Oran Park Town Centre Traffic Assessment

Greenfields Development Company No.2 Pty Ltd

21 June 2021



→ The Power of Commitment

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1. Introduction

1.1 Purpose of this report

GHD has been commissioned by Greenfields Development Company No.2 Pty Ltd (GDC2) to prepare a Traffic Assessment Report to support the rezoning application of the Oran Park Town Centre (Study Area). The rezoning proposes to convert an area that currently holds residential zoning allocation to mixed land-use zones.

The purpose of this report is to document the findings from the traffic analysis undertaken to demonstrate the anticipated operational condition of the intersections located within the study area under forecast traffic demands.

The Study Area extents are Peter Brock Drive in the south, South Circuit in the east, Oran Park Drive in the west and Dick Johnson Drive in the north, containing mixed land-use, justice and medical precincts and residential land-uses. The study area is located within the Camden Local Government Area in south-west Sydney.

Figure 1 shows the location of the Town Centre and the surrounding road network.



Figure 1 Town Centre location and extents

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This report has been prepared by GHD for Greenfields Development Company Pty Ltd No.2 and may only be used and relied on by Greenfields Development Company Pty Ltd No.2 for the purpose agreed between GHD and Greenfields Development Company Pty Ltd No.2 as set out in section 1.1 of this report.

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2. Proposed development

2.1 Town Centre overview

2.1.1 Land use and staging summary

Table 1 provides an overview of staged development of the land uses within the Town Centre.

Table 1 Town Centre land use summary

Lot No.	Description	Total developable area (m^2)	2026 Percent Completed	2036 Percent Completed	2041 Percent Completed
1	Mixed Use	7,582	0%	100%	100%
2	Justice Precinct	14,586	0%	100%	100%
3	Justice Precinct	25,245	0%	100%	100%
4	Mixed Use	24,544	0%	100%	100%
5	Medical Precinct	27,385	0%	100%	100%
6	Mixed Use	11,063	0%	100%	100%
7	Mixed Use	28,611	0%	100%	100%
8	Residential	-	0%	100%	100%
9	Co-living	3,181	0%	100%	100%
10	Tavern	3,300	0%	100%	100%
11	Mixed Use	13,184	0%	100%	100%
12	Mixed Use	14,917	0%	100%	100%
13	Mixed Use	22,440	0%	0%	100%
14	Mixed Use	4,909	50%	100%	100%
14	Mixed Use	7,574	50%	100%	100%
15	Mixed Use	11,921	0%	0%	100%
16	Mixed Use	13,208	100%	100%	100%
17	Mixed Use	1,964	50%	100%	100%
17	Mixed Use	22,440	50%	100%	100%
18	Mixed Use	3,273	50%	100%	100%
18	Mixed Use	26,648	50%	100%	100%
19	Mixed Use	5,049	0%	0%	100%
20	Mixed Use	4,726	0%	0%	100%
21	Mixed Use	14,000	0%	100%	100%
22	Mixed Use	35,904	0%	100%	100%
23	Mixed Use	9,158	0%	100%	100%
24	0.25ha Lib, 0.85ha Council	8,597	100%	100%	100%
25	0.70ha Leisure	16,157	0%	100%	100%
26	Mixed Use	10,098	100%	100%	100%
27	Mixed Use	11,206	0%	100%	100%
28	Mixed Use	10,491	0%	100%	100%

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Lot No.	Description	Total developable area (m^2)	2026 Percent Completed	2036 Percent Completed	2041 Percent Completed
29	Mixed Use	6,690	0%	100%	100%
30	Mixed Use	37,727	100%	100%	100%
31	Mixed Use	8,415	100%	100%	100%
32	Mixed Use	3,2594	0%	100%	100%
33	Mixed Use	15,000	100%	100%	100%
33	Mixed Use	-	50%	100%	100%
34	Mixed Use	43,318	100%	100%	100%

Figure 2 shows the extents of the Town Centre and the location of each lot identified in Table 1.

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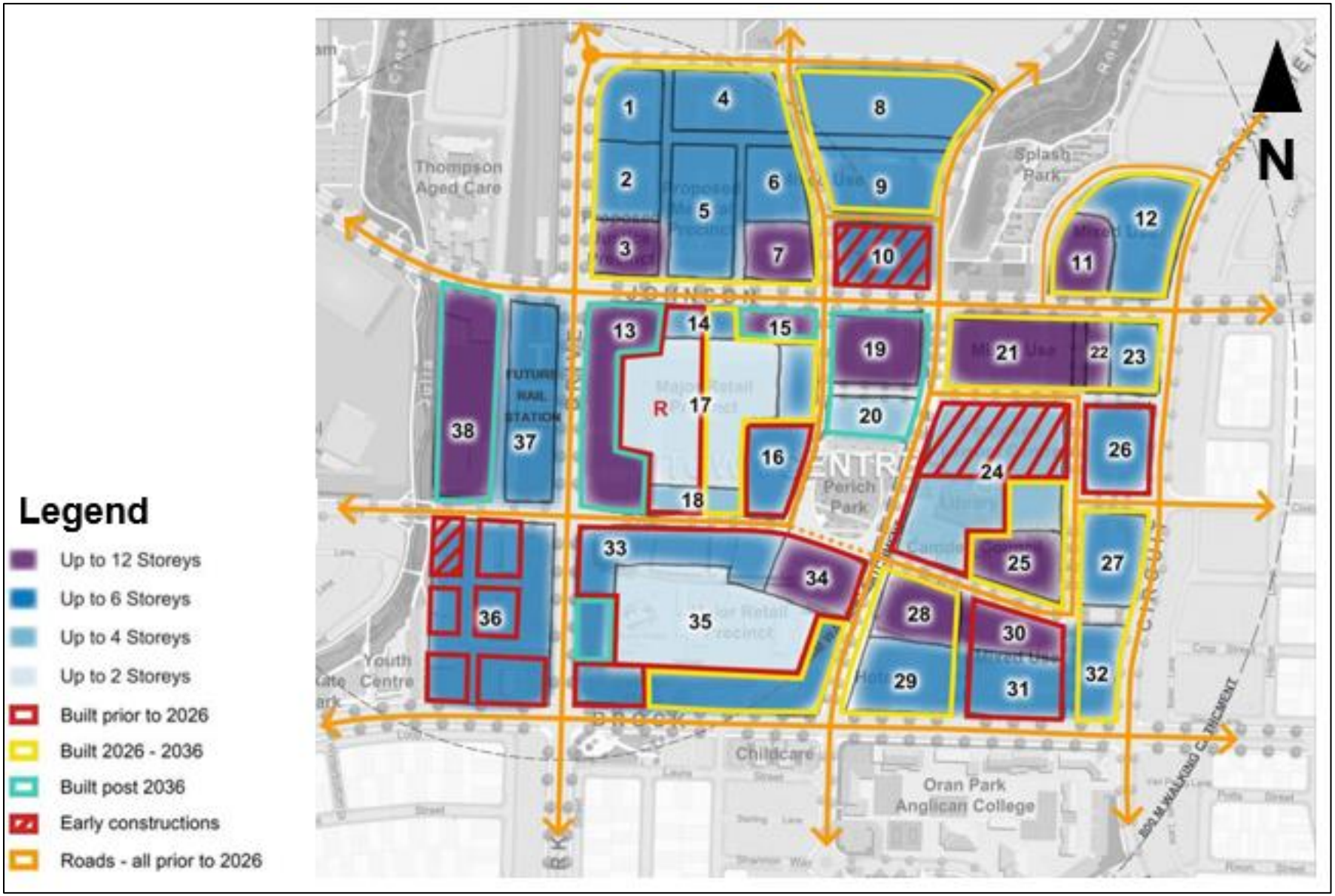


Figure 2 ***Oran Park Town Centre context plan***

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2.2 Access

The majority of the connecting road network in and around the Oran Park Town Centre has been constructed. Figure 3 illustrates the access arrangement to the Oran Park Town Centre Area.

Connectivity to the Town Centre from the west is provided via Peter Brock Drive and Dick Johnson Drive from The Northern Road. From the south, access is provided by Oran Park Drive and South Circuit.

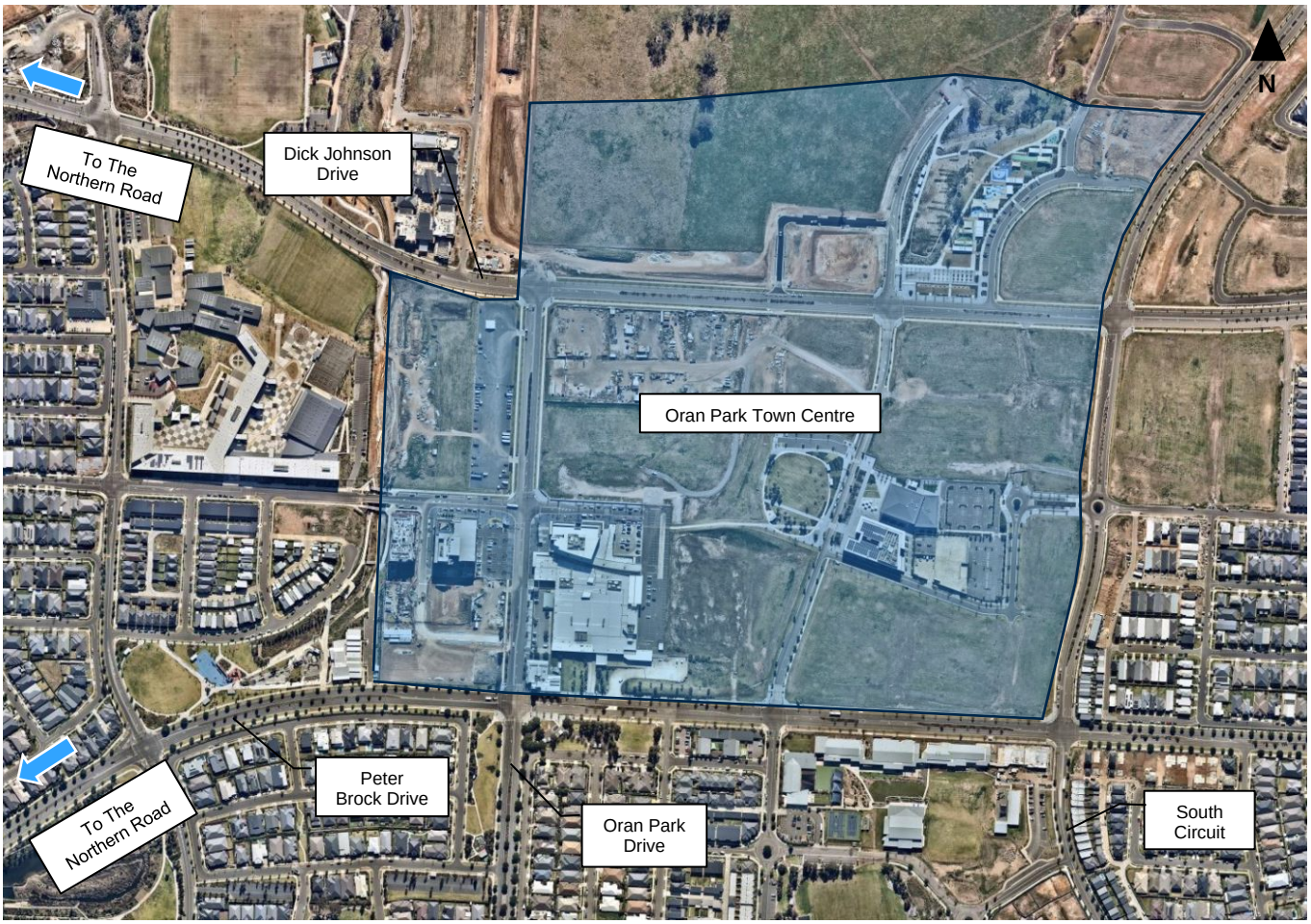


Figure 3 Oran Park Town Centre access locations

2.3 Traffic generation

The trip generation for the Town Centre and other developments within the Oran Park Development has been estimated based on forecast population, employment, and gross-floor area allocation of the proposed land uses. Table 2 documents the trip generation rates used within the Oran Park Traffic Model (OPTM).

Table 2 Trip generation rates

Land use	Units (rates are per unit)	AM rate	PM rate
Retail	Hectare	300	300
Commercial	Hectare	162	162
Industrial	Hectare	52	52
Low density residential	Household	0.95	0.99
Medium density residential	Household	0.76	0.67
High density residential	Household	0.27	0.19
Education (employment only)	Students	0.1	0.1

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Land use	Units (rates are per unit)	AM rate	PM rate
School – Primary	Students	0.67	-
School - secondary	Students	0.51	-

It must be noted that, in addition to the traffic generated by the Town Centre, the forecast demands considered in the traffic analysis includes estimated trip generation from emerging land uses within the surrounding area (i.e. residential, school and other education facilities).

Refer to *Oran Park Traffic Model Development Report* dated September 2021 for the detailed trip generation estimation methodology.

2.4 Trip distribution

Forecast traffic demands for the traffic analysis were determined from the OPTM, which is a strategic transport model developed for the Oran Park Development Area. A brief description of the Oran Park Traffic Model is provided in Section 3 of this report.

Reference can be made to the *Oran Park Traffic Model Development Report* dated September 2021 for detailed trip distribution methodology considered in the Oran Park Development Strategic Transport Model.

2.4.1 Sensitivity analysis trip distribution

It is projected that the South Circuit (east of Oran Park Drive) will be duplicated by 2036 to achieve four-lane cross-section. The additional capacity is likely to attract a proportion of vehicle traffic from the alternative north-south route (Oran Park Drive) to South Circuit. A sensitivity analysis was therefore run with a manual adjustment to the forecast traffic volumes. It was assumed there would be a 20% reduction in the northbound and southbound through traffic on Oran Park Drive / Peter Brock Drive intersection that would be redistributed from the north-south movement on Oran Park Drive to the same movement on South Circuit (east).

Details of this analysis are provided in Section 5.5, and the volume maps for this analysis are provided in Appendix A.

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3. Oran Park Traffic Model

3.1 Strategic Model overview

Oran Park Traffic Model (OPTM) is an EMME-converted version of Oran Park Traffic Model – Cube. The OPTM was developed by including the latest data and information available in terms of Oran Park Town Centre and Industrial Area development, other emerging land uses within the local area and expected upgrades to the road network.

The model's objective was to produce a strategic forecasting tool that calculates trip generation and distribution on the road network from land use inputs, at a level of detail sufficient for informing detailed intersection or microscopic modelling. This tool enables the Southwest Growth Centre (SWGC) network to be analysed consistently for various growth scenarios for different developments.

Figure 4 provides an overview of the OPTM extents, zone areas and road link configurations.

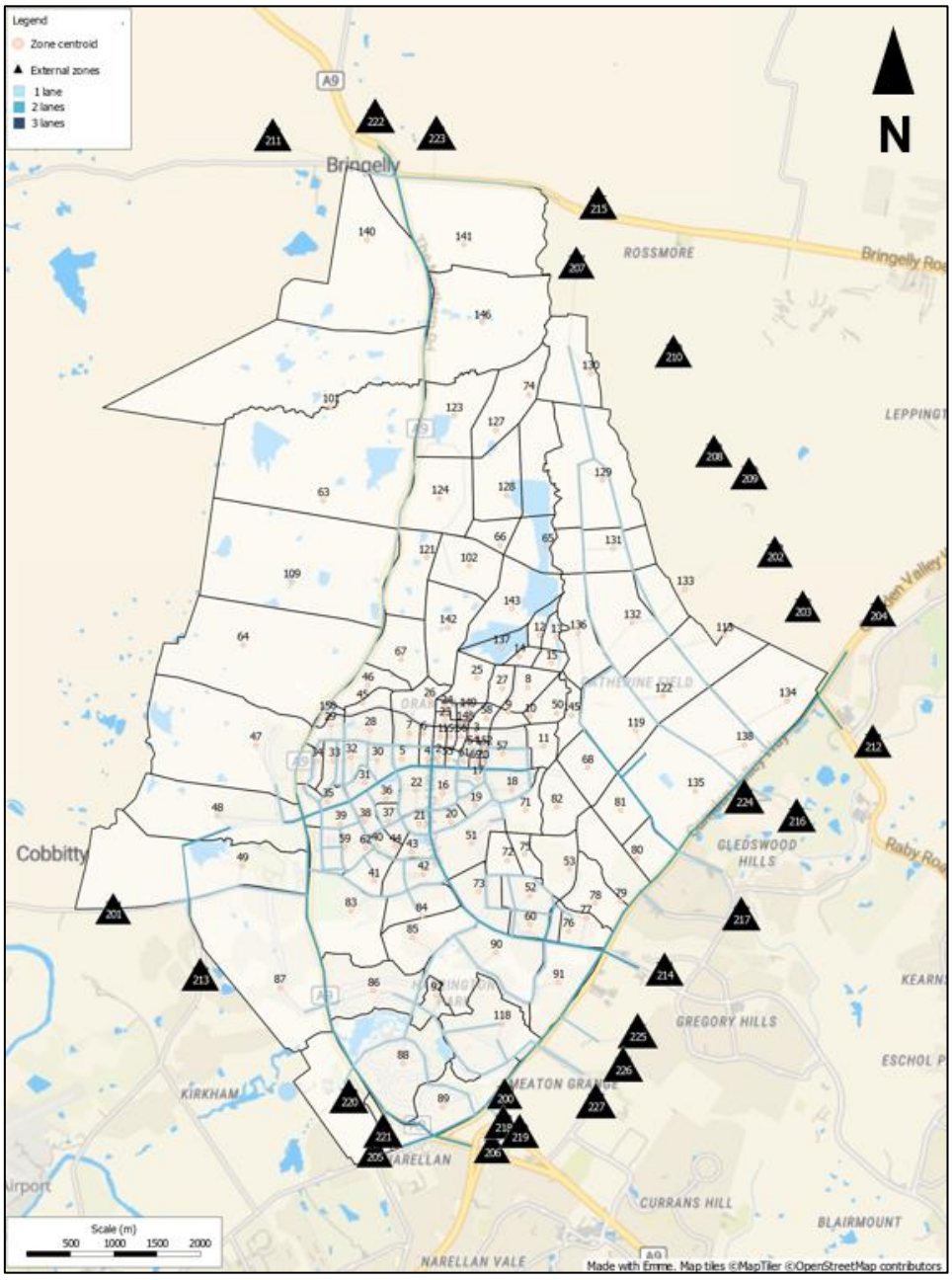


Figure 4 Oran Park Traffic Model extents.

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To supplement the calculations within the modelled area, data from Transport for NSW's Strategic Travel Model (STM v3.6.2, the latest available version at the time of the OPTM development) was integrated into the model, providing:

– Forecast growth in background traffic (through trips that use the road network in the model but do not start or finish their journey in the modelled area).
– The direction of travel out of the modelled area for trips leaving the study area.
– The access point to the modelled area for trips arriving from elsewhere to the study area.

This data serves to capture wider demand impacts that are exogenous to OPTM.

Further details regarding OPTM development, assumptions and limitations are provided in *Oran Park Traffic Model Development Report* dated September 2021.

3.2 Road network assumptions

3.2.1 NSW's Strategic Transport Model (STM v3.6.2)

The STM v3.6.2 formed a strategic travel demand forecast as of August 2019. This demand was based on the approved future year land use forecast TZP2016 v1.5.1, which provides population and employment forecasts for five year increments between 2016 and 2056. This land use forecast includes significant uplifts in both population and employment in Western Sydney, including the Western Sydney Airport, Aerotropolis, Sydney Science Park, South West and North West Growth Centres.

The STM also includes a range of assumptions about the form of the transport network that will support the demand for travel. In Western Sydney, STM v3.6.2 assumes the following major infrastructure:

– M12 Badgerys Creek Motorway (introduced in 2026).
– Sydney Metro Western Sydney Airport (St Marys to Badgerys Creek) (introduced in 2026).
– Elizabeth Drive M7 to Edmondson Avenue Widening (introduced in 2031).

Note that these assumptions do not include:

– North-south Outer Sydney Orbital (M9).
– Sydney Metro Western Sydney Airport extension (which has the potential to include a station at Oran Park).

3.2.2 Oran Park Traffic Model (OPTM)

The OPTM essentially adopts the wider network assumptions from STM. More detailed land use forecasts and road network assumptions in the modelled area are documented in the *Oran Park Traffic Model Development Report*. In brief, the land use forecasts include the following proposed developments:

– Oran Park Industrial Area
– Oran Park Town Centre
– Related Oran Park housing
– Pondicherry Precinct
– Lowes Creek/Maryland Precinct
– South Creek West Precinct
– Greenway

The development of the road network in the study area, staged in order to provide supporting infrastructure for the developments, is shown in Figure 5.

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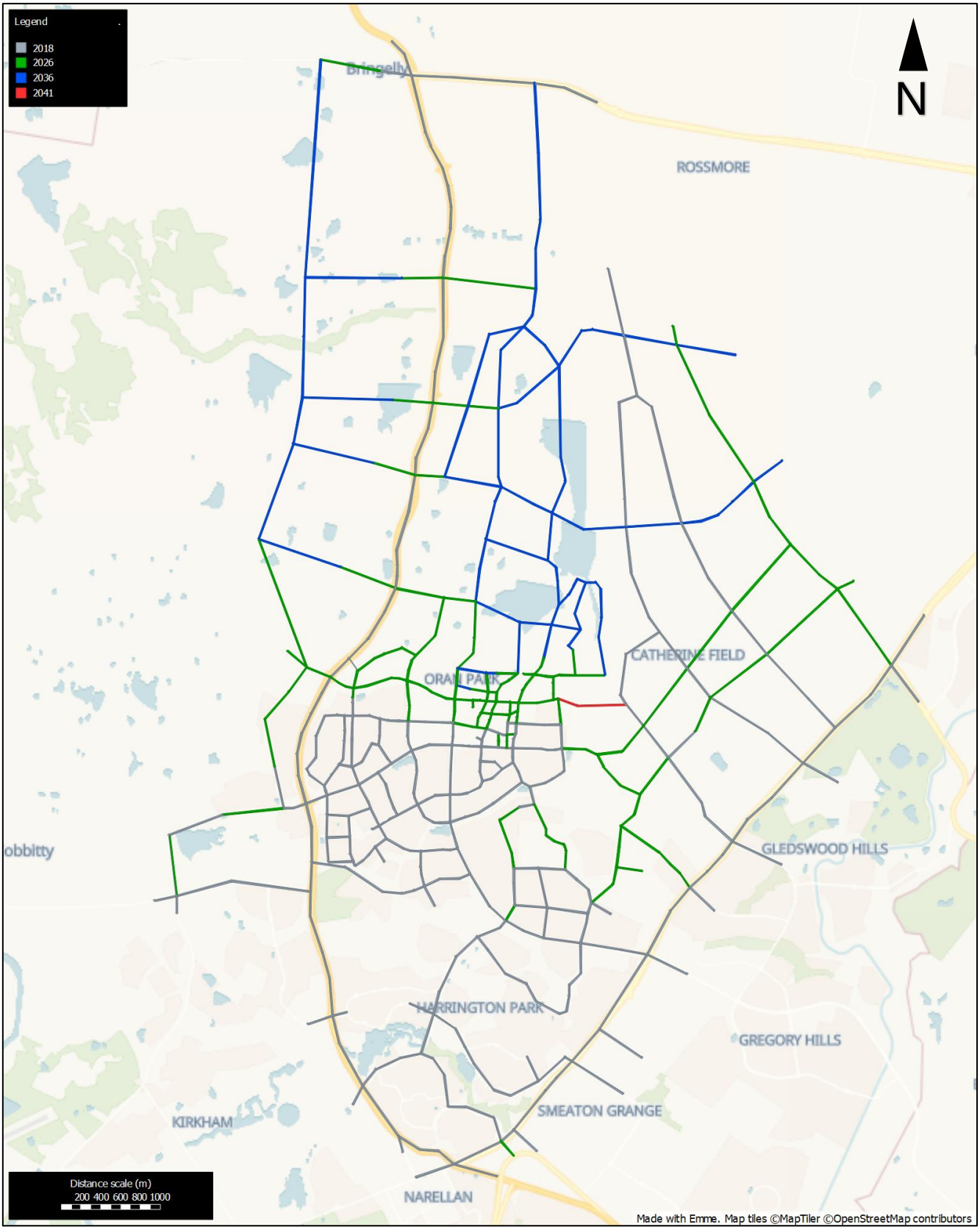


Figure 5 *Oran Park future network development*

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4. Traffic inputs

4.1 Town Centre intersections

Table 3 provides an overview of the intersections and intersection types assessed within and in proximity to the Town Centre.

Table 3 Oran Park Town Centre intersections

ID	Intersection	Intersection type
5	The Northern Road / Peter Brock Drive	Signalised
6	Peter Brock Drive / Stewards Drive / Skaife Street	Priority
7	Peter Brock Drive / Carden Street	Priority
8	Peter Brock Drive / South Circuit (west)	Signalised
9	Peter Brock Drive / Oran Park Drive	Signalised
10	Oran Park Drive / Podium Way	Signalised
11	Dick Johnson Drive / Oran Park Drive	Signalised
12	Dick Johnson Drive / Central Avenue	Signalised
13	Dick Johnson Drive / South Circuit / Dransfield Drive	Signalised
14	Peter Brock Drive / Central Avenue	Signalised
15	Peter Brock Drive / South Circuit (east)	Signalised
16	Civic Way / South Circuit	Roundabout

4.2 Intersection counts

Considering that much of the land surrounding the Oran Park Town Centre is undeveloped, no intersection counts were conducted to inform the traffic analysis documented in this report.

4.3 Forecast traffic demands

Forecast traffic demands for the intersections analysed as part of this traffic analysis were obtained from the OPTM. The intersections were modelled under the forecast 2026, 2036 and 2041 demands.

Forecast demands were extracted for the intersections listed in .

The volume diagrams showing the forecast traffic demands used in the intersection analysis are provided in Appendix A.

4.4 Traffic signal and phasing data

For all signalised intersections listed in , traffic signal plans have been provided by GDC2.

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5. Intersection Performance Analysis

5.1 Analysis methodology and definition of outputs

GHD has undertaken the intersection analysis using the network functionality of SIDRA Intersection 9 ('SIDRA') software package. In order to quantify the intersection performance, the following performance measures were adopted:

– Degree of Saturation (DOS) (%) – ratio of demand flow to capacity
– Average delay (seconds) – average delay per vehicle in seconds incurred by vehicles over the modelled time period.
– Queue length (m) – 95th percentile queue length represents the queues that may only be exceeded during less than 5% occasions during the modelled period.
– Level of Service (LOS) – An index of the traffic operational performance based on average delay.

LOS is a measure of traffic operating conditions whereby a letter grade "A" to "F" is assigned to an intersection or roadway segment. The delay range corresponding to the letter grades in SIDRA are provided in Table 4.

Table 4 RTA Intersection LOS definition

Level of Service	Average Delay per Vehicle (sec/veh)
A	D ≤ 14
B	15< D ≤ 28
C	29< D ≤ 42
D	43< D ≤ 56
E	57< D ≤ 70
F	D > 70

Source: *Guide to Traffic Generating Developments version 2.2*, October 2002.

In accordance with Austroads' *Guide to Traffic Management, Part 3: Traffic Studies and Analysis*, intersection operation is considered to reach practical saturation when the Degree of Saturation (DOS) exceeds 0.90 for signalised, 0.85 roundabout and 0.8 for priority-controlled intersections.

5.2 Analysis scenarios

The intersections within the Town Centre have been analysed under forecast 2026, 2036 and 2041 forecast demands. It should be noted that the assessment does not include "without development" scenario analysis.

The peak periods analysed includes:

– AM peak - 8:00 am to 9:00 am
– PM peak - 5:00 pm - 6:00 pm

5.3 Modelling parameters

SIDRA default parameters were retained for the analysis with the exception of the following project specific inputs:

– Volume inputs are in passenger car units (PCU) for forecast traffic volumes.
– A 60-minute peak flow period was used to represent a consistent flow of traffic (flat profile) during the peaks.
– Area type factor set to 1.1 was used to represent traffic carrying functionality of The Northern Road at The Northern Road / Peter Brock Drive intersection.
– Level of service was used as a function of average delay function in accordance with RTA guidelines.

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– Pedestrian volumes were adopted based on a blanket 30 pedestrians per crossing per hour for all intersections.
– Partial protection to pedestrian movements has been provided by introducing delayed start for the left turn movements if the opposing pedestrian movement (s) is actuated.
– Partial signalised slip lanes have been modelled with 12 seconds stop time if the pedestrian crossing across the relevant slip lane is actuated where required.

Additionally, SIDRA default basic lane saturation flow rate of 1,950 through car units per hour has been retained for all approaches.

5.4 Analysis results

The proceeding sections of this report summarises the intersection specific outputs from a SIDRA network analysis undertaken.

The network layout and detailed SIDRA output reports are provided in Appendix B.

5.4.1 The Northern Road / Peter Brock Drive intersection

Table 5 depicts the SIDRA model layout and aerial imagery of The Northern Road / Peter Brock Drive intersection.

Table 5 The Northern Road / Peter Brock Drive intersection layout

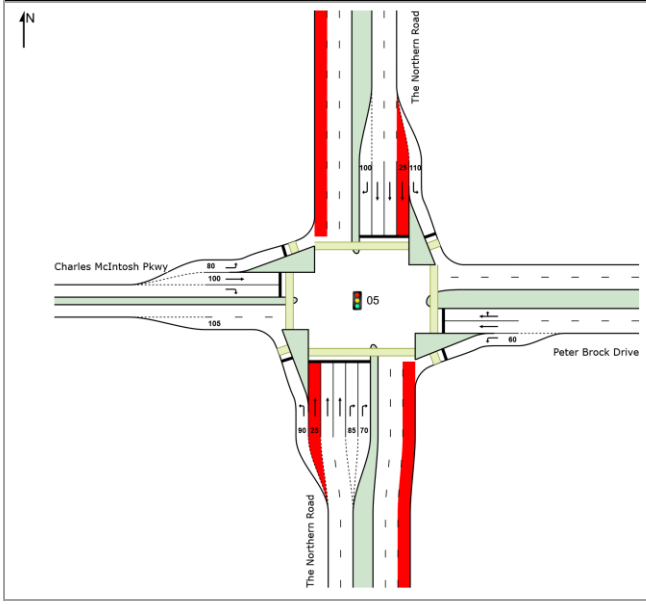
SIDRA Layout	Aerial
	

Table 6 summarises intersection analysis results.

Table 6 The Northern Road / Peter Brock Drive - intersection results summary

Scenario	AM Peak				PM Peak			
	DOS (%)	Delay (sec)	LOS	Queue (m)	DOS (%)	Delay (sec)	LOS	Queue (m)
2026	95%	51	D	297	114%	104	F	701
2036	237%	735	F	3982	245%	541	F	3327
2041	242%	780	F	3938	213%	677	F	4082

It is noted from the results of the analysis:

– Under the 2026 forecast demands, the intersection operates over practical capacity with high delays in both peaks and extensive queues on The Northern Road.

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– Under forecast 2036 and 2041 forecast demands, the intersection performance worsens, with significant delays and queueing at all approaches.
– It is noted that the worsening of The Northern Road approaches of the intersection is predominantly driven by the background traffic growth associated with surrounding developments and wider growth within Western Sydney. However, consideration of alternative travel modes such as public transport or intersection widening will be required to cater for the trips generated by the proposed development beyond 2036.

5.4.2 Peter Brock Drive / Steward Drive / Skaife Street intersection

Table 7 depicts the SIDRA model layout and aerial imagery of Peter Brock Drive / Steward Drive / Skaife Street intersection.

Table 7 Peter Brock Drive / Steward Drive / Skaife Street intersection layout

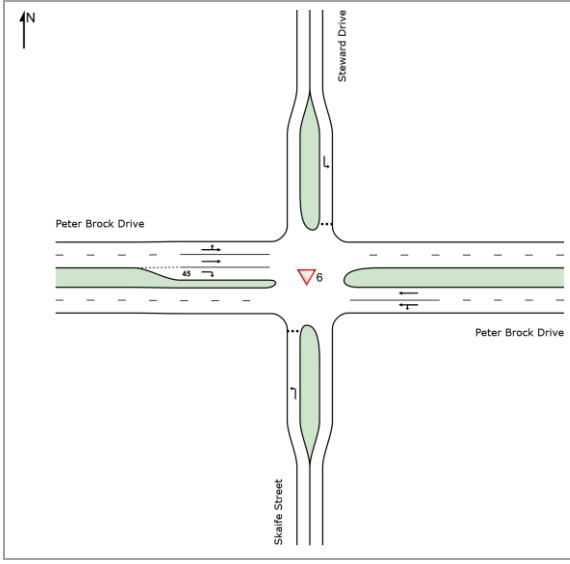
SIDRA Layout	Aerial
	

Table 8 summarises intersection analysis results.

Table 8 Peter Brock Drive / Steward Drive / Skaife Street - intersection results summary

Scenario	AM Peak				PM Peak			
	DOS (%)	Delay* (sec)	LOS*	Queue (m)	DOS (%)	Delay* (sec)	LOS*	Queue (m)
2026	25%	8	A	4	19%	9	A	4
2036	24%	8	A	6	45%	11	A	114
2041	25%	9	A	4	52%	15	B	612

** Delay and LOS reported for worst movement*

It is noted from the results of the analysis:

– Under 2026 forecast demands, the intersection operates within practical capacity with low delays and queueing at all approaches.
– With the expected forecast 2036 and 2041 demands, the intersection continues to operate within capacity during the AM and PM peak periods. However, in the 2041 PM peak there are extensive queues on the east approach due to the blockage at The Northern Road / Peter Brock Drive intersection.
– It is expected that capacity improvements at The Northern Road / Peter Brock Drive intersection will improve the queueing at this intersection.
– It is also noted that in the AM peak, the performance marginally improves in 2036. This is due to the reduction in arrival flows due to traffic being constrained at The Northern Road / Peter Brock Drive intersection.

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5.4.3 Peter Brock Drive / Carden Street intersection

Table 9 depicts the SIDRA model layout and aerial imagery of Peter Brock Drive / Carden Street intersection.

Table 9 Peter Brock Drive / Carden Street intersection layout

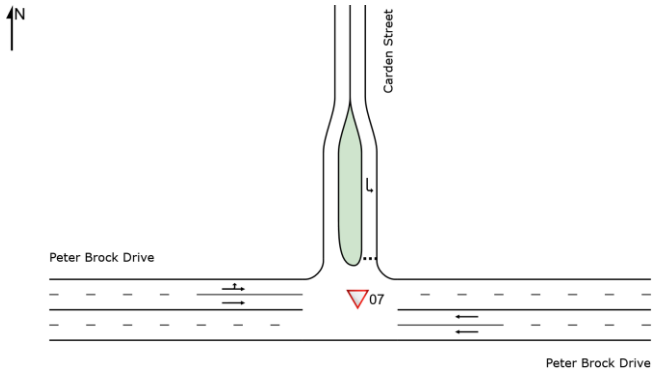
SIDRA Layout	Aerial
	

Table 10 summarises intersection analysis results.

Table 10 Peter Brock Drive / Carden Street - intersection results summary

Scenario	AM Peak				PM Peak			
	DOS (%)	Delay* (sec)	LOS*	Queue (m)	DOS (%)	Delay* (sec)	LOS*	Queue (m)
2026	26%	14	A	7	24%	10	A	9
2036	27%	13	A	8	30%	7	A	12
2041	25%	14	A	8	39%	12	A	107

** Delay and LOS reported for worst movement*

It is noted from the results of the analysis:

- Under 2026 forecast demands, the intersection operates within practical capacity with low delays and queueing at all approaches.
- With the expected background and development traffic growth under forecast years 2036 and 2041, the intersection continues to operate within capacity during the AM and PM peak periods.
- It is also noted that in the AM peak, the performance marginally improves in 2041. This is due to the reduction in arrival flows due to traffic being constrained at the adjacent The Northern Road / Peter Brock Drive intersection.
- In the 2041 PM peak there are moderate queues on the east approach, due to the extension of queueing from The Northern Road / Peter Brock Drive intersection. It is expected that capacity improvements at The Northern Road / Peter Brock Drive intersection will improve the queueing at this intersection.

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5.4.4 Peter Brock Drive / South Circuit (west) intersection

Table 11 depicts the SIDRA model layout and aerial imagery of Peter Brock Drive / South Circuit (west) intersection.

Table 11 Peter Brock Drive / South Circuit (west) intersection layout

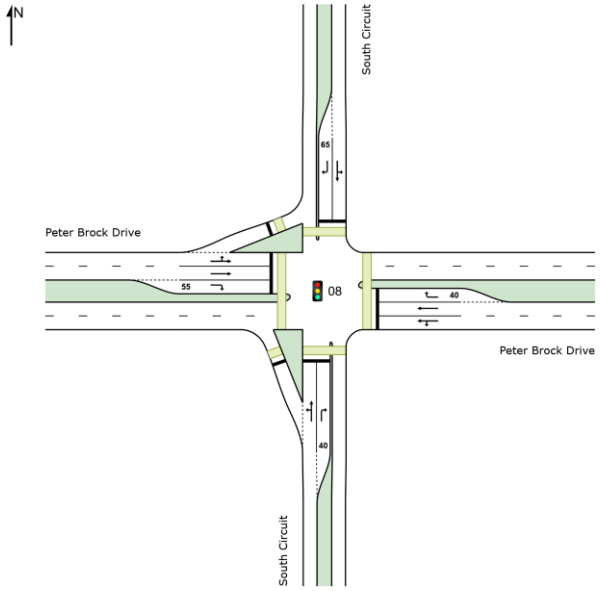
SIDRA Layout	Aerial
	

Table 12 summarises intersection analysis results.

Table 12 Peter Brock Drive / South Circuit (west) - intersection results summary

Scenario	AM Peak				PM Peak			
	DOS (%)	Delay (sec)	LOS	Queue (m)	DOS (%)	Delay (sec)	LOS	Queue (m)
2026	54%	26	B	157	40%	25	B	84
2036	55%	27	B	163	59%	24	B	122
2041	54%	22	B	163	66%	13	A	115

It is noted from the results of the analysis:

– Under 2026 forecast demands, the intersection operates within practical capacity with low delays and queueing at all approaches.
– With the expected background and development traffic growth under forecast years 2036 and 2041, the intersection continues to operate within capacity during the AM and PM peak periods.
– It is also noted that in both peaks, the performance marginally improves in 2041. This is due to the reduction in arrival flows due to traffic being constrained at the adjacent Peter Brock Drive / Oran Park Drive intersection. The traffic demand for vehicles entering and exiting South Circuit is also lighter in 2041 than in 2036, due to the rerouting in the OPTM.

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5.4.5 Peter Brock Drive / Oran Park Drive intersection

Table 13 depicts the SIDRA model layout and aerial imagery of Peter Brock Drive / Oran Park Drive intersection.

Table 13 Peter Brock Drive / Oran Park Drive intersection layout

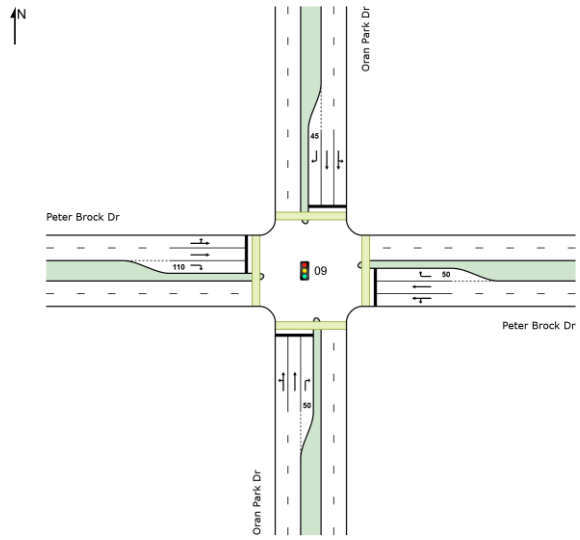
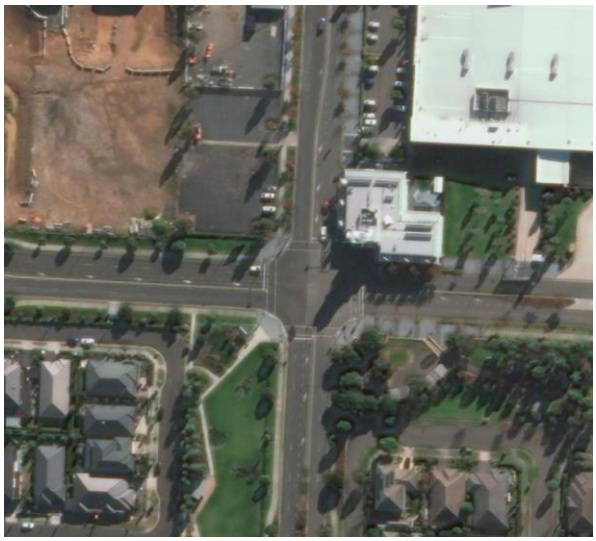
SIDRA Layout	Aerial
	

Table 14 summarises intersection analysis results.

Table 14 Peter Brock Drive / Oran Park Drive - intersection results summary

Scenario	AM Peak				PM Peak			
	DOS (%)	Delay (sec)	LOS	Queue (m)	DOS (%)	Delay (sec)	LOS	Queue (m)
2026	85%	45	D	248	84%	44	D	161
2036	106%	57	E	284	105%	69	E	375
2041	85%	44	D	222	215%	226	F	709

It is noted from the results of the analysis:

– Under the 2026 forecast demands, the intersection operates under practical capacity with moderate delays and queueing.
– With the expected 2036 and 2041 forecast demands, the intersection operates over capacity as a result of increased background traffic growth and additional developments. In all cases except 2041 AM, there are also high average delays and extensive queueing.
– The performance of the intersection improves from 2036 to 2041. This is primarily due to reduced demand for movements entering and exiting the minor road (Oran Park Drive) in 2041 due to rerouting in the OPTM.
– The through traffic (northbound and southbound) on Oran Park Drive is comparatively lighter in 2041 AM peak to 2036 AM peak. This would lead to marginal improvement of the intersection operation in 2036 AM peak.

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5.4.6 Oran Park Drive / Podium Way intersection

Table 15 depicts the SIDRA model layout and aerial imagery of Oran Park Drive / Podium Way intersection.

Table 15 Oran Park Drive / Podium Way intersection layout

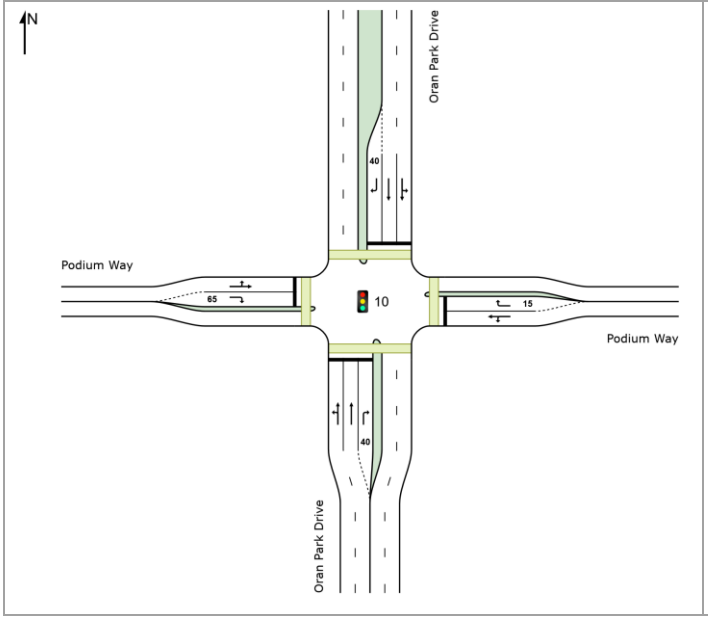
SIDRA Layout	Aerial
	

Table 16 summarises intersection analysis results.

Table 16 Oran Park Drive / Podium Way - intersection results summary

Scenario	AM Peak				PM Peak			
	DOS (%)	Delay (sec)	LOS	Queue (m)	DOS (%)	Delay (sec)	LOS	Queue (m)
2026	57%	27	B	127	51%	24	B	141
2036	101%	60	E	339	80%	25	B	214
2041	84%	38	C	258	97%	49	D	294

It is noted from the results of the analysis:

– Under the 2026 forecast demands, the intersection operates within the practical capacity with moderate delays and queueing.
– With the expected 2036 and 2041 forecast demands, the intersection operates over capacity. In 2036 AM and 2041 PM, there are also high average delays and extensive queueing.
– The performance of the intersection improves from 2036 to 2041. This is primarily due to there being a reduced demand on Oran Park Drive in the 2041 AM peak.
– The through traffic (northbound and southbound) on Oran Park Drive is lighter in 2041 AM peak when compared to 2036 AM peak, although more traffic entering and exiting the Podium Way is comparatively more in 2041 AM peak.

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5.4.7 Dick Johnson Drive / Oran Park Drive intersection

Table 17 depicts the SIDRA model layout and aerial imagery of Dick Johnson Drive / Oran Park Drive intersection.

Table 17 Dick Johnson Drive / Oran Park Drive intersection layout

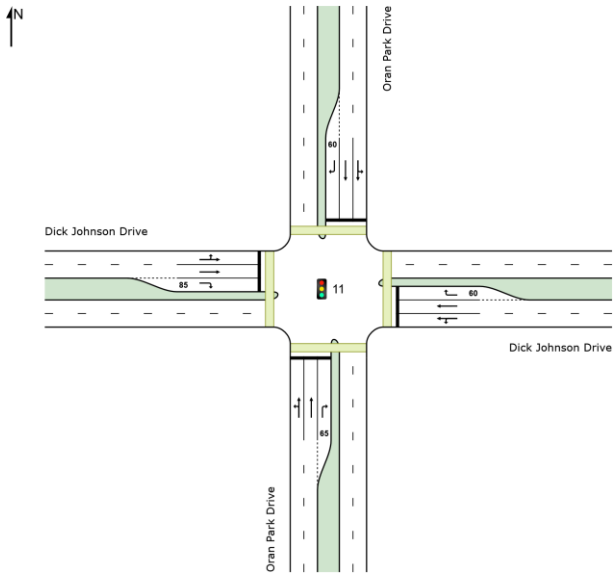
SIDRA Layout	Aerial
	

Table 18 summarises intersection analysis results.

Table 18 Dick Johnson Drive / Oran Park Drive - intersection results summary

Scenario	AM Peak				PM Peak			
	DOS (%)	Delay (sec)	LOS	Queue (m)	DOS (%)	Delay (sec)	LOS	Queue (m)
2026	56%	32	C	113	76%	31	C	192
2036	87%	39	C	286	89%	33	C	218
2041	120%	63	E	314	94%	45	D	319

It is noted from the results of the analysis:

– Under the 2026 and 2036 forecast demands, the intersection operates within practical capacity with moderate delays and queueing.

– With the additional background and development traffic growth under 2041 forecast demands, the intersection operates over practical capacity. In the AM peak, moderate delays are also expected. Providing additional intersection capacity, for example, by extending the right-turn lanes and adding short left turn lanes, will be required to cater for the trips generated by the proposed development beyond 2036.

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5.4.8 Dick Johnson Drive / Central Avenue intersection

Table 19 depicts the SIDRA model layout and aerial imagery of Dick Johnson Drive / Central Avenue intersection.

Table 19 Dick Johnson Drive / Central Avenue intersection layout

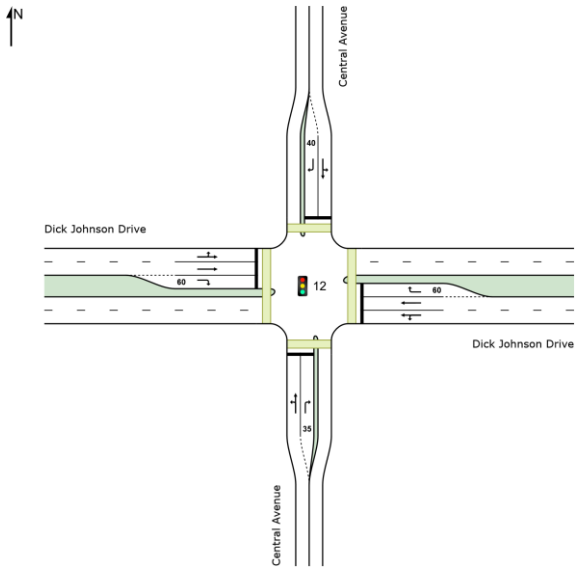
SIDRA Layout	Aerial
	

Table 20 summarises intersection analysis results.

Table 20 Dick Johnson Drive / Central Avenue - intersection results summary

Scenario	AM Peak				PM Peak			
	DOS (%)	Delay (sec)	LOS	Queue (m)	DOS (%)	Delay (sec)	LOS	Queue (m)
2026	44%	41	C	112	36%	33	C	65
2036	67%	38	C	170	89%	51	D	271
2041	84%	41	C	219	94%	55	D	299

It is noted from the results of the analysis:

– Under the 2026 forecast demands, the intersection operates within practical capacity with moderate delays and queueing.
– With the expected 2036 and 2041 forecast traffic growth due to the additional developments and background growth, the intersection performance operates within practical intersection capacity in all cases except for the 2041 PM peak.
– Queues were identified to exceed the available storage on the south approach in the 2036 and 2041 PM peaks.
– Queues were identified to exceed the available storage on the east approach in the 2041 PM peaks.

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5.4.9 Dick Johnson Drive / South Circuit / Dransfield Drive intersection

Table 21 depicts the SIDRA model layout and aerial imagery of Dick Johnson Drive / South Circuit / Dransfield Drive intersection.

Table 21 Dick Johnson Drive / South Circuit / Dransfield Drive intersection layout

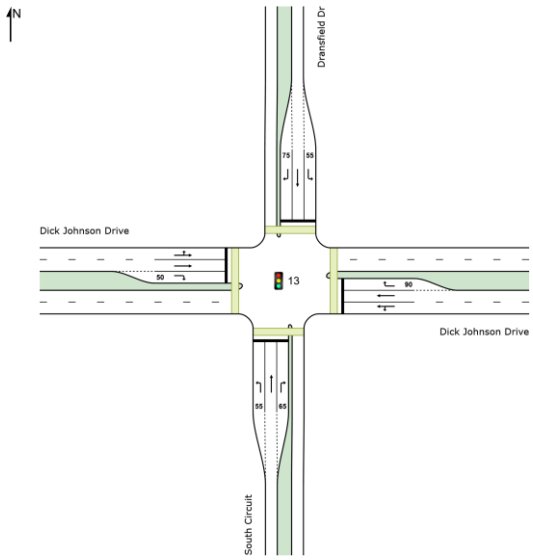
SIDRA Layout	Aerial
	

Table 22 summarises intersection analysis results.

Table 22 Dick Johnson Drive / South Circuit / Dransfield Drive - intersection results summary

Scenario	AM Peak				PM Peak			
	DOS (%)	Delay (sec)	LOS	Queue (m)	DOS (%)	Delay (sec)	LOS	Queue (m)
2026	50%	42	C	125	55%	40	C	122
2036	73%	46	D	204	77%	48	D	201
2041	89%	55	D	245	125%	146	F	657

It is noted from the results of the analysis:

– Under the 2026 forecast demands, the intersection operates within practical capacity with moderate delays and queueing.
– With the expected background traffic growth under 2036 forecast demands, the intersection continues to operate under practical capacity, with reasonable delays. Queues in 2036 were identified to exceed storage on the south approach in the PM peak.
– Under 2041 AM forecast demands, the intersection operates within practical capacity but with maximum queues extending to adjacent intersections on the west approach. It is recognised that average queues do not exceed the available storage.
– Under 2041 PM forecast demands, the intersection exceeds capacity, with high delays and with significant queueing, particularly on the south and east approaches were average queues extended to the adjacent intersections. This is partly due to queueing at the adjacent Dick Johnson Drive / Central Avenue intersection extending to the intersection, which in turn reduces the capacity for westbound movements.

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5.4.10 Peter Brock Drive / Central Avenue intersection

Table 23 depicts the SIDRA model layout and aerial imagery of Peter Brock Drive / Central Avenue intersection.

Table 23 Peter Brock Drive / Central Avenue intersection layout

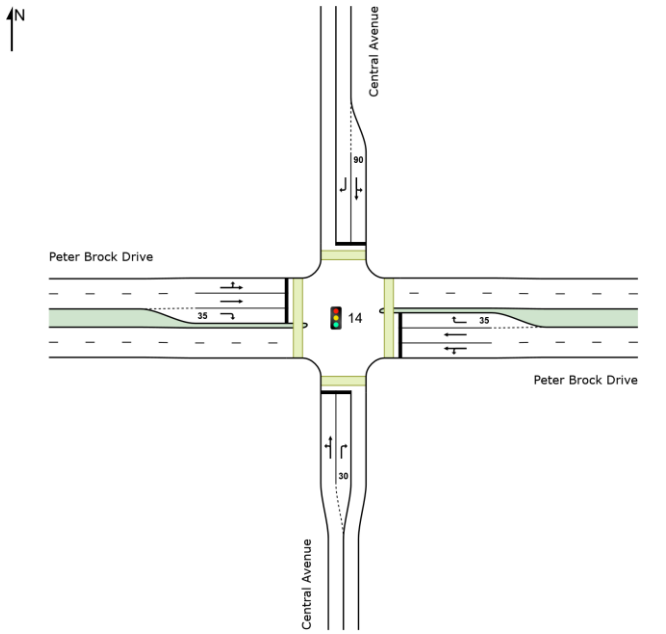
SIDRA Layout	Aerial
	

Table 24 summarises intersection analysis results.

Table 24 Peter Brock Drive / Central Avenue - intersection results summary

Scenario	AM Peak				PM Peak			
	DOS (%)	Delay (sec)	LOS	Queue (m)	DOS (%)	Delay (sec)	LOS	Queue (m)
2026	40%	27	B	102	51%	32	C	88
2036	55%	26	B	165	61%	32	C	100
2041	53%	26	B	163	126%	184	F	490

It is noted from the results of the analysis:

– Under the 2026 and 2036 forecast demands, the intersection operates within practical capacity with moderate delays and queueing.
– Under 2041 AM forecast demands, the intersection continues to operate within practical capacity.
– Under 2041 PM forecast demands, the intersection exceeds capacity with high delays and queues exceeding storage on the east approach. It is recognised that the worsening of the traffic performance under 2041 PM demands is caused by the queueing and blockage introduced by the adjacent Peter Brock Drive / Oran Park Drive intersection.

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5.4.11 Peter Brock Drive / South Circuit (east) intersection

Table 25 depicts the SIDRA model layout and aerial imagery of Peter Brock Drive / South Circuit (east) intersection.

Table 25 Peter Brock Drive / South Circuit (east) intersection layout

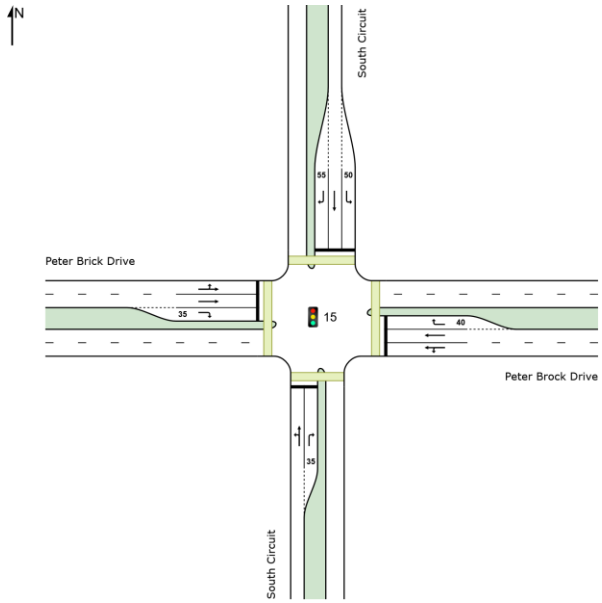
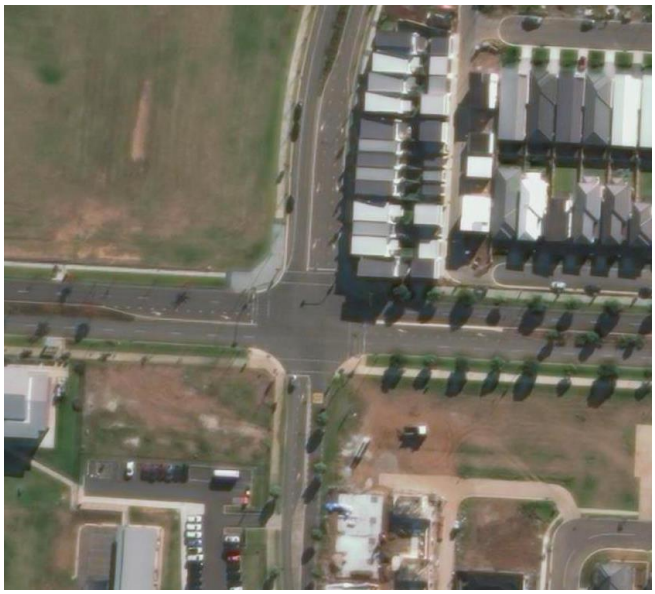
SIDRA Layout	Aerial
	

Table 26 summarises intersection analysis results.

Table 26 Peter Brock Drive / South Circuit (east) - intersection results summary

Scenario	AM Peak				PM Peak			
	DOS (%)	Delay (sec)	LOS	Queue (m)	DOS (%)	Delay (sec)	LOS	Queue (m)
2026	60%	47	D	101	80%	34	C	143
2036	85%	47	D	174	108%	76	F	384
2041	66%	37	C	132	128%	163	F	900

It is noted from the results of the analysis:

– Under the 2026 forecast demands, the intersection operates within practical capacity with moderate delays and queueing.
– Under 2036 PM and 2041 PM demands, the intersection operates over capacity and with moderate to high delays and extensive queueing.
– Under 2041 AM demands, the performance improves from 2036 with the intersection operating under practical capacity. This occurs as there is a reduction in demand for vehicles entering and exiting the minor road (South Circuit) in 2041.

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5.4.12 Civic Way / South Circuit intersection

Table 27 depicts the SIDRA model layout and aerial imagery of Civic Way / South Circuit intersection.

Table 27 Civic Way / South Circuit intersection layout

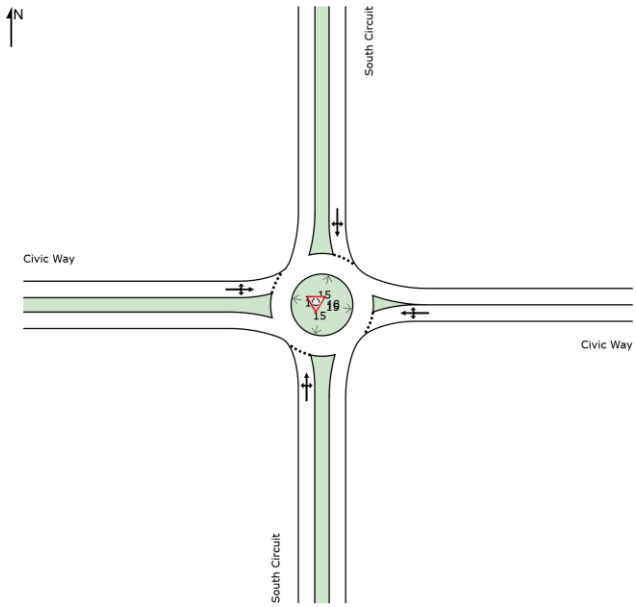
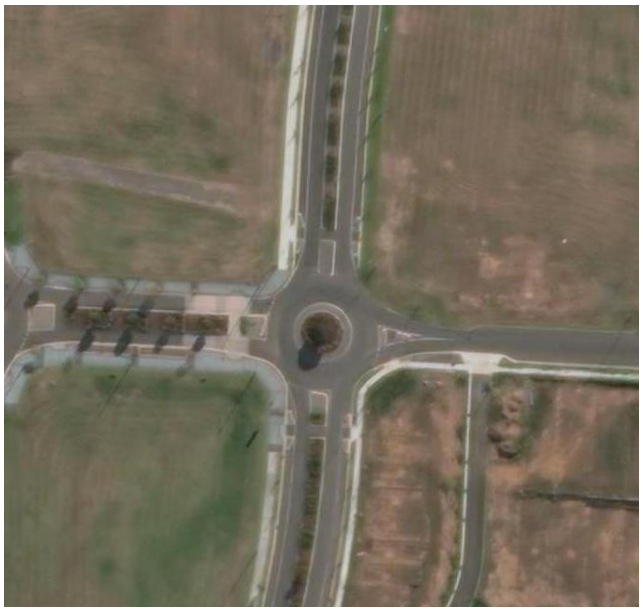
SIDRA Layout	Aerial
	

Table 28 summarises intersection analysis results.

Table 28 Civic Way / South Circuit - intersection results summary

Scenario	AM Peak				PM Peak			
	DOS (%)	Delay* (sec)	LOS*	Queue (m)	DOS (%)	Delay* (sec)	LOS*	Queue (m)
2026	33%	11	A	15	34%	11	A	15
2036	44%	14	A	22	47%	15	B	21
2041	35%	10	A	23	58%	10	A	109

** Delay and LOS reported for worst movement*

It is noted from the results of the analysis:

– Under all forecast demands, the roundabout operates within practical capacity with low to moderate delays and queueing at all approaches.

– It is noted that in the AM peak, the performance marginally improves in 2041. This is due to the lower demands in 2041 on South Circuit (east). This occurs as vehicle demands become reroute due to the wider expansion of the surrounding road network.

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5.5 Sensitivity analysis

The projected duplication of South Circuit (east of Oran Park Drive) by 2036 is likely to result in traffic being attracted to the corridor from alternative routes. A sensitivity test was, therefore, run to determine the intersection performance of the following intersections, given a reduction in north-south traffic on Oran Park Drive and an increase in traffic on a 4-lane South Circuit (east):

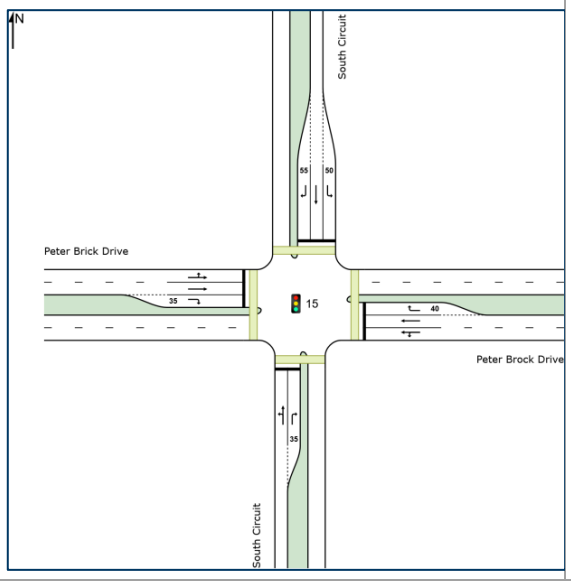
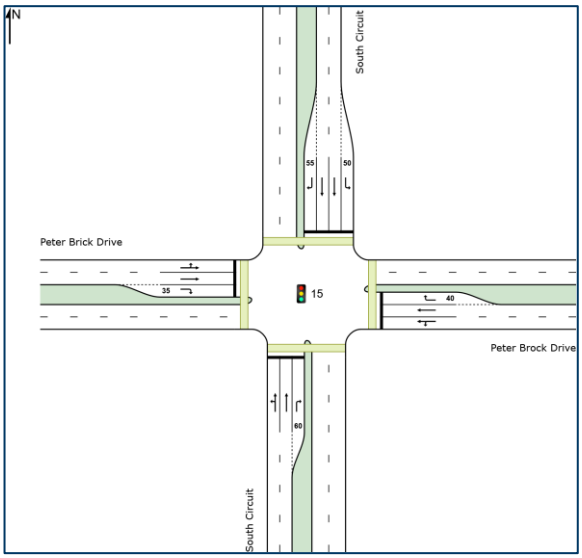
– Peter Brock Drive / Oran Park Drive
– Oran Park Drive / Podium Way
– Dick Johnson Drive / Oran Park Drive
– Peter Brock Drive / South Circuit (east)
– Civic Way / South Circuit
– Dick Johnson Drive / South Circuit / Dransfield Drive

Alongside the 4-laning of South Circuit, the SIDRA analysis also included the following intersection upgrades:

– Extension of right-turn lane from South Circuit (south) at Peter Brock Drive / South Circuit (east) to 60 m
– Extension of right-turn lane from Oran Park Drive (south) at Peter Brock Drive / Oran Park Drive to 100 m

Table 29 shows the original and upgraded layouts for the sensitivity analysis at the locations listed above.

Table 29 Sensitivity analysis layouts

Intersection	Original layout	Sensitivity analysis layout
Peter Brock Drive / South Circuit (east)		

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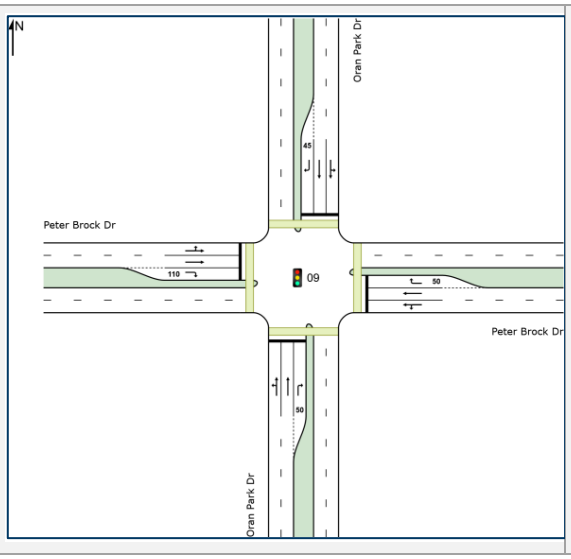
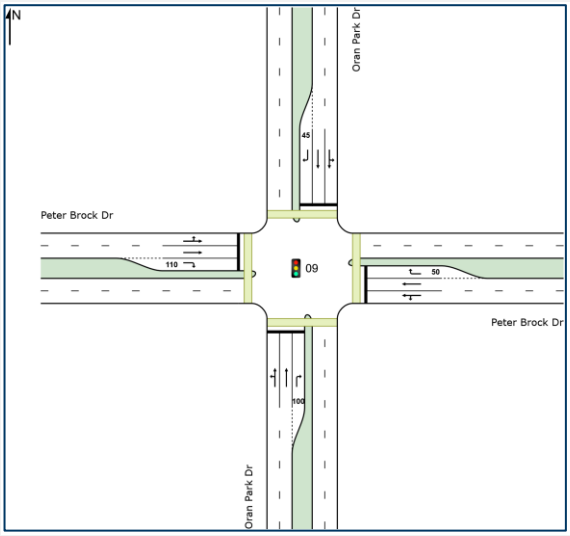
Peter Brock Drive / Oran Park Drive		

Table 30 and Table 31 provides the AM and PM results where a 20% reduction in through traffic at the Peter Brock Drive / Oran Park Drive is removed from the Oran Park Drive north-south movement and applied to South Circuit (east) for the 2036 and 2041 forecast years respectively.

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Table 30 2036 sensitivity analysis results

Intersection	AM Peak				PM Peak			
	DOS (%)	Delay (sec)	LOS	Queue (m)	DOS (%)	Delay (sec)	LOS	Queue (m)
Peter Brock Drive / Oran Park Drive	85%	41	C	158	86%	48	D	208
Oran Park Drive / Podium Way	84%	47	D	236	55%	16	B	107
Dick Johnson Drive / Oran Park Drive	78%	39	C	226	82%	39	C	222
Peter Brock Drive / South Circuit (east)	79%	42	C	139	83%	44	D	253
Civic Way / South Circuit*	34%	17	B	29	24%	19	B	26
Dick Johnson Drive / South Circuit / Dransfield Drive	56%	46	D	128	67%	48	D	143

**Worst movement delay and LOS reported for Civic Way / South Circuit*

Table 31 2041 sensitivity analysis results

Intersection	AM Peak				PM Peak			
	DOS (%)	Delay (sec)	LOS	Queue (m)	DOS (%)	Delay (sec)	LOS	Queue (m)
Peter Brock Drive / Oran Park Drive	88%	44	D	192	104%	79	F	427
Oran Park Drive / Podium Way	85%	41	C	240	65%	23	B	157
Dick Johnson Drive / Oran Park Drive	93%	59	E	300	93%	32	C	292
Peter Brock Drive / South Circuit (east)	70%	39	C	132	94%	50	D	444
Civic Way / South Circuit*	36%	15	B	28	27%	13	A	145
Dick Johnson Drive / South Circuit / Dransfield Drive	86%	52	D	244	125%	158	F	665

**Worst movement delay and LOS reported for Civic Way / South Circuit*

The above results indicate that in 2036, when assuming 20% of through vehicles reroute from Oran Park Drive onto South Circuit following duplication of the link, all intersections are shown to operate within practical intersection capacity and with LOS of D or better. This suggests that with the 4-laning of South Circuit and associated rerouting, all intersections will be operating acceptably at 2036.

The 2041 results indicate that alternative travel modes such as public transport, or further intersection capacity upgrades will be required to cater for the trips generated by the proposed development beyond 2036. This is noted as all intersections except for Oran Park Drive / Podium Way and Civic Way / South Circuit were identified to operate above practical capacity in 2041.

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6. Summary and Conclusions

This report documents the findings from the traffic analysis undertaken to demonstrate the anticipated operational condition of the intersections located within the Oran Park Town Centre development under forecast traffic demands.

The Town Centre area extents are Peter Brock Drive in the south, South Circuit in the east, Oran Park Drive in the west and Dick Johnson Drive in the north, and will contain a mixed land-use, justice and medical precincts and residential land-uses. The development is currently partially developed, and is expected to be fully developed and functional by 2041. The primary road network for the Town Centre has been constructed, with major accesses to the precinct provided at Dick Johnson Drive, Peter Brock Drive, Oran Park Drive and South Circuit.

As part of the traffic analysis documented in this report, the intersections located within the Oran Park Town Centre have been analysed under forecast 2026, 2036 and 2041 demands. The forecast demands were obtained from OPTM which considers the wider road network and growth assumptions based on STM in conjunction with land use forecast within Oran Park Development.

It is noted that STM v3.6.2 assumes the following major infrastructure upgrades within the model development:

– M12 Badgerys Creek Motorway (introduced in 2026).
– Sydney Metro Western Sydney Airport (St Marys to Badgerys Creek) (introduced in 2026).
– Elizabeth Drive M7 to Edmondson Av Widening (introduced in 2031).

STM v3.6.2 does not include the following road network upgrade scheme that are currently in planning stages:

– North-South Outer Sydney Orbital (M9).
– Sydney Metro Western Sydney Airport Extension (which has the potential to include a station at Oran Park).

Further details regarding OPTM are summarised in *Oran Park Traffic Model Development Report* dated September 2021.

SIDRA network modelling analysis undertaken based on demand outputs from OPTM determined the expected results under the 2026, 2036 and 2041 forecast demands.

Table 32 provides a summary of when each intersection was shown to exceed practical capacity.

Table 32 Oran Park Town Centre intersection performance

Intersection	2026	2036	2041
	Under practical intersection capacity (✓ / X)		
The Northern Road / Peter Brock Drive	X	X	
Peter Brock Drive / Stewards Drive / Skaife Street	✓	✓	✓
Peter Brock Drive / Carden Street	✓	✓	✓
Peter Brock Drive / South Circuit (west)	✓	✓	✓
Peter Brock Drive / Oran Park Drive	✓	X	X
Oran Park Drive / Podium Way	✓	X	X
Dick Johnson Drive / Oran Park Drive	✓	✓	X
Dick Johnson Drive / Central Avenue	✓	✓	X
Dick Johnson Drive / South Circuit / Dransfield Drive	✓	✓	X
Peter Brock Drive / Central Avenue	✓	✓	X
Peter Brock Drive / South Circuit (east)	✓	X	X
Civic Way / South Circuit	✓	✓	✓

It was identified that all intersections likely to operate within practical operational capacity under 2036 forecast demands, excluding the following:

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– The Northern Road / Peter Brock Drive
– Peter Brock Drive / Oran Park Drive
– Oran Park Drive / Podium Way
– Peter Brock Drive / South Circuit (east)

It is recognised that two of the five intersections that operate over capacity in 2036 are located on Oran Park Drive, indicating that performance is constrained along this route.

A sensitivity analysis undertaken to determine the performance of the adjacent intersection if the South Circuit (east of Oran Park Drive) is upgraded to four-lane cross-section has shown that:

– 20% traffic can be displaced from the north-south through movement on Oran Park Drive to South Circuit.
– Under 2036 forecast demands, all intersections within the Town Centre operate within practical capacity.
– Under 2041 forecast demands, the following intersections were shown to operate over capacity:
    - Peter Brock Drive / Oran Park Drive
    - Dick Johnson Drive / Oran Park Drive
    - Peter Brock Drive / South Circuit (east)
    - Dick Johnson Drive / South Circuit / Dransfield Drive
– Dick Johnson Drive / South Circuit / Dransfield Drive and Peter Brock Drive / Oran Park Drive were identified to operate with DOS over 100% and LOS of F in the 2041 PM peak. This indicates that intersection capacity upgrades or reductions in demand through alternative travel modes such as public transport must be implemented so that these intersections can perform acceptably up to 2041.

