Colston Budd Rogers & Kafes Pty Ltd
as Trustee for C & B Unit Trust
ABN 27 623 918 759

Our Ref: TR/11146/jj

4 November, 2019

Transport Planning
Traffic Studies
Parking Studies

Qantas Airways Limited
B Wing, Level 1, 10 Bourke Road,
Mascot NSW 2020 Australia

Attention: Charlie Westgarth
Email: charlie.westgarth@qantas.com.au

Dear Sir,

RE: QANTAS FLIGHT TRAINING CENTRE (SSD 10154)
RESPONSE TO MATTERS RAISED BY DPIE

1. As requested, we are writing to respond to matters raised by the Department of Planning Industry and Environment (DPIE) in its email dated 9 October 2019, with regards to the above development. DPIE has requested that our previous letter of 17 October 2019 be updated in include commentary on the suggested conditions provided by TfNSW with regards to the intersection of Qantas Drive and Lancaster Road.

2. The matters and our response are set out below.

   - *The Department notes the number of cars expected to access the development via the Lancastrian Drive/Qantas Drive intersection would increase by 114 vehicles in the AM, and the number of vehicles predicted to access the site via King Street (west of O'Riordan Street) on a weekday morning would be 157 vehicles (pg 36 of the TPA). Please provide further clarification on any additional noise and traffic impacts if 114 vehicles are diverted onto King Street due to the removal of the right hand turn at the Lancastrian Road/Qantas Drive intersection.*

3. In response to the above matter, we have analysed a worst case scenario where all the traffic that currently turns right into Lancaster Road (and crosses the overpass to access the corporate campus) transfers to King Street (that is continues along Qantas Drive, turns left into Robey Street, left into O'Riordan Street and then left into King Street). Traffic that currently turns right out of Lancaster Road (from the corporate campus) has also been transferred to King

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Street where it would turn right onto O'Riordan Street, then travel south on O'Riordan Street and then left into Joyce Drive (this traffic does not have a destination to the west).

4. The number of vehicles redistributed in the morning peak hour is 340 vehicles turning right into Lancastrian Drive and 44 vehicles turning right out of Lancastrian Drive. The number of redistributed vehicles in the afternoon peak hour is 34 vehicles turning right into Lancastrian Drive and 58 vehicles turning right out of Lancastrian Drive.

5. As discussed due to the uncertainty of the final design of the Gateway project it is not possible to estimate the amount of the above traffic that will divert to King Street or the alternate Kent Road access. This will depend on the level of accessibility that Gateway will provide to Kent Road and the capacity of roads to both the King Street and Kent Road accesses to the corporate campus. It is possible that following Gateway, traffic using the King Street access could be less than predicted in the SSD traffic assessment.

6. The above traffic flows have been added to the SSD traffic assessment (existing + other developments + Qantas) and the intersections along O'Riordan Street reanalysed with SIDRA (for the weekday AM and PM peak hours). The SIDRA results are summarised in Table 1

Table 1:	**Summary of SIDRA Analysis (Average Delay per Vehicle and Level of Service)**			
Intersection	Lancaster - Right Turns		Lancaster – No Right Turns	
	AM (delay /LOS)	PM (delay /LOS)	AM (delay /LOS)	PM (delay /LOS)
King Street /O'Riordan Street	42 secs / LOS C	35 secs / LOS C	50 secs / LOS D	38 secs / LOS C
Robey Street /O'Riordan Street	13 secs / LOS A	15 secs / LOS B	25 secs / LOS B	15 secs / LOS B
Joyce Drive /O'Riordan Street	42 secs / LOS C	47 secs / LOS D	42 secs / LOS C	47 secs / LOS D

7. As can be seen in Table 1, the biggest impact is in the AM peak hour at the intersections of O'Riordan Street with Robey Street and King Street where the LOS falls from C and A to D and B. This is not surprising as some 400 vehicles have been added to both intersections the AM peak hour. There is minimal change in the PM peak hour. SIDRA Movement Summaries are provided in Attachment A.

8. In addition to the traffic effects on the external road network, we note that for the worst case, the number of vehicles entering the site via King Street will

increase from some 220 vph to some 560 vph. With a swipe card arrangement, the 95% queue would extend back onto King Street. Should the above situation occur, it is recommended that Qantas introduce a photo recognition system to increase the available capacity to the King Street access.

- *Section 2.2 of the RTS provides the revised parking numbers with a total of 2,097 spaces, however, the Department notes there may be a discrepancy in the overall parking numbers as it appears the 38 car spaces has been added twice (i.e. (786 + 1,272 = 2,058) +38 = 2,097). Please clarify where the second lot of 38 spaces are located on-site and if the overall additional net gain of parking is 97 spaces. To clarify there is a total of 2,058 car parking spaces across the Project – Stage 1 includes 748 car parks in the multi-deck car park and 38 car parks at grade and Stage 2 includes 1,272 additional car parks in the multi-deck car park. The second calculation of the 38 at grade car parking spaces is incorrect and not proposed as part of the Project*.

9. In response to the above matter, the total number of parking spaces for the development (within Trigen and King Street North areas) is 2,097 spaces.

- *Section 3.30 of the TPA (p.g 34) indicates that of the 2,098 car spaces, some 1,110 spaces are new spaces to the Corporate/Mascot Campus. It has been assumed that 75% traffic generated by the 1,110 new/relocated spaces would be new trips and would generate 450 and 310 vehicles per hour in the week day morning and afternoon peak hours. The Department notes the 1,110 spaces only account for the spaces relocated from the jet base and the domestic terminal, but does not include the additional 97 spaces that are part of the overall parking net gain. Should the traffic assessment include the 97 new spaces in addition to the 1,110 new/relocated spaces*

10. In response to the above matter, using the same methodology as in the TIA, the additional 97 spaces would generate 40 and 27 additional trips in the AM/PM peak hours respectively (an increase of some 9%). Table 2 below summarises the increases in traffic (vehicles per hour, two way) at the three access points to the corporate campus.

Table 2: Summary of Traffic Increases (vehicles per hour, two-way)

	AM			PM		
Access	2000 spaces	2097 spaces	Increase	2000 spaces	2097 spaces	Increase
Qantas Drive	192	208	+16	106	115	+9
King Street	205	223	+18	143	156	+13
Kent Road	66	72	+6	56	62	+6

11. Table 2 shows that the increases at each access would be minor (ranging from an additional 6 to 18 vph, two way). The biggest impacts would be on the intersections of King Street/O'Riordan Street and Qantas Drive/Lancaster Road. Beyond these two intersection traffic flow increase would be less than 10 vehicles per hour (two way).

