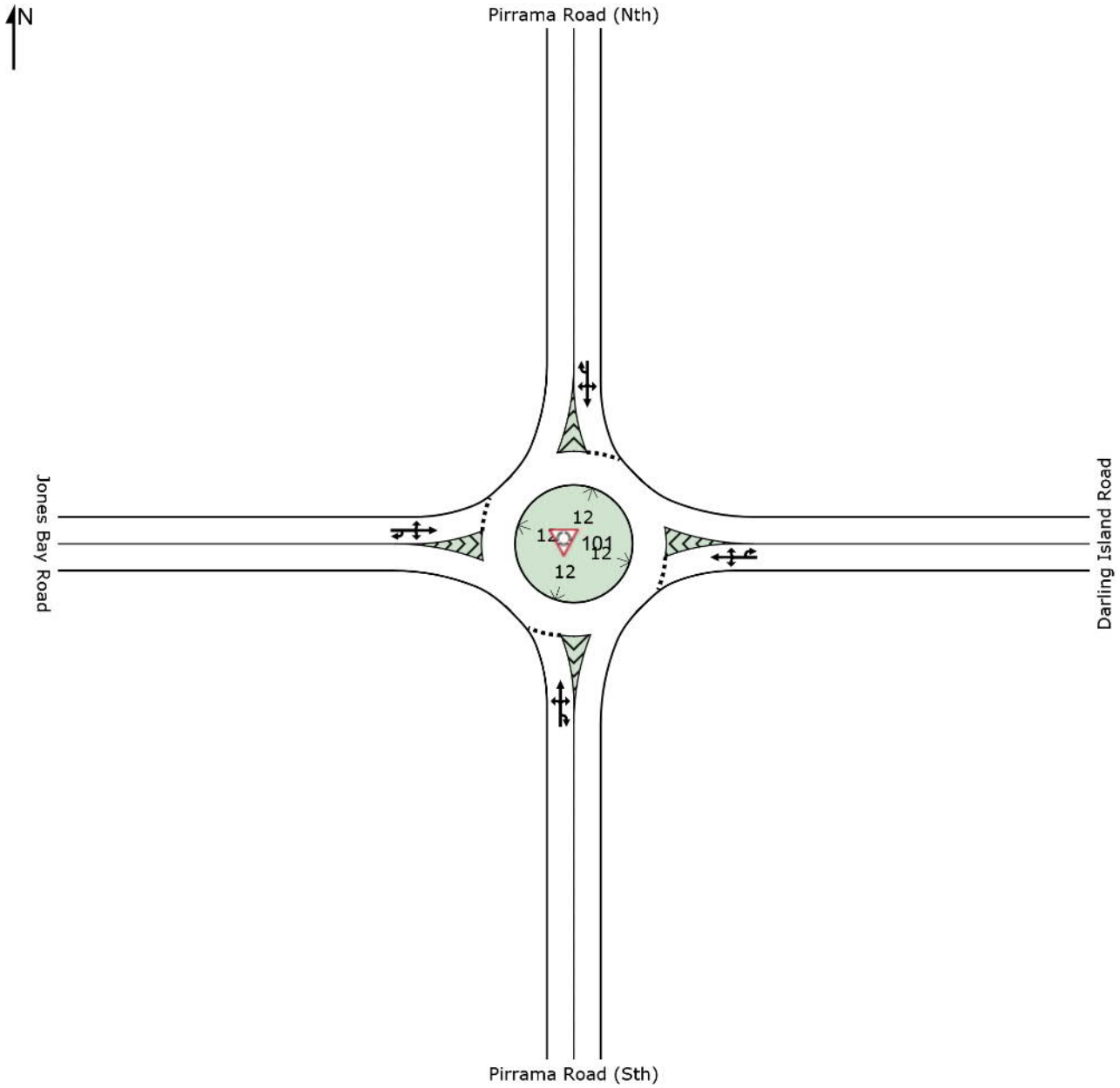
Mov ID	OD Mov	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Pirrama Road (Sth)													
1	L2	221	1.4	221	1.4	0.408	5.6	LOS A	2.3	16.6	0.49	0.64	36.6
2	T1	101	14.9	101	14.9	0.408	5.9	LOS A	2.3	16.6	0.49	0.64	44.8
3	R2	34	0.0	34	0.0	0.408	9.0	LOS A	2.3	16.6	0.49	0.64	34.1
3u	U	44	4.8	44	4.8	0.408	10.7	LOS B	2.3	16.6	0.49	0.64	36.6
Approach		400	5.0	400	5.0	0.408	6.5	LOS A	2.3	16.6	0.49	0.64	40.0
East: Darling Island Road													
4	L2	57	0.0	57	0.0	0.201	6.7	LOS A	1.0	7.1	0.57	0.67	28.2
5	T1	92	0.0	92	0.0	0.201	6.8	LOS A	1.0	7.1	0.57	0.67	28.2
6	R2	14	0.0	14	0.0	0.201	10.5	LOS B	1.0	7.1	0.57	0.67	49.0
6u	U	1	0.0	1	0.0	0.201	12.2	LOS B	1.0	7.1	0.57	0.67	23.8
Approach		164	0.0	164	0.0	0.201	7.1	LOS A	1.0	7.1	0.57	0.67	32.9
North: Pirrama Road (Nth)													
7	L2	20	0.0	20	0.0	0.297	5.9	LOS A	1.8	13.0	0.46	0.64	40.2
8	T1	113	10.6	113	10.6	0.297	6.3	LOS A	1.8	13.0	0.46	0.64	47.4
9	R2	154	0.6	154	0.6	0.297	9.6	LOS A	1.8	13.0	0.46	0.64	47.4
9u	U	6	0.0	6	0.0	0.297	11.3	LOS B	1.8	13.0	0.46	0.64	52.8
Approach		293	4.4	293	4.4	0.297	8.1	LOS A	1.8	13.0	0.46	0.64	46.9
West: Jones Bay Road													
10	L2	65	1.5	65	1.5	0.185	5.7	LOS A	1.1	7.7	0.43	0.62	47.9
11	T1	41	0.0	41	0.0	0.185	5.8	LOS A	1.1	7.7	0.43	0.62	27.9
12	R2	55	0.0	55	0.0	0.185	9.4	LOS A	1.1	7.7	0.43	0.62	31.3
12u	U	32	0.0	32	0.0	0.185	11.1	LOS B	1.1	7.7	0.43	0.62	31.3
Approach		193	0.5	193	0.5	0.185	7.6	LOS A	1.1	7.7	0.43	0.62	39.5
All Vehicles		1050	3.2	1050	3.2	0.408	7.3	LOS A	2.3	16.6	0.48	0.64	41.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.5 %
Number of Iterations: 10 (maximum specified: 10)

SITE LAYOUT

Site: 101 [OP Jones Bay Rd/Pirrama Rd]

No Project
Roundabout



MOVEMENT SUMMARY

Site: 101 [OP Jones Bay Rd/Pirrama Rd]

Network: N101 [OP Star Casino Network]

No Project
Roundabout

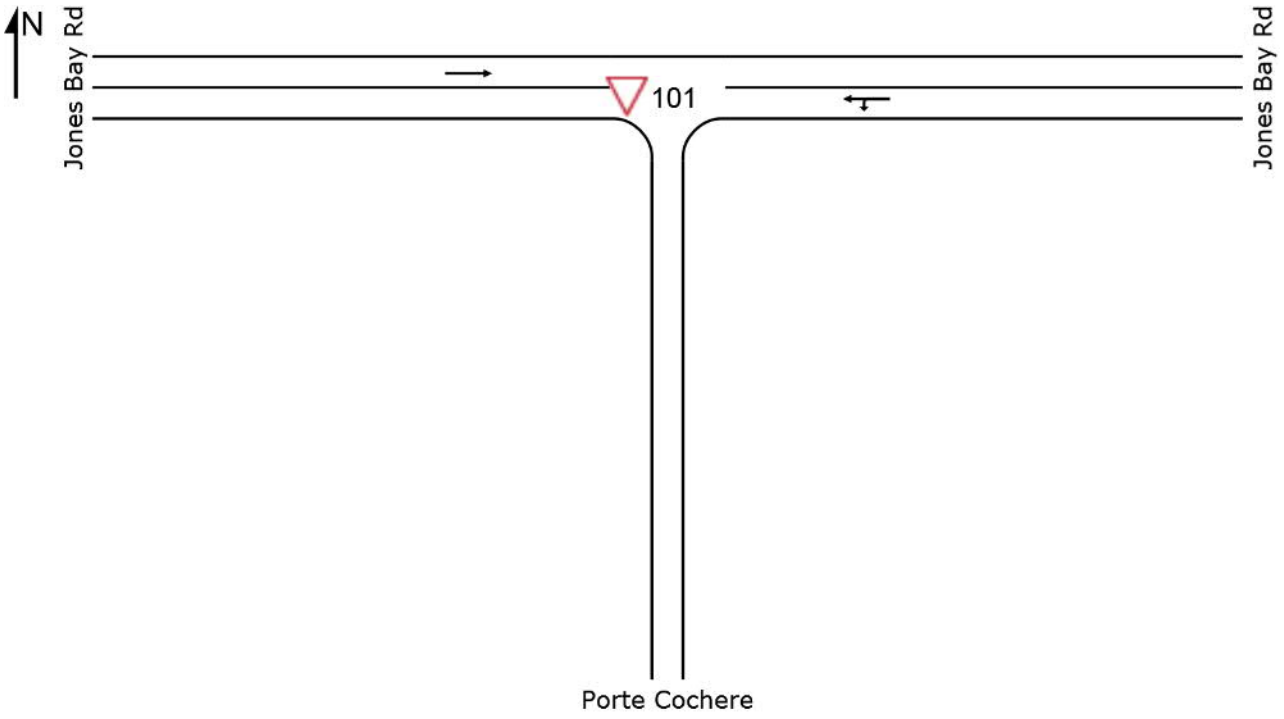
Movement Performance - Vehicles													
Mov ID	OD Mov	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Pirrama Road (Sth)													
1	L2	278	0.7	278	0.7	0.482	5.9	LOS A	3.0	21.1	0.54	0.68	35.7
2	T1	72	4.2	72	4.2	0.482	6.0	LOS A	3.0	21.1	0.54	0.68	44.4
3	R2	24	0.0	24	0.0	0.482	9.4	LOS A	3.0	21.1	0.54	0.68	33.5
3u	U	105	1.0	105	1.0	0.482	11.0	LOS B	3.0	21.1	0.54	0.68	35.7
Approach		479	1.3	479	1.3	0.482	7.2	LOS A	3.0	21.1	0.54	0.68	38.1
East: Darling Island Road													
4	L2	34	0.0	34	0.0	0.124	8.3	LOS A	0.7	5.0	0.68	0.72	25.6
5	T1	48	0.0	48	0.0	0.124	8.4	LOS A	0.7	5.0	0.68	0.72	25.6
6	R2	9	0.0	9	0.0	0.124	12.1	LOS B	0.7	5.0	0.68	0.72	47.5
6u	U	1	0.0	1	0.0	0.124	13.8	LOS B	0.7	5.0	0.68	0.72	22.7
Approach		92	0.0	92	0.0	0.124	8.8	LOS A	0.7	5.0	0.68	0.72	30.9
North: Pirrama Road (Nth)													
7	L2	7	0.0	7	0.0	0.396	7.2	LOS A	2.6	18.1	0.62	0.73	39.6
8	T1	180	2.2	180	2.2	0.396	7.4	LOS A	2.6	18.1	0.62	0.73	46.4
9	R2	152	0.0	152	0.0	0.396	10.9	LOS B	2.6	18.1	0.62	0.73	46.4
9u	U	9	0.0	9	0.0	0.396	12.6	LOS B	2.6	18.1	0.62	0.73	52.1
Approach		348	1.1	348	1.1	0.396	9.0	LOS A	2.6	18.1	0.62	0.73	46.5
West: Jones Bay Road													
10	L2	33	3.0	33	3.0	0.244	5.9	LOS A	1.5	10.8	0.47	0.66	46.4
11	T1	25	0.0	25	0.0	0.244	6.0	LOS A	1.5	10.8	0.47	0.66	27.0
12	R2	87	0.0	87	0.0	0.244	9.5	LOS A	1.5	10.8	0.47	0.66	29.3
12u	U	105	0.0	105	0.0	0.244	11.2	LOS B	1.5	10.8	0.47	0.66	29.3
Approach		250	0.4	250	0.4	0.244	9.4	LOS A	1.5	10.8	0.47	0.66	33.6
All Vehicles		1170	0.9	1170	0.9	0.482	8.4	LOS A	3.0	21.1	0.56	0.69	40.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.6 %
Number of Iterations: 10 (maximum specified: 10)

SITE LAYOUT

Site: 101 [AM Jones Bay Rd/Port Cochere Entry]

New Site
Giveway / Yield (Two-Way)



Organisation: MOTT MACDONALD | Created: 22 February 2018 09:47:35
Project: P:\Sydney\Projects\35xxxx\358488\04 Working\06 Traffic\MOD 13\DataRefresh\Sidra\180221 Existing + Construction.sip7

MOVEMENT SUMMARY

Site: 101 [AM Jones Bay Rd/Port Cochere Entry]

Network: 1 [AM Star Casino Network]

New Site
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

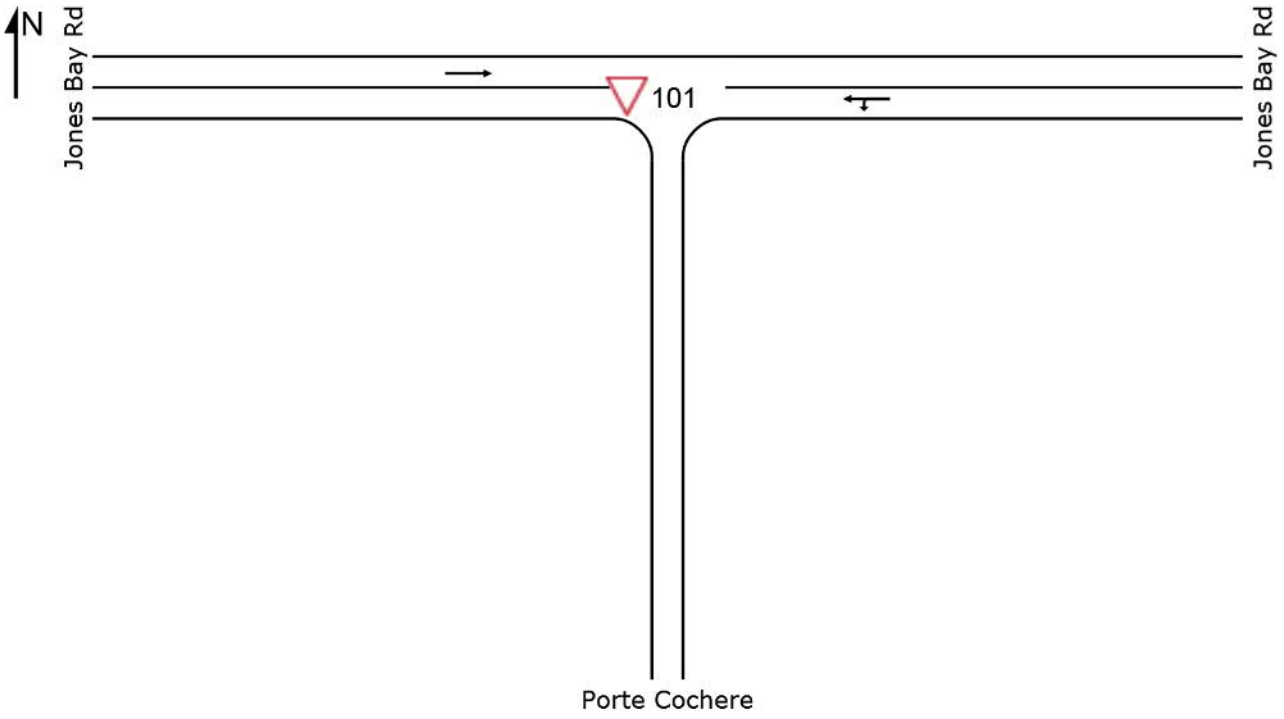
Mov ID	OD Mov	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Jones Bay Rd													
4	L2	34	9.4	34	9.4	0.119	4.6	LOS A	0.0	0.0	0.00	0.08	46.6
5	T1	186	6.8	186	6.8	0.119	0.0	LOS A	0.0	0.0	0.00	0.08	46.6
Approach		220	7.2	220	7.2	0.119	0.7	NA	0.0	0.0	0.00	0.08	46.6
West: Jones Bay Rd													
11	T1	277	1.9	277	1.9	0.144	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		277	1.9	277	1.9	0.144	0.0	NA	0.0	0.0	0.00	0.00	50.0
All Vehicles		497	4.2	497	4.2	0.144	0.3	NA	0.0	0.0	0.00	0.04	47.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.9 %
Number of Iterations: 10 (maximum specified: 10)