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Appendix A

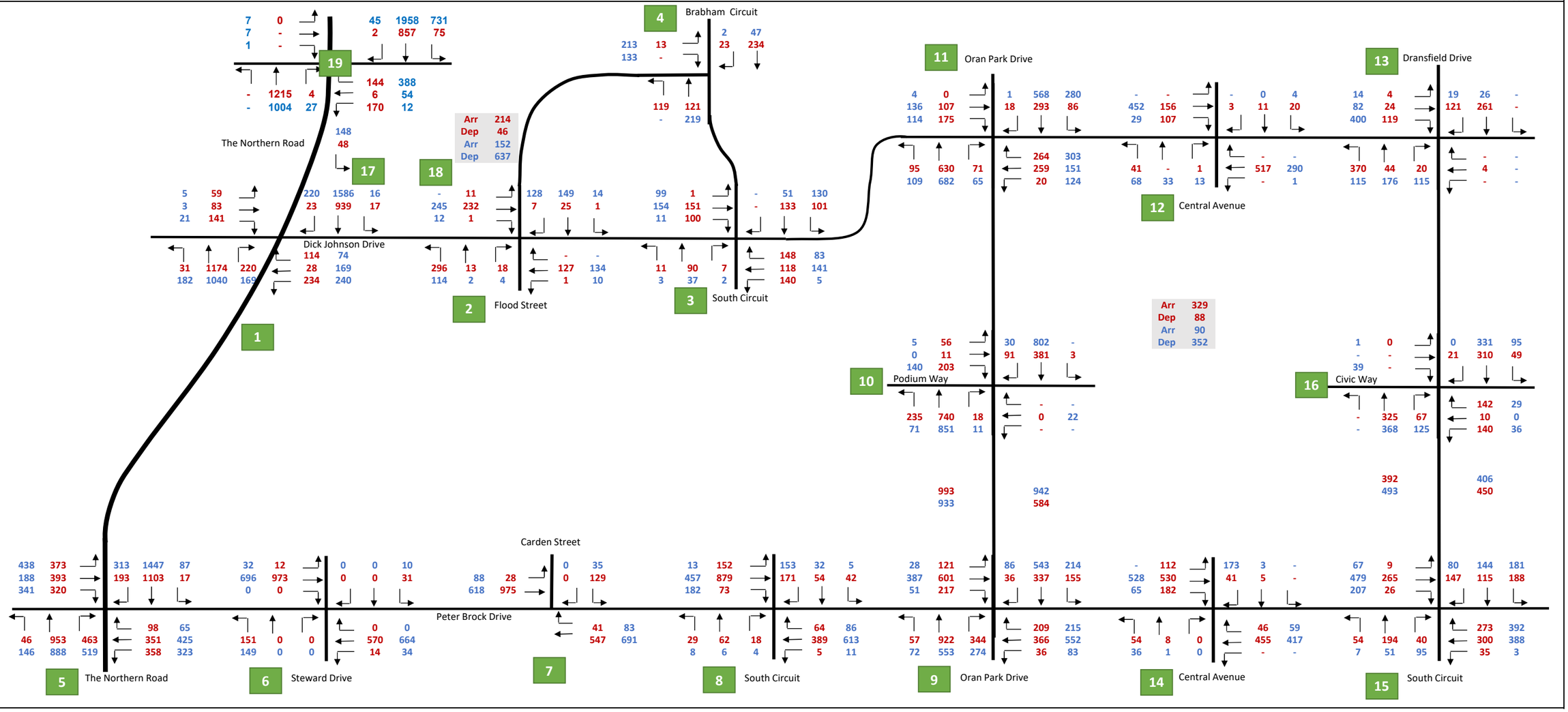
Volume maps

Oran Park Traffic Analysis
Employment Area and Town Centre Rezoning - Intersection Analysis
Forecast 2026

AM / **PM** hourly demands

2026

N



Oran Park Traffic Analysis

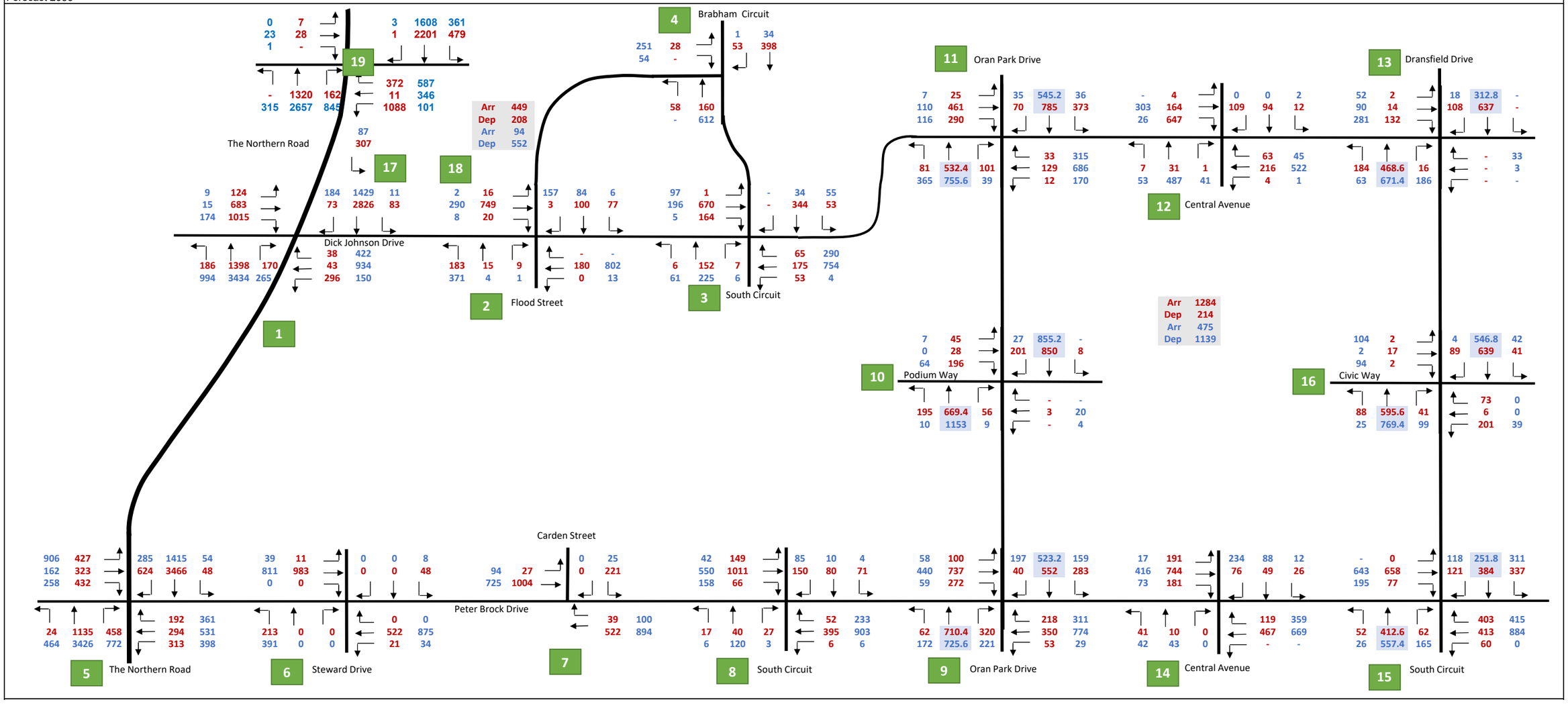
Employment Area and Town Centre Rezoning - Intersection Analysis (Sensitivty Analysis)

Forecast 2036

AM / **PM** hourly demands

2036

N

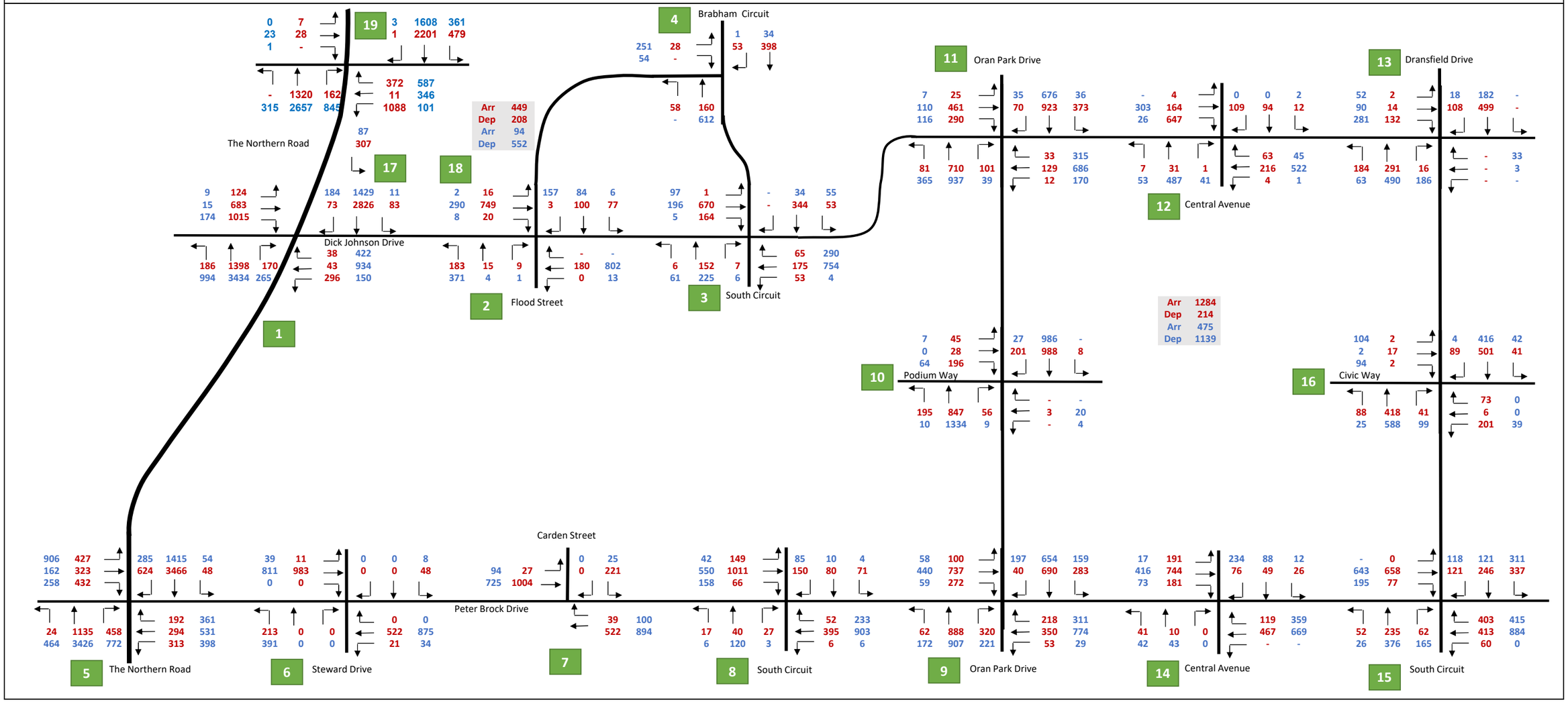


Oran Park Traffic Analysis
Employment Area and Town Centre Rezoning - Intersection Analysis
Forecast 2036

AM / PM hourly demands

2036

N

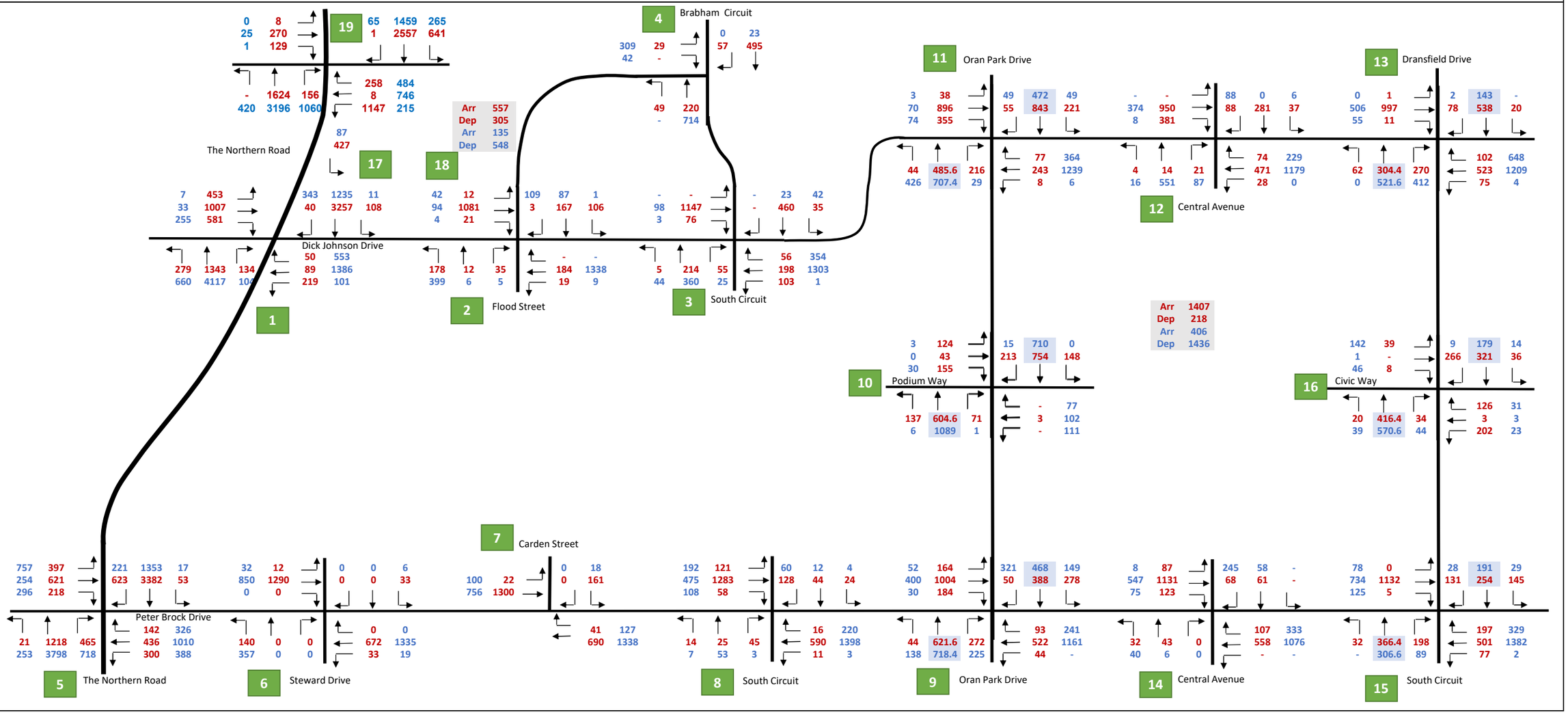


Oran Park Traffic Analysis
Employment Area and Town Centre Rezoning - Intersection Analysis (Sensitivty Analysis)
Forecast 2041

AM / **PM** hourly demands

2041

N

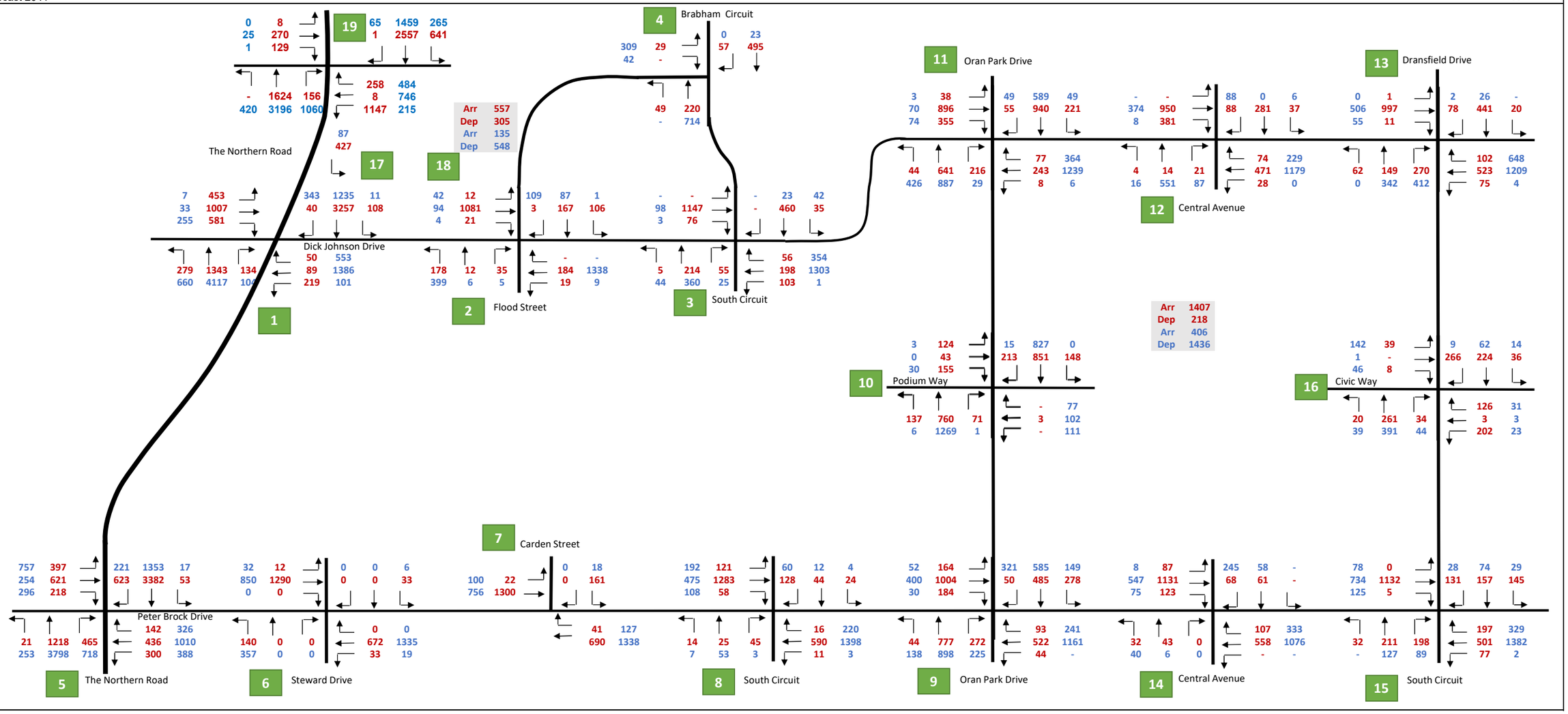


Oran Park Traffic Analysis
Employment Area and Town Centre Rezoning - Intersection Analysis
Forecast 2041

AM / **PM** hourly demands

2041

N



Appendix B

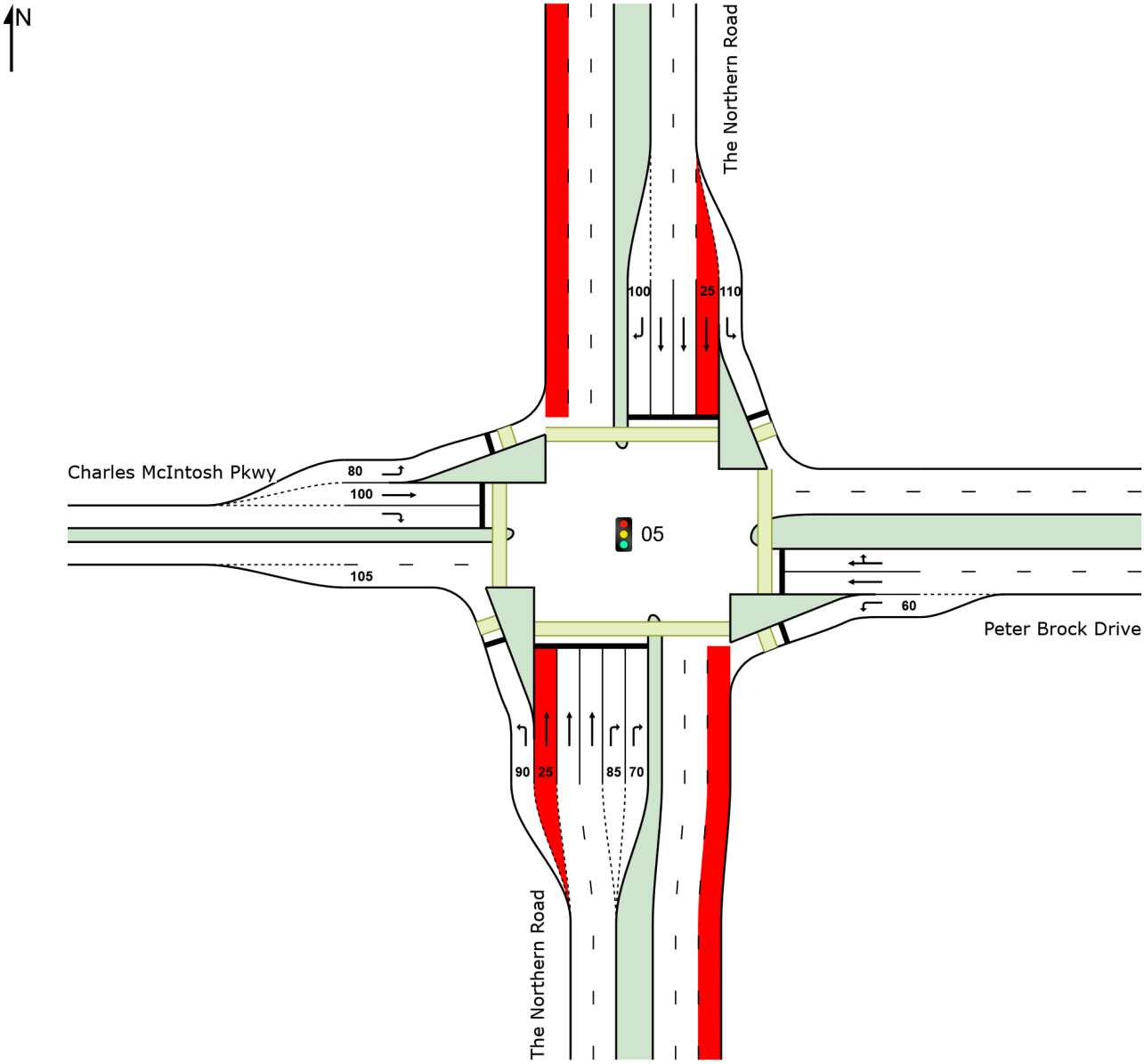
SIDRA Output Reports

SITE LAYOUT

Site: 05 [05. The Northern Rd / Peter Brock Dr - 2026 AM (Site Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 05 [05. The Northern Rd / Peter Brock Dr - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: The Northern Road															
Lane 1	46	0.0	46	0.0	1302	0.035	100	6.7	LOS A	0.1	0.4	Short	90	0.0	NA
Lane 2	1	100.0	1	100.0	501	0.002	100	25.1	LOS B	0.0	0.4	Short	25	0.0	NA
Lane 3	494	0.0	494	0.0	825[1]	0.599	100	33.1	LOS C	23.3	163.4	Full	500	0.0	0.0
Lane 4	458	0.0	458	0.0	764[1]	0.599	100	32.4	LOS C	20.9	146.3	Full	500	0.0	0.0
Lane 5	232	0.0	232	0.0	292	0.793	100	50.9	LOS D	10.0	69.7	Short	85	0.0	NA
Lane 6	232	0.0	232	0.0	292	0.793	100	50.9	LOS D	10.0	69.7	Short	70	0.0	NA
Approach	1462	0.1	1462	0.1		0.793		37.7	LOS C	23.3	163.4				
East: Peter Brock Drive															
Lane 1	358	0.0	358	0.0	735	0.487	100	25.8	LOS B	13.6	95.4	Short	60	0.0	NA
Lane 2	181	0.0	181	0.0	291	0.622	66[6]	63.2	LOS E	11.9	83.0	Full	530	0.0	0.0
Lane 3	268	0.0	268	0.0	286	0.937	100	86.4	LOS F	21.7	151.7	Full	530	0.0	0.0
Approach	807	0.0	807	0.0		0.937		54.3	LOS D	21.7	151.7				
North: The Northern Road															
Lane 1	17	0.0	17	0.0	1263	0.013	100	9.7	LOS A	0.2	1.2	Short	110	0.0	NA
Lane 2	1	100.0	1	100.0	390	0.003	100	35.5	LOS C	0.0	0.5	Short	25	0.0	NA
Lane 3	584	0.0	584	0.0	638[1]	0.915	100	61.0	LOS E	42.3	296.4	Full	500	0.0	0.0
Lane 4	518	0.0	518	0.0	566[1]	0.915	100	60.4	LOS E	36.0	251.7	Full	500	0.0	0.0
Lane 5	193	0.0	193	0.0	204	0.945	100	90.5	LOS F	15.3	107.2	Short	100	0.0	NA
Approach	1313	0.1	1313	0.1		0.945		64.4	LOS E	42.3	296.4				
West: Charles McIntosh Pkwy															
Lane 1	373	0.0	373	0.0	813	0.459	100	13.9	LOS A	9.4	65.8	Short	80	0.0	NA
Lane 2	393	0.0	393	0.0	428[1]	0.919	100	74.2	LOS F	30.6	213.9	Short	100	0.0	NA
Lane 3	320	0.0	320	0.0	423	0.756	100	63.4	LOS E	21.1	147.4	Full	265	0.0	0.0
Approach	1086	0.0	1086	0.0		0.919		50.3	LOS D	30.6	213.9				
Intersection	4668	0.0	4668	0.0		0.945		51.0	LOS D	42.3	296.4				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
6 Lane under-utilisation due to downstream effects

Approach Lane Flows (veh/h)

South: The Northern Road

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	46	-	-	46	0.0	1302	0.035	100	0.0	3
Lane 2	-	1	-	1	100.0	501	0.002	100	0.0	3
Lane 3	-	494	-	494	0.0	825[1]	0.599	100	NA	NA
Lane 4	-	458	-	458	0.0	764[1]	0.599	100	NA	NA
Lane 5	-	-	232	232	0.0	292	0.793	100	0.0	4
Lane 6	-	-	232	232	0.0	292	0.793	100	4.7	5
Approach	46	953	463	1462	0.1		0.793			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	358	-	-	358	0.0	735	0.487	100	47.5	2
Lane 2	-	181	-	181	0.0	291	0.622	66[6]	NA	NA
Lane 3	-	170	98	268	0.0	286	0.937	100	NA	NA
Approach	358	351	98	807	0.0		0.937			

North: The Northern Road

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	17	-	-	17	0.0	1263	0.013	100	0.0	3
Lane 2	-	1	-	1	100.0	390	0.003	100	0.0	1
Lane 3	-	584	-	584	0.0	638[1]	0.915	100	NA	NA
Lane 4	-	518	-	518	0.0	566[1]	0.915	100	NA	NA
Lane 5	-	-	193	193	0.0	204	0.945	100	11.3	4
Approach	17	1103	193	1313	0.1		0.945			

West: Charles McIntosh Pkwy

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	373	-	-	373	0.0	813	0.459	100	0.0	2
Lane 2	-	393	-	393	0.0	428[1]	0.919	100	75.8	3
Lane 3	-	-	320	320	0.0	423	0.756	100	NA	NA
Approach	373	393	320	1086	0.0		0.919			

	Total	%HV	Deg.Satn (v/c)
Intersection	4668	0.0	0.945

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: The Northern Road Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
East Exit: Peter Brock Drive												

Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: The Northern Road Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
Full Length Lane	3	Merge Analysis not applied.									
West Exit: Charles McIntosh Pkwy Merge Type: **Priority**											
Exit Short Lane	1	105	0.0	363	363	3.00	2.00	227	1430	0.159	0.6	0.8
Merge Lane	2	-	100.0	Merge Lane is not Opposed				363	1800	0.202	0.0	0.0

PHASING SUMMARY

Site: 05 [05. The Northern Rd / Peter Brock Dr - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

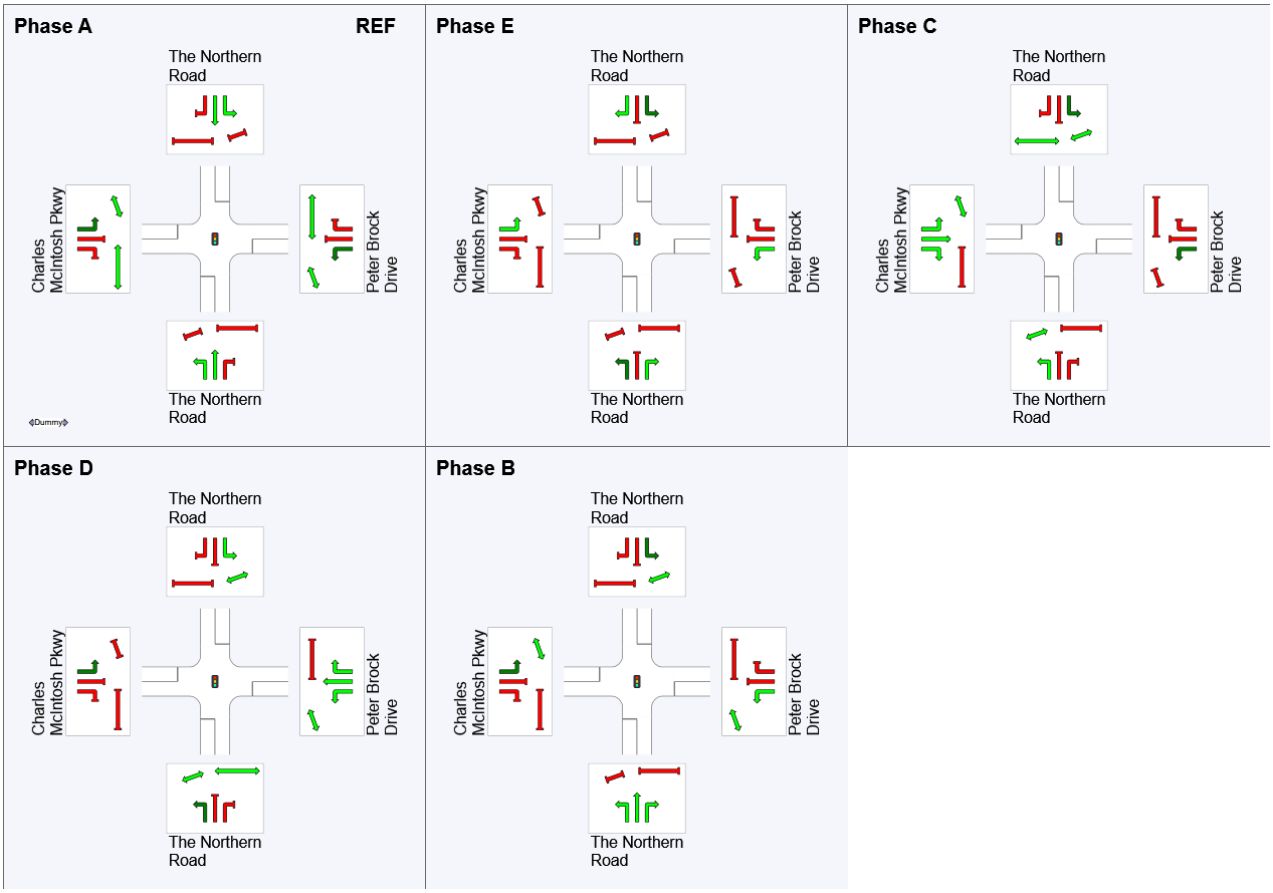
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import - Copy
Reference Phase: Phase A
Input Phase Sequence: A, E, C, D, B
Output Phase Sequence: A, E, C, D, B

Phase Timing Summary

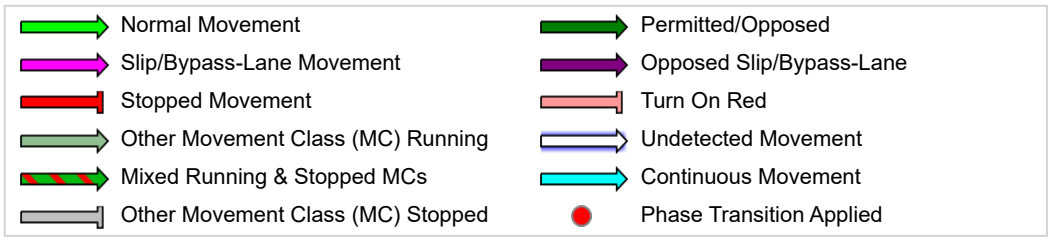
Phase	A	E	C	D	B
Phase Change Time (sec)	0	48	68	103	128
Green Time (sec)	42	14	29	19	6
Phase Time (sec)	48	20	35	25	12
Phase Split	34%	14%	25%	18%	9%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 05 [05. The Northern Rd / Peter Brock Dr - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: The Northern Road															
Lane 1	146	0.0	146	0.0	1195	0.122	100	8.7	LOS A	0.8	5.7	Short	90	0.0	NA
Lane 2	1	100.0	1	100.0	539	0.002	100	22.0	LOS B	0.0	0.4	Short	25	0.0	NA
Lane 3	443	0.0	443	0.0	886[1]	0.500	100	28.2	LOS B	18.4	128.8	Full	500	0.0	0.0
Lane 4	445	0.0	445	0.0	889	0.500	100	28.2	LOS B	18.5	129.3	Full	500	0.0	0.0
Lane 5	260	0.0	260	0.0	365	0.711	100	45.0	LOS D	10.8	75.3	Short	85	0.0	NA
Lane 6	260	0.0	260	0.0	365	0.711	100	45.0	LOS D	10.8	75.3	Short	70	0.0	NA
Approach	1554	0.1	1554	0.1		0.711		32.0	LOS C	18.5	129.3				
East: Peter Brock Drive															
Lane 1	323	0.0	323	0.0	685	0.472	100	31.4	LOS C	13.6	95.0	Short	60	0.0	NA
Lane 2	197	0.0	197	0.0	276	0.714	66[6]	66.3	LOS E	13.3	93.2	Full	530	0.0	0.0
Lane 3	293	0.0	293	0.0	273	1.075	100	155.9	LOS F	32.8	229.8	Full	530	0.0	0.0
Approach	813	0.0	813	0.0		1.075		84.7	LOS F	32.8	229.8				
North: The Northern Road															
Lane 1	87	0.0	87	0.0	1385	0.063	100	6.3	LOS A	0.2	1.4	Short	110	0.0	NA
Lane 2	1	100.0	1	100.0	427	0.002	100	31.9	LOS C	0.0	0.5	Short	25	0.0	NA
Lane 3	769	0.0	769	0.0	674[1]	1.141	100	190.7	LOS F	100.2	701.3	Full	500	0.0	35.9
Lane 4	678	0.0	678	0.0	595[1]	1.141	100	192.3	LOS F	87.6	613.0	Full	500	0.0	23.5
Lane 5	313	0.0	313	0.0	277	1.129	100	196.7	LOS F	39.2	274.4	Short	100	0.0	NA
Approach	1848	0.1	1848	0.1		1.141		183.5	LOS F	100.2	701.3				
West: Charles McIntosh Pkwy															
Lane 1	438	0.0	438	0.0	812	0.540	100	11.9	LOS A	9.6	67.1	Short	80	0.0	NA
Lane 2	188	0.0	188	0.0	322	0.584	100	60.3	LOS E	12.1	84.7	Short	100	0.0	NA
Lane 3	341	0.0	341	0.0	306	1.113	100	188.6	LOS F	42.1	295.0	Full	265	0.0	14.7
Approach	967	0.0	967	0.0		1.113		83.6	LOS F	42.1	295.0				
Intersection	5182	0.0	5182	0.0		1.141		103.9	LOS F	100.2	701.3				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
6 Lane under-utilisation due to downstream effects

Approach Lane Flows (veh/h)

South: The Northern Road

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	146	-	-	146	0.0	1195	0.122	100	0.0	3
Lane 2	-	1	-	1	100.0	539	0.002	100	0.0	3
Lane 3	-	443	-	443	0.0	886[1]	0.500	100	NA	NA
Lane 4	-	445	-	445	0.0	889	0.500	100	NA	NA
Lane 5	-	-	260	260	0.0	365	0.711	100	0.0	4
Lane 6	-	-	260	260	0.0	365	0.711	100	11.6	5
Approach	146	889	519	1554	0.1		0.711			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	323	-	-	323	0.0	685	0.472	100	47.1	2
Lane 2	-	197	-	197	0.0	276	0.714	66[6]	NA	NA
Lane 3	-	228	65	293	0.0	273	1.075	100	NA	NA
Approach	323	425	65	813	0.0		1.075			

North: The Northern Road

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	87	-	-	87	0.0	1385	0.063	100	0.0	3
Lane 2	-	1	-	1	100.0	427	0.002	100	0.0	1
Lane 3	-	769	-	769	0.0	674[1]	1.141	100	NA	NA
Lane 4	-	678	-	678	0.0	595[1]	1.141	100	NA	NA
Lane 5	-	-	313	313	0.0	277	1.129	100	100.0	4
Approach	87	1448	313	1848	0.1		1.141			

West: Charles McIntosh Pkwy

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	438	-	-	438	0.0	812	0.540	100	0.0	2
Lane 2	-	188	-	188	0.0	322	0.584	100	0.0	3
Lane 3	-	-	341	341	0.0	306	1.113	100	NA	NA
Approach	438	188	341	967	0.0		1.113			

	Total	%HV	Deg.Satn (v/c)
Intersection	5182	0.0	1.141

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: The Northern Road Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
East Exit: Peter Brock Drive												

Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: The Northern Road Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
Full Length Lane	3	Merge Analysis not applied.									
West Exit: Charles McIntosh Pkwy Merge Type: **Priority**											
Exit Short Lane	1	105	0.0	490	490	3.00	2.00	343	1297	0.264	0.8	1.2
Merge Lane	2	-	100.0	Merge Lane is not Opposed				490	1800	0.272	0.0	0.0

PHASING SUMMARY

Site: 05 [05. The Northern Rd / Peter Brock Dr - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, E, C, D, B
Output Phase Sequence: A, E, C, D, B

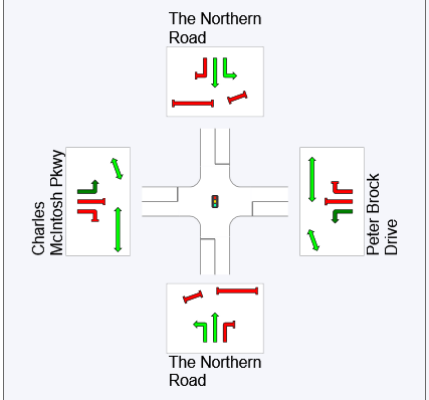
Phase Timing Summary

Phase	A	E	C	D	B
Phase Change Time (sec)	0	52	77	104	128
Green Time (sec)	46	19	21	18	6
Phase Time (sec)	52	25	27	24	12
Phase Split	37%	18%	19%	17%	9%

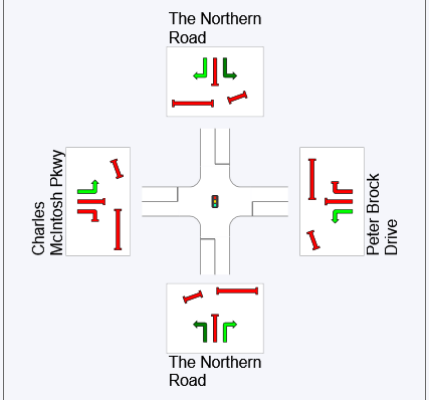
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

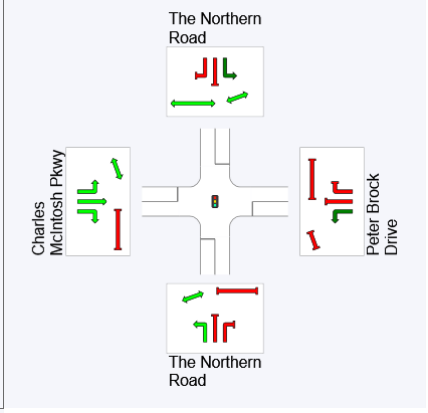
Phase A **REF**



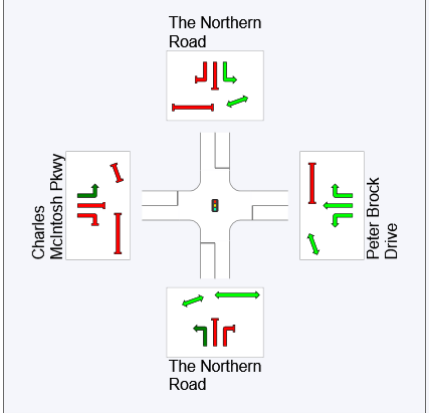
Phase E



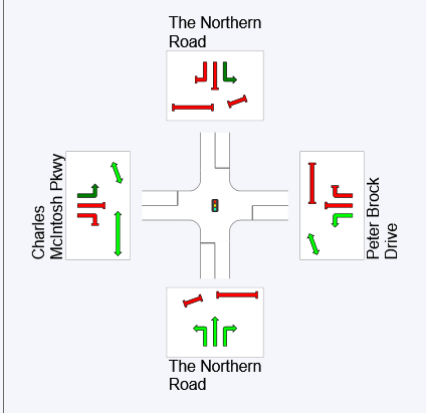
Phase C



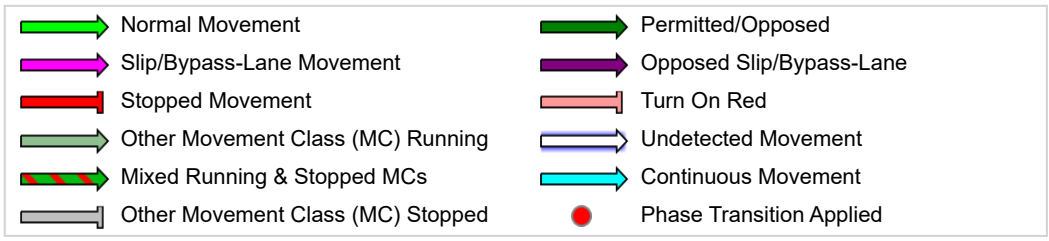
Phase D



Phase B



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 05 [05. The Northern Rd / Peter Brock Dr - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: The Northern Road															
Lane 1	24	0.0	24	0.0	1190	0.020	100	7.9	LOS A	0.1	0.8	Short	90	0.0	NA
Lane 2	1	100.0	1	100.0	585	0.002	100	18.5	LOS B	0.0	0.3	Short	25	0.0	NA
Lane 3	620	0.0	620	0.0	963[1]	0.644	100	26.4	LOS B	27.1	189.6	Full	500	0.0	0.0
Lane 4	514	0.0	514	0.0	799[1]	0.644	100	24.6	LOS B	20.3	141.9	Full	500	0.0	0.0
Lane 5	229	0.0	229	0.0	365	0.628	100	38.4	LOS C	8.4	58.7	Short	85	0.0	NA
Lane 6	229	0.0	229	0.0	365	0.628	100	38.4	LOS C	8.4	58.7	Short	70	0.0	NA
Approach	1617	0.1	1617	0.1		0.644		28.9	LOS C	27.1	189.6				
East: Peter Brock Drive															
Lane 1	313	0.0	313	0.0	685	0.457	100	31.2	LOS C	13.1	91.5	Short	60	0.0	NA
Lane 2	198	0.0	198	0.0	276	0.717	66[6]	66.0	LOS E	13.4	93.7	Full	530	0.0	0.0
Lane 3	288	0.0	288	0.0	267	1.080	100	162.3	LOS F	32.7	229.2	Full	530	0.0	0.0
Approach	799	0.0	799	0.0		1.080		87.1	LOS F	32.7	229.2				
North: The Northern Road															
Lane 1	48	0.0	48	0.0	1409	0.034	100	6.9	LOS A	0.2	1.3	Short	110	0.0	NA
Lane 2	1	100.0	1	100.0	474	0.002	100	27.5	LOS B	0.0	0.4	Short	25	0.0	NA
Lane 3	1830	0.0	1830	0.0	772[1]	2.372	100	1277.3	LOS F	568.8	3981.9	Full	500	0.0	100.0
Lane 4	1635	0.0	1635	0.0	689[1]	2.372	100	1278.2	LOS F	504.7	3532.6	Full	500	0.0	100.0
Lane 5	624	0.0	624	0.0	277	2.251	100	1173.2	LOS F	187.2	1310.7	Short	100	0.0	NA
Approach	4138	0.0	4138	0.0		2.372		1246.9	LOS F	568.8	3981.9				
West: Charles McIntosh Pkwy															
Lane 1	427	0.0	427	0.0	617	0.692	100	20.2	LOS B	15.8	110.3	Short	80	0.0	NA
Lane 2	323	0.0	323	0.0	245	1.318	100	351.5	LOS F	56.5	395.5	Short	100	0.0	NA
Lane 3	432	0.0	432	0.0	233	1.850	100	821.3	LOS F	113.3	793.1	Full	265	0.0	100.0
Approach	1182	0.0	1182	0.0		1.850		403.5	LOS F	113.3	793.1				
Intersection	7736	0.0	7736	0.0		2.372		743.7	LOS F	568.8	3981.9				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
6 Lane under-utilisation due to downstream effects

Approach Lane Flows (veh/h)

South: The Northern Road

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	24	-	-	24	0.0	1190	0.020	100	0.0	3
Lane 2	-	1	-	1	100.0	585	0.002	100	0.0	3
Lane 3	-	620	-	620	0.0	963[1]	0.644	100	NA	NA
Lane 4	-	514	-	514	0.0	799[1]	0.644	100	NA	NA
Lane 5	-	-	229	229	0.0	365	0.628	100	0.0	4
Lane 6	-	-	229	229	0.0	365	0.628	100	0.0	5
Approach	24	1135	458	1617	0.1		0.644			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	313	-	-	313	0.0	685	0.457	100	43.7	2
Lane 2	-	198	-	198	0.0	276	0.717	66[6]	NA	NA
Lane 3	-	96	192	288	0.0	267	1.080	100	NA	NA
Approach	313	294	192	799	0.0		1.080			

North: The Northern Road

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	48	-	-	48	0.0	1409	0.034	100	0.0	3
Lane 2	-	1	-	1	100.0	474	0.002	100	0.0	1
Lane 3	-	1830	-	1830	0.0	772[1]	2.372	100	NA	NA
Lane 4	-	1635	-	1635	0.0	689[1]	2.372	100	NA	NA
Lane 5	-	-	624	624	0.0	277	2.251	100	100.0	4
Approach	48	3466	624	4138	0.0		2.372			

West: Charles McIntosh Pkwy

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	427	-	-	427	0.0	617	0.692	100	34.3	2
Lane 2	-	323	-	323	0.0	245	1.318	100	100.0	3
Lane 3	-	-	432	432	0.0	233	1.850	100	NA	NA
Approach	427	323	432	1182	0.0		1.850			

	Total	%HV	Deg.Satn (v/c)
Intersection	7736	0.0	2.372

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: The Northern Road Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
East Exit: Peter Brock Drive												

Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: The Northern Road Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
Full Length Lane	3	Merge Analysis not applied.									
West Exit: Charles McIntosh Pkwy Merge Type: **Priority**											
Exit Short Lane	1	105	0.0	366	366	3.00	2.00	222	1426	0.156	0.6	0.8
Merge Lane	2	-	100.0	Merge Lane is not Opposed				366	1800	0.204	0.0	0.0

PHASING SUMMARY

Site: 05 [05. The Northern Rd / Peter Brock Dr - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

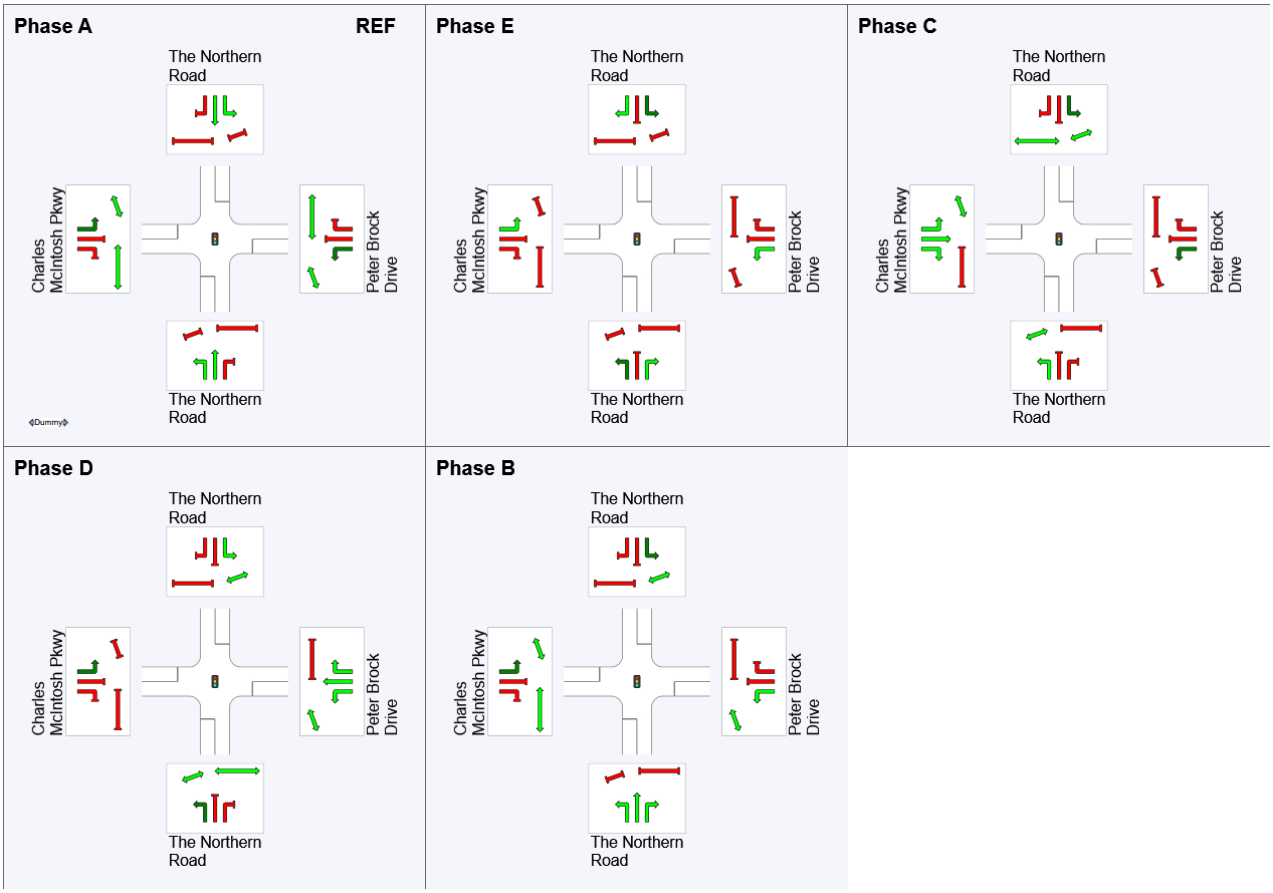
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, E, C, D, B
Output Phase Sequence: A, E, C, D, B

Phase Timing Summary

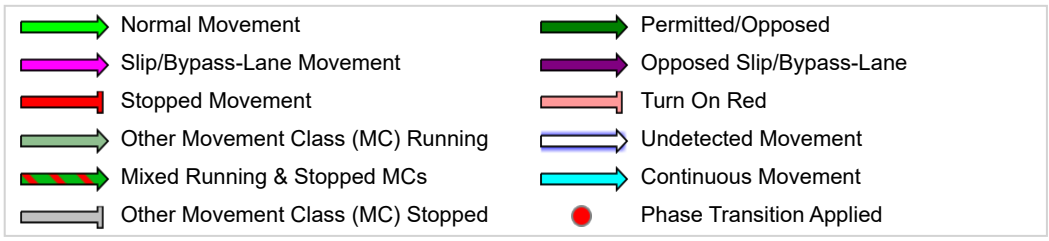
Phase	A	E	C	D	B
Phase Change Time (sec)	0	57	82	104	128
Green Time (sec)	51	19	16	18	6
Phase Time (sec)	57	25	22	24	12
Phase Split	41%	18%	16%	17%	9%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 05 [05. The Northern Rd / Peter Brock Dr - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: The Northern Road															
Lane 1	464	0.0	464	0.0	1179	0.394	100	9.3	LOS A	3.8	26.8	Short	90	0.0	NA
Lane 2	1	100.0	1	100.0	622	0.002	100	15.8	LOS B	0.0	0.3	Short	25	0.0	NA
Lane 3	1843	0.0	1843	0.0	1026[1]	1.796	100	757.0	LOS F	475.3	3326.8	Full	500	0.0	100.0
Lane 4	1582	0.0	1582	0.0	881[1]	1.796	100	758.5	LOS F	398.6	2790.1	Full	500	0.0	100.0
Lane 5	386	0.0	386	0.0	350	1.102	100	146.6	LOS F	32.9	230.2	Short	85	0.0	NA
Lane 6	386	0.0	386	0.0	350	1.102	100	146.6	LOS F	32.9	230.2	Short	70	0.0	NA
Approach	4662	0.0	4662	0.0		1.796		581.9	LOS F	475.3	3326.8				
East: Peter Brock Drive															
Lane 1	398	0.0	392	0.0	664[1]	0.590	100	30.6	LOS C	16.5	115.8	Short	60	0.0	NA
Lane 2	318	0.0	313	0.0	273[1]	1.148	66[6]	213.1	LOS F	41.9	293.3	Full	530	0.0	0.0
Lane 3	574	0.0	565	0.0	327	1.729	100	712.7	LOS F	123.6[N4]	864.9[N4]	Full	530	0.0	50.0
Approach	1290	0.0	1270[N1]	0.0		1.729		379.1	LOS F	123.6	864.9				
North: The Northern Road															
Lane 1	54	0.0	54	0.0	1365	0.040	100	7.9	LOS A	0.3	2.4	Short	110	0.0	NA
Lane 2	1	100.0	1	100.0	446	0.002	100	30.1	LOS C	0.0	0.5	Short	25	0.0	NA
Lane 3	756	0.0	756	0.0	713[1]	1.061	100	126.7	LOS F	81.4	569.7	Full	500	0.0	16.8
Lane 4	658	0.0	658	0.0	620[1]	1.061	100	129.0	LOS F	69.9	489.6	Full	500	0.0	5.6[8]
Lane 5	285	0.0	285	0.0	161	1.776	100	752.2	LOS F	71.9	503.1	Short	100	0.0	NA
Approach	1754	0.1	1754	0.1		1.776		225.5	LOS F	81.4	569.7				
West: Charles McIntosh Pkwy															
Lane 1	906	0.0	906	0.0	370[1]	2.448	100	1355.1	LOS F	279.3	1954.9	Short	80	0.0	NA
Lane 2	162	0.0	162	0.0	245	0.661	100	65.7	LOS E	10.9	76.2	Short	100	0.0	NA
Lane 3	258	0.0	258	0.0	233	1.105	100	183.3	LOS F	31.1	217.5	Full	265	0.0	0.0
Approach	1326	0.0	1326	0.0		2.448		969.6	LOS F	279.3	1954.9				
Intersection	9032	0.0	9012[N1]	0.0		2.448		541.0	LOS F	475.3	3326.8				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
6 Lane under-utilisation due to downstream effects
8 Probability of Blockage has been set on the basis of a queue that overflows from a short lane.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N4 Average back of queue has been restricted to the available queue storage space.

Approach Lane Flows (veh/h)

South: The Northern Road

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	464	-	-	464	0.0	1179	0.394	100	0.0	3
Lane 2	-	1	-	1	100.0	622	0.002	100	0.0	3
Lane 3	-	1843	-	1843	0.0	1026[1]	1.796	100	NA	NA
Lane 4	-	1582	-	1582	0.0	881[1]	1.796	100	NA	NA
Lane 5	-	-	386	386	0.0	350	1.102	100	99.2	4
Lane 6	-	-	386	386	0.0	350	1.102	100	100.0	5
Approach	464	3426	772	4662	0.0		1.796			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	392	-	-	392	0.0	664[1]	0.590	100	65.9	2
Lane 2	-	313	-	313	0.0	273[1]	1.148	66[6]	NA	NA
Lane 3	-	210	355	565	0.0	327	1.729	100	NA	NA
Approach	392	523	355	1270	0.0		1.729			

North: The Northern Road

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	54	-	-	54	0.0	1365	0.040	100	0.0	3
Lane 2	-	1	-	1	100.0	446	0.002	100	0.0	1
Lane 3	-	756	-	756	0.0	713[1]	1.061	100	NA	NA
Lane 4	-	658	-	658	0.0	620[1]	1.061	100	NA	NA
Lane 5	-	-	285	285	0.0	161	1.776	100	100.0	4
Approach	54	1415	285	1754	0.1		1.776			

West: Charles McIntosh Pkwy

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	906	-	-	906	0.0	370[1]	2.448	100	100.0	2
Lane 2	-	162	-	162	0.0	245	0.661	100	100.0	3
Lane 3	-	-	258	258	0.0	233	1.105	100	NA	NA
Approach	906	162	258	1326	0.0		2.448			

	Total	%HV	Deg.Satn (v/c)
Intersection	9012	0.0	2.448

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: The Northern Road Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

Full Length Lane	3	Merge Analysis not applied.									
East Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: The Northern Road Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
Full Length Lane	3	Merge Analysis not applied.									
West Exit: Charles McIntosh Pkwy Merge Type: **Priority**											
Exit Short Lane	1	105	0.0	282	282	3.00	2.00	737	1514	0.487	0.4	1.1
Merge Lane	2	-	100.0	Merge Lane is not Opposed				282	1800	0.157	0.0	0.0

PHASING SUMMARY

Site: 05 [05. The Northern Rd / Peter Brock Dr - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

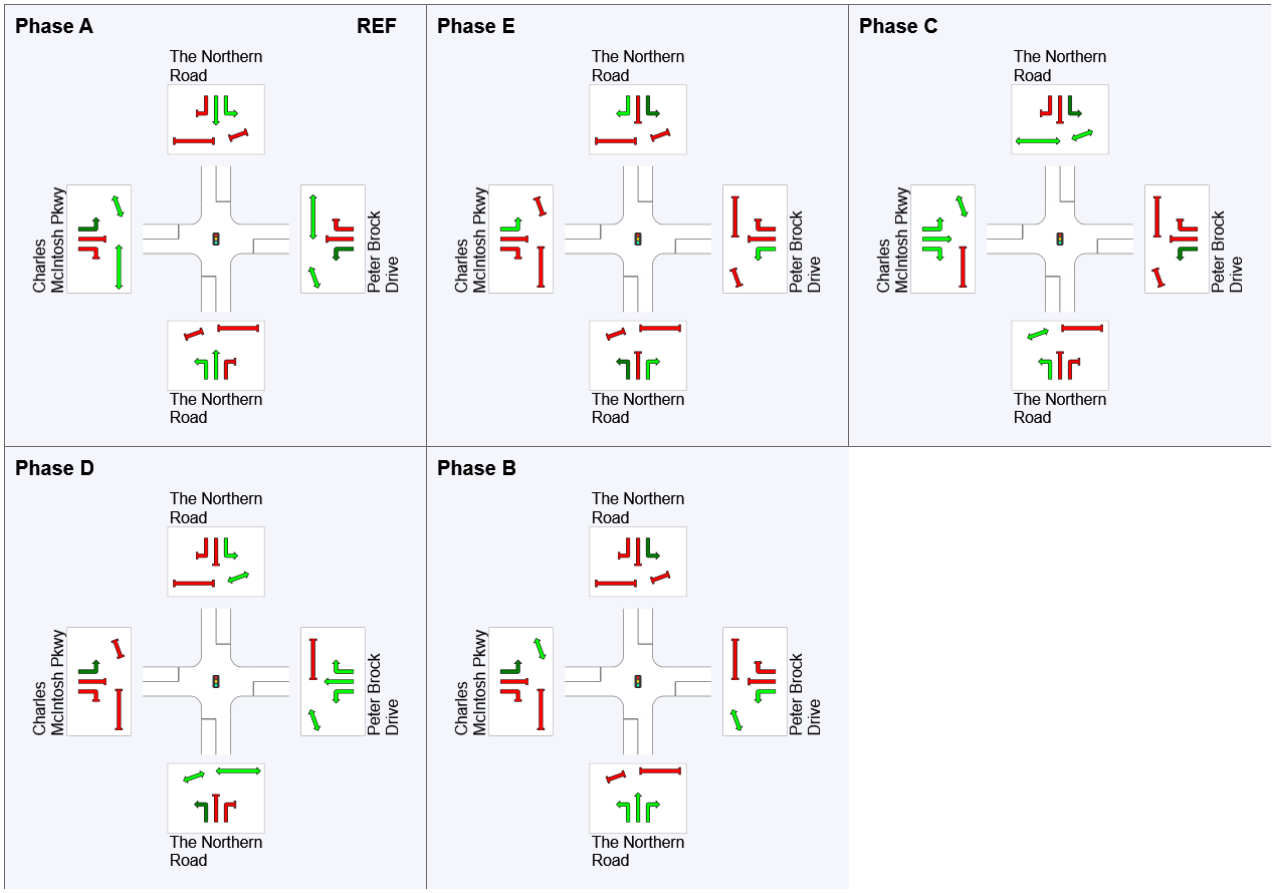
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, E, C, D, B
Output Phase Sequence: A, E, C, D, B

Phase Timing Summary

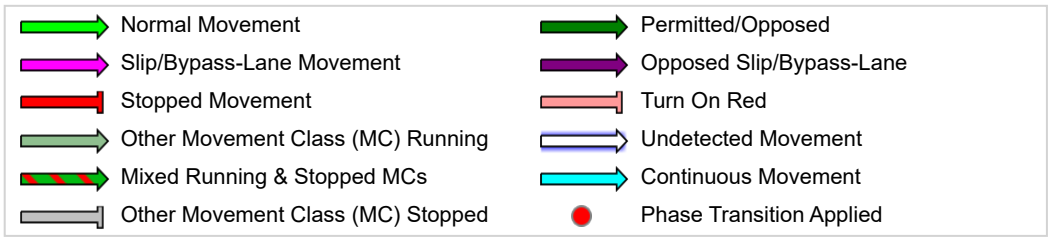
Phase	A	E	C	D	B
Phase Change Time (sec)	0	54	71	93	121
Green Time (sec)	48	11	16	22	13
Phase Time (sec)	54	17	22	28	19
Phase Split	39%	12%	16%	20%	14%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 05 [05. The Northern Rd / Peter Brock Dr - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: The Northern Road															
Lane 1	21	0.0	21	0.0	1175	0.018	100	8.6	LOS A	0.1	0.8	Short	90	0.0	NA
Lane 2	1	100.0	1	100.0	566	0.002	100	19.8	LOS B	0.0	0.4	Short	25	0.0	NA
Lane 3	678	0.0	678	0.0	933[1]	0.727	100	29.5	LOS C	33.0	231.3	Full	500	0.0	0.0
Lane 4	539	0.0	539	0.0	741[1]	0.727	100	26.9	LOS B	22.8	159.5	Full	500	0.0	0.0
Lane 5	233	0.0	233	0.0	365	0.637	100	39.8	LOS C	8.6	60.5	Short	85	0.0	NA
Lane 6	233	0.0	233	0.0	365	0.637	100	39.8	LOS C	8.6	60.5	Short	70	0.0	NA
Approach	1704	0.1	1704	0.1		0.727		31.2	LOS C	33.0	231.3				
East: Peter Brock Drive															
Lane 1	300	0.0	300	0.0	690	0.435	100	28.9	LOS C	12.0	83.9	Short	60	0.0	NA
Lane 2	228	0.0	228	0.0	266[1]	0.859	66[6]	73.3	LOS F	16.7	116.9	Full	530	0.0	0.0
Lane 3	350	0.0	350	0.0	270	1.294	100	333.7	LOS F	59.4	415.7	Full	530	0.0	0.0
Approach	878	0.0	878	0.0		1.294		161.8	LOS F	59.4	415.7				
North: The Northern Road															
Lane 1	53	0.0	53	0.0	1378	0.038	100	7.4	LOS A	0.3	1.9	Short	110	0.0	NA
Lane 2	1	100.0	1	100.0	455	0.002	100	29.2	LOS C	0.0	0.5	Short	25	0.0	NA
Lane 3	1791	0.0	1791	0.0	741[1]	2.419	100	1319.7	LOS F	562.5	3937.5	Full	500	0.0	100.0
Lane 4	1590	0.0	1590	0.0	657[1]	2.419	100	1320.6	LOS F	495.8	3470.7	Full	500	0.0	100.0
Lane 5	623	0.0	623	0.0	277	2.247	100	1170.0	LOS F	186.8	1307.3	Short	100	0.0	NA
Approach	4058	0.0	4058	0.0		2.419		1279.6	LOS F	562.5	3937.5				
West: Charles McIntosh Pkwy															
Lane 1	397	0.0	397	0.0	821	0.483	100	18.2	LOS B	14.0	97.7	Short	80	0.0	NA
Lane 2	621	0.0	621	0.0	276	2.252	100	1172.0	LOS F	186.9	1308.6	Short	100	0.0	NA
Lane 3	218	0.0	218	0.0	263	0.830	100	76.1	LOS F	15.7	109.8	Full	265	0.0	100.0[8]
Approach	1236	0.0	1236	0.0		2.252		608.1	LOS F	186.9	1308.6				
Intersection	7876	0.0	7876	0.0		2.419		779.5	LOS F	562.5	3937.5				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
6 Lane under-utilisation due to downstream effects
8 Probability of Blockage has been set on the basis of a queue that overflows from a short lane.

Approach Lane Flows (veh/h)

South: The Northern Road

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	21	-	-	21	0.0	1175	0.018	100	0.0	3
Lane 2	-	1	-	1	100.0	566	0.002	100	0.0	3
Lane 3	-	678	-	678	0.0	933[1]	0.727	100	NA	NA
Lane 4	-	539	-	539	0.0	741[1]	0.727	100	NA	NA
Lane 5	-	-	233	233	0.0	365	0.637	100	0.0	4
Lane 6	-	-	233	233	0.0	365	0.637	100	0.0	5
Approach	21	1218	465	1704	0.1		0.727			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	300	-	-	300	0.0	690	0.435	100	35.6	2
Lane 2	-	228	-	228	0.0	266[1]	0.859	66[6]	NA	NA
Lane 3	-	208	142	350	0.0	270	1.294	100	NA	NA
Approach	300	436	142	878	0.0		1.294			

North: The Northern Road

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	53	-	-	53	0.0	1378	0.038	100	0.0	3
Lane 2	-	1	-	1	100.0	455	0.002	100	0.0	1
Lane 3	-	1791	-	1791	0.0	741[1]	2.419	100	NA	NA
Lane 4	-	1590	-	1590	0.0	657[1]	2.419	100	NA	NA
Lane 5	-	-	623	623	0.0	277	2.247	100	100.0	4
Approach	53	3382	623	4058	0.0		2.419			

West: Charles McIntosh Pkwy

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	397	-	-	397	0.0	821	0.483	100	23.2	2
Lane 2	-	621	-	621	0.0	276	2.252	100	100.0	3
Lane 3	-	-	218	218	0.0	263	0.830	100	NA	NA
Approach	397	621	218	1236	0.0		2.252			

	Total	%HV	Deg.Satn (v/c)
Intersection	7876	0.0	2.419

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: The Northern Road Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
East Exit: Peter Brock Drive												

Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: The Northern Road Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
Full Length Lane	3	Merge Analysis not applied.									
West Exit: Charles McIntosh Pkwy Merge Type: **Priority**											
Exit Short Lane	1	105	0.0	438	438	3.00	2.00	249	1352	0.184	0.7	1.0
Merge Lane	2	-	100.0	Merge Lane is not Opposed				438	1800	0.243	0.0	0.0

PHASING SUMMARY

Site: 05 [05. The Northern Rd / Peter Brock Dr - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

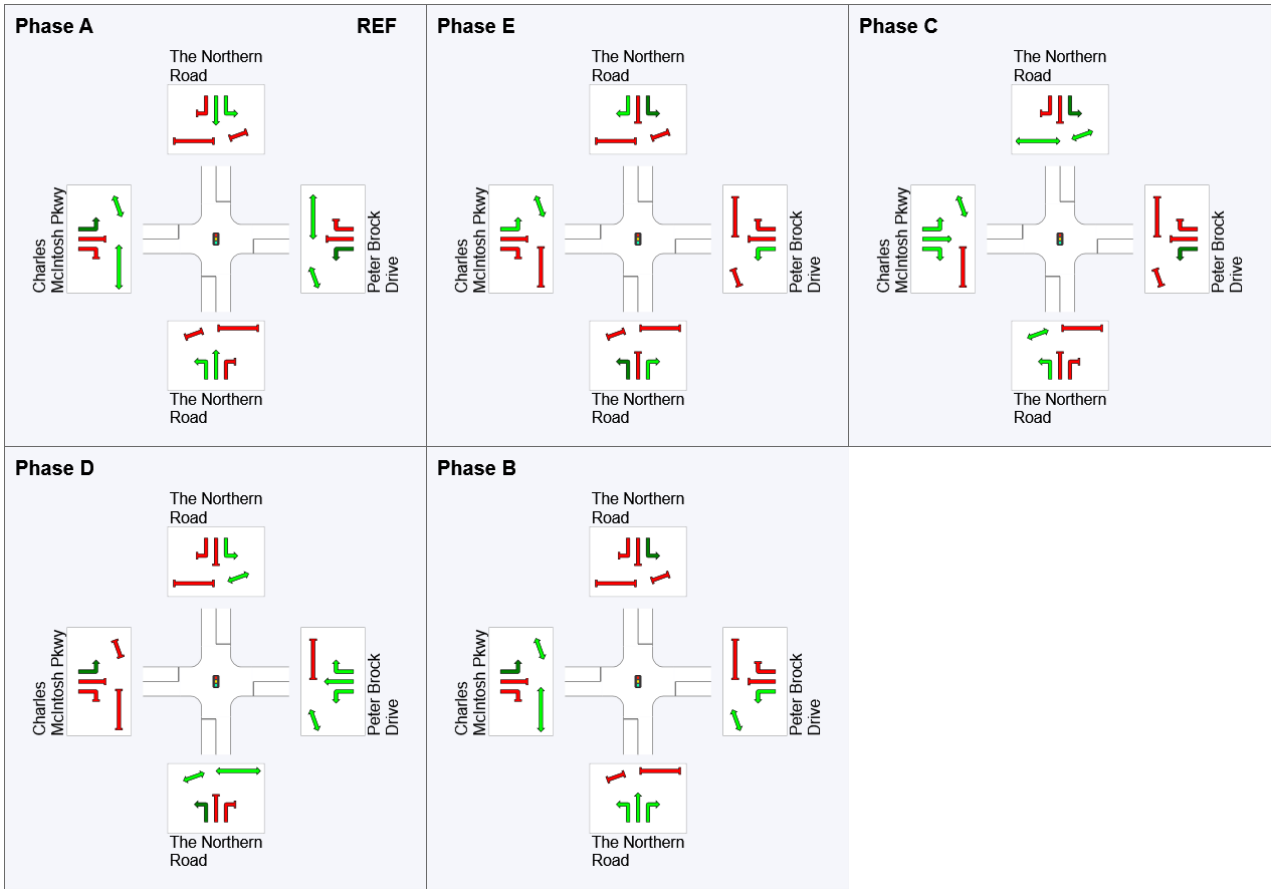
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, E, C, D, B
Output Phase Sequence: A, E, C, D, B

Phase Timing Summary

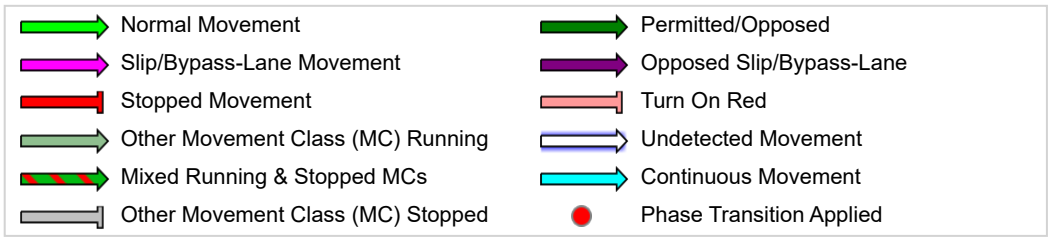
Phase	A	E	C	D	B
Phase Change Time (sec)	0	55	80	104	128
Green Time (sec)	49	19	18	18	6
Phase Time (sec)	55	25	24	24	12
Phase Split	39%	18%	17%	17%	9%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 05 [05. The Northern Rd / Peter Brock Dr - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: The Northern Road															
Lane 1	253	0.0	253	0.0	1129	0.224	100	11.0	LOS A	2.6	18.3	Short	90	0.0	NA
Lane 2	1	100.0	1	100.0	566	0.002	100	19.8	LOS B	0.0	0.4	Short	25	0.0	NA
Lane 3	1991	0.0	1991	0.0	934[1]	2.132	100	1060.6	LOS F	583.2	4082.1	Full	500	0.0	100.0
Lane 4	1806	0.0	1806	0.0	847[1]	2.132	100	1061.5	LOS F	522.9	3660.0	Full	500	0.0	100.0
Lane 5	359	0.0	359	0.0	321	1.118	100	160.3	LOS F	33.4	233.7	Short	85	0.0	NA
Lane 6	359	0.0	359	0.0	321	1.118	100	160.3	LOS F	33.4	233.7	Short	70	0.0	NA
Approach	4769	0.0	4769	0.0		2.132		869.5	LOS F	583.2	4082.1				
East: Peter Brock Drive															
Lane 1	388	0.0	365	0.0	744	0.491	100	26.5	LOS B	13.9	97.6	Short	60	0.0	NA
Lane 2	455	0.0	428	0.0	351[1]	1.221	66[6]	272.2	LOS F	66.2	463.3	Full	530	0.0	0.0
Lane 3	881	0.0	830	0.0	451	1.839	100	808.6	LOS F	123.6[N4]	864.9[N4]	Full	530	0.0	50.0
Approach	1724	0.0	1623[N1]	0.0		1.839		491.1	LOS F	123.6	864.9				
North: The Northern Road															
Lane 1	17	0.0	17	0.0	1343	0.013	100	9.0	LOS A	0.1	1.0	Short	110	0.0	NA
Lane 2	1	100.0	1	100.0	381	0.003	100	36.5	LOS C	0.0	0.5	Short	25	0.0	NA
Lane 3	713	0.0	713	0.0	623[1]	1.144	100	196.0	LOS F	93.7	655.7	Full	500	0.0	29.7
Lane 4	639	0.0	639	0.0	559[1]	1.144	100	197.2	LOS F	83.4	583.8	Full	500	0.0	19.0
Lane 5	221	0.0	221	0.0	117	1.893	100	855.7	LOS F	59.0	412.8	Short	100	0.0	NA
Approach	1591	0.1	1591	0.1		1.893		286.0	LOS F	93.7	655.7				
West: Charles McIntosh Pkwy															
Lane 1	757	0.0	757	0.0	363	2.088	100	1034.8	LOS F	213.2	1492.5	Short	80	0.0	NA
Lane 2	254	0.0	254	0.0	260	0.975	100	97.4	LOS F	22.1	154.6	Short	100	0.0	NA
Lane 3	296	0.0	296	0.0	248	1.193	100	253.3	LOS F	42.9	300.2	Full	265	0.0	100.0[8]
Approach	1307	0.0	1307	0.0		2.088		675.6	LOS F	213.2	1492.5				
Intersection	9391	0.0	9290[N1]	0.0		2.132		676.2	LOS F	583.2	4082.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
6 Lane under-utilisation due to downstream effects
8 Probability of Blockage has been set on the basis of a queue that overflows from a short lane.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N4 Average back of queue has been restricted to the available queue storage space.

Approach Lane Flows (veh/h)

South: The Northern Road

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	253	-	-	253	0.0	1129	0.224	100	0.0	3
Lane 2	-	1	-	1	100.0	566	0.002	100	0.0	3
Lane 3	-	1991	-	1991	0.0	934[1]	2.132	100	NA	NA
Lane 4	-	1806	-	1806	0.0	847[1]	2.132	100	NA	NA
Lane 5	-	-	359	359	0.0	321	1.118	100	100.0	4
Lane 6	-	-	359	359	0.0	321	1.118	100	100.0	5
Approach	253	3798	718	4769	0.0		2.132			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	365	-	-	365	0.0	744	0.491	100	49.7	2
Lane 2	-	428	-	428	0.0	351[1]	1.221	66[6]	NA	NA
Lane 3	-	523	307	830	0.0	451	1.839	100	NA	NA
Approach	365	951	307	1623	0.0		1.839			

North: The Northern Road

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	17	-	-	17	0.0	1343	0.013	100	0.0	3
Lane 2	-	1	-	1	100.0	381	0.003	100	0.0	1
Lane 3	-	713	-	713	0.0	623[1]	1.144	100	NA	NA
Lane 4	-	639	-	639	0.0	559[1]	1.144	100	NA	NA
Lane 5	-	-	221	221	0.0	117	1.893	100	100.0	4
Approach	17	1353	221	1591	0.1		1.893			

West: Charles McIntosh Pkwy

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	757	-	-	757	0.0	363	2.088	100	100.0	2
Lane 2	-	254	-	254	0.0	260	0.975	100	100.0	3
Lane 3	-	-	296	296	0.0	248	1.193	100	NA	NA
Approach	757	254	296	1307	0.0		2.088			

	Total	%HV	Deg.Satn (v/c)
Intersection	9290	0.0	2.132

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: The Northern Road Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

Full Length Lane	3	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: The Northern Road Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
West Exit: Charles McIntosh Pkwy Merge Type: **Priority**												
Exit Short Lane	1	105	0.0	401	401	3.00	2.00	604	1390	0.434	0.6	1.4
Merge Lane	2	-	100.0	Merge Lane is not Opposed				401	1800	0.223	0.0	0.0

PHASING SUMMARY

Site: 05 [05. The Northern Rd / Peter Brock Dr - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, E, C, D, B
Output Phase Sequence: A, E, C, D, B

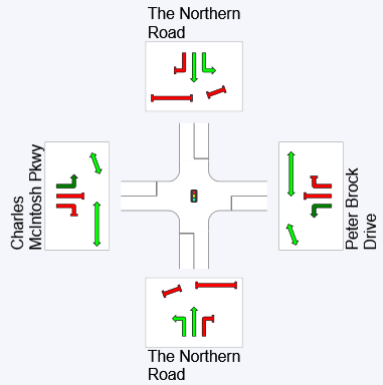
Phase Timing Summary

Phase	A	E	C	D	B
Phase Change Time (sec)	0	47	61	84	120
Green Time (sec)	41	8	17	30	14
Phase Time (sec)	47	14	23	36	20
Phase Split	34%	10%	16%	26%	14%

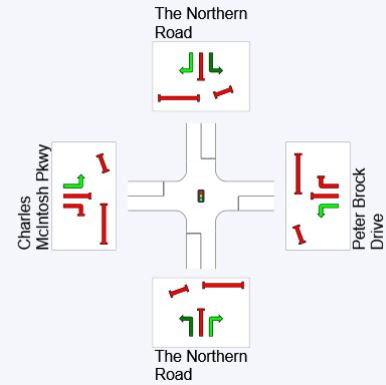
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

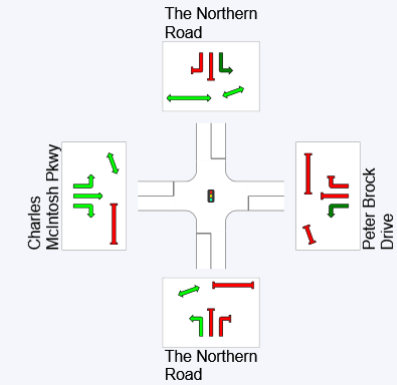
Phase A REF



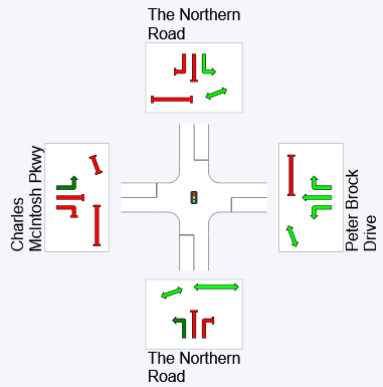
Phase E



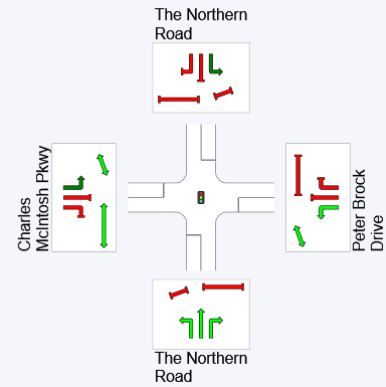
Phase C



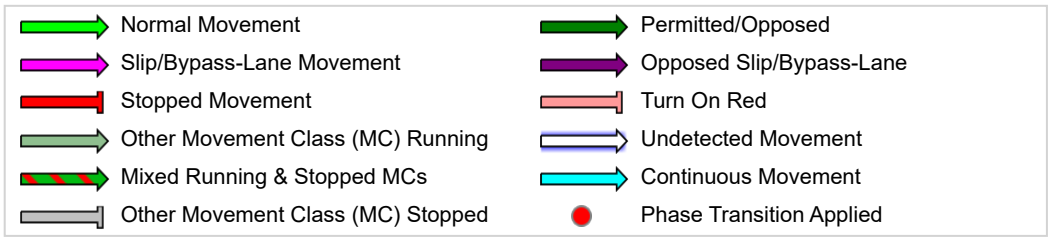
Phase D



Phase B



REF: Reference Phase
VAR: Variable Phase



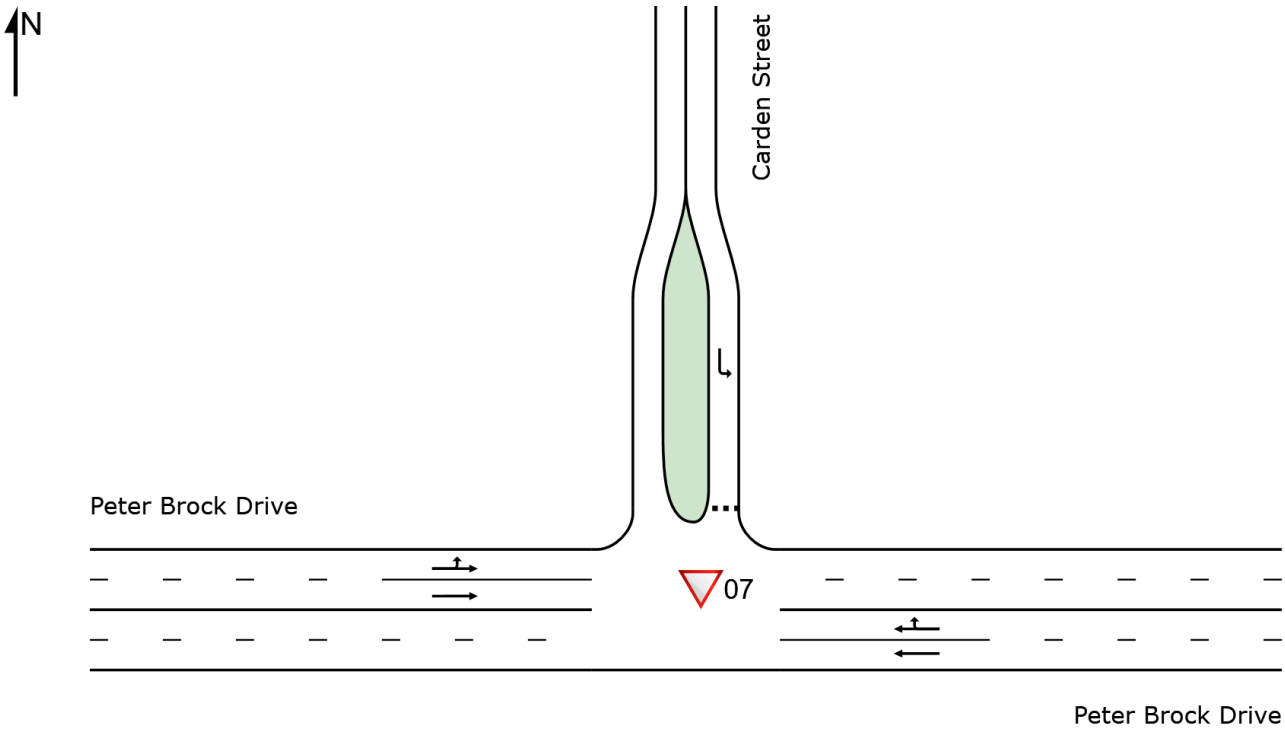
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SITE LAYOUT

Site: 07 [07. Peter Brock Dr / Carden St - 2026 AM (Site Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Project: \\ghdnet\ghd\AU\Sydney\Projects\21\12526027\Tech\Traffic Impact Assessments\04. SIDRA Models\Town Centre TIA\Town Centre Modelling - 2 lane_20210910.sip9

LANE SUMMARY

Site: 07 [07. Peter Brock Dr / Carden St - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Give-Way (Two-Way)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Peter Brock Drive															
Lane 1	360	0.0	360	0.0	1950	0.184	100	0.0	LOS A	0.0	0.0	Full	225	0.0	0.0
Lane 2	228	0.0	228	0.0	1238	0.184	100	5.8	LOS A	1.0	7.1	Full	225	0.0	0.0
Approach	588	0.0	588	0.0		0.184		2.3	NA	1.0	7.1				
North: Carden Street															
Lane 1	129	0.0	129	0.0	807	0.160	100	8.1	LOS A	0.6	4.1	Full	500	0.0	0.0
Approach	129	0.0	129	0.0		0.160		8.1	LOS A	0.6	4.1				
West: Peter Brock Drive															
Lane 1	501	0.0	501	0.0	1945	0.258	100	0.4	LOS A	0.0	0.0	Full	375	0.0	0.0
Lane 2	502	0.0	502	0.0	1950	0.258	100	0.1	LOS A	0.0	0.0	Full	375	0.0	0.0
Approach	1003	0.0	1003	0.0		0.258		0.2	NA	0.0	0.0				
Intersection	1720	0.0	1720	0.0		0.258		1.5	NA	1.0	7.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Approach Lane Flows (veh/h)

East: Peter Brock Drive

Mov. From E To Exit:	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	360	-	360	0.0	1950	0.184	100	NA	NA
Lane 2	187	41	228	0.0	1238	0.184	100	NA	NA
Approach	547	41	588	0.0		0.184			

North: Carden Street

Mov. From N To Exit:	L2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	129	129	0.0	807	0.160	100	NA	NA
Approach	129	129	0.0		0.160			

West: Peter Brock Drive

Mov. From W To Exit:	L2	T1	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

	N	E							
Lane 1	28	473	501	0.0	1945	0.258	100	NA	NA
Lane 2	-	502	502	0.0	1950	0.258	100	NA	NA
Approach	28	975	1003	0.0		0.258			

	Total	%HV	Deg.Satn (v/c)
Intersection	1720	0.0	0.258

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec
East Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Carden Street Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

LANE SUMMARY

Site: 07 [07. Peter Brock Dr / Carden St - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Give-Way (Two-Way)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Peter Brock Drive															
Lane 1	463	0.0	463	0.0	1950	0.237	100	0.0	LOS A	0.0	0.0	Full	225	0.0	0.0
Lane 2	311	0.0	311	0.0	1311	0.237	100	4.8	LOS A	1.2	8.6	Full	225	0.0	0.0
Approach	774	0.0	774	0.0		0.237		1.9	NA	1.2	8.6				
North: Carden Street															
Lane 1	35	0.0	35	0.0	1033	0.034	100	6.6	LOS A	0.1	0.8	Full	500	0.0	0.0
Approach	35	0.0	35	0.0		0.034		6.6	LOS A	0.1	0.8				
West: Peter Brock Drive															
Lane 1	351	0.0	351	0.0	1926	0.182	100	1.4	LOS A	0.0	0.0	Full	375	0.0	0.0
Lane 2	355	0.0	355	0.0	1950	0.182	100	0.0	LOS A	0.0	0.0	Full	375	0.0	0.0
Approach	706	0.0	706	0.0		0.182		0.7	NA	0.0	0.0				
Intersection	1515	0.0	1515	0.0		0.237		1.5	NA	1.2	8.6				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Approach Lane Flows (veh/h)

East: Peter Brock Drive

Mov. From E To Exit:	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	463	-	463	0.0	1950	0.237	100	NA	NA
Lane 2	228	83	311	0.0	1311	0.237	100	NA	NA
Approach	691	83	774	0.0		0.237			

North: Carden Street

Mov. From N To Exit:	L2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	35	35	0.0	1033	0.034	100	NA	NA
Approach	35	35	0.0		0.034			

West: Peter Brock Drive

Mov. From W To Exit:	L2	T1	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

	N	E							
Lane 1	88	263	351	0.0	1926	0.182	100	NA	NA
Lane 2	-	355	355	0.0	1950	0.182	100	NA	NA
Approach	88	618	706	0.0		0.182			

	Total	%HV	Deg.Satn (v/c)
Intersection	1515	0.0	0.237

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec	sec
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Carden Street Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

LANE SUMMARY

Site: 07 [07. Peter Brock Dr / Carden St - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Give-Way (Two-Way)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Peter Brock Drive															
Lane 1	338	0.0	338	0.0	1950	0.173	100	0.0	LOS A	0.0	0.0	Full	225	0.0	0.0
Lane 2	223	0.0	223	0.0	1289	0.173	100	5.1	LOS A	0.9	6.2	Full	225	0.0	0.0
Approach	561	0.0	561	0.0		0.173		2.0	NA	0.9	6.2				
North: Carden Street															
Lane 1	221	0.0	221	0.0	829	0.266	100	8.2	LOS A	1.1	7.5	Full	500	0.0	0.0
Approach	221	0.0	221	0.0		0.266		8.2	LOS A	1.1	7.5				
West: Peter Brock Drive															
Lane 1	515	0.0	476	0.0	1945	0.245	100	0.3	LOS A	0.0	0.0	Full	375	0.0	0.0
Lane 2	516	0.0	478	0.0	1950	0.245	100	0.1	LOS A	0.0	0.0	Full	375	0.0	0.0
Approach	1031	0.0	954[N1]	0.0		0.245		0.2	NA	0.0	0.0				
Intersection	1813	0.0	1736[N1]	0.0		0.266		1.8	NA	1.1	7.5				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
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.