12. We have rerun the traffic model and found that the results from our previous analysis are unchanged. In particular the southbound right turn bay on O'Riordan Street into King Street (west) can accommodate development traffic (60m length, 95% queue 59m - was 58m). With the proposed modifications to the right turn bay on Qantas Drive for the right turn into Lancaster Road, the right turn bay can accommodate development traffic (100m length, 95% queue 100m - was 95m). SIDRA Movement Summaries are provided in Attachment B.

13. In summary the traffic effects of the additional 97 spaces within the proposed development are the same as our previous assessment.

14. With regards to the intersection of Qantas Drive and Lancaster Road, TfNSW in its letter dated 28 October 2019 suggested that the following conditions be included in an approval for the SSD:

The right turn bay along Qantas Drive at the Qantas Drive/Lancastrian Drive intersection shall be lengthened to at least 100m at no cost to Government in accordance with the relevant road authority requirements. A concept plan shall be developed by the proponent and approved by the relevant roads authority

The applicant shall undertake vehicle movement and queue length surveys for all movements at the Qantas Drive/ Lancastrian Drive intersection for a week period during the morning peak periods after six months from the occupation. The applicant shall undertake propose feasible mitigation measures, in consultation with Roads & Maritime Services, for the impacts (if any) associated with the proposed development

15. The above conditions are considered appropriate to mitigate the traffic effects of the SSD on the intersection of Qantas Drive and Lancaster Road. Our SIDRA analysis has identified that with the right turn bay extended to 100 metres, the 95% queue in the can be accommodated.

16. Prior to TfNSW providing its comments we had discussions with RMS regarding possible alternative measures to manage traffic movements at the intersection of Qantas Drive/Lancaster Road following completion of the SSD project if the extension of the right turn bay was not feasible. The most practical measure (to the extension of the right turn bay) would be to ban the right turn movement out of Lancaster Road in the morning peak period and

allocate the green time to the right turn from Qantas Drive. In the morning peak period the volume of traffic turning right turn out of Lancaster Road is low (some 40 vehicles per hour) compared to some 400 vehicles per hour turning right off Qantas Drive. An alternative measure would be to ban the right turn off Qantas Drive in the morning peak period. This would affect a significantly higher number of vehicles and have a greater impact (as assessed in paragraphs 3 to 8) than banning the right turn out of Lancaster Road.

17. We trust the above provides the information you require. Finally, if you should have any queries, please do not hesitate to contact us.

Yours faithfully,
COLSTON BUDD ROGERS & KAFES PTY LTD

T. Rogers
Director

ATTACHMENT A

SIDRA MOVEMENT SUMMARIES
(No Right Turns at Lancastrian Drive)

MOVEMENT SUMMARY

Site: 105 [AM EX + Base + Qantas - O'Riordan St - Bourke St]

Network: N101 [AM EX + Base + Qantas (No Right Turns at Lancastrian Drive)]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: O'Riordan Street														
1	L2	541	5.0	541	5.0	0.190	9.4	LOS A	4.7	34.5	0.33	0.64	0.33	48.9
2	T1	1428	5.0	1428	5.0	0.648	14.7	LOS B	24.8	181.0	0.59	0.54	0.59	39.7
Approach		1968	5.0	1968	5.0	0.648	13.3	LOS A	24.8	181.0	0.52	0.57	0.52	42.6
North: O'Riordan Street														
8	T1	915	5.0	915	5.0	0.218	5.0	LOS A	5.4	39.2	0.33	0.29	0.33	46.9
9	R2	194	5.0	194	5.0	0.998	105.9	LOS F	15.9	116.4	1.00	1.14	1.75	18.5
Approach		1109	5.0	1109	5.0	0.998	22.6	LOS B	15.9	116.4	0.45	0.44	0.58	30.2
West: Bourke Street														
10	L2	36	5.0	36	5.0	0.054	11.0	LOS A	0.6	4.4	0.36	0.63	0.36	47.5
12	R2	528	5.0	528	5.0	1.004	109.3	LOS F	24.3	177.4	1.00	1.16	1.72	13.3
Approach		563	5.0	563	5.0	1.004	103.1	LOS F	24.3	177.4	0.96	1.13	1.64	14.3
All Vehicles		3641	5.0	3641	5.0	1.004	30.0	LOS C	24.8	181.0	0.57	0.61	0.71	29.8

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.

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
P3	North Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95
P4	West Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		105	54.3	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.

MOVEMENT SUMMARY

Site: 104 [AM EX + Base + Qantas - O'Riordan St - King St]

Network: N101 [AM EX + Base + Qantas (No Right Turns at Lancastrian Drive)]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: O'Riordan Street														
1	L2	461	2.0	461	2.0	0.926	58.3	LOS E	49.9	359.0	1.00	1.03	1.22	25.9
2	T1	1740	5.0	1740	5.0	0.926	52.8	LOS D	49.9	359.0	0.98	1.06	1.21	12.6
3	R2	102	2.0	102	2.0	0.608	64.9	LOS E	6.0	42.9	1.00	0.80	1.03	23.0
Approach		2303	4.3	2303	4.3	0.926	54.4	LOS D	49.9	359.0	0.99	1.05	1.20	16.9
East: King Street														
4	L2	45	2.0	45	2.0	0.054	23.6	LOS B	1.4	10.2	0.58	0.67	0.58	30.6
5	T1	228	2.0	228	2.0	0.970	82.9	LOS F	32.0	227.9	1.00	1.22	1.51	24.4
6	R2	175	2.0	175	2.0	0.970	87.4	LOS F	32.0	227.9	1.00	1.22	1.51	15.4
Approach		448	2.0	448	2.0	0.970	78.7	LOS F	32.0	227.9	0.96	1.17	1.42	21.4
North: O'Riordan Street														
7	L2	92	2.0	92	2.0	0.542	31.8	LOS C	19.9	144.4	0.82	0.74	0.82	33.0
8	T1	1179	5.0	1177	5.0	0.542	29.5	LOS C	22.3	162.8	0.88	0.78	0.88	17.0
9	R2	132	2.0	131	2.0	0.783	58.8	LOS E	7.7	54.9	0.99	0.82	1.05	24.6
Approach		1402	4.5	1400 N1	4.5	0.783	32.4	LOS C	22.3	162.8	0.88	0.78	0.89	20.1
West: King Street														
10	L2	50	2.0	50	2.0	0.164	36.1	LOS C	3.9	28.0	0.76	0.68	0.76	26.2
11	T1	44	2.0	44	2.0	0.164	31.6	LOS C	3.9	28.0	0.76	0.68	0.76	36.7
12	R2	109	5.0	109	5.0	0.610	57.3	LOS E	6.2	45.2	0.97	0.81	1.00	19.8
Approach		203	3.6	203	3.6	0.610	46.5	LOS D	6.2	45.2	0.87	0.75	0.89	25.1
All Vehicles		4356	4.1	4354 N1	4.1	0.970	49.5	LOS D	49.9	359.0	0.95	0.96	1.11	18.8

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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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
P1	South Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95
P4	West Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		211	54.3	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.