SITE LAYOUT

Site: 101 [PM Jones Bay Rd/Port Cochere Entry]

New Site
Giveway / Yield (Two-Way)



Organisation: MOTT MACDONALD | Created: 22 February 2018 09:48:34
Project: P:\Sydney\Projects\35xxxx\358488\04 Working\06 Traffic\MOD 13\DataRefresh\Sidra\180221 Existing + Construction.sip7

MOVEMENT SUMMARY

Site: 101 [PM Jones Bay Rd/Port Cochere Entry]

Network: N101 [PM Star Casino Network]

New Site
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

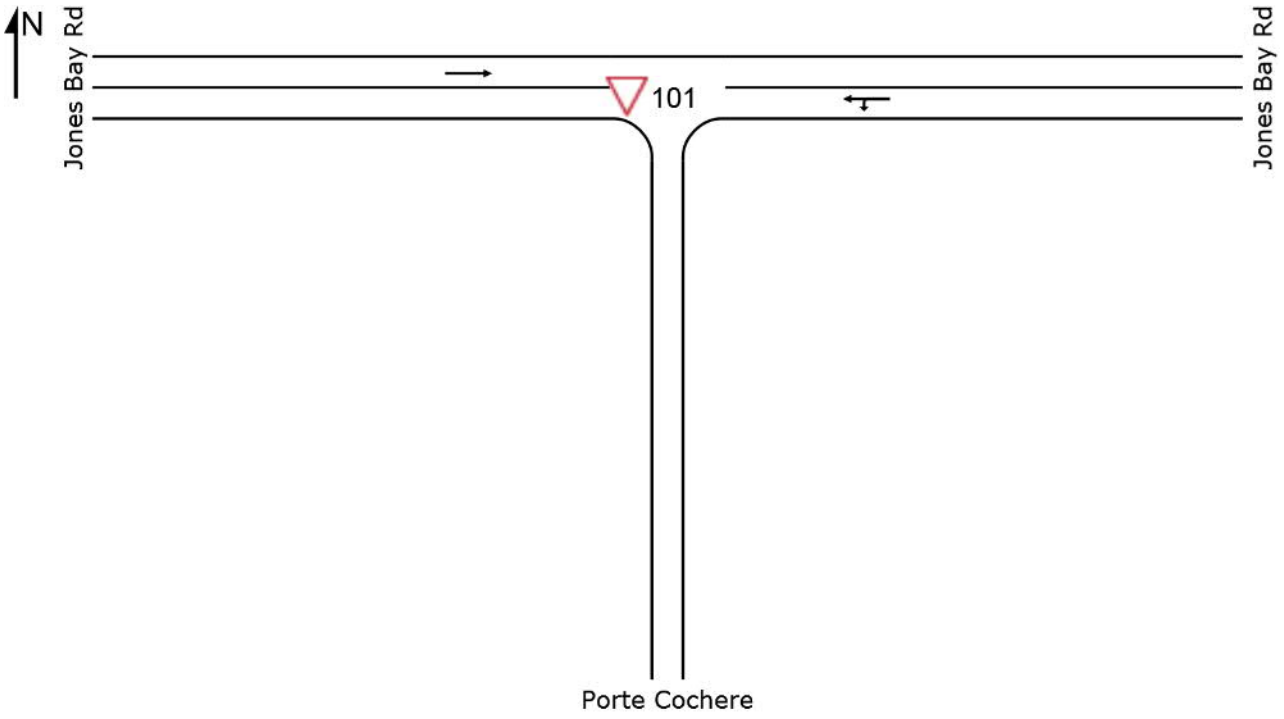
Mov ID	OD Mov	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Jones Bay Rd													
4	L2	107	1.0	107	1.0	0.272	4.6	LOS A	0.0	0.0	0.00	0.11	45.5
5	T1	416	0.8	416	0.8	0.272	0.0	LOS A	0.0	0.0	0.00	0.11	45.5
Approach		523	0.8	523	0.8	0.272	0.9	NA	0.0	0.0	0.00	0.11	45.5
West: Jones Bay Rd													
11	T1	229	0.0	229	0.0	0.118	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		229	0.0	229	0.0	0.118	0.0	NA	0.0	0.0	0.00	0.00	50.0
All Vehicles		753	0.6	753	0.6	0.272	0.7	NA	0.0	0.0	0.00	0.08	45.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.5 %
Number of Iterations: 10 (maximum specified: 10)

SITE LAYOUT

Site: 101 [OP Jones Bay Rd/Port Cochere Entry]

New Site
Giveway / Yield (Two-Way)



Organisation: MOTT MACDONALD AUSTRALIA | Created: 22 February 2018 09:50:16
Project: P:\Sydney\Projects\35xxxx\358488\04 Working\06 Traffic\MOD 13\DataRefresh\Sidra\180221 Existing + Construction.sip7

MOVEMENT SUMMARY

Site: 101 [OP Jones Bay Rd/Port Cochere Entry]

Network: N101 [OP Star Casino Network]

New Site
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

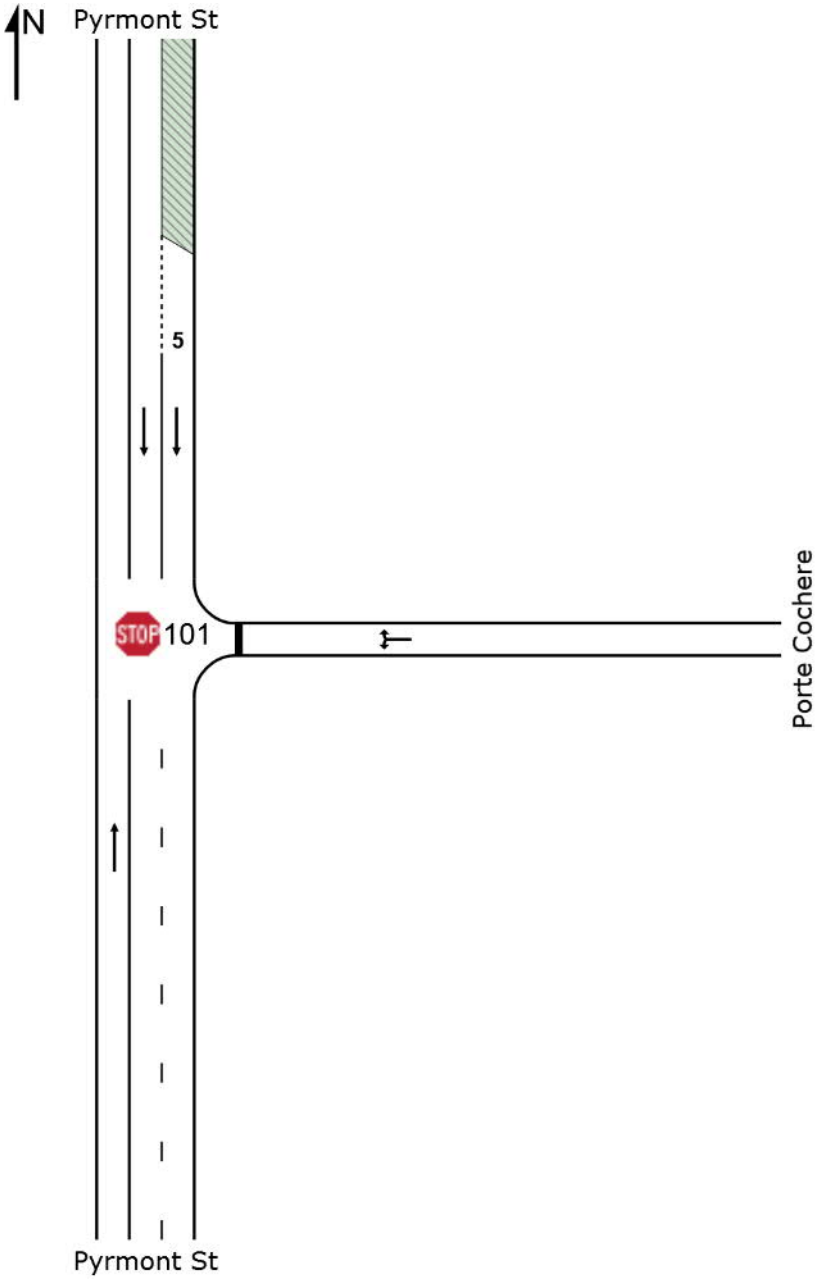
Mov ID	OD Mov	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Jones Bay Rd													
4	L2	220	0.5	220	0.5	0.318	4.6	LOS A	0.0	0.0	0.00	0.20	42.6
5	T1	388	0.3	388	0.3	0.318	0.0	LOS A	0.0	0.0	0.00	0.20	42.6
Approach		608	0.3	608	0.3	0.318	1.7	NA	0.0	0.0	0.00	0.20	42.6
West: Jones Bay Rd													
11	T1	281	0.0	281	0.0	0.144	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		281	0.0	281	0.0	0.144	0.0	NA	0.0	0.0	0.00	0.00	50.0
All Vehicles		889	0.2	889	0.2	0.318	1.1	NA	0.0	0.0	0.00	0.13	43.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.6 %
Number of Iterations: 10 (maximum specified: 10)

SITE LAYOUT

Site: 101 [AM Pyrmont St/Port Cochere Exit]

New Site
Stop (Two-Way)



MOVEMENT SUMMARY

Site: 101 [AM Pyrmont St/Port Cochere Exit]

Network: 1 [AM Star Casino Network]

New Site
Stop (Two-Way)

Movement Performance - Vehicles

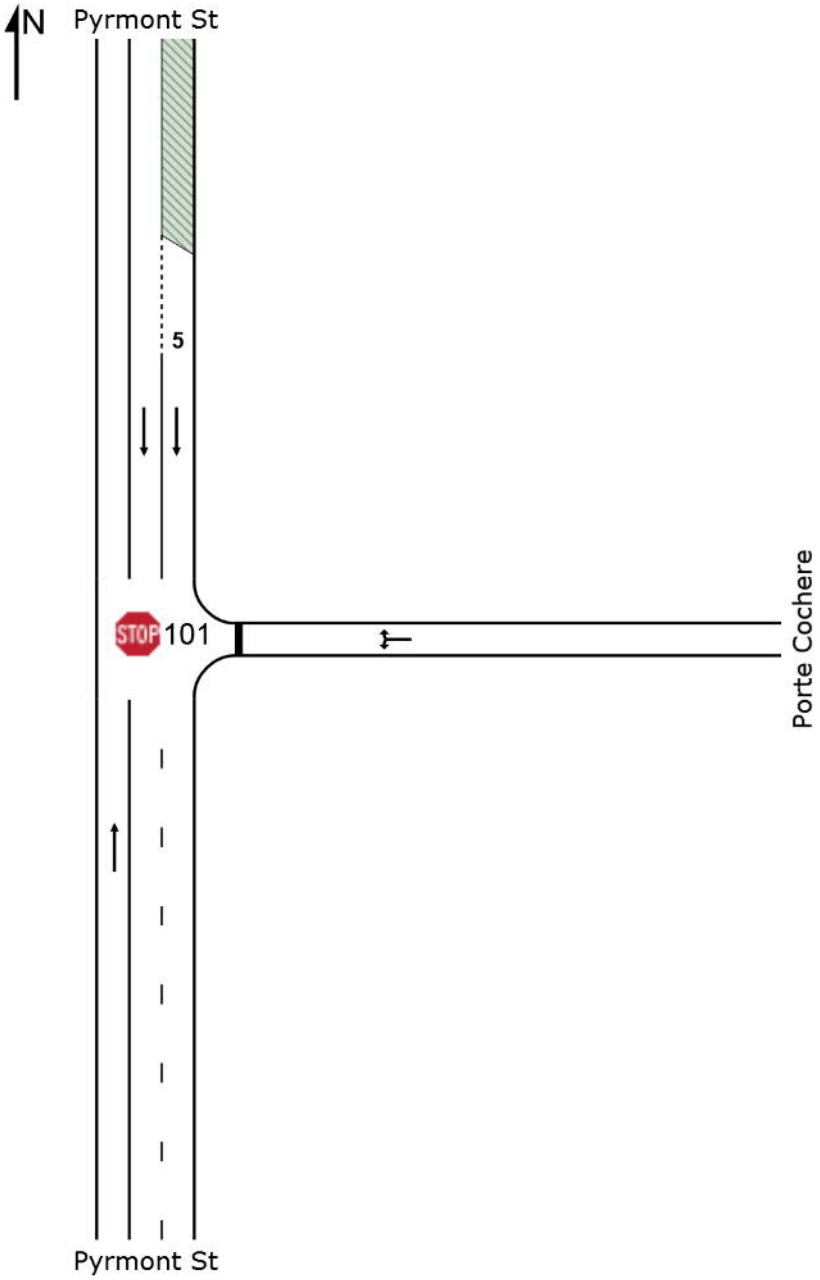
Mov ID	OD Mov	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		per veh	km/h
South: Pyrmont St													
2	T1	286	2.9	286	2.9	0.150	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		286	2.9	286	2.9	0.150	0.0	NA	0.0	0.0	0.00	0.00	50.0
East: Porte Cochere													
4	L2	69	0.0	69	0.0	0.112	4.8	LOS A	0.3	2.1	0.31	0.88	17.8
6	R2	11	0.0	11	0.0	0.112	9.1	LOS A	0.3	2.1	0.31	0.88	17.8
Approach		80	0.0	80	0.0	0.112	5.3	LOS A	0.3	2.1	0.31	0.88	17.8
North: Pyrmont St													
8	T1	293	4.7	293	4.7	0.093	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		293	4.7	293	4.7	0.093	0.0	NA	0.0	0.0	0.00	0.00	50.0
All Vehicles		659	3.4	659	3.4	0.150	0.7	NA	0.3	2.1	0.04	0.11	36.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.9 %
Number of Iterations: 10 (maximum specified: 10)

SITE LAYOUT

Site: 101 [PM Pyrmont St/Port Cochere Exit]

New Site
Stop (Two-Way)



MOVEMENT SUMMARY

Site: 101 [PM Pyrmont St/Port Cochere Exit]

Network: N101 [PM Star Casino Network]

New Site
Stop (Two-Way)

Movement Performance - Vehicles

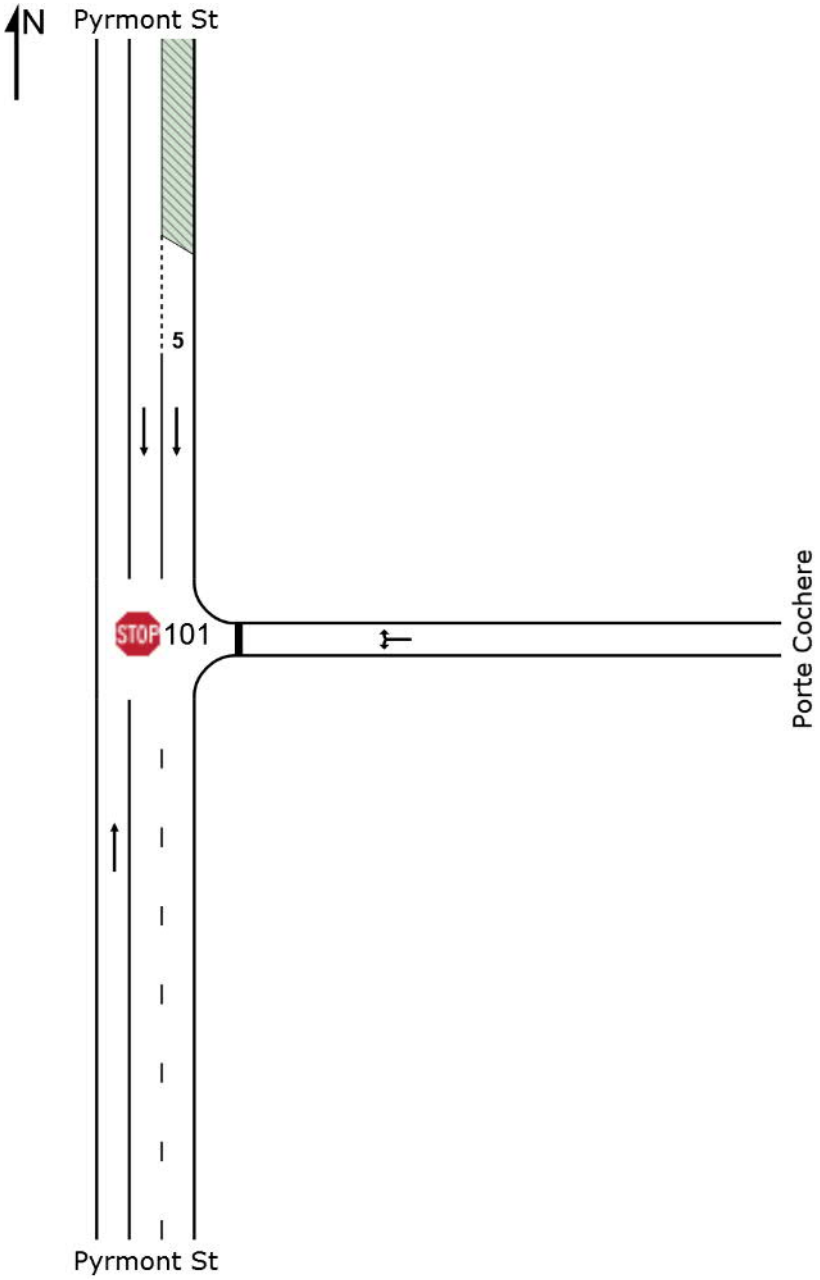
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pyrmont St													
2	T1	268	0.0	268	0.0	0.138	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		268	0.0	268	0.0	0.138	0.0	NA	0.0	0.0	0.00	0.00	50.0
East: Porte Cochere													
4	L2	111	1.0	111	1.0	0.231	5.1	LOS A	0.5	3.4	0.37	0.90	17.8
6	R2	11	0.0	11	0.0	0.231	11.0	LOS B	0.5	3.4	0.37	0.90	17.8
Approach		121	0.9	121	0.9	0.231	5.6	LOS A	0.5	3.4	0.37	0.90	17.8
North: Pyrmont St													
8	T1	468	1.3	468	1.3	0.121	0.0	LOS A	4.7	33.0	0.00	0.00	50.0
Approach		468	1.3	468	1.3	0.121	0.0	NA	4.7	33.0	0.00	0.00	50.0
All Vehicles		858	0.9	858	0.9	0.231	0.8	NA	4.7	33.0	0.05	0.13	36.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.5 %
Number of Iterations: 10 (maximum specified: 10)