Approach Lane Flows (veh/h)

East: Peter Brock Drive

Mov. From E To Exit:	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	338	-	338	0.0	1950	0.173	100	NA	NA
Lane 2	184	39	223	0.0	1289	0.173	100	NA	NA
Approach	522	39	561	0.0		0.173			

North: Carden Street

Mov. From N To Exit:	L2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	221	221	0.0	829	0.266	100	NA	NA
Approach	221	221	0.0		0.266			

West: Peter Brock Drive

Mov.	L2	T1	Total	%HV		Deg.	Lane	Prob.	Ov.

From W To Exit:	N	E			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	25	451	476	0.0	1945	0.245	100	NA	NA
Lane 2	-	478	478	0.0	1950	0.245	100	NA	NA
Approach	25	929	954	0.0		0.245			
	Total	%HV	Deg.Satn (v/c)						
Intersection	1736	0.0		0.266					

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Carden Street Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

LANE SUMMARY

Site: 07 [07. Peter Brock Dr / Carden St - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Give-Way (Two-Way)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Peter Brock Drive															
Lane 1	600	0.0	586	0.0	1950	0.301	100	0.0	LOS A	0.0	0.0	Full	225	0.0	0.0
Lane 2	394	0.0	384	0.0	1279	0.301	100	5.4	LOS A	1.8	12.4	Full	225	-0.7 N7	0.0
Approach	994	0.0	971 N1	0.0		0.301		2.2	NA	1.8	12.4				
North: Carden Street															
Lane 1	25	0.0	25	0.0	1002	0.025	100	6.7	LOS A	0.1	0.6	Full	500	0.0	0.0
Approach	25	0.0	25	0.0		0.025		6.7	LOS A	0.1	0.6				
West: Peter Brock Drive															
Lane 1	407	0.0	378	0.0	1928	0.196	100	1.3	LOS A	0.0	0.0	Full	375	0.0	0.0
Lane 2	412	0.0	382	0.0	1950	0.196	100	0.0	LOS A	0.0	0.0	Full	375	0.0	0.0
Approach	819	0.0	760 N1	0.0		0.196		0.7	NA	0.0	0.0				
Intersection	1838	0.0	1756 N1	0.0		0.301		1.6	NA	1.8	12.4				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
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.
N7 The capacity reduction has been determined from the queue blockage probability of a Site further downstream due to intermediate continuous lanes.

Approach Lane Flows (veh/h)

East: Peter Brock Drive

Mov. From E To Exit:	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	586	-	586	0.0	1950	0.301	100	NA	NA
Lane 2	287	98	384	0.0	1279	0.301	100	NA	NA
Approach	873	98	971	0.0		0.301			

North: Carden Street

Mov. From N To Exit:	L2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	25	25	0.0	1002	0.025	100	NA	NA
Approach	25	25	0.0		0.025			

West: Peter Brock Drive

Mov. From W To Exit:	L2 N	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	87	291	378	0.0	1928	0.196	100	NA	NA
Lane 2	-	382	382	0.0	1950	0.196	100	NA	NA
Approach	87	673	760	0.0		0.196			
	Total	%HV	Deg.Satn (v/c)						
Intersection	1756	0.0		0.301					

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
East Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Carden Street Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

LANE SUMMARY

Site: 07 [07. Peter Brock Dr / Carden St - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Give-Way (Two-Way)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Peter Brock Drive															
Lane 1	427	0.0	427	0.0	1950	0.219	100	0.0	LOS A	0.0	0.0	Full	225	0.0	0.0
Lane 2	304	0.0	304	0.0	1387	0.219	100	4.6	LOS A	1.2	8.3	Full	225	0.0	0.0
Approach	731	0.0	731	0.0		0.219		1.9	NA	1.2	8.3				
North: Carden Street															
Lane 1	161	0.0	161	0.0	806	0.200	100	8.2	LOS A	0.8	5.3	Full	500	0.0	0.0
Approach	161	0.0	161	0.0		0.200		8.2	LOS A	0.8	5.3				
West: Peter Brock Drive															
Lane 1	660	0.0	490	0.0	1947	0.252	100	0.2	LOS A	0.0	0.0	Full	375	0.0	0.0
Lane 2	662	0.0	491	0.0	1950	0.252	100	0.1	LOS A	0.0	0.0	Full	375	0.0	0.0
Approach	1322	0.0	980 N1	0.0		0.252		0.1	NA	0.0	0.0				
Intersection	2214	0.0	1872 N1	0.0		0.252		1.5	NA	1.2	8.3				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
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.

Approach Lane Flows (veh/h)

East: Peter Brock Drive

Mov. From E To Exit:	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	427	-	427	0.0	1950	0.219	100	NA	NA
Lane 2	263	41	304	0.0	1387	0.219	100	NA	NA
Approach	690	41	731	0.0		0.219			

North: Carden Street

Mov. From N To Exit:	L2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	161	161	0.0	806	0.200	100	NA	NA
Approach	161	161	0.0		0.200			

West: Peter Brock Drive

Mov.	L2	T1	Total	%HV		Deg.	Lane	Prob.	Ov.

From W To Exit:	N	E			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	16	474	490	0.0	1947	0.252	100	NA	NA
Lane 2	-	491	491	0.0	1950	0.252	100	NA	NA
Approach	16	964	980	0.0		0.252			
	Total	%HV	Deg.Satn (v/c)						
Intersection	1872	0.0		0.252					

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec
East Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Carden Street Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

LANE SUMMARY

Site: 07 [07. Peter Brock Dr / Carden St - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Give-Way (Two-Way)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
East: Peter Brock Drive															
Lane 1	864	0.0	758	0.0	1950	0.389	100	0.1	LOS A	0.0	0.0	Full	225	0.0	0.0
Lane 2	601	0.0	527	0.0	1357	0.389	100	5.4	LOS A	15.2 N5	106.6 N5	Full	225	0.0	35.8
Approach	1465	0.0	1285 N1	0.0		0.389		2.2	NA	15.2	106.6				
North: Carden Street															
Lane 1	18	0.0	18	0.0	1002	0.018	100	6.7	LOS A	0.1	0.4	Full	500	0.0	0.0
Approach	18	0.0	18	0.0		0.018		6.7	LOS A	0.1	0.4				
West: Peter Brock Drive															
Lane 1	426	0.0	381	0.0	1927	0.197	100	1.3	LOS A	0.0	0.0	Full	375	0.0	0.0
Lane 2	431	0.0	385	0.0	1950	0.197	100	0.0	LOS A	0.0	0.0	Full	375	0.0	0.0
Approach	856	0.0	766 N1	0.0		0.197		0.7	NA	0.0	0.0				
Intersection	2339	0.0	2069 N1	0.0		0.389		1.7	NA	15.2	106.6				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
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.
N5 Continuous Lane results determined by Back of Queue values of downstream lanes (proportional to lane movement flows).

Approach Lane Flows (veh/h)

East: Peter Brock Drive

Mov. From E To Exit:	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	758	-	758	0.0	1950	0.389	100	NA	NA
Lane 2	416	111	527	0.0	1357	0.389	100	NA	NA
Approach	1174	111	1285	0.0		0.389			

North: Carden Street

Mov. From N To Exit:	L2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	18	18	0.0	1002	0.018	100	NA	NA
Approach	18	18	0.0		0.018			

West: Peter Brock Drive

Mov. From W To Exit:	L2 N	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	89	291	381	0.0	1927	0.197	100	NA	NA
Lane 2	-	385	385	0.0	1950	0.197	100	NA	NA
Approach	89	676	766	0.0		0.197			
	Total	%HV	Deg.Satn (v/c)						
Intersection	2069	0.0		0.389					

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

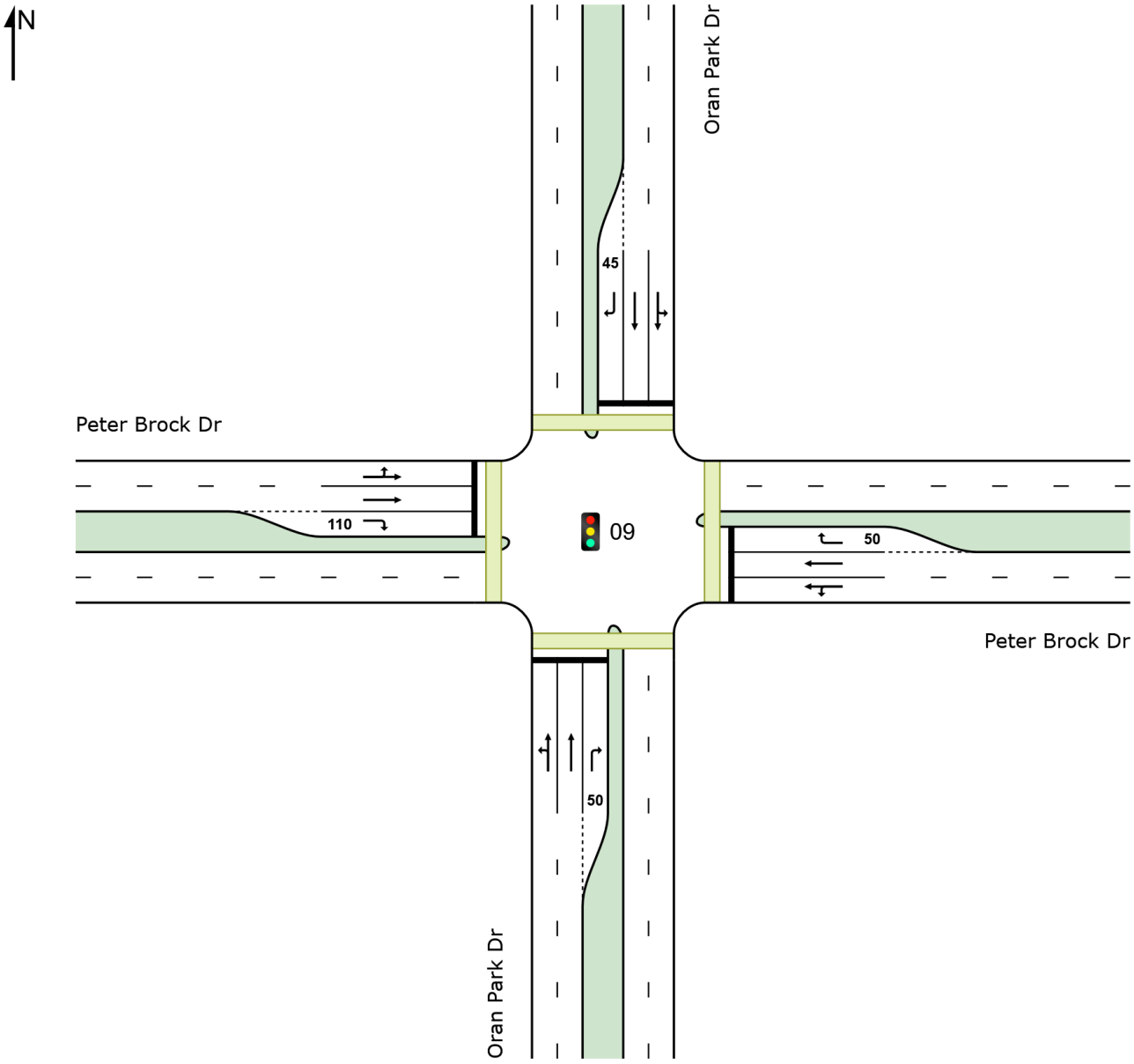
	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
East Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Carden Street Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

SITE LAYOUT

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2026 AM (Site Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Dr															
Lane 1	570	0.0	570	0.0	710	0.804	100	44.0	LOS D	35.4	247.5	Full	470	0.0	0.0
Lane 2	409	0.0	409	0.0	508[1]	0.804	100	42.2	LOS C	23.7	165.7	Full	470	0.0	0.0
Lane 3	344	0.0	344	0.0	407[1]	0.846	100	52.3	LOS D	20.8	145.3	Short	50	0.0	NA
Approach	1323	0.0	1323	0.0		0.846		45.6	LOS D	35.4	247.5				
East: Peter Brock Dr															
Lane 1	195	0.0	195	0.0	447	0.437	100	60.1	LOS E	12.3	86.1	Full	260	0.0	0.0
Lane 2	207	0.0	207	0.0	474	0.437	100	39.4	LOS C	10.5	73.2	Full	260	0.0	0.0
Lane 3	209	0.0	209	0.0	269	0.777	100	49.5	LOS D	12.1	85.0	Short	50	0.0	NA
Approach	611	0.0	611	0.0		0.777		49.5	LOS D	12.3	86.1				
North: Oran Park Dr															
Lane 1	262	0.0	262	0.0	375	0.697	100	46.9	LOS D	15.2	106.3	Full	180	0.0	0.0
Lane 2	230	0.0	230	0.0	331[1]	0.697	100	58.5	LOS E	14.8	103.5	Full	180	0.0	0.0
Lane 3	36	0.0	36	0.0	238	0.151	100	62.4	LOS E	2.2	15.1	Short	45	0.0	NA
Approach	528	0.0	528	0.0		0.697		53.0	LOS D	15.2	106.3				
West: Peter Brock Dr															
Lane 1	346	0.0	346	0.0	460	0.751	100	40.2	LOS C	18.3	127.8	Full	380	0.0	0.0
Lane 2	376	0.0	376	0.0	501	0.751	100	24.4	LOS B	17.6	123.4	Full	380	0.0	0.0
Lane 3	217	0.0	217	0.0	315	0.688	100	50.1	LOS D	11.9	83.5	Short	110	0.0	NA
Approach	939	0.0	939	0.0		0.751		36.2	LOS C	18.3	127.8				
Intersection	3401	0.0	3401	0.0		0.846		44.9	LOS D	35.4	247.5				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Approach Lane Flows (veh/h)

South: Oran Park Dr

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	57	513	-	570	0.0	710	0.804	100	NA	NA
Lane 2	-	409	-	409	0.0	508[1]	0.804	100	NA	NA
Lane 3	-	-	344	344	0.0	407[1]	0.846	100	100.0	2

Approach	57	922	344	1323	0.0		0.846				
East: Peter Brock Dr											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	36	159	-	195	0.0	447	0.437	100	NA	NA	
Lane 2	-	207	-	207	0.0	474	0.437	100	NA	NA	
Lane 3	-	-	209	209	0.0	269	0.777	100	53.8	2	
Approach	36	366	209	611	0.0		0.777				
North: Oran Park Dr											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	155	107	-	262	0.0	375	0.697	100	NA	NA	
Lane 2	-	230	-	230	0.0	331[1]	0.697	100	NA	NA	
Lane 3	-	-	36	36	0.0	238	0.151	100	0.0	2	
Approach	155	337	36	528	0.0		0.697				
West: Peter Brock Dr											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	121	225	-	346	0.0	460	0.751	100	NA	NA	
Lane 2	-	376	-	376	0.0	501	0.751	100	NA	NA	
Lane 3	-	-	217	217	0.0	315	0.688	100	0.0	2	
Approach	121	601	217	939	0.0		0.751				

	Total	%HV	Deg.Satn (v/c)
Intersection	3401	0.0	0.846

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Peter Brock Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Oran Park Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Peter Brock Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

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PHASING SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

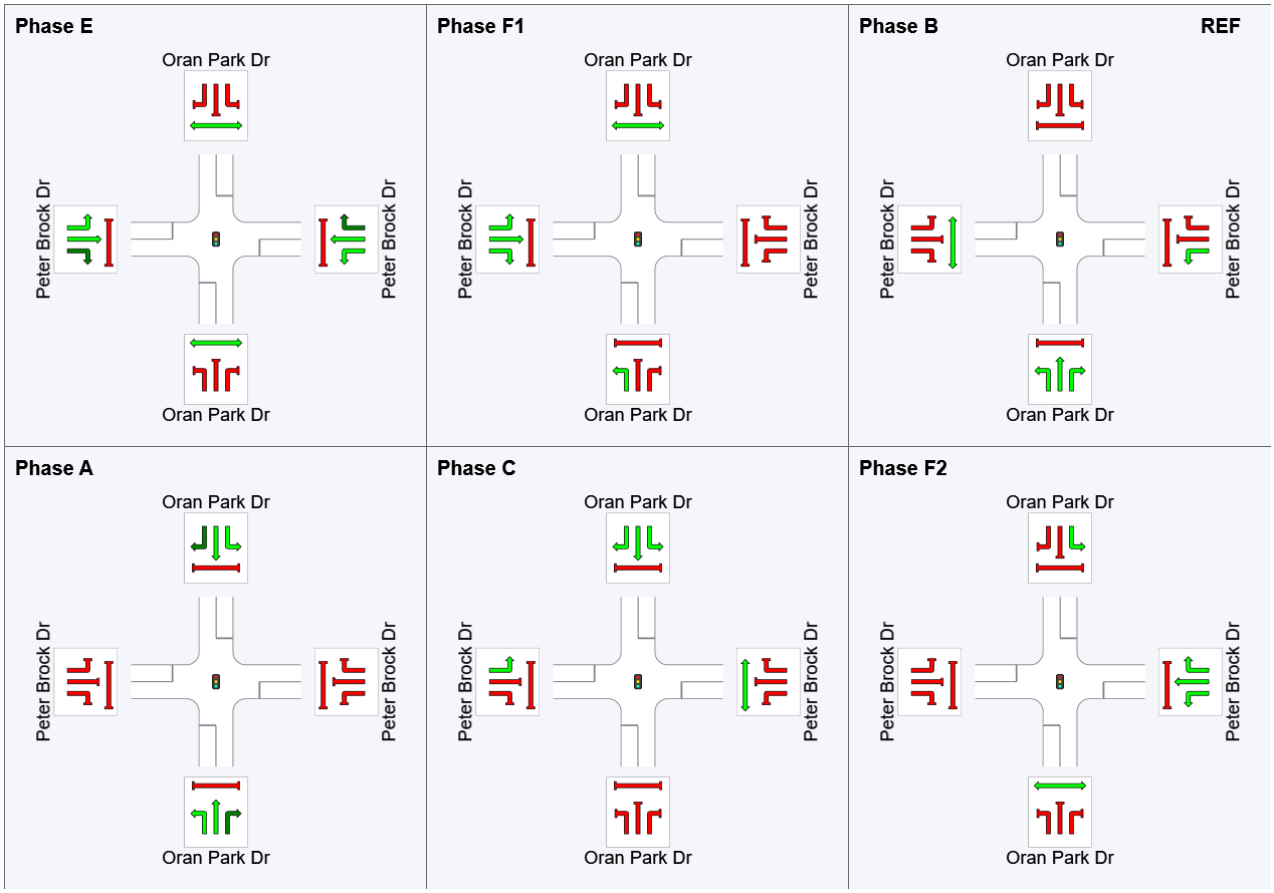
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase B
Input Phase Sequence: E, F1, B, A, C, F2
Output Phase Sequence: E, F1, B, A, C, F2

Phase Timing Summary

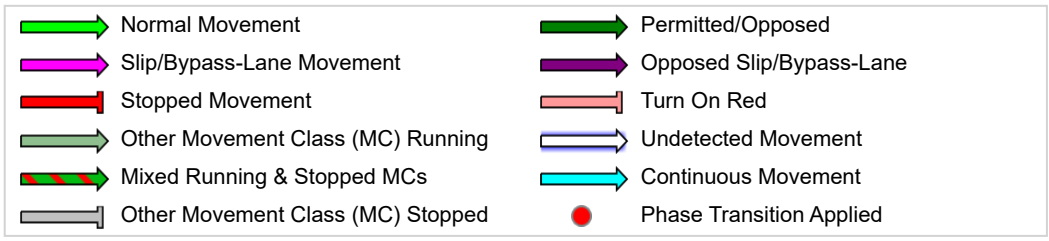
Phase	E	F1	B	A	C	F2
Phase Change Time (sec)	28	46	70	115	127	6
Green Time (sec)	12	18	39	6	13	16
Phase Time (sec)	18	24	45	12	19	22
Phase Split	13%	17%	32%	9%	14%	16%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Dr															
Lane 1	353	0.0	353	0.0	531	0.665	100	49.2	LOS D	21.3	149.2	Full	470	0.0	0.0
Lane 2	272	0.0	272	0.0	409[1]	0.665	100	46.3	LOS D	15.7	109.7	Full	470	0.0	0.0
Lane 3	274	0.0	274	0.0	327[1]	0.838	100	60.7	LOS E	17.7	124.1	Short	50	0.0	NA
Approach	899	0.0	899	0.0		0.838		51.8	LOS D	21.3	149.2				
East: Peter Brock Dr															
Lane 1	351	0.0	351	0.0	483	0.726	100	63.6	LOS E	23.0	160.8	Full	260	0.0	0.0
Lane 2	284	0.0	284	0.0	391[1]	0.726	100	48.2	LOS D	15.6	109.5	Full	260	0.0	0.0
Lane 3	215	0.0	215	0.0	305	0.705	100	45.9	LOS D	11.8	82.5	Short	50	0.0	NA
Approach	850	0.0	850	0.0		0.726		54.0	LOS D	23.0	160.8				
North: Oran Park Dr															
Lane 1	385	0.0	385	0.0	607	0.635	100	31.1	LOS C	17.9	125.3	Full	180	0.0	0.0
Lane 2	372	0.0	372	0.0	585[1]	0.635	100	40.1	LOS C	19.0	132.8	Full	180	0.0	0.0
Lane 3	86	0.0	86	0.0	536	0.160	100	41.3	LOS C	3.7	26.0	Short	45	0.0	NA
Approach	843	0.0	843	0.0		0.635		36.1	LOS C	19.0	132.8				
West: Peter Brock Dr															
Lane 1	201	0.0	201	0.0	314	0.640	100	22.9	LOS B	7.2	50.1	Full	380	0.0	0.0
Lane 2	214	0.0	214	0.0	334	0.640	100	25.6	LOS B	9.0	63.2	Full	380	0.0	0.0
Lane 3	51	0.0	51	0.0	151	0.337	100	55.7	LOS D	2.9	20.0	Short	110	0.0	NA
Approach	466	0.0	466	0.0		0.640		27.7	LOS B	9.0	63.2				
Intersection	3058	0.0	3058	0.0		0.838		44.4	LOS D	23.0	160.8				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Approach Lane Flows (veh/h)

South: Oran Park Dr

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	72	281	-	353	0.0	531	0.665	100	NA	NA
Lane 2	-	272	-	272	0.0	409[1]	0.665	100	NA	NA
Lane 3	-	-	274	274	0.0	327[1]	0.838	100	90.5	2

Approach	72	553	274	899	0.0		0.838			
East: Peter Brock Dr										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	83	268	-	351	0.0	483	0.726	100	NA	NA
Lane 2	-	284	-	284	0.0	391[1]	0.726	100	NA	NA
Lane 3	-	-	215	215	0.0	305	0.705	100	51.0	2
Approach	83	552	215	850	0.0		0.726			
North: Oran Park Dr										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	214	171	-	385	0.0	607	0.635	100	NA	NA
Lane 2	-	372	-	372	0.0	585[1]	0.635	100	NA	NA
Lane 3	-	-	86	86	0.0	536	0.160	100	0.0	2
Approach	214	543	86	843	0.0		0.635			
West: Peter Brock Dr										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	28	173	-	201	0.0	314	0.640	100	NA	NA
Lane 2	-	214	-	214	0.0	334	0.640	100	NA	NA
Lane 3	-	-	51	51	0.0	151	0.337	100	0.0	2
Approach	28	387	51	466	0.0		0.640			
	Total	%HV	Deg.Satn (v/c)							
Intersection	3058	0.0	0.838							

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Peter Brock Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Oran Park Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Peter Brock Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

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PHASING SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

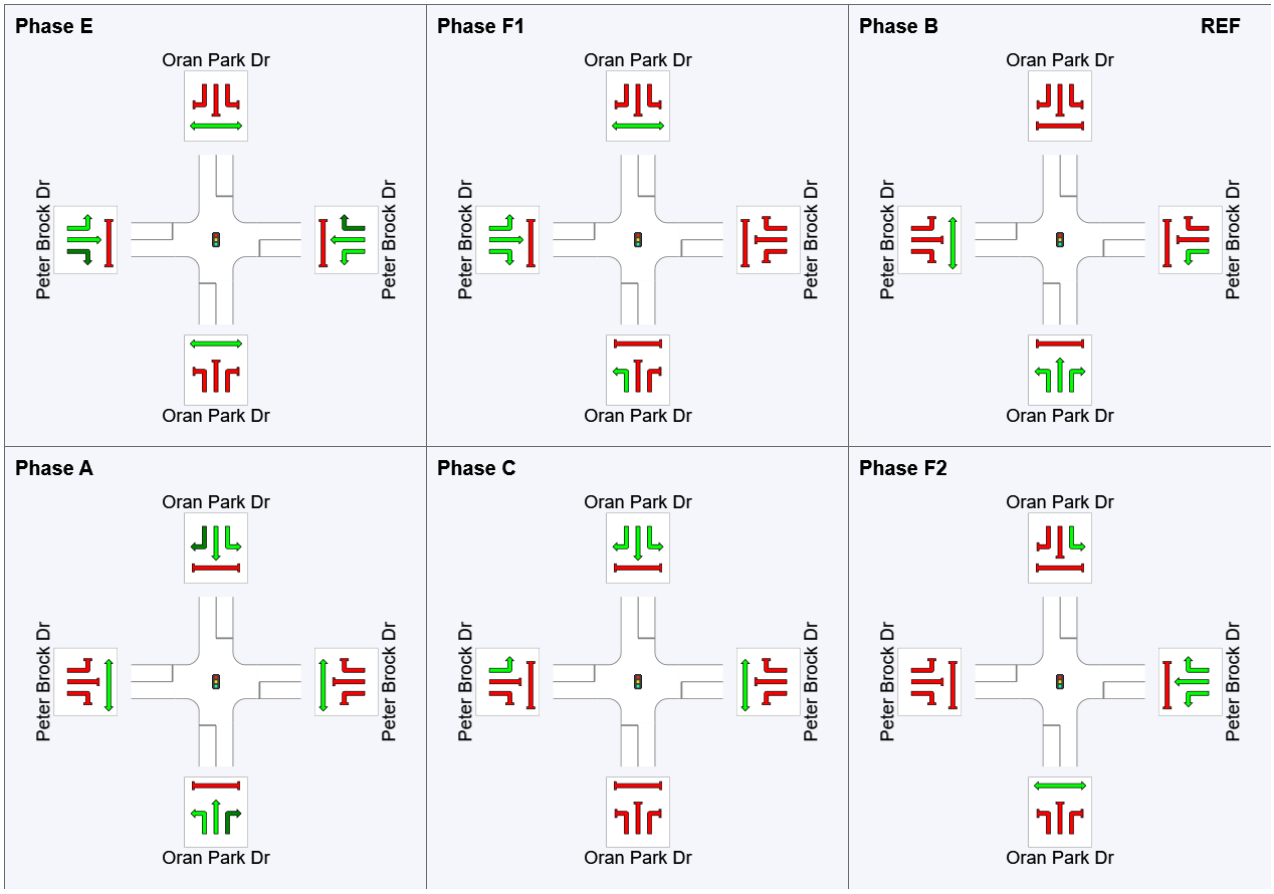
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v2 - Import
Reference Phase: Phase B
Input Phase Sequence: E, F1, B, A, C, F2
Output Phase Sequence: E, F1, B, A, C, F2

Phase Timing Summary

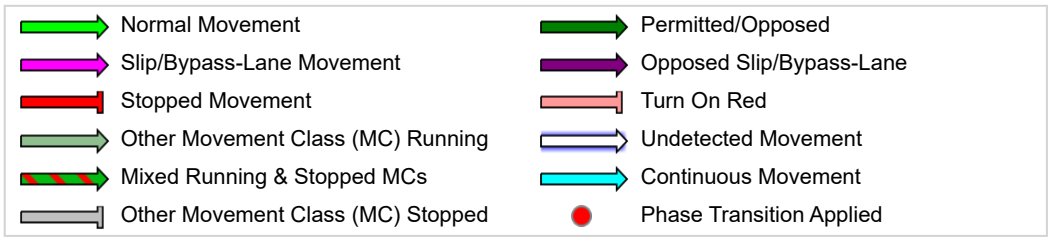
Phase	E	F1	B	A	C	F2
Phase Change Time (sec)	37	55	67	99	111	12
Green Time (sec)	12	6	26	6	35	19
Phase Time (sec)	18	12	32	12	41	25
Phase Split	13%	9%	23%	9%	29%	18%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Dr															
Lane 1	553	0.0	553	0.0	751	0.736	100	39.3	LOS C	31.9	223.3	Full	470	0.0	0.0
Lane 2	397	0.0	397	0.0	540[1]	0.736	100	35.3	LOS C	20.7	144.8	Full	470	0.0	0.0
Lane 3	320	0.0	320	0.0	302[1]	1.060	100	134.4	LOS F	31.0	217.1	Short	50	0.0	NA
Approach	1270	0.0	1270	0.0		1.060		62.0	LOS E	31.9	223.3				
East: Peter Brock Dr															
Lane 1	194	0.0	194	0.0	439	0.442	100	59.0	LOS E	12.0	84.1	Full	260	0.0	0.0
Lane 2	209	0.0	209	0.0	474	0.442	100	48.3	LOS D	12.1	84.7	Full	260	0.0	0.0
Lane 3	218	0.0	218	0.0	255[1]	0.854	100	65.3	LOS E	14.0	98.2	Short	50	0.0	NA
Approach	621	0.0	621	0.0		0.854		57.6	LOS E	14.0	98.2				
North: Oran Park Dr															
Lane 1	480	0.0	480	0.0	487	0.985	100	61.3	LOS E	38.9	272.0	Full	180	0.0	42.8
Lane 2	493	0.0	493	0.0	501[1]	0.985	100	79.2	LOS F	40.5	283.8	Full	180	0.0	46.8
Lane 3	40	0.0	40	0.0	219	0.182	100	53.2	LOS D	2.1	14.4	Short	45	0.0	NA
Approach	1013	0.0	1013	0.0		0.985		69.7	LOS E	40.5	283.8				
West: Peter Brock Dr															
Lane 1	405	0.0	382	0.0	496	0.771	100	42.1	LOS C	21.0	146.7	Full	380	0.0	0.0
Lane 2	432	0.0	408	0.0	529	0.771	100	25.7	LOS B	20.1	140.5	Full	380	0.0	0.0
Lane 3	272	0.0	257	0.0	342	0.751	100	51.1	LOS D	14.4	100.7	Short	110	0.0	NA
Approach	1109	0.0	1047[N1]	0.0		0.771		37.9	LOS C	21.0	146.7				
Intersection	4013	0.0	3951[N1]	0.0		1.060		56.9	LOS E	40.5	283.8				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Oran Park Dr

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	62	491	-	553	0.0	751	0.736	100	NA	NA
Lane 2	-	397	-	397	0.0	540[1]	0.736	100	NA	NA

Lane 3	-	-	320	320	0.0	302[1]	1.060	100	100.0	2
Approach	62	888	320	1270	0.0		1.060			
East: Peter Brock Dr										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	53	141	-	194	0.0	439	0.442	100	NA	NA
Lane 2	-	209	-	209	0.0	474	0.442	100	NA	NA
Lane 3	-	-	218	218	0.0	255[1]	0.854	100	67.6	2
Approach	53	350	218	621	0.0		0.854			
North: Oran Park Dr										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	283	197	-	480	0.0	487	0.985	100	NA	NA
Lane 2	-	493	-	493	0.0	501[1]	0.985	100	NA	NA
Lane 3	-	-	40	40	0.0	219	0.182	100	0.0	2
Approach	283	690	40	1013	0.0		0.985			
West: Peter Brock Dr										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	94	288	-	382	0.0	496	0.771	100	NA	NA
Lane 2	-	408	-	408	0.0	529	0.771	100	NA	NA
Lane 3	-	-	257	257	0.0	342	0.751	100	0.0	2
Approach	94	696	257	1047	0.0		0.771			
	Total	%HV	Deg.Satn (v/c)							
Intersection	3951	0.0		1.060						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Peter Brock Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Oran Park Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: Peter Brock Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

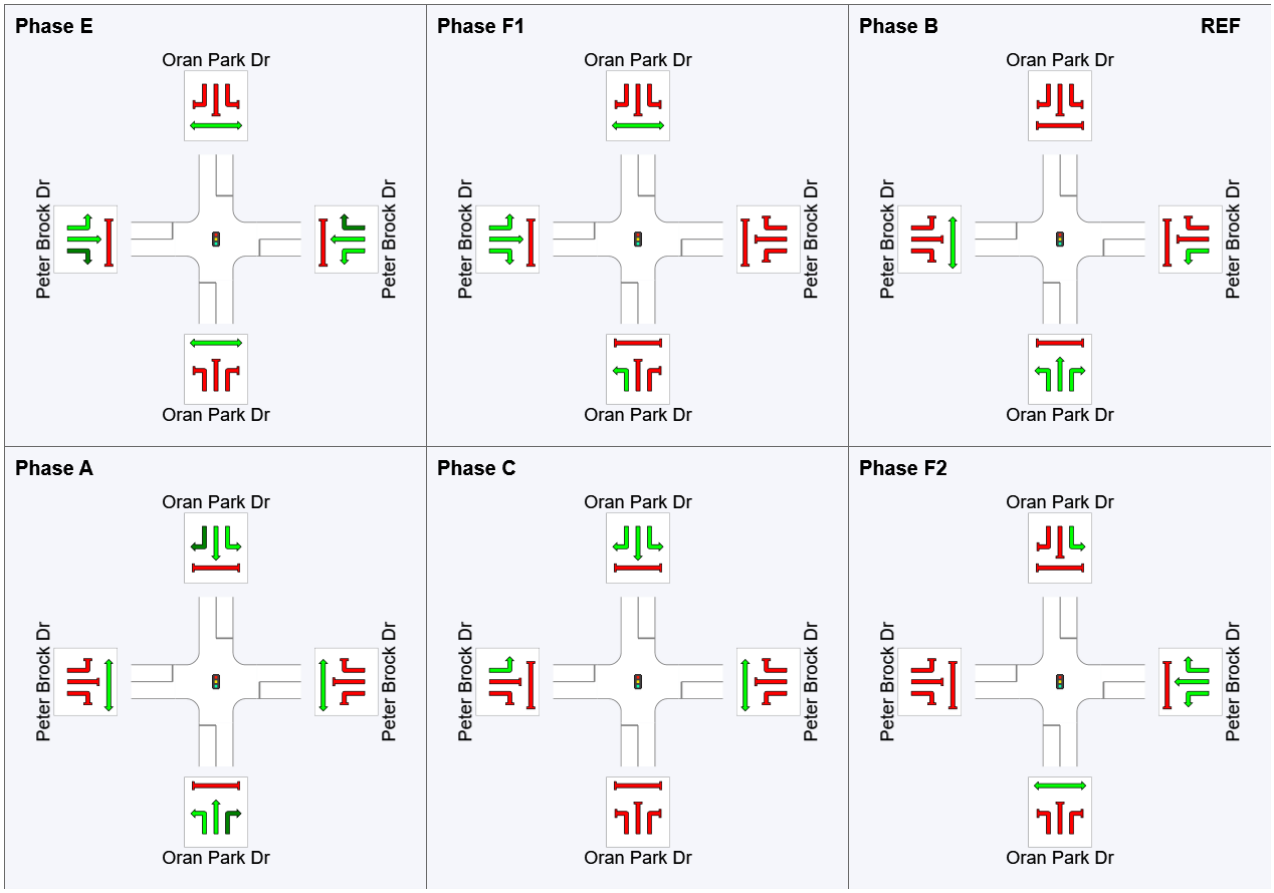
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase B
Input Phase Sequence: E, F1, B, A, C, F2
Output Phase Sequence: E, F1, B, A, C, F2

Phase Timing Summary

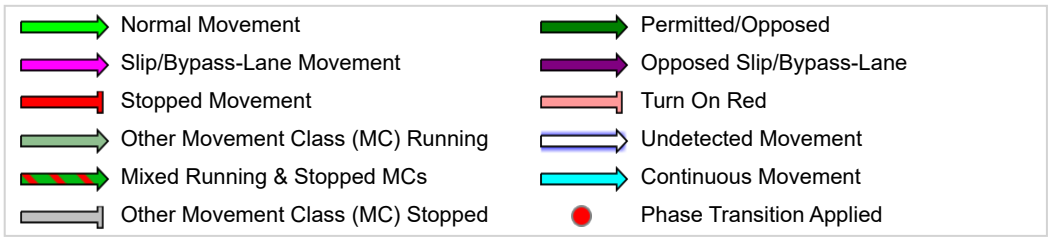
Phase	E	F1	B	A	C	F2
Phase Change Time (sec)	43	61	87	117	7	21
Green Time (sec)	12	20	24	24	8	16
Phase Time (sec)	18	26	30	30	14	22
Phase Split	13%	19%	21%	21%	10%	16%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Dr															
Lane 1	608	0.0	608	0.0	628	0.967	100	84.4	LOS F	53.5	374.8	Full	470	0.0	0.0
Lane 2	471	0.0	471	0.0	487[1]	0.967	100	84.6	LOS F	40.4	283.0	Full	470	-6.6[N3]	0.0
Lane 3	221	0.0	221	0.0	428	0.516	100	46.2	LOS D	11.7	82.1	Short	50	0.0	NA
Approach	1300	0.0	1300	0.0		0.967		78.0	LOS F	53.5	374.8				
East: Peter Brock Dr															
Lane 1	455	0.0	438	0.0	685	0.639	100	44.5	LOS D	26.3	184.3	Full	260	0.0	0.0
Lane 2	348	0.0	334	0.0	523[1]	0.639	100	31.4	LOS C	14.3	100.0	Full	260	0.0	0.0
Lane 3	311	0.0	299	0.0	343[1]	0.871	100	42.4	LOS C	15.8	110.6	Short	50	-6.6[N3]	NA
Approach	1114	0.0	1071[N1]	0.0		0.871		39.8	LOS C	26.3	184.3				
North: Oran Park Dr															
Lane 1	426	0.0	426	0.0	405	1.054	100	109.9	LOS F	42.0[N4]	293.8[N4]	Full	180	0.0	50.0
Lane 2	387	0.0	386	0.0	367[1]	1.054	100	116.5	LOS F	38.4	268.9	Full	180	0.0	41.7
Lane 3	197	0.0	197	0.0	253	0.777	100	67.0	LOS E	12.7	88.8	Short	45	0.0	NA
Approach	1010	0.0	1010	0.0		1.054		104.1	LOS F	42.0	293.8				
West: Peter Brock Dr															
Lane 1	237	0.0	221	0.0	303	0.727	100	43.7	LOS D	12.1	84.5	Full	380	0.0	0.0
Lane 2	261	0.0	243	0.0	334	0.727	100	29.0	LOS C	12.0	83.8	Full	380	0.0	0.0
Lane 3	59	0.0	55	0.0	149	0.369	100	57.2	LOS E	3.2	22.2	Short	110	0.0	NA
Approach	557	0.0	519[N1]	0.0		0.727		38.3	LOS C	12.1	84.5				
Intersection	3981	0.0	3900[N1]	0.0		1.054		69.0	LOS E	53.5	374.8				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.
N4 Average back of queue has been restricted to the available queue storage space.

Approach Lane Flows (veh/h)

South: Oran Park Dr

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.

Lane 1	172	436	-	608	0.0	628	0.967	100	NA	NA
Lane 2	-	471	-	471	0.0	487[1]	0.967	100	NA	NA
Lane 3	-	-	221	221	0.0	428	0.516	100	50.5	2
Approach	172	907	221	1300	0.0		0.967			

East: Peter Brock Dr

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	28	410	-	438	0.0	685	0.639	100	NA	NA
Lane 2	-	334	-	334	0.0	523[1]	0.639	100	NA	NA
Lane 3	-	-	299	299	0.0	343[1]	0.871	100	79.1	2
Approach	28	744	299	1071	0.0		0.871			

North: Oran Park Dr

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	159	267	-	426	0.0	405	1.054	100	NA	NA
Lane 2	-	386	-	386	0.0	367[1]	1.054	100	NA	NA
Lane 3	-	-	197	197	0.0	253	0.777	100	68.0	2
Approach	159	654	197	1010	0.0		1.054			

West: Peter Brock Dr

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	54	167	-	221	0.0	303	0.727	100	NA	NA
Lane 2	-	243	-	243	0.0	334	0.727	100	NA	NA
Lane 3	-	-	55	55	0.0	149	0.369	100	0.0	2
Approach	54	410	55	519	0.0		0.727			

	Total	%HV	Deg.Satn (v/c)
Intersection	3900	0.0	1.054

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Peter Brock Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Oran Park Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Peter Brock Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

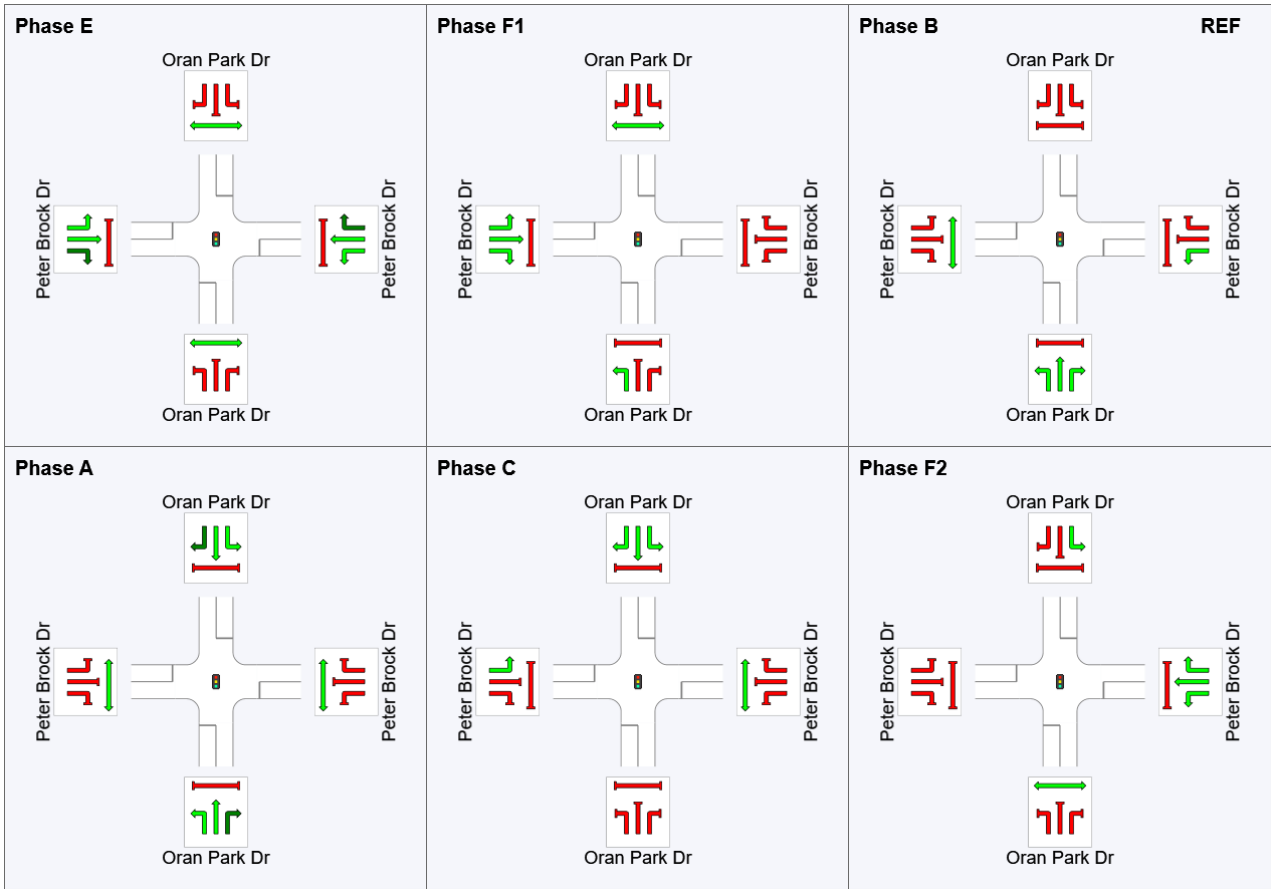
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v2 - Import
Reference Phase: Phase B
Input Phase Sequence: E, F1, B, A, C, F2
Output Phase Sequence: E, F1, B, A, C, F2

Phase Timing Summary

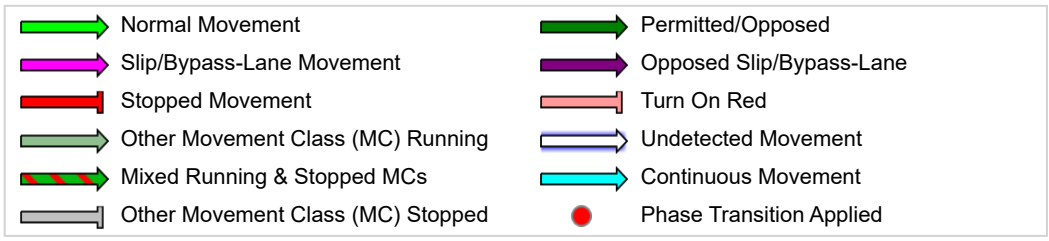
Phase	E	F1	B	A	C	F2
Phase Change Time (sec)	31	49	61	95	112	133
Green Time (sec)	12	6	28	11	15	32
Phase Time (sec)	18	12	34	17	21	38
Phase Split	13%	9%	24%	12%	15%	27%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Dr															
Lane 1	468	0.0	468	0.0	571	0.820	100	53.0	LOS D	31.1	217.6	Full	470	0.0	0.0
Lane 2	353	0.0	353	0.0	430[1]	0.820	100	51.5	LOS D	22.4	156.8	Full	470	0.0	0.0
Lane 3	272	0.0	272	0.0	333[1]	0.818	100	56.5	LOS D	16.8	117.7	Short	50	0.0	NA
Approach	1093	0.0	1093	0.0		0.820		53.4	LOS D	31.1	217.6				
East: Peter Brock Dr															
Lane 1	289	0.0	289	0.0	341	0.848	100	79.9	LOS F	20.8	145.3	Full	260	0.0	0.0
Lane 2	277	0.0	277	0.0	327[1]	0.848	100	64.2	LOS E	19.3	135.3	Full	260	0.0	0.0
Lane 3	93	0.0	93	0.0	136	0.683	100	61.9	LOS E	5.9	41.0	Short	50	0.0	NA
Approach	659	0.0	659	0.0		0.848		70.7	LOS F	20.8	145.3				
North: Oran Park Dr															
Lane 1	405	0.0	405	0.0	603	0.672	100	19.8	LOS B	13.7	96.2	Full	180	0.0	0.0
Lane 2	358	0.0	358	0.0	533[1]	0.672	100	27.9	LOS B	16.3	113.9	Full	180	0.0	0.0
Lane 3	50	0.0	50	0.0	444	0.113	100	35.2	LOS C	1.9	13.6	Short	45	0.0	NA
Approach	813	0.0	813	0.0		0.672		24.3	LOS B	16.3	113.9				
West: Peter Brock Dr															
Lane 1	564	0.0	441	0.0	533	0.827	100	31.4	LOS C	23.3	163.0	Full	380	0.0	0.0
Lane 2	604	0.0	472	0.0	571	0.827	100	26.4	LOS B	25.1	175.5	Full	380	0.0	0.0
Lane 3	184	0.0	144	0.0	340	0.423	100	51.4	LOS D	7.6	53.4	Short	110	0.0	NA
Approach	1352	0.0	1057[N1]	0.0		0.827		31.9	LOS C	25.1	175.5				
Intersection	3917	0.0	3622[N1]	0.0		0.848		43.7	LOS D	31.1	217.6				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Oran Park Dr

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	44	424	-	468	0.0	571	0.820	100	NA	NA
Lane 2	-	353	-	353	0.0	430[1]	0.820	100	NA	NA

Lane 3	-	-	272	272	0.0	333[1]	0.818	100	85.3	2
Approach	44	777	272	1093	0.0		0.820			

East: Peter Brock Dr

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	44	245	-	289	0.0	341	0.848	100	NA	NA
Lane 2	-	277	-	277	0.0	327[1]	0.848	100	NA	NA
Lane 3	-	-	93	93	0.0	136	0.683	100	0.0	2
Approach	44	522	93	659	0.0		0.848			

North: Oran Park Dr

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	278	127	-	405	0.0	603	0.672	100	NA	NA
Lane 2	-	358	-	358	0.0	533[1]	0.672	100	NA	NA
Lane 3	-	-	50	50	0.0	444	0.113	100	0.0	2
Approach	278	485	50	813	0.0		0.672			

West: Peter Brock Dr

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	128	313	-	441	0.0	533	0.827	100	NA	NA
Lane 2	-	472	-	472	0.0	571	0.827	100	NA	NA
Lane 3	-	-	144	144	0.0	340	0.423	100	0.0	2
Approach	128	785	144	1057	0.0		0.827			

	Total	%HV	Deg.Satn (v/c)
Intersection	3622	0.0	0.848

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Peter Brock Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Oran Park Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: Peter Brock Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

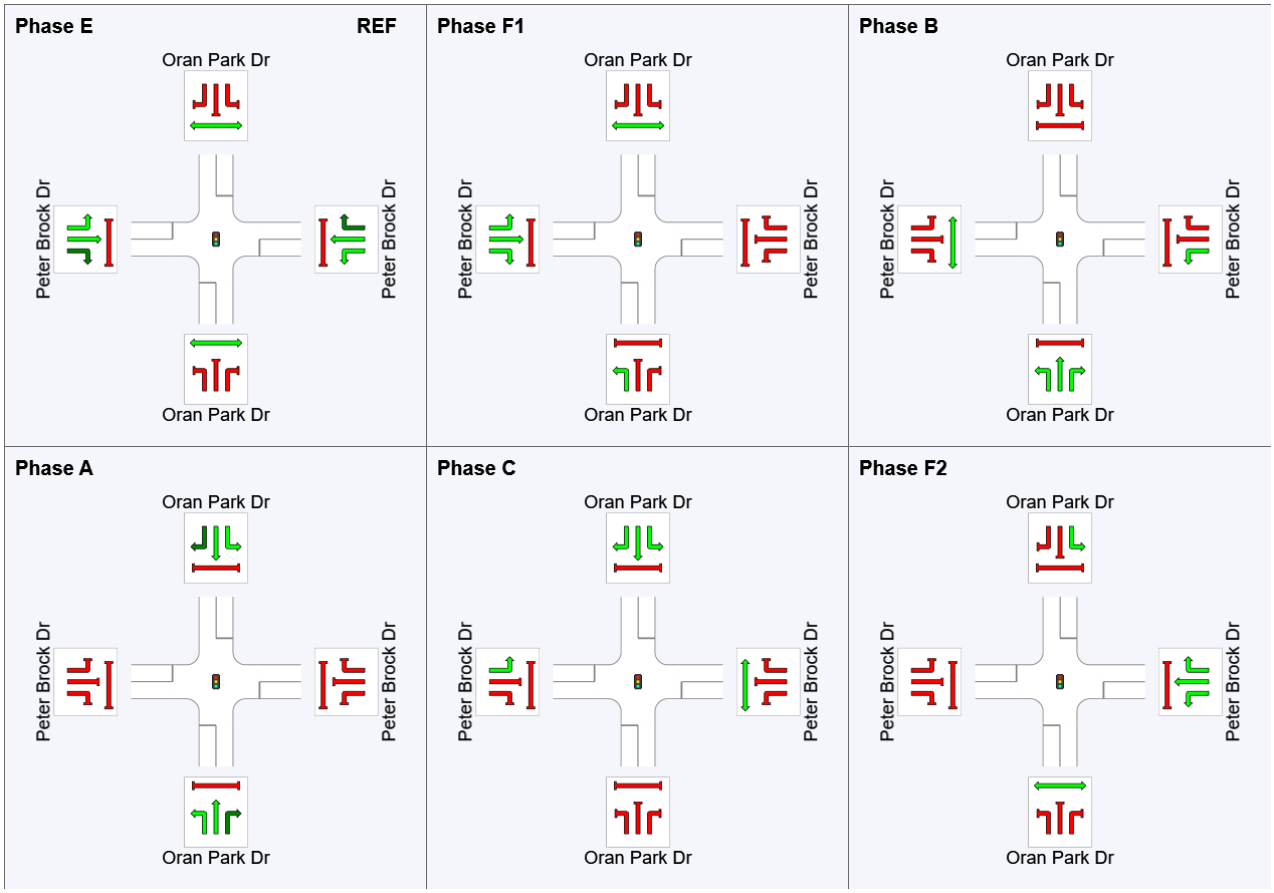
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase E
Input Phase Sequence: E, F1, B, A, C, F2
Output Phase Sequence: E, F1, B, A, C, F2

Phase Timing Summary

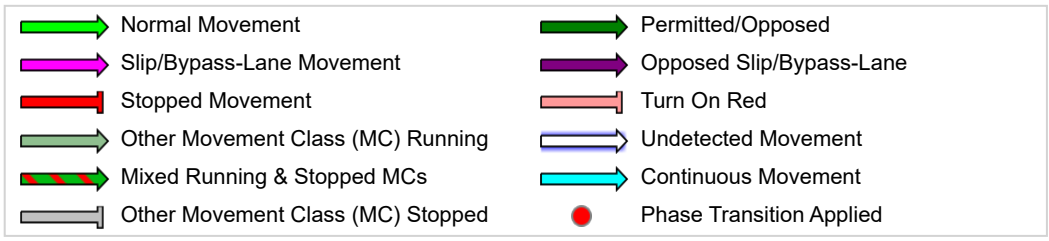
Phase	E	F1	B	A	C	F2
Phase Change Time (sec)	39	59	86	120	133	27
Green Time (sec)	14	21	28	7	28	6
Phase Time (sec)	20	27	34	13	34	12
Phase Split	14%	19%	24%	9%	24%	9%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Dr															
Lane 1	581	0.0	581	0.0	458	1.269	100	314.7	LOS F	101.3	708.9	Full	470	-43.3 N7	42.6
Lane 2	455	0.0	455	0.0	359 1	1.269	100	317.3	LOS F	80.0	559.9	Full	470	-50.0 N7	20.9
Lane 3	225	0.0	225	0.0	235	0.957	100	91.9	LOS F	15.6	109.0	Short	50	0.0	NA
Approach	1261	0.0	1261	0.0		1.269		275.9	LOS F	101.3	708.9				
East: Peter Brock Dr															
Lane 1	684	0.0	672	0.0	627	1.072	100	137.9	LOS F	60.6 N4	424.3 N4	Full	260	0.0	50.0
Lane 2	478	0.0	469	0.0	438 1	1.072	100	148.1	LOS F	52.4	367.0	Full	260	0.0	36.5
Lane 3	241	0.0	237	0.0	207	1.141	100	186.7	LOS F	29.0	203.1	Short	50	-50.0 N7	NA
Approach	1403	0.0	1378 N 1	0.0		1.141		149.7	LOS F	60.6	424.3				
North: Oran Park Dr															
Lane 1	379	0.0	378	0.0	774	0.489	100	28.0	LOS B	14.7	103.1	Full	180	0.0	0.0
Lane 2	355	0.0	355	0.0	726	0.489	100	24.1	LOS B	12.9	90.2	Full	180	0.0	50.0 8
Lane 3	321	0.0	321	0.0	149	2.147	100	1052.4	LOS F	42.0 N4	293.8 N4	Short	45	0.0	NA
Approach	1055	0.0	1054 N 1	0.0		2.147		338.4	LOS F	42.0	293.8				
West: Peter Brock Dr															
Lane 1	187	0.0	168	0.0	235	0.713	100	62.6	LOS E	10.3	72.1	Full	380	-21.8 N7	0.0
Lane 2	265	0.0	238	0.0	334	0.713	100	36.8	LOS C	12.9	90.6	Full	380	0.0	0.0
Lane 3	30	0.0	27	0.0	136	0.198	100	67.6	LOS E	1.7	12.0	Short	110	0.0	NA
Approach	482	0.0	433 N1	0.0		0.713		48.7	LOS D	12.9	90.6				
Intersection	4201	0.0	4126 N 1	0.0		2.147		225.9	LOS F	101.3	708.9				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
8 Probability of Blockage has been set on the basis of a queue that overflows from a short lane.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N4 Average back of queue has been restricted to the available queue storage space.
N7 The capacity reduction has been determined from the queue blockage probability of a Site further downstream due to intermediate continuous lanes.

Approach Lane Flows (veh/h)

South: Oran Park Dr

Mov.	L2	T1	R2	Total	%HV	Deg.	Lane	Prob.	Ov.

From S To Exit:	W	N	E			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	138	443	-	581	0.0	458	1.269	100	NA	NA
Lane 2	-	455	-	455	0.0	359[1]	1.269	100	NA	NA
Lane 3	-	-	225	225	0.0	235	0.957	100	77.7	2
Approach	138	898	225	1261	0.0		1.269			

East: Peter Brock Dr

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	671	-	672	0.0	627	1.072	100	NA	NA
Lane 2	-	469	-	469	0.0	438[1]	1.072	100	NA	NA
Lane 3	-	-	237	237	0.0	207	1.141	100	100.0	2
Approach	1	1140	237	1378	0.0		1.141			

North: Oran Park Dr

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	149	230	-	378	0.0	774	0.489	100	NA	NA
Lane 2	-	355	-	355	0.0	726	0.489	100	NA	NA
Lane 3	-	-	321	321	0.0	149	2.147	100	100.0	2
Approach	149	585	321	1054	0.0		2.147			

West: Peter Brock Dr

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	47	121	-	168	0.0	235	0.713	100	NA	NA
Lane 2	-	238	-	238	0.0	334	0.713	100	NA	NA
Lane 3	-	-	27	27	0.0	136	0.198	100	0.0	2
Approach	47	359	27	433	0.0		0.713			

	Total	%HV	Deg.Satn (v/c)
Intersection	4126	0.0	2.147

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Peter Brock Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Oran Park Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

West Exit: Peter Brock Dr Merge Type: **Not Applied**		
Full Length Lane	1	Merge Analysis not applied.
Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

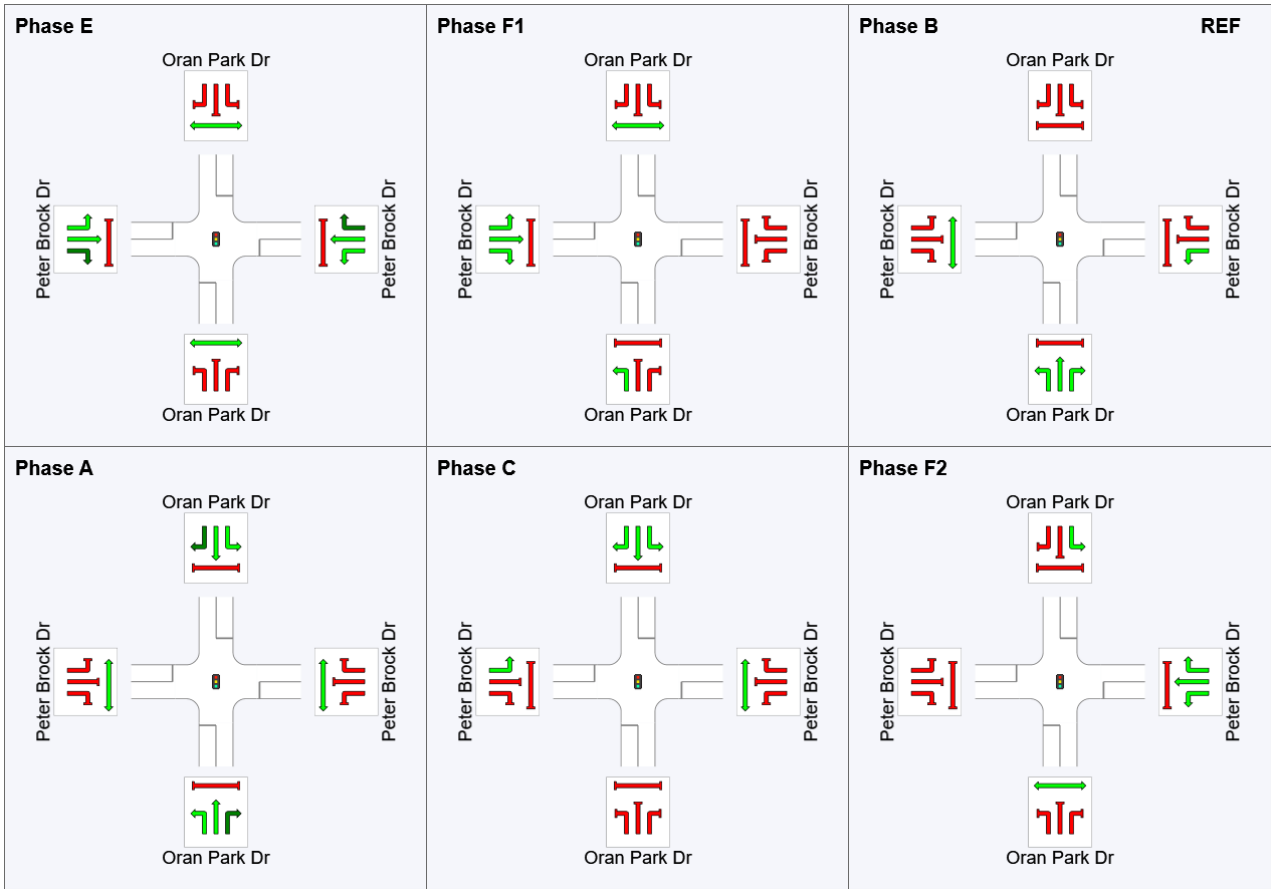
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v2
Reference Phase: Phase B
Input Phase Sequence: E, F1, B, A, C, F2
Output Phase Sequence: E, F1, B, A, C, F2

Phase Timing Summary

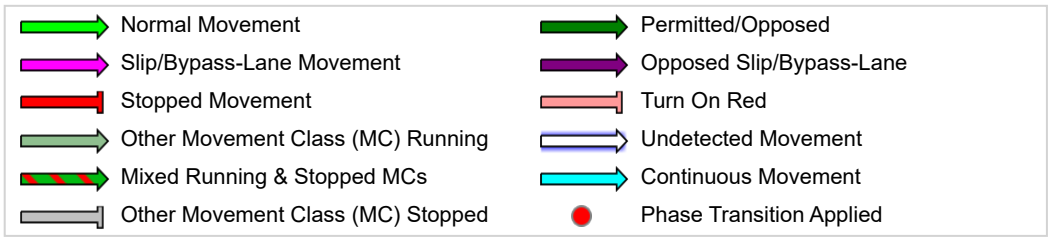
Phase	E	F1	B	A	C	F2
Phase Change Time (sec)	21	39	51	63	115	128
Green Time (sec)	12	6	6	46	7	27
Phase Time (sec)	18	12	12	52	13	33
Phase Split	13%	9%	9%	37%	9%	24%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



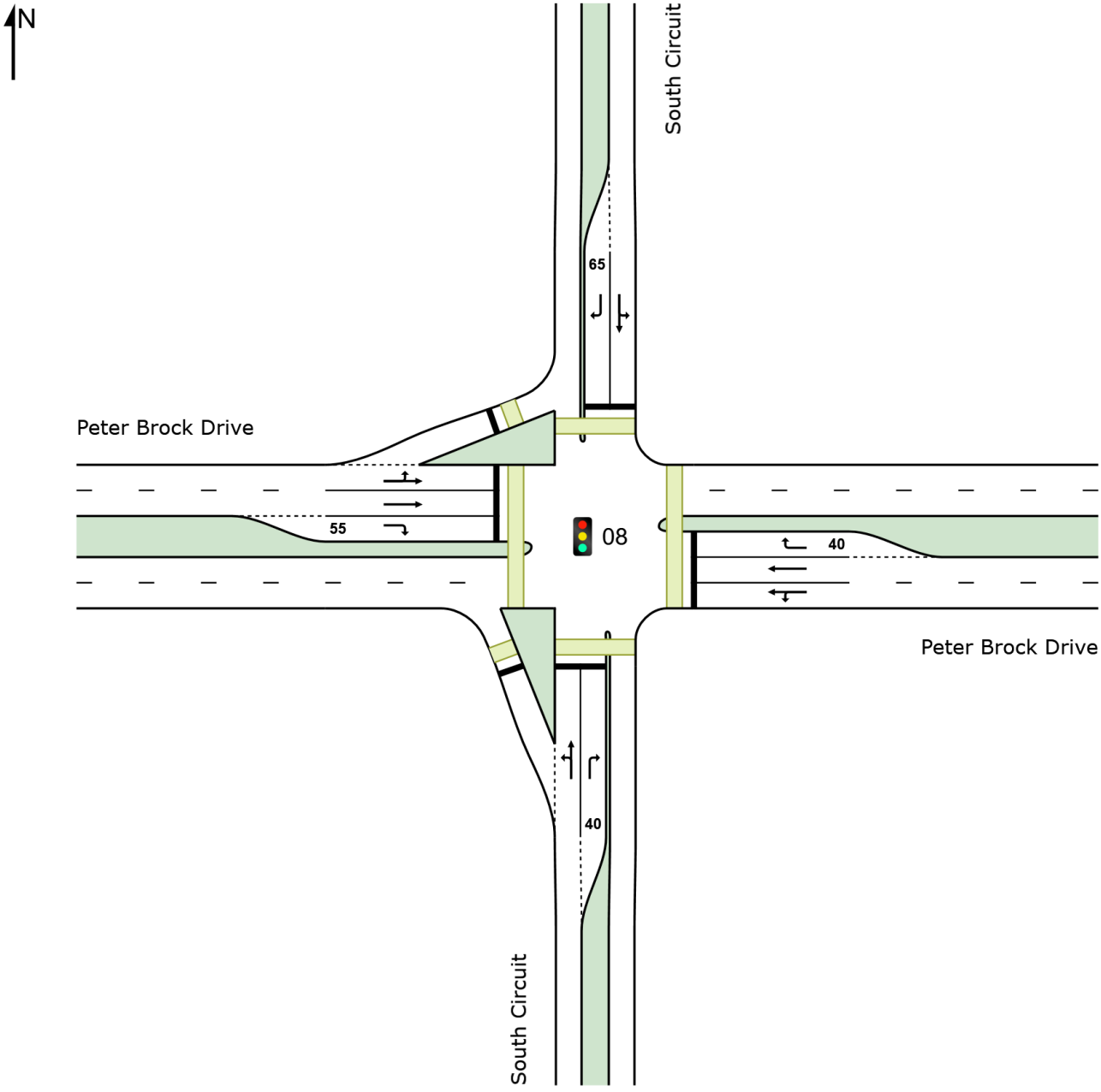
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SITE LAYOUT

Site: 08 [08. Peter Brock Drive / South Circuit West - 2026 AM (Site Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 08 [08. Peter Brock Drive / South Circuit West - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	91	0.0	91	0.0	206	0.443	100	46.1	LOS D	4.8	33.9	Full	500	0.0	0.0
Lane 2	18	0.0	18	0.0	172	0.104	100	69.4	LOS E	1.1	8.0	Short	40	0.0	NA
Approach	109	0.0	109	0.0		0.443		50.0	LOS D	4.8	33.9				
East: Peter Brock Drive															
Lane 1	197	0.0	197	0.0	970	0.203	100	13.2	LOS A	4.3	30.1	Full	380	0.0	0.0
Lane 2	197	0.0	197	0.0	975	0.203	100	5.4	LOS A	2.1	14.8	Full	380	0.0	0.0
Lane 3	64	0.0	64	0.0	422	0.152	100	9.7	LOS A	0.5	3.6	Short	40	0.0	NA
Approach	458	0.0	458	0.0		0.203		9.3	LOS A	4.3	30.1				
North: South Circuit															
Lane 1	96	0.0	96	0.0	293	0.327	100	58.7	LOS E	5.9	41.0	Full	270	0.0	0.0
Lane 2	171	0.0	171	0.0	318	0.537	100	63.2	LOS E	10.8	75.5	Short	65	0.0	NA
Approach	267	0.0	267	0.0		0.537		61.6	LOS E	10.8	75.5				
West: Peter Brock Drive															
Lane 1	534	0.0	534	0.0	985	0.542	100	20.2	LOS B	20.3	142.0	Full	225	0.0	0.0
Lane 2	497	0.0	497	0.0	919[1]	0.542	100	24.8	LOS B	22.4	156.8	Full	225	0.0	0.0
Lane 3	73	0.0	73	0.0	1017	0.072	100	18.8	LOS B	2.1	15.0	Short	55	0.0	NA
Approach	1104	0.0	1104	0.0		0.542		22.2	LOS B	22.4	156.8				
Intersection	1938	0.0	1938	0.0		0.542		26.1	LOS B	22.4	156.8				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	29	62	-	91	0.0	206	0.443	100	NA	NA
Lane 2	-	-	18	18	0.0	172	0.104	100	0.0	1
Approach	29	62	18	109	0.0		0.443			

East: Peter Brock Drive

Mov.	L2	T1	R2	Total	%HV		Deg.	Lane	Prob.	Ov.