MOVEMENT SUMMARY

Site: 103 [AM EX + Base + Qantas - O'Riordan St - Robey St]

Network: N101 [AM EX + Base + Qantas (No Right Turns at Lancastrian Drive)]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Robey Street														
4	L2	316	2.0	316	2.0	0.227	25.9	LOS B	6.2	43.9	0.63	0.74	0.63	32.7
Approach		316	2.0	316	2.0	0.227	25.9	LOS B	6.2	43.9	0.63	0.74	0.63	32.7
North: O'Riordan Street														
7	L2	102	2.0	102	2.0	0.077	6.9	LOS A	0.8	5.7	0.20	0.60	0.20	51.0
8	T1	1278	5.0	1276	5.0	0.448	22.9	LOS B	12.2	89.0	0.63	0.55	0.63	22.9
Approach		1380	4.8	1378 N1	4.8	0.448	21.7	LOS B	12.2	89.0	0.60	0.55	0.60	25.8
West: Robey Street														
10	L2	2339	5.0	2339	5.0	0.914	27.2	LOS B	17.1	124.7	0.21	0.69	0.36	21.2
11	T1	235	2.0	235	2.0	0.335	22.1	LOS B	9.8	70.0	0.68	0.61	0.68	39.7
12	R2	31	2.0	31	2.0	0.335	27.9	LOS B	9.8	70.0	0.68	0.61	0.68	23.4
Approach		2604	4.7	2604	4.7	0.914	26.7	LOS B	17.1	124.7	0.26	0.68	0.40	23.7
All Vehicles		4300	4.5	4298 N1	4.5	0.914	25.1	LOS B	17.1	124.7	0.39	0.64	0.48	25.2

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.
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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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
P1	South Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		158	54.3	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.

MOVEMENT SUMMARY

Site: 102 [AM EX + Base + Qantas - Qantas Dr - O'Riordan St - Joyce Dr - SRA Dr]

Network: N101 [AM EX + Base + Qantas (No Right Turns at Lancastrian Drive)]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Joyce Drive														
4	L2	1015	5.0	1015	5.0	0.809	47.1	LOS D	28.4	207.6	0.97	0.91	1.04	34.0
5	T1	1698	5.0	1698	5.0	0.844	42.7	LOS D	32.7	238.8	0.95	0.91	1.05	28.9
Approach		2713	5.0	2713	5.0	0.844	44.4	LOS D	32.7	238.8	0.96	0.91	1.04	31.1
North: O'Riordan Street														
7	L2	380	5.0	379	5.0	0.846	66.0	LOS E	23.2	169.4	1.00	0.91	1.09	22.1
8	T1	638	5.0	637	5.0	0.675	54.3	LOS D	18.4	134.2	1.00	0.85	1.00	25.4
9	R2	607	5.0	607	5.0	0.676	63.1	LOS E	17.8	130.0	1.00	0.85	1.00	12.6
Approach		1624	5.0	1623 N1	5.0	0.846	60.3	LOS E	23.2	169.4	1.00	0.87	1.02	20.3
West: Qantas Drive														
11	T1	1527	5.0	1527	5.0	0.622	13.0	LOS A	25.8	188.2	0.64	0.58	0.64	45.1
12	R2	745	5.0	745	5.0	0.831	57.7	LOS E	22.6	164.9	1.00	0.93	1.14	24.2
Approach		2271	5.0	2271	5.0	0.831	27.7	LOS B	25.8	188.2	0.76	0.70	0.80	35.1
All Vehicles		6609	5.0	6608 N1	5.0	0.846	42.6	LOS D	32.7	238.8	0.90	0.83	0.95	29.3

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.
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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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
P1	South Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	53	54.3	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		158	54.3	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.

MOVEMENT SUMMARY

Site: 105 [PM EX + Base + Qantas - O'Riordan St - Bourke St]

Network: N101 [PM EX + Base + Qantas (No Right Turns at Lancastrian Drive)]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 122 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: O'Riordan Street														
1	L2	496	5.0	496	5.0	0.172	7.8	LOS A	2.2	16.0	0.16	0.58	0.16	44.7
2	T1	1442	5.0	1442	5.0	0.716	12.9	LOS A	24.8	181.0	0.57	0.52	0.57	41.5
Approach		1938	5.0	1938	5.0	0.716	11.6	LOS A	24.8	181.0	0.46	0.53	0.46	42.2
North: O'Riordan Street														
8	T1	1041	5.0	1041	5.0	0.282	2.7	LOS A	2.6	19.2	0.13	0.12	0.13	52.1
9	R2	163	5.0	163	5.0	0.926	79.0	LOS F	11.3	82.3	1.00	0.98	1.41	16.2
Approach		1204	5.0	1204	5.0	0.926	13.1	LOS A	11.3	82.3	0.25	0.24	0.31	35.7
West: Bourke Street														
10	L2	270	5.0	270	5.0	0.363	6.2	LOS A	0.5	3.7	0.04	0.56	0.04	47.7
12	R2	518	5.0	518	5.0	0.932	59.2	LOS E	23.6	172.2	0.94	0.95	1.21	11.0
Approach		789	5.0	789	5.0	0.932	41.0	LOS C	23.6	172.2	0.63	0.82	0.81	18.9
All Vehicles		3931	5.0	3931	5.0	0.932	17.9	LOS B	24.8	181.0	0.43	0.50	0.48	33.8

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.

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
P3	North Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
P4	West Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		105	55.3	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.