SITE LAYOUT

Site: 101 [OP Pyrmont St/Port Cochere Exit]

New Site
Stop (Two-Way)



MOVEMENT SUMMARY

Site: 101 [OP Pyrmont St/Port Cochere Exit]

Network: N101 [OP Star Casino Network]

New Site
Stop (Two-Way)

Movement Performance - Vehicles

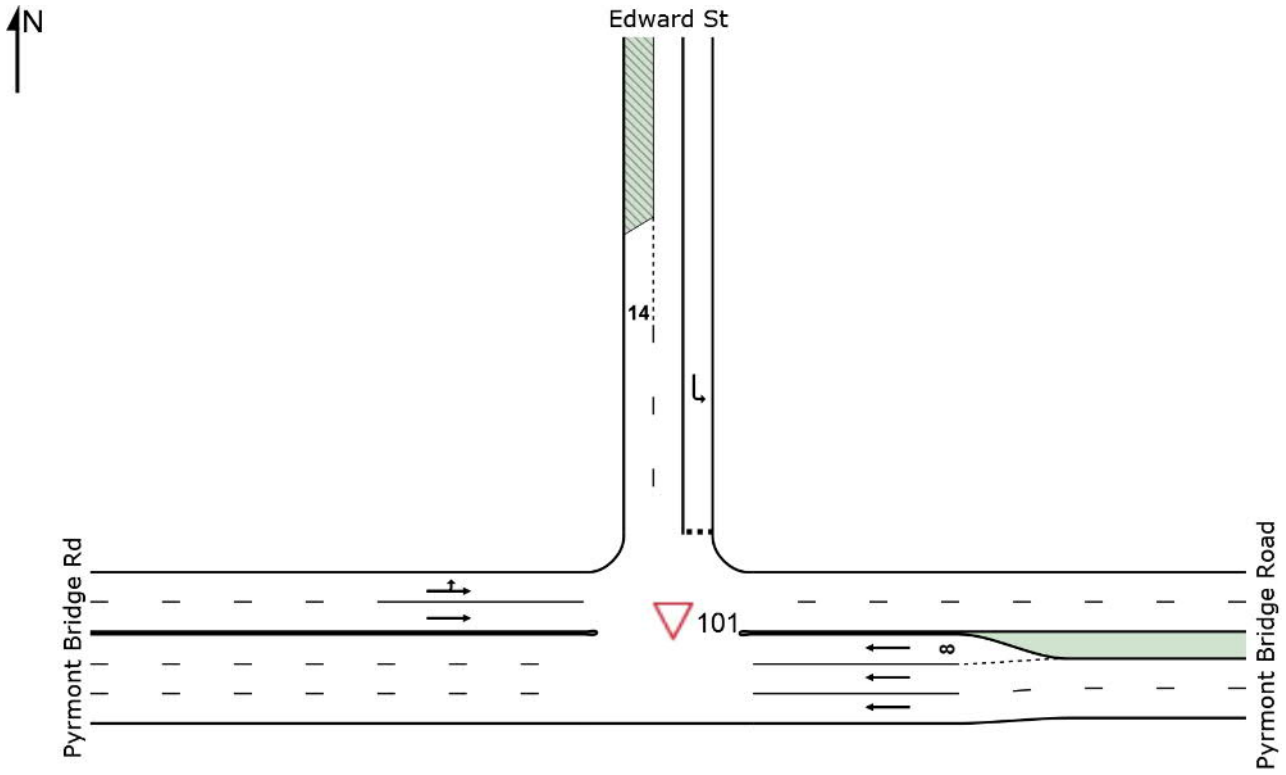
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pyrmont St													
2	T1	274	0.0	274	0.0	0.140	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		274	0.0	274	0.0	0.140	0.0	NA	0.0	0.0	0.00	0.00	50.0
East: Porte Cochere													
4	L2	203	0.5	203	0.5	0.377	5.0	LOS A	0.8	5.9	0.35	0.90	17.9
6	R2	11	0.0	11	0.0	0.377	10.5	LOS B	0.8	5.9	0.35	0.90	17.9
Approach		214	0.5	214	0.5	0.377	5.3	LOS A	0.8	5.9	0.35	0.90	17.9
North: Pyrmont St													
8	T1	400	0.3	400	0.3	0.103	0.0	LOS A	2.7	18.9	0.00	0.00	50.0
Approach		400	0.3	400	0.3	0.103	0.0	NA	2.7	18.9	0.00	0.00	50.0
All Vehicles		887	0.2	887	0.2	0.377	1.3	NA	2.7	18.9	0.08	0.22	30.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.6 %
Number of Iterations: 10 (maximum specified: 10)

SITE LAYOUT

Site: 101 [AM Pyrmont Bridge Rd/Edward St]

No Project
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

Site: 101 [AM Pyrmont Bridge Rd/Edward St]

Network: 1 [AM Star Casino Network]

No Project
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

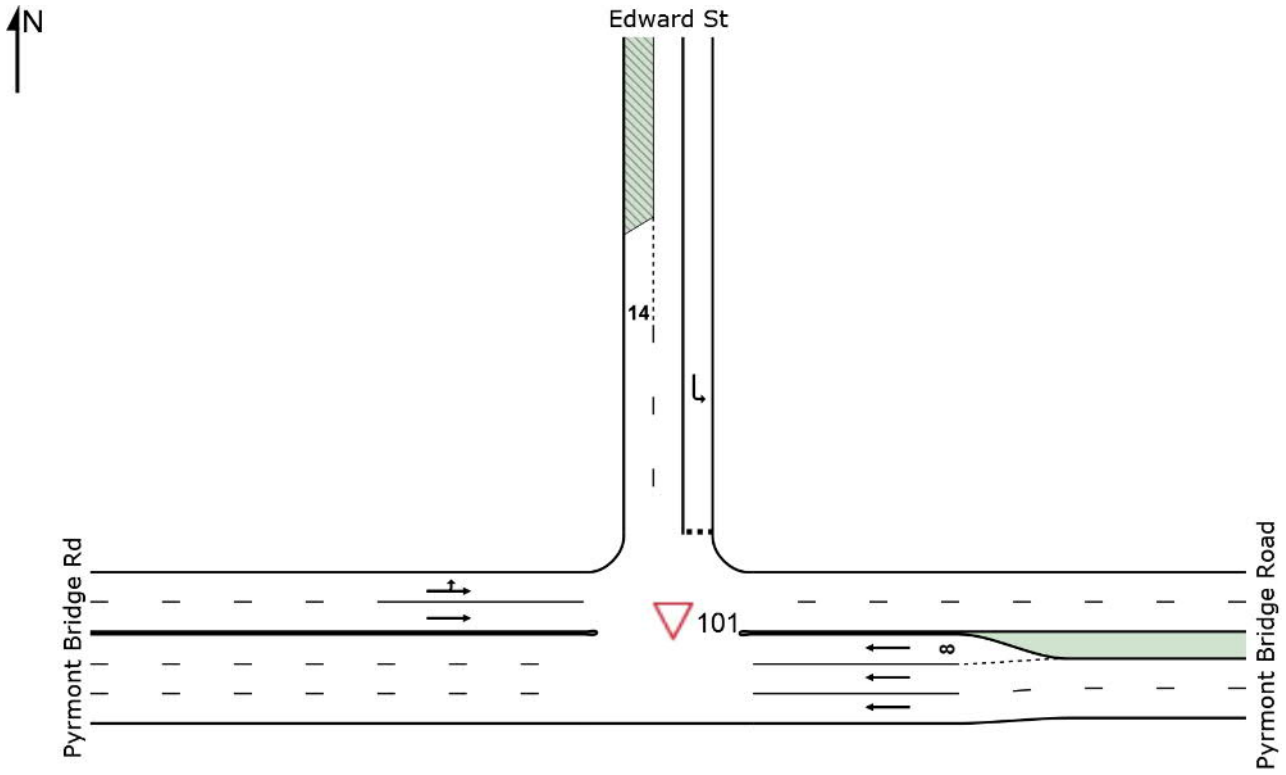
Mov ID	OD Mov	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Pyrmont Bridge Road													
5	T1	273	6.2	273	6.2	0.061	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		273	6.2	273	6.2	0.061	0.0	NA	0.0	0.0	0.00	0.00	50.0
North: Edward St													
7	L2	25	0.0	25	0.0	0.021	5.0	LOS A	0.1	0.5	0.16	0.51	27.8
Approach		25	0.0	25	0.0	0.021	5.0	LOS A	0.1	0.5	0.16	0.51	27.8
West: Pyrmont Bridge Rd													
10	L2	219	0.5	219	0.5	0.182	2.8	LOS A	0.0	0.0	0.00	0.33	30.6
11	T1	461	6.1	461	6.1	0.182	0.0	LOS A	0.0	0.0	0.00	0.09	42.7
Approach		680	4.3	680	4.3	0.182	0.9	NA	0.0	0.0	0.00	0.16	37.8
All Vehicles		978	4.7	978	4.7	0.182	0.7	NA	0.1	0.5	0.00	0.13	43.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.9 %
Number of Iterations: 10 (maximum specified: 10)

SITE LAYOUT

Site: 101 [PM Pyrmont Bridge Rd/Edward St]

No Project
Giveway / Yield (Two-Way)



Organisation: MOTT MACDONALD | Created: 22 February 2018 09:48:56
Project: P:\Sydney\Projects\35xxxx\358488\04 Working\06 Traffic\MOD 13\DataRefresh\Sidra\180221 Existing + Construction.sip7

MOVEMENT SUMMARY

Site: 101 [PM Pyrmont Bridge Rd/Edward St]

Network: N101 [PM Star Casino Network]

No Project
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

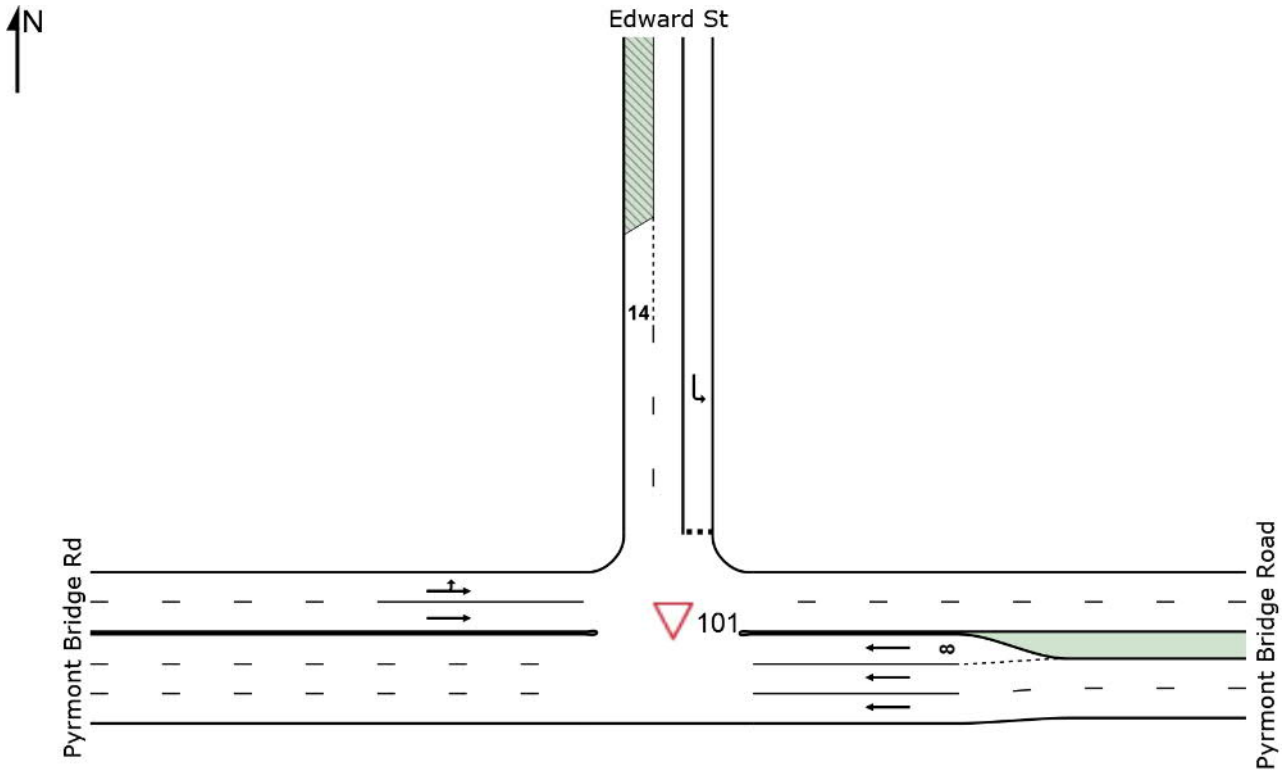
Mov ID	OD Mov	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Pyrmont Bridge Road													
5	T1	452	1.5	452	1.5	0.087	0.0	LOS A	0.0	0.0	0.00	0.00	50.0
Approach		452	1.5	452	1.5	0.087	0.0	NA	0.0	0.0	0.00	0.00	50.0
North: Edward St													
7	L2	50	0.0	50	0.0	0.041	4.9	LOS A	0.1	1.0	0.14	0.51	28.0
Approach		50	0.0	50	0.0	0.041	4.9	LOS A	0.1	1.0	0.14	0.51	28.0
West: Pyrmont Bridge Rd													
10	L2	174	0.6	174	0.6	0.145	2.8	LOS A	0.0	0.0	0.00	0.32	30.9
11	T1	378	2.4	378	2.4	0.145	0.0	LOS A	0.0	0.0	0.00	0.08	42.8
Approach		552	1.8	552	1.8	0.145	0.9	NA	0.0	0.0	0.00	0.16	38.1
All Vehicles		1054	1.6	1054	1.6	0.145	0.7	NA	0.1	1.0	0.01	0.11	44.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.5 %
Number of Iterations: 10 (maximum specified: 10)

SITE LAYOUT

Site: 101 [OP Pyrmont Bridge Rd/Edward St]

No Project
Giveway / Yield (Two-Way)



Organisation: MOTT MACDONALD | Created: 22 February 2018 09:50:38
Project: P:\Sydney\Projects\35xxxx\358488\04 Working\06 Traffic\MOD 13\DataRefresh\Sidra\180221 Existing + Construction.sip7

MOVEMENT SUMMARY

Site: 101 [OP Pyrmont Bridge Rd/Edward St]

Network: N101 [OP Star Casino Network]