From E To Exit:	S	W	N			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	5	192	-	197	0.0	970	0.203	100	NA	NA
Lane 2	-	197	-	197	0.0	975	0.203	100	NA	NA
Lane 3	-	-	64	64	0.0	422	0.152	100	0.0	2
Approach	5	389	64	458	0.0		0.203			

North: South Circuit

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	42	54	-	96	0.0	293	0.327	100	NA	NA
Lane 2	-	-	171	171	0.0	318	0.537	100	18.6	1
Approach	42	54	171	267	0.0		0.537			

West: Peter Brock Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	152	382	-	534	0.0	985	0.542	100	NA	NA
Lane 2	-	497	-	497	0.0	919[1]	0.542	100	NA	NA
Lane 3	-	-	73	73	0.0	1017	0.072	100	0.0	2
Approach	152	879	73	1104	0.0		0.542			

	Total	%HV	Deg.Satn (v/c)
Intersection	1938	0.0	0.542

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
East Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

PHASING SUMMARY

Site: 08 [08. Peter Brock Drive / South Circuit West - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import - Copy
Reference Phase: Phase A
Input Phase Sequence: A, D1, D2, C
Output Phase Sequence: A, D1, D2, C

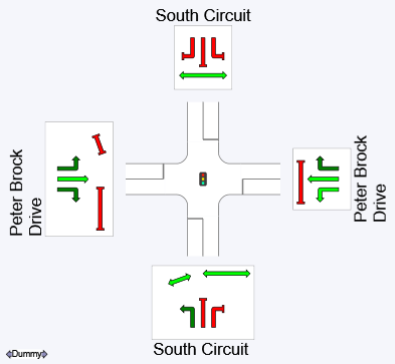
Phase Timing Summary

Phase	A	D1	D2	C
Phase Change Time (sec)	3	79	98	128
Green Time (sec)	70	13	24	9
Phase Time (sec)	76	19	30	15
Phase Split	54%	14%	21%	11%

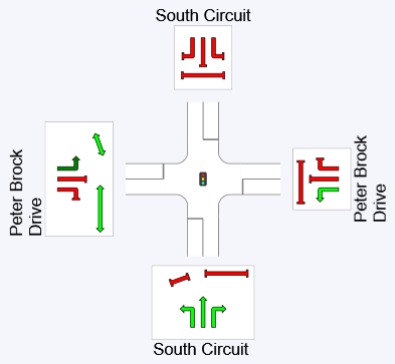
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

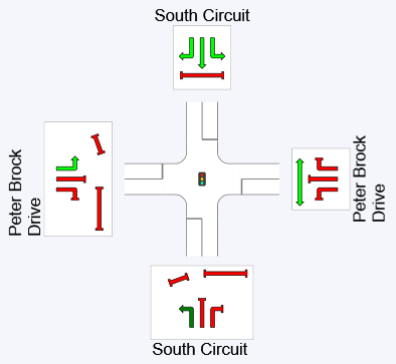
Phase A **REF**



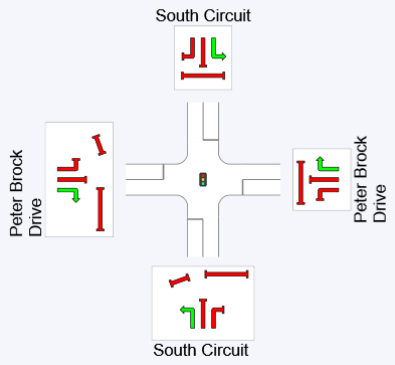
Phase D1



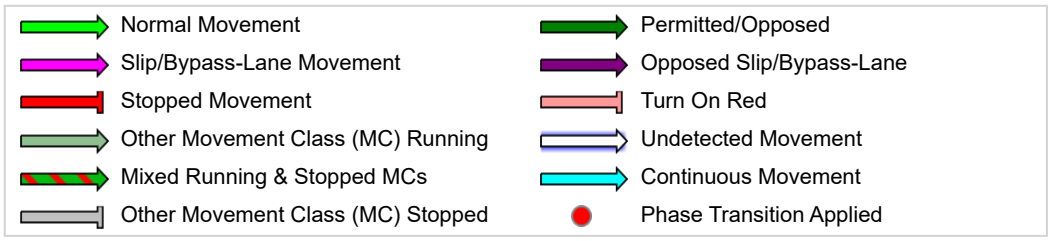
Phase D2



Phase C



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 08 [08. Peter Brock Drive / South Circuit West - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	14	0.0	14	0.0	273	0.051	100	38.1	LOS C	0.6	4.5	Full	500	0.0	0.0
Lane 2	4	0.0	4	0.0	172	0.023	100	68.1	LOS E	0.3	1.8	Short	40	0.0	NA
Approach	18	0.0	18	0.0		0.051		44.7	LOS D	0.6	4.5				
East: Peter Brock Drive															
Lane 1	311	0.0	311	0.0	774	0.402	100	12.7	LOS A	7.2	50.3	Full	380	0.0	0.0
Lane 2	313	0.0	313	0.0	780	0.402	100	13.0	LOS A	7.4	51.9	Full	380	0.0	0.0
Lane 3	86	0.0	86	0.0	497	0.173	100	12.8	LOS A	1.2	8.4	Short	40	0.0	NA
Approach	710	0.0	710	0.0		0.402		12.9	LOS A	7.4	51.9				
North: South Circuit															
Lane 1	37	0.0	37	0.0	398	0.093	100	47.9	LOS D	2.0	14.1	Full	270	0.0	0.0
Lane 2	153	0.0	153	0.0	398	0.384	100	56.4	LOS D	9.0	62.8	Short	65	0.0	NA
Approach	190	0.0	190	0.0		0.384		54.7	LOS D	9.0	62.8				
West: Peter Brock Drive															
Lane 1	213	0.0	213	0.0	646	0.330	100	34.8	LOS C	10.1	70.6	Full	225	0.0	0.0
Lane 2	257	0.0	257	0.0	780	0.330	100	30.7	LOS C	11.9	83.6	Full	225	0.0	0.0
Lane 3	182	0.0	182	0.0	514	0.354	100	22.7	LOS B	6.2	43.2	Short	55	0.0	NA
Approach	652	0.0	652	0.0		0.354		29.8	LOS C	11.9	83.6				
Intersection	1570	0.0	1570	0.0		0.402		25.3	LOS B	11.9	83.6				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	8	6	-	14	0.0	273	0.051	100	NA	NA
Lane 2	-	-	4	4	0.0	172	0.023	100	0.0	1
Approach	8	6	4	18	0.0		0.051			

East: Peter Brock Drive

Mov. From E	L2	T1	R2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane

To Exit:	S	W	N			veh/h	v/c	%	%	No.
Lane 1	11	300	-	311	0.0	774	0.402	100	NA	NA
Lane 2	-	313	-	313	0.0	780	0.402	100	NA	NA
Lane 3	-	-	86	86	0.0	497	0.173	100	0.0	2
Approach	11	613	86	710	0.0		0.402			

North: South Circuit

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	5	32	-	37	0.0	398	0.093	100	NA	NA
Lane 2	-	-	153	153	0.0	398	0.384	100	1.9	1
Approach	5	32	153	190	0.0		0.384			

West: Peter Brock Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	13	200	-	213	0.0	646	0.330	100	NA	NA
Lane 2	-	257	-	257	0.0	780	0.330	100	NA	NA
Lane 3	-	-	182	182	0.0	514	0.354	100	0.0	2
Approach	13	457	182	652	0.0		0.354			

	Total	%HV	Deg.Satn (v/c)
Intersection	1570	0.0	0.402

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn veh/h	Min. Delay v/c	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
East Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

PHASING SUMMARY

Site: 08 [08. Peter Brock Drive / South Circuit West - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

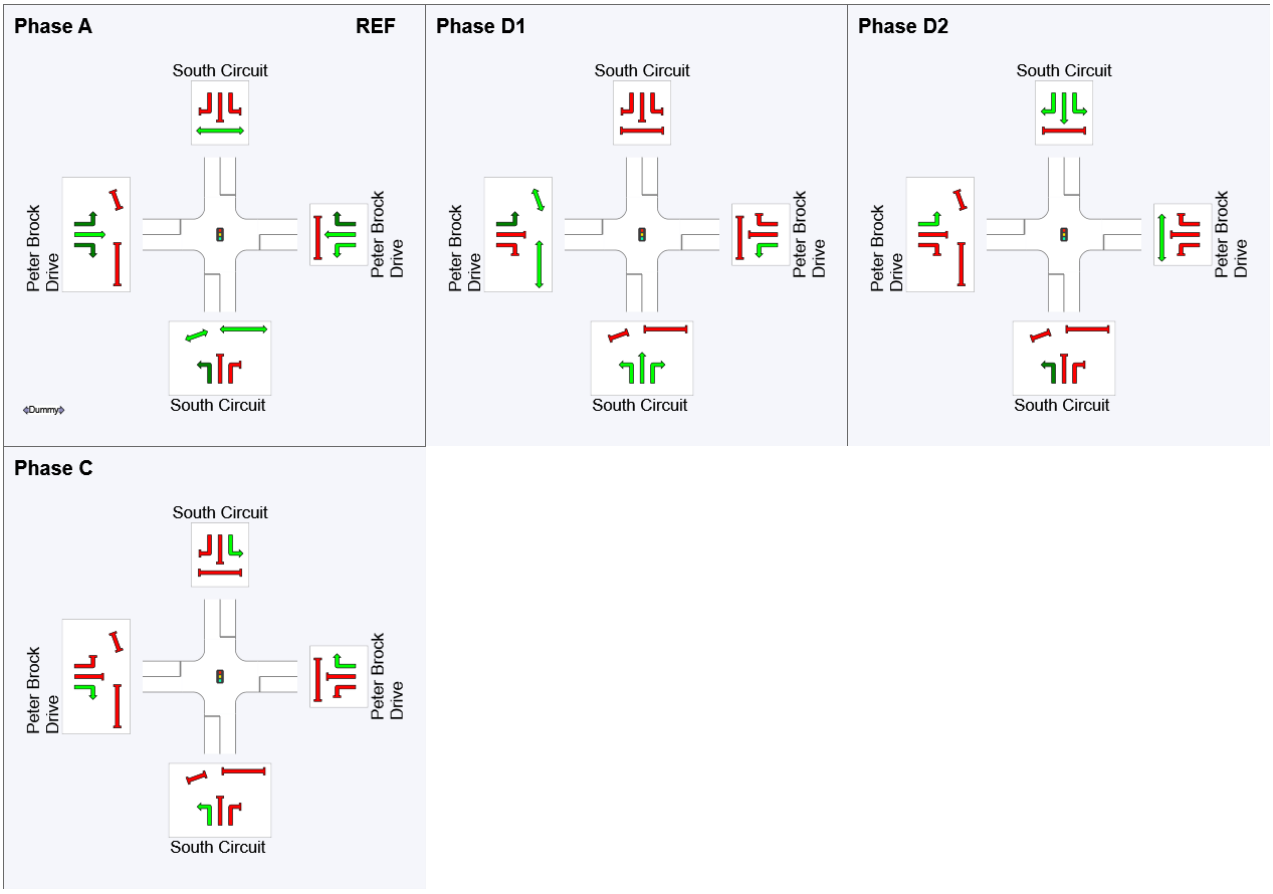
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, D1, D2, C
Output Phase Sequence: A, D1, D2, C

Phase Timing Summary

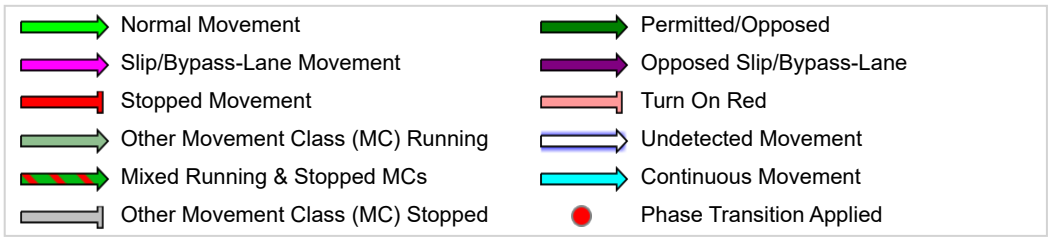
Phase	A	D1	D2	C
Phase Change Time (sec)	12	74	93	129
Green Time (sec)	56	13	30	17
Phase Time (sec)	62	19	36	23
Phase Split	44%	14%	26%	16%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 08 [08. Peter Brock Drive / South Circuit West - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	57	0.0	57	0.0	203	0.281	100	46.4	LOS D	3.0	21.2	Full	500	0.0	0.0
Lane 2	27	0.0	27	0.0	172	0.157	100	69.9	LOS E	1.7	12.2	Short	40	0.0	NA
Approach	84	0.0	84	0.0		0.281		53.9	LOS D	3.0	21.2				
East: Peter Brock Drive															
Lane 1	200	0.0	200	0.0	1011	0.198	100	14.6	LOS B	5.0	34.8	Full	380	0.0	0.0
Lane 2	201	0.0	201	0.0	1017	0.198	100	5.1	LOS A	2.1	14.7	Full	380	0.0	0.0
Lane 3	52	0.0	52	0.0	395	0.132	100	9.0	LOS A	0.3	2.4	Short	40	0.0	NA
Approach	453	0.0	453	0.0		0.198		9.7	LOS A	5.0	34.8				
North: South Circuit															
Lane 1	151	0.0	151	0.0	279	0.541	100	62.8	LOS E	9.7	67.9	Full	270	0.0	0.0
Lane 2	150	0.0	150	0.0	305	0.492	100	63.5	LOS E	9.4	66.1	Short	65	0.0	NA
Approach	301	0.0	301	0.0		0.541		63.2	LOS E	9.7	67.9				
West: Peter Brock Drive															
Lane 1	596	0.0	560	0.0	1023	0.547	100	20.1	LOS B	21.6	151.1	Full	225	0.0	0.0
Lane 2	564	0.0	529	0.0	967[1]	0.547	100	23.2	LOS B	23.3	163.1	Full	225	0.0	0.0
Lane 3	66	0.0	62	0.0	1031	0.060	100	18.4	LOS B	1.8	12.6	Short	55	0.0	NA
Approach	1226	0.0	1151[N1]	0.0		0.547		21.4	LOS B	23.3	163.1				
Intersection	2064	0.0	1989[N1]	0.0		0.547		26.5	LOS B	23.3	163.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	17	40	-	57	0.0	203	0.281	100	NA	NA
Lane 2	-	-	27	27	0.0	172	0.157	100	0.0	1
Approach	17	40	27	84	0.0		0.281			

East: Peter Brock Drive											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	6	194	-	200	0.0	1011	0.198	100	NA	NA	
Lane 2	-	201	-	201	0.0	1017	0.198	100	NA	NA	
Lane 3	-	-	52	52	0.0	395	0.132	100	0.0	2	
Approach	6	395	52	453	0.0		0.198				
North: South Circuit											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	71	80	-	151	0.0	279	0.541	100	NA	NA	
Lane 2	-	-	150	150	0.0	305	0.492	100	6.5	1	
Approach	71	80	150	301	0.0		0.541				
West: Peter Brock Drive											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	140	420	-	560	0.0	1023	0.547	100	NA	NA	
Lane 2	-	529	-	529	0.0	967[1]	0.547	100	NA	NA	
Lane 3	-	-	62	62	0.0	1031	0.060	100	0.0	2	
Approach	140	949	62	1151	0.0		0.547				

	Total	%HV	Deg.Satn (v/c)
Intersection	1989	0.0	0.547

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 08 [08. Peter Brock Drive / South Circuit West - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, D1, D2, C
Output Phase Sequence: A, D1, D2, C

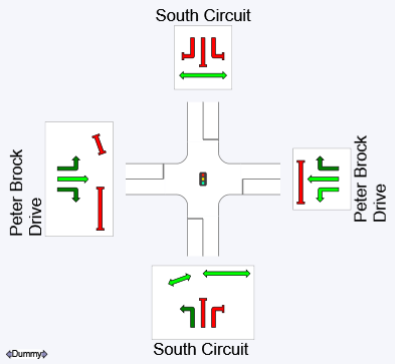
Phase Timing Summary

Phase	A	D1	D2	C
Phase Change Time (sec)	18	97	116	5
Green Time (sec)	73	13	23	7
Phase Time (sec)	79	19	29	13
Phase Split	56%	14%	21%	9%

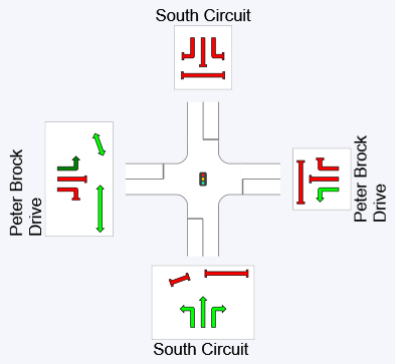
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

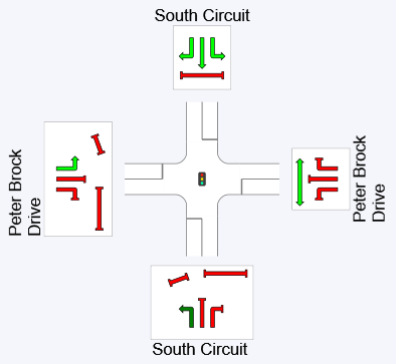
Phase A **REF**



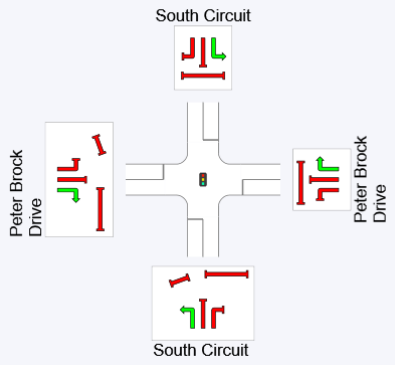
Phase D1



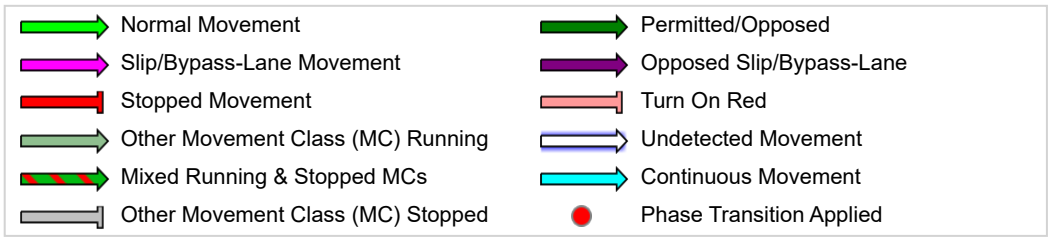
Phase D2



Phase C



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 08 [08. Peter Brock Drive / South Circuit West - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	126	0.0	126	0.0	223	0.564	100	63.8	LOS E	8.1	56.5	Full	500	0.0	0.0
Lane 2	3	0.0	3	0.0	212	0.014	100	64.6	LOS E	0.2	1.3	Short	40	0.0	NA
Approach	129	0.0	129	0.0		0.564		63.8	LOS E	8.1	56.5				
East: Peter Brock Drive															
Lane 1	522	0.0	509	0.0	861	0.591	100	16.6	LOS B	17.4	122.1	Full	380	0.0	0.0
Lane 2	387	0.0	376	0.0	637[1]	0.591	100	15.1	LOS B	10.8	75.3	Full	380	0.0	0.0
Lane 3	233	0.0	227	0.0	565	0.401	100	11.7	LOS A	3.4	24.1	Short	40	0.0	NA
Approach	1142	0.0	1112[N1]	0.0		0.591		15.1	LOS B	17.4	122.1				
North: South Circuit															
Lane 1	14	0.0	14	0.0	245	0.057	100	58.5	LOS E	0.8	5.8	Full	270	0.0	0.0
Lane 2	85	0.0	85	0.0	265	0.320	100	64.4	LOS E	5.3	37.0	Short	65	0.0	NA
Approach	99	0.0	99	0.0		0.320		63.5	LOS E	5.3	37.0				
West: Peter Brock Drive															
Lane 1	293	0.0	273	0.0	849	0.322	100	23.5	LOS B	10.4	72.8	Full	225	0.0	0.0
Lane 2	299	0.0	278	0.0	864	0.322	100	26.8	LOS B	12.1	84.7	Full	225	0.0	0.0
Lane 3	158	0.0	147	0.0	864	0.170	100	20.3	LOS B	4.3	29.9	Short	55	0.0	NA
Approach	750	0.0	698[N1]	0.0		0.322		24.1	LOS B	12.1	84.7				
Intersection	2120	0.0	2038[N1]	0.0		0.591		23.6	LOS B	17.4	122.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	6	120	-	126	0.0	223	0.564	100	NA	NA
Lane 2	-	-	3	3	0.0	212	0.014	100	0.0	1
Approach	6	120	3	129	0.0		0.564			

East: Peter Brock Drive											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	6	503	-	509	0.0	861	0.591	100	NA	NA	
Lane 2	-	376	-	376	0.0	637[1]	0.591	100	NA	NA	
Lane 3	-	-	227	227	0.0	565	0.401	100	0.0	2	
Approach	6	879	227	1112	0.0		0.591				
North: South Circuit											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	4	10	-	14	0.0	245	0.057	100	NA	NA	
Lane 2	-	-	85	85	0.0	265	0.320	100	0.0	1	
Approach	4	10	85	99	0.0		0.320				
West: Peter Brock Drive											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	39	234	-	273	0.0	849	0.322	100	NA	NA	
Lane 2	-	278	-	278	0.0	864	0.322	100	NA	NA	
Lane 3	-	-	147	147	0.0	864	0.170	100	0.0	2	
Approach	39	512	147	698	0.0		0.322				

	Total	%HV	Deg.Satn (v/c)
Intersection	2038	0.0	0.591

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 08 [08. Peter Brock Drive / South Circuit West - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, D1, D2, C
Output Phase Sequence: A, D1, D2, C

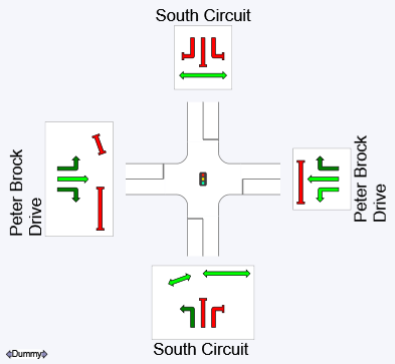
Phase Timing Summary

Phase	A	D1	D2	C
Phase Change Time (sec)	6	74	96	122
Green Time (sec)	62	16	20	18
Phase Time (sec)	68	22	26	24
Phase Split	49%	16%	19%	17%

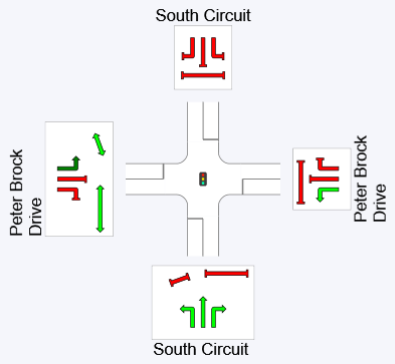
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

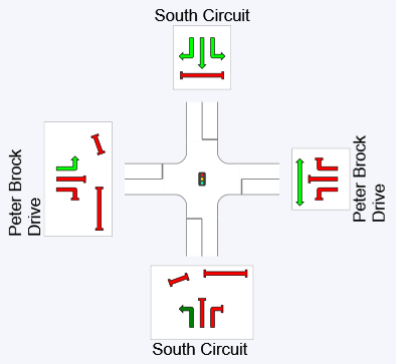
Phase A **REF**



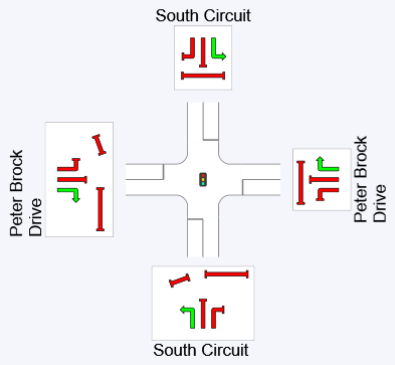
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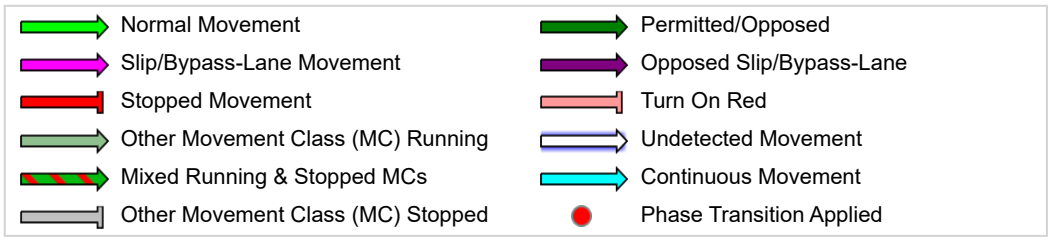
Phase D2



Phase C



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 08 [08. Peter Brock Drive / South Circuit West - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	39	0.0	39	0.0	212	0.184	100	45.7	LOS D	2.0	14.3	Full	500	0.0	0.0
Lane 2	45	0.0	45	0.0	172	0.261	100	70.9	LOS F	2.9	20.6	Short	40	0.0	NA
Approach	84	0.0	84	0.0		0.261		59.2	LOS E	2.9	20.6				
East: Peter Brock Drive															
Lane 1	299	0.0	299	0.0	1051	0.285	100	6.6	LOS A	4.3	30.1	Full	380	0.0	0.0
Lane 2	302	0.0	302	0.0	1059	0.285	100	3.2	LOS A	2.2	15.2	Full	380	0.0	0.0
Lane 3	16	0.0	16	0.0	391	0.041	100	7.7	LOS A	0.1	0.5	Short	40	0.0	NA
Approach	617	0.0	617	0.0		0.285		5.0	LOS A	4.3	30.1				
North: South Circuit															
Lane 1	68	0.0	68	0.0	255	0.267	100	60.3	LOS E	4.2	29.4	Full	270	0.0	0.0
Lane 2	128	0.0	128	0.0	279	0.459	100	64.9	LOS E	8.1	56.7	Short	65	0.0	NA
Approach	196	0.0	196	0.0		0.459		63.3	LOS E	8.1	56.7				
West: Peter Brock Drive															
Lane 1	693	0.0	534	0.0	996	0.536	100	21.5	LOS B	21.5	150.8	Full	225	0.0	0.0
Lane 2	711	0.0	548	0.0	1022[1]	0.536	100	21.5	LOS B	23.3	163.2	Full	225	0.0	0.0
Lane 3	58	0.0	45	0.0	1059	0.042	100	17.5	LOS B	1.2	8.7	Short	55	0.0	NA
Approach	1462	0.0	1126[N1]	0.0		0.536		21.3	LOS B	23.3	163.2				
Intersection	2359	0.0	2023[N1]	0.0		0.536		22.0	LOS B	23.3	163.2				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	14	25	-	39	0.0	212	0.184	100	NA	NA
Lane 2	-	-	45	45	0.0	172	0.261	100	0.0	1
Approach	14	25	45	84	0.0		0.261			

East: Peter Brock Drive											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	11	288	-	299	0.0	1051	0.285	100	NA	NA	
Lane 2	-	302	-	302	0.0	1059	0.285	100	NA	NA	
Lane 3	-	-	16	16	0.0	391	0.041	100	0.0	2	
Approach	11	590	16	617	0.0		0.285				
North: South Circuit											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	24	44	-	68	0.0	255	0.267	100	NA	NA	
Lane 2	-	-	128	128	0.0	279	0.459	100	0.0	1	
Approach	24	44	128	196	0.0		0.459				
West: Peter Brock Drive											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	93	441	-	534	0.0	996	0.536	100	NA	NA	
Lane 2	-	548	-	548	0.0	1022[1]	0.536	100	NA	NA	
Lane 3	-	-	45	45	0.0	1059	0.042	100	0.0	2	
Approach	93	988	45	1126	0.0		0.536				

	Total	%HV	Deg.Satn (v/c)
Intersection	2023	0.0	0.536

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 08 [08. Peter Brock Drive / South Circuit West - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, D1, D2, C
Output Phase Sequence: A, D1, D2, C

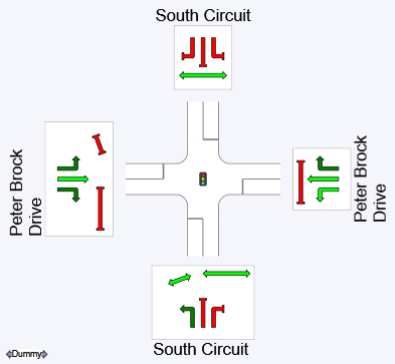
Phase Timing Summary

Phase	A	D1	D2	C
Phase Change Time (sec)	14	96	115	2
Green Time (sec)	76	13	21	6
Phase Time (sec)	82	19	27	12
Phase Split	59%	14%	19%	9%

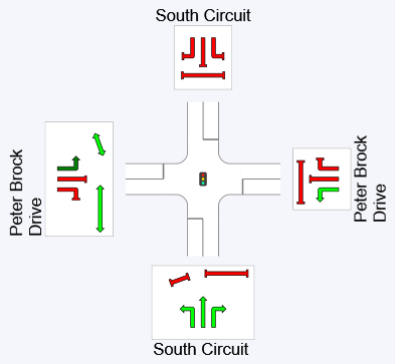
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

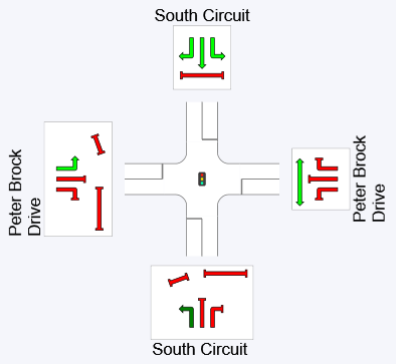
Phase A **REF**



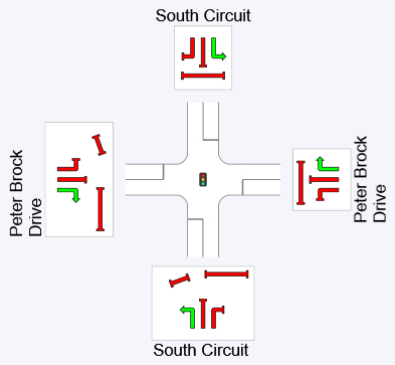
Phase D1



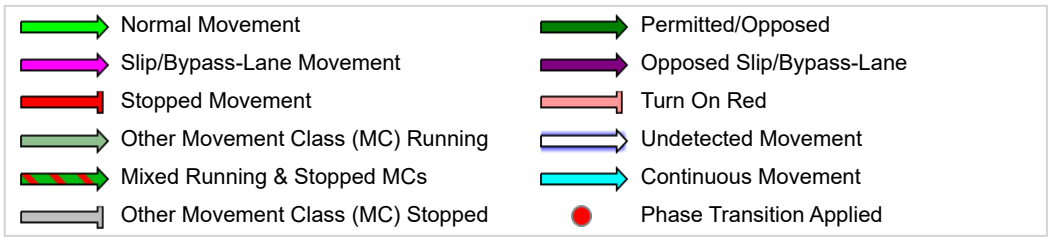
Phase D2



Phase C



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 08 [08. Peter Brock Drive / South Circuit West - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	60	0.0	60	0.0	185	0.324	100	48.2	LOS D	3.2	22.3	Full	500	0.0	0.0
Lane 2	3	0.0	3	0.0	172	0.017	100	67.9	LOS E	0.2	1.3	Short	40	0.0	NA
Approach	63	0.0	63	0.0		0.324		49.2	LOS D	3.2	22.3				
East: Peter Brock Drive															
Lane 1	856	0.0	729	0.0	1100	0.663	100	8.5	LOS A	16.4	114.8	Full	380	0.0	0.0
Lane 2	545	0.0	464	0.0	700	0.663	100	5.3	LOS A	8.0	55.7	Full	380	-36.4 N7	0.0
Lane 3	220	0.0	187	0.0	621	0.302	100	10.3	LOS A	2.1	15.0	Short	40	0.0	NA
Approach	1621	0.0	1381 N1	0.0		0.663		7.7	LOS A	16.4	114.8				
North: South Circuit															
Lane 1	16	0.0	16	0.0	152	0.105	100	66.5	LOS E	1.0	7.2	Full	270	0.0	0.0
Lane 2	60	0.0	60	0.0	110	0.547	100	75.0	LOS F	4.2	29.2	Short	65	-36.4 N7	NA
Approach	76	0.0	76	0.0		0.547		73.2	LOS F	4.2	29.2				
West: Peter Brock Drive															
Lane 1	339	0.0	304	0.0	1139	0.267	100	7.1	LOS A	4.7	32.9	Full	225	0.0	0.0
Lane 2	328	0.0	294	0.0	1100	0.267	100	16.4	LOS B	10.1	70.4	Full	225	0.0	0.0
Lane 3	108	0.0	97	0.0	1017	0.095	100	15.8	LOS B	2.3	16.0	Short	55	0.0	NA
Approach	775	0.0	695 N1	0.0		0.267		12.2	LOS A	10.1	70.4				
Intersection	2535	0.0	2215 N1	0.0		0.663		12.6	LOS A	16.4	114.8				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
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.
N7 The capacity reduction has been determined from the queue blockage probability of a Site further downstream due to intermediate continuous lanes.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	7	53	-	60	0.0	185	0.324	100	NA	NA
Lane 2	-	-	3	3	0.0	172	0.017	100	0.0	1
Approach	7	53	3	63	0.0		0.324			

East: Peter Brock Drive											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	3	727	-	729	0.0	1100	0.663	100	NA	NA	
Lane 2	-	464	-	464	0.0	700	0.663	100	NA	NA	
Lane 3	-	-	187	187	0.0	621	0.302	100	0.0	2	
Approach	3	1191	187	1381	0.0		0.663				
North: South Circuit											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	4	12	-	16	0.0	152	0.105	100	NA	NA	
Lane 2	-	-	60	60	0.0	110	0.547	100	0.0	1	
Approach	4	12	60	76	0.0		0.547				
West: Peter Brock Drive											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	172	132	-	304	0.0	1139	0.267	100	NA	NA	
Lane 2	-	294	-	294	0.0	1100	0.267	100	NA	NA	
Lane 3	-	-	97	97	0.0	1017	0.095	100	0.0	2	
Approach	172	426	97	695	0.0		0.267				

	Total	%HV	Deg.Satn (v/c)
Intersection	2215	0.0	0.663

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
East Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

PHASING SUMMARY

Site: 08 [08. Peter Brock Drive / South Circuit West - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

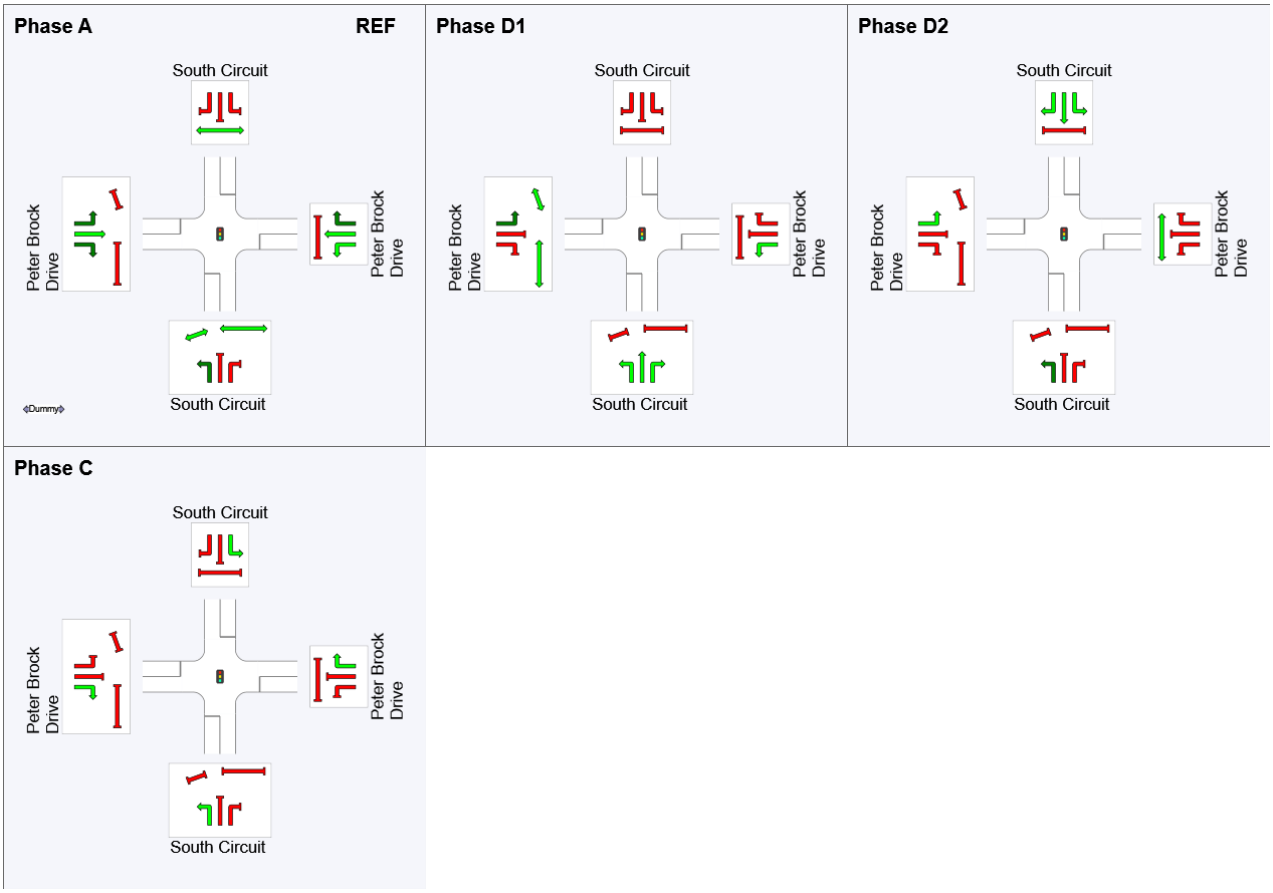
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, D1, D2, C
Output Phase Sequence: A, D1, D2, C

Phase Timing Summary

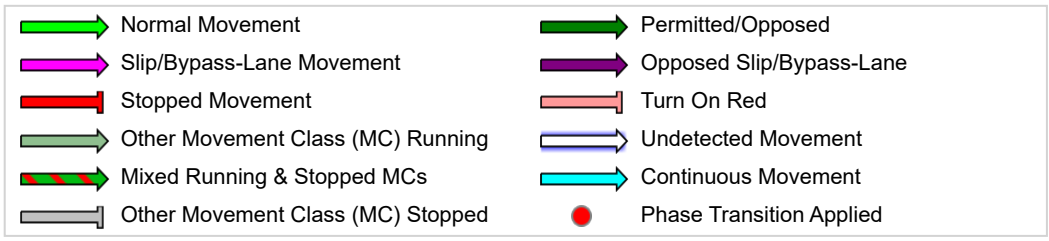
Phase	A	D1	D2	C
Phase Change Time (sec)	136	81	100	119
Green Time (sec)	79	13	13	11
Phase Time (sec)	85	19	19	17
Phase Split	61%	14%	14%	12%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



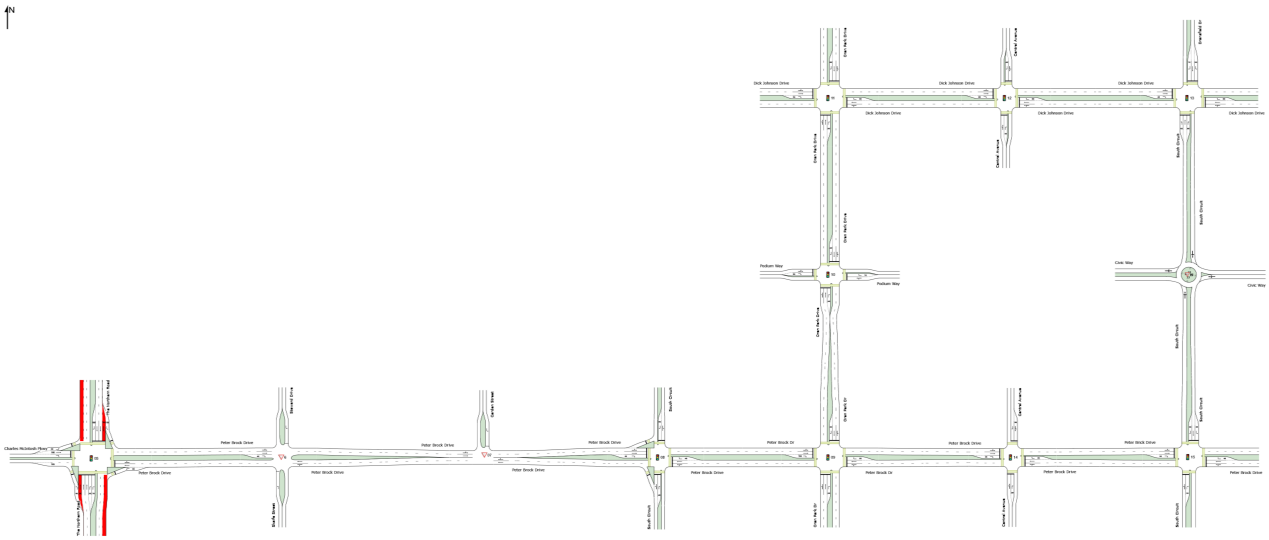
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NETWORK LAYOUT

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

New Network
Network Category: Proposed Design 1

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
05	NA	05. The Northern Rd / Peter Brock Dr - 2026 AM
6	NA	06. Peter Brock Dr / Steward Dr / Skaife St - 2026 AM
07	NA	07. Peter Brock Dr / Carden St - 2026 AM
08	NA	08. Peter Brock Drive / South Circuit West - 2026 AM
09	NA	09. Peter Brock Dr / Oran Park Dr 2026 AM
10	NA	10. Oran Park Dr / Podium Way - 2026 AM
11	NA	11. Dick Johnson Dr / Oran Park Dr - 2026 AM
12	NA	12. Dick Johnson Dr / Central Av - 2026 AM
13	NA	13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2026 AM
14	NA	14. Peter Brock Dr / Central Ave - 2026 AM
15	NA	15. Peter Brock Dr / South Circuit East - 2026 AM
16	NA	16. South Circuit East / Civic Way - 2026 AM

LANE SUMMARY

Site: 6 [06. Peter Brock Dr / Steward Dr / Skaife St - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Give-Way (Two-Way)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Skaife Street															
Lane 1	151	0.0	151	0.0	1017	0.148	100	6.8	LOS A	0.6	4.0	Full	370	0.0	0.0
Approach	151	0.0	151	0.0		0.148		6.8	LOS A	0.6	4.0				
East: Peter Brock Drive															
Lane 1	292	0.0	292	0.0	1945	0.150	100	0.3	LOS A	0.0	0.0	Full	375	0.0	0.0
Lane 2	292	0.0	292	0.0	1950	0.150	100	0.0	LOS A	0.0	0.0	Full	375	0.0	0.0
Approach	584	0.0	584	0.0		0.150		0.2	NA	0.0	0.0				
North: Steward Drive															
Lane 1	31	0.0	31	0.0	843	0.037	100	7.8	LOS A	0.1	1.0	Full	175	0.0	0.0
Approach	31	0.0	31	0.0		0.037		7.8	LOS A	0.1	1.0				
West: Peter Brock Drive															
Lane 1	492	0.0	492	0.0	1948	0.253	100	0.2	LOS A	0.0	0.0	Full	530	0.0	0.0
Lane 2	493	0.0	493	0.0	1950	0.253	100	0.1	LOS A	0.0	0.0	Full	530	0.0	0.0
Lane 3	1	0.0	1	0.0	781	0.001	100	8.1	LOS A	0.0	0.0	Short	45	0.0	NA
Approach	986	0.0	986	0.0		0.253		0.1	NA	0.0	0.0				
Intersection	1752	0.0	1752	0.0		0.253		0.9	NA	0.6	4.0				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Approach Lane Flows (veh/h)

South: Skaife Street

Mov. From S To Exit:	L2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	151	151	0.0	1017	0.148	100	NA	NA
Approach	151	151	0.0		0.148			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	14	278	292	0.0	1945	0.150	100	NA	NA
Lane 2	-	292	292	0.0	1950	0.150	100	NA	NA

Approach	14	570	584	0.0			0.150			
North: Steward Drive										
Mov. From N To Exit:	L2 E	Total	%HV			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	31	31	0.0			843	0.037	100	NA	NA
Approach	31	31	0.0				0.037			
West: Peter Brock Drive										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	12	480	-	492	0.0	1948	0.253	100	NA	NA
Lane 2	-	493	-	493	0.0	1950	0.253	100	NA	NA
Lane 3	-	-	1	1	0.0	781	0.001	100	0.0	2
Approach	12	973	1	986	0.0		0.253			
	Total	%HV	Deg.Satn (v/c)							
Intersection	1752	0.0	0.253							

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Skaife Street Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Steward Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

LANE SUMMARY

Site: 6 [06. Peter Brock Dr / Steward Dr / Skaife St - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Give-Way (Two-Way)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Skaife Street															
Lane 1	149	0.0	149	0.0	977	0.153	100	7.1	LOS A	0.6	4.1	Full	370	0.0	0.0
Approach	149	0.0	149	0.0		0.153		7.1	LOS A	0.6	4.1				
East: Peter Brock Drive															
Lane 1	348	0.0	348	0.0	1941	0.179	100	0.6	LOS A	0.0	0.0	Full	375	0.0	0.0
Lane 2	350	0.0	350	0.0	1950	0.179	100	0.0	LOS A	0.0	0.0	Full	375	0.0	0.0
Approach	698	0.0	698	0.0		0.179		0.3	NA	0.0	0.0				
North: Steward Drive															
Lane 1	10	0.0	10	0.0	987	0.010	100	6.9	LOS A	0.0	0.3	Full	175	0.0	0.0
Approach	10	0.0	10	0.0		0.010		6.9	LOS A	0.0	0.3				
West: Peter Brock Drive															
Lane 1	363	0.0	363	0.0	1941	0.187	100	0.5	LOS A	0.0	0.0	Full	530	0.0	0.0
Lane 2	365	0.0	365	0.0	1950	0.187	100	0.1	LOS A	0.0	0.0	Full	530	0.0	0.0
Lane 3	1	0.0	1	0.0	677	0.001	100	8.9	LOS A	0.0	0.0	Short	45	0.0	NA
Approach	729	0.0	729	0.0		0.187		0.3	NA	0.0	0.0				
Intersection	1586	0.0	1586	0.0		0.187		1.0	NA	0.6	4.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Approach Lane Flows (veh/h)

South: Skaife Street

Mov. From S To Exit:	L2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	149	149	0.0	977	0.153	100	NA	NA
Approach	149	149	0.0		0.153			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	34	314	348	0.0	1941	0.179	100	NA	NA
Lane 2	-	350	350	0.0	1950	0.179	100	NA	NA

Approach	34	664	698	0.0			0.179			
North: Steward Drive										
Mov. From N To Exit:	L2 E	Total	%HV			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	10	10	0.0			987	0.010	100	NA	NA
Approach	10	10	0.0				0.010			
West: Peter Brock Drive										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	32	331	-	363	0.0	1941	0.187	100	NA	NA
Lane 2	-	365	-	365	0.0	1950	0.187	100	NA	NA
Lane 3	-	-	1	1	0.0	677	0.001	100	0.0	2
Approach	32	696	1	729	0.0		0.187			
	Total	%HV	Deg.Satn (v/c)							
Intersection	1586	0.0		0.187						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Skaife Street Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Steward Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

LANE SUMMARY

Site: 6 [06. Peter Brock Dr / Steward Dr / Skaife St - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Give-Way (Two-Way)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Skaife Street															
Lane 1	213	0.0	213	0.0	1048	0.203	100	6.8	LOS A	0.8	5.7	Full	370	0.0	0.0
Approach	213	0.0	213	0.0		0.203		6.8	LOS A	0.8	5.7				
East: Peter Brock Drive															
Lane 1	271	0.0	271	0.0	1942	0.140	100	0.5	LOS A	0.0	0.0	Full	375	0.0	0.0
Lane 2	272	0.0	272	0.0	1950	0.140	100	0.0	LOS A	0.0	0.0	Full	375	0.0	0.0
Approach	543	0.0	543	0.0		0.140		0.2	NA	0.0	0.0				
North: Steward Drive															
Lane 1	48	0.0	48	0.0	866	0.055	100	7.6	LOS A	0.2	1.5	Full	175	0.0	0.0
Approach	48	0.0	48	0.0		0.055		7.6	LOS A	0.2	1.5				
West: Peter Brock Drive															
Lane 1	497	0.0	458	0.0	1948	0.235	100	0.2	LOS A	0.0	0.0	Full	530	0.0	0.0
Lane 2	497	0.0	458	0.0	1950	0.235	100	0.1	LOS A	0.0	0.0	Full	530	0.0	0.0
Lane 3	1	0.0	1	0.0	820	0.001	100	7.9	LOS A	0.0	0.0	Short	45	0.0	NA
Approach	995	0.0	917 N1	0.0		0.235		0.1	NA	0.0	0.0				
Intersection	1799	0.0	1721 N1	0.0		0.235		1.2	NA	0.8	5.7				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
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.

Approach Lane Flows (veh/h)

South: Skaife Street

Mov. From S To Exit:	L2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	213	213	0.0	1048	0.203	100	NA	NA
Approach	213	213	0.0		0.203			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	21	250	271	0.0	1942	0.140	100	NA	NA

Lane 2	-	272	272	0.0	1950	0.140	100	NA	NA
Approach	21	522	543	0.0		0.140			

North: Steward Drive

Mov. From N To Exit:	L2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	48	48	0.0	866	0.055	100	NA	NA
Approach	48	48	0.0		0.055			

West: Peter Brock Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	10	448	-	458	0.0	1948	0.235	100	NA	NA
Lane 2	-	458	-	458	0.0	1950	0.235	100	NA	NA
Lane 3	-	-	1	1	0.0	820	0.001	100	0.0	2
Approach	10	906	1	917	0.0		0.235			

	Total	%HV	Deg.Satn (v/c)
Intersection	1721	0.0	0.235

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Skaife Street Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Steward Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

LANE SUMMARY

Site: 6 [06. Peter Brock Dr / Steward Dr / Skaife St - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Give-Way (Two-Way)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Skaife Street															
Lane 1	391	0.0	391	0.0	873	0.448	100	9.1	LOS A	2.7	18.8	Full	370	0.0	0.0
Approach	391	0.0	391	0.0		0.448		9.1	LOS A	2.7	18.8				
East: Peter Brock Drive															
Lane 1	454	0.0	443	0.0	1943	0.228	100	0.5	LOS A	0.0	0.0	Full	375	0.0	0.0
Lane 2	455	0.0	445	0.0	1950	0.228	100	0.0	LOS A	16.2 N5	113.6 N5	Full	375	0.0	0.9
Approach	909	0.0	888 N1	0.0		0.228		0.3	NA	16.2	113.6				
North: Steward Drive															
Lane 1	8	0.0	8	0.0	965	0.008	100	7.0	LOS A	0.0	0.2	Full	175	0.0	0.0
Approach	8	0.0	8	0.0		0.008		7.0	LOS A	0.0	0.2				
West: Peter Brock Drive															
Lane 1	424	0.0	393	0.0	1941	0.203	100	0.6	LOS A	0.0	0.0	Full	530	0.0	0.0
Lane 2	426	0.0	395	0.0	1950	0.203	100	0.1	LOS A	0.0	0.0	Full	530	0.0	0.0
Lane 3	1	0.0	1	0.0	523	0.002	100	10.7	LOS A	0.0	0.0	Short	45	0.0	NA
Approach	851	0.0	789 N1	0.0		0.203		0.3	NA	0.0	0.0				
Intersection	2159	0.0	2076 N1	0.0		0.448		2.0	NA	16.2	113.6				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
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.
N5 Continuous Lane results determined by Back of Queue values of downstream lanes (proportional to lane movement flows).

Approach Lane Flows (veh/h)

South: Skaife Street

Mov. From S To Exit:	L2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	391	391	0.0	873	0.448	100	NA	NA
Approach	391	391	0.0		0.448			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	33	410	443	0.0	1943	0.228	100	NA	NA
Lane 2	-	445	445	0.0	1950	0.228	100	NA	NA
Approach	33	855	888	0.0		0.228			

North: Steward Drive

Mov. From N To Exit:	L2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	8	8	0.0	965	0.008	100	NA	NA
Approach	8	8	0.0		0.008			

West: Peter Brock Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	36	357	-	393	0.0	1941	0.203	100	NA	NA
Lane 2	-	395	-	395	0.0	1950	0.203	100	NA	NA
Lane 3	-	-	1	1	0.0	523	0.002	100	0.0	2
Approach	36	752	1	789	0.0		0.203			

	Total	%HV	Deg.Satn (v/c)
Intersection	2076	0.0	0.448

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Skaife Street Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Steward Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

LANE SUMMARY

Site: 6 [06. Peter Brock Dr / Steward Dr / Skaife St - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Give-Way (Two-Way)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Skaife Street															
Lane 1	140	0.0	140	0.0	972	0.144	100	7.1	LOS A	0.5	3.8	Full	370	0.0	0.0
Approach	140	0.0	140	0.0		0.144		7.1	LOS A	0.5	3.8				
East: Peter Brock Drive															
Lane 1	352	0.0	352	0.0	1941	0.181	100	0.6	LOS A	0.0	0.0	Full	375	0.0	0.0
Lane 2	353	0.0	353	0.0	1950	0.181	100	0.0	LOS A	0.0	0.0	Full	375	0.0	0.0
Approach	705	0.0	705	0.0		0.181		0.3	NA	0.0	0.0				
North: Steward Drive															
Lane 1	33	0.0	33	0.0	846	0.039	100	7.7	LOS A	0.1	1.0	Full	175	0.0	0.0
Approach	33	0.0	33	0.0		0.039		7.7	LOS A	0.1	1.0				
West: Peter Brock Drive															
Lane 1	651	0.0	478	0.0	1948	0.246	100	0.2	LOS A	0.0	0.0	Full	530	0.0	0.0
Lane 2	651	0.0	479	0.0	1950	0.246	100	0.1	LOS A	0.0	0.0	Full	530	0.0	0.0
Lane 3	1	0.0	1	0.0	671	0.001	100	9.0	LOS A	0.0	0.0	Short	45	0.0	NA
Approach	1303	0.0	958 N1	0.0		0.246		0.1	NA	0.0	0.0				
Intersection	2181	0.0	1836 N1	0.0		0.246		0.9	NA	0.5	3.8				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
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.

Approach Lane Flows (veh/h)

South: Skaife Street

Mov. From S To Exit:	L2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	140	140	0.0	972	0.144	100	NA	NA
Approach	140	140	0.0		0.144			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	33	319	352	0.0	1941	0.181	100	NA	NA

Lane 2	-	353	353	0.0	1950	0.181	100	NA	NA
Approach	33	672	705	0.0		0.181			

North: Steward Drive

Mov. From N To Exit:	L2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	33	33	0.0	846	0.039	100	NA	NA
Approach	33	33	0.0		0.039			

West: Peter Brock Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	9	469	-	478	0.0	1948	0.246	100	NA	NA
Lane 2	-	479	-	479	0.0	1950	0.246	100	NA	NA
Lane 3	-	-	1	1	0.0	671	0.001	100	0.0	2
Approach	9	948	1	958	0.0		0.246			

	Total	%HV	Deg.Satn (v/c)
Intersection	1836	0.0	0.246

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Skaife Street Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Steward Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

LANE SUMMARY

Site: 6 [06. Peter Brock Dr / Steward Dr / Skaife St - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Give-Way (Two-Way)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Skaife Street															
Lane 1	357	0.0	357	0.0	692	0.516	100	11.6	LOS A	3.1	21.6	Full	370	0.0	0.0
Approach	357	0.0	357	0.0		0.516		11.6	LOS A	3.1	21.6				
East: Peter Brock Drive															
Lane 1	677	0.0	603	0.0	1947	0.310	100	0.2	LOS A	0.0	0.0	Full	375	0.0	0.0
Lane 2	677	0.0	604	0.0	1950	0.310	100	0.1	LOS A	87.4[N6]	612.0[N6]	Full	375	0.0	50.0[N6]
Approach	1354	0.0	1207[N1]	0.0		0.310		0.1	NA	87.4	612.0				
North: Steward Drive															
Lane 1	6	0.0	6	0.0	948	0.006	100	7.1	LOS A	0.0	0.2	Full	175	0.0	0.0
Approach	6	0.0	6	0.0		0.006		7.1	LOS A	0.0	0.2				
West: Peter Brock Drive															
Lane 1	440	0.0	406	0.0	1943	0.209	100	0.5	LOS A	0.0	0.0	Full	530	0.0	0.0
Lane 2	442	0.0	408	0.0	1950	0.209	100	0.1	LOS A	0.0	0.0	Full	530	0.0	0.0
Lane 3	1	0.0	1	0.0	318	0.003	100	15.4	LOS B	0.0	0.1	Short	45	0.0	NA
Approach	883	0.0	815[N1]	0.0		0.209		0.3	NA	0.0	0.1				
Intersection	2600	0.0	2385[N1]	0.0		0.516		1.9	NA	87.4	612.0				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
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 lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
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.
N6 Continuous Lane results determined by Back of Queue values of downstream lanes (proportional to lane movement flows) but average back of queue has been restricted to the available queue storage space.

Approach Lane Flows (veh/h)

South: Skaife Street

Mov. From S To Exit:	L2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	357	357	0.0	692	0.516	100	NA	NA
Approach	357	357	0.0		0.516			

East: Peter Brock Drive

Mov. From E	L2	T1	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane

To Exit:	S	W			veh/h	v/c	%	%	No.
Lane 1	17	586	603	0.0	1947	0.310	100	NA	NA
Lane 2	-	604	604	0.0	1950	0.310	100	NA	NA
Approach	17	1190	1207	0.0		0.310			

North: Steward Drive

Mov. From N To Exit:	L2 E	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	6	6	0.0		948	0.006	100	NA	NA
Approach	6	6	0.0			0.006			

West: Peter Brock Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	30	377	-	406	0.0	1943	0.209	100	NA	NA
Lane 2	-	408	-	408	0.0	1950	0.209	100	NA	NA
Lane 3	-	-	1	1	0.0	318	0.003	100	0.0	2
Approach	30	785	1	815	0.0		0.209			

	Total	%HV	Deg.Satn (v/c)
Intersection	2385	0.0	0.516

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

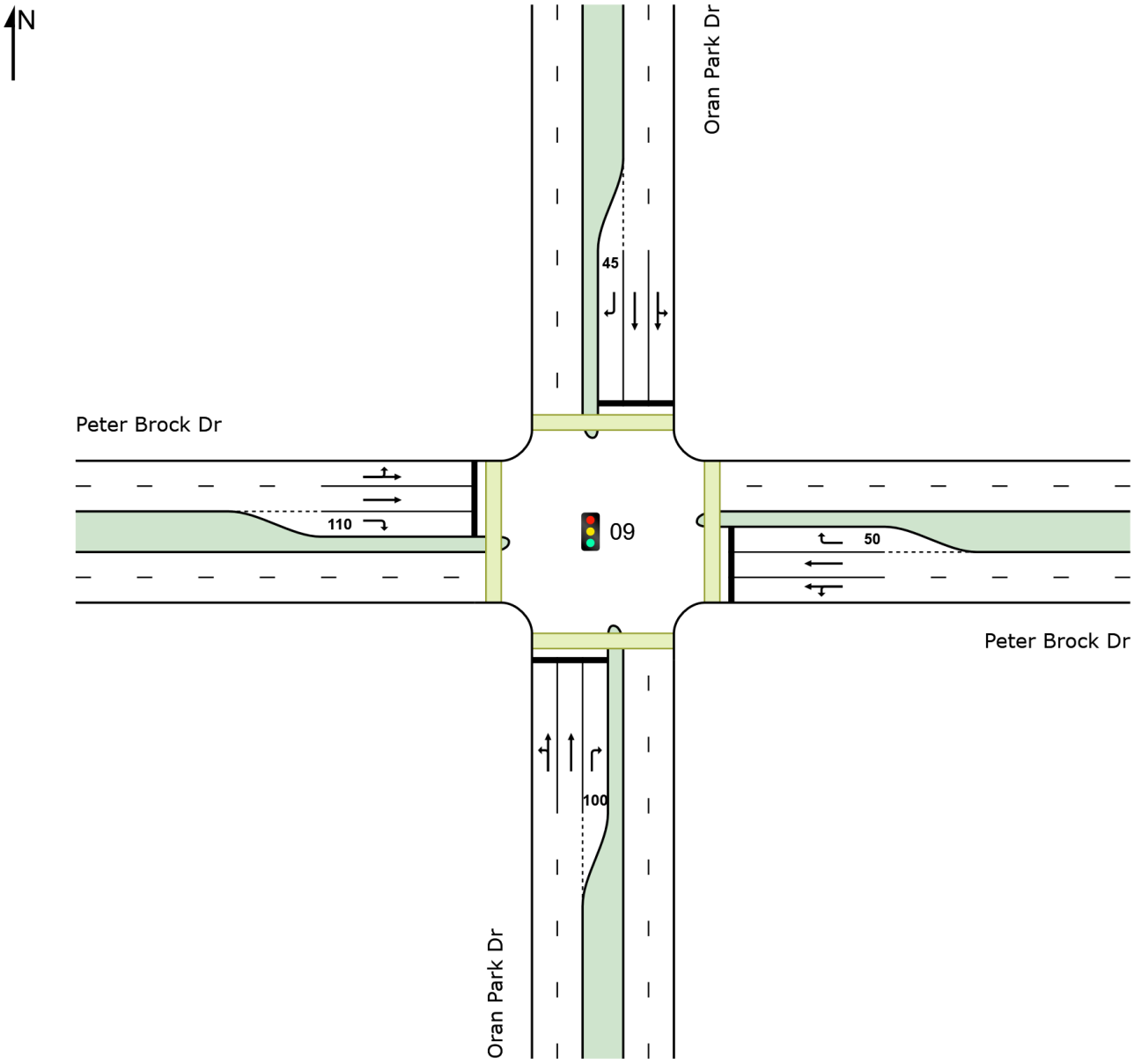
	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Skaife Street Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Steward Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

SITE LAYOUT

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Dr															
Lane 1	386	0.0	386	0.0	654	0.590	100	41.3	LOS C	21.5	150.8	Full	470	0.0	0.0
Lane 2	386	0.0	386	0.0	655	0.590	100	41.1	LOS C	21.7	151.6	Full	470	0.0	0.0
Lane 3	320	0.0	320	0.0	375	0.853	100	55.6	LOS D	19.6	137.4	Short	100	0.0	NA
Approach	1092	0.0	1092	0.0		0.853		45.4	LOS D	21.7	151.6				
East: Peter Brock Dr															
Lane 1	194	0.0	194	0.0	466	0.417	100	60.8	LOS E	12.3	86.4	Full	260	0.0	0.0
Lane 2	209	0.0	209	0.0	501	0.417	100	46.4	LOS D	11.3	79.3	Full	260	0.0	0.0
Lane 3	218	0.0	218	0.0	269[1]	0.810	100	58.5	LOS E	13.6	95.1	Short	50	0.0	NA
Approach	621	0.0	621	0.0		0.810		55.1	LOS D	13.6	95.1				
North: Oran Park Dr															
Lane 1	443	0.0	443	0.0	531	0.835	100	20.3	LOS B	19.5	136.7	Full	180	0.0	0.0
Lane 2	392	0.0	392	0.0	469[1]	0.835	100	37.1	LOS C	22.6	158.0	Full	180	0.0	0.0
Lane 3	40	0.0	40	0.0	289	0.139	100	40.8	LOS C	1.8	12.3	Short	45	0.0	NA
Approach	875	0.0	875	0.0		0.835		28.7	LOS C	22.6	158.0				
West: Peter Brock Dr															
Lane 1	405	0.0	382	0.0	496	0.771	100	41.8	LOS C	21.1	147.9	Full	380	0.0	0.0
Lane 2	432	0.0	408	0.0	529	0.771	100	26.7	LOS B	20.4	142.7	Full	380	0.0	0.0
Lane 3	272	0.0	257	0.0	342	0.751	100	52.0	LOS D	14.5	101.5	Short	110	0.0	NA
Approach	1109	0.0	1047[N1]	0.0		0.771		38.4	LOS C	21.1	147.9				
Intersection	3697	0.0	3635[N1]	0.0		0.853		41.0	LOS C	22.6	158.0				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Oran Park Dr

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	62	324	-	386	0.0	654	0.590	100	NA	NA

Lane 2	-	386	-	386	0.0	655	0.590	100	NA	NA
Lane 3	-	-	320	320	0.0	375	0.853	100	34.0	2
Approach	62	710	320	1092	0.0		0.853			

East: Peter Brock Dr

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	53	141	-	194	0.0	466	0.417	100	NA	NA
Lane 2	-	209	-	209	0.0	501	0.417	100	NA	NA
Lane 3	-	-	218	218	0.0	269[1]	0.810	100	64.5	2
Approach	53	350	218	621	0.0		0.810			

North: Oran Park Dr

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	283	160	-	443	0.0	531	0.835	100	NA	NA
Lane 2	-	392	-	392	0.0	469[1]	0.835	100	NA	NA
Lane 3	-	-	40	40	0.0	289	0.139	100	0.0	2
Approach	283	552	40	875	0.0		0.835			

West: Peter Brock Dr

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	94	288	-	382	0.0	496	0.771	100	NA	NA
Lane 2	-	408	-	408	0.0	529	0.771	100	NA	NA
Lane 3	-	-	257	257	0.0	342	0.751	100	0.0	2
Approach	94	696	257	1047	0.0		0.771			

	Total	%HV	Deg.Satn (v/c)
Intersection	3635	0.0	0.853

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Peter Brock Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Oran Park Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Peter Brock Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

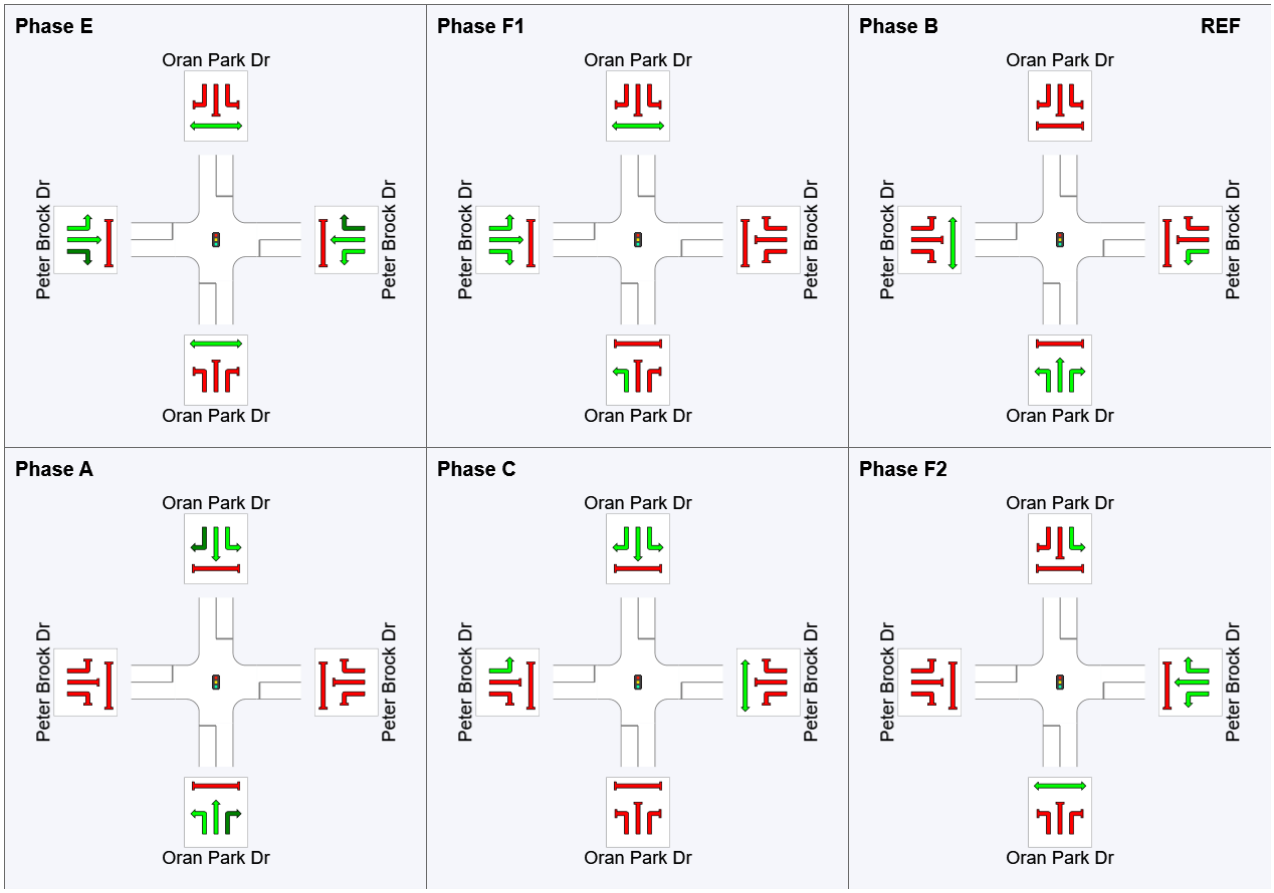
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase B
Input Phase Sequence: E, F1, B, A, C, F2
Output Phase Sequence: E, F1, B, A, C, F2

Phase Timing Summary

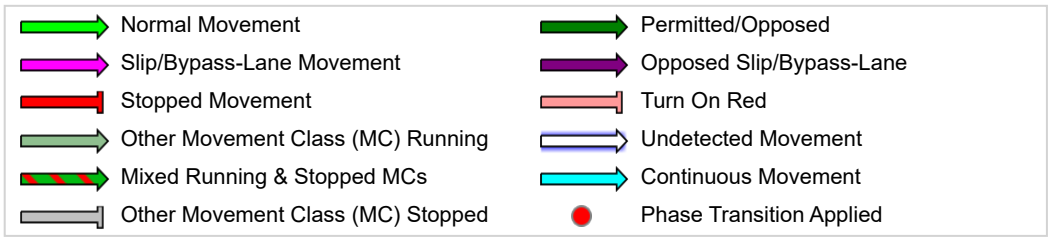
Phase	E	F1	B	A	C	F2
Phase Change Time (sec)	44	62	88	118	1	20
Green Time (sec)	12	20	24	17	13	18
Phase Time (sec)	18	26	30	23	19	24
Phase Split	13%	19%	21%	16%	14%	17%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2036 PM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Dr															
Lane 1	473	0.0	473	0.0	589	0.804	100	58.7	LOS E	29.7	208.2	Full	470	0.0	0.0
Lane 2	425	0.0	425	0.0	529[1]	0.804	100	50.1	LOS D	27.0	189.2	Full	470	0.0	0.0
Lane 3	221	0.0	221	0.0	279	0.793	100	72.0	LOS F	15.0	104.9	Short	100	0.0	NA
Approach	1119	0.0	1119	0.0		0.804		58.1	LOS E	29.7	208.2				
East: Peter Brock Dr															
Lane 1	448	0.0	448	0.0	765	0.586	100	36.3	LOS C	25.0	174.9	Full	260	0.0	0.0
Lane 2	355	0.0	355	0.0	606[1]	0.586	100	28.2	LOS B	14.3	100.2	Full	260	0.0	0.0
Lane 3	311	0.0	311	0.0	382[1]	0.815	100	35.9	LOS C	14.4	101.1	Short	50	0.0	NA
Approach	1114	0.0	1114	0.0		0.815		33.6	LOS C	25.0	174.9				
North: Oran Park Dr															
Lane 1	360	0.0	360	0.0	539	0.668	100	62.9	LOS E	22.9	160.2	Full	180	0.0	0.0
Lane 2	322	0.0	322	0.0	482[1]	0.668	100	61.5	LOS E	21.7	151.7	Full	180	0.0	0.0
Lane 3	197	0.0	197	0.0	229	0.860	100	60.4	LOS E	11.7	81.8	Short	45	0.0	NA
Approach	879	0.0	879	0.0		0.860		61.8	LOS E	22.9	160.2				
West: Peter Brock Dr															
Lane 1	237	0.0	221	0.0	317	0.697	100	40.6	LOS C	12.2	85.7	Full	380	0.0	0.0
Lane 2	261	0.0	243	0.0	348	0.697	100	29.3	LOS C	11.7	81.7	Full	380	0.0	0.0
Lane 3	59	0.0	55	0.0	152	0.361	100	54.9	LOS D	3.1	21.5	Short	110	0.0	NA
Approach	557	0.0	519[N1]	0.0		0.697		36.8	LOS C	12.2	85.7				
Intersection	3669	0.0	3631[N1]	0.0		0.860		48.4	LOS D	29.7	208.2				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Oran Park Dr

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	172	301	-	473	0.0	589	0.804	100	NA	NA
Lane 2	-	425	-	425	0.0	529[1]	0.804	100	NA	NA

Lane 3	-	-	221	221	0.0	279	0.793	100	9.3	2
Approach	172	726	221	1119	0.0		0.804			
East: Peter Brock Dr										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	29	419	-	448	0.0	765	0.586	100	NA	NA
Lane 2	-	355	-	355	0.0	606[1]	0.586	100	NA	NA
Lane 3	-	-	311	311	0.0	382[1]	0.815	100	70.4	2
Approach	29	774	311	1114	0.0		0.815			
North: Oran Park Dr										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	159	201	-	360	0.0	539	0.668	100	NA	NA
Lane 2	-	322	-	322	0.0	482[1]	0.668	100	NA	NA
Lane 3	-	-	197	197	0.0	229	0.860	100	60.2	2
Approach	159	523	197	879	0.0		0.860			
West: Peter Brock Dr										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	54	167	-	221	0.0	317	0.697	100	NA	NA
Lane 2	-	243	-	243	0.0	348	0.697	100	NA	NA
Lane 3	-	-	55	55	0.0	152	0.361	100	0.0	2
Approach	54	410	55	519	0.0		0.697			
	Total	%HV	Deg.Satn (v/c)							
Intersection	3631	0.0	0.860							

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Peter Brock Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Oran Park Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: Peter Brock Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2036 PM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

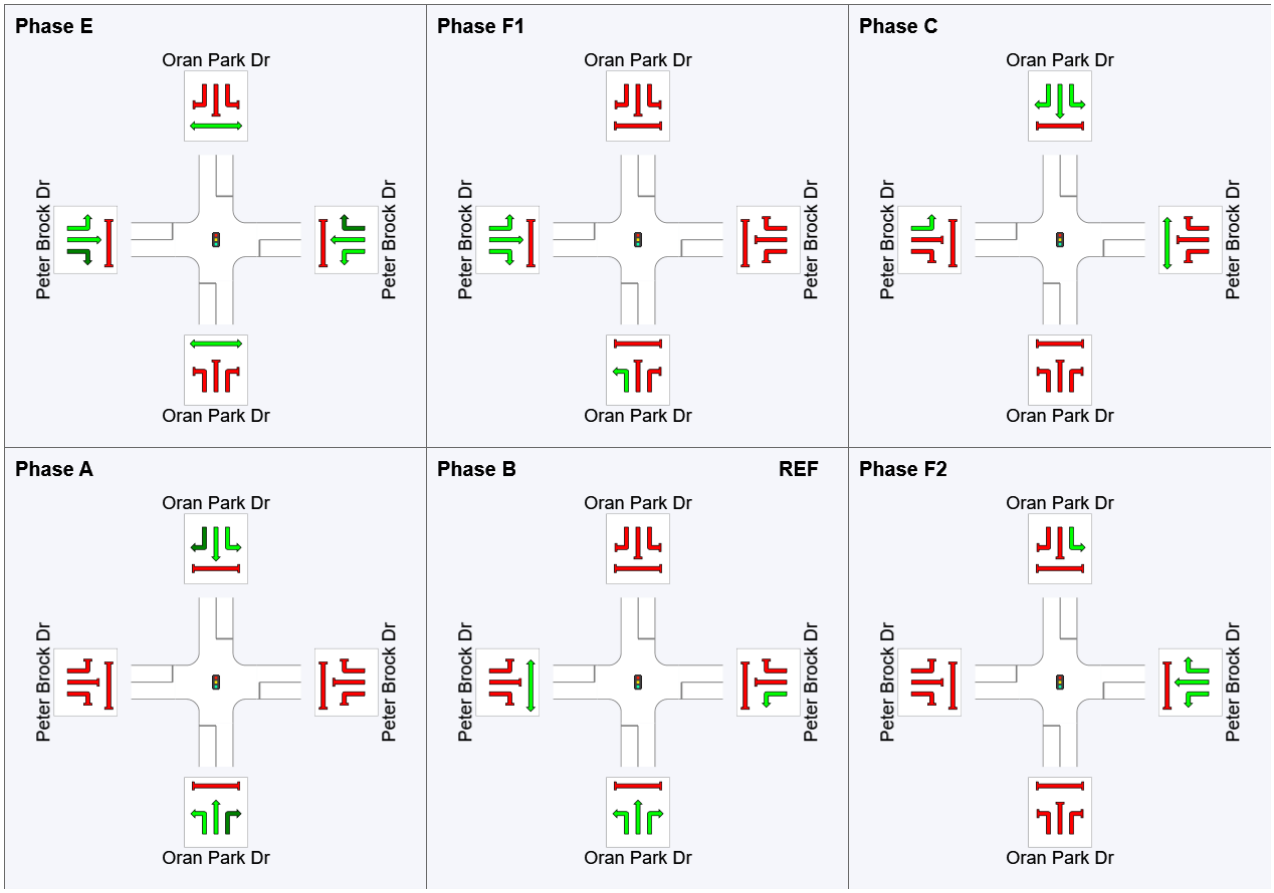
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v2 - Import
Reference Phase: Phase B
Input Phase Sequence: E, F1, C, A, B, F2
Output Phase Sequence: E, F1, C, A, B, F2

Phase Timing Summary

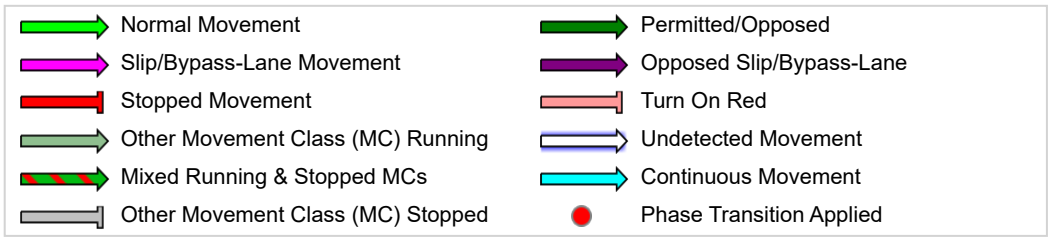
Phase	E	F1	C	A	B	F2
Phase Change Time (sec)	30	49	61	80	109	128
Green Time (sec)	13	6	13	23	13	36
Phase Time (sec)	19	12	19	29	19	42
Phase Split	14%	9%	14%	21%	14%	30%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2041 AM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Dr															
Lane 1	381	0.0	381	0.0	516	0.738	100	50.9	LOS D	23.8	166.6	Full	470	0.0	0.0
Lane 2	285	0.0	285	0.0	386[1]	0.738	100	49.1	LOS D	17.1	119.9	Full	470	0.0	0.0
Lane 3	272	0.0	272	0.0	314[1]	0.866	100	64.5	LOS E	18.3	127.9	Short	50	0.0	NA
Approach	938	0.0	938	0.0		0.866		54.3	LOS D	23.8	166.6				
East: Peter Brock Dr															
Lane 1	288	0.0	288	0.0	327	0.881	100	83.8	LOS F	21.3	148.8	Full	260	0.0	0.0
Lane 2	278	0.0	278	0.0	316[1]	0.881	100	67.8	LOS E	20.1	140.5	Full	260	0.0	0.0
Lane 3	93	0.0	93	0.0	136	0.683	100	63.0	LOS E	5.9	41.4	Short	50	0.0	NA
Approach	659	0.0	659	0.0		0.881		74.1	LOS F	21.3	148.8				
North: Oran Park Dr															
Lane 1	346	0.0	346	0.0	693	0.500	100	10.7	LOS A	4.6	32.2	Full	180	0.0	0.0
Lane 2	320	0.0	320	0.0	640[1]	0.500	100	20.9	LOS B	11.2	78.4	Full	180	0.0	0.0
Lane 3	50	0.0	50	0.0	522	0.096	100	29.4	LOS C	1.6	11.5	Short	45	0.0	NA
Approach	716	0.0	716	0.0		0.500		16.6	LOS B	11.2	78.4				
West: Peter Brock Dr															
Lane 1	563	0.0	440	0.0	506	0.871	100	33.7	LOS C	25.3	177.2	Full	380	0.0	0.0
Lane 2	605	0.0	473	0.0	543	0.871	100	29.1	LOS C	27.4	191.9	Full	380	0.0	0.0
Lane 3	184	0.0	144	0.0	321	0.448	100	53.2	LOS D	7.8	54.5	Short	110	0.0	NA
Approach	1352	0.0	1057[N1]	0.0		0.871		34.3	LOS C	27.4	191.9				
Intersection	3665	0.0	3370[N1]	0.0		0.881		43.9	LOS D	27.4	191.9				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Oran Park Dr

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	44	337	-	381	0.0	516	0.738	100	NA	NA

Lane 2	-	285	-	285	0.0	386[1]	0.738	100	NA	NA
Lane 3	-	-	272	272	0.0	314[1]	0.866	100	93.5	2
Approach	44	622	272	938	0.0		0.866			

East: Peter Brock Dr

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	44	244	-	288	0.0	327	0.881	100	NA	NA
Lane 2	-	278	-	278	0.0	316[1]	0.881	100	NA	NA
Lane 3	-	-	93	93	0.0	136	0.683	100	0.0	2
Approach	44	522	93	659	0.0		0.881			

North: Oran Park Dr

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	278	68	-	346	0.0	693	0.500	100	NA	NA
Lane 2	-	320	-	320	0.0	640[1]	0.500	100	NA	NA
Lane 3	-	-	50	50	0.0	522	0.096	100	0.0	2
Approach	278	388	50	716	0.0		0.500			

West: Peter Brock Dr

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	128	312	-	440	0.0	506	0.871	100	NA	NA
Lane 2	-	473	-	473	0.0	543	0.871	100	NA	NA
Lane 3	-	-	144	144	0.0	321	0.448	100	0.0	2
Approach	128	785	144	1057	0.0		0.871			

	Total	%HV	Deg.Satn (v/c)
Intersection	3370	0.0	0.881

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Peter Brock Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Oran Park Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Peter Brock Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2041 AM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

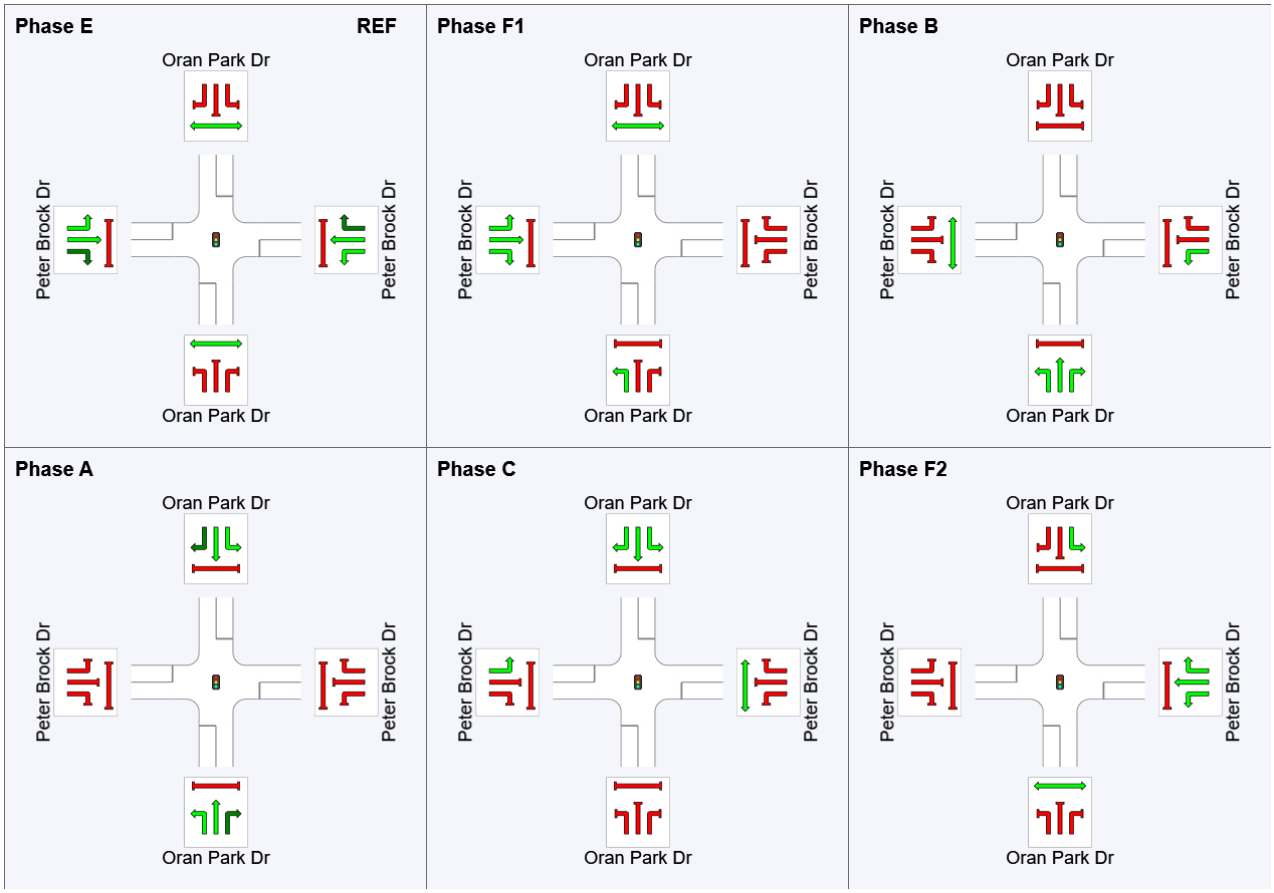
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase E
Input Phase Sequence: E, F1, B, A, C, F2
Output Phase Sequence: E, F1, B, A, C, F2