MOVEMENT SUMMARY

Site: 104 [PM EX + Base + Qantas - O'Riordan St - King St]

Network: N101 [PM EX + Base + Qantas (No Right Turns at Lancastrian Drive)]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 122 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: O'Riordan Street														
1	L2	109	2.0	109	2.0	0.670	30.6	LOS C	27.6	200.4	0.82	0.76	0.82	36.8
2	T1	1673	5.0	1673	5.0	0.670	24.7	LOS B	27.7	202.4	0.81	0.73	0.81	21.7
3	R2	71	2.0	71	2.0	0.793	75.2	LOS F	4.7	33.4	1.00	0.87	1.31	21.1
Approach		1854	4.7	1854	4.7	0.793	27.0	LOS B	27.7	202.4	0.82	0.74	0.83	23.1
East: King Street														
4	L2	180	2.0	180	2.0	0.240	29.6	LOS C	6.9	49.3	0.69	0.74	0.69	27.8
5	T1	36	2.0	36	2.0	0.860	65.6	LOS E	12.8	91.5	1.00	1.01	1.31	27.2
6	R2	155	2.0	155	2.0	0.860	70.1	LOS E	12.8	91.5	1.00	1.01	1.31	17.6
Approach		371	2.0	371	2.0	0.860	50.0	LOS D	12.8	91.5	0.85	0.88	1.01	22.7
North: O'Riordan Street														
7	L2	102	2.0	102	2.0	0.620	26.1	LOS B	20.7	150.1	0.66	0.63	0.66	35.8
8	T1	1566	5.0	1566	5.0	0.620	23.8	LOS B	25.7	187.6	0.78	0.71	0.78	19.7
9	R2	76	2.0	76	2.0	0.839	70.1	LOS E	4.8	34.4	1.00	0.80	1.12	22.2
Approach		1744	4.7	1744	4.7	0.839	26.0	LOS B	25.7	187.6	0.79	0.71	0.79	21.6
West: King Street														
10	L2	137	2.0	137	2.0	0.316	38.2	LOS C	8.3	58.7	0.80	0.75	0.80	25.1
11	T1	146	2.0	146	2.0	1.107	129.0	LOS F	30.2	218.3	0.94	1.31	1.74	18.2
12	R2	162	5.0	162	5.0	1.107	179.2	LOS F	30.2	218.3	1.00	1.58	2.19	8.5
Approach		445	3.1	445	3.1	1.107	119.4	LOS F	30.2	218.3	0.92	1.24	1.61	14.5
All Vehicles		4414	4.3	4414	4.3	1.107	37.8	LOS C	30.2	218.3	0.82	0.79	0.91	20.2

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.
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.

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
P1	South Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
P4	West Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		211	55.3	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.

MOVEMENT SUMMARY

Site: 103 [PM EX + Base + Qantas - O'Riordan St - Robey St]

Network: N101 [PM EX + Base + Qantas (No Right Turns at Lancastrian Drive)]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 122 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Robey Street														
4	L2	403	2.0	403	2.0	0.484	44.0	LOS D	10.0	71.0	0.87	0.81	0.87	24.8
Approach		403	2.0	403	2.0	0.484	44.0	LOS D	10.0	71.0	0.87	0.81	0.87	24.8
North: O'Riordan Street														
7	L2	51	2.0	51	2.0	0.035	6.6	LOS A	0.3	1.8	0.12	0.58	0.12	51.3
8	T1	1698	5.0	1684	5.0	0.580	8.9	LOS A	15.8	115.7	0.38	0.34	0.38	36.9
Approach		1749	4.9	1735 N1	4.9	0.580	8.8	LOS A	15.8	115.7	0.37	0.35	0.37	37.8
West: Robey Street														
10	L2	1854	5.0	1854	5.0	0.382	6.1	LOS A	2.8	20.3	0.16	0.57	0.16	41.8
11	T1	189	2.0	189	2.0	0.540	42.9	LOS D	11.2	79.5	0.92	0.78	0.92	30.3
12	R2	26	2.0	26	2.0	0.540	48.6	LOS D	11.2	79.5	0.92	0.78	0.92	15.0
Approach		2068	4.7	2068	4.7	0.540	10.0	LOS A	11.2	79.5	0.24	0.59	0.24	37.8
All Vehicles		4220	4.5	4206 N1	4.5	0.580	12.8	LOS A	15.8	115.7	0.36	0.51	0.36	34.8

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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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
P1	South Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		158	55.3	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.

MOVEMENT SUMMARY

Site: 102 [PM EX + Base + Qantas - Qantas Dr - O'Riordan St - Joyce Dr - SRA Dr]

Network: N101 [PM EX + Base + Qantas (No Right Turns at Lancastrian Drive)]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 122 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Joyce Drive														
4	L2	898	5.0	898	5.0	0.873	60.3	LOS E	29.0	211.4	1.00	0.97	1.18	30.3
5	T1	806	5.0	806	5.0	0.459	38.1	LOS C	12.2	88.7	0.86	0.73	0.86	30.6
Approach		1704	5.0	1704	5.0	0.873	49.8	LOS D	29.0	211.4	0.94	0.85	1.03	30.4
North: O'Riordan Street														
7	L2	389	5.0	386	5.0	0.674	44.4	LOS D	20.4	148.8	0.95	0.85	0.95	27.8
8	T1	827	5.0	821	5.0	0.680	38.8	LOS C	21.7	158.3	0.95	0.83	0.95	30.4
9	R2	1015	5.0	1009	5.0	0.880	67.8	LOS E	29.1	212.2	1.00	0.93	1.10	12.0
Approach		2231	5.0	2217 N1	5.0	0.880	53.0	LOS D	29.1	212.2	0.97	0.88	1.02	21.2
West: Qantas Drive														
11	T1	953	5.0	953	5.0	0.434	15.1	LOS B	15.6	113.7	0.60	0.54	0.60	43.5
12	R2	765	5.0	765	5.0	0.868	62.9	LOS E	24.8	180.8	1.00	0.96	1.20	23.0
Approach		1718	5.0	1718	5.0	0.868	36.4	LOS C	24.8	180.8	0.78	0.72	0.87	31.1
All Vehicles		5653	5.0	5639 N1	5.0	0.880	47.0	LOS D	29.1	212.2	0.90	0.82	0.98	27.1

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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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
P1	South Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		158	55.3	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.