No Project
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

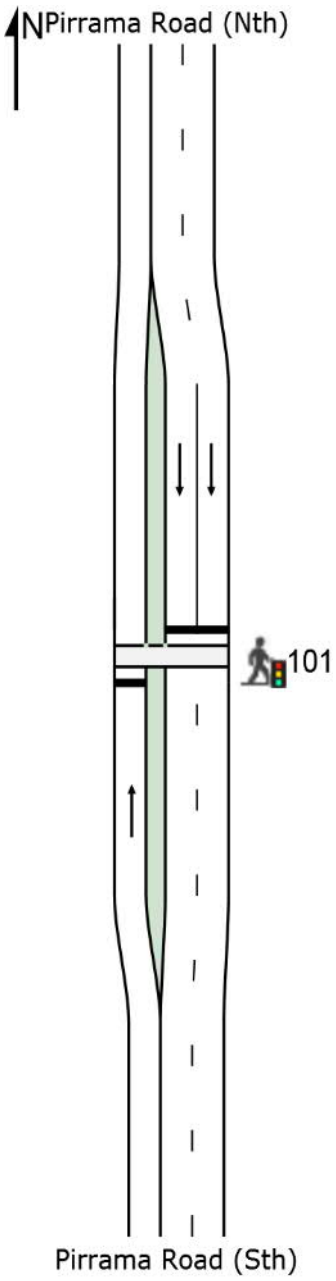
Mov ID	OD Mov	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Pyrmont Bridge Road													
5	T1	593	0.3	593	0.3	0.102	0.0	LOS A	1.6	11.5	0.00	0.00	50.0
Approach		593	0.3	593	0.3	0.102	0.0	NA	1.6	11.5	0.00	0.00	50.0
North: Edward St													
7	L2	55	0.0	55	0.0	0.048	5.2	LOS A	0.2	1.1	0.19	0.52	27.5
Approach		55	0.0	55	0.0	0.048	5.2	LOS A	0.2	1.1	0.19	0.52	27.5
West: Pyrmont Bridge Rd													
10	L2	98	0.0	98	0.0	0.139	2.8	LOS A	0.0	0.0	0.00	0.19	36.6
11	T1	437	1.4	437	1.4	0.139	0.0	LOS A	0.0	0.0	0.00	0.07	43.8
Approach		535	1.1	535	1.1	0.139	0.5	NA	0.0	0.0	0.00	0.09	42.2
All Vehicles		1183	0.7	1183	0.7	0.139	0.5	NA	1.6	11.5	0.01	0.07	46.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.6 %
Number of Iterations: 10 (maximum specified: 10)

SITE LAYOUT

Site: 101 [AM Pirrama Rd Pedestrian Crossing]

No Project
Pedestrian Crossing (Signals) - Fixed Time Coordinated



MOVEMENT SUMMARY

Site: 101 [AM Pirrama Rd Pedestrian Crossing]

Network: 1 [AM Star Casino Network]

No Project
Pedestrian Crossing (Signals) - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pirrama Road (Sth)													
2	T1	466	4.3	466	4.3	0.351	6.3	LOS A	8.9	64.5	0.43	0.38	29.9
Approach		466	4.3	466	4.3	0.351	6.3	LOS A	8.9	64.5	0.43	0.38	29.9
North: Pirrama Road (Nth)													
8	T1	126	6.7	126	6.7	0.048	1.3	LOS A	0.2	1.6	0.07	0.06	43.4
Approach		126	6.7	126	6.7	0.048	1.3	LOS A	0.2	1.6	0.07	0.06	43.4
All Vehicles		593	4.8	593	4.8	0.351	5.2	LOS A	8.9	64.5	0.35	0.31	31.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 1.9 %
Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	105	43.4	LOS E	0.3	0.3	0.93	0.93
All Pedestrians		105	43.4	LOS E			0.93	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

Site: 101 [AM Pirrama Rd Pedestrian Crossing]

Network: 1 [AM Star Casino Network]

No Project
Pedestrian Crossing (Signals) - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Phase Times determined by the program
Green Split Priority applies
Phase Sequence: Two-Phase
Reference Phase: Phase A
Input Phase Sequence: A, B
Output Phase Sequence: A, B

Phase Timing Results

Phase	A	B
Phase Change Time (sec)	0	76
Green Time (sec)	70	18
Phase Time (sec)	76	24
Phase Split	76 %	24 %

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

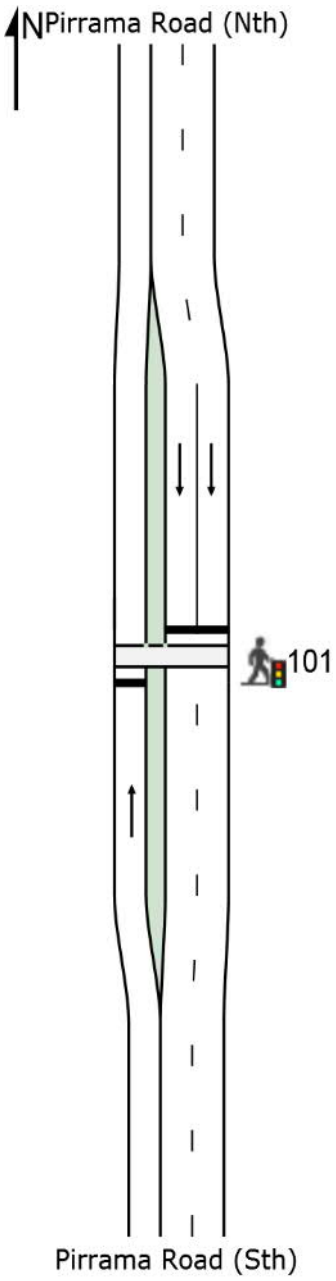
REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

SITE LAYOUT

Site: 101 [PM Pirrama Rd Pedestrian Crossing]

No Project
Pedestrian Crossing (Signals) - Fixed Time Coordinated



MOVEMENT SUMMARY

Site: 101 [PM Pirrama Rd Pedestrian Crossing]

Network: N101 [PM Star Casino Network]

No Project
Pedestrian Crossing (Signals) - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pirrama Road (Sth)													
2	T1	559	3.4	559	3.4	0.419	6.3	LOS A	10.8	77.8	0.43	0.39	29.8
Approach		559	3.4	559	3.4	0.419	6.3	LOS A	10.8	77.8	0.43	0.39	29.8
North: Pirrama Road (Nth)													
8	T1	457	3.2	457	3.2	0.171	1.4	LOS A	0.9	6.2	0.08	0.07	42.9
Approach		457	3.2	457	3.2	0.171	1.4	LOS A	0.9	6.2	0.08	0.07	42.9
All Vehicles		1016	3.3	1016	3.3	0.419	4.1	LOS A	10.8	77.8	0.28	0.25	34.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.5 %
Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	105	43.4	LOS E	0.3	0.3	0.93	0.93
All Pedestrians		105	43.4	LOS E			0.93	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

Site: 101 [PM Pirrama Rd Pedestrian Crossing]

Network: N101 [PM Star Casino Network]

No Project
Pedestrian Crossing (Signals) - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

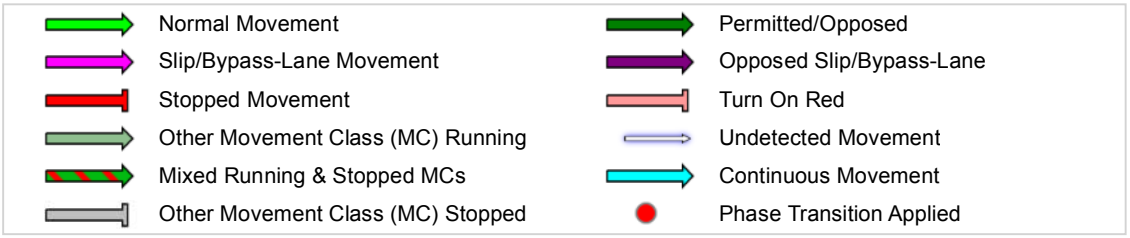
Phase Times specified by the user
Phase Sequence: Two-Phase
Reference Phase: Phase A
Input Phase Sequence: A, B
Output Phase Sequence: A, B

Phase Timing Results

Phase	A	B
Phase Change Time (sec)	0	76
Green Time (sec)	70	18
Phase Time (sec)	76	24
Phase Split	76 %	24 %

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

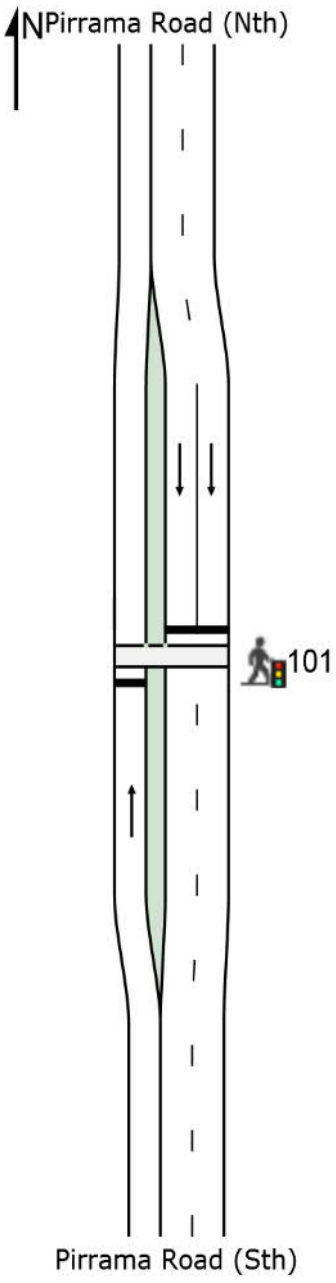
REF: Reference Phase
VAR: Variable Phase



SITE LAYOUT

Site: 101 [OP Pirrama Rd Pedestrian Crossing]

No Project
Pedestrian Crossing (Signals) - Fixed Time Coordinated



MOVEMENT SUMMARY

Site: 101 [OP Pirrama Rd Pedestrian Crossing]

Network: N101 [OP Star Casino Network]

No Project
Pedestrian Crossing (Signals) - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Pirrama Road (Sth)													
2	T1	621	1.4	621	1.4	0.459	6.7	LOS A	12.7	90.2	0.46	0.42	29.1
Approach		621	1.4	621	1.4	0.459	6.7	LOS A	12.7	90.2	0.46	0.42	29.1
North: Pirrama Road (Nth)													
8	T1	678	0.6	678	0.6	0.269	1.5	LOS A	1.6	11.0	0.10	0.08	42.3
Approach		678	0.6	678	0.6	0.269	1.5	LOS A	1.6	11.0	0.10	0.08	42.3
All Vehicles		1299	1.0	1299	1.0	0.459	4.0	LOS A	12.7	90.2	0.27	0.24	34.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Largest change in Average Back of Queue or Degree of Saturation for any lane during the last three iterations: 3.6 %
Number of Iterations: 10 (maximum specified: 10)

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	105	43.4	LOS E	0.3	0.3	0.93	0.93
All Pedestrians		105	43.4	LOS E			0.93	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

Site: 101 [OP Pirrama Rd Pedestrian Crossing]

Network: N101 [OP Star Casino Network]

No Project
Pedestrian Crossing (Signals) - Fixed Time Coordinated Cycle Time = 100 seconds (Network Cycle Time - User-Given)

Phase Times specified by the user
Phase Sequence: Two-Phase
Reference Phase: Phase A
Input Phase Sequence: A, B
Output Phase Sequence: A, B

Phase Timing Results

Phase	A	B
Phase Change Time (sec)	0	76
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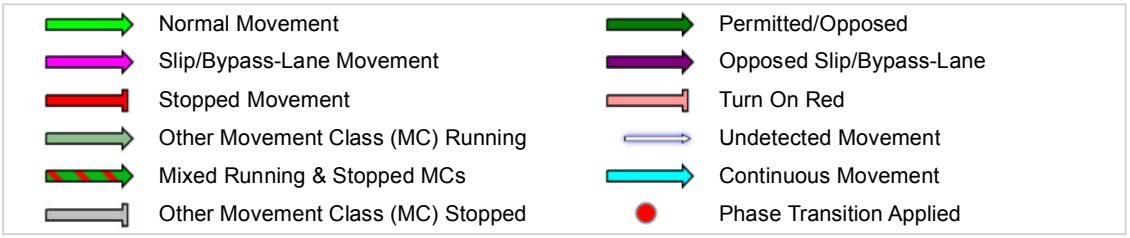
REF: Reference Phase
VAR: Variable Phase



APPENDIX E

STAKEHOLDER ENGAGEMENT

Project Meeting Notes

Star Casino Project

Modification 13 ☒
Modification 14 ☒
Other: _____

Date		10th January 2017	
Time		14:00 – 15:00	
Venue		Transport for NSW, CBD Coordination Office	
Attendees		▪ Heather Gavriel (HG), Transport for NSW (TfNSW) – Precinct Manager ▪ Lisa McGill (LM), TfNSW – Senior Precinct Manager ▪ Katherine McCray (KM), TfNSW – Principal Transport Planner ▪ Clare Brown (CB), Urbis – Director of Planning ▪ Tinoulla Philippou (TP), Parsons Brinkerhoff Engineering Services (WSP) – Property Director/Project Manager ▪ Scott Harrison (SH), Star Entertainment Group Limited (SEGL) – Modification 14 Project Manager ▪ Matthew Stephens (MS), Mott MacDonald (MM) – NSW Transport Engineering Lead ▪ Niloufar Jalilian (NJ), MM – Undergraduate Engineer	
Matter/ Portion of site		**Issues Discussed**	**Agreed actions/outcomes**
1	**Agenda**	▪ Introductions	▪ N/A
		▪ Agenda: · Programme and SOW. · Presentation of draft CMP. · Identification of other reference projects and area/cumulative impacts. · Summary of construction and working hours, including number of contractors. · Draft CPTMP. · Workers parking. · Buses, Taxis, Light Rail and Bicycles. · Review process requirements and timings.	▪ N/A
2	**Programme and SOW**	▪ SH advised that this is a separate project to the Modification 13 submission which has been in the media recently.	▪ N/A
		▪ SH explained the Modification 14 scope of work. Generally, the project elements are as follows: · Level B4 – infrastructure upgrades.	▪ N/A

		· Level 00 – port cochere and Astral lobby. · Level 00 – back of house upgrades. · Level 00 – Astral luxury retail zone. · Level 00 – SELS building fitout. · Level 00 – SELS building lighting. · Level 00 to 01 – G-star Raw escalators. · Level 01 – main gaming floor slab infill. · Level 02 – Oasis gaming area. · Level 03 – sovereign expansion. · Level 03 – even centre pre-function space. · Vertical circulation transportation drum. · Level 04 – The Star administration officies. · Northern port cochere	
		▪ MS advised that the works being undertaken are more internal and there is low interaction with external features of the facility and the surround streetscape.	▪ N/A
		▪ MS advised that gaming in general is being converted from general to more exclusive, VIP external DJ spaces and similar are being removed.	▪ N/A
		▪ LM asked if the traffic in the porte cochere is changing. MS advised minor changes to valet and creation of a formal taxi pick up area. Everything else is staying the same.	▪ There is a proposal to move the taxi zone off Pirrama Road in the future. KM highlighted that this should be included in the CPTMP.
		▪ Determination from the DoPE is anticipated in August/September 2017, with construction commencing in October 2017. Design and construction will be a three year programme.	▪ N/A
3	**Construction Management Plan**	▪ SH advised that the Construction Management Plan (CMP) was not formally submitted with the Modification 14 application. The team is seeking to respond to issues raised and provide additional where required.	▪ N/A
		▪ TP outlined the contents of the CMP as follows:	▪ N/A

		· Executive summary · Modification 14 proposed works · Project description · Scope of the CMP · Scope of the construction works · Preliminary construction methodology · Safety manager · Environmental management including; objectives, site characteristics, environmental management system, roles and responsibilities, risk management; and stormwater and sediment control.	
4	**Reference Projects and Cumulative Impacts**	▪ SH asked if there are any other reference projects we should be considering.	▪ HG advised that there are reference projects we should be considering and that there is a map that can be accessed via the website. ▪ POST MEETING NOTE – the consultants have accessed the site and found a CBD active works map, however it does not provide an indication of timeframes and durations. ▪ TfNSW to send a map that plots all the know projects to enable the consultant team to identify any cumulative impacts. ▪ POST MEETING NOTE – KM issued on 17.01.2017 a plan that shows the major developments (planned and under construction) near The Star. However timeframes are also still required.
5	**Summary of Construction**	▪ The working hours are as per the existing Major Project Approval conditions. Generally, these are as follows: · Between 7.00 and 17.30, Mondays to Fridays inclusive. · Between 8.00 and 15.00, Saturdays. · Between 9.00 and 15.30, Mondays to Fridays for mechanical rock blasting. · No work for Sundays and Public Holidays.	▪ N/A
		▪ Works may be undertaken outside these hours where:	▪ N/A