Phase Timing Summary

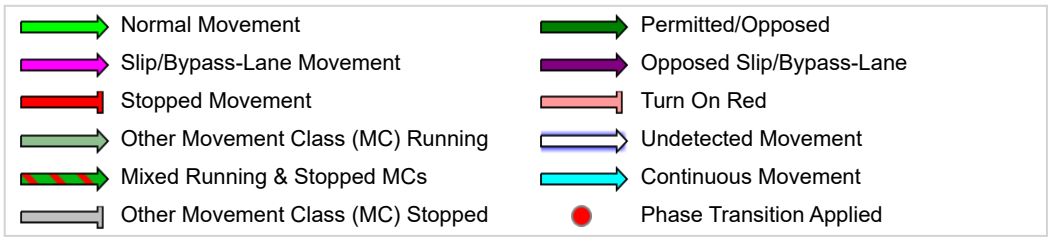
Phase	E	F1	B	A	C	F2
Phase Change Time (sec)	39	58	84	115	127	27
Green Time (sec)	13	20	25	6	34	6
Phase Time (sec)	19	26	31	12	40	12
Phase Split	14%	19%	22%	9%	29%	9%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2041 PM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Dr															
Lane 1	568	0.0	568	0.0	545	1.042	100	129.5	LOS F	61.0	427.0	Full	470	0.0	0.0
Lane 2	468	0.0	468	0.0	449[1]	1.042	100	131.5	LOS F	50.8	355.4	Full	470	0.0	0.0
Lane 3	225	0.0	225	0.0	245[1]	0.917	100	68.9	LOS E	15.3	107.1	Short	50	0.0	NA
Approach	1261	0.0	1261	0.0		1.042		119.4	LOS F	61.0	427.0				
East: Peter Brock Dr															
Lane 1	639	0.0	639	0.0	654	0.977	100	92.8	LOS F	58.1	406.7	Full	260	0.0	46.0
Lane 2	523	0.0	523	0.0	535[1]	0.977	100	85.1	LOS F	43.8	306.4	Full	260	0.0	19.9
Lane 3	241	0.0	241	0.0	441	0.546	100	45.1	LOS D	12.2	85.1	Short	50	0.0	NA
Approach	1403	0.0	1403	0.0		0.977		81.8	LOS F	58.1	406.7				
North: Oran Park Dr															
Lane 1	310	0.0	310	0.0	619	0.500	100	28.7	LOS C	12.7	88.8	Full	180	0.0	0.0
Lane 2	307	0.0	307	0.0	615[1]	0.500	100	21.5	LOS B	10.8	75.7	Full	180	0.0	0.0
Lane 3	321	0.0	321	0.0	375	0.856	100	60.0	LOS E	19.6	137.4	Short	45	0.0	NA
Approach	938	0.0	938	0.0		0.856		37.1	LOS C	19.6	137.4				
West: Peter Brock Dr															
Lane 1	215	0.0	193	0.0	304	0.637	100	55.1	LOS D	11.3	79.0	Full	380	0.0	0.0
Lane 2	237	0.0	213	0.0	334	0.637	100	36.8	LOS C	11.0	77.0	Full	380	0.0	0.0
Lane 3	30	0.0	27	0.0	132	0.204	100	72.6	LOS F	1.8	12.4	Short	110	0.0	NA
Approach	482	0.0	433[N1]	0.0		0.637		47.2	LOS D	11.3	79.0				
Intersection	4084	0.0	4035[N1]	0.0		1.042		79.4	LOS F	61.0	427.0				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Oran Park Dr

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	138	430	-	568	0.0	545	1.042	100	NA	NA
Lane 2	-	468	-	468	0.0	449[1]	1.042	100	NA	NA

Lane 3	-	-	225	225	0.0	245[1]	0.917	100	76.0	2
Approach	138	898	225	1261	0.0		1.042			
East: Peter Brock Dr										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	638	-	639	0.0	654	0.977	100	NA	NA
Lane 2	-	523	-	523	0.0	535[1]	0.977	100	NA	NA
Lane 3	-	-	241	241	0.0	441	0.546	100	53.9	2
Approach	1	1161	241	1403	0.0		0.977			
North: Oran Park Dr										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	149	161	-	310	0.0	619	0.500	100	NA	NA
Lane 2	-	307	-	307	0.0	615[1]	0.500	100	NA	NA
Lane 3	-	-	321	321	0.0	375	0.856	100	100.0	2
Approach	149	468	321	938	0.0		0.856			
West: Peter Brock Dr										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	47	147	-	193	0.0	304	0.637	100	NA	NA
Lane 2	-	213	-	213	0.0	334	0.637	100	NA	NA
Lane 3	-	-	27	27	0.0	132	0.204	100	0.0	2
Approach	47	359	27	433	0.0		0.637			
	Total	%HV	Deg.Satn (v/c)							
Intersection	4035	0.0		1.042						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Peter Brock Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Oran Park Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: Peter Brock Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 09 [09. Peter Brock Dr / Oran Park Dr 2041 PM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

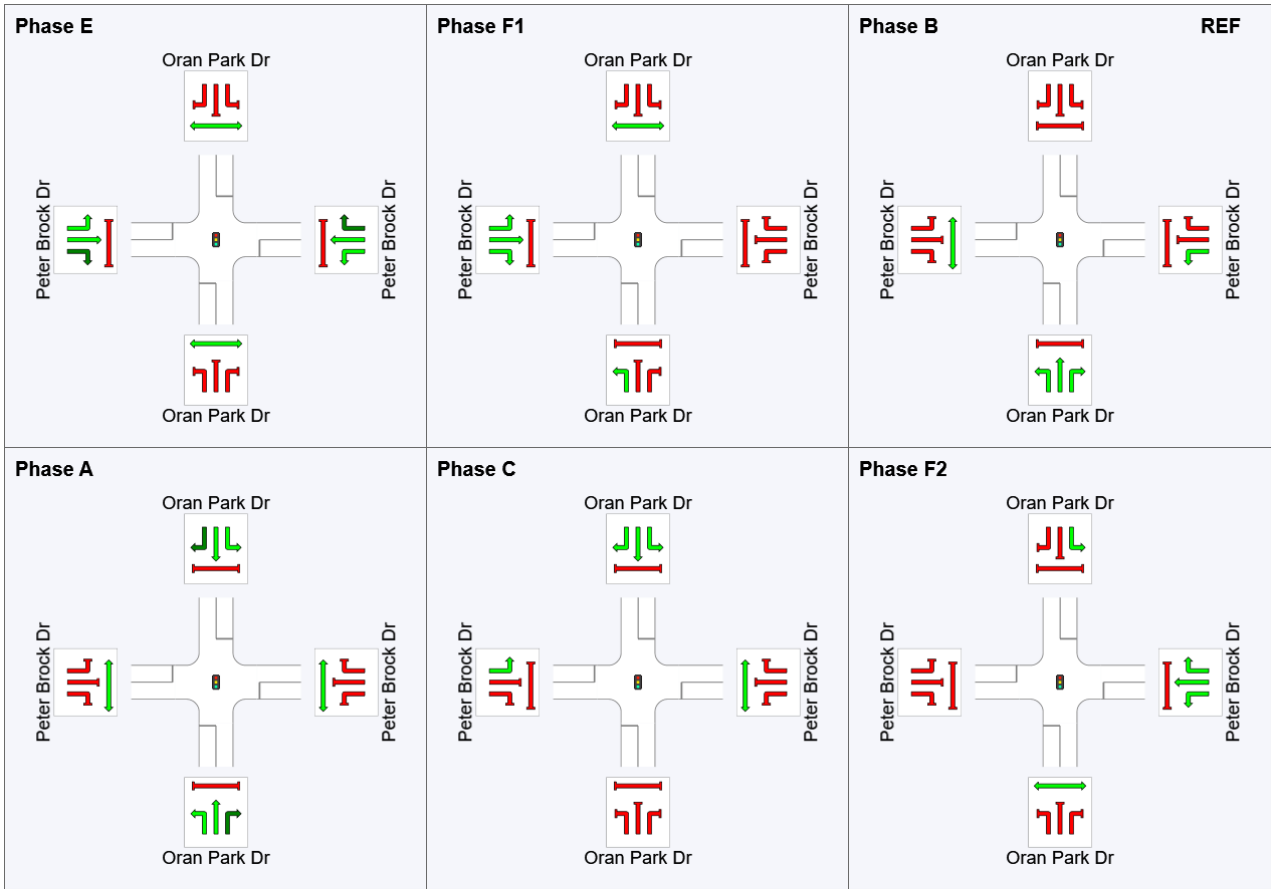
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v2
Reference Phase: Phase B
Input Phase Sequence: E, F1, B, A, C, F2
Output Phase Sequence: E, F1, B, A, C, F2

Phase Timing Summary

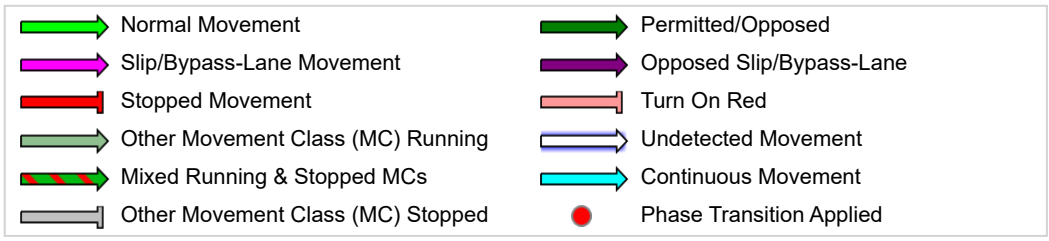
Phase	E	F1	B	A	C	F2
Phase Change Time (sec)	21	39	51	72	96	126
Green Time (sec)	12	6	15	18	24	29
Phase Time (sec)	18	12	21	24	30	35
Phase Split	13%	9%	15%	17%	21%	25%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



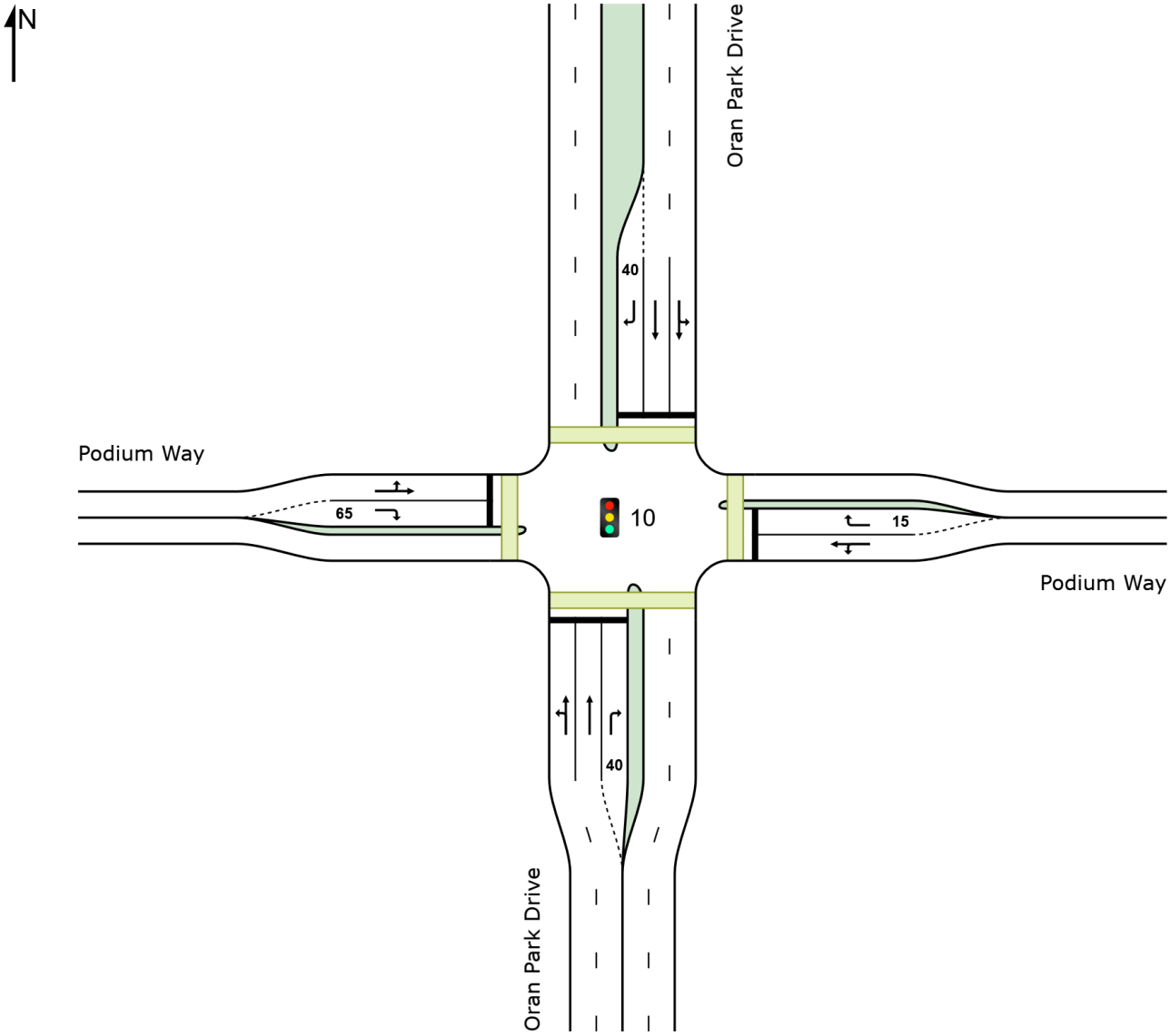
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SITE LAYOUT

Site: 10 [10. Oran Park Dr / Podium Way - 2026 AM (Site Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	480	0.0	480	0.0	837	0.573	100	19.4	LOS B	16.2	113.7	Full	180	0.0	0.0
Lane 2	495	0.0	495	0.0	864[1]	0.573	100	21.5	LOS B	18.1	126.7	Full	180	0.0	0.0
Lane 3	18	0.0	18	0.0	535	0.034	100	21.0	LOS B	0.5	3.4	Short	40	0.0	NA
Approach	993	0.0	993	0.0		0.573		20.5	LOS B	18.1	126.7				
East: Podium Way															
Lane 1	2	0.0	2	0.0	144	0.014	100	67.4	LOS E	0.1	0.9	Full	115	0.0	0.0
Lane 2	1	0.0	1	0.0	172	0.006	100	67.4	LOS E	0.1	0.4	Short	15	0.0	NA
Approach	3	0.0	3	0.0		0.014		67.4	LOS E	0.1	0.9				
North: Oran Park Drive															
Lane 1	192	0.0	192	0.0	888	0.216	100	26.7	LOS B	6.2	43.4	Full	210	0.0	0.0
Lane 2	192	0.0	192	0.0	891	0.216	100	23.4	LOS B	7.6	52.9	Full	210	0.0	0.0
Lane 3	91	0.0	91	0.0	400	0.227	100	23.9	LOS B	2.6	18.1	Short	40	0.0	NA
Approach	475	0.0	475	0.0		0.227		24.9	LOS B	7.6	52.9				
West: Podium Way															
Lane 1	67	0.0	67	0.0	405	0.165	100	35.6	LOS C	2.9	20.0	Full	420	0.0	0.0
Lane 2	203	0.0	203	0.0	398	0.510	100	58.0	LOS E	12.3	86.0	Short	65	0.0	NA
Approach	270	0.0	270	0.0		0.510		52.5	LOS D	12.3	86.0				
Intersection	1741	0.0	1741	0.0		0.573		26.7	LOS B	18.1	126.7				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	235	245	-	480	0.0	837	0.573	100	NA	NA
Lane 2	-	495	-	495	0.0	864[1]	0.573	100	NA	NA
Lane 3	-	-	18	18	0.0	535	0.034	100	0.0	2
Approach	235	740	18	993	0.0		0.573			
East: Podium Way										

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	1	-	2	0.0	144	0.014	100	NA	NA
Lane 2	-	-	1	1	0.0	172	0.006	100	0.0	1
Approach	1	1	1	3	0.0		0.014			
North: Oran Park Drive										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	3	189	-	192	0.0	888	0.216	100	NA	NA
Lane 2	-	192	-	192	0.0	891	0.216	100	NA	NA
Lane 3	-	-	91	91	0.0	400	0.227	100	0.0	2
Approach	3	381	91	475	0.0		0.227			
West: Podium Way										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	56	11	-	67	0.0	405	0.165	100	NA	NA
Lane 2	-	-	203	203	0.0	398	0.510	100	30.5	1
Approach	56	11	203	270	0.0		0.510			
	Total	%HV	Deg.Satn (v/c)							
Intersection	1741	0.0	0.573							

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Podium Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
North Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Podium Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

PHASING SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

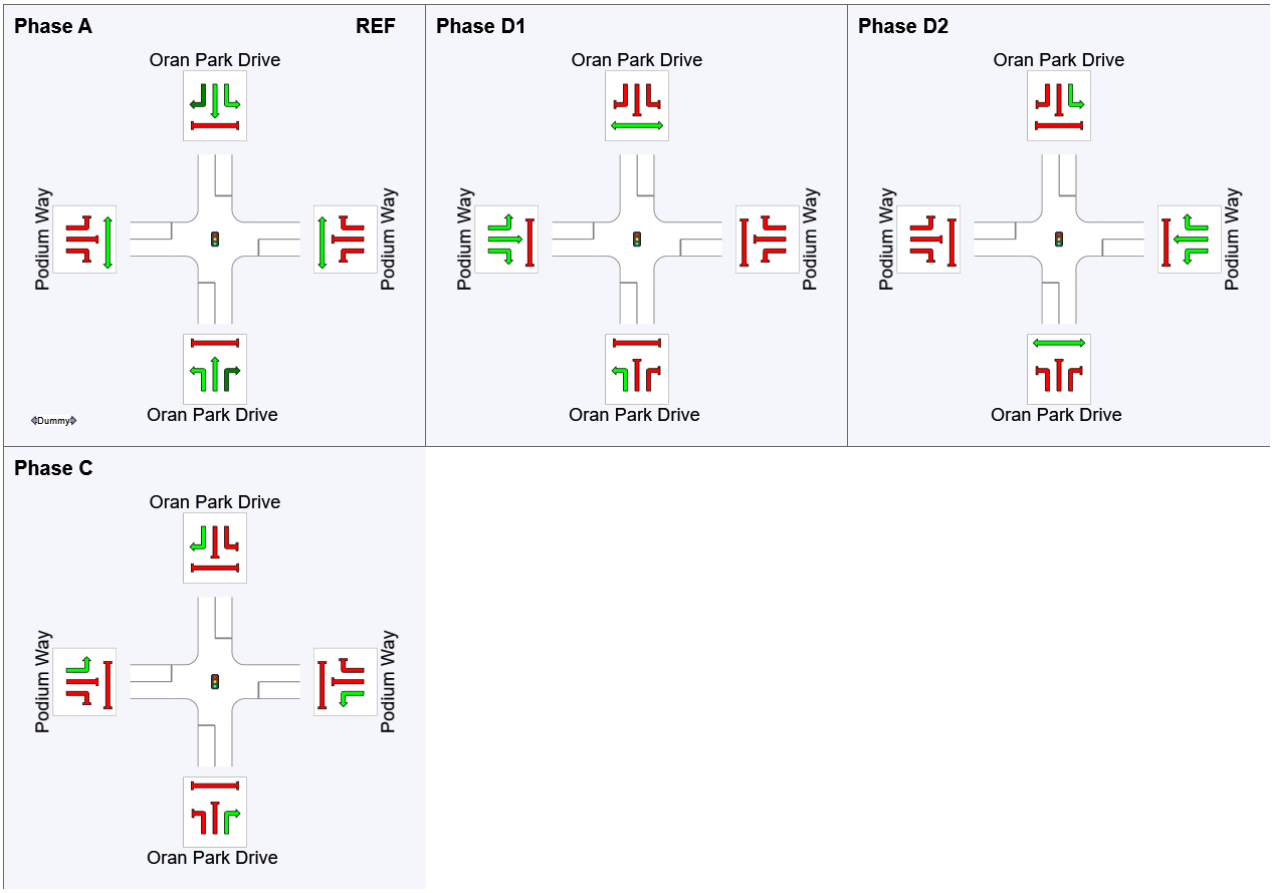
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import - Copy
Reference Phase: Phase A
Input Phase Sequence: A, D1, D2, C
Output Phase Sequence: A, D1, D2, C

Phase Timing Summary

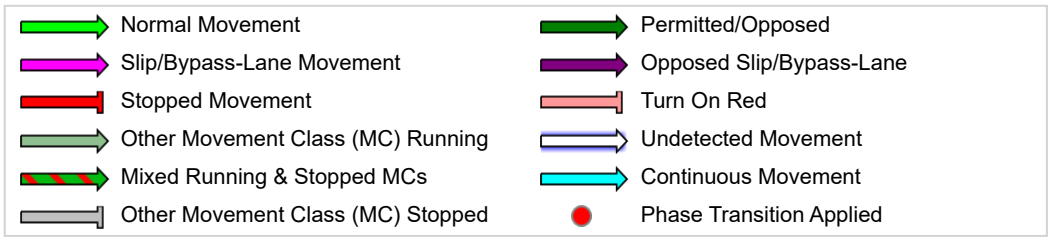
Phase	A	D1	D2	C
Phase Change Time (sec)	83	13	49	68
Green Time (sec)	64	30	13	9
Phase Time (sec)	70	36	19	15
Phase Split	50%	26%	14%	11%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	459	0.0	459	0.0	907	0.506	100	20.0	LOS B	15.3	106.9	Full	180	0.0	0.0
Lane 2	463	0.0	463	0.0	914[1]	0.506	100	26.4	LOS B	20.2	141.4	Full	180	0.0	0.0
Lane 3	11	0.0	11	0.0	335	0.033	100	25.4	LOS B	0.4	3.1	Short	40	0.0	NA
Approach	933	0.0	933	0.0		0.506		23.2	LOS B	20.2	141.4				
East: Podium Way															
Lane 1	23	0.0	23	0.0	230	0.100	100	58.7	LOS E	1.4	9.8	Full	115	0.0	0.0
Lane 2	1	0.0	1	0.0	226	0.004	100	63.1	LOS E	0.1	0.4	Short	15	0.0	NA
Approach	24	0.0	24	0.0		0.100		58.9	LOS E	1.4	9.8				
North: Oran Park Drive															
Lane 1	401	0.0	401	0.0	933	0.430	100	25.7	LOS B	14.2	99.4	Full	210	0.0	0.0
Lane 2	402	0.0	402	0.0	933	0.430	100	11.2	LOS A	9.3	65.2	Full	210	0.0	0.0
Lane 3	30	0.0	30	0.0	390	0.077	100	12.4	LOS A	0.4	2.6	Short	40	0.0	NA
Approach	833	0.0	833	0.0		0.430		18.2	LOS B	14.2	99.4				
West: Podium Way															
Lane 1	6	0.0	6	0.0	335	0.018	100	35.8	LOS C	0.2	1.7	Full	420	0.0	0.0
Lane 2	140	0.0	140	0.0	345	0.406	100	60.0	LOS E	8.5	59.4	Short	65	0.0	NA
Approach	146	0.0	146	0.0		0.406		59.0	LOS E	8.5	59.4				
Intersection	1936	0.0	1936	0.0		0.506		24.2	LOS B	20.2	141.4				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	71	388	-	459	0.0	907	0.506	100	NA	NA
Lane 2	-	463	-	463	0.0	914[1]	0.506	100	NA	NA
Lane 3	-	-	11	11	0.0	335	0.033	100	0.0	2
Approach	71	851	11	933	0.0		0.506			

East: Podium Way											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	1	22	-	23	0.0	230	0.100	100	NA	NA	
Lane 2	-	-	1	1	0.0	226	0.004	100	0.0	1	
Approach	1	22	1	24	0.0		0.100				
North: Oran Park Drive											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	1	400	-	401	0.0	933	0.430	100	NA	NA	
Lane 2	-	402	-	402	0.0	933	0.430	100	NA	NA	
Lane 3	-	-	30	30	0.0	390	0.077	100	0.0	2	
Approach	1	802	30	833	0.0		0.430				
West: Podium Way											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	5	1	-	6	0.0	335	0.018	100	NA	NA	
Lane 2	-	-	140	140	0.0	345	0.406	100	0.0	1	
Approach	5	1	140	146	0.0		0.406				
	Total	%HV	Deg.Satn (v/c)								
Intersection	1936	0.0		0.506							

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis										
	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Podium Way Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Oran Park Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: Podium Way Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

PHASING SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

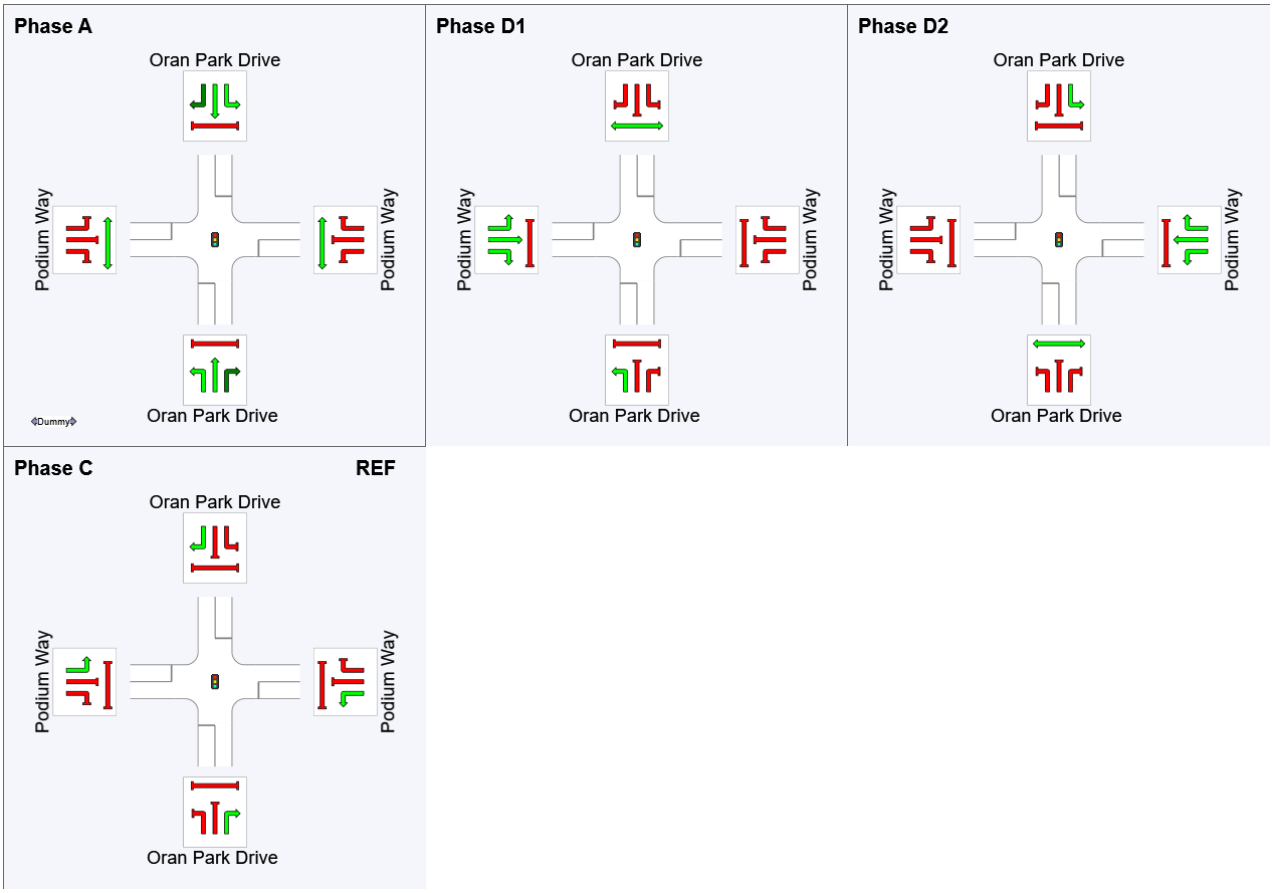
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase C
Input Phase Sequence: A, D1, D2, C
Output Phase Sequence: A, D1, D2, C

Phase Timing Summary

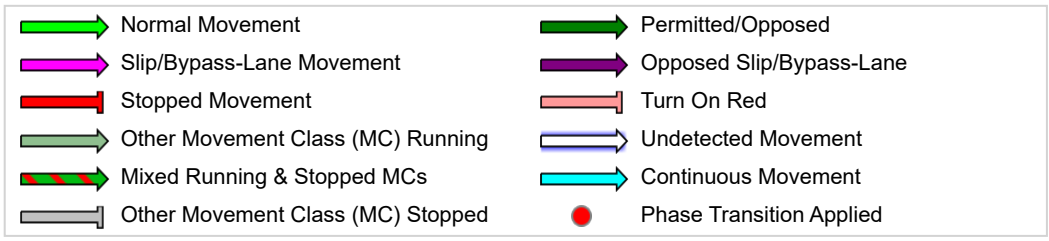
Phase	A	D1	D2	C
Phase Change Time (sec)	81	14	46	69
Green Time (sec)	67	26	17	6
Phase Time (sec)	73	32	23	12
Phase Split	52%	23%	16%	9%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	524	0.0	521	0.0	911	0.573	100	19.2	LOS B	16.8	117.4	Full	180	0.0	0.0
Lane 2	518	0.0	516	0.0	901[1]	0.573	100	22.2	LOS B	19.7	137.7	Full	180	0.0	0.0
Lane 3	56	0.0	56	0.0	136	0.409	100	44.6	LOS D	2.3	15.8	Short	40	0.0	NA
Approach	1098	0.0	1093[N1]	0.0		0.573		21.9	LOS B	19.7	137.7				
East: Podium Way															
Lane 1	4	0.0	4	0.0	128	0.031	100	65.9	LOS E	0.3	1.8	Full	115	-15.7[N3]	0.0
Lane 2	1	0.0	1	0.0	172	0.006	100	67.4	LOS E	0.1	0.4	Short	15	0.0	NA
Approach	5	0.0	5	0.0		0.031		66.2	LOS E	0.3	1.8				
North: Oran Park Drive															
Lane 1	555	0.0	555	0.0	552	1.007	100	85.2	LOS F	48.5	339.2	Full	210	-42.4[N3]	49.0
Lane 2	441	0.0	441	0.0	438[1]	1.007	100	112.7	LOS F	48.4	338.8	Full	210	-46.7[N3]	48.9
Lane 3	201	0.0	201	0.0	383	0.525	100	28.2	LOS B	6.4	44.7	Short	40	0.0	NA
Approach	1197	0.0	1197	0.0		1.007		85.7	LOS F	48.5	339.2				
West: Podium Way															
Lane 1	73	0.0	73	0.0	347	0.211	100	37.6	LOS C	3.3	23.0	Full	420	0.0	0.0
Lane 2	196	0.0	196	0.0	198	0.991	100	121.0	LOS F	19.5	136.5	Short	65	-46.7[N3]	NA
Approach	269	0.0	269	0.0		0.991		98.4	LOS F	19.5	136.5				
Intersection	2569	0.0	2564[N1]	0.0		1.007		59.8	LOS E	48.5	339.2				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	194	327	-	521	0.0	911	0.573	100	NA	NA
Lane 2	-	516	-	516	0.0	901[1]	0.573	100	NA	NA
Lane 3	-	-	56	56	0.0	136	0.409	100	0.0	2

Approach	194	843	56	1093	0.0		0.573			
East: Podium Way										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	3	-	4	0.0	128	0.031	100	NA	NA
Lane 2	-	-	1	1	0.0	172	0.006	100	0.0	1
Approach	1	3	1	5	0.0		0.031			
North: Oran Park Drive										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	8	547	-	555	0.0	552	1.007	100	NA	NA
Lane 2	-	441	-	441	0.0	438[1]	1.007	100	NA	NA
Lane 3	-	-	201	201	0.0	383	0.525	100	15.0	2
Approach	8	988	201	1197	0.0		1.007			
West: Podium Way										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	45	28	-	73	0.0	347	0.211	100	NA	NA
Lane 2	-	-	196	196	0.0	198	0.991	100	74.1	1
Approach	45	28	196	269	0.0		0.991			
	Total	%HV	Deg.Satn (v/c)							
Intersection	2564	0.0		1.007						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Podium Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
North Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Podium Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

PHASING SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase C
Input Phase Sequence: A, D1, D2, C
Output Phase Sequence: A, D1, D2, C

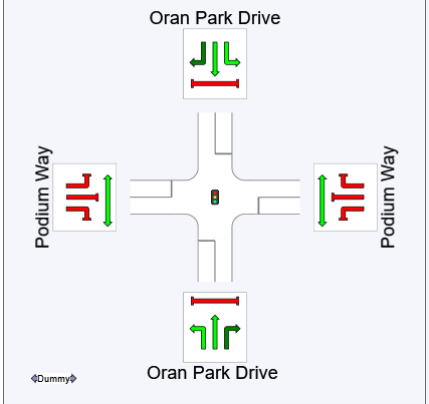
Phase Timing Summary

Phase	A	D1	D2	C
Phase Change Time (sec)	100	35	69	88
Green Time (sec)	69	28	13	6
Phase Time (sec)	75	34	19	12
Phase Split	54%	24%	14%	9%

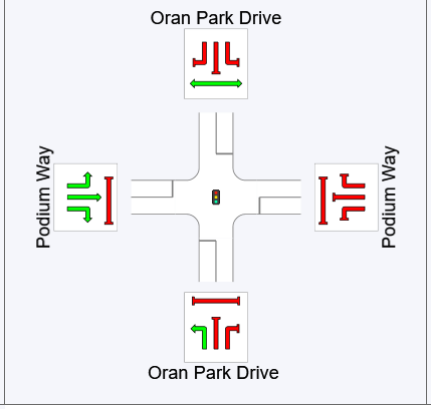
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

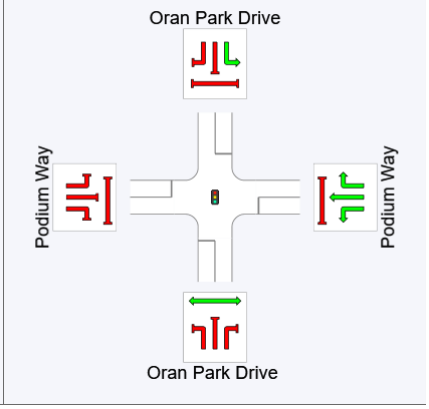
Phase A



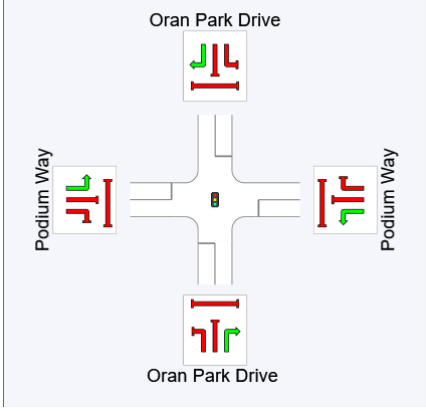
Phase D1



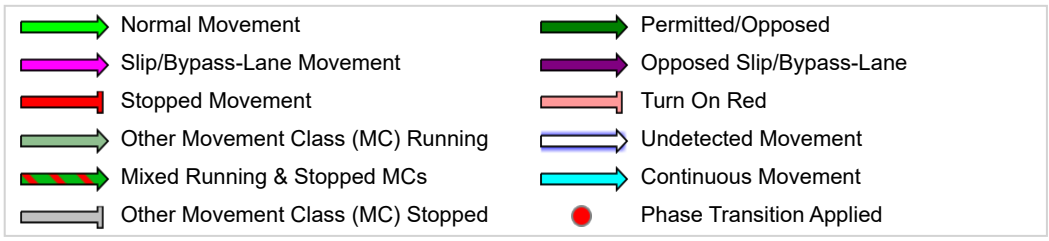
Phase D2



Phase C **REF**



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	675	0.0	667	0.0	972	0.686	100	15.8	LOS B	22.7	158.9	Full	180	0.0	0.0
Lane 2	669	0.0	661	0.0	963[1]	0.686	100	26.7	LOS B	30.5	213.5	Full	180	0.0	20.5
Lane 3	9	0.0	9	0.0	219	0.041	100	29.4	LOS C	0.3	2.2	Short	40	0.0	NA
Approach	1353	0.0	1337[N1]	0.0		0.686		21.3	LOS B	30.5	213.5				
East: Podium Way															
Lane 1	24	0.0	24	0.0	311	0.077	100	50.7	LOS D	1.3	9.4	Full	115	-11.8[N3]	0.0
Lane 2	1	0.0	1	0.0	358	0.003	100	53.5	LOS D	0.1	0.4	Short	15	0.0	NA
Approach	25	0.0	25	0.0		0.077		50.8	LOS D	1.3	9.4				
North: Oran Park Drive															
Lane 1	435	0.0	435	0.0	542	0.803	100	28.9	LOS C	22.6	158.0	Full	210	-44.4[N3]	0.0
Lane 2	552	0.0	552	0.0	687[1]	0.803	100	25.1	LOS B	26.8	187.6	Full	210	-27.5[N3]	0.0
Lane 3	27	0.0	27	0.0	290	0.093	100	18.7	LOS B	0.6	3.9	Short	40	0.0	NA
Approach	1014	0.0	1014	0.0		0.803		26.5	LOS B	26.8	187.6				
West: Podium Way															
Lane 1	8	0.0	8	0.0	166	0.048	100	41.5	LOS C	0.4	2.5	Full	420	0.0	0.0
Lane 2	64	0.0	64	0.0	125	0.512	100	74.1	LOS F	4.4	30.7	Short	65	-27.5[N3]	NA
Approach	72	0.0	72	0.0		0.512		70.5	LOS E	4.4	30.7				
Intersection	2464	0.0	2448[N1]	0.0		0.803		25.2	LOS B	30.5	213.5				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	10	657	-	667	0.0	972	0.686	100	NA	NA
Lane 2	-	661	-	661	0.0	963[1]	0.686	100	NA	NA
Lane 3	-	-	9	9	0.0	219	0.041	100	0.0	2

Approach	10	1318	9	1337	0.0		0.686			
East: Podium Way										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	4	20	-	24	0.0	311	0.077	100	NA	NA
Lane 2	-	-	1	1	0.0	358	0.003	100	0.0	1
Approach	4	20	1	25	0.0		0.077			
North: Oran Park Drive										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	434	-	435	0.0	542	0.803	100	NA	NA
Lane 2	-	552	-	552	0.0	687[1]	0.803	100	NA	NA
Lane 3	-	-	27	27	0.0	290	0.093	100	0.0	2
Approach	1	986	27	1014	0.0		0.803			
West: Podium Way										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	7	1	-	8	0.0	166	0.048	100	NA	NA
Lane 2	-	-	64	64	0.0	125	0.512	100	0.0	1
Approach	7	1	64	72	0.0		0.512			

	Total	%HV	Deg.Satn (v/c)
Intersection	2448	0.0	0.803

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Podium Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
North Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Podium Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

PHASING SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase B
Input Phase Sequence: A, D1, D2, B
Output Phase Sequence: A, D1, D2, B

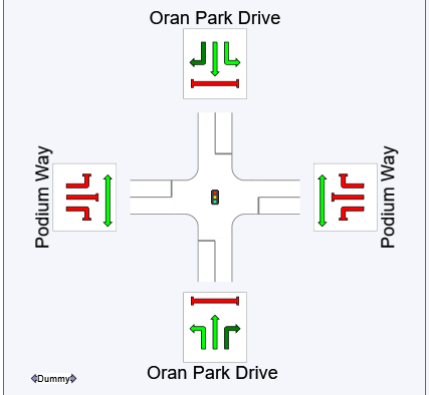
Phase Timing Summary

Phase	A	D1	D2	B
Phase Change Time (sec)	75	11	30	63
Green Time (sec)	70	13	27	6
Phase Time (sec)	76	19	33	12
Phase Split	54%	14%	24%	9%

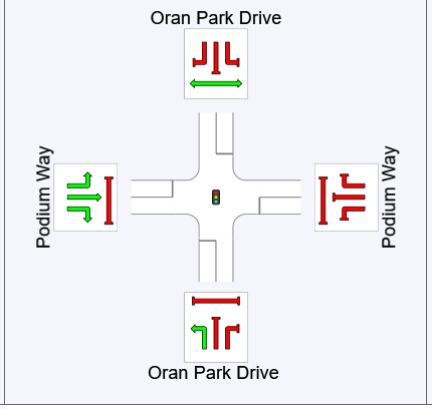
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

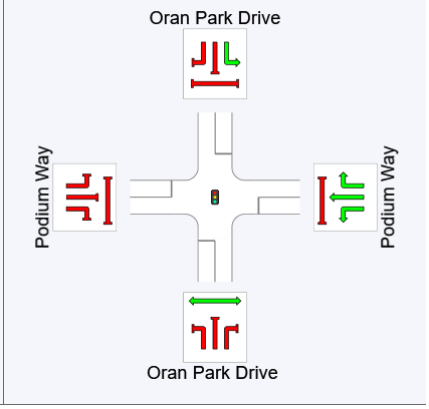
Phase A



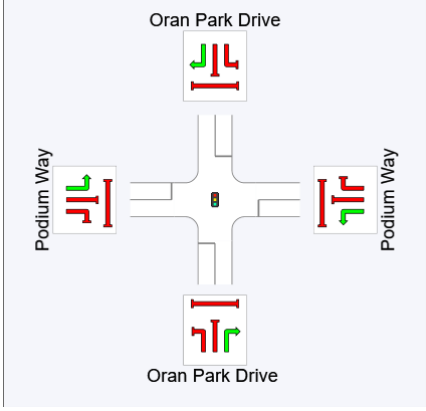
Phase D1



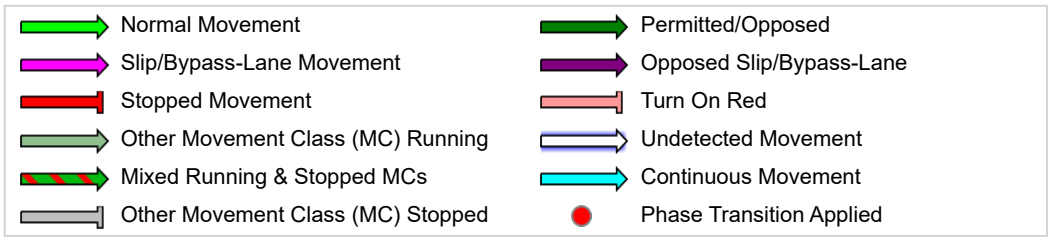
Phase D2



Phase B **REF**



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	463	0.0	447	0.0	670	0.667	100	24.5	LOS B	19.0	133.3	Full	180	0.0	0.0
Lane 2	434	0.0	419	0.0	628[1]	0.667	100	16.5	LOS B	13.5	94.7	Full	180	0.0	0.0
Lane 3	71	0.0	69	0.0	293	0.234	100	39.2	LOS C	2.8	19.5	Short	40	0.0	NA
Approach	968	0.0	935[N1]	0.0		0.667		22.0	LOS B	19.0	133.3				
East: Podium Way															
Lane 1	4	0.0	4	0.0	372	0.011	100	48.8	LOS D	0.2	1.5	Full	115	0.0	0.0
Lane 2	1	0.0	1	0.0	385	0.003	100	51.7	LOS D	0.1	0.4	Short	15	0.0	NA
Approach	5	0.0	5	0.0		0.011		49.4	LOS D	0.2	1.5				
North: Oran Park Drive															
Lane 1	564	0.0	564	0.0	673	0.838	100	51.2	LOS D	36.9	258.1	Full	210	0.0	23.7
Lane 2	435	0.0	435	0.0	519[1]	0.838	100	48.2	LOS D	28.2	197.2	Full	210	0.0	0.0
Lane 3	213	0.0	213	0.0	424	0.503	100	29.9	LOS C	8.1	56.9	Short	40	0.0	NA
Approach	1212	0.0	1212	0.0		0.838		46.4	LOS D	36.9	258.1				
West: Podium Way															
Lane 1	167	0.0	167	0.0	266	0.629	100	38.7	LOS C	7.2	50.6	Full	420	0.0	0.0
Lane 2	155	0.0	155	0.0	265	0.584	100	67.1	LOS E	10.1	70.7	Short	65	0.0	NA
Approach	322	0.0	322	0.0		0.629		52.4	LOS D	10.1	70.7				
Intersection	2507	0.0	2474[N1]	0.0		0.838		37.9	LOS C	36.9	258.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	132	315	-	447	0.0	670	0.667	100	NA	NA
Lane 2	-	419	-	419	0.0	628[1]	0.667	100	NA	NA
Lane 3	-	-	69	69	0.0	293	0.234	100	0.0	2
Approach	132	734	69	935	0.0		0.667			

East: Podium Way											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	1	3	-	4	0.0	372	0.011	100	NA	NA	
Lane 2	-	-	1	1	0.0	385	0.003	100	0.0	1	
Approach	1	3	1	5	0.0		0.011				
North: Oran Park Drive											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	148	416	-	564	0.0	673	0.838	100	NA	NA	
Lane 2	-	435	-	435	0.0	519[1]	0.838	100	NA	NA	
Lane 3	-	-	213	213	0.0	424	0.503	100	37.2	2	
Approach	148	851	213	1212	0.0		0.838				
West: Podium Way											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	124	43	-	167	0.0	266	0.629	100	NA	NA	
Lane 2	-	-	155	155	0.0	265	0.584	100	12.5	1	
Approach	124	43	155	322	0.0		0.629				

	Total	%HV	Deg.Satn (v/c)
Intersection	2474	0.0	0.838

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Podium Way Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Oran Park Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: Podium Way Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

PHASING SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

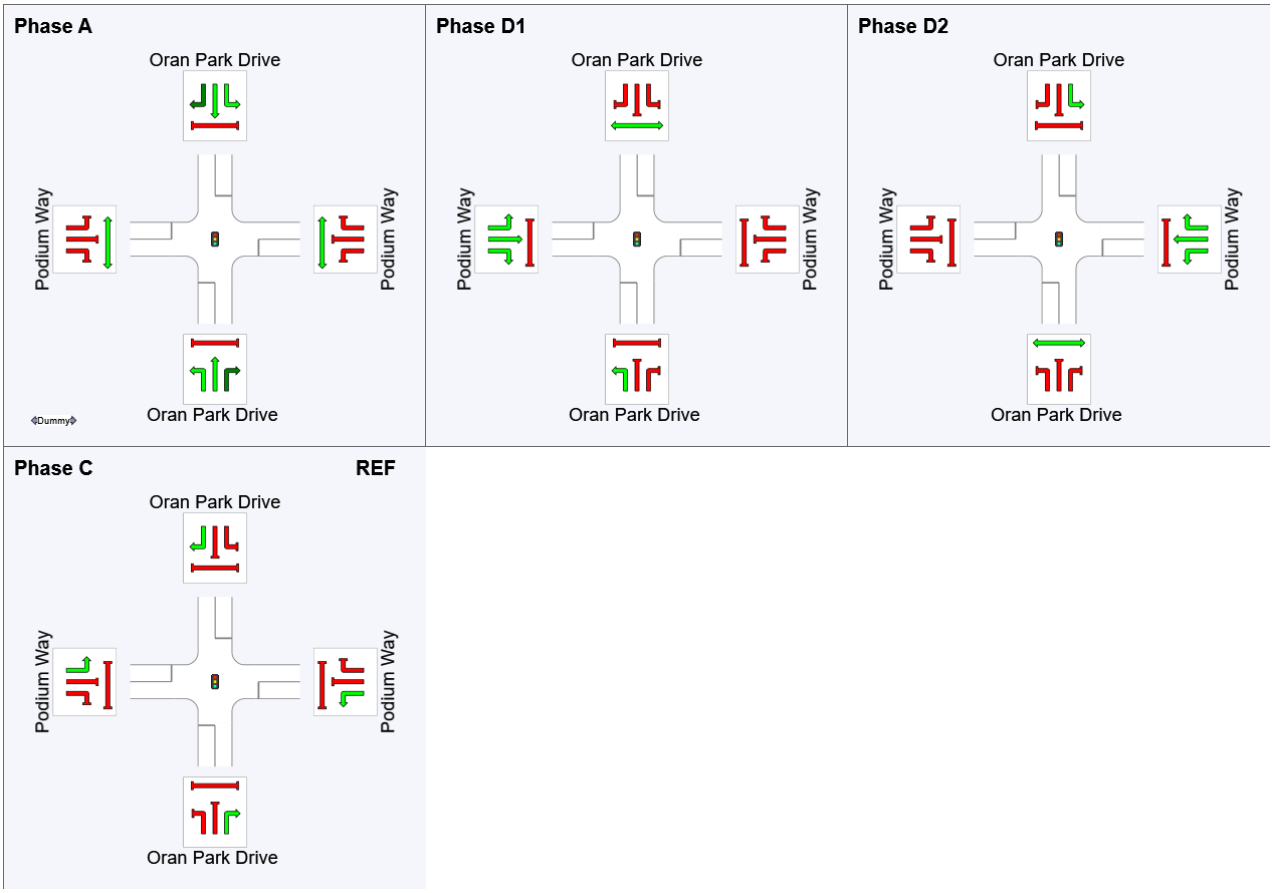
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase C
Input Phase Sequence: A, D1, D2, C
Output Phase Sequence: A, D1, D2, C

Phase Timing Summary

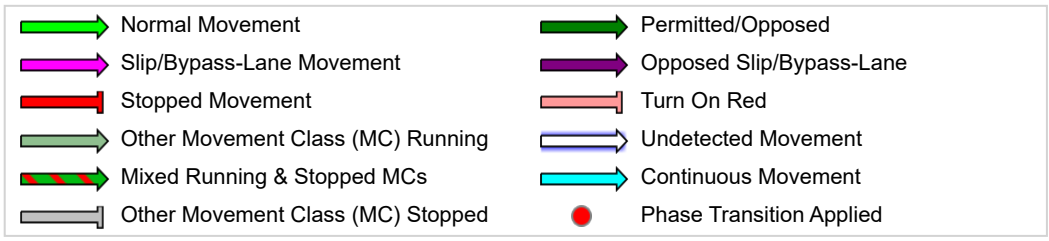
Phase	A	D1	D2	C
Phase Change Time (sec)	99	16	42	77
Green Time (sec)	51	20	29	16
Phase Time (sec)	57	26	35	22
Phase Split	41%	19%	25%	16%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	671	0.0	606	0.0	622	0.974	100	55.7	LOS D	42.0[N4]	293.8[N4]	Full	180	-36.9[N3]	50.0
Lane 2	604	0.0	546	0.0	561[1]	0.974	100	74.6	LOS F	42.0[N4]	293.8[N4]	Full	180	-43.2[N3]	50.0
Lane 3	1	0.0	1	0.0	323	0.003	100	20.6	LOS B	0.0	0.2	Short	40	0.0	NA
Approach	1276	0.0	1154[N] 1	0.0		0.974		64.6	LOS E	42.0	293.8				
East: Podium Way															
Lane 1	213	0.0	213	0.0	220[1]	0.967	100	98.5	LOS F	18.3	128.0	Full	115	0.0	14.7
Lane 2	77	0.0	77	0.0	146[1]	0.526	100	61.2	LOS E	4.8	33.4	Short	15	-43.2[N3]	NA
Approach	290	0.0	290	0.0		0.967		88.6	LOS F	18.3	128.0				
North: Oran Park Drive															
Lane 1	552	0.0	551	0.0	989	0.558	100	11.9	LOS A	14.2	99.2	Full	210	0.0	0.0
Lane 2	276	0.0	276	0.0	494	0.558	100	17.0	LOS B	9.0	62.7	Full	210	-50.0[N7]	0.0
Lane 3	15	0.0	15	0.0	145	0.103	100	42.0	LOS C	0.6	4.1	Short	40	0.0	NA
Approach	843	0.0	842[N1]	0.0		0.558		14.1	LOS A	14.2	99.2				
West: Podium Way															
Lane 1	4	0.0	4	0.0	106	0.038	100	43.3	LOS D	0.2	1.3	Full	420	-30.7[N3]	0.0
Lane 2	30	0.0	30	0.0	86	0.348	100	74.3	LOS F	2.1	14.4	Short	65	-50.0[N7]	NA
Approach	34	0.0	34	0.0		0.348		70.7	LOS F	2.1	14.4				
Intersection	2443	0.0	2320[N] 1	0.0		0.974		49.4	LOS D	42.0	293.8				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.
N4 Average back of queue has been restricted to the available queue storage space.
N7 The capacity reduction has been determined from the queue blockage probability of a Site further downstream due to intermediate continuous lanes.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	5	601	-	606	0.0	622	0.974	100	NA	NA

Lane 2	-	546	-	546	0.0	561[1]	0.974	100	NA	NA
Lane 3	-	-	1	1	0.0	323	0.003	100	0.0	2
Approach	5	1147	1	1154	0.0		0.974			

East: Podium Way

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	111	102	-	213	0.0	220[1]	0.967	100	NA	NA
Lane 2	-	-	77	77	0.0	146[1]	0.526	100	79.8	1
Approach	111	102	77	290	0.0		0.967			

North: Oran Park Drive

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	550	-	551	0.0	989	0.558	100	NA	NA
Lane 2	-	276	-	276	0.0	494	0.558	100	NA	NA
Lane 3	-	-	15	15	0.0	145	0.103	100	0.0	2
Approach	1	826	15	842	0.0		0.558			

West: Podium Way

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	3	1	-	4	0.0	106	0.038	100	NA	NA
Lane 2	-	-	30	30	0.0	86	0.348	100	0.0	1
Approach	3	1	30	34	0.0		0.348			

	Total	%HV	Deg.Satn (v/c)
Intersection	2320	0.0	0.974

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Podium Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
North Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Podium Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

Project: \\ghdnet\ghd\AU\Sydney\Projects\21\12526027\Tech\Traffic Impact Assessments\04. SIDRA Models\Town Centre TIA\Town Centre Modelling - 2 lane_20210910.sip9

PHASING SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

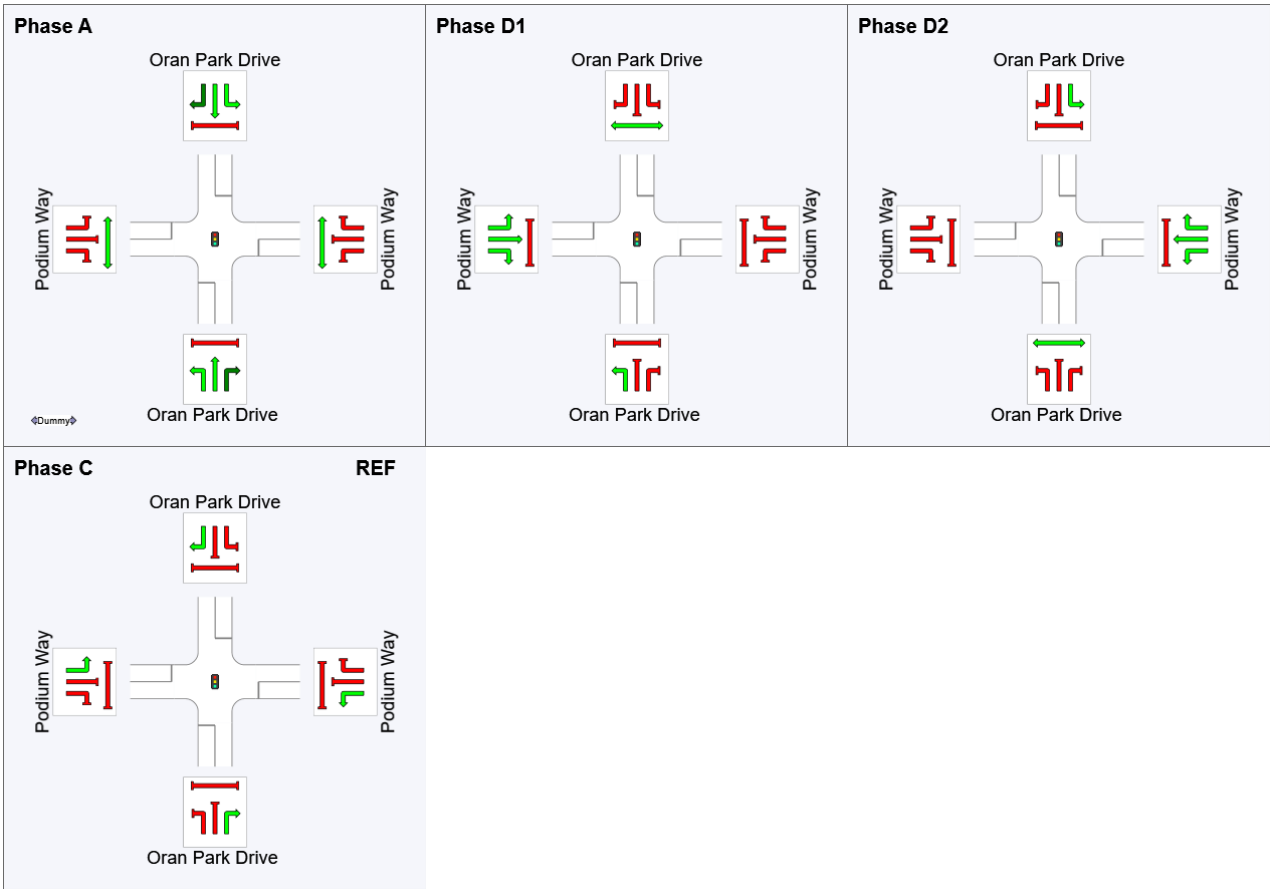
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase C
Input Phase Sequence: A, D1, D2, C
Output Phase Sequence: A, D1, D2, C

Phase Timing Summary

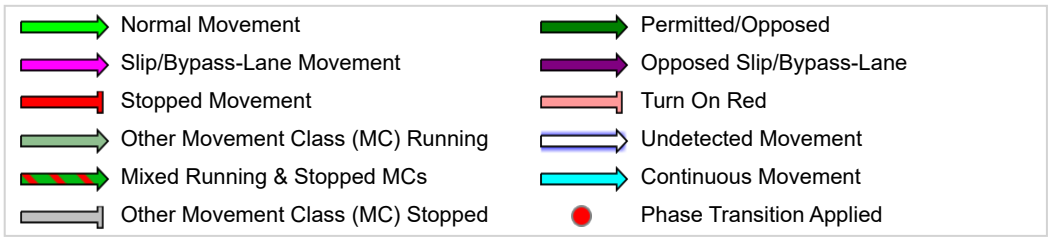
Phase	A	D1	D2	C
Phase Change Time (sec)	64	1	20	52
Green Time (sec)	71	13	26	6
Phase Time (sec)	77	19	32	12
Phase Split	55%	14%	23%	9%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



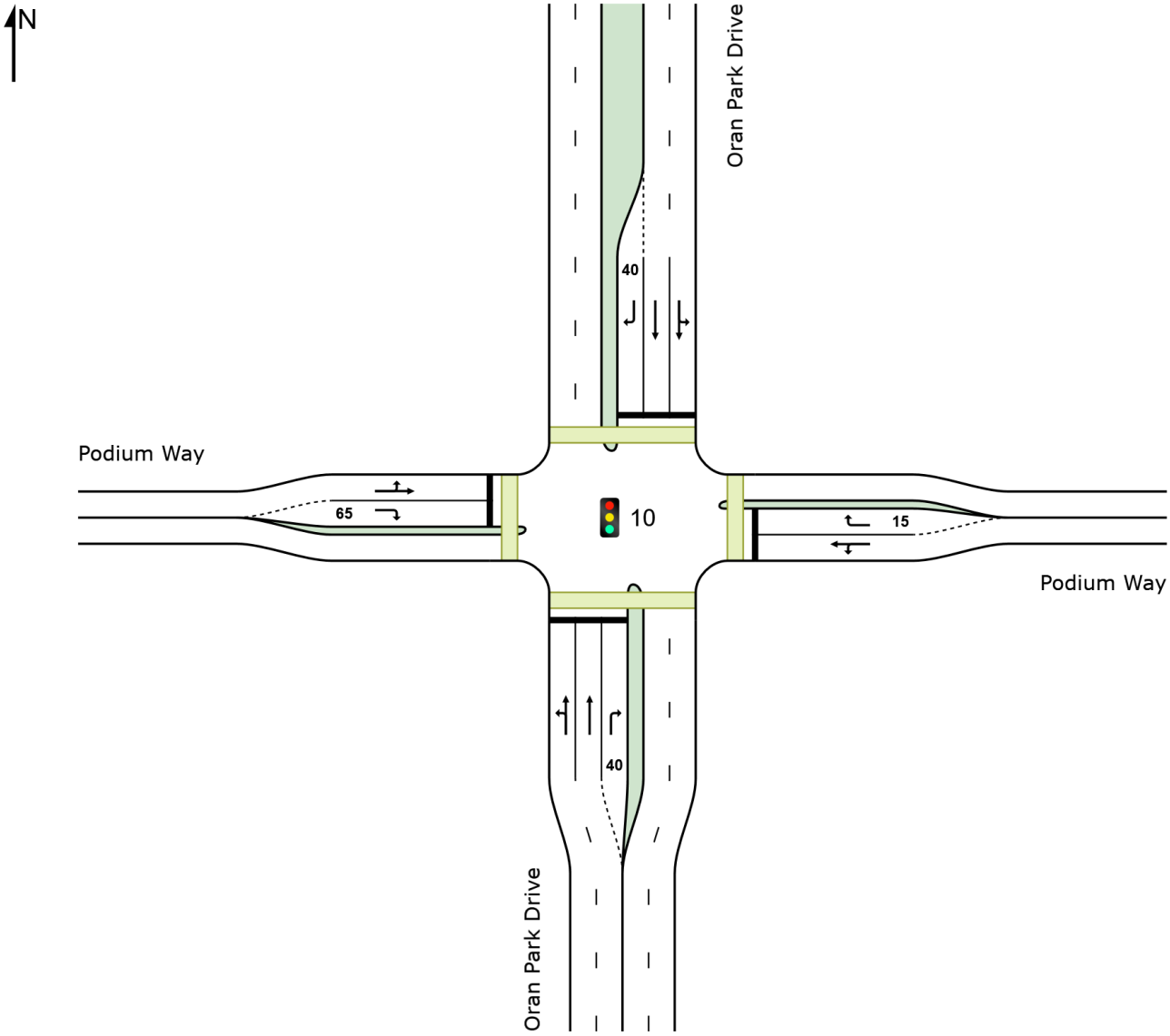
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SITE LAYOUT

Site: 10 [10. Oran Park Dr / Podium Way - 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	435	0.0	433	0.0	552	0.784	100	36.8	LOS C	24.3	170.2	Full	180	0.0	0.0
Lane 2	429	0.0	427	0.0	544[1]	0.784	100	31.3	LOS C	22.0	153.8	Full	180	0.0	0.0
Lane 3	56	0.0	56	0.0	224	0.249	100	43.4	LOS D	2.6	18.0	Short	40	0.0	NA
Approach	920	0.0	915[N1]	0.0		0.784		34.6	LOS C	24.3	170.2				
East: Podium Way															
Lane 1	4	0.0	4	0.0	578	0.007	100	36.6	LOS C	0.2	1.3	Full	115	0.0	0.0
Lane 2	1	0.0	1	0.0	584	0.002	100	39.8	LOS C	0.0	0.3	Short	15	0.0	NA
Approach	5	0.0	5	0.0		0.007		37.2	LOS C	0.2	1.3				
North: Oran Park Drive															
Lane 1	497	0.0	497	0.0	596	0.835	100	56.4	LOS D	33.7	236.0	Full	210	0.0	15.6
Lane 2	361	0.0	361	0.0	432[1]	0.835	100	51.3	LOS D	23.6	164.9	Full	210	0.0	0.0
Lane 3	201	0.0	201	0.0	264	0.760	100	43.8	LOS D	9.8	68.3	Short	40	0.0	NA
Approach	1059	0.0	1059	0.0		0.835		52.3	LOS D	33.7	236.0				
West: Podium Way															
Lane 1	73	0.0	73	0.0	217	0.337	100	36.4	LOS C	2.6	18.0	Full	420	0.0	0.0
Lane 2	196	0.0	196	0.0	239	0.821	100	76.2	LOS F	14.1	98.9	Short	65	0.0	NA
Approach	269	0.0	269	0.0		0.821		65.4	LOS E	14.1	98.9				
Intersection	2253	0.0	2248[N1]	0.0		0.835		46.6	LOS D	33.7	236.0				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	194	239	-	433	0.0	552	0.784	100	NA	NA
Lane 2	-	427	-	427	0.0	544[1]	0.784	100	NA	NA
Lane 3	-	-	56	56	0.0	224	0.249	100	0.0	2

Approach	194	665	56	915	0.0		0.784			
East: Podium Way										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	3	-	4	0.0	578	0.007	100	NA	NA
Lane 2	-	-	1	1	0.0	584	0.002	100	0.0	1
Approach	1	3	1	5	0.0		0.007			
North: Oran Park Drive										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	8	489	-	497	0.0	596	0.835	100	NA	NA
Lane 2	-	361	-	361	0.0	432[1]	0.835	100	NA	NA
Lane 3	-	-	201	201	0.0	264	0.760	100	54.2	2
Approach	8	850	201	1059	0.0		0.835			
West: Podium Way										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	45	28	-	73	0.0	217	0.337	100	NA	NA
Lane 2	-	-	196	196	0.0	239	0.821	100	43.4	1
Approach	45	28	196	269	0.0		0.821			
	Total	%HV	Deg.Satn (v/c)							
Intersection	2248	0.0		0.835						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Podium Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
North Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Podium Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

PHASING SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

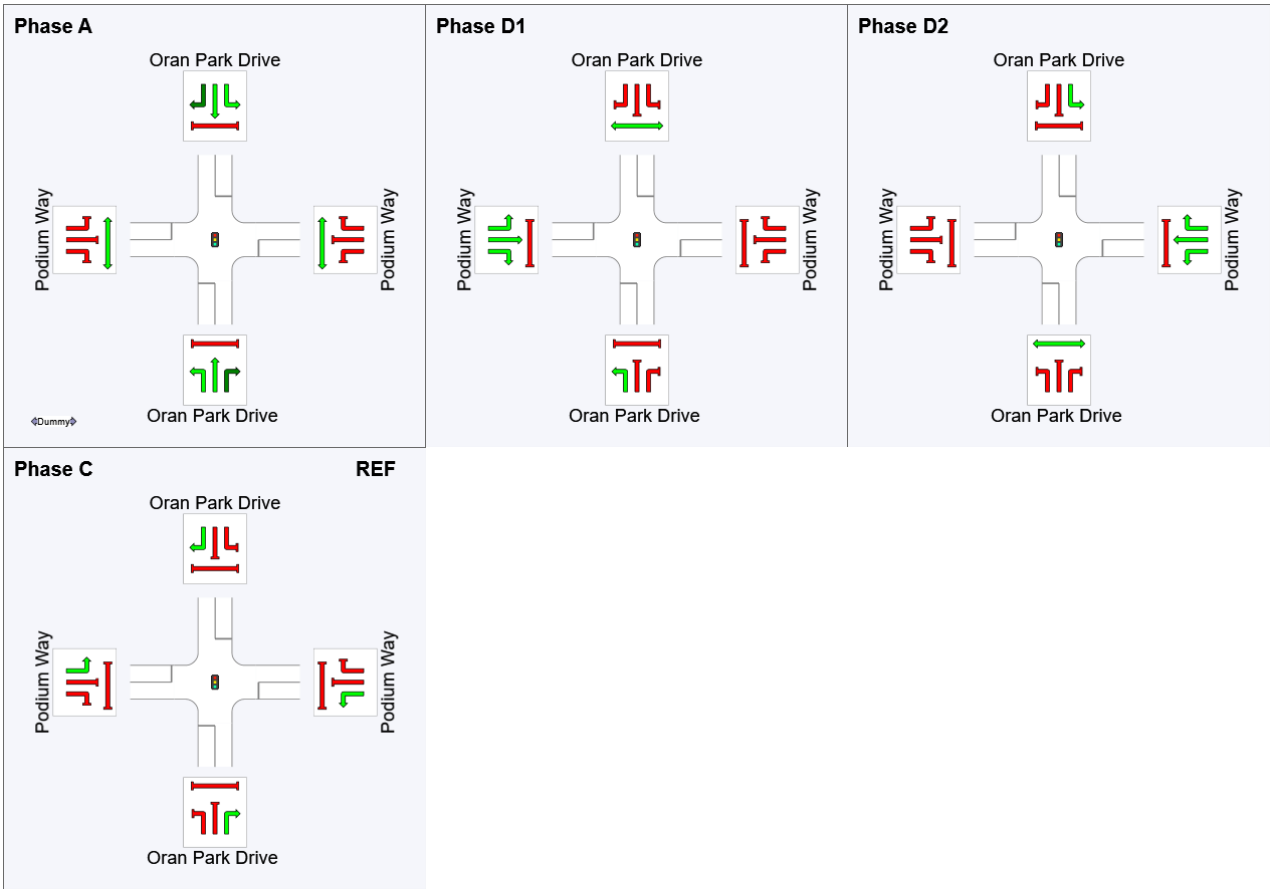
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase C
Input Phase Sequence: A, D1, D2, C
Output Phase Sequence: A, D1, D2, C

Phase Timing Summary

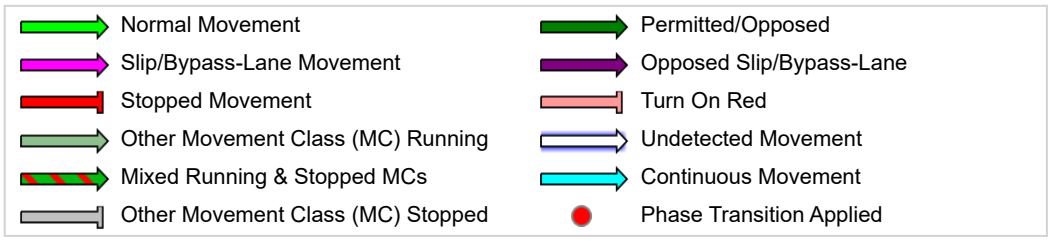
Phase	A	D1	D2	C
Phase Change Time (sec)	105	14	38	88
Green Time (sec)	43	18	44	11
Phase Time (sec)	49	24	50	17
Phase Split	35%	17%	36%	12%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2036 PM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	583	0.0	581	0.0	1055	0.551	100	12.4	LOS A	15.3	106.8	Full	180	0.0	0.0
Lane 2	580	0.0	578	0.0	1049[1]	0.551	100	7.6	LOS A	11.3	79.0	Full	180	0.0	0.0
Lane 3	9	0.0	9	0.0	355	0.025	100	15.7	LOS B	0.2	1.2	Short	40	0.0	NA
Approach	1172	0.0	1168[N1]	0.0		0.551		10.0	LOS A	15.3	106.8				
East: Podium Way															
Lane 1	24	0.0	24	0.0	256	0.094	100	57.3	LOS E	1.4	10.0	Full	115	0.0	0.0
Lane 2	1	0.0	1	0.0	265	0.004	100	60.0	LOS E	0.1	0.4	Short	15	0.0	NA
Approach	25	0.0	25	0.0		0.094		57.5	LOS E	1.4	10.0				
North: Oran Park Drive															
Lane 1	437	0.0	437	0.0	1058	0.413	100	19.8	LOS B	14.2	99.4	Full	210	0.0	0.0
Lane 2	419	0.0	419	0.0	1016[1]	0.413	100	15.7	LOS B	12.2	85.4	Full	210	0.0	0.0
Lane 3	27	0.0	27	0.0	423	0.064	100	14.8	LOS B	0.5	3.2	Short	40	0.0	NA
Approach	883	0.0	883	0.0		0.413		17.7	LOS B	14.2	99.4				
West: Podium Way															
Lane 1	8	0.0	8	0.0	179	0.045	100	43.6	LOS D	0.4	2.6	Full	420	0.0	0.0
Lane 2	64	0.0	64	0.0	186	0.345	100	70.5	LOS F	4.2	29.3	Short	65	0.0	NA
Approach	72	0.0	72	0.0		0.345		67.5	LOS E	4.2	29.3				
Intersection	2152	0.0	2148[N1]	0.0		0.551		15.7	LOS B	15.3	106.8				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	10	571	-	581	0.0	1055	0.551	100	NA	NA
Lane 2	-	578	-	578	0.0	1049[1]	0.551	100	NA	NA
Lane 3	-	-	9	9	0.0	355	0.025	100	0.0	2

Approach	10	1149	9	1168	0.0		0.551			
East: Podium Way										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	4	20	-	24	0.0	256	0.094	100	NA	NA
Lane 2	-	-	1	1	0.0	265	0.004	100	0.0	1
Approach	4	20	1	25	0.0		0.094			
North: Oran Park Drive										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	436	-	437	0.0	1058	0.413	100	NA	NA
Lane 2	-	419	-	419	0.0	1016[1]	0.413	100	NA	NA
Lane 3	-	-	27	27	0.0	423	0.064	100	0.0	2
Approach	1	855	27	883	0.0		0.413			
West: Podium Way										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	7	1	-	8	0.0	179	0.045	100	NA	NA
Lane 2	-	-	64	64	0.0	186	0.345	100	0.0	1
Approach	7	1	64	72	0.0		0.345			
	Total	%HV	Deg.Satn (v/c)							
Intersection	2148	0.0		0.551						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Podium Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
North Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Podium Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

PHASING SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2036 PM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

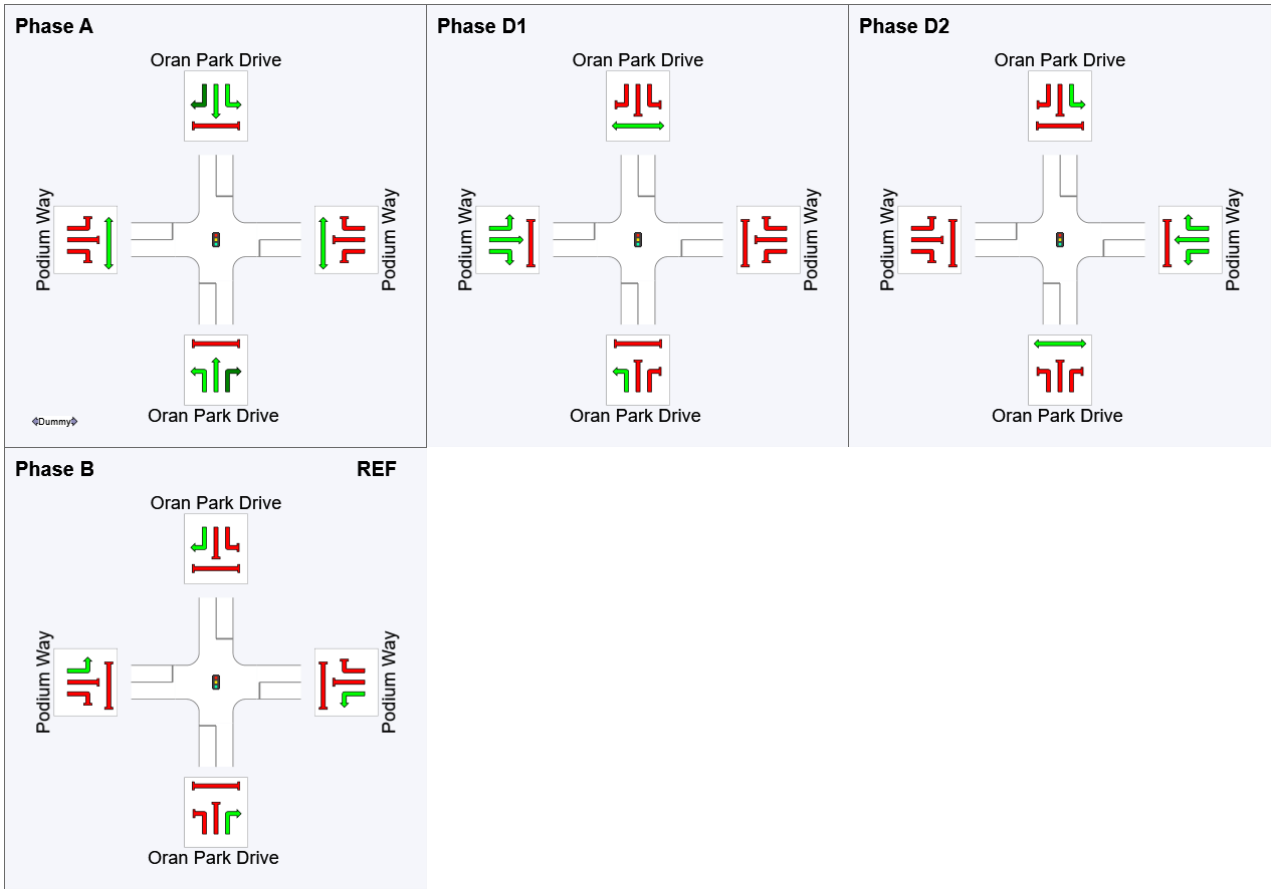
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase B
Input Phase Sequence: A, D1, D2, B
Output Phase Sequence: A, D1, D2, B