ATTACHMENT B

SIDRA MOVEMENT SUMMARIES
(Additional 97 Parking Spaces)

MOVEMENT SUMMARY

Site: 105 [AM EX + Base + Qantas - O'Riordan St - Bourke St]

Network: N101 [AM EX + Base + Qantas (+97 Spaces)]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 122 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: O'Riordan Street														
1	L2	541	5.0	541	5.0	0.192	8.6	LOS A	3.0	21.8	0.20	0.60	0.20	49.7
2	T1	1428	5.0	1428	5.0	0.659	9.9	LOS A	22.5	164.5	0.45	0.41	0.45	44.6
Approach		1968	5.0	1968	5.0	0.659	9.6	LOS A	22.5	164.5	0.38	0.46	0.38	46.3
North: O'Riordan Street														
8	T1	915	5.0	915	5.0	0.219	5.2	LOS A	5.5	40.4	0.34	0.29	0.34	46.4
9	R2	194	5.0	194	5.0	0.942	85.4	LOS F	14.2	103.9	1.00	1.04	1.53	21.3
Approach		1109	5.0	1109	5.0	0.942	19.3	LOS B	14.2	103.9	0.45	0.42	0.54	32.6
West: Bourke Street														
10	L2	36	5.0	36	5.0	0.052	10.0	LOS A	0.6	4.0	0.32	0.62	0.32	48.3
12	R2	528	5.0	528	5.0	0.974	95.0	LOS F	22.9	166.9	1.00	1.11	1.59	14.9
Approach		563	5.0	563	5.0	0.974	89.6	LOS F	22.9	166.9	0.96	1.08	1.51	15.9
All Vehicles		3641	5.0	3641	5.0	0.974	24.9	LOS B	22.9	166.9	0.49	0.54	0.61	32.6

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.

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
P3	North Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
P4	West Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		105	55.3	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.

MOVEMENT SUMMARY

Site: 104 [AM EX + Base + Qantas - O'Riordan St - King St]

Network: N101 [AM EX + Base + Qantas (+97 Spaces)]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 122 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: O'Riordan Street														
1	L2	118	2.0	118	2.0	0.798	39.2	LOS C	33.0	239.5	0.92	0.85	0.94	32.8
2	T1	1740	5.0	1740	5.0	0.798	33.4	LOS C	33.1	241.7	0.91	0.83	0.93	17.8
3	R2	102	2.0	102	2.0	0.618	66.2	LOS E	6.1	43.7	1.00	0.80	1.04	22.7
Approach		1960	4.7	1960	4.7	0.798	35.4	LOS C	33.1	241.7	0.91	0.83	0.93	19.7
East: King Street														
4	L2	45	2.0	45	2.0	0.052	22.7	LOS B	1.4	10.0	0.56	0.66	0.56	31.1
5	T1	232	2.0	232	2.0	0.972	83.4	LOS F	32.5	231.1	0.98	1.21	1.50	24.3
6	R2	175	2.0	175	2.0	0.972	87.9	LOS F	32.5	231.1	0.98	1.21	1.50	15.3
Approach		452	2.0	452	2.0	0.972	79.1	LOS F	32.5	231.1	0.94	1.16	1.41	21.4
North: O'Riordan Street														
7	L2	92	2.0	92	2.0	0.564	33.2	LOS C	19.9	144.3	0.80	0.73	0.80	32.4
8	T1	1179	5.0	1179	5.0	0.564	30.5	LOS C	22.6	165.2	0.87	0.77	0.87	16.6
9	R2	137	2.0	137	2.0	0.828	61.0	LOS E	8.3	59.2	1.00	0.83	1.08	24.1
Approach		1407	4.5	1407	4.5	0.828	33.6	LOS C	22.6	165.2	0.88	0.77	0.88	19.7
West: King Street														
10	L2	52	2.0	52	2.0	0.136	33.9	LOS C	3.4	24.0	0.72	0.67	0.72	26.9
11	T1	45	2.0	45	2.0	0.477	35.4	LOS C	4.3	31.5	0.78	0.70	0.78	35.1
12	R2	66	5.0	66	5.0	0.477	54.1	LOS D	4.3	31.5	0.93	0.76	0.93	20.7
Approach		163	3.2	163	3.2	0.477	42.5	LOS D	4.3	31.5	0.82	0.71	0.82	27.0
All Vehicles		3983	4.2	3983	4.2	0.972	40.0	LOS C	33.1	241.7	0.90	0.84	0.97	20.5

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.
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.

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
P1	South Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
P4	West Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		211	55.3	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.

MOVEMENT SUMMARY

Site: 103 [AM EX + Base + Qantas - O'Riordan St - Robey St]

Network: N101 [AM EX + Base + Qantas (+97 Spaces)]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 122 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Robey Street														
4	L2	316	2.0	316	2.0	0.225	27.4	LOS B	5.9	42.3	0.65	0.74	0.65	31.9
Approach		316	2.0	316	2.0	0.225	27.4	LOS B	5.9	42.3	0.65	0.74	0.65	31.9
North: O'Riordan Street														
7	L2	102	2.0	102	2.0	0.077	6.9	LOS A	0.8	5.8	0.20	0.60	0.20	51.0
8	T1	1235	5.0	1235	5.0	0.409	17.7	LOS B	9.9	72.0	0.52	0.45	0.52	26.7
Approach		1337	4.8	1337	4.8	0.409	16.9	LOS B	9.9	72.0	0.50	0.47	0.50	29.6
West: Robey Street														
10	L2	1996	5.0	1996	5.0	0.457	5.8	LOS A	0.8	5.7	0.04	0.54	0.04	43.1
11	T1	235	2.0	235	2.0	0.348	23.9	LOS B	10.3	73.3	0.70	0.63	0.70	38.7
12	R2	31	2.0	31	2.0	0.348	29.6	LOS C	10.3	73.3	0.70	0.63	0.70	22.3
Approach		2261	4.6	2261	4.6	0.457	8.0	LOS A	10.3	73.3	0.12	0.55	0.12	41.4
All Vehicles		3914	4.5	3914	4.5	0.457	12.6	LOS A	10.3	73.3	0.29	0.54	0.29	35.6

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.

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
P1	South Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		158	55.3	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.