		· The delivery of materials is required outside these hours by the Police or other authorities. · It is required in an emergency to avoid the loss of life, damage to property and/or to prevent environmental harm. · Residents likely to be affected by the works are notified of the timing and duration of these works at least 48 hours prior to the commencement of the works. · The work is approved by the Director-General or his nominee.	
		▪ These and other planned investments in The Star are estimated to make the following economic contributions to the NSW economy (incremental to the ongoing contribution made by The Star, in its current state): · A $377 million contribution to the NSW economy from FY2016 to FY2030 (in real, present value terms), and will create an extra 500 jobs every year (average from FY2016 to FY2030). · A contribution of 915 construction jobs through the additional planned investments.	▪ N/A
6	**Draft CPTMP**	▪ MS advised that the traffic impacts construction of the works will be a 3-year programme.	▪ N/A
		▪ MS advised that the construction zone hoarding proposal along Pirrama Rd at The Star's front entrance, will mean the following will occur: · Taxis will be relocated into the internal service road during construction. · The Star Express bays will be moved further north along this service road. · Pedestrian access along the front of Pirrama Rd construction zone will be prohibited. All pedestrians will be diverted west against the building to allow access to existing escalators, lifts,	▪ The construction works is being staged. A plan can be provided but this will only be a short-term arrangement. ▪ The feeder rank for taxis is on Jones Bay Rd. They are called in to service the porte cochere. ▪ Steve Caplain (TSEG) will speak to the Taxi Council (Abraham is the Deputy CEO).

		light rail, and relocated taxis. · There will be a minimum 3-4m walkway for pedestrian access. · Construction access in/out of the construction site will be via the existing kerb crossings. · There will be no stopping restrictions along the front of the construction site. All loading/unloading is within the site. · All the above will be supported by wayfinding.	
		▪ Total number of deliveries is still work in progress. Worst case scenarios will be benchmarked.	▪ N/A
		▪ The loading dock is being reconstructed as part of this Modification 14. DA 12 construction works are underway and these utilise part of the loading dock. There are two phases, operating and delivering, and reconstruction. In the reconstruction of the loading bay, there are cross docking improvements required. More clarity will be provided later.	▪ SEGL will manage deliveries to the site.
7	**Workers Parking**	▪ MS advised there are 600 to 900 spare standard spaces during the construction working hours. This is an off-peak period for The Star.	▪ N/A
8	**Buses, Taxis, Light Rail, Bicycles**	▪ MS advised there is no impact on buses or bus stops. Formalising the bus zone on Pyrmont Street would be proposed.	▪ N/A
		▪ MS advised that a Green Travel Plan has been completed and will be issued as part of the responses.	▪ N/A
		▪ LM advised that for coaches, the parking should be changed to/designated as “No Parking, Coaches Excepted” and add a time limit.	▪ N/A
		▪ MS advised that Pirrama Road taxis and Star Express will be relocated.	▪ N/A
9	**Review Process Requirement and Timing**	▪ There is a minimum two-week turnaround for informal review of documentation.	▪ N/A
		▪ Regarding the Response to Submissions, TfNSW will report back to the DoPE stating that their	▪ N/A

		comments have or have not been addressed.	

Prepared by: Niloufar Jalilian

Date: 11th January 2017

Please note: Once completed, please load into Aconex document register and transmit to Simon Wilkes at Urbis. In addition to normal project record keeping, this information will assist with demonstrating that stakeholder engagement with relevant agencies has been completed.

Project Meeting Notes

Star Casino Project

Modification 13 ☒
Modification 14 ☒
Other: _____

Date		30th January 2017	
Time		13.00 – 14.30	
Venue		Transport for NSW, CBD Coordination Office	
Attendees		▪ Heather Gavriel (HG), Transport for NSW (TfNSW) – Precinct Manager ▪ Lisa McGill (LM), TfNSW – Senior Precinct Manager ▪ George Mobayed (GM), TfNSW ▪ Brendan Pegg, TfNSW ▪ Scott Harrison (SH), Star Entertainment Group Limited (SEGL) – Modification 14 Project Manager ▪ Matthew Stephens (MS), Mott MacDonald (MM) – NSW Transport Engineering Lead ▪ Niloufar Jalilian (NJ), MM - Undergraduate Engineer	
Matter/ Portion of site		**Issues Discussed**	**Agreed actions/outcomes**
1	**Agenda**	▪ Introductions	▪ N/A
2	**On-site Construction Parking**	▪ Implementation of a booking system to discourage overuse. · Less incoming private vehicle traffic.	▪ SH suggested using the existing number plate monitoring system with an additional algorithm for tradespersons vehicles. ▪ Contractor could keep a register of number plates (include this in induction forms) and feed the data into the existing system. ▪ Incentivise public transport for tradespeople (parking costs vs opal).
		▪ Use The Star's coach service to connect workers to site from Central (additional mode change to Light Rail may be disincentive). · Closure of Eddie Avenue South in April 2017 and Eddie Avenue North in 2018-2019.	▪ N/A
3	**Port Cochere**	▪ Will there be a resourcing enhancement to the management of limousines and valet service to mitigate bottlenecking, double parking and underperformance of area?	▪ N/A
		▪ What impacts on limousines and valet will be expected due to GFA increase if it is one for one?	▪ N/A

4	**Coach Parking**	▪ Formalising coach parking with time restrictions on Pyrmont Street.	▪ N/A
5	**Parking Management Plan**	▪ Can be off the of the Loading Dock Management Plan (LDMP).	▪ N/A
		▪ PMP should include: · Coach movements. · Freight Movement. · VMS and parking guidance system. · What procedures will be implemented during The Star peak periods? Where will people go when the site is full?	▪ N/A

Prepared by: Niloufar Jalilian

Date: 31st January 2017

Please note: Once completed, please load into Aconex document register and transmit to Simon Wilkes at Urbis. In addition to normal project record keeping, this information will assist with demonstrating that stakeholder engagement with relevant agencies has been completed.

Project Meeting Notes

Star Casino Project

Modification 13 ☒
Modification 14 ☒
Other: _____

Date		13th February 2017	
Time		10:00 – 11:11	
Venue		Sydney Room, Level 14, Town Hall House – City of Sydney Council	
Attendees		▪ Michaela Briggs (MB), City of Sydney (CoS) – Town Planner ▪ Van Le (VL), CoS – Traffic Engineer ▪ Meadhbh Nolan (MN), Urbis – Urban Planning Consultant ▪ Scott Harrison (SH), Star Entertainment Goup Limited (SEGL) – Modification 14 Project Manager ▪ Matthew Stephens (MS), Mott MacDonald (MM) – NSW Transport Engineering Lead ▪ Niloufar Jalilian (NJ), MM – Undergraduate Engineer	
Matter/ Portion of site		**Issues Discussed**	**Agreed actions/outcomes**
1	**Agenda**	▪ Introductions	▪ N/A
		▪ Listing Documents compiled by MM	▪ N/A
		▪ CPTMP	▪ N/A
		▪ Loading Dock Management Plan	▪ N/A
2	**Coaches**	▪ SEGL and MM to formalise on-street parking for coaches as a layover for extended periods of waiting. Currently coaches are using 'vehicle parking zones' as an informal layover area. This area will be strictly for layovers and coaches will drop off and pick up passengers in the internal service road adjacent to the Light Rail corridor.	▪ Internal service road adjacent to Light Rail corridor does not allow for coach parking due to size restrictions. ▪ Coach parking will be provided West of the MEUF loading dock along the exit ramp off the internal service road. · Illegal vehicle parking along service to be mitigated by installation of a double arm boom gate and additional signposting. · Coaches rerouting back to the internal service road can make a right turn onto Pirrama Road North from the internal service road off ramp. Turn paths have confirmed. ▪ VL stated that any proposed changes to existing parking conditions should be submitted to the CoS LPCTC for review, process takes two months. · Approval may be conditional considering that there are

			coach parking facilities located at Lime Street (King Street Wharf) and UTS. · VL stated that the council will not generally allow for conversion of vehicular parking to coach layover as it serves a private interest rather than public. · CoS Street Tree department will not support coach parking if it infringes on the canopy or trunk of street trees. · Coach layover areas must indicate what the primary venue its passengers are using within the site.
3	**Taxis**	▪ SEGL and MM taxi zones be relocated into the internal service road adjacent to the light rail corridor during the construction of Modification 14.	▪ N/A
		▪ CoS stated that crane which is to be located in the existing taxi zone along Pirrama Road must be within private property.	▪ N/A
		▪ Include in documentation that taxi rank on Pirrama Road will be reinstated post construction of Modification 14.	▪ If the taxi zone is not to be reinstated, the vehicular crossing should be drawn as a kerb and gutter in the landscape/civil drawings. This accounts for all other vehicular crossing's that are to become redundant.
4	**Parking Mangement - VMS**	▪ SEGL and MM propose upgrades to the existing VMS infrastructure in the Pyrmont area. These upgrades will: · Simplify the set out of information on the signs. · Allow for data collection between all parking providers.	▪ VL stated that CoS is not in the position to accept these upgrades: · This will clash with their existing contracts with Wilson parking. They do not wish to favour one parking provider over another. · It creates clutter on the roadway. ▪ VL suggests that other intelligent transport system options should be considered in response, these includes real-time parking apps.
5	**Intersections**	▪ MS confirmed that Modification 14 does not cause considerable network changes, largely due to the fact there is no new site entries proposed for the modification.	▪ N/A
		▪ LOS at Murray and Pyrmont Bridge Street intersection will reduce to Class C from Class B. This has been modelled on on-street existing parking restrictions.	▪ N/A

6	**Bicycle Facilities**	▪ 26 space staff bicycle facility already installed in anticipation of Modification 14. SEGL and MM propose that the existing lockers in the facility be converted to an additional 5 spaces to accommodate the additional 42 staff/shift/day due to the 5% GFA increase under Modification 14.	▪ N/A
		▪ SEGL and MM disagree with CoS labelling of The Star as a 'theatre/place of worship' and suggest the facility be labelled a 'shopping centre' under the CoS DCP. · Under this assumption an additional 29 public bicycle spaces (class 3) will be supplied. · No existing public spaces are available.	▪ N/A
7	**Loading Dock**	▪ Bays 5 and 6 in the Jones Bay Road loading dock are to be maintained as construction docks during Modification 14 and returned to use post construction.	▪ N/A
8	**CPTMP**	▪ MS briefed CoS on elements of the CPTMP including: · Haulage routes; and · Tradespeople will be encouraged to take public transport.	▪ N/A

Prepared by: Niloufar Jalilian

Date: 14th February 2017

Please note: Once completed, please load into Aconex document register and transmit to Simon Wilkes at Urbis. In addition to normal project record keeping, this information will assist with demonstrating that stakeholder engagement with relevant agencies has been completed.

MOTT MACDONALD

Your Reference
The Star - Modification 13

Our Reference
358488

358488\04 Working\06 Traffic\MOD 13\Meeting Minutes\TfNSW - CBD Coordination Office\Meeting 3

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Sydney NSW 2000
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Minutes - TfNSW CBD Coordination Office Meeting 12/07/2017

Date	12th July 2017		
Time	15:15 – 16:00		
Venue	TfNSW, CBD Coordination Office Level 43, 680 George Street, Sydney, NSW 2000		
Subject	The Star Modification 13 DPE Application and CPTMP Review		
Client	The Star Entertainment Group (TSEG)		
Present	*Name*	*Company & Position*	*Initials*
	Heather Gavriel	TfNSW – Precinct Manager	HG
	Lisa McGill	TfNSW – Senior Precinct Manager	LM
	Justine Bryant	TMC TfNSW – Project Manager	JB
	George Mobayed	TfNSW	GM
	Stephen Brown	TMC TfNSW – Project Manager	SB
	Katherine McCray	TfNSW	KM
	Naomi Weber	Urbis – Consultant	NW
	Raymond Yeo	TSEG – Modification 13 Project Manager	RY
	Matthew Stephens	Mott MacDonald – NSW Transport Engineering Lead	MS
	Niloufar Jalilian	Mott MacDonald – Junior Engineer	NJ
Apologies	Simon Wilkes	Urbis – Associate Director	SW

Distribution – all present and apologies inclusive

ITEM No.	ITEM	ACTION
1.	Agenda	Note
1.1.	Introductions	Note
2.	Presenting	Note
2.1.	Traffic Impact Assessment – Key Findings	Note
2.1.1.	There is sufficient capacity to accommodate additional trips, as public and active transport links service the site.	
2.1.2.	Nearly all intersections provide acceptable levels of service during peak periods, indicating reserve capacity	
2.1.3.	Parking Availability: – 2,845 off-street spaces provided by The Star – 2,892 off-street spaces within walking distance	

		– 1,200 on-street spaces within walking distance	
	2.1.4.	Management of parking demand is currently uncoordinated	
	2.1.5.	Almost half the staff use public or active transport to travel to work at the Star.	
	2.1.6.	Staff key shift changeover times fall outside traditional AM and PM peak periods (4am, Midday, 8pm).	
	2.1.7.	Loading dock upgrades will provide capacity to accommodate any increased deliveries	
	2.1.8.	No additional events at The Star will be associated with the Ritz Carlton Hotel development (Modification 13).	
	2.1.9.	Taxi ranks will be moving from Pirrama Road and into the service road, where adjacent to The Star	
	2.1.10.	Reduction to traffic at the Murray Street and PB Road intersection	
2.2.		Modification 13 – Commitments	Note
	2.2.1.	222 parking spaces in Tower basement	
	2.2.2.	Expansion and modification of the Pyrmont Parking Guidance System	
	2.2.3.	New Pyrmont Street access to the Level B1 Car Park	
	2.2.4.	New right turn access from Jones Bay Road into The Astral Porte cochere	
	2.2.5.	Left-in and right-in access to the new Ritz Carlton Porte cochere	
	2.2.6.	Star Events loading dock upgrades	
	2.2.7.	35 class 1 staff bike spaces and 62 visitor bike spaces	
	2.2.8.	Early bike parking upgrades	
	2.2.9.	Bicycle parking and access requirements as per CoS DCP	
	2.2.10.	Formalisation of the taxi parking scheme in the service road	
	2.2.11.	Restriction of on-site parking for workers to 200 spaces during construction	
2.3.		Pyrmont Parking Guidance System	Note
	2.3.1.	Reduces circulation	
	2.3.2.	Does not encourage driving (no pre-planning)	
	2.3.3.	Driver focus on road	
	2.3.4.	Most of the infrastructure is in place	
2.4.		Modification 13 - CPTMP	Note
	2.4.1.	4-year Construction Program	
	2.4.2.	Pirrama Road Forecourt & Tower Construction site	
	2.4.3.	No significant impact on network performance	
	2.4.4.	4-month overlap with Modification 14	
3.		Clarifications	
3.1.		Parking allocation for the residences in the Tower will be either: - Stacker system - Shared with valet	Note
4.		Additional Comments	
4.1.		TfNSW to send documentation of expected construction and Sydney Busses Contact, Rachel Nicholson (Heather G to send). Details of indicative Metro West stop at the Bays would also be beneficial.	HG

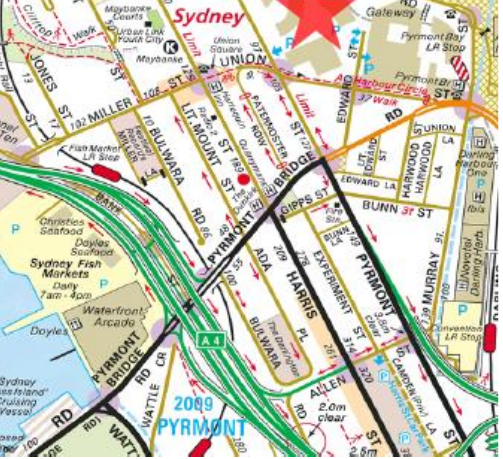
TRAFFIC PRESENTATION TO CBD COORDINATION OFFICE

MODIFICATION 13

12 JULY 2017

TRAFFIC IMPACT ASSESSMENT
KEY FINDINGS

- The site is well serviced by **PUBLIC AND ACTIVE TRANSPORT**, with sufficient capacity to accommodate additional trips
- Nearly all **INTERSECTIONS** are providing good levels of service in all peaks, indicating reserve capacity
- **PARKING AVAILABILITY**:
  - 2,845 off-street spaces provided by The Star
  - 2,892 off-street spaces within walking distance
  - 1,200 on-street spaces within walking distance
- Management of **PARKING DEMAND** is currently uncoordinated