Phase Timing Summary

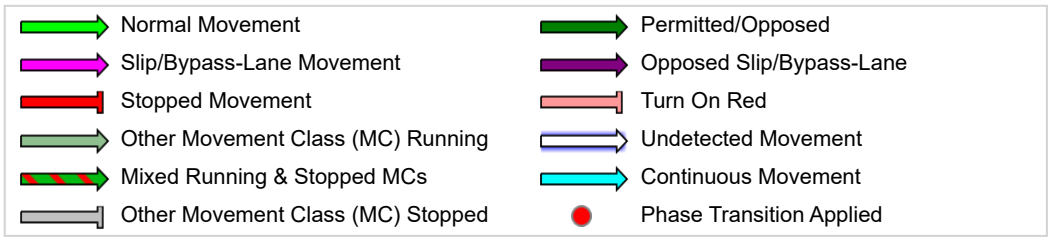
Phase	A	D1	D2	B
Phase Change Time (sec)	94	36	56	82
Green Time (sec)	76	14	20	6
Phase Time (sec)	82	20	26	12
Phase Split	59%	14%	19%	9%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2041 AM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	384	0.0	369	0.0	597	0.618	100	27.4	LOS B	15.9	111.5	Full	180	0.0	0.0
Lane 2	358	0.0	343	0.0	556[1]	0.618	100	18.2	LOS B	11.1	77.9	Full	180	0.0	0.0
Lane 3	71	0.0	68	0.0	316	0.216	100	39.7	LOS C	2.9	20.1	Short	40	0.0	NA
Approach	813	0.0	780[N1]	0.0		0.618		24.4	LOS B	15.9	111.5				
East: Podium Way															
Lane 1	4	0.0	4	0.0	413	0.010	100	46.2	LOS D	0.2	1.5	Full	115	0.0	0.0
Lane 2	1	0.0	1	0.0	424	0.002	100	49.2	LOS D	0.1	0.4	Short	15	0.0	NA
Approach	5	0.0	5	0.0		0.010		46.8	LOS D	0.2	1.5				
North: Oran Park Drive															
Lane 1	509	0.0	509	0.0	602	0.846	100	55.2	LOS D	34.2	239.5	Full	210	0.0	16.9
Lane 2	393	0.0	393	0.0	464[1]	0.846	100	52.5	LOS D	26.2	183.1	Full	210	0.0	0.0
Lane 3	213	0.0	213	0.0	451	0.473	100	31.7	LOS C	9.0	63.2	Short	40	0.0	NA
Approach	1115	0.0	1115	0.0		0.846		49.8	LOS D	34.2	239.5				
West: Podium Way															
Lane 1	167	0.0	167	0.0	267	0.626	100	37.9	LOS C	7.0	48.7	Full	420	0.0	0.0
Lane 2	155	0.0	155	0.0	265	0.584	100	67.1	LOS E	10.1	70.7	Short	65	0.0	NA
Approach	322	0.0	322	0.0		0.626		52.0	LOS D	10.1	70.7				
Intersection	2255	0.0	2222[N1]	0.0		0.846		41.2	LOS C	34.2	239.5				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	131	237	-	369	0.0	597	0.618	100	NA	NA
Lane 2	-	343	-	343	0.0	556[1]	0.618	100	NA	NA
Lane 3	-	-	68	68	0.0	316	0.216	100	0.0	2

Approach	131	580	68	780	0.0		0.618			
East: Podium Way										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	3	-	4	0.0	413	0.010	100	NA	NA
Lane 2	-	-	1	1	0.0	424	0.002	100	0.0	1
Approach	1	3	1	5	0.0		0.010			
North: Oran Park Drive										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	148	361	-	509	0.0	602	0.846	100	NA	NA
Lane 2	-	393	-	393	0.0	464[1]	0.846	100	NA	NA
Lane 3	-	-	213	213	0.0	451	0.473	100	46.9	2
Approach	148	754	213	1115	0.0		0.846			
West: Podium Way										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	124	43	-	167	0.0	267	0.626	100	NA	NA
Lane 2	-	-	155	155	0.0	265	0.584	100	12.5	1
Approach	124	43	155	322	0.0		0.626			
	Total	%HV	Deg.Satn (v/c)							
Intersection	2222	0.0	0.846							

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Podium Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
North Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Podium Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

PHASING SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2041 AM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

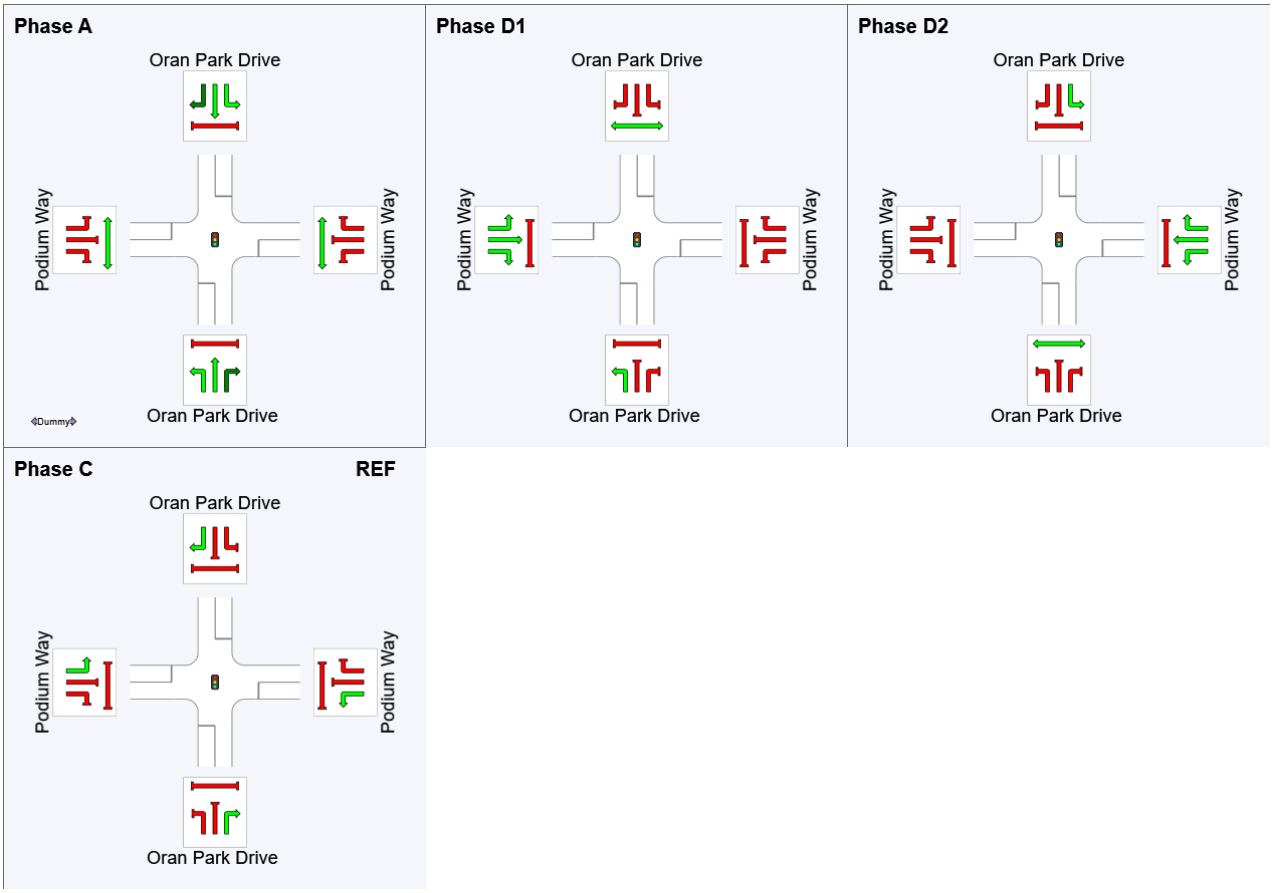
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase C
Input Phase Sequence: A, D1, D2, C
Output Phase Sequence: A, D1, D2, C

Phase Timing Summary

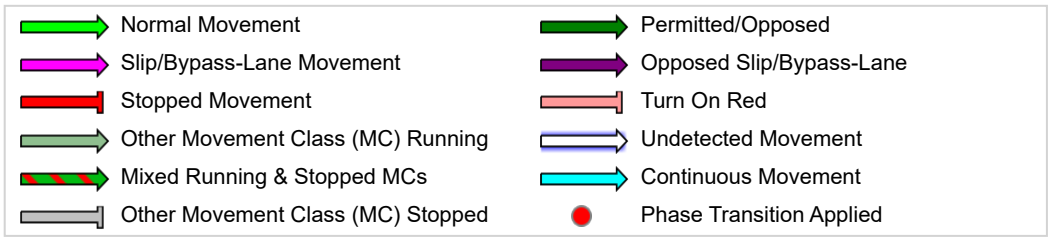
Phase	A	D1	D2	C
Phase Change Time (sec)	99	11	37	75
Green Time (sec)	46	20	32	18
Phase Time (sec)	52	26	38	24
Phase Split	37%	19%	27%	17%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2041 PM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	542	0.0	525	0.0	805	0.652	100	11.0	LOS A	14.3	100.4	Full	180	-9.5 N3	0.0
Lane 2	553	0.0	536	0.0	822 1	0.652	100	24.0	LOS B	22.4	156.8	Full	180	-7.6 N3	0.0
Lane 3	1	0.0	1	0.0	365	0.003	100	22.8	LOS B	0.0	0.2	Short	40	0.0	NA
Approach	1096	0.0	1062 N 1	0.0		0.652		17.6	LOS B	22.4	156.8				
East: Podium Way															
Lane 1	213	0.0	213	0.0	326 1	0.653	100	53.9	LOS D	12.8	89.3	Full	115	0.0	0.0
Lane 2	77	0.0	77	0.0	308 1	0.250	100	51.5	LOS D	4.2	29.4	Short	15	-7.6 N3	NA
Approach	290	0.0	290	0.0		0.653		53.2	LOS D	12.8	89.3				
North: Oran Park Drive															
Lane 1	358	0.0	358	0.0	891	0.402	100	13.8	LOS A	8.9	62.1	Full	210	0.0	0.0
Lane 2	353	0.0	353	0.0	878 1	0.402	100	18.8	LOS B	10.7	74.9	Full	210	0.0	0.0
Lane 3	15	0.0	15	0.0	326	0.046	100	16.5	LOS B	0.3	1.9	Short	40	0.0	NA
Approach	726	0.0	726	0.0		0.402		16.3	LOS B	10.7	74.9				
West: Podium Way															
Lane 1	4	0.0	4	0.0	141	0.028	100	40.1	LOS C	0.2	1.2	Full	420	-7.4 N3	0.0
Lane 2	30	0.0	30	0.0	172	0.174	100	70.1	LOS E	1.9	13.5	Short	65	0.0	NA
Approach	34	0.0	34	0.0		0.174		66.6	LOS E	1.9	13.5				
Intersection	2146	0.0	2111 N 1	0.0		0.653		22.8	LOS B	22.4	156.8				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	6	519	-	525	0.0	805	0.652	100	NA	NA
Lane 2	-	536	-	536	0.0	822 1	0.652	100	NA	NA

Lane 3	-	-	1	1	0.0	365	0.003	100	0.0	2
Approach	6	1055	1	1062	0.0		0.652			

East: Podium Way

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	111	102	-	213	0.0	326[1]	0.653	100	NA	NA
Lane 2	-	-	77	77	0.0	308[1]	0.250	100	67.4	1
Approach	111	102	77	290	0.0		0.653			

North: Oran Park Drive

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	357	-	358	0.0	891	0.402	100	NA	NA
Lane 2	-	353	-	353	0.0	878[1]	0.402	100	NA	NA
Lane 3	-	-	15	15	0.0	326	0.046	100	0.0	2
Approach	1	710	15	726	0.0		0.402			

West: Podium Way

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	3	1	-	4	0.0	141	0.028	100	NA	NA
Lane 2	-	-	30	30	0.0	172	0.174	100	0.0	1
Approach	3	1	30	34	0.0		0.174			

	Total	%HV	Deg.Satn (v/c)
Intersection	2111	0.0	0.653

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Podium Way Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Oran Park Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: Podium Way Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

PHASING SUMMARY

Site: 10 [10. Oran Park Dr / Podium Way - 2041 PM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase C
Input Phase Sequence: A, D1, D2, C
Output Phase Sequence: A, D1, D2, C

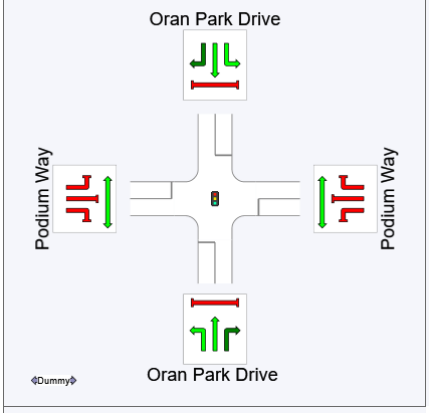
Phase Timing Summary

Phase	A	D1	D2	C
Phase Change Time (sec)	64	134	13	52
Green Time (sec)	64	13	33	6
Phase Time (sec)	70	19	39	12
Phase Split	50%	14%	28%	9%

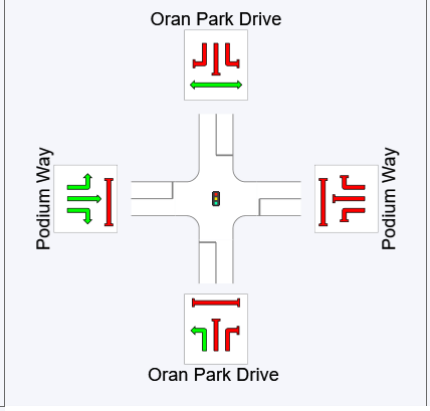
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

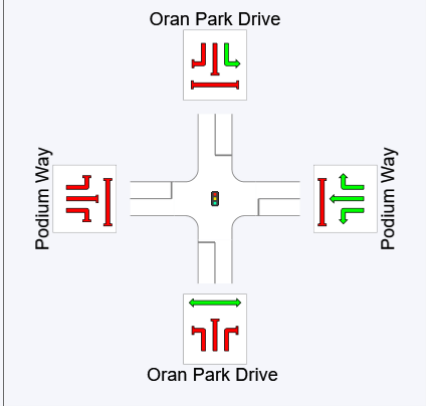
Phase A



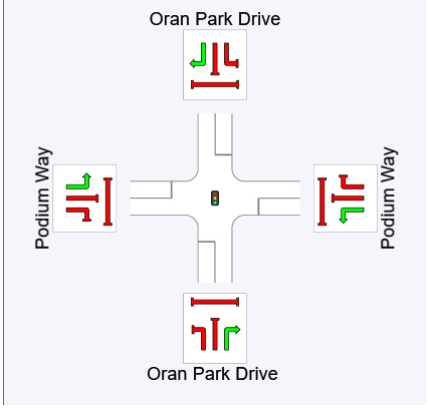
Phase D1



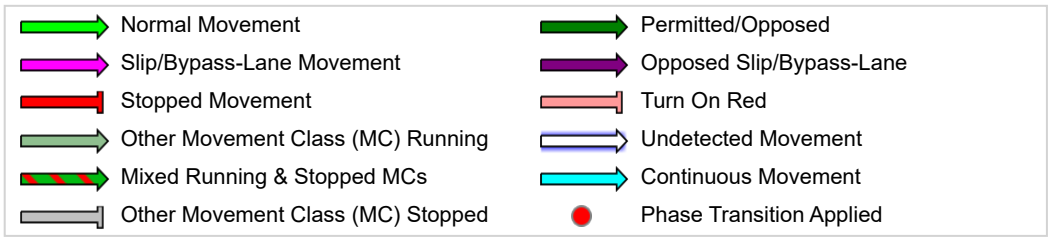
Phase D2



Phase C **REF**



REF: Reference Phase
VAR: Variable Phase



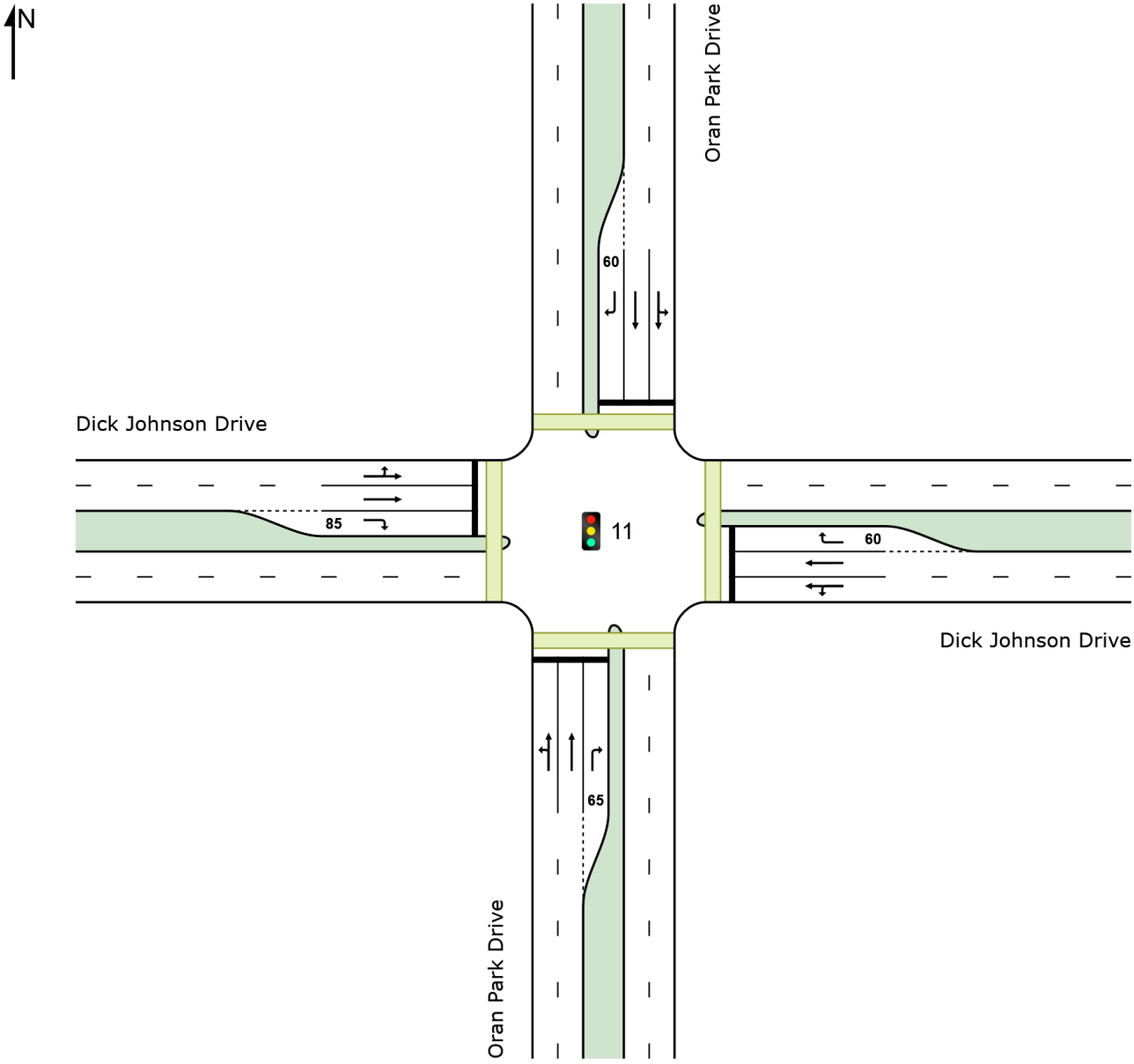
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SITE LAYOUT

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2026 AM (Site Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	352	0.0	352	0.0	631	0.558	100	13.2	LOS A	8.3	58.2	Full	210	0.0	0.0
Lane 2	373	0.0	373	0.0	669	0.558	100	5.3	LOS A	4.5	31.4	Full	210	0.0	0.0
Lane 3	71	0.0	71	0.0	359	0.198	100	20.9	LOS B	1.8	12.4	Short	65	0.0	NA
Approach	796	0.0	796	0.0		0.558		10.2	LOS A	8.3	58.2				
East: Dick Johnson Drive															
Lane 1	137	0.0	137	0.0	507	0.269	100	43.7	LOS D	7.0	49.1	Full	360	0.0	0.0
Lane 2	142	0.0	142	0.0	529	0.269	100	44.1	LOS D	8.2	57.6	Full	360	0.0	0.0
Lane 3	264	0.0	264	0.0	485[1]	0.544	100	53.6	LOS D	16.2	113.2	Short	60	0.0	NA
Approach	543	0.0	543	0.0		0.544		48.6	LOS D	16.2	113.2				
North: Oran Park Drive															
Lane 1	182	0.0	182	0.0	620	0.294	100	33.6	LOS C	7.6	53.4	Full	500	0.0	0.0
Lane 2	197	0.0	197	0.0	669	0.294	100	35.7	LOS C	9.7	67.8	Full	500	0.0	0.0
Lane 3	18	0.0	18	0.0	289	0.062	100	33.1	LOS C	0.8	5.3	Short	60	0.0	NA
Approach	397	0.0	397	0.0		0.294		34.6	LOS C	9.7	67.8				
West: Dick Johnson Drive															
Lane 1	54	0.0	54	0.0	331	0.162	100	60.1	LOS E	3.1	21.7	Full	490	0.0	0.0
Lane 2	54	0.0	54	0.0	334	0.162	100	53.3	LOS D	3.2	22.1	Full	490	0.0	0.0
Lane 3	175	0.0	175	0.0	318	0.550	100	63.4	LOS E	11.1	77.5	Short	85	0.0	NA
Approach	283	0.0	283	0.0		0.550		60.8	LOS E	11.1	77.5				
Intersection	2019	0.0	2019	0.0		0.558		32.4	LOS C	16.2	113.2				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	95	257	-	352	0.0	631	0.558	100	NA	NA
Lane 2	-	373	-	373	0.0	669	0.558	100	NA	NA
Lane 3	-	-	71	71	0.0	359	0.198	100	0.0	2

Approach	95	630	71	796	0.0		0.558			
East: Dick Johnson Drive										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	20	117	-	137	0.0	507	0.269	100	NA	NA
Lane 2	-	142	-	142	0.0	529	0.269	100	NA	NA
Lane 3	-	-	264	264	0.0	485[1]	0.544	100	63.7	2
Approach	20	259	264	543	0.0		0.544			
North: Oran Park Drive										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	86	96	-	182	0.0	620	0.294	100	NA	NA
Lane 2	-	197	-	197	0.0	669	0.294	100	NA	NA
Lane 3	-	-	18	18	0.0	289	0.062	100	0.0	2
Approach	86	293	18	397	0.0		0.294			
West: Dick Johnson Drive										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	53	-	54	0.0	331	0.162	100	NA	NA
Lane 2	-	54	-	54	0.0	334	0.162	100	NA	NA
Lane 3	-	-	175	175	0.0	318	0.550	100	0.0	2
Approach	1	107	175	283	0.0		0.550			

	Total	%HV	Deg.Satn (v/c)
Intersection	2019	0.0	0.558

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

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PHASING SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import - Copy
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

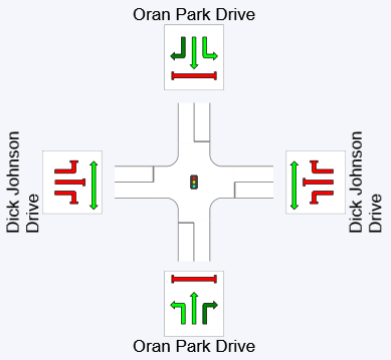
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	98	12	42	86
Green Time (sec)	48	24	38	6
Phase Time (sec)	54	30	44	12
Phase Split	39%	21%	31%	9%

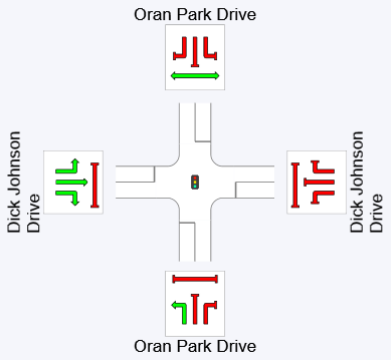
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

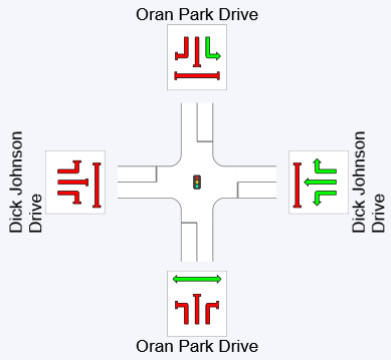
Phase A **REF**



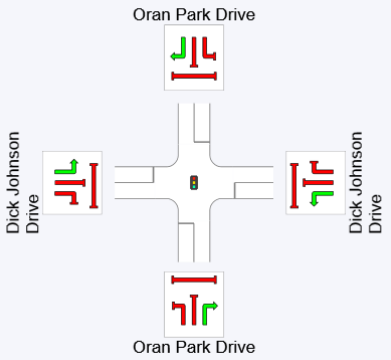
Phase B



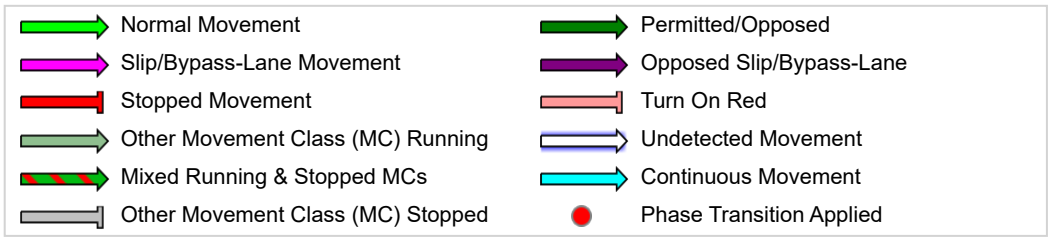
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	382	0.0	382	0.0	534	0.716	100	9.5	LOS A	8.3	58.4	Full	210	0.0	0.0
Lane 2	409	0.0	409	0.0	571	0.716	100	4.9	LOS A	6.1	42.6	Full	210	0.0	0.0
Lane 3	65	0.0	65	0.0	171	0.381	100	38.5	LOS C	2.8	19.7	Short	65	0.0	NA
Approach	856	0.0	856	0.0		0.716		9.5	LOS A	8.3	58.4				
East: Dick Johnson Drive															
Lane 1	138	0.0	138	0.0	781	0.176	100	25.4	LOS B	4.0	28.1	Full	360	0.0	0.0
Lane 2	137	0.0	137	0.0	780	0.176	100	13.4	LOS A	3.0	20.8	Full	360	0.0	0.0
Lane 3	303	0.0	303	0.0	743	0.408	100	20.6	LOS B	8.1	56.9	Short	60	0.0	NA
Approach	578	0.0	578	0.0		0.408		20.0	LOS B	8.1	56.9				
North: Oran Park Drive															
Lane 1	412	0.0	412	0.0	538	0.765	100	43.9	LOS D	22.4	157.0	Full	500	0.0	0.0
Lane 2	436	0.0	436	0.0	570[1]	0.765	100	49.1	LOS D	27.4	191.6	Full	500	0.0	0.0
Lane 3	1	0.0	1	0.0	247	0.004	100	36.6	LOS C	0.0	0.3	Short	60	0.0	NA
Approach	849	0.0	849	0.0		0.765		46.6	LOS D	27.4	191.6				
West: Dick Johnson Drive															
Lane 1	68	0.0	68	0.0	172	0.396	100	76.8	LOS F	4.4	31.0	Full	490	0.0	0.0
Lane 2	72	0.0	72	0.0	181	0.396	100	66.3	LOS E	4.8	33.3	Full	490	0.0	0.0
Lane 3	114	0.0	114	0.0	172	0.661	100	74.8	LOS F	7.9	55.1	Short	85	0.0	NA
Approach	254	0.0	254	0.0		0.661		72.9	LOS F	7.9	55.1				
Intersection	2537	0.0	2537	0.0		0.765		30.7	LOS C	27.4	191.6				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	109	273	-	382	0.0	534	0.716	100	NA	NA
Lane 2	-	409	-	409	0.0	571	0.716	100	NA	NA
Lane 3	-	-	65	65	0.0	171	0.381	100	0.0	2

Approach	109	682	65	856	0.0		0.716				
East: Dick Johnson Drive											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	124	14	-	138	0.0	781	0.176	100	NA	NA	
Lane 2	-	137	-	137	0.0	780	0.176	100	NA	NA	
Lane 3	-	-	303	303	0.0	743	0.408	100	0.2	2	
Approach	124	151	303	578	0.0		0.408				
North: Oran Park Drive											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	280	132	-	412	0.0	538	0.765	100	NA	NA	
Lane 2	-	436	-	436	0.0	570[1]	0.765	100	NA	NA	
Lane 3	-	-	1	1	0.0	247	0.004	100	0.0	2	
Approach	280	568	1	849	0.0		0.765				
West: Dick Johnson Drive											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	4	64	-	68	0.0	172	0.396	100	NA	NA	
Lane 2	-	72	-	72	0.0	181	0.396	100	NA	NA	
Lane 3	-	-	114	114	0.0	172	0.661	100	0.0	2	
Approach	4	136	114	254	0.0		0.661				

	Total	%HV	Deg.Satn (v/c)
Intersection	2537	0.0	0.765

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

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PHASING SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import - mod
Reference Phase: Phase B
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

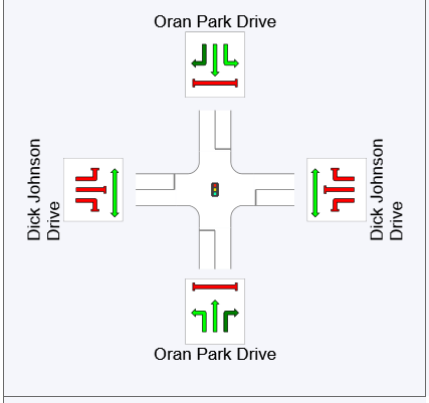
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	95	2	21	83
Green Time (sec)	41	13	56	6
Phase Time (sec)	47	19	62	12
Phase Split	34%	14%	44%	9%

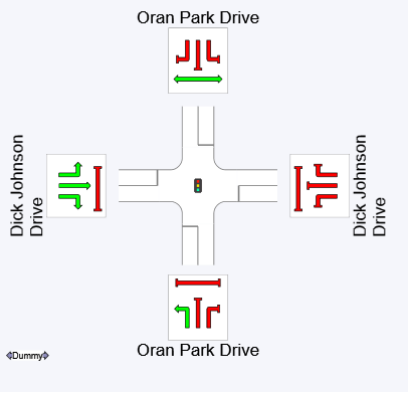
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

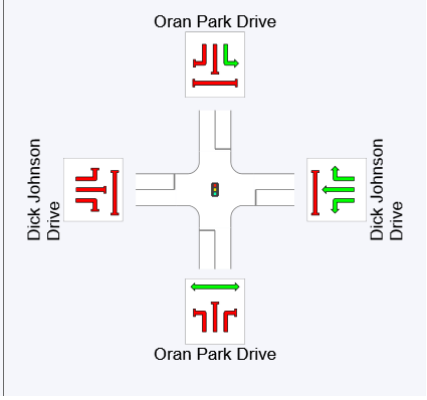
Phase A



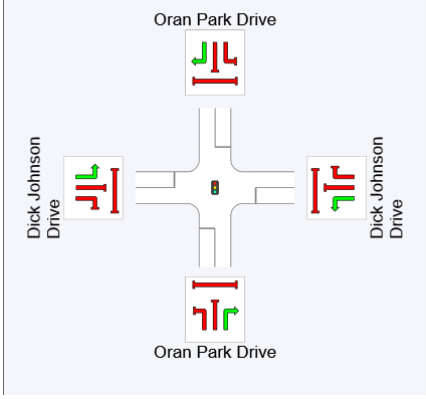
Phase B **REF**



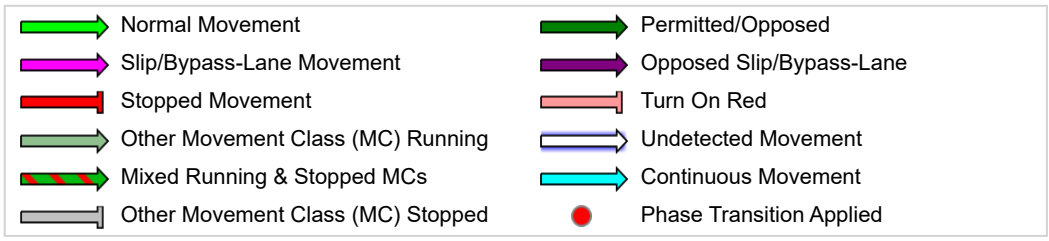
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	388	0.0	387	0.0	913	0.423	100	7.8	LOS A	5.6	39.2	Full	210	0.0	0.0
Lane 2	403	0.0	401	0.0	947	0.423	100	3.3	LOS A	3.1	21.4	Full	210	0.0	0.0
Lane 3	101	0.0	101	0.0	176	0.573	100	42.2	LOS C	3.9	27.1	Short	65	0.0	NA
Approach	892	0.0	888 N1	0.0		0.573		9.7	LOS A	5.6	39.2				
East: Dick Johnson Drive															
Lane 1	62	0.0	62	0.0	141	0.437	100	74.2	LOS F	4.4	30.5	Full	360	-9.6 N7	0.0
Lane 2	79	0.0	79	0.0	181	0.437	100	72.0	LOS F	5.5	38.6	Full	360	0.0	0.0
Lane 3	33	0.0	33	0.0	172	0.191	100	75.5	LOS F	2.3	15.9	Short	60	0.0	NA
Approach	174	0.0	174	0.0		0.437		73.4	LOS F	5.5	38.6				
North: Oran Park Drive															
Lane 1	621	0.0	621	0.0	732	0.848	100	43.4	LOS D	38.0	265.9	Full	500	-18.0 N7	0.0
Lane 2	675	0.0	675	0.0	796 1	0.848	100	36.6	LOS C	40.8	285.6	Full	500	-10.0 N7	0.0
Lane 3	70	0.0	70	0.0	386	0.181	100	21.3	LOS B	2.2	15.7	Short	60	0.0	NA
Approach	1366	0.0	1366	0.0		0.848		38.9	LOS C	40.8	285.6				
West: Dick Johnson Drive															
Lane 1	238	0.0	238	0.0	374	0.636	100	57.5	LOS E	14.9	104.0	Full	490	0.0	0.0
Lane 2	248	0.0	248	0.0	390	0.636	100	55.6	LOS D	15.6	109.4	Full	490	0.0	0.0
Lane 3	290	0.0	290	0.0	334	0.867	100	74.6	LOS F	21.6	151.1	Short	85	-10.0 N7	NA
Approach	776	0.0	776	0.0		0.867		63.3	LOS E	21.6	151.1				
Intersection	3208	0.0	3204 N1	0.0		0.867		38.6	LOS C	40.8	285.6				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N7 The capacity reduction has been determined from the queue blockage probability of a Site further downstream due to intermediate continuous lanes.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	81	306	-	387	0.0	913	0.423	100	NA	NA

Lane 2	-	401	-	401	0.0	947	0.423	100	NA	NA
Lane 3	-	-	101	101	0.0	176	0.573	100	0.0	2
Approach	81	707	101	888	0.0		0.573			

East: Dick Johnson Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	12	50	-	62	0.0	141	0.437	100	NA	NA
Lane 2	-	79	-	79	0.0	181	0.437	100	NA	NA
Lane 3	-	-	33	33	0.0	172	0.191	100	0.0	2
Approach	12	129	33	174	0.0		0.437			

North: Oran Park Drive

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	373	248	-	621	0.0	732	0.848	100	NA	NA
Lane 2	-	675	-	675	0.0	796[1]	0.848	100	NA	NA
Lane 3	-	-	70	70	0.0	386	0.181	100	0.0	2
Approach	373	923	70	1366	0.0		0.848			

West: Dick Johnson Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	25	213	-	238	0.0	374	0.636	100	NA	NA
Lane 2	-	248	-	248	0.0	390	0.636	100	NA	NA
Lane 3	-	-	290	290	0.0	334	0.867	100	58.1	2
Approach	25	461	290	776	0.0		0.867			

	Total	%HV	Deg.Satn (v/c)
Intersection	3204	0.0	0.867

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

Full Length Lane	2	Merge Analysis not applied.

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PHASING SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

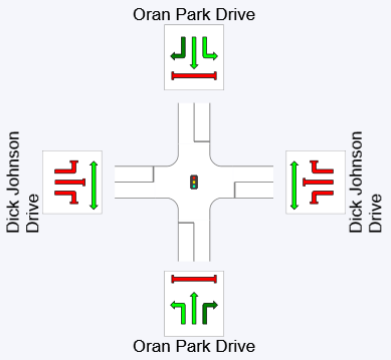
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	114	48	82	101
Green Time (sec)	68	28	13	7
Phase Time (sec)	74	34	19	13
Phase Split	53%	24%	14%	9%

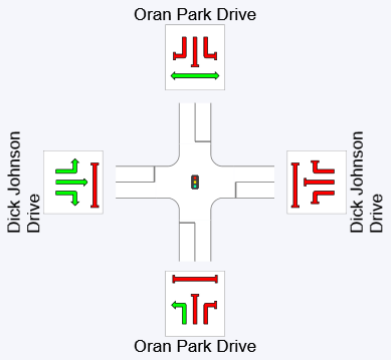
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

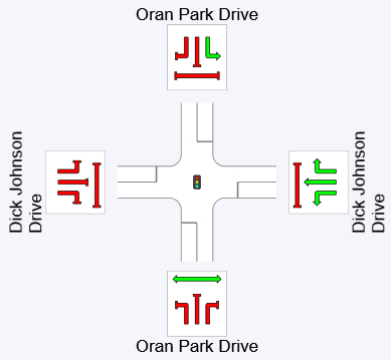
Phase A **REF**



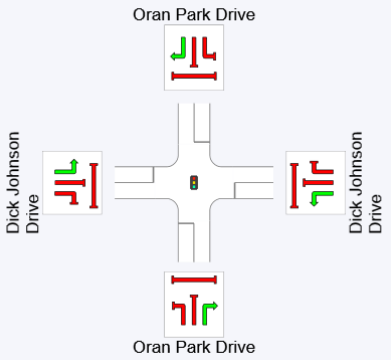
Phase B



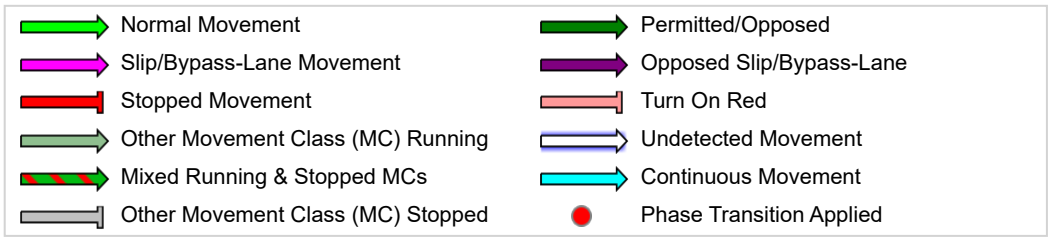
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	642	0.0	635	0.0	716	0.887	100	15.5	LOS B	26.7	186.7	Full	210	0.0	0.0
Lane 2	660	0.0	652	0.0	735[1]	0.887	100	10.9	LOS A	22.6	158.4	Full	210	0.0	0.0
Lane 3	39	0.0	39	0.0	280	0.138	100	22.7	LOS B	1.1	7.4	Short	65	0.0	NA
Approach	1341	0.0	1325[N1]	0.0		0.887		13.4	LOS A	26.7	186.7				
East: Dick Johnson Drive															
Lane 1	469	0.0	469	0.0	542	0.865	100	55.2	LOS D	31.2	218.1	Full	360	0.0	0.0
Lane 2	387	0.0	386	0.0	446[1]	0.865	100	41.1	LOS C	22.1	154.8	Full	360	0.0	0.0
Lane 3	315	0.0	315	0.0	514[1]	0.613	100	40.0	LOS C	15.7	109.8	Short	60	0.0	NA
Approach	1171	0.0	1170[N1]	0.0		0.865		46.5	LOS D	31.2	218.1				
North: Oran Park Drive															
Lane 1	365	0.0	365	0.0	749	0.487	100	36.5	LOS C	18.4	128.7	Full	500	0.0	0.0
Lane 2	347	0.0	347	0.0	714[1]	0.487	100	33.3	LOS C	17.3	121.0	Full	500	0.0	0.0
Lane 3	35	0.0	35	0.0	174	0.201	100	34.3	LOS C	1.4	9.5	Short	60	0.0	NA
Approach	747	0.0	747	0.0		0.487		34.9	LOS C	18.4	128.7				
West: Dick Johnson Drive															
Lane 1	56	0.0	56	0.0	164	0.339	100	68.6	LOS E	3.4	24.0	Full	490	0.0	0.0
Lane 2	61	0.0	61	0.0	181	0.339	100	65.8	LOS E	4.0	28.3	Full	490	0.0	0.0
Lane 3	116	0.0	116	0.0	172	0.673	100	75.0	LOS F	8.0	56.3	Short	85	0.0	NA
Approach	233	0.0	233	0.0		0.673		71.0	LOS F	8.0	56.3				
Intersection	3492	0.0	3475[N1]	0.0		0.887		33.0	LOS C	31.2	218.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	361	274	-	635	0.0	716	0.887	100	NA	NA

Lane 2	-	652	-	652	0.0	735[1]	0.887	100	NA	NA
Lane 3	-	-	39	39	0.0	280	0.138	100	0.0	2
Approach	361	926	39	1325	0.0		0.887			

East: Dick Johnson Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	170	299	-	469	0.0	542	0.865	100	NA	NA
Lane 2	-	386	-	386	0.0	446[1]	0.865	100	NA	NA
Lane 3	-	-	315	315	0.0	514[1]	0.613	100	60.9	2
Approach	170	685	315	1170	0.0		0.865			

North: Oran Park Drive

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	36	329	-	365	0.0	749	0.487	100	NA	NA
Lane 2	-	347	-	347	0.0	714[1]	0.487	100	NA	NA
Lane 3	-	-	35	35	0.0	174	0.201	100	0.0	2
Approach	36	676	35	747	0.0		0.487			

West: Dick Johnson Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	7	49	-	56	0.0	164	0.339	100	NA	NA
Lane 2	-	61	-	61	0.0	181	0.339	100	NA	NA
Lane 3	-	-	116	116	0.0	172	0.673	100	0.0	2
Approach	7	110	116	233	0.0		0.673			

	Total	%HV	Deg.Satn (v/c)
Intersection	3475	0.0	0.887

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

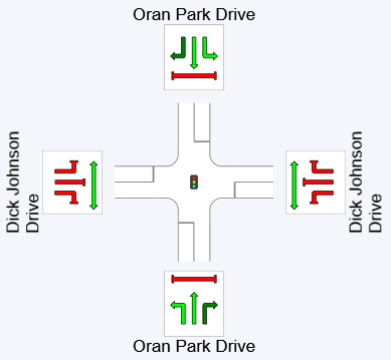
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	89	10	29	77
Green Time (sec)	55	13	42	6
Phase Time (sec)	61	19	48	12
Phase Split	44%	14%	34%	9%

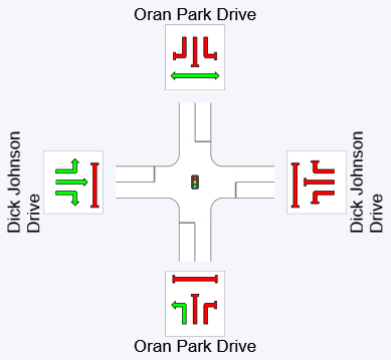
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

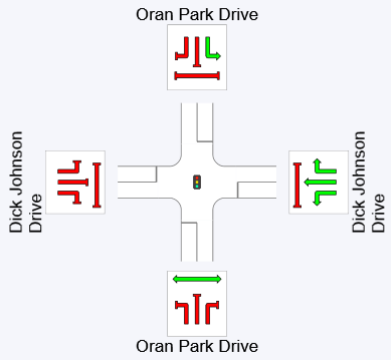
Phase A **REF**



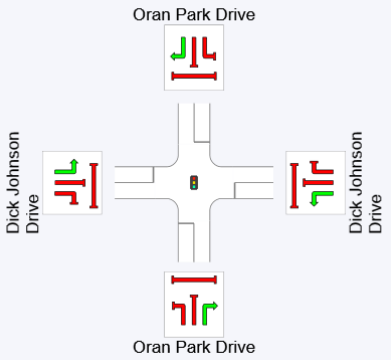
Phase B



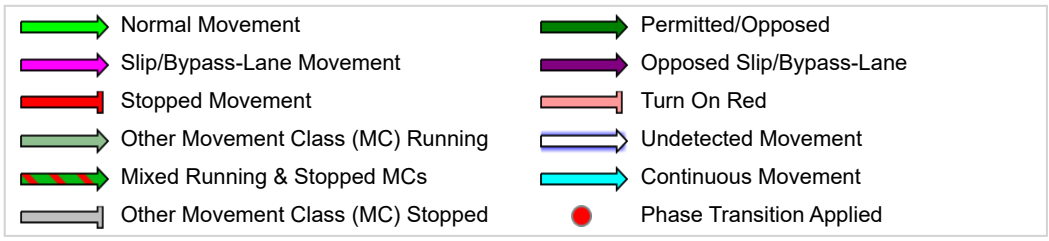
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	338	0.0	328	0.0	731	0.448	100	16.7	LOS B	9.4	65.7	Full	210	0.0	0.0
Lane 2	347	0.0	337	0.0	752	0.448	100	7.4	LOS A	5.0	34.9	Full	210	0.0	0.0
Lane 3	216	0.0	210	0.0	175	1.201	100	230.9	LOS F	24.1	168.7	Short	65	0.0	NA
Approach	901	0.0	875 N1	0.0		1.201		64.5	LOS E	24.1	168.7				
East: Dick Johnson Drive															
Lane 1	121	0.0	121	0.0	168	0.719	100	75.7	LOS F	8.6	60.3	Full	360	-2.1 N3	0.0
Lane 2	130	0.0	130	0.0	181	0.719	100	73.2	LOS F	9.2	64.2	Full	360	0.0	0.0
Lane 3	77	0.0	77	0.0	172	0.447	100	75.9	LOS F	5.3	37.1	Short	60	0.0	NA
Approach	328	0.0	328	0.0		0.719		74.8	LOS F	9.2	64.2				
North: Oran Park Drive															
Lane 1	531	0.0	531	0.0	592	0.897	100	64.8	LOS E	39.1	273.5	Full	500	-15.8 N3	0.0
Lane 2	630	0.0	630	0.0	702 1	0.897	100	54.0	LOS D	44.8	313.8	Full	500	-0.9 N3	0.0
Lane 3	55	0.0	55	0.0	357	0.154	100	28.5	LOS C	2.1	14.7	Short	60	0.0	NA
Approach	1216	0.0	1216	0.0		0.897		57.6	LOS E	44.8	313.8				
West: Dick Johnson Drive															
Lane 1	507	0.0	507	0.0	559	0.907	100	67.9	LOS E	38.7	270.7	Full	490	0.0	0.0
Lane 2	427	0.0	427	0.0	471 1	0.907	100	65.0	LOS E	31.5	220.8	Full	490	0.0	0.0
Lane 3	355	0.0	355	0.0	539	0.658	100	52.1	LOS D	21.2	148.4	Short	85	-0.9 N3	NA
Approach	1289	0.0	1289	0.0		0.907		62.6	LOS E	38.7	270.7				
Intersection	3734	0.0	3708 N1	0.0		1.201		62.5	LOS E	44.8	313.8				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	43	285	-	328	0.0	731	0.448	100	NA	NA
Lane 2	-	337	-	337	0.0	752	0.448	100	NA	NA

Lane 3	-	-	210	210	0.0	175	1.201	100	94.9	2
Approach	43	622	210	875	0.0		1.201			
East: Dick Johnson Drive										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	8	113	-	121	0.0	168	0.719	100	NA	NA
Lane 2	-	130	-	130	0.0	181	0.719	100	NA	NA
Lane 3	-	-	77	77	0.0	172	0.447	100	0.0	2
Approach	8	243	77	328	0.0		0.719			
North: Oran Park Drive										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	221	310	-	531	0.0	592	0.897	100	NA	NA
Lane 2	-	630	-	630	0.0	702[1]	0.897	100	NA	NA
Lane 3	-	-	55	55	0.0	357	0.154	100	0.0	2
Approach	221	940	55	1216	0.0		0.897			
West: Dick Johnson Drive										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	38	469	-	507	0.0	559	0.907	100	NA	NA
Lane 2	-	427	-	427	0.0	471[1]	0.907	100	NA	NA
Lane 3	-	-	355	355	0.0	539	0.658	100	56.4	2
Approach	38	896	355	1289	0.0		0.907			
	Total	%HV	Deg.Satn (v/c)							
Intersection	3708	0.0		1.201						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Oran Park Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

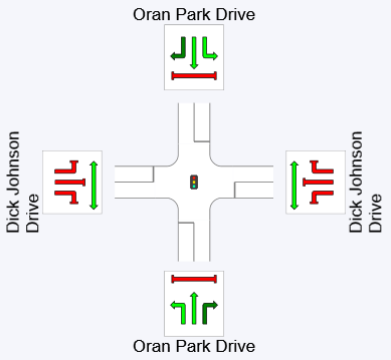
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	113	33	80	99
Green Time (sec)	54	41	13	8
Phase Time (sec)	60	47	19	14
Phase Split	43%	34%	14%	10%

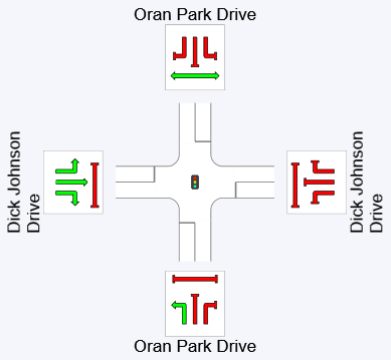
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

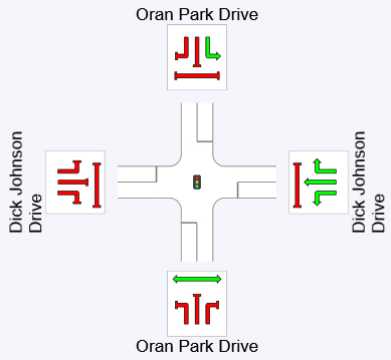
Phase A **REF**



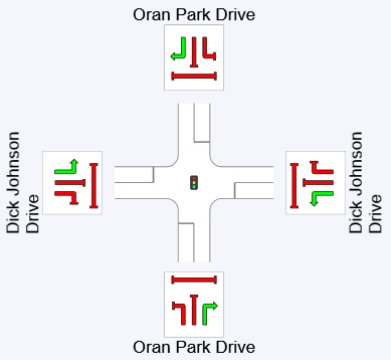
Phase B



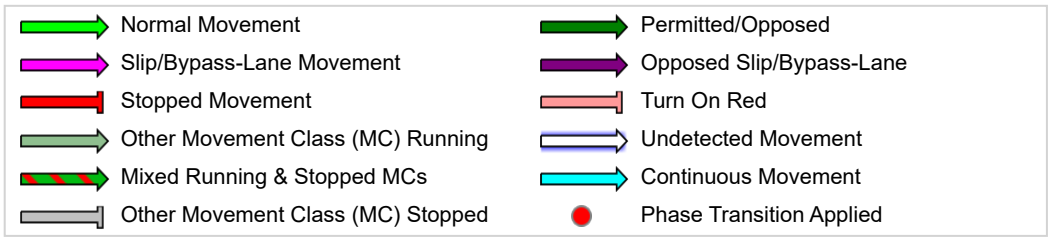
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	645	0.0	589	0.0	628	0.937	100	49.7	LOS D	42.7	298.6	Full	210	0.0	37.2
Lane 2	668	0.0	609	0.0	650[1]	0.937	100	58.8	LOS E	45.6	318.9	Full	210	0.0	43.2
Lane 3	29	0.0	26	0.0	265	0.100	100	34.7	LOS C	1.0	7.3	Short	65	0.0	NA
Approach	1342	0.0	1224[N1]	0.0		0.937		53.9	LOS D	45.6	318.9				
East: Dick Johnson Drive															
Lane 1	716	0.0	638	0.0	681	0.937	100	36.8	LOS C	44.3	310.3	Full	360	0.0	0.0
Lane 2	529	0.0	472	0.0	503[1]	0.937	100	42.9	LOS D	27.6	193.3	Full	360	0.0	0.0
Lane 3	364	0.0	325	0.0	650	0.499	100	30.3	LOS C	13.0	91.1	Short	60	0.0	NA
Approach	1609	0.0	1435[N1]	0.0		0.937		37.3	LOS C	44.3	310.3				
North: Oran Park Drive															
Lane 1	321	0.0	321	0.0	645	0.498	100	41.0	LOS C	17.0	119.0	Full	500	0.0	0.0
Lane 2	317	0.0	317	0.0	636[1]	0.498	100	38.5	LOS C	16.8	117.6	Full	500	0.0	0.0
Lane 3	49	0.0	49	0.0	134	0.366	100	44.3	LOS D	2.1	14.8	Short	60	0.0	NA
Approach	687	0.0	687	0.0		0.498		40.1	LOS C	17.0	119.0				
West: Dick Johnson Drive															
Lane 1	35	0.0	35	0.0	169	0.209	100	69.5	LOS E	2.1	14.9	Full	490	0.0	0.0
Lane 2	38	0.0	38	0.0	181	0.209	100	64.7	LOS E	2.4	17.1	Full	490	0.0	0.0
Lane 3	74	0.0	74	0.0	172	0.429	100	72.3	LOS F	4.9	34.5	Short	85	0.0	NA
Approach	147	0.0	147	0.0		0.429		69.7	LOS E	4.9	34.5				
Intersection	3785	0.0	3493[N1]	0.0		0.937		45.0	LOS D	45.6	318.9				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	389	200	-	589	0.0	628	0.937	100	NA	NA

Lane 2	-	609	-	609	0.0	650[1]	0.937	100	NA	NA
Lane 3	-	-	26	26	0.0	265	0.100	100	0.0	2
Approach	389	809	26	1224	0.0		0.937			

East: Dick Johnson Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	5	633	-	638	0.0	681	0.937	100	NA	NA
Lane 2	-	472	-	472	0.0	503[1]	0.937	100	NA	NA
Lane 3	-	-	325	325	0.0	650	0.499	100	43.3	2
Approach	5	1105	325	1435	0.0		0.937			

North: Oran Park Drive

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	49	272	-	321	0.0	645	0.498	100	NA	NA
Lane 2	-	317	-	317	0.0	636[1]	0.498	100	NA	NA
Lane 3	-	-	49	49	0.0	134	0.366	100	0.0	2
Approach	49	589	49	687	0.0		0.498			

West: Dick Johnson Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	3	32	-	35	0.0	169	0.209	100	NA	NA
Lane 2	-	38	-	38	0.0	181	0.209	100	NA	NA
Lane 3	-	-	74	74	0.0	172	0.429	100	0.0	2
Approach	3	70	74	147	0.0		0.429			

	Total	%HV	Deg.Satn (v/c)
Intersection	3493	0.0	0.937

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

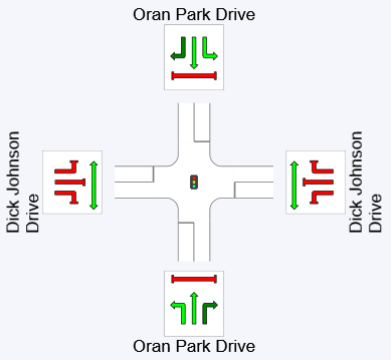
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	79	133	12	67
Green Time (sec)	48	13	49	6
Phase Time (sec)	54	19	55	12
Phase Split	39%	14%	39%	9%

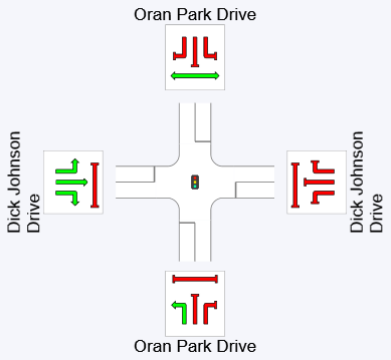
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

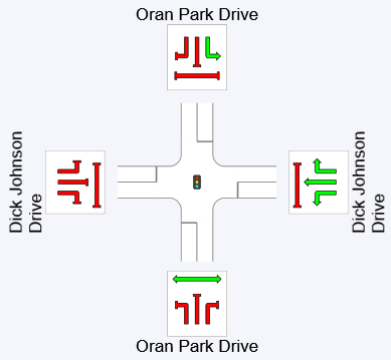
Phase A **REF**



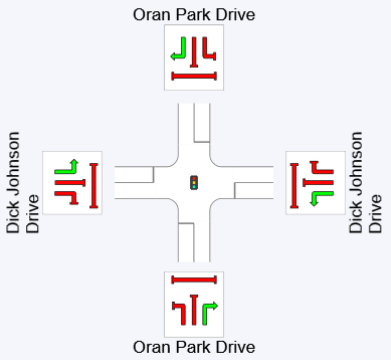
Phase B



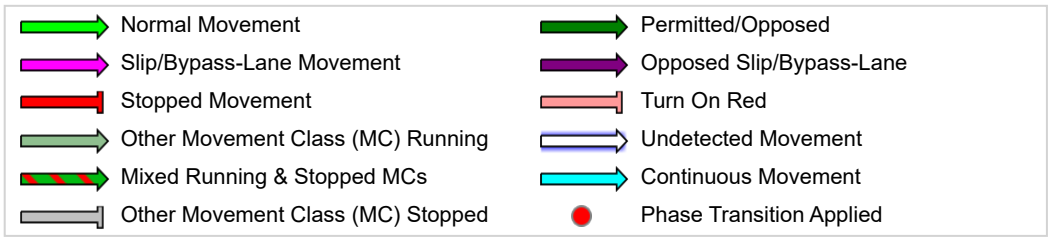
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



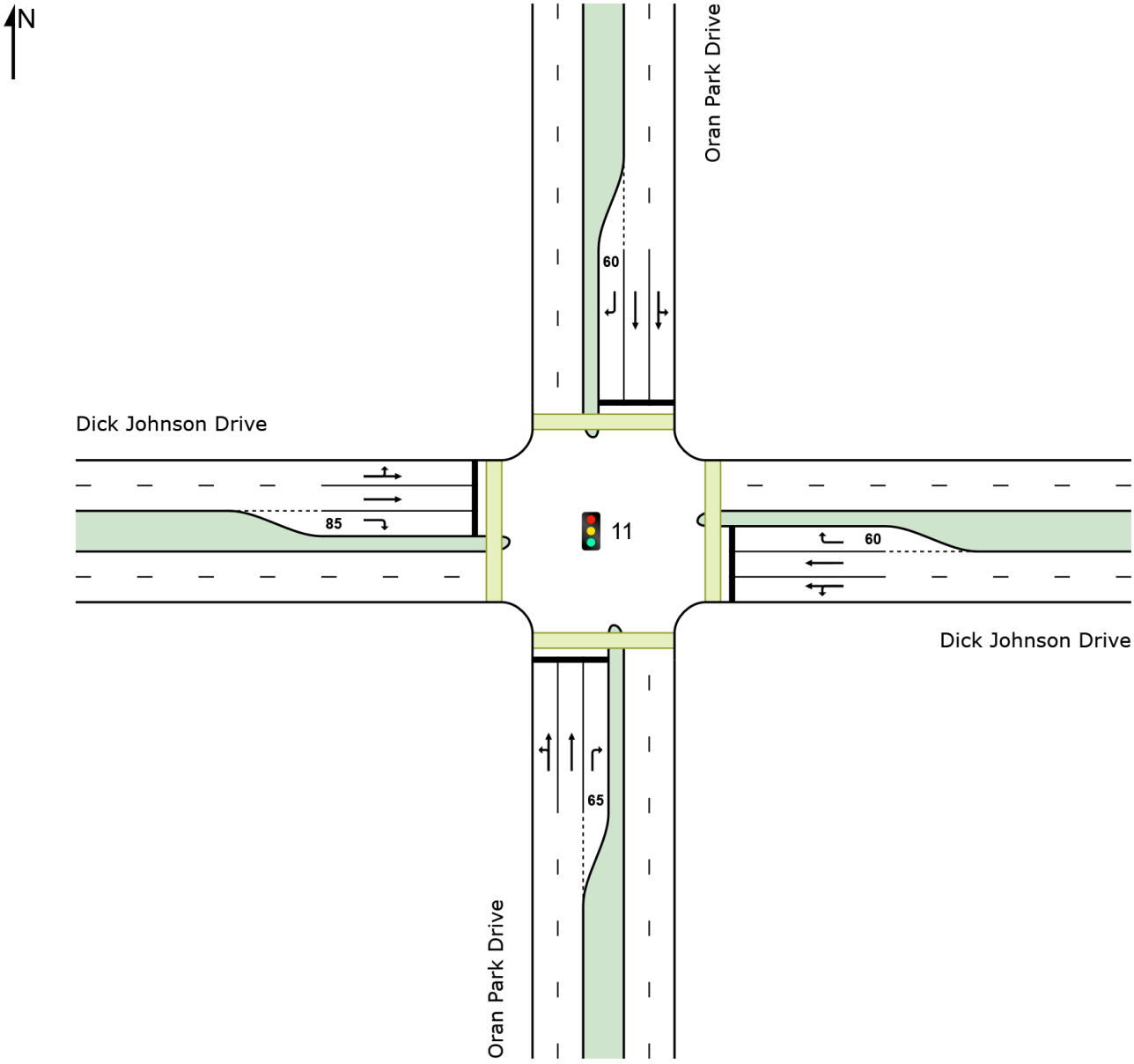
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SITE LAYOUT

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	299	0.0	297	0.0	782	0.380	100	7.8	LOS A	3.7	25.7	Full	210	0.0	0.0
Lane 2	314	0.0	312	0.0	822	0.380	100	6.4	LOS A	4.0	27.7	Full	210	0.0	0.0
Lane 3	101	0.0	100	0.0	228	0.440	100	40.5	LOS C	4.0	28.3	Short	65	0.0	NA
Approach	714	0.0	710 N1	0.0		0.440		11.8	LOS A	4.0	28.3				
East: Dick Johnson Drive															
Lane 1	67	0.0	67	0.0	236	0.281	100	66.5	LOS E	4.4	31.1	Full	360	-1.9 N3	0.0
Lane 2	74	0.0	74	0.0	265	0.281	100	67.2	LOS E	5.1	35.5	Full	360	0.0	0.0
Lane 3	33	0.0	33	0.0	252	0.131	100	71.1	LOS F	2.2	15.6	Short	60	0.0	NA
Approach	174	0.0	174	0.0		0.281		67.7	LOS E	5.1	35.5				
North: Oran Park Drive															
Lane 1	576	0.0	576	0.0	748	0.771	100	39.5	LOS C	30.7	214.6	Full	500	-3.6 N3	0.0
Lane 2	582	0.0	582	0.0	754 1	0.771	100	35.5	LOS C	32.3	226.4	Full	500	0.0	0.0
Lane 3	70	0.0	70	0.0	450	0.155	100	23.9	LOS B	2.4	16.9	Short	60	0.0	NA
Approach	1228	0.0	1228	0.0		0.771		36.7	LOS C	32.3	226.4				
West: Dick Johnson Drive															
Lane 1	238	0.0	238	0.0	374	0.636	100	58.5	LOS E	14.9	104.0	Full	490	0.0	0.0
Lane 2	248	0.0	248	0.0	390	0.636	100	55.6	LOS D	15.6	109.4	Full	490	0.0	0.0
Lane 3	290	0.0	290	0.0	371	0.781	100	66.0	LOS E	19.7	137.6	Short	85	0.0	NA
Approach	776	0.0	776	0.0		0.781		60.4	LOS E	19.7	137.6				
Intersection	2892	0.0	2888 N1	0.0		0.781		38.8	LOS C	32.3	226.4				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	81	217	-	297	0.0	782	0.380	100	NA	NA

Lane 2	-	312	-	312	0.0	822	0.380	100	NA	NA
Lane 3	-	-	100	100	0.0	228	0.440	100	0.0	2
Approach	81	529	100	710	0.0		0.440			

East: Dick Johnson Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	12	55	-	67	0.0	236	0.281	100	NA	NA
Lane 2	-	74	-	74	0.0	265	0.281	100	NA	NA
Lane 3	-	-	33	33	0.0	252	0.131	100	0.0	2
Approach	12	129	33	174	0.0		0.281			

North: Oran Park Drive

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	373	203	-	576	0.0	748	0.771	100	NA	NA
Lane 2	-	582	-	582	0.0	754[1]	0.771	100	NA	NA
Lane 3	-	-	70	70	0.0	450	0.155	100	0.0	2
Approach	373	785	70	1228	0.0		0.771			

West: Dick Johnson Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	25	213	-	238	0.0	374	0.636	100	NA	NA
Lane 2	-	248	-	248	0.0	390	0.636	100	NA	NA
Lane 3	-	-	290	290	0.0	371	0.781	100	49.2	2
Approach	25	461	290	776	0.0		0.781			

	Total	%HV	Deg.Satn (v/c)
Intersection	2888	0.0	0.781

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

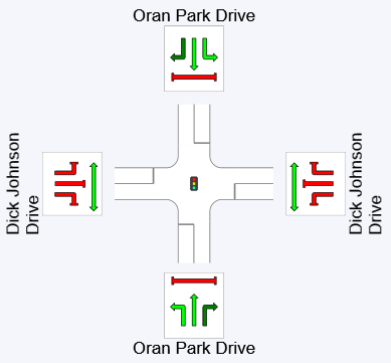
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	117	42	76	101
Green Time (sec)	59	28	19	10
Phase Time (sec)	65	34	25	16
Phase Split	46%	24%	18%	11%

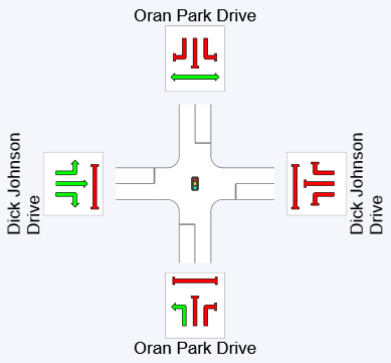
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

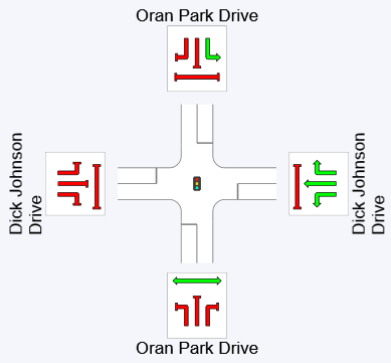
Phase A **REF**



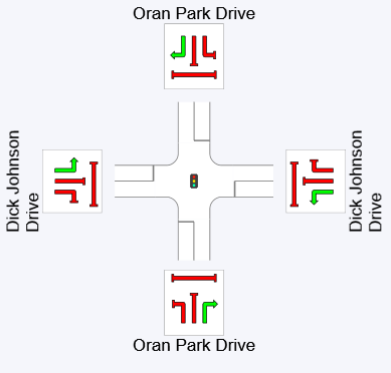
Phase B



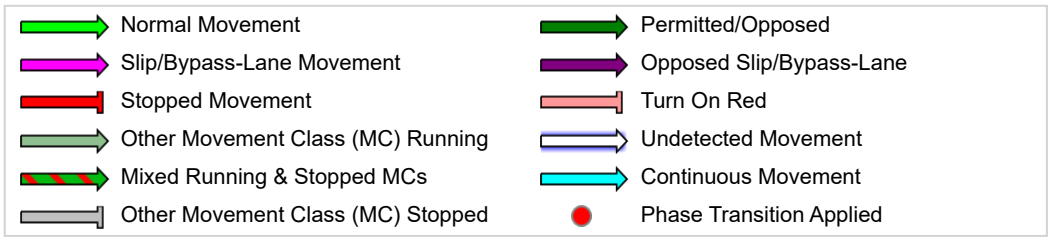
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2036 PM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	557	0.0	555	0.0	682	0.814	100	18.9	LOS B	22.8	159.4	Full	210	0.0	0.0
Lane 2	564	0.0	563	0.0	691[1]	0.814	100	19.5	LOS B	24.7	172.8	Full	210	0.0	0.0
Lane 3	39	0.0	39	0.0	313	0.124	100	31.2	LOS C	1.4	9.5	Short	65	0.0	NA
Approach	1160	0.0	1156[N1]	0.0		0.814		19.6	LOS B	24.7	172.8				
East: Dick Johnson Drive															
Lane 1	475	0.0	475	0.0	583	0.815	100	54.1	LOS D	31.7	222.1	Full	360	0.0	0.0
Lane 2	381	0.0	381	0.0	467[1]	0.815	100	50.6	LOS D	24.7	173.0	Full	360	0.0	0.0
Lane 3	315	0.0	315	0.0	467[1]	0.675	100	50.8	LOS D	19.1	133.5	Short	60	0.0	NA
Approach	1171	0.0	1171	0.0		0.815		52.1	LOS D	31.7	222.1				
North: Oran Park Drive															
Lane 1	286	0.0	286	0.0	704	0.407	100	36.8	LOS C	14.1	99.0	Full	500	0.0	0.0
Lane 2	295	0.0	295	0.0	724	0.407	100	34.6	LOS C	14.7	103.0	Full	500	0.0	0.0
Lane 3	35	0.0	35	0.0	185	0.189	100	35.1	LOS C	1.4	9.9	Short	60	0.0	NA
Approach	616	0.0	616	0.0		0.407		35.7	LOS C	14.7	103.0				
West: Dick Johnson Drive															
Lane 1	56	0.0	56	0.0	164	0.339	100	69.5	LOS E	3.4	24.0	Full	490	0.0	0.0
Lane 2	61	0.0	61	0.0	181	0.339	100	65.8	LOS E	4.0	28.3	Full	490	0.0	0.0
Lane 3	116	0.0	116	0.0	172	0.673	100	75.0	LOS F	8.0	56.3	Short	85	0.0	NA
Approach	233	0.0	233	0.0		0.673		71.3	LOS F	8.0	56.3				
Intersection	3180	0.0	3176[N1]	0.0		0.815		38.5	LOS C	31.7	222.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	364	191	-	555	0.0	682	0.814	100	NA	NA

Lane 2	-	563	-	563	0.0	691[1]	0.814	100	NA	NA
Lane 3	-	-	39	39	0.0	313	0.124	100	0.0	2
Approach	364	753	39	1156	0.0		0.814			

East: Dick Johnson Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	170	305	-	475	0.0	583	0.815	100	NA	NA
Lane 2	-	381	-	381	0.0	467[1]	0.815	100	NA	NA
Lane 3	-	-	315	315	0.0	467[1]	0.675	100	79.7	2
Approach	170	686	315	1171	0.0		0.815			

North: Oran Park Drive

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	36	250	-	286	0.0	704	0.407	100	NA	NA
Lane 2	-	295	-	295	0.0	724	0.407	100	NA	NA
Lane 3	-	-	35	35	0.0	185	0.189	100	0.0	2
Approach	36	545	35	616	0.0		0.407			

West: Dick Johnson Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	7	49	-	56	0.0	164	0.339	100	NA	NA
Lane 2	-	61	-	61	0.0	181	0.339	100	NA	NA
Lane 3	-	-	116	116	0.0	172	0.673	100	0.0	2
Approach	7	110	116	233	0.0		0.673			

	Total	%HV	Deg.Satn (v/c)
Intersection	3176	0.0	0.815

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2036 PM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

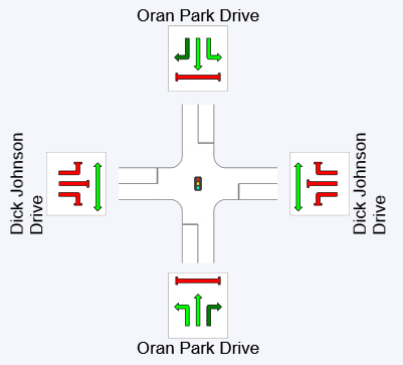
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	108	26	45	96
Green Time (sec)	52	13	45	6
Phase Time (sec)	58	19	51	12
Phase Split	41%	14%	36%	9%

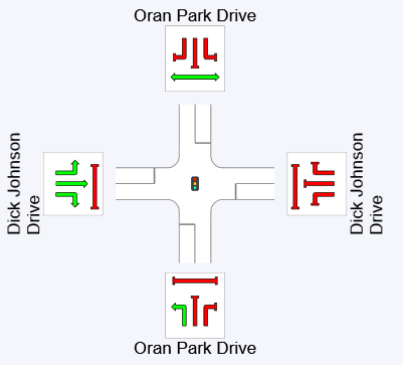
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

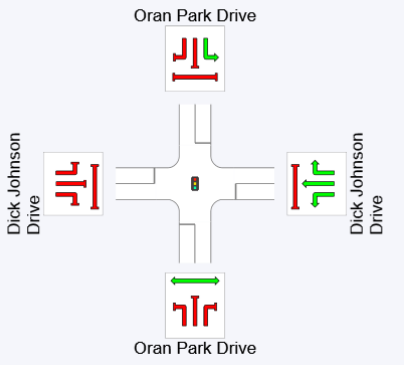
Phase A **REF**



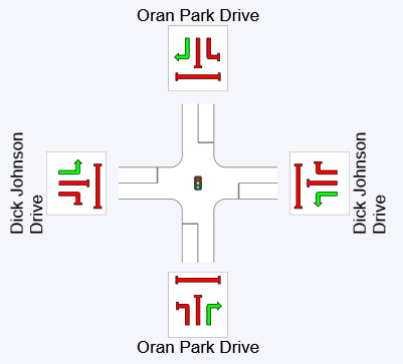
Phase B



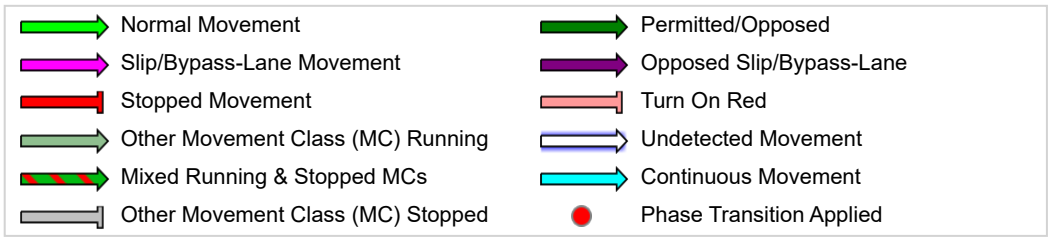
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2041 AM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	260	0.0	251	0.0	629	0.399	100	20.9	LOS B	8.0	56.1	Full	210	0.0	0.0
Lane 2	270	0.0	261	0.0	655	0.399	100	8.2	LOS A	3.9	27.0	Full	210	0.0	0.0
Lane 3	216	0.0	209	0.0	275	0.760	100	54.2	LOS D	10.3	72.4	Short	65	0.0	NA
Approach	746	0.0	721 N1	0.0		0.760		26.0	LOS B	10.3	72.4				
East: Dick Johnson Drive															
Lane 1	121	0.0	121	0.0	169	0.717	100	76.0	LOS F	8.7	60.8	Full	360	-1.3 N3	0.0
Lane 2	130	0.0	130	0.0	181	0.717	100	62.5	LOS E	8.7	61.1	Full	360	0.0	0.0
Lane 3	77	0.0	77	0.0	172	0.447	100	65.2	LOS E	4.8	33.7	Short	60	0.0	NA
Approach	328	0.0	328	0.0		0.717		68.1	LOS E	8.7	61.1				
North: Oran Park Drive															
Lane 1	500	0.0	500	0.0	545	0.918	100	72.7	LOS F	38.4	268.8	Full	500	-10.2 N3	0.0
Lane 2	564	0.0	564	0.0	614 1	0.918	100	63.8	LOS E	42.9	300.3	Full	500	0.0	0.0
Lane 3	55	0.0	55	0.0	469	0.117	100	26.9	LOS B	2.0	14.0	Short	60	0.0	NA
Approach	1119	0.0	1119	0.0		0.918		66.0	LOS E	42.9	300.3				
West: Dick Johnson Drive															
Lane 1	507	0.0	507	0.0	545	0.931	100	75.0	LOS F	40.9	286.2	Full	490	0.0	0.0
Lane 2	427	0.0	427	0.0	458 1	0.931	100	72.2	LOS F	33.3	232.9	Full	490	0.0	0.0
Lane 3	355	0.0	355	0.0	527 1	0.673	100	53.0	LOS D	21.4	149.7	Short	85	0.0	NA
Approach	1289	0.0	1289	0.0		0.931		68.0	LOS E	40.9	286.2				
Intersection	3482	0.0	3457 N1	0.0		0.931		58.6	LOS E	42.9	300.3				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	43	209	-	251	0.0	629	0.399	100	NA	NA

Lane 2	-	261	-	261	0.0	655	0.399	100	NA	NA
Lane 3	-	-	209	209	0.0	275	0.760	100	14.8	2
Approach	43	470	209	721	0.0		0.760			

East: Dick Johnson Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	8	113	-	121	0.0	169	0.717	100	NA	NA
Lane 2	-	130	-	130	0.0	181	0.717	100	NA	NA
Lane 3	-	-	77	77	0.0	172	0.447	100	0.0	2
Approach	8	243	77	328	0.0		0.717			

North: Oran Park Drive

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	221	279	-	500	0.0	545	0.918	100	NA	NA
Lane 2	-	564	-	564	0.0	614[1]	0.918	100	NA	NA
Lane 3	-	-	55	55	0.0	469	0.117	100	0.0	2
Approach	221	843	55	1119	0.0		0.918			

West: Dick Johnson Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	38	469	-	507	0.0	545	0.931	100	NA	NA
Lane 2	-	427	-	427	0.0	458[1]	0.931	100	NA	NA
Lane 3	-	-	355	355	0.0	527[1]	0.673	100	57.2	2
Approach	38	896	355	1289	0.0		0.931			

	Total	%HV	Deg.Satn (v/c)
Intersection	3457	0.0	0.931

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Oran Park Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2041 AM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

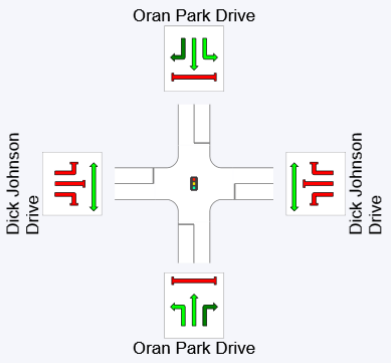
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	114	27	73	92
Green Time (sec)	47	40	13	16
Phase Time (sec)	53	46	19	22
Phase Split	38%	33%	14%	16%

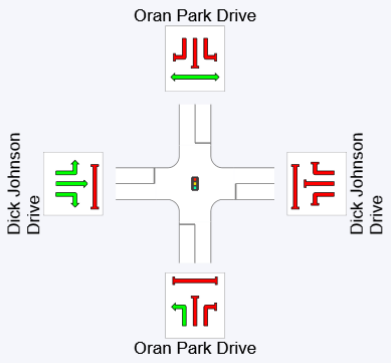
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