MOVEMENT SUMMARY

Site: 102 [AM EX + Base + Qantas - Qantas Dr - O'Riordan St - Joyce Dr - SRA Dr]

Network: N101 [AM EX + Base + Qantas (+97 Spaces)]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 122 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Joyce Drive														
4	L2	1015	5.0	1015	5.0	0.768	42.9	LOS D	27.0	196.8	0.95	0.88	0.96	35.3
5	T1	1707	5.0	1707	5.0	0.803	38.0	LOS C	30.9	225.8	0.92	0.85	0.97	30.6
Approach		2722	5.0	2722	5.0	0.803	39.8	LOS C	30.9	225.8	0.93	0.86	0.97	32.7
North: O'Riordan Street														
7	L2	337	5.0	337	5.0	0.818	66.2	LOS E	20.7	151.0	1.00	0.89	1.07	22.1
8	T1	638	5.0	638	5.0	0.736	57.5	LOS E	19.0	138.6	1.00	0.87	1.02	24.5
9	R2	607	5.0	607	5.0	0.738	66.7	LOS E	18.4	134.2	1.00	0.86	1.02	12.1
Approach		1582	5.0	1582	5.0	0.818	62.9	LOS E	20.7	151.0	1.00	0.87	1.03	19.6
West: Qantas Drive														
11	T1	1528	5.0	1528	5.0	0.602	11.6	LOS A	24.5	179.2	0.60	0.55	0.60	46.4
12	R2	745	5.0	745	5.0	0.817	56.9	LOS E	22.5	164.4	1.00	0.92	1.12	24.4
Approach		2272	5.0	2272	5.0	0.817	26.5	LOS B	24.5	179.2	0.73	0.67	0.77	35.8
All Vehicles		6577	5.0	6577	5.0	0.818	40.8	LOS C	30.9	225.8	0.88	0.80	0.91	29.9

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.

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
P1	South Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	53	55.3	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		158	55.3	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.

MOVEMENT SUMMARY

Site: 101 [AM EX + D - Qantas Drive - Lancastrian Drive]

Network: N101 [AM EX + D - Jetbase (+97 Spaces)]

Existing Weekday Morning Peak Hour Traffic Flows Plus Development Traffic
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Lancastrian Drive														
1	L2	26	2.0	26	2.0	0.014	3.2	LOS A	0.0	0.0	0.00	0.46	0.00	47.4
3	R2	47	2.0	47	2.0	1.112	183.2	LOS F	5.5	39.2	1.00	1.17	2.37	8.9
Approach		73	2.0	73	2.0	1.112	119.1	LOS F	5.5	39.2	0.64	0.91	1.53	12.6
East: Qantas Drive														
4	L2	197	2.0	197	2.0	0.269	22.8	LOS B	5.8	41.0	0.71	0.76	0.71	37.7
5	T1	1340	5.0	1340	5.0	1.045	123.5	LOS F	75.9	554.0	1.00	1.43	1.68	20.6
Approach		1537	4.6	1537	4.6	1.045	110.6	LOS F	75.9	554.0	0.96	1.34	1.56	21.3
West: Qantas Drive														
11	T1	2155	5.0	2155	5.0	0.674	3.0	LOS A	22.4	163.3	0.35	0.33	0.35	66.1
12	R2	394	2.0	394	2.0	0.492	24.8	LOS B	14.1	100.2	0.76	0.80	0.77	36.3
Approach		2549	4.5	2549	4.5	0.674	6.4	LOS A	22.4	163.3	0.42	0.41	0.42	61.8
All Vehicles		4159	4.5	4159	4.5	1.112	46.9	LOS D	75.9	554.0	0.62	0.76	0.86	35.2

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.
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.

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
P2	East Full Crossing	53	59.3	LOS E	0.2	0.2	0.96	0.96
All Pedestrians		53	59.3	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.

MOVEMENT SUMMARY

Site: 101 [AM EX+D - Lancastrian Drive - Catering Access - Airside - Security]

Network: N101 [AM EX + D - Jetbase (+97 Spaces)]

Existing Weekday Morning Peak Hour Traffic Flows Plus Development Traffic
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Security														
1	L2	1	2.0	1	2.0	0.030	2.8	LOS A	0.1	0.8	0.24	0.54	0.24	37.6
2	T1	5	2.0	5	2.0	0.030	2.6	LOS A	0.1	0.8	0.24	0.54	0.24	35.5
3	R2	15	2.0	15	2.0	0.030	6.0	LOS A	0.1	0.8	0.24	0.54	0.24	38.3
3u	U	10	0.0	10	0.0	0.030	7.4	LOS A	0.1	0.8	0.24	0.54	0.24	38.8
Approach		31	1.4	31	1.4	0.030	5.8	LOS A	0.1	0.8	0.24	0.54	0.24	38.2
East: Catering														
4	L2	20	2.0	20	2.0	0.044	3.0	LOS A	0.2	1.6	0.19	0.32	0.19	38.7
5	T1	40	2.0	40	2.0	0.044	2.3	LOS A	0.2	1.6	0.19	0.32	0.19	39.5
6	R2	63	2.0	63	2.0	0.051	5.7	LOS A	0.2	1.6	0.18	0.53	0.18	35.4
Approach		123	2.0	123	2.0	0.051	4.2	LOS A	0.2	1.6	0.18	0.43	0.18	37.8
North: Lancastrian Drive														
7	L2	541	2.0	541	2.0	0.358	2.2	LOS A	1.7	12.2	0.10	0.43	0.10	39.0
8	T1	20	2.0	20	2.0	0.036	2.6	LOS A	0.1	0.8	0.11	0.54	0.11	38.9
9	R2	25	2.0	25	2.0	0.036	5.8	LOS A	0.1	0.8	0.11	0.54	0.11	39.0
9u	U	1	2.0	1	2.0	0.036	7.4	LOS A	0.1	0.8	0.11	0.54	0.11	25.6
Approach		587	2.0	587	2.0	0.358	2.4	LOS A	1.7	12.2	0.10	0.44	0.10	39.0
West: Airside														
10	L2	15	2.0	15	2.0	0.017	3.2	LOS A	0.1	0.4	0.21	0.41	0.21	37.1
11	T1	20	2.0	20	2.0	0.024	2.3	LOS A	0.1	0.7	0.19	0.40	0.19	39.1
12	R2	10	2.0	10	2.0	0.024	5.8	LOS A	0.1	0.7	0.19	0.40	0.19	39.2
Approach		45	2.0	45	2.0	0.024	3.4	LOS A	0.1	0.7	0.20	0.40	0.20	38.7
All Vehicles		786	2.0	786	2.0	0.358	2.9	LOS A	1.7	12.2	0.13	0.44	0.13	38.7

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.