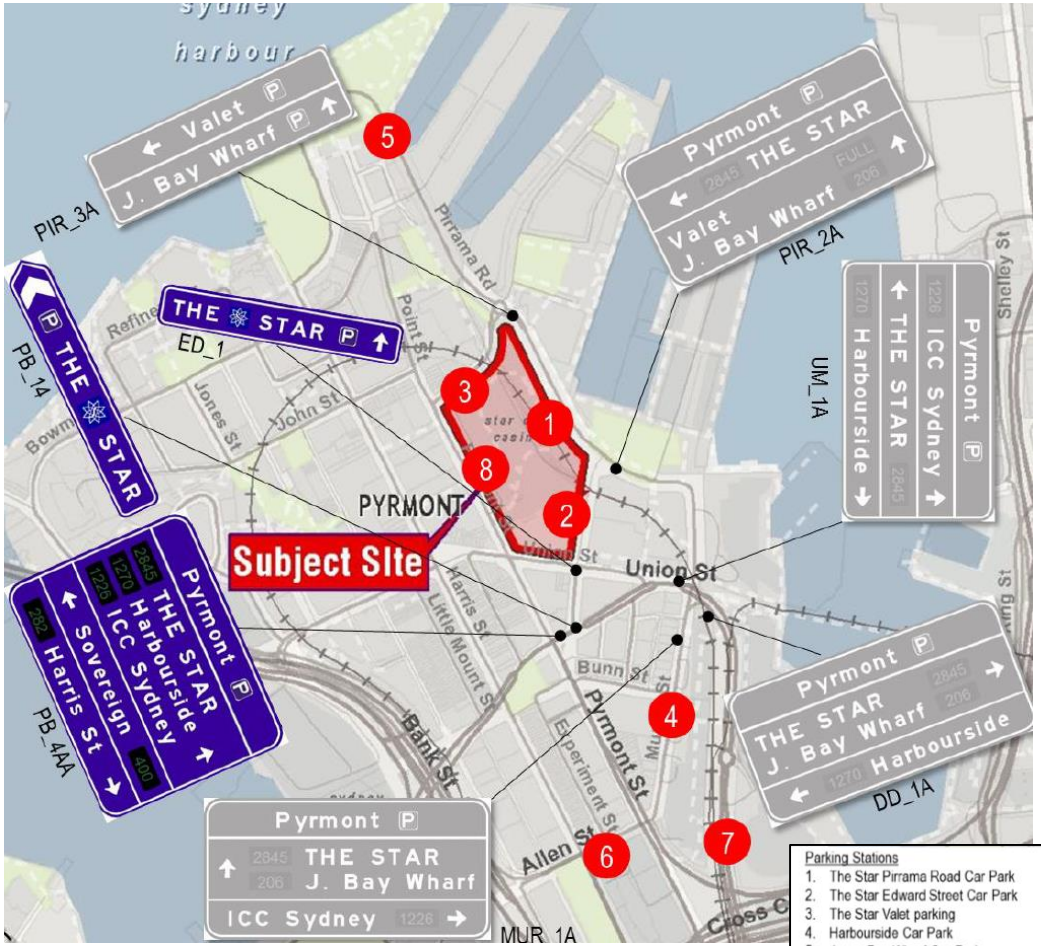
TRAFFIC IMPACT ASSESSMENT
KEY FINDINGS

- Nearly half the **STAFF** use public or active transport to travel to work at the Star
- **STAFF** key shift changeover times fall outside traditional AM and PM peak periods (4am, Midday, 8pm)
- **LOADING DOCK** upgrades will provide more than enough capacity to accommodate any increased deliveries
- Most **COMMUNITY CONCERNS** relate to special events and/or taxi operational issues. There will be no additional special events and we are moving taxis off Pirrama Road.

MODIFICATION 13
COMMITMENTS

- 222 parking spaces in Tower
- Expansion and modification of the Pyrmont Parking Guidance System
- New Pyrmont Street access to the Level B1 Car Park
- New right turn access from Jones Bay Road into The Astral porte cochere
- Left-in and right-in access to the new Ritz Carlton porte cochere
- Star Events loading dock upgrades
- 35 class 1 staff bike spaces and 62 visitor bike spaces
- Early bike parking upgrades
- Formalisation of the taxi parking scheme in the service road
- Restriction of on-site parking for workers to 200 spaces during construction

PYRMONT PARKING GUIDANCE SYSTEM



Parking Stations

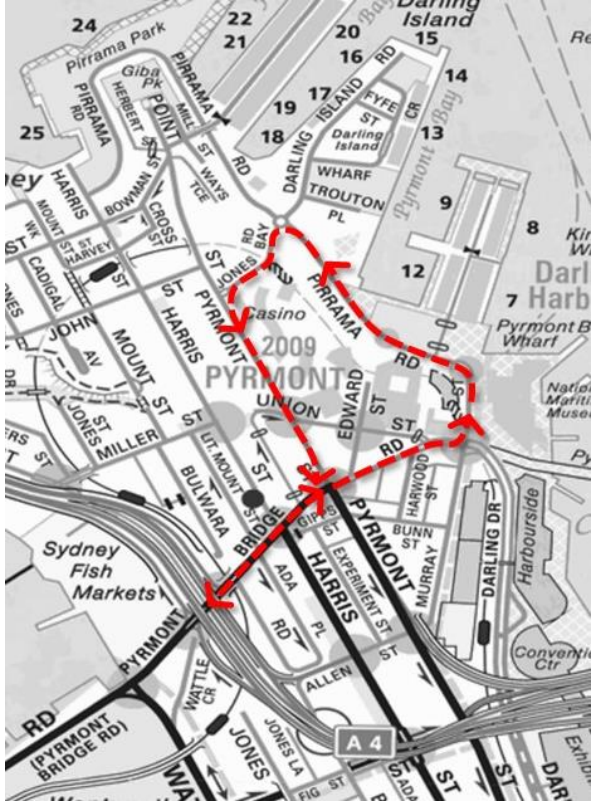
1. The Star Pirrama Road Car Park
2. The Star Edward Street Car Park
3. The Star Valet parking
4. Harbourside Car Park
5. Jones Bay Wharf Car Park
6. Harris Street Car Park
7. ICC Sydney Car Park
8. The Star Sovereign Pyrmont Street Car Park

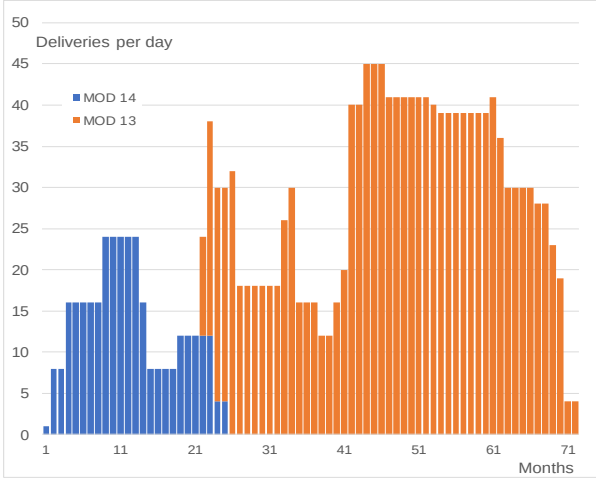
- Reduces circulation
- Does not encourage driving (no pre-planning)
- Driver focus on road
- Most of the infrastructure is in place

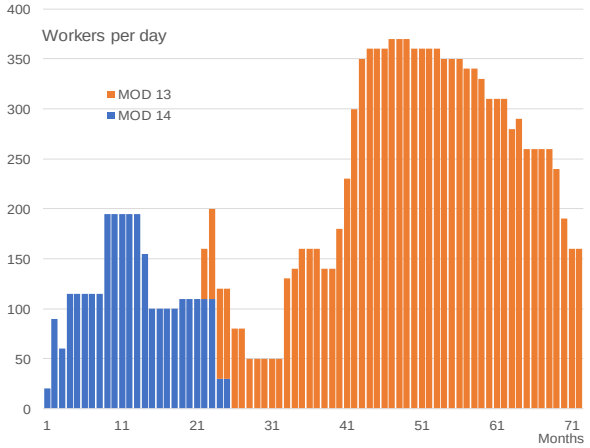

Taxi & valet right turn into Port Cochere
On-site coach parking
Loading dock upgrade
Station bike lockers
New on-site taxi facility
Improved visibility of Light Rail station
Bicycle rental station
Slight reduction in traffic
Sovereign car park entry
Visitor bike parking
Additional left turn traffic
Visitor bike parking
Reduced left turn traffic
PYRMONT ST
JONES BAY RD
UNION ST
EDWARD ST
PYRMONT BRIDGE RD
PIRRAMA RD

MODIFICATION 13
CTMP

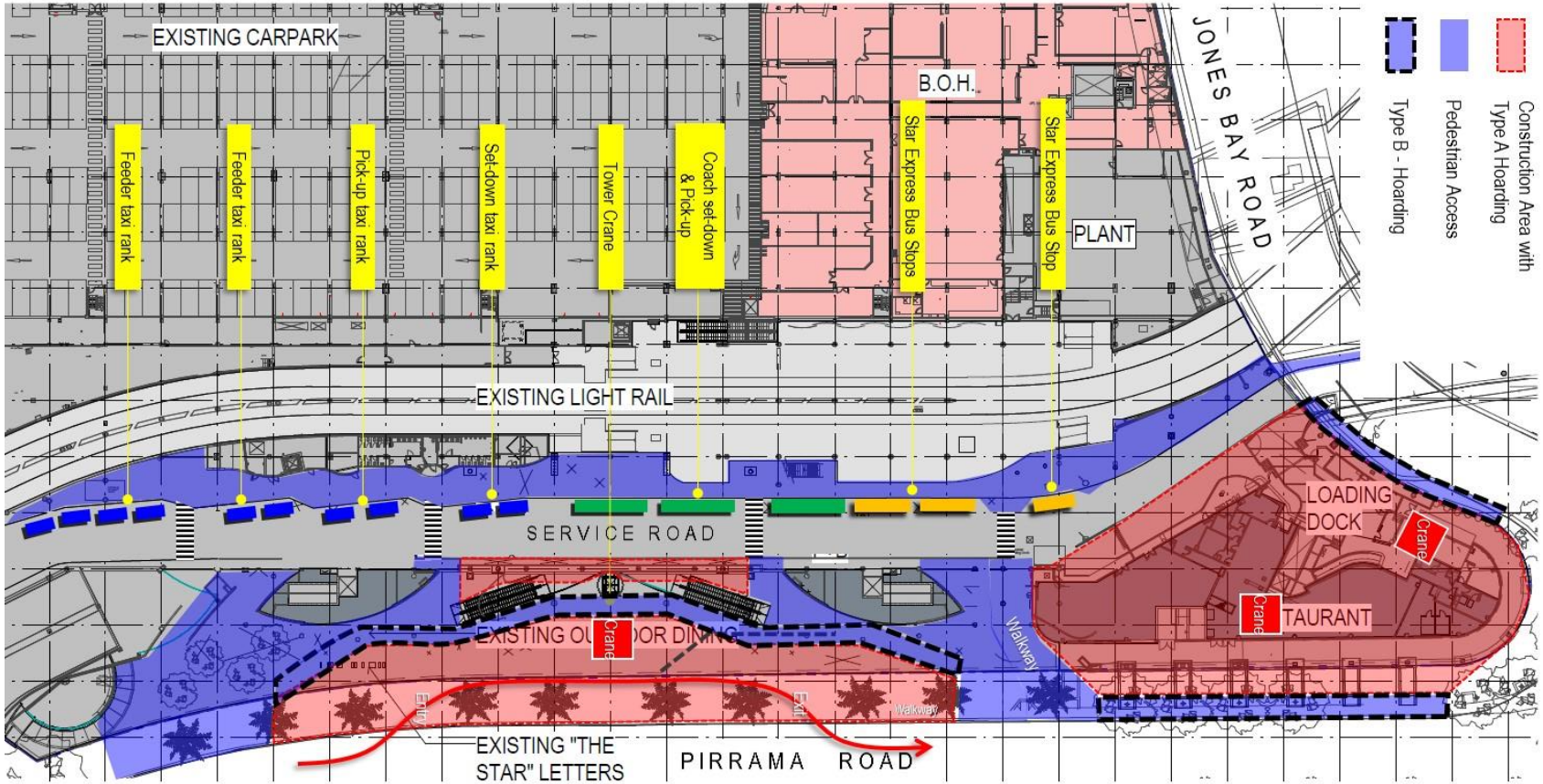
- 4-year Construction Program
- Pirrama Road Forecourt & Tower Construction site
- No significant impact on network perfromance
- 4-month overlap with MOD14







MODIFICATION 13
CTMP



MODIFICATION 13
QUESTIONS

- RMS Contact?
- TfNSW/Sydney Buses Contact?
- Pyrmont/Bays Precinct Traffic Forecast Models - Status?
- Update on Future Developments in the Pyrmont area?
- Major network upgrades?

THE STAR

Project Meeting Notes

Star Casino Project

Modification 13 ☒
Modification 14 ☒
Other: _____

Date		2nd August 2017	
Time		10:30am – 11:30am	
Venue		Level 10, 383 Kent Street Sydney, Mott MacDonald Sydney Office	
Attendees		▪ Darren MacDonald (DM), Transdev – Asset Compliance and Interface Manager ▪ John Neville (JN), Transdev – General Manager Asset Management ▪ Eddy Perabo (EP), Transdev – Operations and manufacturing Improvement Manager ▪ Simon Wilkes (SW), Urbis – Director of Planning ▪ Matthew Stephens (MS), Mott MacDonald (MM) – NSW Transport Engineering Lead ▪ Niloufar Jalilian (NJ), MM – Junior Engineer	
Apologises		▪ Natalie Borozan (NB), Multiplex - Development Manager ▪ Raymond Yeo (RY), Multiplex - Business Development Director	
Distribution		*Distributed to all*	
Matter/ Portion of site		**Issues Discussed**	**Agreed actions/outcomes**
1	**Agenda**	▪ Introductions	▪ N/A
2		▪ Agenda: · Modification 13 'The Vision' · Demolition Plan · Service Road upgrades · Presentation of draft CTMP. · Identification of other reference projects and area/cumulative impacts. · Summary of construction and working hours, including number of contractors. · Workers parking. · Buses, Taxis, Light Rail and Bicycles. · Review process requirements and timings. · Traffic Impact Assessment key findings. · Modification 13 commitments · Pyrmont parking Guidance system proposal	▪ N/A
3	**Modification 13 'The Vision'**	▪ SW advised of the separation of scope between the Modification 14 (internal works) and Modification 13 (Ritz-Carlton) works.	▪ N/A

		▪ MS advised that the Modification 14 works being undertaken are more internal and there is low interaction with external features of the facility and the surrounding streetscape.	▪ N/A
		▪ MS advised that gaming in Modification 14 general is being converted from general to more exclusive, VIP external DJ spaces and similar are being removed.	▪ N/A
		▪ SW advised that the works proposed under Modification 13 will include: ○ Upgrades to the Pirrama Road frontage to The Star, including opening the service road increased access to the transport facilities within. ○ Construction of a new hotel and luxury residential complex at the intersection of Pirrama Rd and Jones Bay Rd. ○ No expansion to the Lyric theatre. ○ The Star Entertainment Group (TSEG) has advised nil expansion to the events schedule of The Star as a result of Modification 13.	▪ N/A
4	**Summary of Construction**	▪ The working hours are as per the existing Major Project Approval conditions. Generally, these are as follows: · Between 7.00 and 17.30, Mondays to Fridays inclusive. · Between 8.00 and 15.00, Saturdays. · Between 9.00 and 15.30, Mondays to Fridays for mechanical rock blasting. · No work for Sundays and Public Holidays.	▪ N/A
		▪ Works may be undertaken outside these hours where: · The delivery of materials is required outside these hours by the Police or other authorities. · It is required in an emergency to avoid the loss of life, damage to property and/or to prevent environmental harm.	▪ N/A

		· Residents likely to be affected by the works are notified of the timing and duration of these works at least 48 hours prior to the commencement of the works. · The work is approved by the Director-General or his nominee.	
		▪ SW advised the MOD13 works will span a 4 year construction program	▪
		▪ MS advised that the construction zone hoarding proposal along Pirrama Rd at The Star's front entrance, will mean the following will occur: · Taxis will be relocated into the internal service road during construction. · The Star Express bays will be moved further north along this service road. · Pedestrian access along the front of Pirrama Rd construction zone will be prohibited. All pedestrians will be diverted west against the building to allow access to existing escalators, lifts, light rail, and relocated taxis. · There will be a minimum 3-4m walkway for pedestrian access. · Construction access in/out of the construction site will be via the existing kerb crossings. · There will be no stopping restrictions along the front of the construction site. All loading/unloading is within the site. · All the above will be supported by wayfinding.	N/A
		▪ DM concerned about the works causing excessive vibration to the track slab and tunnel.	▪ TSEG to send Transdev, indicative construction program to establish duration and occurrence of vibrating activities such as drilling, piling and demolition.
5	**Workers Parking**	▪ MS advised there are 600 to 900 spare standard spaces during the construction working hours. This is an off-peak period for The Star. ▪ Workers will not be allowed to use The Star parking facility apart from	▪ N/A

		an assigned area, subject to booking	
6	**Light Rail Patronage**	▪ DM advised 7.5% of residents within a light rail stop will use the service. ▪ Transdev & TfNSW is discussing improving/increasing frequency of services.	▪ DM would like quantity of expected Ritz Carlton hotel residents use rather than apartment owner use, and residents in the area non-star. ▪ Transdev is interested in pedestrian movements pedestrian modelling especially people using the service road to go to other businesses. ▪ If short term service changes are required i.e. greater number of workers expected then 1-2 weeks' notice to Transdev should be announced via a letter.
7	**Light Rail Shutdown**	▪ DM advised there are 80 hours per year of scheduled shutdowns, with spacings of 2 full days at a time. ▪ Transdev end of year shutdown: 2nd Jan to 26 Jan Transdev - shut down	▪ Transdev to send shutdown schedule.