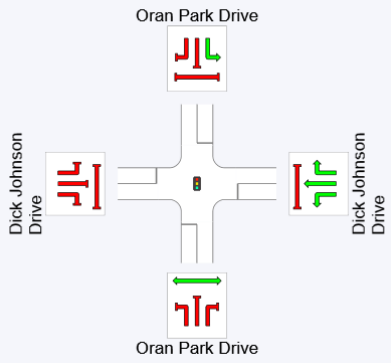
Phase A **REF**



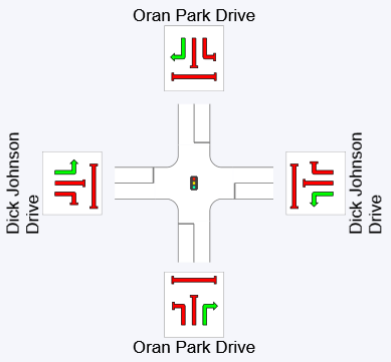
Phase B



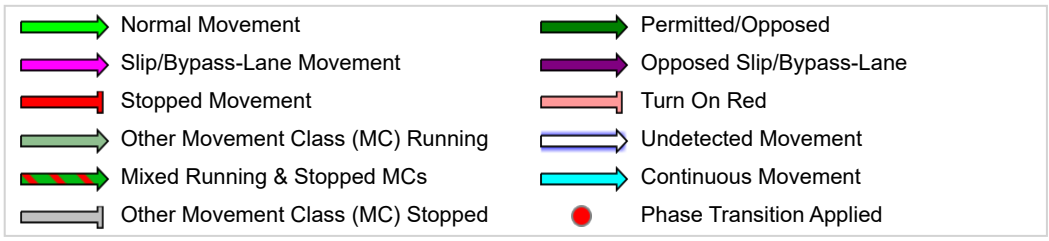
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2041 PM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Oran Park Drive															
Lane 1	566	0.0	563	0.0	605	0.931	100	23.2	LOS B	31.6	221.0	Full	210	0.0	9.6
Lane 2	567	0.0	565	0.0	607[1]	0.931	100	21.6	LOS B	30.9	216.2	Full	210	0.0	7.6
Lane 3	29	0.0	29	0.0	286	0.101	100	26.5	LOS B	0.9	6.2	Short	65	0.0	NA
Approach	1162	0.0	1157[N1]	0.0		0.931		22.5	LOS B	31.6	221.0				
East: Dick Johnson Drive															
Lane 1	716	0.0	659	0.0	723	0.911	100	30.8	LOS C	41.7	291.6	Full	360	0.0	0.0
Lane 2	529	0.0	487	0.0	535[1]	0.911	100	37.1	LOS C	26.6	186.2	Full	360	0.0	0.0
Lane 3	364	0.0	335	0.0	690	0.486	100	29.7	LOS C	13.3	92.9	Short	60	0.0	NA
Approach	1609	0.0	1481[N1]	0.0		0.911		32.6	LOS C	41.7	291.6				
North: Oran Park Drive															
Lane 1	254	0.0	254	0.0	598	0.425	100	41.8	LOS C	13.3	93.0	Full	500	0.0	0.0
Lane 2	267	0.0	267	0.0	627	0.425	100	39.8	LOS C	14.2	99.3	Full	500	0.0	0.0
Lane 3	49	0.0	49	0.0	148	0.331	100	42.9	LOS D	2.2	15.4	Short	60	0.0	NA
Approach	570	0.0	570	0.0		0.425		41.0	LOS C	14.2	99.3				
West: Dick Johnson Drive															
Lane 1	35	0.0	35	0.0	169	0.209	100	70.6	LOS F	2.1	14.9	Full	490	0.0	0.0
Lane 2	38	0.0	38	0.0	181	0.209	100	64.7	LOS E	2.4	17.1	Full	490	0.0	0.0
Lane 3	74	0.0	74	0.0	172	0.429	100	72.3	LOS F	4.9	34.5	Short	85	0.0	NA
Approach	147	0.0	147	0.0		0.429		69.9	LOS E	4.9	34.5				
Intersection	3488	0.0	3355[N1]	0.0		0.931		32.2	LOS C	41.7	291.6				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Oran Park Drive

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	424	139	-	563	0.0	605	0.931	100	NA	NA
Lane 2	-	565	-	565	0.0	607[1]	0.931	100	NA	NA
Lane 3	-	-	29	29	0.0	286	0.101	100	0.0	2
Approach	424	704	29	1157	0.0		0.931			

East: Dick Johnson Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	6	653	-	659	0.0	723	0.911	100	NA	NA
Lane 2	-	487	-	487	0.0	535[1]	0.911	100	NA	NA
Lane 3	-	-	335	335	0.0	690	0.486	100	45.1	2
Approach	6	1140	335	1481	0.0		0.911			

North: Oran Park Drive

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	49	205	-	254	0.0	598	0.425	100	NA	NA
Lane 2	-	267	-	267	0.0	627	0.425	100	NA	NA
Lane 3	-	-	49	49	0.0	148	0.331	100	0.0	2
Approach	49	472	49	570	0.0		0.425			

West: Dick Johnson Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	3	32	-	35	0.0	169	0.209	100	NA	NA
Lane 2	-	38	-	38	0.0	181	0.209	100	NA	NA
Lane 3	-	-	74	74	0.0	172	0.429	100	0.0	2
Approach	3	70	74	147	0.0		0.429			

	Total	%HV	Deg.Satn (v/c)
Intersection	3355	0.0	0.931

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Oran Park Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Oran Park Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 11 [11. Dick Johnson Dr / Oran Park Dr - 2041 PM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

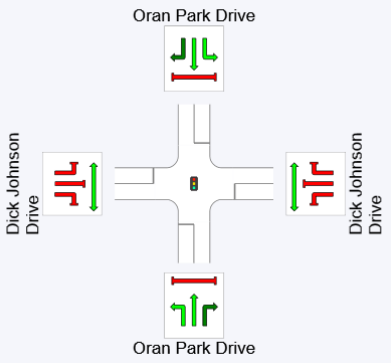
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	79	130	9	67
Green Time (sec)	45	13	52	6
Phase Time (sec)	51	19	58	12
Phase Split	36%	14%	41%	9%

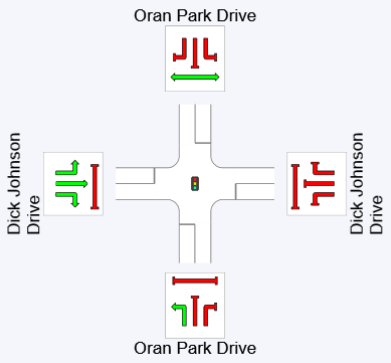
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

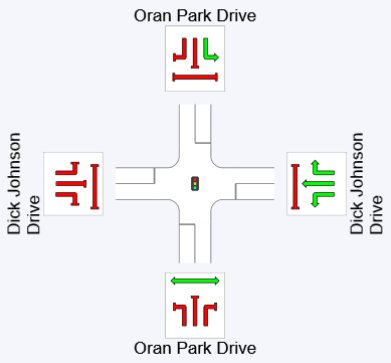
Phase A **REF**



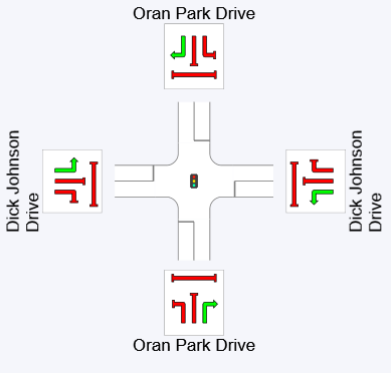
Phase B



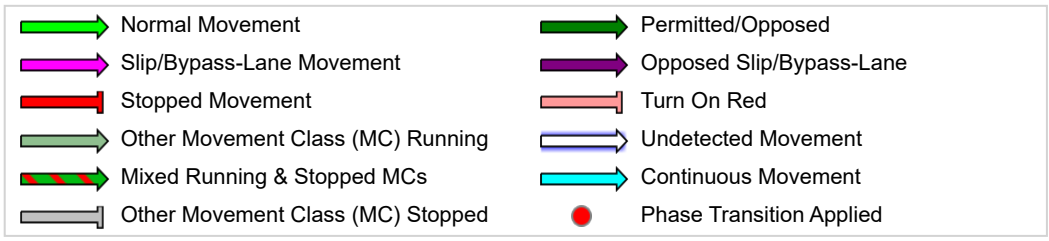
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



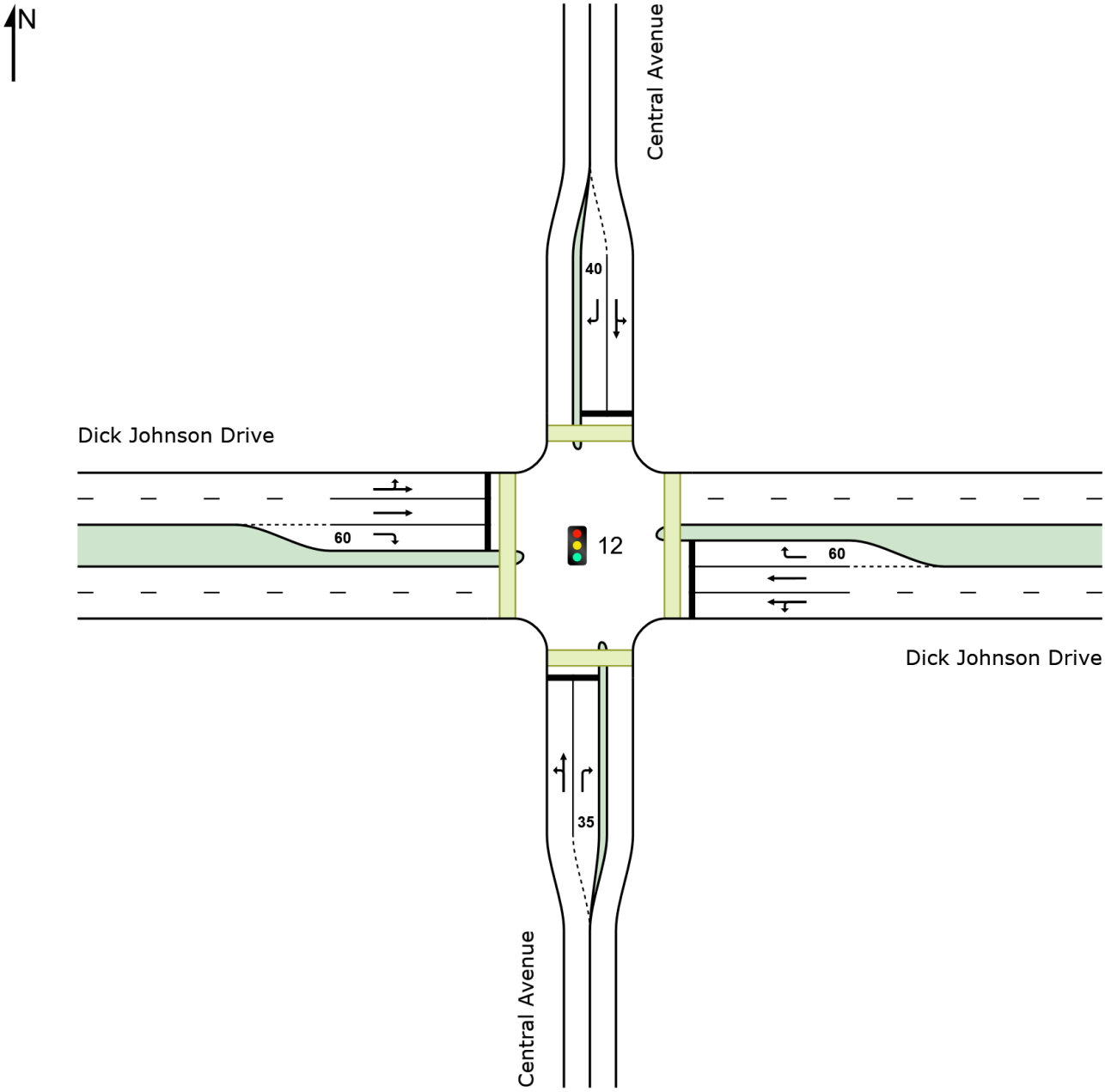
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SITE LAYOUT

Site: 12 [12. Dick Johnson Dr / Central Av - 2026 AM (Site Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Organisation: GHD PTY LTD | Licence: NETWORK / Enterprise | Created: Tuesday, September 14, 2021 3:12:41 PM
Project: \\ghdnet\ghd\AU\Sydney\Projects\21\12526027\Tech\Traffic Impact Assessments\04. SIDRA Models\Town Centre TIA\Town Centre Modelling - 2 lane_20210910.sip9

LANE SUMMARY

Site: 12 [12. Dick Johnson Dr / Central Av - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Central Avenue															
Lane 1	42	0.0	42	0.0	597	0.070	100	26.0	LOS B	1.4	9.9	Full	120	0.0	0.0
Lane 2	1	0.0	1	0.0	279	0.004	100	59.1	LOS E	0.1	0.4	Short	35	0.0	NA
Approach	43	0.0	43	0.0		0.070		26.8	LOS B	1.4	9.9				
East: Dick Johnson Drive															
Lane 1	259	0.0	259	0.0	584	0.443	100	41.6	LOS C	14.4	101.1	Full	220	0.0	0.0
Lane 2	259	0.0	259	0.0	585[1]	0.443	100	51.6	LOS D	16.1	112.4	Full	220	0.0	0.0
Lane 3	1	0.0	1	0.0	401	0.002	100	49.6	LOS D	0.1	0.4	Short	60	0.0	NA
Approach	519	0.0	519	0.0		0.443		46.6	LOS D	16.1	112.4				
North: Central Avenue															
Lane 1	31	0.0	31	0.0	195	0.159	100	36.7	LOS C	1.2	8.1	Full	500	0.0	0.0
Lane 2	3	0.0	3	0.0	212	0.014	100	64.6	LOS E	0.2	1.3	Short	40	0.0	NA
Approach	34	0.0	34	0.0		0.159		39.2	LOS C	1.2	8.1				
West: Dick Johnson Drive															
Lane 1	78	0.0	78	0.0	766	0.102	100	27.7	LOS B	3.0	20.8	Full	360	0.0	0.0
Lane 2	79	0.0	79	0.0	766	0.102	100	28.3	LOS B	3.1	21.4	Full	360	0.0	0.0
Lane 3	107	0.0	107	0.0	547	0.195	100	37.3	LOS C	5.2	36.2	Short	60	0.0	NA
Approach	264	0.0	264	0.0		0.195		31.8	LOS C	5.2	36.2				
Intersection	860	0.0	860	0.0		0.443		40.8	LOS C	16.1	112.4				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Approach Lane Flows (veh/h)

South: Central Avenue

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	41	1	-	42	0.0	597	0.070	100	NA	NA
Lane 2	-	-	1	1	0.0	279	0.004	100	0.0	1
Approach	41	1	1	43	0.0		0.070			

East: Dick Johnson Drive

Mov.	L2	T1	R2	Total	%HV		Deg.	Lane	Prob.	Ov.

From E To Exit:	S	W	N			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	1	258	-	259	0.0	584	0.443	100	NA	NA
Lane 2	-	259	-	259	0.0	585[1]	0.443	100	NA	NA
Lane 3	-	-	1	1	0.0	401	0.002	100	0.0	2
Approach	1	517	1	519	0.0		0.443			

North: Central Avenue

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	20	11	-	31	0.0	195	0.159	100	NA	NA
Lane 2	-	-	3	3	0.0	212	0.014	100	0.0	1
Approach	20	11	3	34	0.0		0.159			

West: Dick Johnson Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	77	-	78	0.0	766	0.102	100	NA	NA
Lane 2	-	79	-	79	0.0	766	0.102	100	NA	NA
Lane 3	-	-	107	107	0.0	547	0.195	100	0.0	2
Approach	1	156	107	264	0.0		0.195			

	Total	%HV	Deg.Satn (v/c)
Intersection	860	0.0	0.443

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Central Avenue Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
East Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Central Avenue Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

PHASING SUMMARY

Site: 12 [12. Dick Johnson Dr / Central Av - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, B, D1, D2, C
Output Phase Sequence: A, B, D1, D2, C

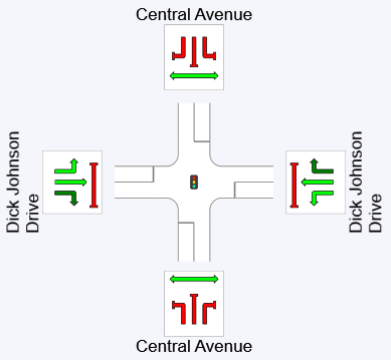
Phase Timing Summary

Phase	A	B	D1	D2	C
Phase Change Time (sec)	0	18	48	75	97
Green Time (sec)	12	24	21	16	37
Phase Time (sec)	18	30	27	22	43
Phase Split	13%	21%	19%	16%	31%

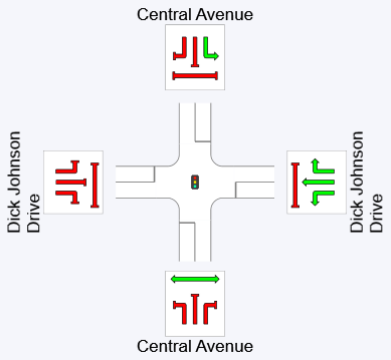
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

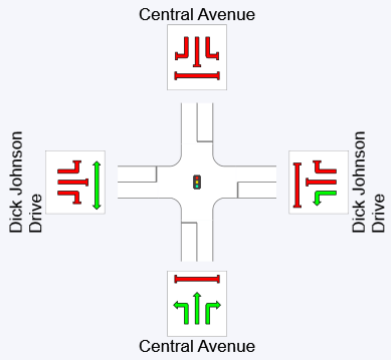
Phase A REF



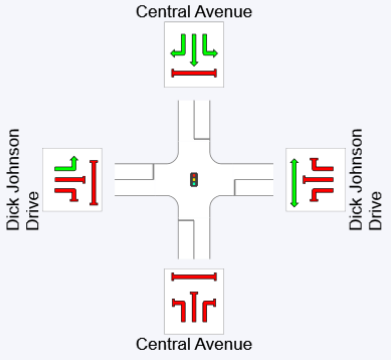
Phase B



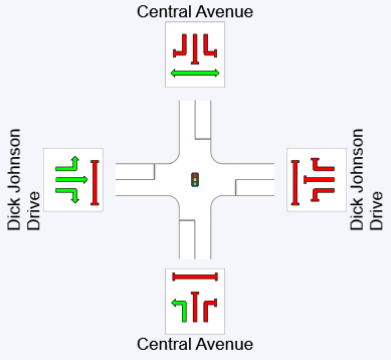
Phase D1



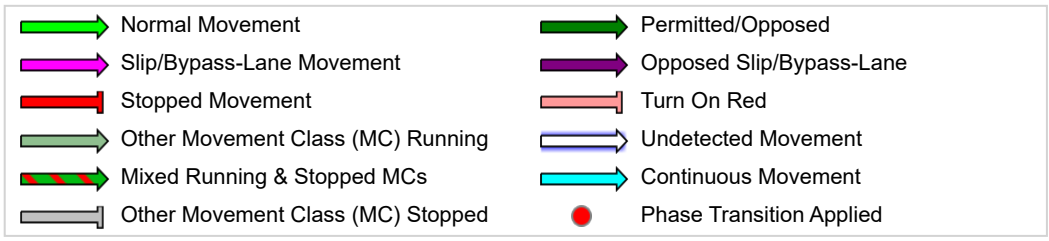
Phase D2



Phase C



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 12 [12. Dick Johnson Dr / Central Av - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Central Avenue															
Lane 1	101	0.0	101	0.0	281	0.360	100	43.3	LOS D	5.0	35.0	Full	120	0.0	0.0
Lane 2	13	0.0	13	0.0	292	0.045	100	59.3	LOS E	0.8	5.3	Short	35	0.0	NA
Approach	114	0.0	114	0.0		0.360		45.1	LOS D	5.0	35.0				
East: Dick Johnson Drive															
Lane 1	145	0.0	145	0.0	417	0.349	100	57.9	LOS E	9.3	65.3	Full	220	0.0	0.0
Lane 2	146	0.0	146	0.0	418	0.349	100	50.6	LOS D	8.9	62.5	Full	220	0.0	0.0
Lane 3	1	0.0	1	0.0	193	0.005	100	58.2	LOS E	0.1	0.4	Short	60	0.0	NA
Approach	292	0.0	292	0.0		0.349		54.3	LOS D	9.3	65.3				
North: Central Avenue															
Lane 1	5	0.0	5	0.0	157	0.032	100	42.0	LOS C	0.2	1.6	Full	500	0.0	0.0
Lane 2	1	0.0	1	0.0	172	0.006	100	67.4	LOS E	0.1	0.4	Short	40	0.0	NA
Approach	6	0.0	6	0.0		0.032		46.3	LOS D	0.2	1.6				
West: Dick Johnson Drive															
Lane 1	226	0.0	226	0.0	1045	0.217	100	13.5	LOS A	5.5	38.3	Full	360	0.0	0.0
Lane 2	227	0.0	227	0.0	1045	0.217	100	17.9	LOS B	7.3	51.3	Full	360	0.0	0.0
Lane 3	29	0.0	29	0.0	781	0.037	100	24.5	LOS B	1.1	7.6	Short	60	0.0	NA
Approach	482	0.0	482	0.0		0.217		16.3	LOS B	7.3	51.3				
Intersection	894	0.0	894	0.0		0.360		32.6	LOS C	9.3	65.3				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Approach Lane Flows (veh/h)

South: Central Avenue

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	68	33	-	101	0.0	281	0.360	100	NA	NA
Lane 2	-	-	13	13	0.0	292	0.045	100	0.0	1
Approach	68	33	13	114	0.0		0.360			

East: Dick Johnson Drive

Mov. From E	L2	T1	R2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane

To Exit:	S	W	N			veh/h	v/c	%	%	No.
Lane 1	1	144	-	145	0.0	417	0.349	100	NA	NA
Lane 2	-	146	-	146	0.0	418	0.349	100	NA	NA
Lane 3	-	-	1	1	0.0	193	0.005	100	0.0	2
Approach	1	290	1	292	0.0		0.349			

North: Central Avenue

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	4	1	-	5	0.0	157	0.032	100	NA	NA
Lane 2	-	-	1	1	0.0	172	0.006	100	0.0	1
Approach	4	1	1	6	0.0		0.032			

West: Dick Johnson Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	225	-	226	0.0	1045	0.217	100	NA	NA
Lane 2	-	227	-	227	0.0	1045	0.217	100	NA	NA
Lane 3	-	-	29	29	0.0	781	0.037	100	0.0	2
Approach	1	452	29	482	0.0		0.217			

	Total	%HV	Deg.Satn (v/c)
Intersection	894	0.0	0.360

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate sec veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Central Avenue Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
East Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Central Avenue Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

PHASING SUMMARY

Site: 12 [12. Dick Johnson Dr / Central Av - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, B, D1, D2, C
Output Phase Sequence: A, B, D1, D2, C

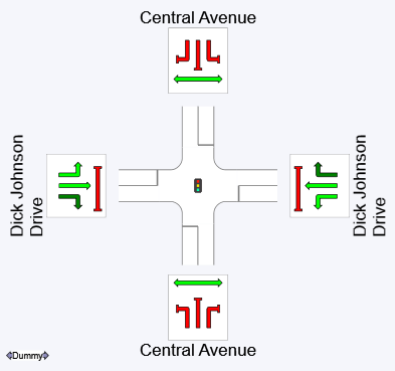
Phase Timing Summary

Phase	A	B	D1	D2	C
Phase Change Time (sec)	0	24	36	64	83
Green Time (sec)	18	6	22	13	51
Phase Time (sec)	24	12	28	19	57
Phase Split	17%	9%	20%	14%	41%

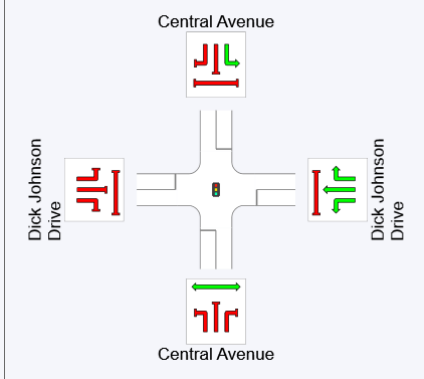
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

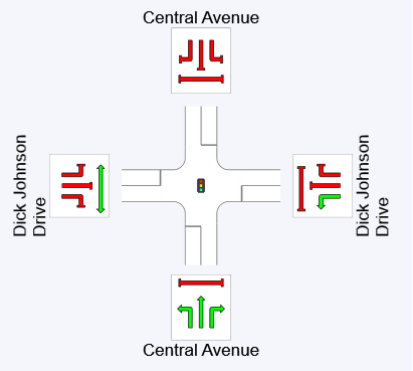
Phase A **REF**



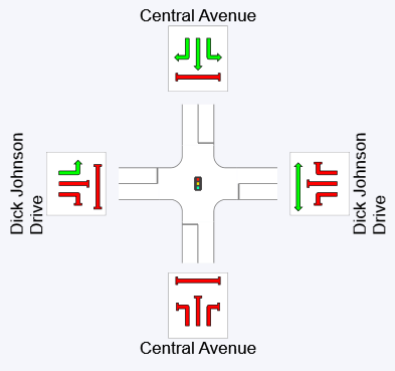
Phase B



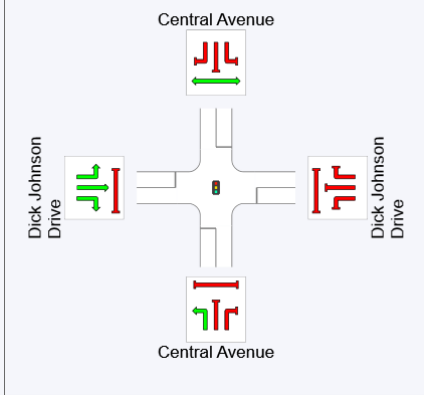
Phase D1



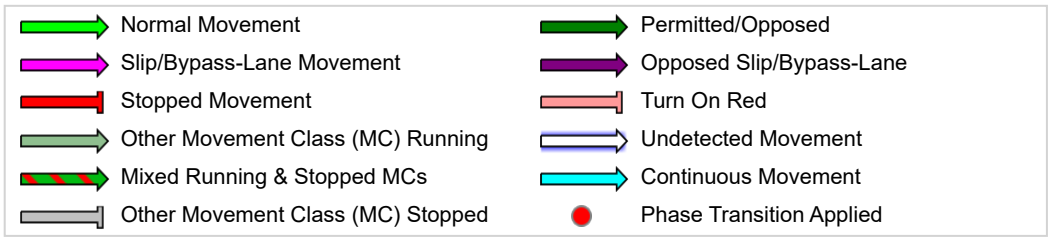
Phase D2



Phase C



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 12 [12. Dick Johnson Dr / Central Av - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Central Avenue															
Lane 1	38	0.0	38	0.0	163	0.233	100	73.6	LOS F	2.4	17.0	Full	120	0.0	0.0
Lane 2	1	0.0	1	0.0	172	0.006	100	67.4	LOS E	0.1	0.4	Short	35	0.0	NA
Approach	39	0.0	39	0.0		0.233		73.5	LOS F	2.4	17.0				
East: Dick Johnson Drive															
Lane 1	108	0.0	108	0.0	162	0.669	100	81.2	LOS F	7.6	53.4	Full	220	0.0	0.0
Lane 2	112	0.0	112	0.0	167	0.669	100	74.7	LOS F	7.9	55.4	Full	220	0.0	0.0
Lane 3	63	0.0	63	0.0	842	0.075	100	20.1	LOS B	1.5	10.6	Short	60	0.0	NA
Approach	283	0.0	283	0.0		0.669		65.0	LOS E	7.9	55.4				
North: Central Avenue															
Lane 1	106	0.0	106	0.0	165	0.641	100	68.3	LOS E	7.1	49.7	Full	500	0.0	0.0
Lane 2	109	0.0	109	0.0	763	0.143	100	16.7	LOS B	2.6	18.5	Short	40	0.0	NA
Approach	215	0.0	215	0.0		0.641		42.1	LOS C	7.1	49.7				
West: Dick Johnson Drive															
Lane 1	83	0.0	83	0.0	452	0.184	100	45.2	LOS D	4.0	28.1	Full	360	0.0	0.0
Lane 2	85	0.0	85	0.0	460	0.184	100	45.7	LOS D	4.8	33.8	Full	360	0.0	0.0
Lane 3	647	0.0	647	0.0	965[1]	0.670	100	20.6	LOS B	24.3	170.4	Short	60	0.0	NA
Approach	815	0.0	815	0.0		0.670		25.7	LOS B	24.3	170.4				
Intersection	1352	0.0	1352	0.0		0.670		37.9	LOS C	24.3	170.4				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Approach Lane Flows (veh/h)

South: Central Avenue

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	7	31	-	38	0.0	163	0.233	100	NA	NA
Lane 2	-	-	1	1	0.0	172	0.006	100	0.0	1
Approach	7	31	1	39	0.0		0.233			

East: Dick Johnson Drive

Mov.	L2	T1	R2	Total	%HV		Deg.	Lane	Prob.	Ov.

From E To Exit:	S	W	N			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	4	104	-	108	0.0	162	0.669	100	NA	NA
Lane 2	-	112	-	112	0.0	167	0.669	100	NA	NA
Lane 3	-	-	63	63	0.0	842	0.075	100	0.0	2
Approach	4	216	63	283	0.0		0.669			

North: Central Avenue

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	12	94	-	106	0.0	165	0.641	100	NA	NA
Lane 2	-	-	109	109	0.0	763	0.143	100	0.0	1
Approach	12	94	109	215	0.0		0.641			

West: Dick Johnson Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	4	79	-	83	0.0	452	0.184	100	NA	NA
Lane 2	-	85	-	85	0.0	460	0.184	100	NA	NA
Lane 3	-	-	647	647	0.0	965[1]	0.670	100	100.0	2
Approach	4	164	647	815	0.0		0.670			

	Total	%HV	Deg.Satn (v/c)
Intersection	1352	0.0	0.670

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 12 [12. Dick Johnson Dr / Central Av - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

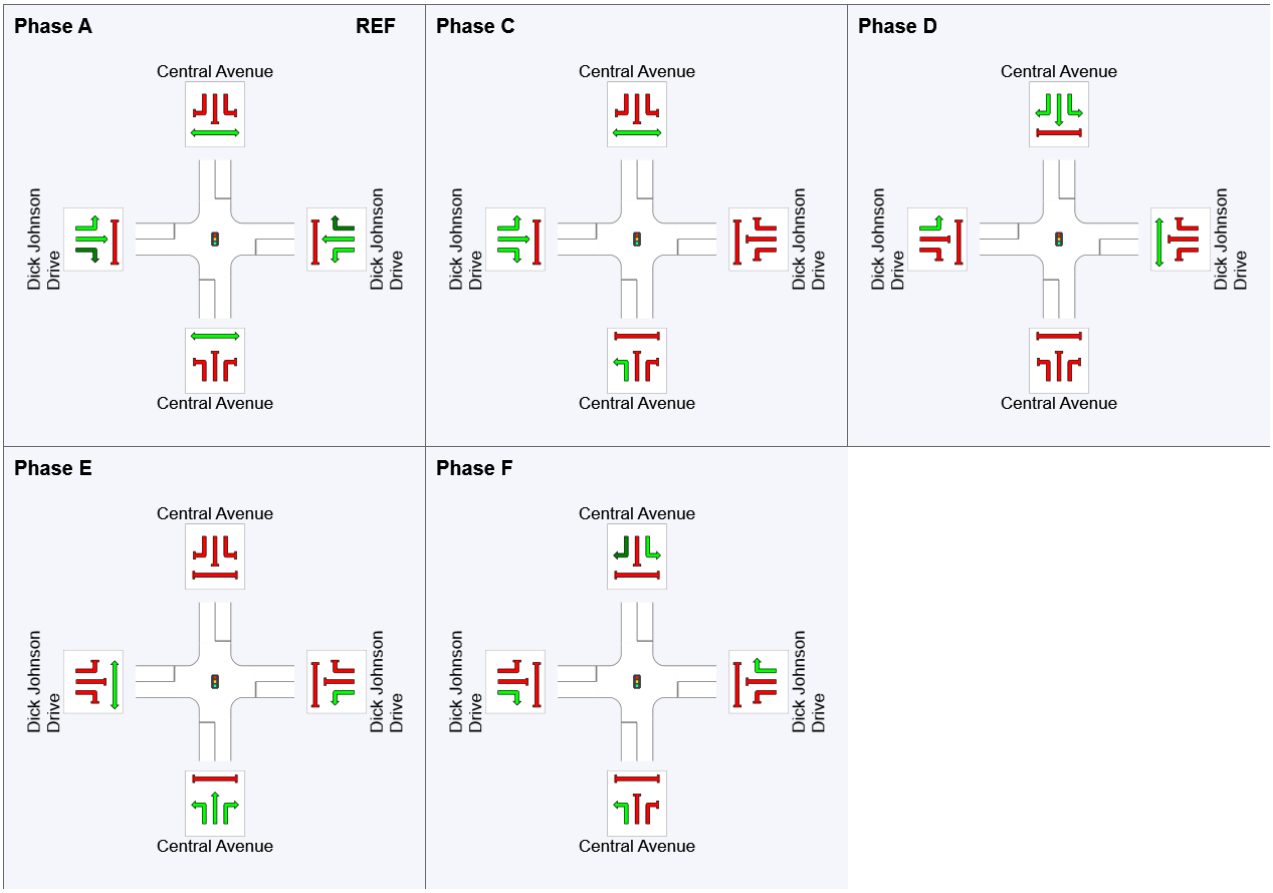
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, C, D, E, F
Output Phase Sequence: A, C, D, E, F

Phase Timing Summary

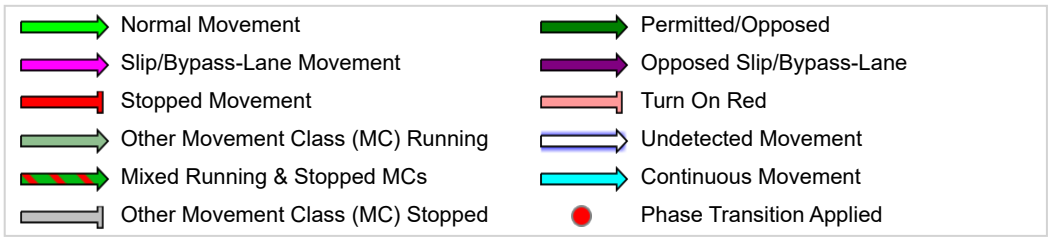
Phase	A	C	D	E	F
Phase Change Time (sec)	0	18	39	58	77
Green Time (sec)	12	15	13	13	57
Phase Time (sec)	18	21	19	19	63
Phase Split	13%	15%	14%	14%	45%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 12 [12. Dick Johnson Dr / Central Av - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Central Avenue															
Lane 1	540	0.0	540	0.0	607[1]	0.889	100	60.3	LOS E	38.8	271.3	Full	120	0.0	81.2
Lane 2	41	0.0	41	0.0	623	0.066	100	38.9	LOS C	1.9	13.1	Short	35	0.0	NA
Approach	581	0.0	581	0.0		0.889		58.8	LOS E	38.8	271.3				
East: Dick Johnson Drive															
Lane 1	266	0.0	265	0.0	417	0.636	100	53.4	LOS D	16.9	118.3	Full	220	0.0	0.0
Lane 2	257	0.0	256	0.0	403[1]	0.636	100	53.8	LOS D	16.0	112.2	Full	220	0.0	0.0
Lane 3	45	0.0	45	0.0	203	0.222	100	61.7	LOS E	2.8	19.5	Short	60	0.0	NA
Approach	568	0.0	567[N1]	0.0		0.636		54.3	LOS D	16.9	118.3				
North: Central Avenue															
Lane 1	3	0.0	3	0.0	146	0.020	100	37.5	LOS C	0.1	0.7	Full	500	0.0	0.0
Lane 2	1	0.0	1	0.0	172	0.006	100	67.4	LOS E	0.1	0.4	Short	40	0.0	NA
Approach	4	0.0	4	0.0		0.020		45.0	LOS D	0.1	0.7				
West: Dick Johnson Drive															
Lane 1	152	0.0	152	0.0	696	0.218	100	31.8	LOS C	6.9	48.4	Full	360	0.0	0.0
Lane 2	152	0.0	152	0.0	696	0.218	100	33.2	LOS C	7.3	51.3	Full	360	0.0	0.0
Lane 3	26	0.0	26	0.0	401	0.065	100	38.8	LOS C	1.2	8.5	Short	60	0.0	NA
Approach	330	0.0	330	0.0		0.218		33.0	LOS C	7.3	51.3				
Intersection	1483	0.0	1481[N1]	0.0		0.889		51.3	LOS D	38.8	271.3				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Central Avenue

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	53	487	-	540	0.0	607[1]	0.889	100	NA	NA
Lane 2	-	-	41	41	0.0	623	0.066	100	0.0	1
Approach	53	487	41	581	0.0		0.889			
East: Dick Johnson Drive										

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	264	-	265	0.0	417	0.636	100	NA	NA
Lane 2	-	256	-	256	0.0	403[1]	0.636	100	NA	NA
Lane 3	-	-	45	45	0.0	203	0.222	100	0.0	2
Approach	1	521	45	567	0.0		0.636			

North: Central Avenue

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	2	1	-	3	0.0	146	0.020	100	NA	NA
Lane 2	-	-	1	1	0.0	172	0.006	100	0.0	1
Approach	2	1	1	4	0.0		0.020			

West: Dick Johnson Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	151	-	152	0.0	696	0.218	100	NA	NA
Lane 2	-	152	-	152	0.0	696	0.218	100	NA	NA
Lane 3	-	-	26	26	0.0	401	0.065	100	0.0	2
Approach	1	303	26	330	0.0		0.218			

	Total	%HV	Deg.Satn (v/c)
Intersection	1481	0.0	0.889

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 12 [12. Dick Johnson Dr / Central Av - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, B, D1, D2, C
Output Phase Sequence: A, B, D1, D2, C

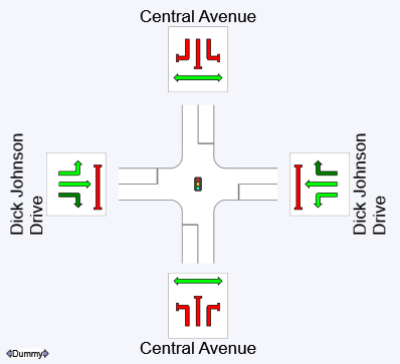
Phase Timing Summary

Phase	A	B	D1	D2	C
Phase Change Time (sec)	0	24	36	89	108
Green Time (sec)	18	6	47	13	26
Phase Time (sec)	24	12	53	19	32
Phase Split	17%	9%	38%	14%	23%

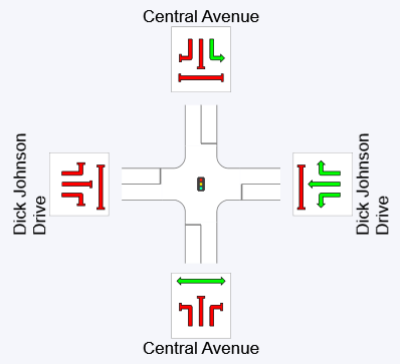
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

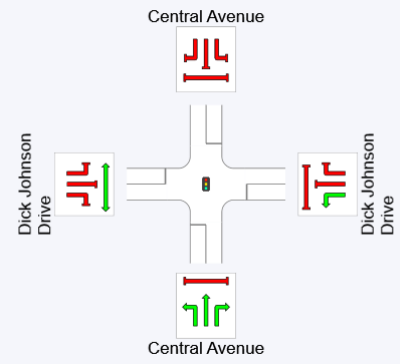
Phase A **REF**



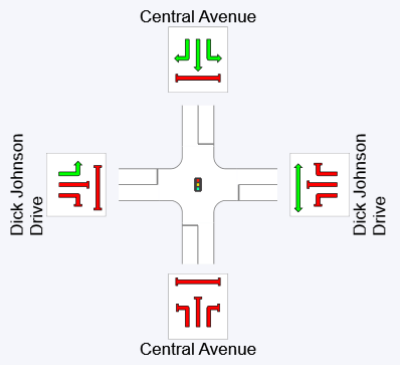
Phase B



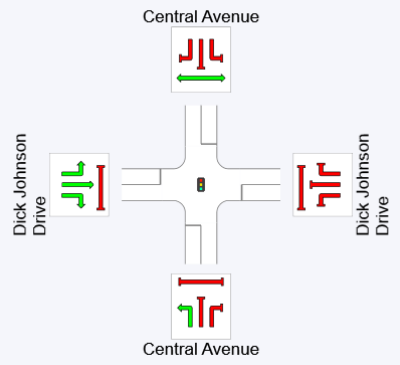
Phase D1



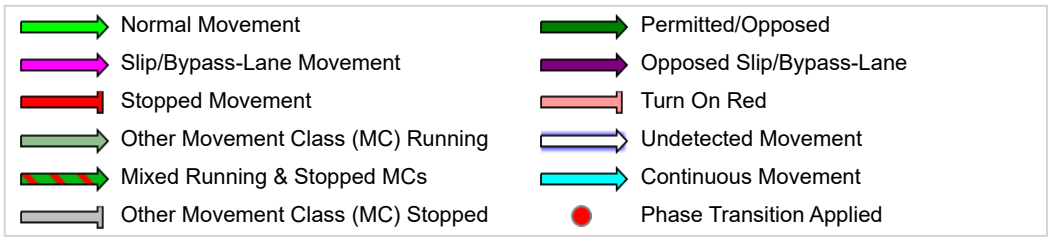
Phase D2



Phase C



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 12 [12. Dick Johnson Dr / Central Av - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Central Avenue															
Lane 1	18	0.0	18	0.0	154	0.117	100	40.6	LOS C	0.8	5.5	Full	120	0.0	0.0
Lane 2	21	0.0	21	0.0	149	0.141	100	70.2	LOS E	1.4	9.5	Short	35	-13.6 N3	NA
Approach	39	0.0	39	0.0		0.141		56.5	LOS E	1.4	9.5				
East: Dick Johnson Drive															
Lane 1	244	0.0	244	0.0	359	0.679	100	24.4	LOS B	10.3	72.1	Full	220	0.0	0.0
Lane 2	255	0.0	255	0.0	376	0.679	100	21.1	LOS B	10.0	70.2	Full	220	0.0	0.0
Lane 3	74	0.0	74	0.0	186	0.398	100	47.8	LOS D	3.8	26.5	Short	60	0.0	NA
Approach	573	0.0	573	0.0		0.679		25.9	LOS B	10.3	72.1				
North: Central Avenue															
Lane 1	318	0.0	318	0.0	379	0.839	100	81.7	LOS F	22.5	157.5	Full	500	-1.9 N3	0.0
Lane 2	88	0.0	88	0.0	385	0.229	100	55.3	LOS D	5.0	35.0	Short	40	0.0	NA
Approach	406	0.0	406	0.0		0.839		76.0	LOS F	22.5	157.5				
West: Dick Johnson Drive															
Lane 1	541	0.0	525	0.0	774	0.678	100	38.0	LOS C	31.3	218.8	Full	360	-14.5 N3	0.0
Lane 2	410	0.0	397	0.0	586 1	0.678	100	31.7	LOS C	21.2	148.5	Full	360	-13.6 N3	0.0
Lane 3	381	0.0	369	0.0	461 1	0.800	100	38.1	LOS C	18.6	130.0	Short	60	0.0	NA
Approach	1332	0.0	1291 N1	0.0		0.800		36.1	LOS C	31.3	218.8				
Intersection	2350	0.0	2309 N1	0.0		0.839		40.9	LOS C	31.3	218.8				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

South: Central Avenue

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	4	14	-	18	0.0	154	0.117	100	NA	NA
Lane 2	-	-	21	21	0.0	149	0.141	100	0.0	1

Approach	4	14	21	39	0.0		0.141			
East: Dick Johnson Drive										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	28	216	-	244	0.0	359	0.679	100	NA	NA
Lane 2	-	255	-	255	0.0	376	0.679	100	NA	NA
Lane 3	-	-	74	74	0.0	186	0.398	100	0.0	2
Approach	28	471	74	573	0.0		0.679			
North: Central Avenue										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	37	281	-	318	0.0	379	0.839	100	NA	NA
Lane 2	-	-	88	88	0.0	385	0.229	100	0.0	1
Approach	37	281	88	406	0.0		0.839			
West: Dick Johnson Drive										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	524	-	525	0.0	774	0.678	100	NA	NA
Lane 2	-	397	-	397	0.0	586[1]	0.678	100	NA	NA
Lane 3	-	-	369	369	0.0	461[1]	0.800	100	77.1	2
Approach	1	921	369	1291	0.0		0.800			

	Total	%HV	Deg.Satn (v/c)
Intersection	2309	0.0	0.839

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 12 [12. Dick Johnson Dr / Central Av - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, B, D1, D2, C
Output Phase Sequence: A, B, D1, D2, C

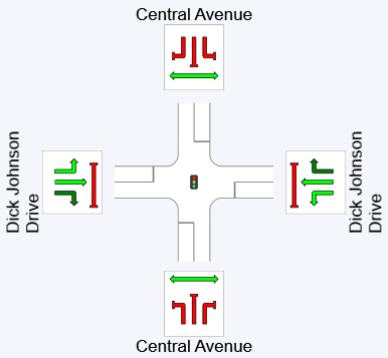
Phase Timing Summary

Phase	A	B	D1	D2	C
Phase Change Time (sec)	0	18	33	52	87
Green Time (sec)	12	9	13	29	47
Phase Time (sec)	18	15	19	35	53
Phase Split	13%	11%	14%	25%	38%

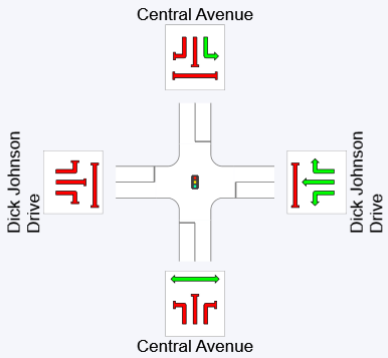
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

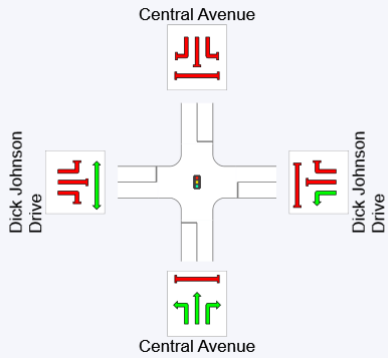
Phase A REF



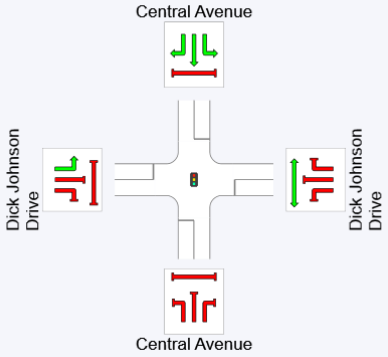
Phase B



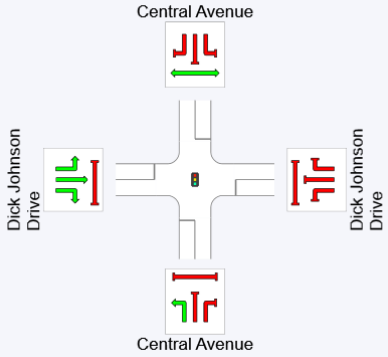
Phase D1



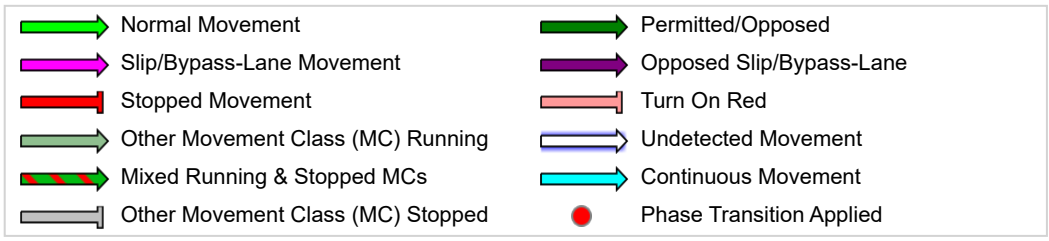
Phase D2



Phase C



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 12 [12. Dick Johnson Dr / Central Av - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Central Avenue															
Lane 1	567	0.0	567	0.0	691[1]	0.821	100	43.8	LOS D	34.3	240.3	Full	120	0.0	69.5
Lane 2	87	0.0	87	0.0	730	0.119	100	34.1	LOS C	3.7	26.0	Short	35	0.0	NA
Approach	654	0.0	654	0.0		0.821		42.5	LOS D	34.3	240.3				
East: Dick Johnson Drive															
Lane 1	654	0.0	550	0.0	585	0.941	100	64.6	LOS E	42.8	299.6	Full	220	0.0	33.1
Lane 2	526	0.0	443	0.0	471[1]	0.941	100	58.6	LOS E	29.8	208.9	Full	220	0.0	0.3
Lane 3	229	0.0	193	0.0	357	0.540	100	58.9	LOS E	10.9	76.4	Short	60	0.0	NA
Approach	1409	0.0	1186[N1]	0.0		0.941		61.4	LOS E	42.8	299.6				
North: Central Avenue															
Lane 1	7	0.0	7	0.0	218	0.032	100	37.4	LOS C	0.3	2.0	Full	500	0.0	0.0
Lane 2	88	0.0	88	0.0	172	0.510	100	72.9	LOS F	5.9	41.5	Short	40	0.0	NA
Approach	95	0.0	95	0.0		0.510		70.3	LOS E	5.9	41.5				
West: Dick Johnson Drive															
Lane 1	188	0.0	187	0.0	418	0.446	100	50.8	LOS D	11.0	77.2	Full	360	0.0	0.0
Lane 2	187	0.0	186	0.0	418	0.446	100	51.5	LOS D	10.6	74.3	Full	360	0.0	0.0
Lane 3	8	0.0	8	0.0	136	0.058	100	52.2	LOS D	0.4	2.9	Short	60	0.0	NA
Approach	383	0.0	381[N1]	0.0		0.446		51.2	LOS D	11.0	77.2				
Intersection	2541	0.0	2316[N1]	0.0		0.941		54.8	LOS D	42.8	299.6				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Central Avenue

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	16	551	-	567	0.0	691[1]	0.821	100	NA	NA
Lane 2	-	-	87	87	0.0	730	0.119	100	0.0	1
Approach	16	551	87	654	0.0		0.821			

East: Dick Johnson Drive											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	549	-	550	0.0	585	0.941	100	NA	NA
Lane 2	-	443	-	443	0.0	471[1]	0.941	100	NA	NA
Lane 3	-	-	193	193	0.0	357	0.540	100	26.9	2
Approach	1	992	193	1186	0.0		0.941			
North: Central Avenue										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	6	1	-	7	0.0	218	0.032	100	NA	NA
Lane 2	-	-	88	88	0.0	172	0.510	100	8.3	1
Approach	6	1	88	95	0.0		0.510			
West: Dick Johnson Drive										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	186	-	187	0.0	418	0.446	100	NA	NA
Lane 2	-	186	-	186	0.0	418	0.446	100	NA	NA
Lane 3	-	-	8	8	0.0	136	0.058	100	0.0	2
Approach	1	372	8	381	0.0		0.446			

	Total	%HV	Deg.Satn (v/c)
Intersection	2316	0.0	0.941

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 12 [12. Dick Johnson Dr / Central Av - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, B, D1, D2, C
Output Phase Sequence: A, B, D1, D2, C

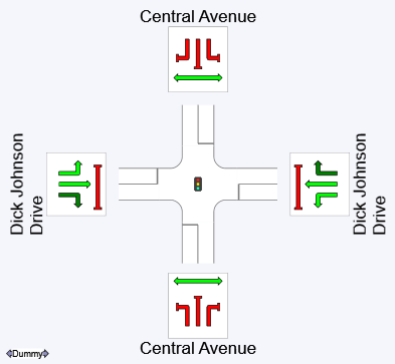
Phase Timing Summary

Phase	A	B	D1	D2	C
Phase Change Time (sec)	0	24	48	109	128
Green Time (sec)	18	18	55	13	6
Phase Time (sec)	24	24	61	19	12
Phase Split	17%	17%	44%	14%	9%

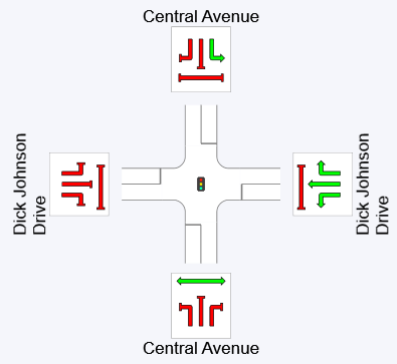
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

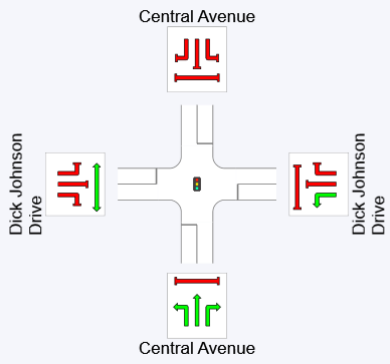
Phase A **REF**



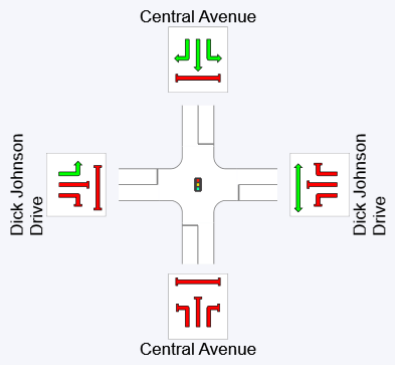
Phase B



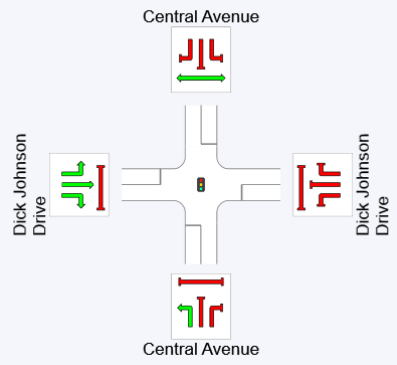
Phase D1



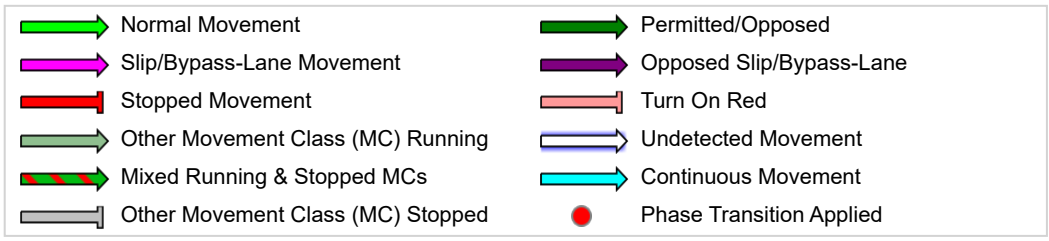
Phase D2



Phase C



REF: Reference Phase
VAR: Variable Phase



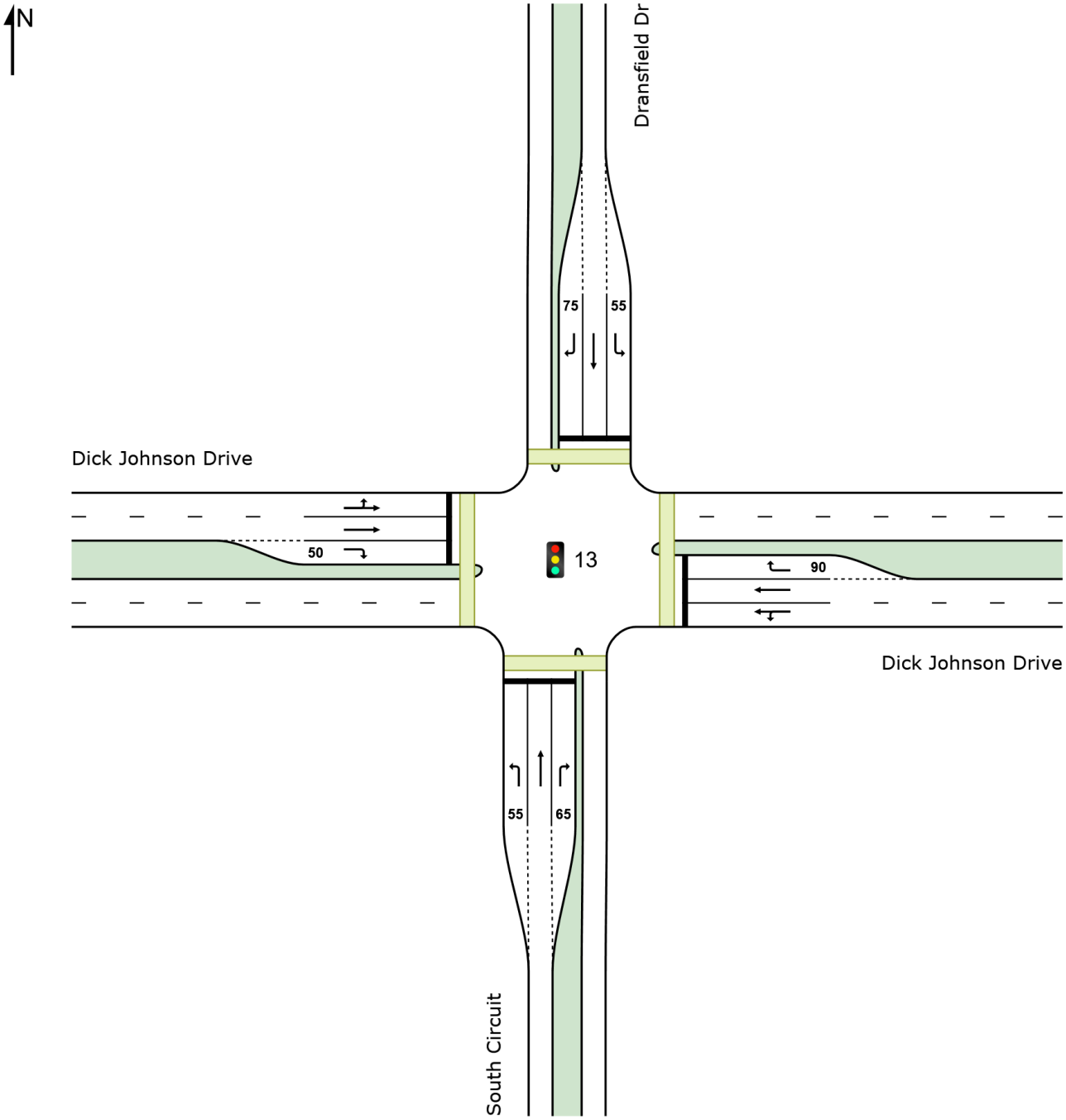
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SITE LAYOUT

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2026 AM (Site Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	370	0.0	370	0.0	736[1]	0.503	100	35.8	LOS C	17.8	124.5	Short	55	0.0	NA
Lane 2	44	0.0	44	0.0	195	0.226	100	63.8	LOS E	2.8	19.8	Full	180	0.0	0.0
Lane 3	20	0.0	20	0.0	186	0.108	100	68.3	LOS E	1.3	8.8	Short	65	0.0	NA
Approach	434	0.0	434	0.0		0.503		40.2	LOS C	17.8	124.5				
East: Dick Johnson Drive															
Lane 1	2	0.0	2	0.0	293	0.008	100	30.5	LOS C	0.1	0.5	Full	400	0.0	0.0
Lane 2	3	0.0	3	0.0	334	0.008	100	50.9	LOS D	0.1	1.0	Full	400	0.0	0.0
Lane 3	1	0.0	1	0.0	166	0.006	100	59.4	LOS E	0.1	0.4	Short	90	0.0	NA
Approach	6	0.0	6	0.0		0.008		44.3	LOS D	0.1	1.0				
North: Dransfield Dr															
Lane 1	1	0.0	1	0.0	584	0.002	100	39.8	LOS C	0.0	0.3	Short	55	0.0	NA
Lane 2	261	0.0	261	0.0	529[1]	0.493	100	46.0	LOS D	14.9	104.6	Full	400	0.0	0.0
Lane 3	121	0.0	121	0.0	504	0.240	100	48.0	LOS D	6.4	44.8	Short	75	0.0	NA
Approach	383	0.0	383	0.0		0.493		46.6	LOS D	14.9	104.6				
West: Dick Johnson Drive															
Lane 1	14	0.0	14	0.0	766	0.018	100	17.2	LOS B	0.4	2.6	Full	220	0.0	0.0
Lane 2	14	0.0	14	0.0	808	0.018	100	24.5	LOS B	0.5	3.8	Full	220	0.0	0.0
Lane 3	119	0.0	119	0.0	617	0.193	100	40.3	LOS C	6.3	44.2	Short	50	0.0	NA
Approach	147	0.0	147	0.0		0.193		36.6	LOS C	6.3	44.2				
Intersection	970	0.0	970	0.0		0.503		42.2	LOS C	17.8	124.5				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	370	-	-	370	0.0	736[1]	0.503	100	81.3	2
Lane 2	-	44	-	44	0.0	195	0.226	100	NA	NA
Lane 3	-	-	20	20	0.0	186	0.108	100	0.0	2

Approach	370	44	20	434	0.0		0.503			
East: Dick Johnson Drive										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	1	-	2	0.0	293	0.008	100	NA	NA
Lane 2	-	3	-	3	0.0	334	0.008	100	NA	NA
Lane 3	-	-	1	1	0.0	166	0.006	100	0.0	2
Approach	1	4	1	6	0.0		0.008			
North: Dransfield Dr										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	-	-	1	0.0	584	0.002	100	0.0	2
Lane 2	-	261	-	261	0.0	529[1]	0.493	100	NA	NA
Lane 3	-	-	121	121	0.0	504	0.240	100	0.0	2
Approach	1	261	121	383	0.0		0.493			
West: Dick Johnson Drive										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	4	10	-	14	0.0	766	0.018	100	NA	NA
Lane 2	-	14	-	14	0.0	808	0.018	100	NA	NA
Lane 3	-	-	119	119	0.0	617	0.193	100	0.0	2
Approach	4	24	119	147	0.0		0.193			

	Total	%HV	Deg.Satn (v/c)
Intersection	970	0.0	0.503

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
East Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Dransfield Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

Project: \\ghdnet\ghd\AU\Sydney\Projects\21\12526027\Tech\Traffic Impact Assessments\04. SIDRA Models\Town Centre TIA\Town Centre Modelling - 2 lane_20210910.sip9

PHASING SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, C, D1, D2, B
Output Phase Sequence: A, C, D1, D2, B

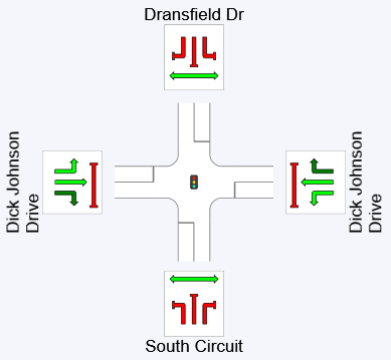
Phase Timing Summary

Phase	A	C	D1	D2	B
Phase Change Time (sec)	0	18	64	84	128
Green Time (sec)	12	40	14	38	6
Phase Time (sec)	18	46	20	44	12
Phase Split	13%	33%	14%	31%	9%

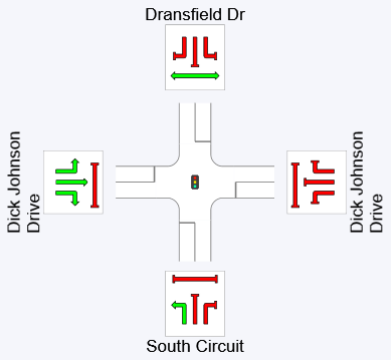
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

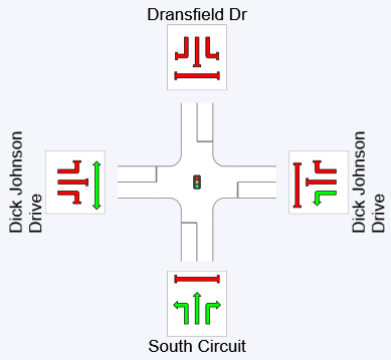
Phase A **REF**



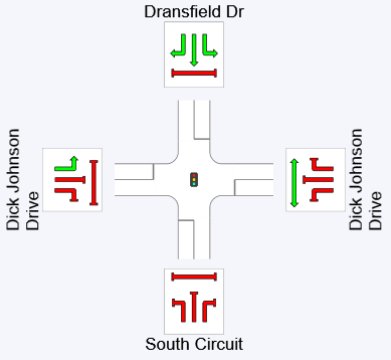
Phase C



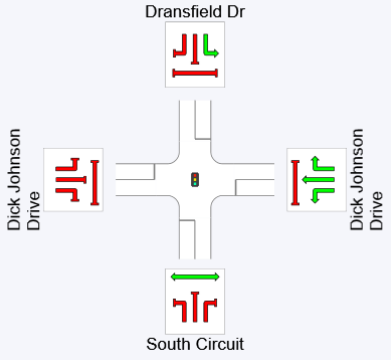
Phase D1



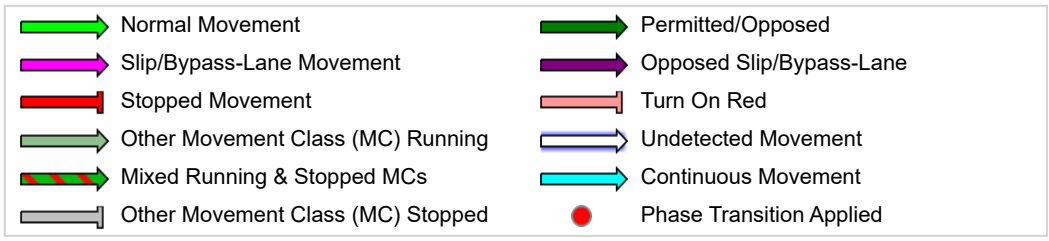
Phase D2



Phase B



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	115	0.0	115	0.0	1128	0.102	100	17.6	LOS B	3.2	22.4	Short	55	0.0	NA
Lane 2	176	0.0	176	0.0	320	0.549	100	58.5	LOS E	11.2	78.2	Full	180	0.0	0.0
Lane 3	115	0.0	115	0.0	305	0.377	100	62.2	LOS E	7.1	49.5	Short	65	0.0	NA
Approach	406	0.0	406	0.0		0.549		48.0	LOS D	11.2	78.2				
East: Dick Johnson Drive															
Lane 1	1	0.0	1	0.0	415	0.003	100	28.8	LOS C	0.0	0.3	Full	400	0.0	0.0
Lane 2	1	0.0	1	0.0	334	0.003	100	50.6	LOS D	0.0	0.3	Full	400	0.0	0.0
Lane 3	1	0.0	1	0.0	166	0.006	100	59.4	LOS E	0.1	0.4	Short	90	0.0	NA
Approach	3	0.0	3	0.0		0.006		45.5	LOS D	0.1	0.4				
North: Dransfield Dr															
Lane 1	1	0.0	1	0.0	252	0.004	100	61.0	LOS E	0.1	0.4	Short	55	0.0	NA
Lane 2	26	0.0	26	0.0	181	0.144	100	64.1	LOS E	1.7	11.7	Full	400	0.0	0.0
Lane 3	19	0.0	19	0.0	172	0.110	100	69.4	LOS E	1.2	8.5	Short	75	0.0	NA
Approach	46	0.0	46	0.0		0.144		66.2	LOS E	1.7	11.7				
West: Dick Johnson Drive															
Lane 1	47	0.0	47	0.0	986	0.048	100	13.1	LOS A	1.0	7.0	Full	220	0.0	0.0
Lane 2	49	0.0	49	0.0	1031	0.048	100	16.7	LOS B	1.4	9.7	Full	220	0.0	0.0
Lane 3	400	0.0	400	0.0	829	0.482	100	35.9	LOS C	17.4	121.6	Short	50	0.0	NA
Approach	496	0.0	496	0.0		0.482		31.9	LOS C	17.4	121.6				
Intersection	951	0.0	951	0.0		0.549		40.4	LOS C	17.4	121.6				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	115	-	-	115	0.0	1128	0.102	100	0.0	2
Lane 2	-	176	-	176	0.0	320	0.549	100	NA	NA
Lane 3	-	-	115	115	0.0	305	0.377	100	0.0	2
Approach	115	176	115	406	0.0		0.549			

East: Dick Johnson Drive										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	0	-	1	0.0	415	0.003	100	NA	NA
Lane 2	-	1	-	1	0.0	334	0.003	100	NA	NA
Lane 3	-	-	1	1	0.0	166	0.006	100	0.0	2
Approach	1	1	1	3	0.0		0.006			
North: Dransfield Dr										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	-	-	1	0.0	252	0.004	100	0.0	2
Lane 2	-	26	-	26	0.0	181	0.144	100	NA	NA
Lane 3	-	-	19	19	0.0	172	0.110	100	0.0	2
Approach	1	26	19	46	0.0		0.144			
West: Dick Johnson Drive										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	14	33	-	47	0.0	986	0.048	100	NA	NA
Lane 2	-	49	-	49	0.0	1031	0.048	100	NA	NA
Lane 3	-	-	400	400	0.0	829	0.482	100	88.4	2
Approach	14	82	400	496	0.0		0.482			

	Total	%HV	Deg.Satn (v/c)
Intersection	951	0.0	0.549

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Dransfield Dr Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v3 - Import
Reference Phase: Phase A
Input Phase Sequence: A, C, D1, D2, B
Output Phase Sequence: A, C, D1, D2, B

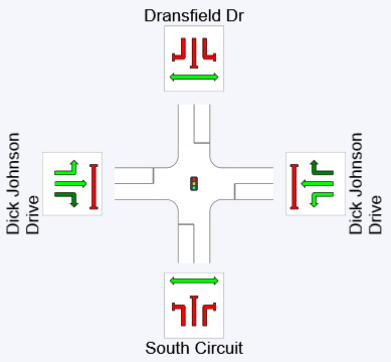
Phase Timing Summary

Phase	A	C	D1	D2	B
Phase Change Time (sec)	0	18	80	109	128
Green Time (sec)	12	56	23	13	6
Phase Time (sec)	18	62	29	19	12
Phase Split	13%	44%	21%	14%	9%

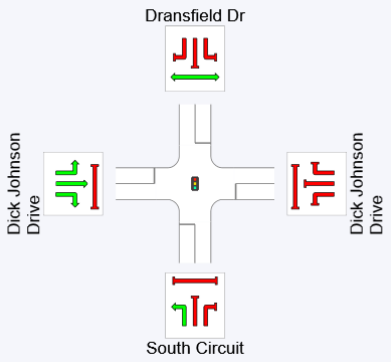
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

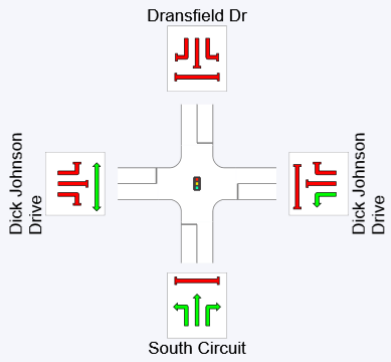
Phase A **REF**



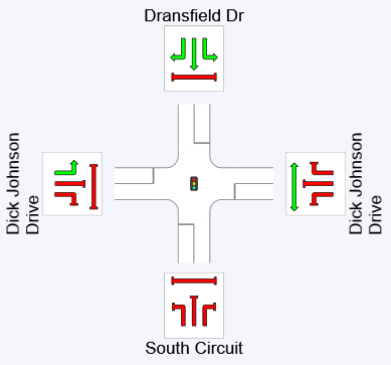
Phase C



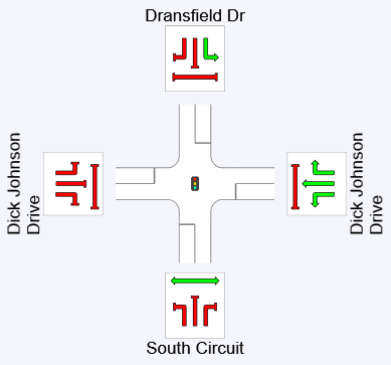
Phase D1



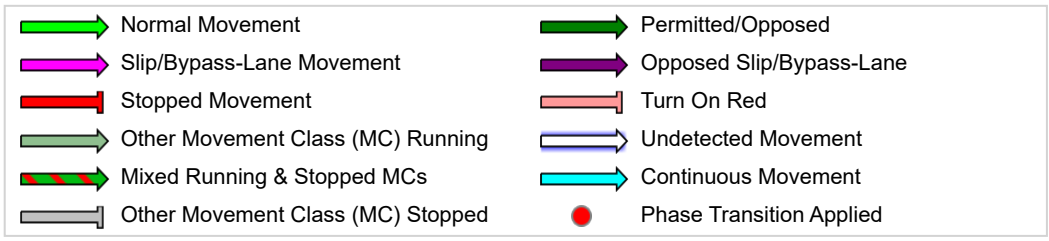
Phase D2



Phase B



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	184	0.0	184	0.0	637	0.289	100	41.2	LOS C	9.1	63.4	Short	55	0.0	NA
Lane 2	291	0.0	291	0.0	401[1]	0.725	100	56.7	LOS E	18.8	131.8	Full	180	0.0	0.0
Lane 3	16	0.0	16	0.0	385	0.042	100	52.8	LOS D	0.9	6.0	Short	65	0.0	NA
Approach	491	0.0	491	0.0		0.725		50.8	LOS D	18.8	131.8				
East: Dick Johnson Drive															
Lane 1	1	0.0	1	0.0	420	0.003	100	32.9	LOS C	0.0	0.3	Full	400	0.0	0.0
Lane 2	1	0.0	1	0.0	334	0.003	100	50.5	LOS D	0.0	0.3	Full	400	0.0	0.0
Lane 3	1	0.0	1	0.0	166	0.006	100	59.4	LOS E	0.1	0.4	Short	90	0.0	NA
Approach	3	0.0	3	0.0		0.006		46.9	LOS D	0.1	0.4				
North: Dransfield Dr															
Lane 1	1	0.0	1	0.0	743	0.001	100	31.6	LOS C	0.0	0.3	Short	55	0.0	NA
Lane 2	499	0.0	499	0.0	696[1]	0.717	100	41.5	LOS C	29.2	204.4	Full	400	0.0	0.0
Lane 3	108	0.0	108	0.0	663	0.163	100	38.1	LOS C	5.0	34.7	Short	75	0.0	NA
Approach	608	0.0	608	0.0		0.717		40.9	LOS C	29.2	204.4				
West: Dick Johnson Drive															
Lane 1	8	0.0	8	0.0	398	0.019	100	11.1	LOS A	0.1	0.7	Full	220	0.0	0.0
Lane 2	8	0.0	8	0.0	432	0.019	100	11.3	LOS A	0.1	0.8	Full	220	0.0	0.0
Lane 3	132	0.0	132	0.0	259	0.510	100	55.7	LOS D	7.6	53.2	Short	50	0.0	NA
Approach	148	0.0	148	0.0		0.510		50.9	LOS D	7.6	53.2				
Intersection	1250	0.0	1250	0.0		0.725		46.0	LOS D	29.2	204.4				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	184	-	-	184	0.0	637	0.289	100	17.9	2
Lane 2	-	291	-	291	0.0	401[1]	0.725	100	NA	NA
Lane 3	-	-	16	16	0.0	385	0.042	100	0.0	2

Approach	184	291	16	491	0.0		0.725			
East: Dick Johnson Drive										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	0	-	1	0.0	420	0.003	100	NA	NA
Lane 2	-	1	-	1	0.0	334	0.003	100	NA	NA
Lane 3	-	-	1	1	0.0	166	0.006	100	0.0	2
Approach	1	1	1	3	0.0		0.006			
North: Dransfield Dr										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	-	-	1	0.0	743	0.001	100	0.0	2
Lane 2	-	499	-	499	0.0	696[1]	0.717	100	NA	NA
Lane 3	-	-	108	108	0.0	663	0.163	100	0.0	2
Approach	1	499	108	608	0.0		0.717			
West: Dick Johnson Drive										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	2	6	-	8	0.0	398	0.019	100	NA	NA
Lane 2	-	8	-	8	0.0	432	0.019	100	NA	NA
Lane 3	-	-	132	132	0.0	259	0.510	100	10.6	2
Approach	2	14	132	148	0.0		0.510			

	Total	%HV	Deg.Satn (v/c)
Intersection	1250	0.0	0.725

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
East Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Dransfield Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

Project: \\ghdnet\ghd\AU\Sydney\Projects\21\12526027\Tech\Traffic Impact Assessments\04. SIDRA Models\Town Centre TIA\Town Centre Modelling - 2 lane_20210910.sip9

PHASING SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, C, D1, D2, B
Output Phase Sequence: A, C, D1, D2, B

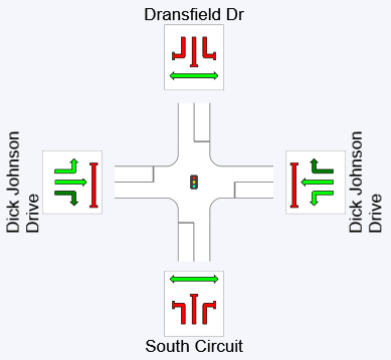
Phase Timing Summary

Phase	A	C	D1	D2	B
Phase Change Time (sec)	0	18	37	72	128
Green Time (sec)	12	13	29	50	6
Phase Time (sec)	18	19	35	56	12
Phase Split	13%	14%	25%	40%	9%

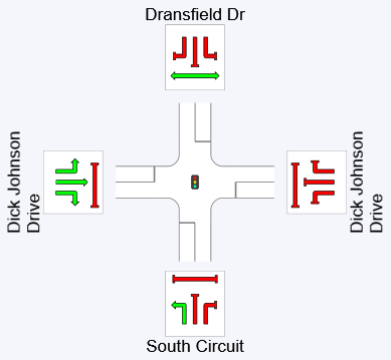
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

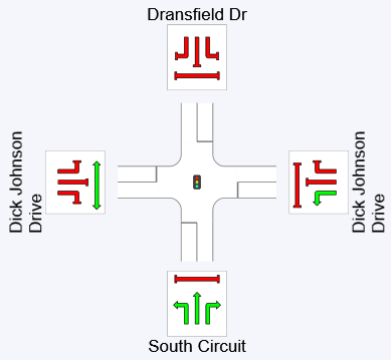
Phase A **REF**



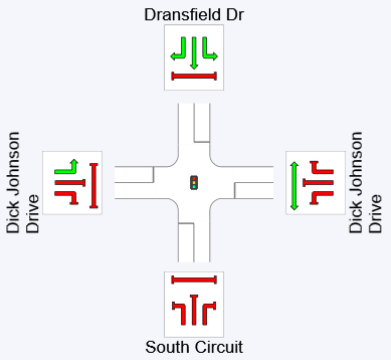
Phase C



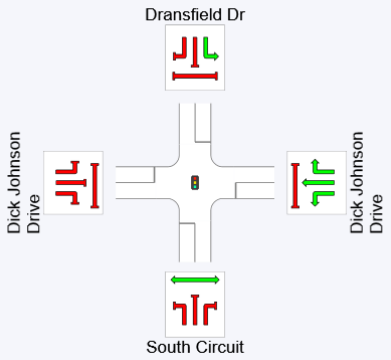
Phase D1



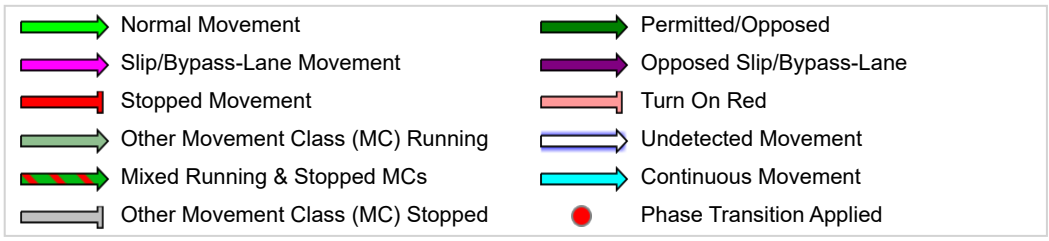
Phase D2



Phase B



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	63	0.0	62	0.0	1074	0.058	100	19.0	LOS B	1.8	12.5	Short	55	0.0	NA
Lane 2	490	0.0	481	0.0	623[1]	0.771	100	43.4	LOS D	28.7	200.7	Full	180	0.0	14.8
Lane 3	186	0.0	182	0.0	637	0.287	100	41.2	LOS C	9.0	62.8	Short	65	0.0	NA
Approach	739	0.0	725[N1]	0.0		0.771		40.8	LOS C	28.7	200.7				
East: Dick Johnson Drive															
Lane 1	2	0.0	2	0.0	294	0.006	100	32.6	LOS C	0.1	0.5	Full	400	0.0	0.0
Lane 2	2	0.0	2	0.0	334	0.006	100	50.8	LOS D	0.1	0.8	Full	400	0.0	0.0
Lane 3	33	0.0	33	0.0	161	0.205	100	62.5	LOS E	2.0	14.2	Short	90	0.0	NA
Approach	37	0.0	37	0.0		0.205		60.3	LOS E	2.0	14.2				
North: Dransfield Dr															
Lane 1	1	0.0	1	0.0	305	0.003	100	57.1	LOS E	0.1	0.4	Short	55	0.0	NA
Lane 2	182	0.0	182	0.0	237	0.769	100	68.3	LOS E	12.7	89.2	Full	400	0.0	0.0
Lane 3	18	0.0	18	0.0	226	0.080	100	64.7	LOS E	1.1	7.7	Short	75	0.0	NA
Approach	201	0.0	201	0.0		0.769		68.0	LOS E	12.7	89.2				
West: Dick Johnson Drive															
Lane 1	70	0.0	70	0.0	603	0.115	100	26.4	LOS B	2.7	18.8	Full	220	0.0	0.0
Lane 2	72	0.0	72	0.0	627	0.115	100	36.9	LOS C	3.8	26.6	Full	220	0.0	0.0
Lane 3	281	0.0	281	0.0	444	0.632	100	59.6	LOS E	16.6	116.2	Short	50	0.0	NA
Approach	423	0.0	423	0.0		0.632		50.2	LOS D	16.6	116.2				
Intersection	1400	0.0	1385[N1]	0.0		0.771		48.1	LOS D	28.7	200.7				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	62	-	-	62	0.0	1074	0.058	100	0.0	2
Lane 2	-	481	-	481	0.0	623[1]	0.771	100	NA	NA
Lane 3	-	-	182	182	0.0	637	0.287	100	1.9	2