MOVEMENT SUMMARY

Site: 105 [PM EX + Base + Qantas - O'Riordan St - Bourke St]

Network: N101 [PM EX + Base + Qantas (+97 Spaces)]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 121 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: O'Riordan Street														
1	L2	496	5.0	493	5.0	0.171	7.9	LOS A	2.2	15.9	0.16	0.58	0.16	44.7
2	T1	1444	5.0	1435	5.0	0.707	12.2	LOS A	21.8	159.4	0.53	0.49	0.53	42.1
Approach		1940	5.0	1928 N1	5.0	0.707	11.1	LOS A	21.8	159.4	0.44	0.51	0.44	42.7
North: O'Riordan Street														
8	T1	1044	5.0	1044	5.0	0.278	2.4	LOS A	2.4	17.4	0.12	0.11	0.12	52.9
9	R2	163	5.0	163	5.0	0.918	77.3	LOS F	11.1	80.9	1.00	0.98	1.39	16.4
Approach		1207	5.0	1207	5.0	0.918	12.6	LOS A	11.1	80.9	0.24	0.23	0.30	36.3
West: Bourke Street														
10	L2	270	5.0	270	5.0	0.363	6.1	LOS A	0.5	3.6	0.04	0.56	0.04	47.8
12	R2	518	5.0	518	5.0	0.947	62.8	LOS E	24.2	176.3	0.94	0.97	1.25	10.5
Approach		789	5.0	789	5.0	0.947	43.4	LOS D	24.2	176.3	0.63	0.83	0.84	18.2
All Vehicles		3936	5.0	3924 N1	5.0	0.947	18.0	LOS B	24.2	176.3	0.42	0.49	0.47	33.7

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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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
P3	North Full Crossing	53	54.8	LOS E	0.2	0.2	0.95	0.95
P4	West Full Crossing	53	54.8	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		105	54.8	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.

MOVEMENT SUMMARY

Site: 104 [PM EX + Base + Qantas - O'Riordan St - King St]

Network: N101 [PM EX + Base + Qantas (+97 Spaces)]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 121 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: O'Riordan Street														
1	L2	77	2.0	77	2.0	0.641	29.5	LOS C	25.8	187.7	0.80	0.73	0.80	37.5
2	T1	1673	5.0	1673	5.0	0.641	23.7	LOS B	25.9	189.1	0.79	0.71	0.79	22.3
3	R2	71	2.0	71	2.0	0.787	74.5	LOS F	4.6	33.1	1.00	0.87	1.30	21.2
Approach		1821	4.8	1821	4.8	0.787	25.9	LOS B	25.9	189.1	0.80	0.72	0.81	23.3
East: King Street														
4	L2	180	2.0	180	2.0	0.243	29.8	LOS C	6.9	49.3	0.70	0.74	0.70	27.7
5	T1	38	2.0	38	2.0	1.067	144.5	LOS F	19.7	140.5	1.00	1.44	2.06	16.9
6	R2	155	2.0	155	2.0	1.067	149.0	LOS F	19.7	140.5	1.00	1.44	2.06	9.9
Approach		373	2.0	373	2.0	1.067	91.1	LOS F	19.7	140.5	0.86	1.10	1.40	15.4
North: O'Riordan Street														
7	L2	102	2.0	102	2.0	0.615	25.8	LOS B	20.4	148.3	0.66	0.63	0.66	35.9
8	T1	1566	5.0	1566	5.0	0.615	23.4	LOS B	25.4	185.7	0.78	0.71	0.78	19.9
9	R2	78	2.0	78	2.0	0.854	69.7	LOS E	4.9	35.2	1.00	0.81	1.13	22.2
Approach		1746	4.7	1746	4.7	0.854	25.6	LOS B	25.4	185.7	0.78	0.71	0.79	21.8
West: King Street														
10	L2	139	2.0	139	2.0	0.313	37.7	LOS C	8.0	57.0	0.80	0.75	0.80	25.2
11	T1	148	2.0	148	2.0	1.094	126.7	LOS F	23.1	166.8	0.94	1.30	1.78	18.5
12	R2	105	5.0	105	5.0	1.094	168.1	LOS F	23.1	166.8	1.00	1.52	2.16	9.0
Approach		392	2.8	392	2.8	1.094	106.3	LOS F	23.1	166.8	0.91	1.16	1.53	16.2
All Vehicles		4332	4.3	4332	4.3	1.094	38.7	LOS C	25.9	189.1	0.81	0.79	0.92	19.7

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.

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
P1	South Full Crossing	53	54.8	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	53	54.8	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	53	54.8	LOS E	0.2	0.2	0.95	0.95
P4	West Full Crossing	53	54.8	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		211	54.8	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.

MOVEMENT SUMMARY

Site: 103 [PM EX + Base + Qantas - O'Riordan St - Robey St]

Network: N101 [PM EX + Base + Qantas (+97 Spaces)]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 121 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
East: Robey Street														
4	L2	403	2.0	403	2.0	0.474	43.3	LOS D	9.8	70.0	0.87	0.81	0.87	25.0
Approach		403	2.0	403	2.0	0.474	43.3	LOS D	9.8	70.0	0.87	0.81	0.87	25.0
North: O'Riordan Street														
7	L2	51	2.0	51	2.0	0.036	6.7	LOS A	0.3	2.0	0.13	0.58	0.13	51.2
8	T1	1641	5.0	1633	5.0	0.561	8.4	LOS A	15.3	111.6	0.36	0.32	0.36	37.8
Approach		1692	4.9	1684 N1	4.9	0.561	8.3	LOS A	15.3	111.6	0.35	0.33	0.35	38.7
West: Robey Street														
10	L2	1821	5.0	1821	5.0	0.376	6.1	LOS A	2.7	19.8	0.16	0.57	0.16	41.8
11	T1	189	2.0	189	2.0	0.528	41.4	LOS C	10.9	77.9	0.91	0.77	0.91	30.8
12	R2	26	2.0	26	2.0	0.528	47.2	LOS D	10.9	77.9	0.91	0.77	0.91	15.4
Approach		2036	4.7	2036	4.7	0.528	9.9	LOS A	10.9	77.9	0.24	0.59	0.24	38.0
All Vehicles		4131	4.5	4122 N1	4.5	0.561	12.5	LOS A	15.3	111.6	0.35	0.51	0.35	35.1

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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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
P1	South Full Crossing	53	54.8	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	53	54.8	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	53	54.8	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		158	54.8	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.