Prepared by: Niloufar Jalilian

Date: 2nd August 2017

Please note: Once completed, please load into Aconex document register and transmit to Simon Wilkes at Urbis. In addition to normal project record keeping, this information will assist with demonstrating that stakeholder engagement with relevant agencies has been completed.

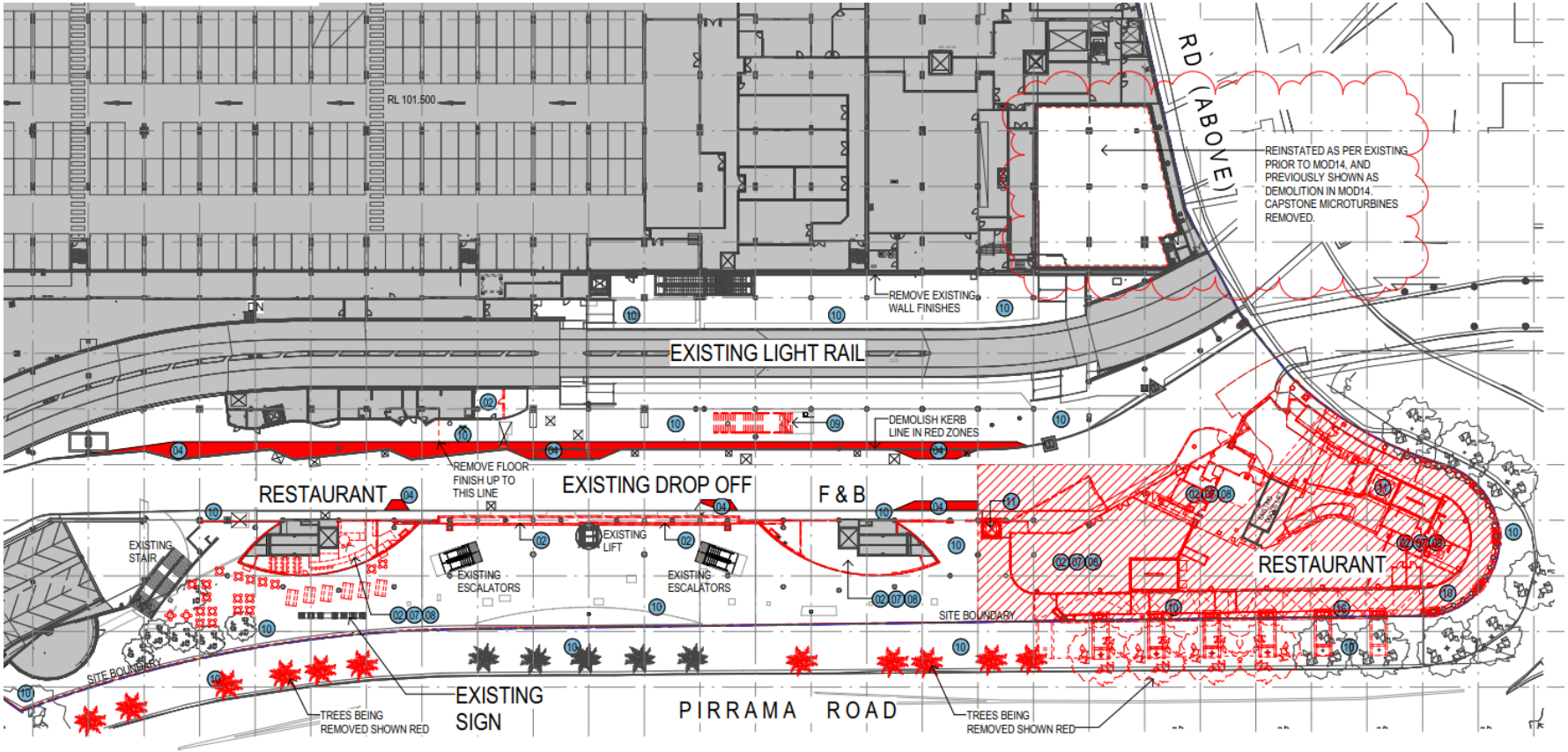
TRAFFIC PRESENTATION TO TRANSDEV

MODIFICATION 13

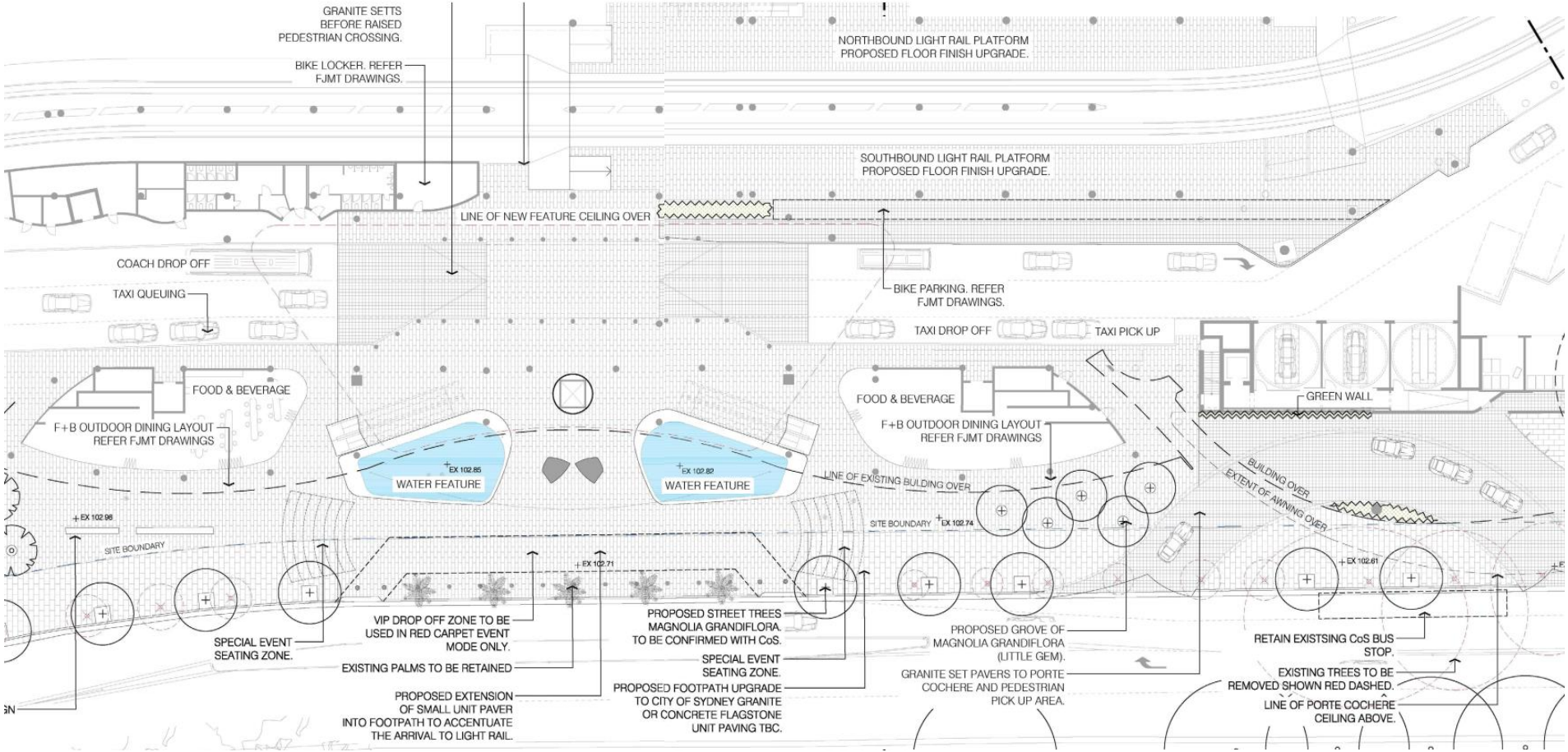
2 August 2017

THE VISION

DEMOLITION PLAN

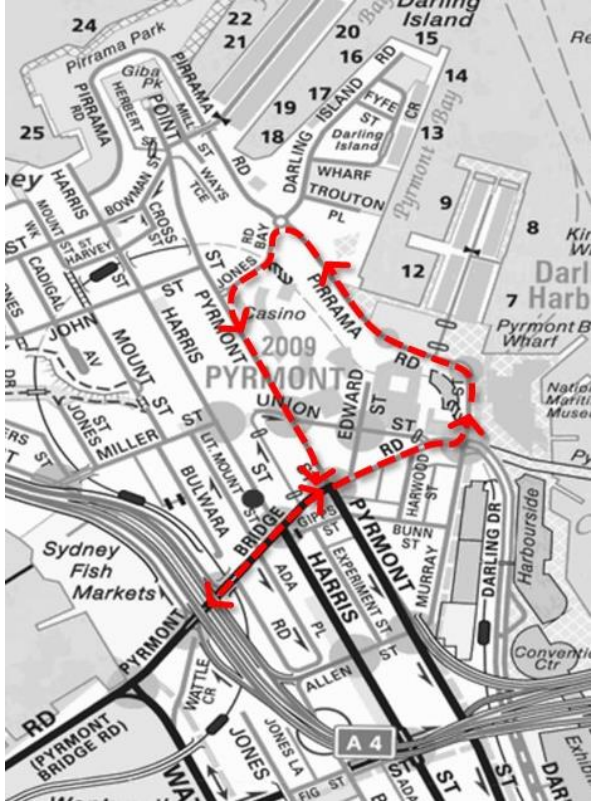


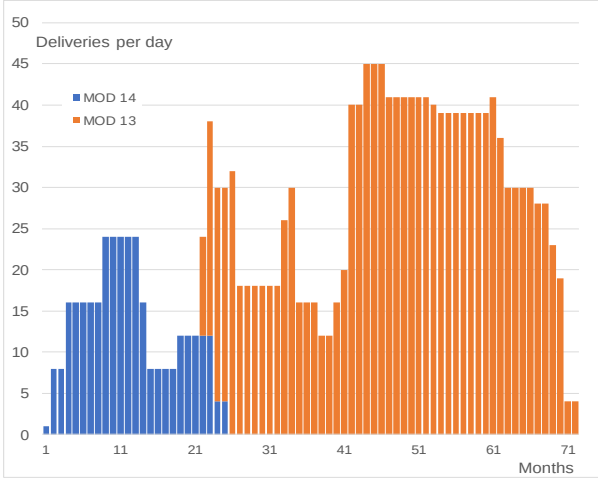
SERVICE ROAD UPGRADES

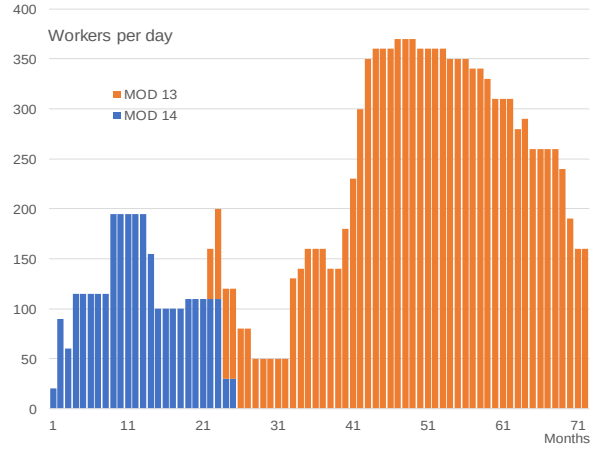


MODIFICATION 13
CTMP

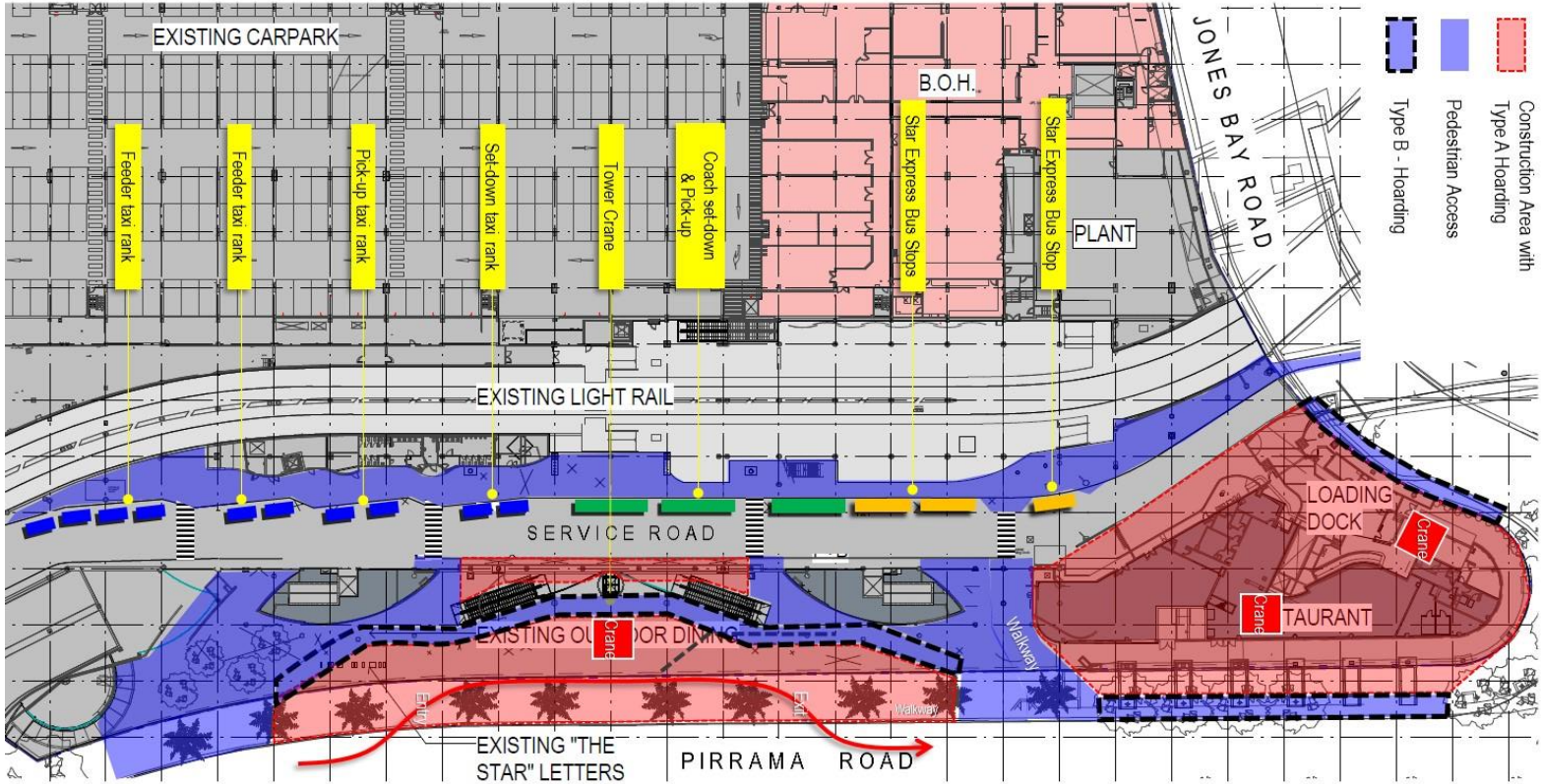
- 4-year Construction Program
- Pirrama Road Forecourt & Tower Construction site
- No significant impact on network performance
- 4-month overlap with MOD14







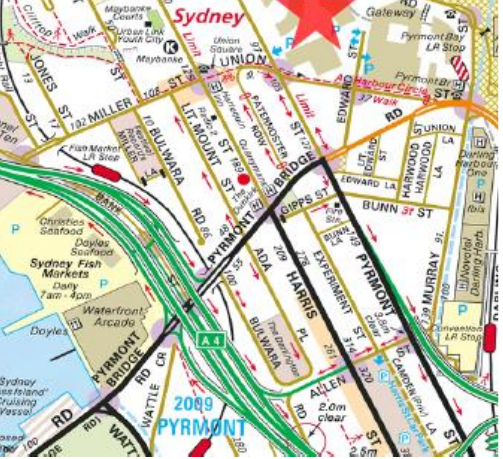
MODIFICATION 13
CTMP




Taxi & valet right turn into Port Cochere
On-site coach parking
Loading dock upgrade
Station bike lockers
New on-site taxi facility
Improved visibility of Light Rail station
Bicycle rental station
Slight reduction in traffic
Sovereign car park entry
Visitor bike parking
Additional left turn traffic
Visitor bike parking
Reduced left turn traffic
PYRMONT ST
JONES BAY RD
UNION ST
EDWARD ST
PYRMONT BRIDGE RD
PIRRAMA RD

TRAFFIC IMPACT ASSESSMENT
KEY FINDINGS

- The site is well serviced by **PUBLIC AND ACTIVE TRANSPORT**, with sufficient capacity to accommodate additional trips
- Nearly all **INTERSECTIONS** are providing good levels of service in all peaks, indicating reserve capacity
- **PARKING AVAILABILITY**:
  - 2,845 off-street spaces provided by The Star
  - 2,892 off-street spaces within walking distance
  - 1,200 on-street spaces within walking distance
- Management of **PARKING DEMAND** is currently uncoordinated



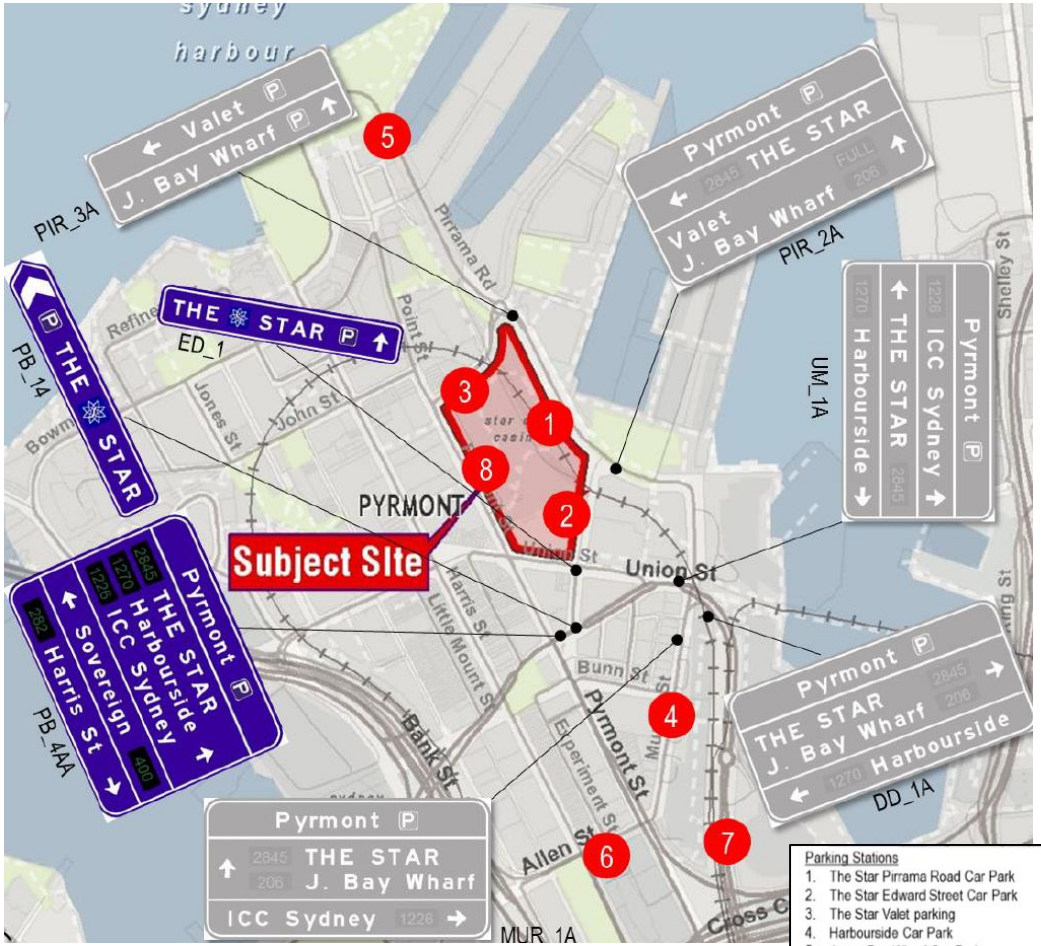
TRAFFIC IMPACT ASSESSMENT
KEY FINDINGS

- Nearly half the **STAFF** use public or active transport to travel to work at the Star
- **STAFF** key shift changeover times fall outside traditional AM and PM peak periods (4am, Midday, 8pm)
- **LOADING DOCK** upgrades will provide more than enough capacity to accommodate any increased deliveries
- Most **COMMUNITY CONCERNS** relate to special events and/or taxi operational issues. There will be no additional special events and we are moving taxis off Pirrama Road.

MODIFICATION 13
COMMITMENTS

- 222 parking spaces in Tower
- Expansion and modification of the Pyrmont Parking Guidance System
- New Pyrmont Street access to the Level B1 Car Park
- New right turn access from Jones Bay Road into The Astral porte cochere
- Left-in and right-in access to the new Ritz Carlton porte cochere
- Star Events loading dock upgrades
- 35 class 1 staff bike spaces and 62 visitor bike spaces
- Early bike parking upgrades
- Formalisation of the taxi parking scheme in the service road
- Restriction of on-site parking for workers to 200 spaces during construction

PYRMONT PARKING GUIDANCE SYSTEM



Parking Stations
1. The Star Pirrama Road Car Park
2. The Star Edward Street Car Park
3. The Star Valet parking
4. Harbourside Car Park
5. Jones Bay Wharf Car Park
6. Harris Street Car Park
7. ICC Sydney Car Park
8. The Star Sovereign Pyrmont Street Car Park

- Reduces circulation
- Does not encourage driving (no pre-planning)
- Driver focus on road
- Most of the infrastructure is in place

MODIFICATION 13
QUESTIONS

- Future light rail service upgrades?
- Patronage data?
- Initial comments or concerns
- Any additional information prior to formal lodgment

THE STAR

Project Meeting Notes

Star Casino Project

Modification 13 ☒
Modification 14 ☒
Other: _____

Date		17th August 2017	
Time		10:30am – 11:30am	
Venue		The Star Sydney – Light Rail STop	
Attendees		▪ Darren MacDonald (DM), Transdev – Asset Compliance and Interface Manager ▪ Raymond Yeo (RY), Multiplex - Business Development Director ▪ Simon Wilkes (SW), Urbis – Director of Planning ▪ Christopher Bridge (FB), FJMT - Associate ▪ Matthew Stephens (MS), Mott MacDonald (MM) – NSW Transport Engineering Lead ▪ Niloufar Jalilian (NJ), MM – Junior Engineer	
Apologises		▪ John Neville (JN), Transdev – General Manager Asset Management ▪ Eddy Perabo (EP), Transdev – Operations and Manufacturing Improvement Manager	
Distribution		*Distributed to all*	
Matter/ Portion of site		**Issues Discussed**	**Agreed actions/outcomes**
1.	**Agenda**	▪ Introductions	▪ N/A
2.	**Level Crossings**	▪ Level crossing delineation to change to black and white from black and yellow ▪ Doesn't meet current standards, ▪ Current platform length is approx. 66m – it could do with being at least 2 metres longer in the future, to accommodate double-length rolling stock. This could be achieved through deletion of northern-crossing. Government is not in a position to propose this, however if proposed by SEGL, it would not be opposed and would likely be support in-principle.	▪ Upside level crossing to remain. ▪ Downside crossing to be removed in Modification 13. ○ Removal will facilitate an extra 2m in platform length to 68m, due to removal of access ramp, future proofing stop for new 70m rolling stock. ○ Access to northbound service road from the level crossing to be blocked off. Further investigation into EEP and egress to be made during emergency situations. ▪ Crossing will need to be updated by TransDev
3.	**Construction**	▪ Proposed construction activities: ○ Piling; ○ Drilling ○ Excavation	▪ Geotechnical investigation monitoring works required prior to demolition and earthworks, to ascertain tunnel rigidity. ▪ Track slab vibration monitoring required.
4.	**Risk Assessments**	▪ Errant vehicles from service road	▪ Risk assessment required. due to the proposed re-design of the service road bringing vehicle

			movements closer to rail line. Risks should be acceptable, TransDev happy to assist with risk assessment as needed e.g. recommended suitable independent consultant etc
5.	**Demolition of existing stairs**	▪ noted, no significant concern as alternative available on other side of light rail station.	▪ N/A
6.	**New rolling Stock**	▪ from March 2019, the new double-length rolling stock (450 passenger versus current 220(?) from Randwick light rail line will be utilising this line for storage/servicing at Lilyfield. No commitment by government for passenger service yet, however a potential opportunity – including for example special events	▪ If platform upgraded and northern level crossing is removed opportunity for longer rolling stock to stop. -
7.	**Upgrading of platform surfaces**	▪ the first approx. 1 metre from rail is likely within lease area and beyond control of Star, including tactile paving etc – no opportunity for SEGL to upgrade, rather Transdev may simply clean etc. Beyond that, the balance of platform can be upgraded with new finishes etc, provided that it meets relevant standards (eg colour difference in pavement at least 30% different to final 1m).	▪ Consideration will need to be given to timing of upgrades, in terms of minimising service disruption – eg option to close half of station length at a time to complete works
8.	**Existing roof-structures above platforms**	▪ Current structures, screening and cabling etc, do not meet relevant standards	▪ Transdev to update and coordinate
9.	**Noise generating from wheel-squeal**	▪ Transdev looking to install greasing mechanisms on rolling stock to minimise squeal.	▪ Transdev to update and coordinate
10.	**Noise Generated from new development**	▪ Acoustic assessment to consider latest standards/requirements for consideration of noise/vibration impacts on the track slab, in the context of new residential development.	▪ Assessment to be performed ▪ Monitoring devices to be installed on track slab.
11.	**Removing pedestrian traffic from service lane/exit ramp**	▪ supported in-principle by Transdev, in favour of pedestrian movements using main rail-crossing and new waterfront entrance experience to the station and/or by internal building	▪ N/A
12.	**Evacuation Route**	▪ At present, service road/exit ramp provides an emergency evacuation route for pedestrians with associated 'green exit signage'. Would the deletion of the pedestrian route along exit ramp compromise this/meet relevant standards?	▪ Design Team (FLS) to advise accordingly.

13.	**Current storage area near to loading dock, adjacent**	▪ Currently used by SEGL	▪ Future of this area to be clarified on plans
14.	**Light rail replacement buses**	▪ Transdev advised that during Light Rail operation shutdowns, there will need to be replacement bus services that will need to continue accessing service road, both during construction period and also on-going.	▪ Accepted by SEGL
15.	**Column strengthening/ new columns**	▪ Presumed that no works required on level B02 for either MOD14 or 13 works.	▪ Design team to advise.
16.	**Mod 14 works**	• To date, Transdev has been made aware of Mod 14 works and not identified any problems.	▪ N/A
17.	**Continuing Dialogue with TransDev**	• ensure on-going support for Mod 13, • minimise RFIs and associated potential delays to the project; and • realise potential transport upgrade opportunities that may be realised.	▪ N/A

Prepared by: Niloufar Jalilian

Date: 17th August 2017

Please note: Once completed, please load into Aconex document register and transmit to Simon Wilkes at Urbis. In addition to normal project record keeping, this information will assist with demonstrating that stakeholder engagement with relevant agencies has been completed.

Stephens, Matthew

From:	Simon Wilkes <swilkes@urbis.com.au>
Sent:	Monday, 21 August 2017 9:52 AM
To:	Stephens, Matthew; Jalilian, Niloufar; 'raymond.yeo@star.com.au' (raymond.yeo@star.com.au); Natalie Borozan <Natalie.Borozan@star.com.au> (Natalie.Borozan@star.com.au); Courtney Smith; Christopher Bridge (cbridge@fjmtstudio.com); jsearl@fjmtstudio.com; Alex Morigaki (a.morigaki@dwpsuters.com)
Cc:	Vijay Prabhu; Clare Brown; Naomi Weber
Subject:	Notes/key outcomes from Mod 13 light rail meeting last week

Dear all,

Following the site visit with Darren McDonald of Transdev (light rail) last week, some initial notes/key outcomes in brief summary form.
Mott's will be producing formal file note of discussions and including with their updated traffic report, however key outcomes/actions for project team summarised below.

(items in red text potential actions for consideration by project team)

- **Existing (main) light rail crossing** – doesn't meet current standards, will need to be updated by Transdev
- **Demolition of existing stairs** – noted, no significant concern as alternative available on other side of light rail station.
- **Opportunity to close northern-crossing –** current platform length is approx. 66m – it could do with being at least 2 metres longer in the future, to accommodate double-length rolling stock. This could be achieved through deletion of northern-crossing. Government is not in a position to propose this, however if proposed by SEGL, it would not be opposed and would likely be support in-principle.
- **New rolling-stock** – from March 2019, the new double-length rolling stock (450 passenger versus current 220(?) from Randwick light rail line will be utilising this line for storage/servicing at Lilyfield. No commitment by government for passenger service yet, however a potential opportunity – including for example special events. Refer above-dot point, re opportunity for longer rolling stock to stop, if platform has been upgraded to sufficient length.
- **Upgrading of platform surfaces** - the first approx. 1 metre from rail is likely within lease area and beyond control of Star, including tactile paving etc – no opportunity for SEGL to upgrade, rather Transdev may simply clean etc. Beyond that, the balance of platform can be upgrade with new finishes etc, provided that it meets relevant standards (eg colour difference in pavement at least 30% different to final 1m). Consideration will need to be given to timing of upgrades, in terms of minimising service disruption – eg option to close half of station length at a time to complete works.
- **Existing roof-structures above platforms** - current structures screening cabling etc, does not meet relevant standard
- **Noise generating from wheel-squeel –** Transdev looking to install greasing mechanisms on rolling stock to minimise squeal. Acoustic assessment to consider latest standards/requirements for consideration of noise/vibration impacts, in the context of new residential development.
- **Need for a risk assessment to be completed -** due to the proposed re-design of the service road bringing vehicle movements closer to rail line. Risks should be acceptable, Darren happy to assist with risk assessment as needed eg recommended suitable independent consultant etc
- **Removing pedestrian traffic from service lane/exit ramp** - supported in-principle by Transdev, in favour of pedestrian movements using main rail-crossing and new waterfront entrance experience to the station and/or by internal building.
- **Need to consider evacuation route –** at present, service road/exit ramp provides an emergency evacuation route for pedestrians with associated 'green exit signage'. Would the deletion of the pedestrian route along exit ramp compromise this/meet relevant standards? WSP (fire safety to consider matter and advise accordingly).
- **Current storage area near to loading dock, adjacent** – currently used by SEGL – future of this area to be clarified on plans.
- **Light rail replacement buses** – when the light rail service is off, there will need to be replacement bus services – provided that they can continue accessing service road, both during construction period and also on-going, should not be a problem.

- **Column strengthening/new columns** – presumed that no works required on level B02 for either mod 14 or 13 works. To be confirmed.

- **Mod 14 works –** to date, Transdev has been made aware of Mod 14 works and not identified any problems.

Think they were the main items discussed. It will be important to continue dialogue on-going with Darren, to:

(a) ensure on-going support for Mod 13,
(b) minimise RFIs and associated potential delays to the project; and
(c) realise potential transport upgrade opportunities that may be realised.

Kind regards,
Simon

SIMON WILKES
ASSOCIATE DIRECTOR

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E swilkes@urbis.com.au

SHAPING CITIES AND COMMUNITIES

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TRAFFIC PRESENTATION TO ROADS & MARTIME SERVICES

MODIFICATION 13

05 DECEMBER 2017

TRAFFIC IMPACT ASSESSMENT
KEY FINDINGS

- The site is well serviced by **PUBLIC AND ACTIVE TRANSPORT**, with sufficient capacity to accommodate additional trips
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- **PARKING AVAILABILITY**:
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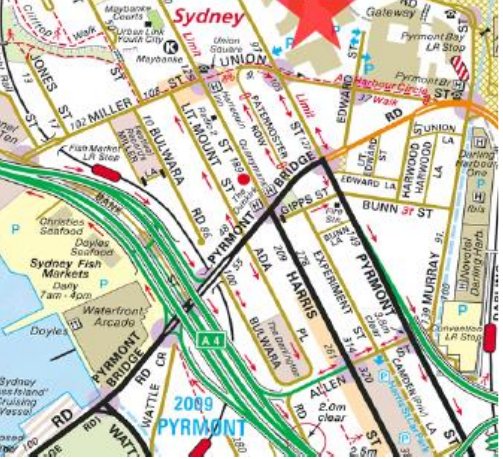

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