MOVEMENT SUMMARY

Site: 102 [PM EX + Base + Qantas - Qantas Dr - O'Riordan St - Joyce Dr - SRA Dr]

Network: N101 [PM EX + Base + Qantas (+97 Spaces)]

New Site
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 121 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Joyce Drive														
4	L2	898	5.0	898	5.0	0.866	58.7	LOS E	28.4	207.3	1.00	0.96	1.17	30.7
5	T1	809	5.0	809	5.0	0.457	37.6	LOS C	12.1	88.1	0.86	0.72	0.86	30.8
Approach		1707	5.0	1707	5.0	0.866	48.7	LOS D	28.4	207.3	0.93	0.85	1.02	30.7
North: O'Riordan Street														
7	L2	332	5.0	330	5.0	0.572	42.3	LOS C	16.6	121.3	0.91	0.83	0.91	28.5
8	T1	827	5.0	823	5.0	0.676	38.2	LOS C	21.5	156.7	0.95	0.82	0.95	30.6
9	R2	1015	5.0	1012	5.0	0.875	66.2	LOS E	29.1	212.2	1.00	0.92	1.09	12.2
Approach		2173	5.0	2165 N1	5.0	0.875	51.9	LOS D	29.1	212.2	0.97	0.87	1.01	21.3
West: Qantas Drive														
11	T1	954	5.0	954	5.0	0.437	15.2	LOS B	15.6	113.9	0.61	0.54	0.61	43.3
12	R2	765	5.0	765	5.0	0.890	66.4	LOS E	25.5	186.4	1.00	0.98	1.25	22.2
Approach		1719	5.0	1719	5.0	0.890	38.0	LOS C	25.5	186.4	0.78	0.74	0.89	30.4
All Vehicles		5600	5.0	5592 N1	5.0	0.890	46.7	LOS D	29.1	212.2	0.90	0.82	0.98	27.2

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.
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.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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
P1	South Full Crossing	53	54.8	LOS E	0.2	0.2	0.95	0.95
P2	East Full Crossing	53	54.8	LOS E	0.2	0.2	0.95	0.95
P3	North Full Crossing	53	54.8	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		158	54.8	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.

MOVEMENT SUMMARY

Site: 101 [PM EX + D - Qantas Drive - Lancastrian Drive]

Network: N101 [PM EX + D - Jetbase (+97 Spaces)]

Existing Weekday Morning Peak Hour Traffic Flows Plus Development Traffic
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 125 seconds (Network Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Lancastrian Drive														
1	L2	562	2.0	562	2.0	0.307	3.2	LOS A	0.0	0.0	0.00	0.46	0.00	47.4
3	R2	65	2.0	65	2.0	0.247	55.2	LOS D	3.6	25.5	0.93	0.75	0.93	22.0
Approach		627	2.0	627	2.0	0.307	8.6	LOS A	3.6	25.5	0.10	0.49	0.10	42.4
East: Qantas Drive														
4	L2	38	2.0	38	2.0	0.024	6.9	LOS A	0.3	2.3	0.15	0.61	0.15	49.0
5	T1	1885	5.0	1885	5.0	0.761	14.9	LOS B	38.8	283.2	0.73	0.68	0.73	48.2
Approach		1923	4.9	1923	4.9	0.761	14.7	LOS B	38.8	283.2	0.72	0.68	0.72	48.2
West: Qantas Drive														
11	T1	1405	5.0	1405	5.0	0.489	6.0	LOS A	16.0	116.7	0.41	0.38	0.41	54.6
12	R2	56	2.0	56	2.0	0.311	36.6	LOS C	2.7	19.3	0.81	0.78	0.81	27.6
Approach		1461	4.9	1461	4.9	0.489	7.2	LOS A	16.0	116.7	0.43	0.40	0.43	53.6
All Vehicles		4011	4.5	4011	4.5	0.761	11.0	LOS A	38.8	283.2	0.52	0.55	0.52	49.5

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.
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.

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
P2	East Full Crossing	53	56.8	LOS E	0.2	0.2	0.95	0.95
All Pedestrians		53	56.8	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.

MOVEMENT SUMMARY

Site: 101 [PM EX+D - Lancastrian Drive - Catering Access - Airside - Security]

Network: N101 [PM EX + D - Jetbase (+97 Spaces)]

Existing Weekday Morning Peak Hour Traffic Flows Plus Development Traffic
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Security														
1	L2	5	2.0	5	2.0	0.048	4.2	LOS A	0.2	1.4	0.45	0.51	0.45	38.1
2	T1	30	2.0	30	2.0	0.048	3.9	LOS A	0.2	1.4	0.45	0.51	0.45	36.3
3	R2	5	2.0	5	2.0	0.048	7.4	LOS A	0.2	1.4	0.45	0.51	0.45	38.8
3u	U	1	0.0	1	0.0	0.048	8.7	LOS A	0.2	1.4	0.45	0.51	0.45	39.4
Approach		41	2.0	41	2.0	0.048	4.5	LOS A	0.2	1.4	0.45	0.51	0.45	37.2
East: Catering														
4	L2	10	2.0	10	2.0	0.030	3.0	LOS A	0.1	1.0	0.16	0.32	0.16	38.7
5	T1	20	2.0	20	2.0	0.030	2.3	LOS A	0.1	1.0	0.16	0.32	0.16	39.5
6	R2	387	2.0	387	2.0	0.239	5.7	LOS A	1.5	10.8	0.16	0.54	0.16	35.5
Approach		417	2.0	417	2.0	0.239	5.4	LOS A	1.5	10.8	0.16	0.52	0.16	35.9
North: Lancastrian Drive														
7	L2	59	2.0	59	2.0	0.043	2.1	LOS A	0.2	1.1	0.07	0.42	0.07	39.1
8	T1	10	2.0	10	2.0	0.026	2.5	LOS A	0.1	0.7	0.08	0.60	0.08	38.3
9	R2	10	2.0	10	2.0	0.026	5.7	LOS A	0.1	0.7	0.08	0.60	0.08	38.4
9u	U	15	2.0	15	2.0	0.026	7.3	LOS A	0.1	0.7	0.08	0.60	0.08	24.4
Approach		94	2.0	94	2.0	0.043	3.4	LOS A	0.2	1.1	0.07	0.49	0.07	38.3
West: Airside														
10	L2	10	2.0	10	2.0	0.012	4.9	LOS A	0.1	0.4	0.46	0.52	0.46	36.2
11	T1	15	2.0	15	2.0	0.020	3.7	LOS A	0.1	0.6	0.45	0.48	0.45	38.7
12	R2	5	2.0	5	2.0	0.020	7.1	LOS A	0.1	0.6	0.45	0.48	0.45	38.7
Approach		30	2.0	30	2.0	0.020	4.7	LOS A	0.1	0.6	0.45	0.49	0.45	38.2
All Vehicles		582	2.0	582	2.0	0.239	5.0	LOS A	1.5	10.8	0.18	0.51	0.18	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.
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.