Approach	62	481	182	725	0.0		0.771			
East: Dick Johnson Drive										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	1	-	2	0.0	294	0.006	100	NA	NA
Lane 2	-	2	-	2	0.0	334	0.006	100	NA	NA
Lane 3	-	-	33	33	0.0	161	0.205	100	0.0	2
Approach	1	3	33	37	0.0		0.205			
North: Dransfield Dr										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	-	-	1	0.0	305	0.003	100	0.0	2
Lane 2	-	182	-	182	0.0	237	0.769	100	NA	NA
Lane 3	-	-	18	18	0.0	226	0.080	100	0.0	2
Approach	1	182	18	201	0.0		0.769			
West: Dick Johnson Drive										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	52	18	-	70	0.0	603	0.115	100	NA	NA
Lane 2	-	72	-	72	0.0	627	0.115	100	NA	NA
Lane 3	-	-	281	281	0.0	444	0.632	100	84.0	2
Approach	52	90	281	423	0.0		0.632			
	Total	%HV	Deg.Satn (v/c)							
Intersection	1385	0.0		0.771						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
East Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Dransfield Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

Project: \\ghdnet\ghd\AU\Sydney\Projects\21\12526027\Tech\Traffic Impact Assessments\04. SIDRA Models\Town Centre TIA\Town Centre Modelling - 2 lane_20210910.sip9

PHASING SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v3 - Import
Reference Phase: Phase A
Input Phase Sequence: A, C, D1, D2, B
Output Phase Sequence: A, C, D1, D2, B

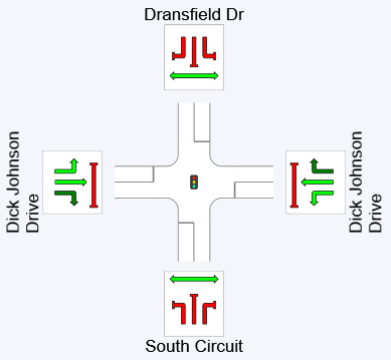
Phase Timing Summary

Phase	A	C	D1	D2	B
Phase Change Time (sec)	0	18	51	105	128
Green Time (sec)	12	27	48	17	6
Phase Time (sec)	18	33	54	23	12
Phase Split	13%	24%	39%	16%	9%

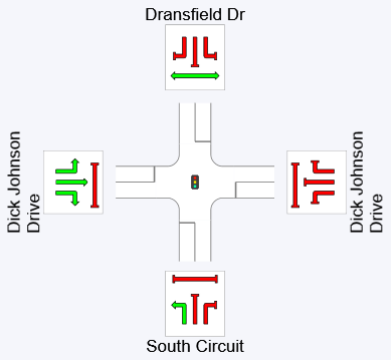
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

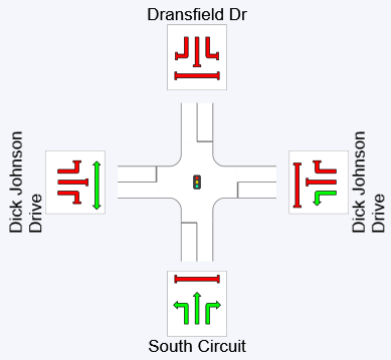
Phase A REF



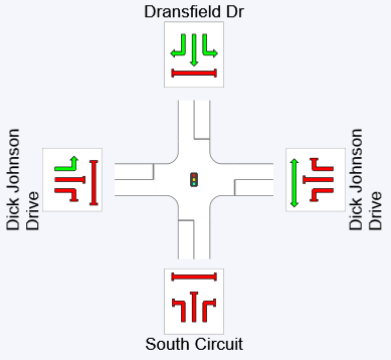
Phase C



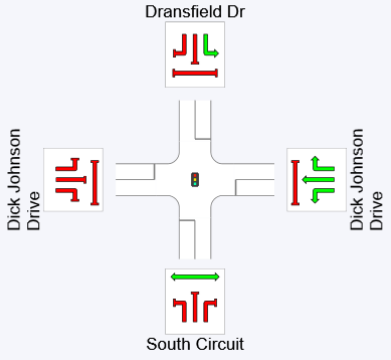
Phase D1



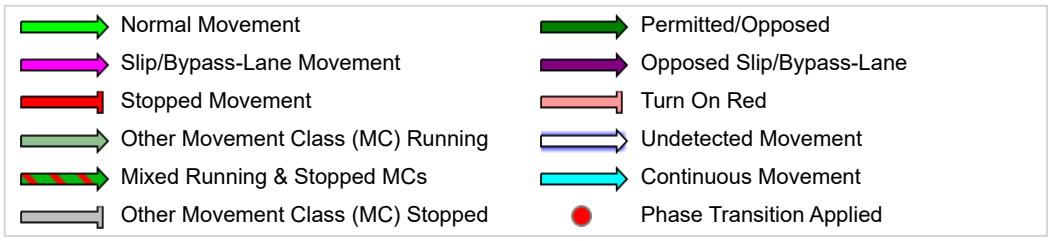
Phase D2



Phase B



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	62	0.0	62	0.0	478	0.130	100	48.1	LOS D	3.2	22.6	Short	55	0.0	NA
Lane 2	149	0.0	149	0.0	334	0.446	100	56.5	LOS D	9.2	64.5	Full	180	0.0	0.0
Lane 3	270	0.0	270	0.0	303[1]	0.890	100	79.2	LOS F	20.5	143.4	Short	65	0.0	NA
Approach	481	0.0	481	0.0		0.890		68.2	LOS E	20.5	143.4				
East: Dick Johnson Drive															
Lane 1	289	0.0	289	0.0	522	0.554	100	45.8	LOS D	16.2	113.7	Full	400	0.0	0.0
Lane 2	309	0.0	309	0.0	557	0.554	100	45.5	LOS D	17.8	124.7	Full	400	0.0	0.0
Lane 3	102	0.0	102	0.0	136	0.749	100	55.9	LOS D	5.9	41.1	Short	90	0.0	NA
Approach	700	0.0	700	0.0		0.749		47.1	LOS D	17.8	124.7				
North: Dransfield Dr															
Lane 1	20	0.0	20	0.0	690	0.029	100	34.9	LOS C	0.8	5.9	Short	55	0.0	NA
Lane 2	441	0.0	441	0.0	627[1]	0.704	100	43.6	LOS D	26.0	181.7	Full	400	0.0	0.0
Lane 3	78	0.0	78	0.0	610	0.128	100	40.5	LOS C	3.7	25.7	Short	75	0.0	NA
Approach	539	0.0	539	0.0		0.704		42.8	LOS D	26.0	181.7				
West: Dick Johnson Drive															
Lane 1	503	0.0	488	0.0	557	0.876	100	63.1	LOS E	34.9	244.5	Full	220	0.0	14.5
Lane 2	495	0.0	481	0.0	549[1]	0.876	100	61.5	LOS E	34.5	241.8	Full	220	0.0	13.6
Lane 3	11	0.0	11	0.0	228	0.047	100	59.8	LOS E	0.7	4.8	Short	50	0.0	NA
Approach	1009	0.0	979[N1]	0.0		0.876		62.3	LOS E	34.9	244.5				
Intersection	2729	0.0	2699[N1]	0.0		0.890		55.5	LOS D	34.9	244.5				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	62	-	-	62	0.0	478	0.130	100	0.0	2
Lane 2	-	149	-	149	0.0	334	0.446	100	NA	NA
Lane 3	-	-	270	270	0.0	303[1]	0.890	100	78.8	2

Approach	62	149	270	481	0.0		0.890			
East: Dick Johnson Drive										
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	75	214	-	289	0.0	522	0.554	100	NA	NA
Lane 2	-	309	-	309	0.0	557	0.554	100	NA	NA
Lane 3	-	-	102	102	0.0	136	0.749	100	0.0	2
Approach	75	523	102	700	0.0		0.749			
North: Dransfield Dr										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	20	-	-	20	0.0	690	0.029	100	0.0	2
Lane 2	-	441	-	441	0.0	627[1]	0.704	100	NA	NA
Lane 3	-	-	78	78	0.0	610	0.128	100	0.0	2
Approach	20	441	78	539	0.0		0.704			
West: Dick Johnson Drive										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	487	-	488	0.0	557	0.876	100	NA	NA
Lane 2	-	481	-	481	0.0	549[1]	0.876	100	NA	NA
Lane 3	-	-	11	11	0.0	228	0.047	100	0.0	2
Approach	1	968	11	979	0.0		0.876			

	Total	%HV	Deg.Satn (v/c)
Intersection	2699	0.0	0.890

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
East Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Dransfield Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

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PHASING SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, C, D1, D2, B
Output Phase Sequence: A, C, D1, D2, B

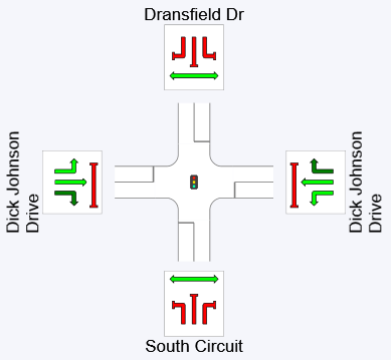
Phase Timing Summary

Phase	A	C	D1	D2	B
Phase Change Time (sec)	0	34	46	76	128
Green Time (sec)	28	6	24	46	6
Phase Time (sec)	34	12	30	52	12
Phase Split	24%	9%	21%	37%	9%

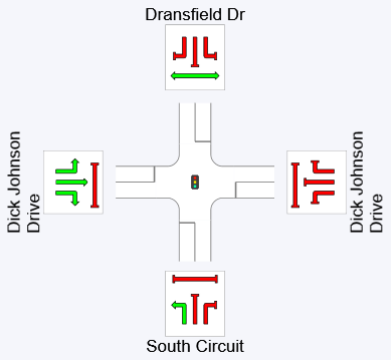
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

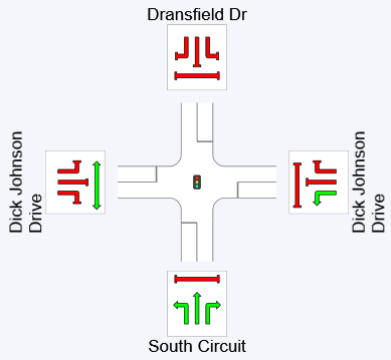
Phase A **REF**



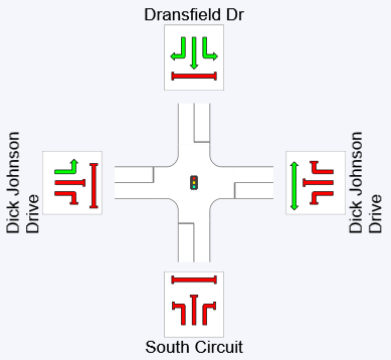
Phase C



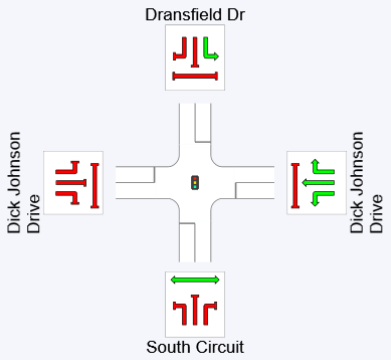
Phase D1



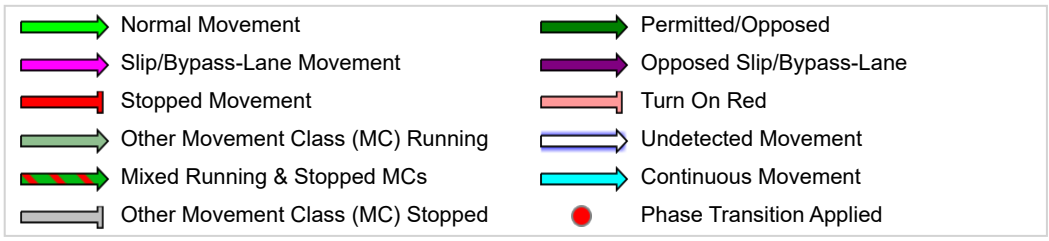
Phase D2



Phase B



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	1	0.0	1	0.0	331	0.003	100	41.8	LOS C	0.0	0.3	Short	55	-40.5 N7	NA
Lane 2	342	0.0	341	0.0	417 1	0.818	100	61.1	LOS E	23.6	165.0	Full	180	0.0	50.0 8
Lane 3	412	0.0	411	0.0	328 1	1.254	100	305.2	LOS F	42.0 N4	293.8 N4	Short	65	0.0	NA
Approach	755	0.0	753 N1	0.0		1.254		194.2	LOS F	42.0	293.8				
East: Dick Johnson Drive															
Lane 1	574	0.0	574	0.0	556	1.032	100	113.0	LOS F	59.7	418.1	Full	400	-40.3 N7	9.0
Lane 2	639	0.0	639	0.0	619 1	1.032	100	119.1	LOS F	70.9	496.3	Full	400	-13.7 N3	50.5 8
Lane 3	648	0.0	648	0.0	540 1	1.200	100	247.6	LOS F	93.8	656.6	Short	90	0.0	NA
Approach	1861	0.0	1861	0.0		1.200		162.0	LOS F	93.8	656.6				
North: Dransfield Dr															
Lane 1	1	0.0	1	0.0	822	0.001	100	28.0	LOS B	0.0	0.3	Short	55	0.0	NA
Lane 2	26	0.0	26	0.0	181	0.144	100	64.1	LOS E	1.7	11.7	Full	400	0.0	0.0
Lane 3	2	0.0	2	0.0	149	0.013	100	68.1	LOS E	0.1	0.9	Short	75	-13.7 N3	NA
Approach	29	0.0	29	0.0		0.144		63.1	LOS E	1.7	11.7				
West: Dick Johnson Drive															
Lane 1	262	0.0	261	0.0	334	0.781	100	24.1	LOS B	12.0	83.7	Full	220	0.0	0.0
Lane 2	245	0.0	244	0.0	313 1	0.781	100	35.5	LOS C	13.3	92.9	Full	220	0.0	0.0
Lane 3	55	0.0	55	0.0	136	0.402	100	68.3	LOS E	3.6	25.1	Short	50	0.0	NA
Approach	562	0.0	560 N1	0.0		0.781		33.4	LOS C	13.3	92.9				
Intersection	3207	0.0	3203 N1	0.0		1.254		146.2	LOS F	93.8	656.6				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
8 Probability of Blockage has been set on the basis of a queue that overflows from a short lane.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.
N4 Average back of queue has been restricted to the available queue storage space.
N7 The capacity reduction has been determined from the queue blockage probability of a Site further downstream due to intermediate continuous lanes.

Approach Lane Flows (veh/h)

South: South Circuit

Mov.	L2	T1	R2	Total	%HV	Deg.	Lane	Prob.	Ov.

From S To Exit:	W	N	E			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	1	-	-	1	0.0	331	0.003	100	0.0	2
Lane 2	-	341	-	341	0.0	417[1]	0.818	100	NA	NA
Lane 3	-	-	411	411	0.0	328[1]	1.254	100	100.0	2
Approach	1	341	411	753	0.0		1.254			

East: Dick Johnson Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	4	570	-	574	0.0	556	1.032	100	NA	NA
Lane 2	-	639	-	639	0.0	619[1]	1.032	100	NA	NA
Lane 3	-	-	648	648	0.0	540[1]	1.200	100	100.0	2
Approach	4	1209	648	1861	0.0		1.200			

North: Dransfield Dr

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	-	-	1	0.0	822	0.001	100	0.0	2
Lane 2	-	26	-	26	0.0	181	0.144	100	NA	NA
Lane 3	-	-	2	2	0.0	149	0.013	100	0.0	2
Approach	1	26	2	29	0.0		0.144			

West: Dick Johnson Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	260	-	261	0.0	334	0.781	100	NA	NA
Lane 2	-	244	-	244	0.0	313[1]	0.781	100	NA	NA
Lane 3	-	-	55	55	0.0	136	0.402	100	0.0	2
Approach	1	504	55	560	0.0		0.781			

	Total	%HV	Deg.Satn (v/c)
Intersection	3203	0.0	1.254

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
East Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Dransfield Dr Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Dick Johnson Drive Merge Type: **Not Applied**											

Full Length Lane	1	Merge Analysis not applied.
Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v3
Reference Phase: Phase A
Input Phase Sequence: A, C, D1, D2, B
Output Phase Sequence: A, C, D1, D2, B

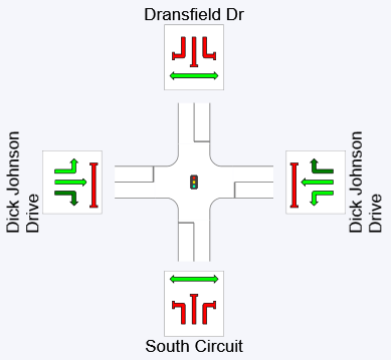
Phase Timing Summary

Phase	A	C	D1	D2	B
Phase Change Time (sec)	0	18	30	66	85
Green Time (sec)	12	6	30	13	49
Phase Time (sec)	18	12	36	19	55
Phase Split	13%	9%	26%	14%	39%

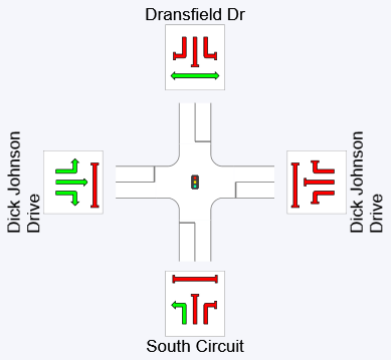
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

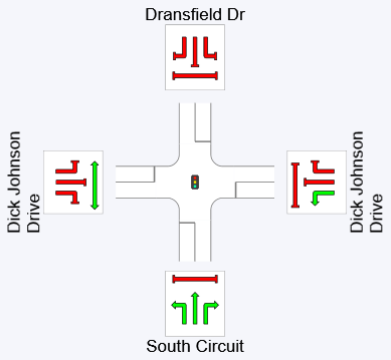
Phase A REF



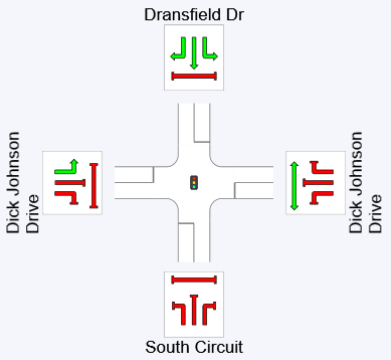
Phase C



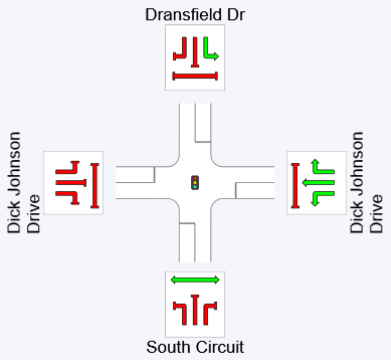
Phase D1



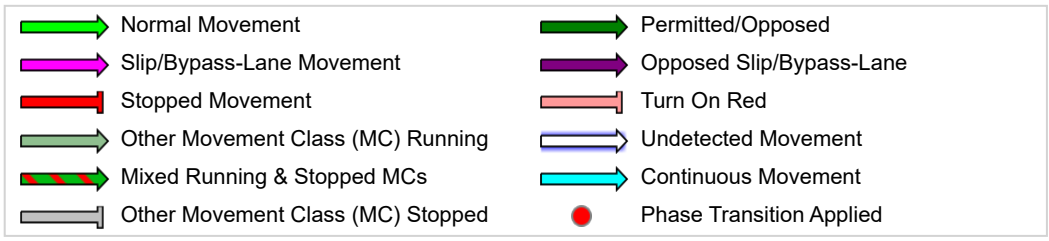
Phase D2



Phase B



REF: Reference Phase
VAR: Variable Phase



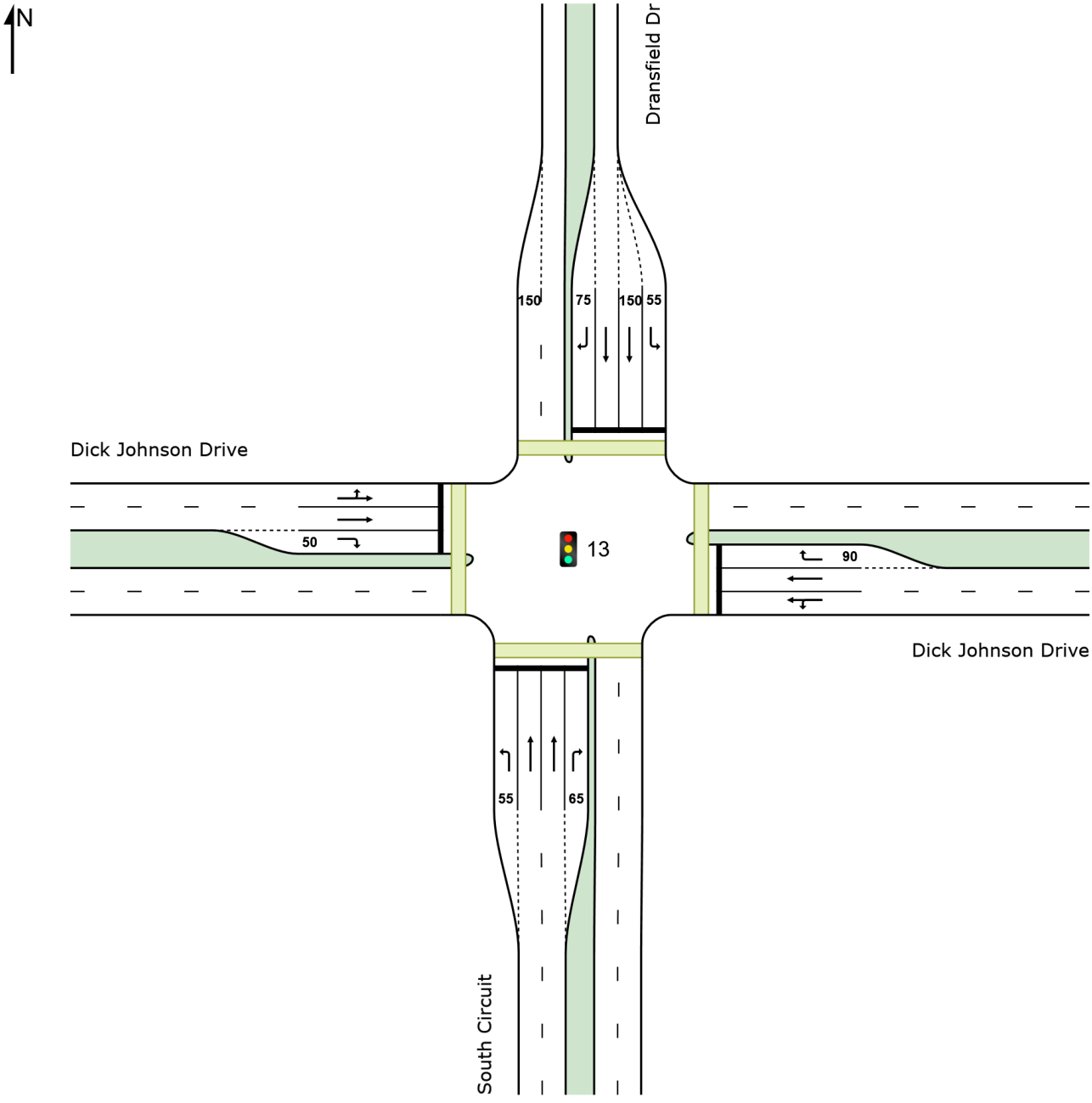
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SITE LAYOUT

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	184	0.0	184	0.0	756	0.243	100	34.5	LOS C	8.1	56.9	Short	55	0.0	NA
Lane 2	213	0.0	213	0.0	460	0.464	83[6]	49.9	LOS D	12.5	87.4	Full	180	0.0	0.0
Lane 3	256	0.0	256	0.0	460	0.557	100	50.7	LOS D	15.4	107.7	Full	180	0.0	0.0
Lane 4	16	0.0	16	0.0	438	0.037	100	49.3	LOS D	0.8	5.8	Short	65	0.0	NA
Approach	669	0.0	669	0.0		0.557		45.9	LOS D	15.4	107.7				
East: Dick Johnson Drive															
Lane 1	1	0.0	1	0.0	425	0.003	100	30.9	LOS C	0.0	0.3	Full	400	0.0	0.0
Lane 2	1	0.0	1	0.0	334	0.003	100	50.5	LOS D	0.0	0.3	Full	400	0.0	0.0
Lane 3	1	0.0	1	0.0	166	0.006	100	59.4	LOS E	0.1	0.4	Short	90	0.0	NA
Approach	3	0.0	3	0.0		0.006		46.2	LOS D	0.1	0.4				
North: Dransfield Dr															
Lane 1	1	0.0	1	0.0	623	0.002	100	37.6	LOS C	0.0	0.3	Short	55	0.0	NA
Lane 2	318	0.0	318	0.0	571[1]	0.558	100	44.8	LOS D	18.3	128.0	Short	150	0.0	NA
Lane 3	319	0.0	319	0.0	571	0.558	100	44.8	LOS D	18.3	128.1	Full	400	0.0	0.0
Lane 4	108	0.0	108	0.0	544	0.199	100	45.2	LOS D	5.5	38.4	Short	75	0.0	NA
Approach	746	0.0	746	0.0		0.558		44.8	LOS D	18.3	128.1				
West: Dick Johnson Drive															
Lane 1	8	0.0	8	0.0	467	0.017	100	10.1	LOS A	0.1	0.6	Full	220	0.0	0.0
Lane 2	8	0.0	8	0.0	501	0.017	100	9.8	LOS A	0.1	0.7	Full	220	0.0	0.0
Lane 3	132	0.0	132	0.0	325	0.406	100	60.9	LOS E	7.6	53.0	Short	50	0.0	NA
Approach	148	0.0	148	0.0		0.406		55.4	LOS D	7.6	53.0				
Intersection	1566	0.0	1566	0.0		0.558		46.3	LOS D	18.3	128.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
6 Lane under-utilisation due to downstream effects

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.

Lane 1	184	-	-	184	0.0	756	0.243	100	8.1	2
Lane 2	-	213	-	213	0.0	460	0.464	83[6]	NA	NA
Lane 3	-	256	-	256	0.0	460	0.557	100	NA	NA
Lane 4	-	-	16	16	0.0	438	0.037	100	0.0	3
Approach	184	469	16	669	0.0		0.557			

East: Dick Johnson Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	0	-	1	0.0	425	0.003	100	NA	NA
Lane 2	-	1	-	1	0.0	334	0.003	100	NA	NA
Lane 3	-	-	1	1	0.0	166	0.006	100	0.0	2
Approach	1	1	1	3	0.0		0.006			

North: Dransfield Dr

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	-	-	1	0.0	623	0.002	100	0.0	2
Lane 2	-	318	-	318	0.0	571[1]	0.558	100	0.0	3
Lane 3	-	319	-	319	0.0	571	0.558	100	NA	NA
Lane 4	-	-	108	108	0.0	544	0.199	100	0.0	3
Approach	1	637	108	746	0.0		0.558			

West: Dick Johnson Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	2	6	-	8	0.0	467	0.017	100	NA	NA
Lane 2	-	8	-	8	0.0	501	0.017	100	NA	NA
Lane 3	-	-	132	132	0.0	325	0.406	100	10.3	2
Approach	2	14	132	148	0.0		0.406			

	Total	%HV	Deg.Satn (v/c)
Intersection	1566	0.0	0.558

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Dransfield Dr Merge Type: **Priority**												
Exit Short Lane	1	150	0.0	257	257	3.00	2.00	215	1539	0.140	0.4	0.5
Merge Lane	2	-	100.0	Merge Lane is not Opposed				257	1800	0.143	0.0	0.0

West Exit: Dick Johnson Drive Merge Type: **Not Applied**		
Full Length Lane	1	Merge Analysis not applied.
Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, C, D1, D2, B
Output Phase Sequence: A, C, D1, D2, B

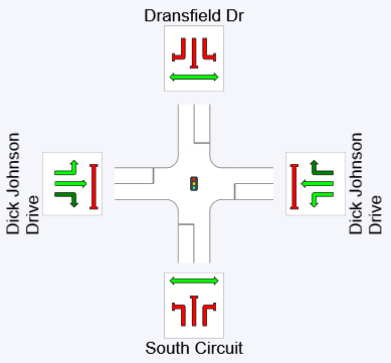
Phase Timing Summary

Phase	A	C	D1	D2	B
Phase Change Time (sec)	0	18	42	81	128
Green Time (sec)	12	18	33	41	6
Phase Time (sec)	18	24	39	47	12
Phase Split	13%	17%	28%	34%	9%

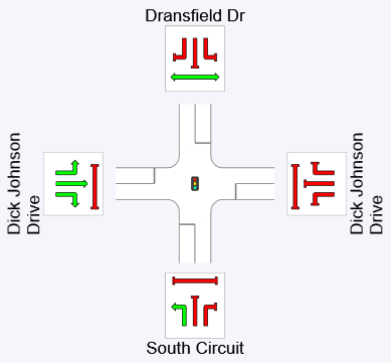
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

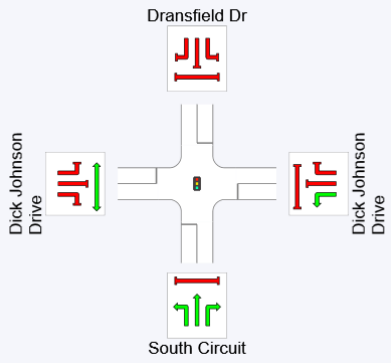
Phase A **REF**



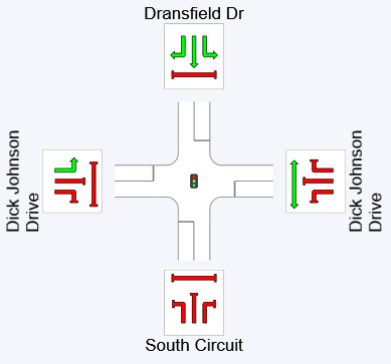
Phase C



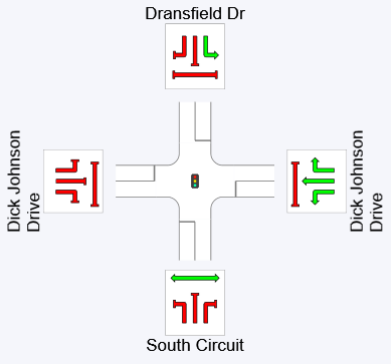
Phase D1



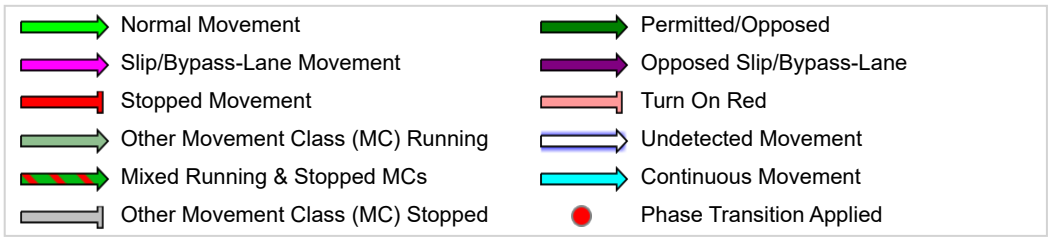
Phase D2



Phase B



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2036 PM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	63	0.0	63	0.0	1074	0.059	100	19.0	LOS B	1.8	12.7	Short	55	0.0	NA
Lane 2	316	0.0	316	0.0	569[1]	0.556	83[6]	43.8	LOS D	17.7	124.1	Full	180	0.0	0.0
Lane 3	355	0.0	355	0.0	532[1]	0.667	100	44.0	LOS D	20.4	142.9	Full	180	0.0	0.0
Lane 4	186	0.0	186	0.0	570	0.326	100	45.4	LOS D	9.7	67.9	Short	65	0.0	NA
Approach	920	0.0	920	0.0		0.667		42.5	LOS C	20.4	142.9				
East: Dick Johnson Drive															
Lane 1	2	0.0	2	0.0	294	0.006	100	31.5	LOS C	0.1	0.5	Full	400	0.0	0.0
Lane 2	2	0.0	2	0.0	334	0.006	100	50.8	LOS D	0.1	0.8	Full	400	0.0	0.0
Lane 3	33	0.0	33	0.0	161	0.204	100	62.6	LOS E	2.0	14.2	Short	90	0.0	NA
Approach	37	0.0	37	0.0		0.204		60.3	LOS E	2.0	14.2				
North: Dransfield Dr															
Lane 1	1	0.0	1	0.0	305	0.003	100	57.1	LOS E	0.1	0.4	Short	55	0.0	NA
Lane 2	157	0.0	157	0.0	237	0.661	100	65.2	LOS E	10.5	73.6	Short	150	0.0	NA
Lane 3	157	0.0	157	0.0	237	0.661	100	65.2	LOS E	10.5	73.6	Full	400	0.0	0.0
Lane 4	18	0.0	18	0.0	226	0.080	100	64.8	LOS E	1.1	7.7	Short	75	0.0	NA
Approach	332	0.0	332	0.0		0.661		65.1	LOS E	10.5	73.6				
West: Dick Johnson Drive															
Lane 1	70	0.0	70	0.0	670	0.104	100	23.0	LOS B	2.3	16.3	Full	220	0.0	0.0
Lane 2	72	0.0	72	0.0	696	0.104	100	33.9	LOS C	3.7	25.8	Full	220	0.0	0.0
Lane 3	281	0.0	281	0.0	511	0.550	100	55.1	LOS D	16.1	112.5	Short	50	0.0	NA
Approach	423	0.0	423	0.0		0.550		46.2	LOS D	16.1	112.5				
Intersection	1712	0.0	1712	0.0		0.667		48.2	LOS D	20.4	142.9				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
6 Lane under-utilisation due to downstream effects

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.

Lane 1	63	-	-	63	0.0	1074	0.059	100	0.0	2
Lane 2	-	316	-	316	0.0	569[1]	0.556	83[6]	NA	NA
Lane 3	-	355	-	355	0.0	532[1]	0.667	100	NA	NA
Lane 4	-	-	186	186	0.0	570	0.326	100	9.0	3
Approach	63	671	186	920	0.0		0.667			

East: Dick Johnson Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	1	-	2	0.0	294	0.006	100	NA	NA
Lane 2	-	2	-	2	0.0	334	0.006	100	NA	NA
Lane 3	-	-	33	33	0.0	161	0.204	100	0.0	2
Approach	1	3	33	37	0.0		0.204			

North: Dransfield Dr

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	-	-	1	0.0	305	0.003	100	0.0	2
Lane 2	-	157	-	157	0.0	237	0.661	100	0.0	3
Lane 3	-	157	-	157	0.0	237	0.661	100	NA	NA
Lane 4	-	-	18	18	0.0	226	0.080	100	0.0	3
Approach	1	313	18	332	0.0		0.661			

West: Dick Johnson Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	52	18	-	70	0.0	670	0.104	100	NA	NA
Lane 2	-	72	-	72	0.0	696	0.104	100	NA	NA
Lane 3	-	-	281	281	0.0	511	0.550	100	80.8	2
Approach	52	90	281	423	0.0		0.550			

	Total	%HV	Deg.Satn (v/c)
Intersection	1712	0.0	0.667

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Dransfield Dr Merge Type: **Priority**												
Exit Short Lane	1	150	0.0	388	388	3.00	2.00	368	1404	0.262	0.6	0.9
Merge Lane	2	-	100.0	Merge Lane is not Opposed				388	1800	0.216	0.0	0.0

West Exit: Dick Johnson Drive Merge Type: **Not Applied**		
Full Length Lane	1	Merge Analysis not applied.
Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2036 PM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v3 - Import
Reference Phase: Phase A
Input Phase Sequence: A, C, D1, D2, B
Output Phase Sequence: A, C, D1, D2, B

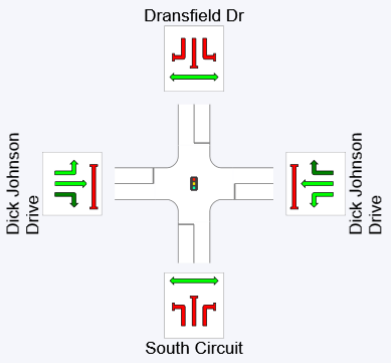
Phase Timing Summary

Phase	A	C	D1	D2	B
Phase Change Time (sec)	0	18	56	105	128
Green Time (sec)	12	32	43	17	6
Phase Time (sec)	18	38	49	23	12
Phase Split	13%	27%	35%	16%	9%

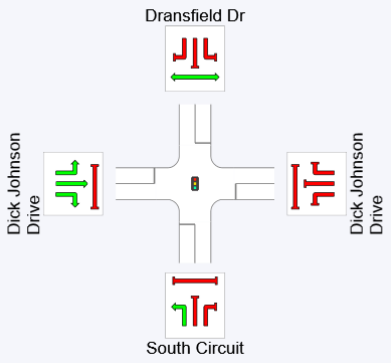
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

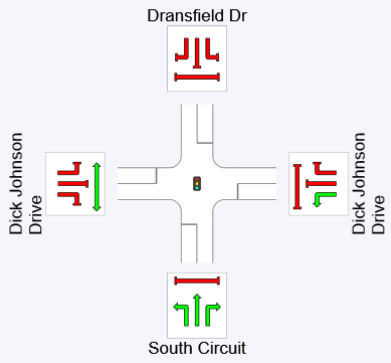
Phase A **REF**



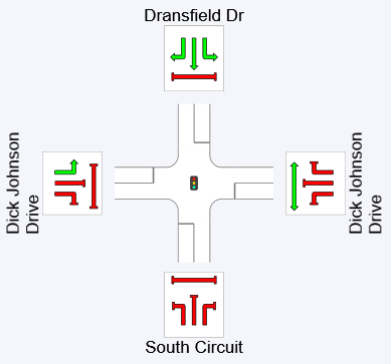
Phase C



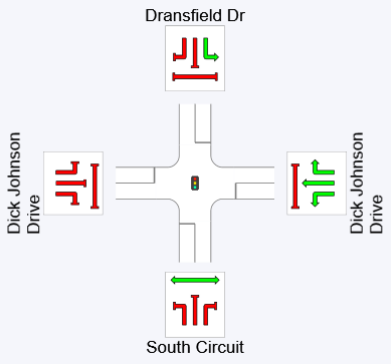
Phase D1



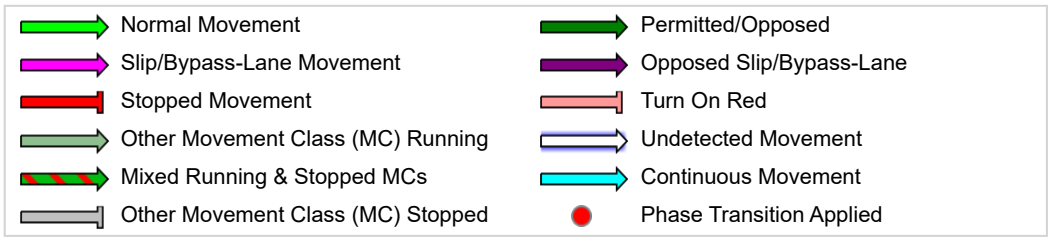
Phase D2



Phase B



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2041 AM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	62	0.0	62	0.0	584	0.106	100	41.6	LOS C	3.0	20.7	Short	55	0.0	NA
Lane 2	138	0.0	138	0.0	446	0.310	83[6]	48.6	LOS D	7.8	54.7	Full	180	0.0	0.0
Lane 3	166	0.0	166	0.0	446	0.372	100	48.9	LOS D	9.5	66.8	Full	180	0.0	0.0
Lane 4	270	0.0	270	0.0	419[1]	0.644	100	58.3	LOS E	16.7	117.0	Short	65	0.0	NA
Approach	636	0.0	636	0.0		0.644		52.1	LOS D	16.7	117.0				
East: Dick Johnson Drive															
Lane 1	291	0.0	291	0.0	619	0.470	100	39.7	LOS C	15.1	105.5	Full	400	0.0	0.0
Lane 2	307	0.0	307	0.0	655	0.470	100	39.1	LOS C	16.4	114.8	Full	400	0.0	0.0
Lane 3	102	0.0	102	0.0	202	0.504	100	47.2	LOS D	5.1	35.9	Short	90	0.0	NA
Approach	700	0.0	700	0.0		0.504		40.5	LOS C	16.4	114.8				
North: Dransfield Dr															
Lane 1	20	0.0	20	0.0	557	0.036	100	42.1	LOS C	0.9	6.6	Short	55	0.0	NA
Lane 2	267	0.0	267	0.0	426[1]	0.627	100	53.1	LOS D	16.5	115.7	Short	150	0.0	NA
Lane 3	271	0.0	271	0.0	432	0.627	100	53.2	LOS D	16.8	117.5	Full	400	0.0	0.0
Lane 4	78	0.0	78	0.0	411	0.190	100	53.1	LOS D	4.3	30.2	Short	75	0.0	NA
Approach	636	0.0	636	0.0		0.627		52.8	LOS D	16.8	117.5				
West: Dick Johnson Drive															
Lane 1	503	0.0	500	0.0	585	0.856	100	62.9	LOS E	34.9	244.1	Full	220	0.0	14.4
Lane 2	495	0.0	493	0.0	576[1]	0.856	100	56.4	LOS D	34.2	239.5	Full	220	0.0	12.7
Lane 3	11	0.0	11	0.0	248	0.044	100	51.1	LOS D	0.6	4.5	Short	50	0.0	NA
Approach	1009	0.0	1004[N1]	0.0		0.856		59.6	LOS E	34.9	244.1				
Intersection	2981	0.0	2976[N1]	0.0		0.856		52.1	LOS D	34.9	244.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
6 Lane under-utilisation due to downstream effects
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: South Circuit

Mov.	L2	T1	R2	Total	%HV	Deg.	Lane	Prob.	Ov.

From S To Exit:	W	N	E			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	62	-	-	62	0.0	584	0.106	100	0.0	2
Lane 2	-	138	-	138	0.0	446	0.310	83[6]	NA	NA
Lane 3	-	166	-	166	0.0	446	0.372	100	NA	NA
Lane 4	-	-	270	270	0.0	419[1]	0.644	100	59.3	3
Approach	62	304	270	636	0.0		0.644			

East: Dick Johnson Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	75	216	-	291	0.0	619	0.470	100	NA	NA
Lane 2	-	307	-	307	0.0	655	0.470	100	NA	NA
Lane 3	-	-	102	102	0.0	202	0.504	100	0.0	2
Approach	75	523	102	700	0.0		0.504			

North: Dransfield Dr

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	20	-	-	20	0.0	557	0.036	100	0.0	2
Lane 2	-	267	-	267	0.0	426[1]	0.627	100	0.0	3
Lane 3	-	271	-	271	0.0	432	0.627	100	NA	NA
Lane 4	-	-	78	78	0.0	411	0.190	100	0.0	3
Approach	20	538	78	636	0.0		0.627			

West: Dick Johnson Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	499	-	500	0.0	585	0.856	100	NA	NA
Lane 2	-	493	-	493	0.0	576[1]	0.856	100	NA	NA
Lane 3	-	-	11	11	0.0	248	0.044	100	0.0	2
Approach	1	992	11	1004	0.0		0.856			

	Total	%HV	Deg.Satn (v/c)
Intersection	2976	0.0	0.856

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Dransfield Dr												

Merge Type: **Priority**											
Exit Short Lane	1	150	0.0	268	268	3.00	2.00	139	1528	0.091	0.4	0.5
Merge Lane	2	-	100.0	Merge Lane is not Opposed				268	1800	0.149	0.0	0.0
West Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2041 AM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, C, D1, D2, B
Output Phase Sequence: A, C, D1, D2, B

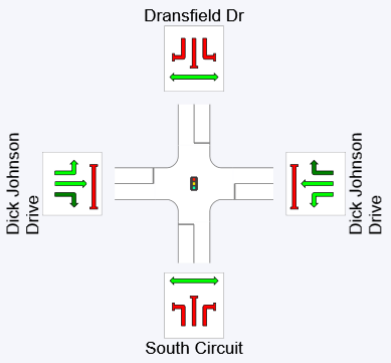
Phase Timing Summary

Phase	A	C	D1	D2	B
Phase Change Time (sec)	0	36	48	86	123
Green Time (sec)	30	6	32	31	11
Phase Time (sec)	36	12	38	37	17
Phase Split	26%	9%	27%	26%	12%

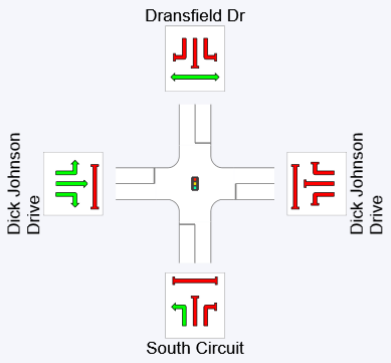
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

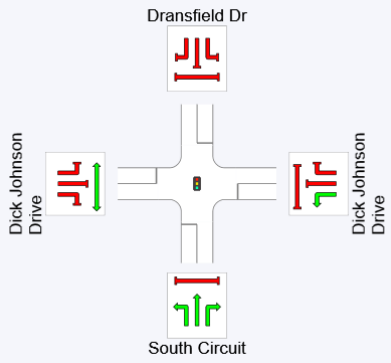
Phase A **REF**



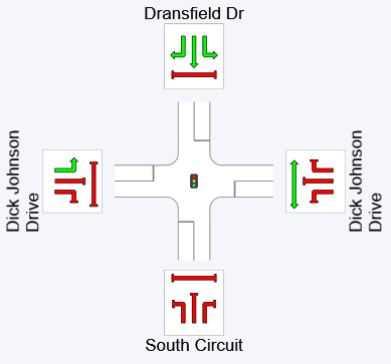
Phase C



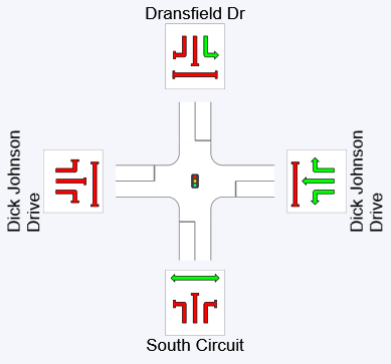
Phase D1



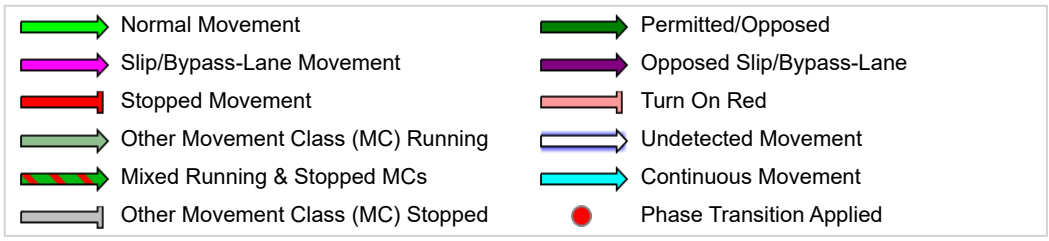
Phase D2



Phase B



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2041 PM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	1	0.0	1	0.0	284	0.004	100	42.7	LOS D	0.0	0.3	Short	55	-47.7 N3	NA
Lane 2	249	0.0	249	0.0	404 1	0.617	83 6	57.1	LOS E	15.5	108.8	Full	180	0.0	0.0
Lane 3	273	0.0	272	0.0	367 1	0.741	100	56.8	LOS E	17.6	123.0	Full	180	0.0	50.0 8
Lane 4	412	0.0	411	0.0	328 1	1.252	100	303.3	LOS F	42.0 N4	293.8 N4	Short	65	0.0	NA
Approach	935	0.0	933 N1	0.0		1.252		165.5	LOS F	42.0	293.8				
East: Dick Johnson Drive															
Lane 1	546	0.0	546	0.0	496	1.101	100	165.4	LOS F	67.9	475.6	Full	400	-47.5 N3	20.7
Lane 2	667	0.0	667	0.0	606 1	1.101	100	169.1	LOS F	87.0	608.9	Full	400	-19.2 N3	51.7 8
Lane 3	648	0.0	648	0.0	537 1	1.206	100	252.9	LOS F	95.0	664.7	Short	90	0.0	NA
Approach	1861	0.0	1861	0.0		1.206		197.2	LOS F	95.0	664.7				
North: Dransfield Dr															
Lane 1	1	0.0	1	0.0	836	0.001	100	27.4	LOS B	0.0	0.3	Short	55	0.0	NA
Lane 2	72	0.0	72	0.0	181	0.395	100	66.3	LOS E	4.7	33.2	Short	150	0.0	NA
Lane 3	72	0.0	72	0.0	181	0.395	100	66.3	LOS E	4.7	33.2	Full	400	0.0	0.0
Lane 4	2	0.0	2	0.0	139	0.014	100	68.4	LOS E	0.1	0.9	Short	75	-19.2 N3	NA
Approach	146	0.0	146	0.0		0.395		66.0	LOS E	4.7	33.2				
West: Dick Johnson Drive															
Lane 1	262	0.0	261	0.0	334	0.783	100	28.0	LOS B	12.9	90.5	Full	220	0.0	0.0
Lane 2	245	0.0	245	0.0	313 1	0.783	100	39.1	LOS C	13.9	97.0	Full	220	0.0	0.0
Lane 3	55	0.0	55	0.0	136	0.403	100	68.0	LOS E	3.6	25.0	Short	50	0.0	NA
Approach	562	0.0	561 N1	0.0		0.783		36.8	LOS C	13.9	97.0				
Intersection	3504	0.0	3501 N1	0.0		1.252		157.6	LOS F	95.0	664.7				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
6 Lane under-utilisation due to downstream effects
8 Probability of Blockage has been set on the basis of a queue that overflows from a short lane.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.
N4 Average back of queue has been restricted to the available queue storage space.

Approach Lane Flows (veh/h)

South: South Circuit											
Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	1	-	-	1	0.0	284	0.004	100	0.0	2	
Lane 2	-	249	-	249	0.0	404[1]	0.617	83[6]	NA	NA	
Lane 3	-	272	-	272	0.0	367[1]	0.741	100	NA	NA	
Lane 4	-	-	411	411	0.0	328[1]	1.252	100	100.0	3	
Approach	1	521	411	933	0.0		1.252				
East: Dick Johnson Drive											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	4	542	-	546	0.0	496	1.101	100	NA	NA	
Lane 2	-	667	-	667	0.0	606[1]	1.101	100	NA	NA	
Lane 3	-	-	648	648	0.0	537[1]	1.206	100	100.0	2	
Approach	4	1209	648	1861	0.0		1.206				
North: Dransfield Dr											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	1	-	-	1	0.0	836	0.001	100	0.0	2	
Lane 2	-	72	-	72	0.0	181	0.395	100	0.0	3	
Lane 3	-	72	-	72	0.0	181	0.395	100	NA	NA	
Lane 4	-	-	2	2	0.0	139	0.014	100	0.0	3	
Approach	1	143	2	146	0.0		0.395				
West: Dick Johnson Drive											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	1	260	-	261	0.0	334	0.783	100	NA	NA	
Lane 2	-	245	-	245	0.0	313[1]	0.783	100	NA	NA	
Lane 3	-	-	55	55	0.0	136	0.403	100	0.0	2	
Approach	1	505	55	561	0.0		0.783				

	Total	%HV	Deg.Satn (v/c)
Intersection	3501	0.0	1.252

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Dick Johnson Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

North Exit: Dransfield Dr Merge Type: **Priority**												
Exit Short Lane	1	150	0.0	809	809	3.00	2.00	250	958	0.261	1.7	2.6
Merge Lane	2	-	100.0	Merge Lane is not Opposed				809	1800	0.450	0.0	0.0
West Exit: Dick Johnson Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

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PHASING SUMMARY

Site: 13 [13. Dick Johnson Dr / South Circuit / Dransfield Dr - 2041 PM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v3
Reference Phase: Phase A
Input Phase Sequence: A, C, D1, D2, B
Output Phase Sequence: A, C, D1, D2, B

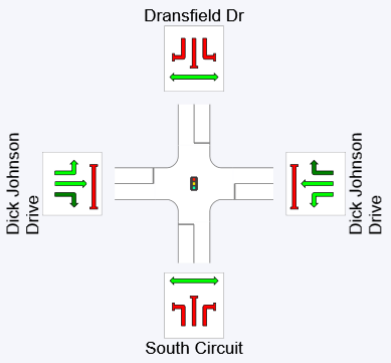
Phase Timing Summary

Phase	A	C	D1	D2	B
Phase Change Time (sec)	0	18	30	65	84
Green Time (sec)	12	6	29	13	50
Phase Time (sec)	18	12	35	19	56
Phase Split	13%	9%	25%	14%	40%

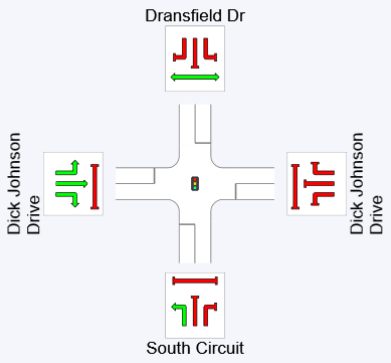
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

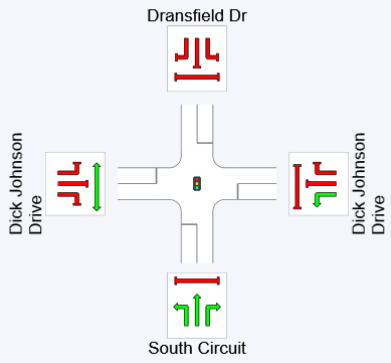
Phase A **REF**



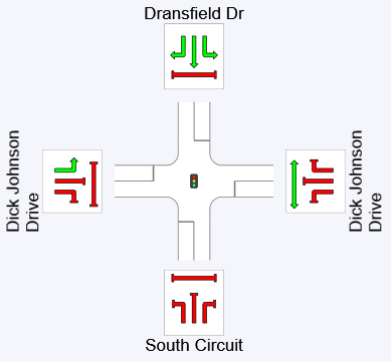
Phase C



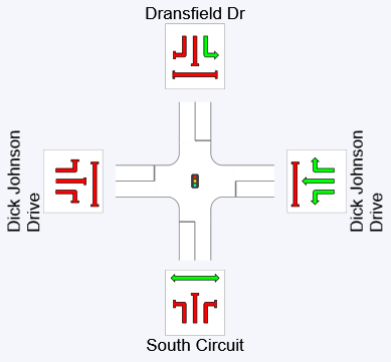
Phase D1



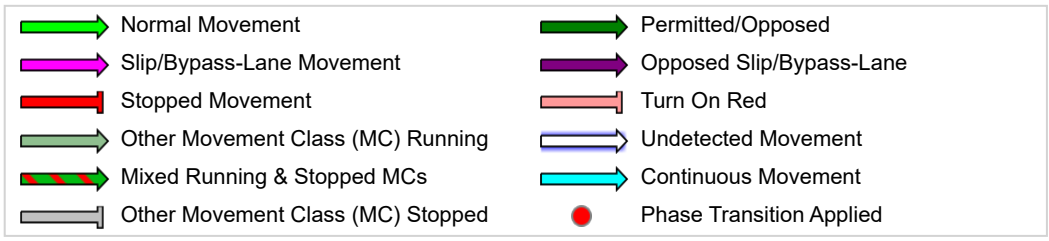
Phase D2



Phase B



REF: Reference Phase
VAR: Variable Phase



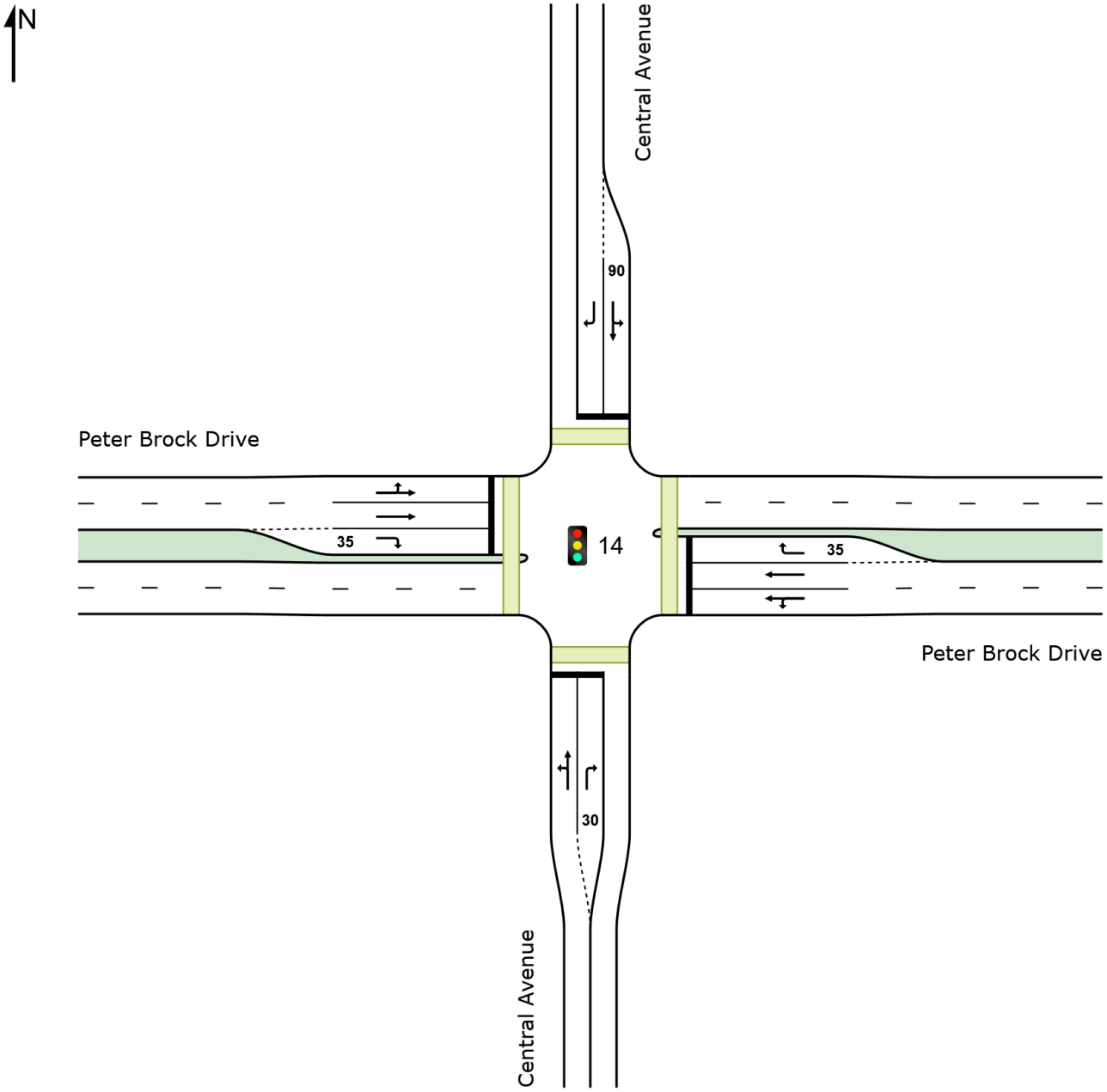
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SITE LAYOUT

Site: 14 [14. Peter Brock Dr / Central Ave - 2026 AM (Site Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 14 [14. Peter Brock Dr / Central Ave - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Central Avenue															
Lane 1	62	0.0	62	0.0	254	0.244	100	63.0	LOS E	3.8	26.7	Full	500	0.0	0.0
Lane 2	1	0.0	1	0.0	159	0.006	100	68.5	LOS E	0.1	0.4	Short	30	0.0	NA
Approach	63	0.0	63	0.0		0.244		63.1	LOS E	3.8	26.7				
East: Peter Brock Drive															
Lane 1	237	0.0	237	0.0	598	0.396	100	50.7	LOS D	14.6	102.2	Full	300	0.0	0.0
Lane 2	219	0.0	219	0.0	554[1]	0.396	100	30.2	LOS C	9.3	65.4	Full	300	0.0	0.0
Lane 3	46	0.0	46	0.0	296	0.155	100	50.4	LOS D	2.3	16.1	Short	35	0.0	NA
Approach	502	0.0	502	0.0		0.396		41.7	LOS C	14.6	102.2				
North: Central Avenue															
Lane 1	6	0.0	6	0.0	171	0.035	100	63.8	LOS E	0.4	2.6	Short	90	0.0	NA
Lane 2	41	0.0	41	0.0	159	0.258	100	72.0	LOS F	2.7	18.9	Full	500	0.0	0.0
Approach	47	0.0	47	0.0		0.258		70.9	LOS F	2.7	18.9				
West: Peter Brock Drive															
Lane 1	311	0.0	311	0.0	1047	0.297	100	19.8	LOS B	11.2	78.2	Full	260	0.0	0.0
Lane 2	331	0.0	331	0.0	1114	0.297	100	3.8	LOS A	3.0	21.1	Full	260	0.0	0.0
Lane 3	182	0.0	182	0.0	771	0.236	100	15.0	LOS B	3.4	24.1	Short	35	0.0	NA
Approach	824	0.0	824	0.0		0.297		12.3	LOS A	11.2	78.2				
Intersection	1436	0.0	1436	0.0		0.396		26.7	LOS B	14.6	102.2				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Approach Lane Flows (veh/h)

South: Central Avenue

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	54	8	-	62	0.0	254	0.244	100	NA	NA
Lane 2	-	-	1	1	0.0	159	0.006	100	0.0	1
Approach	54	8	1	63	0.0		0.244			

East: Peter Brock Drive

Mov.	L2	T1	R2	Total	%HV		Deg.	Lane	Prob.	Ov.

From E To Exit:	S	W	N			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	1	236	-	237	0.0	598	0.396	100	NA	NA
Lane 2	-	219	-	219	0.0	554[1]	0.396	100	NA	NA
Lane 3	-	-	46	46	0.0	296	0.155	100	0.0	2
Approach	1	455	46	502	0.0		0.396			
North: Central Avenue										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	5	-	6	0.0	171	0.035	100	0.0	2
Lane 2	-	-	41	41	0.0	159	0.258	100	NA	NA
Approach	1	5	41	47	0.0		0.258			
West: Peter Brock Drive										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	112	199	-	311	0.0	1047	0.297	100	NA	NA
Lane 2	-	331	-	331	0.0	1114	0.297	100	NA	NA
Lane 3	-	-	182	182	0.0	771	0.236	100	0.0	2
Approach	112	530	182	824	0.0		0.297			

	Total	%HV	Deg.Satn (v/c)
Intersection	1436	0.0	0.396

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 14 [14. Peter Brock Dr / Central Ave - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, B, D2, D1, C
Output Phase Sequence: A, B, D2, D1, C

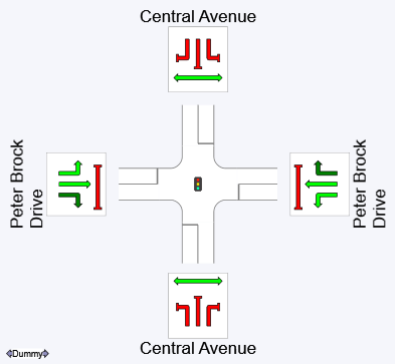
Phase Timing Summary

Phase	A	B	D2	D1	C
Phase Change Time (sec)	102	133	11	29	47
Green Time (sec)	25	12	12	12	49
Phase Time (sec)	31	18	18	18	55
Phase Split	22%	13%	13%	13%	39%

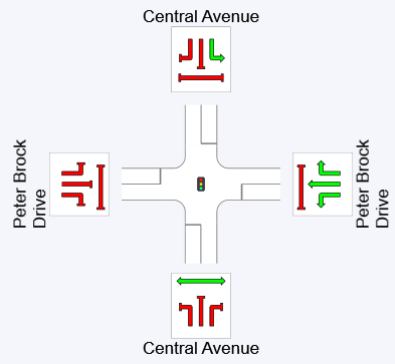
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

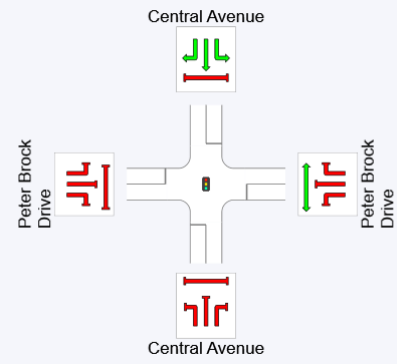
Phase A REF



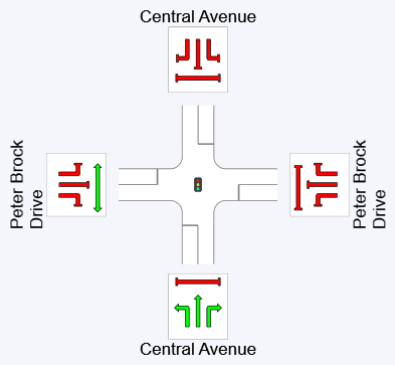
Phase B



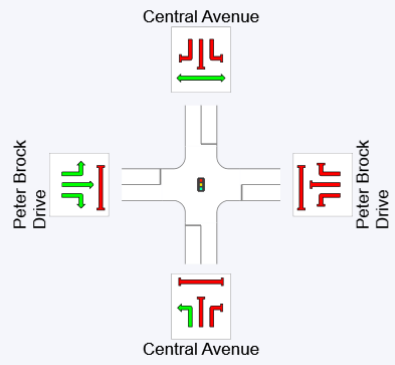
Phase D2



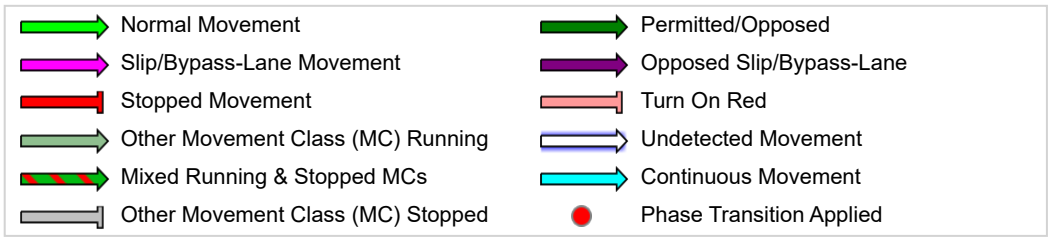
Phase D1



Phase C



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 14 [14. Peter Brock Dr / Central Ave - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Central Avenue															
Lane 1	37	0.0	37	0.0	495	0.075	100	44.9	LOS D	1.8	12.9	Full	500	0.0	0.0
Lane 2	1	0.0	1	0.0	159	0.006	100	68.5	LOS E	0.1	0.4	Short	30	0.0	NA
Approach	38	0.0	38	0.0		0.075		45.5	LOS D	1.8	12.9				
East: Peter Brock Drive															
Lane 1	220	0.0	220	0.0	431	0.511	100	32.2	LOS C	9.9	69.4	Full	300	0.0	0.0
Lane 2	198	0.0	198	0.0	388[1]	0.511	100	40.2	LOS C	10.1	70.8	Full	300	0.0	0.0
Lane 3	59	0.0	59	0.0	246	0.240	100	46.3	LOS D	2.8	19.8	Short	35	0.0	NA
Approach	477	0.0	477	0.0		0.511		37.3	LOS C	10.1	70.8				
North: Central Avenue															
Lane 1	4	0.0	4	0.0	518	0.008	100	40.4	LOS C	0.2	1.4	Short	90	0.0	NA
Lane 2	173	0.0	173	0.0	491	0.352	100	50.3	LOS D	9.6	66.9	Full	500	0.0	0.0
Approach	177	0.0	177	0.0		0.352		50.1	LOS D	9.6	66.9				
West: Peter Brock Drive															
Lane 1	264	0.0	264	0.0	751	0.352	100	32.0	LOS C	12.5	87.7	Full	260	0.0	0.0
Lane 2	265	0.0	265	0.0	752	0.352	100	8.7	LOS A	4.2	29.1	Full	260	0.0	0.0
Lane 3	65	0.0	65	0.0	520	0.125	100	23.8	LOS B	1.8	12.3	Short	35	0.0	NA
Approach	594	0.0	594	0.0		0.352		20.7	LOS B	12.5	87.7				
Intersection	1286	0.0	1286	0.0		0.511		31.6	LOS C	12.5	87.7				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Approach Lane Flows (veh/h)

South: Central Avenue

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	36	1	-	37	0.0	495	0.075	100	NA	NA
Lane 2	-	-	1	1	0.0	159	0.006	100	0.0	1
Approach	36	1	1	38	0.0		0.075			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	219	-	220	0.0	431	0.511	100	NA	NA
Lane 2	-	198	-	198	0.0	388[1]	0.511	100	NA	NA
Lane 3	-	-	59	59	0.0	246	0.240	100	0.0	2
Approach	1	417	59	477	0.0		0.511			

North: Central Avenue

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	3	-	4	0.0	518	0.008	100	0.0	2
Lane 2	-	-	173	173	0.0	491	0.352	100	NA	NA
Approach	1	3	173	177	0.0		0.352			

West: Peter Brock Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	263	-	264	0.0	751	0.352	100	NA	NA
Lane 2	-	265	-	265	0.0	752	0.352	100	NA	NA
Lane 3	-	-	65	65	0.0	520	0.125	100	0.0	2
Approach	1	528	65	594	0.0		0.352			

	Total	%HV	Deg.Satn (v/c)
Intersection	1286	0.0	0.511

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 14 [14. Peter Brock Dr / Central Ave - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

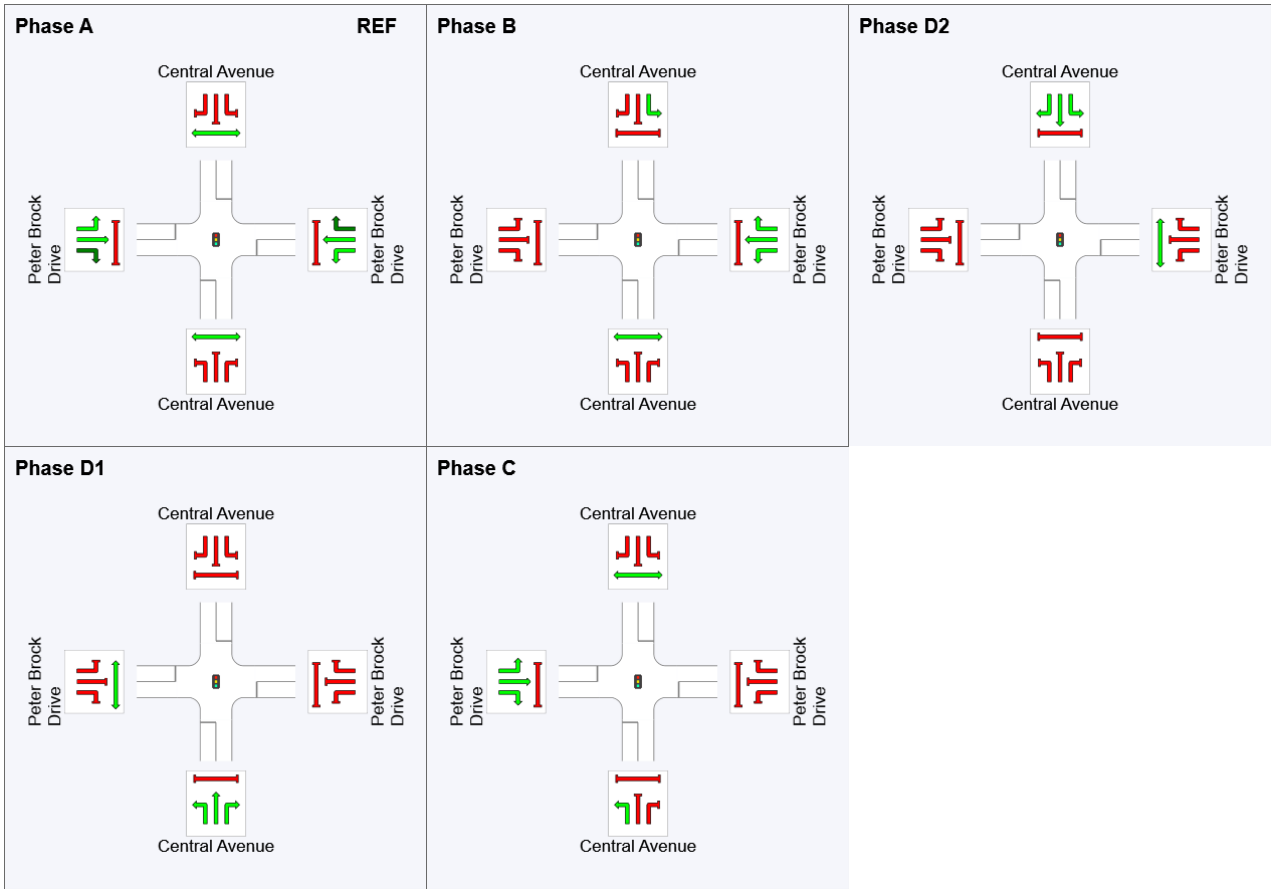
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, B, D2, D1, C
Output Phase Sequence: A, B, D2, D1, C

Phase Timing Summary

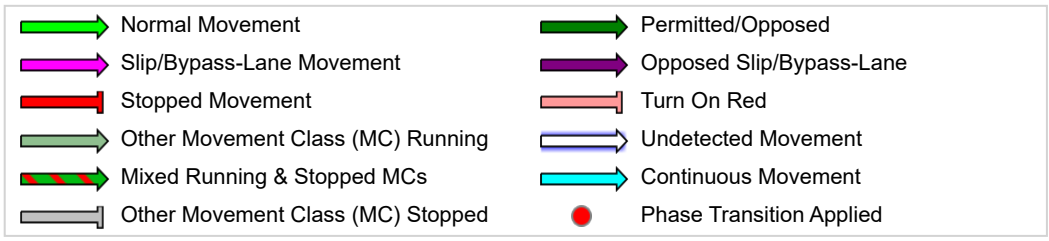
Phase	A	B	D2	D1	C
Phase Change Time (sec)	98	116	135	38	56
Green Time (sec)	12	13	37	12	36
Phase Time (sec)	18	19	43	18	42
Phase Split	13%	14%	31%	13%	30%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 14 [14. Peter Brock Dr / Central Ave - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Central Avenue															
Lane 1	51	0.0	51	0.0	191	0.267	100	67.8	LOS E	3.3	23.0	Full	500	0.0	0.0
Lane 2	1	0.0	1	0.0	159	0.006	100	68.5	LOS E	0.1	0.4	Short	30	0.0	NA
Approach	52	0.0	52	0.0		0.267		67.8	LOS E	3.3	23.0				
East: Peter Brock Drive															
Lane 1	234	0.0	234	0.0	765	0.306	100	14.8	LOS B	5.8	40.6	Full	300	0.0	0.0
Lane 2	234	0.0	234	0.0	766	0.306	100	20.3	LOS B	7.7	53.7	Full	300	0.0	0.0
Lane 3	119	0.0	119	0.0	433	0.275	100	33.9	LOS C	5.0	34.9	Short	35	0.0	NA
Approach	587	0.0	587	0.0		0.306		20.9	LOS B	7.7	53.7				
North: Central Avenue															
Lane 1	75	0.0	75	0.0	219	0.342	100	63.9	LOS E	4.8	33.6	Short	90	0.0	NA
Lane 2	76	0.0	76	0.0	199	0.382	100	69.8	LOS E	5.0	34.7	Full	500	0.0	0.0
Approach	151	0.0	151	0.0		0.382		66.9	LOS E	5.0	34.7				
West: Peter Brock Drive															
Lane 1	486	0.0	462	0.0	838	0.551	100	32.7	LOS C	23.6	164.9	Full	260	0.0	0.0
Lane 2	449	0.0	427	0.0	775[1]	0.551	100	10.2	LOS A	9.3	64.8	Full	260	0.0	0.0
Lane 3	181	0.0	172	0.0	644	0.267	100	17.4	LOS B	3.7	25.8	Short	35	0.0	NA
Approach	1116	0.0	1061[N1]	0.0		0.551		21.2	LOS B	23.6	164.9				
Intersection	1906	0.0	1851[N1]	0.0		0.551		26.1	LOS B	23.6	164.9				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Central Avenue

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	41	10	-	51	0.0	191	0.267	100	NA	NA
Lane 2	-	-	1	1	0.0	159	0.006	100	0.0	1
Approach	41	10	1	52	0.0		0.267			

East: Peter Brock Drive											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	1	233	-	234	0.0	765	0.306	100	NA	NA	
Lane 2	-	234	-	234	0.0	766	0.306	100	NA	NA	
Lane 3	-	-	119	119	0.0	433	0.275	100	4.9	2	
Approach	1	467	119	587	0.0		0.306				
North: Central Avenue											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	26	49	-	75	0.0	219	0.342	100	0.0	2	
Lane 2	-	-	76	76	0.0	199	0.382	100	NA	NA	
Approach	26	49	76	151	0.0		0.382				
West: Peter Brock Drive											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	182	280	-	462	0.0	838	0.551	100	NA	NA	
Lane 2	-	427	-	427	0.0	775[1]	0.551	100	NA	NA	
Lane 3	-	-	172	172	0.0	644	0.267	100	0.0	2	
Approach	182	707	172	1061	0.0		0.551				
	Total	%HV	Deg.Satn (v/c)								
Intersection	1851	0.0	0.551								

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis										
	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Central Avenue Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
East Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: Central Avenue Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

PHASING SUMMARY

Site: 14 [14. Peter Brock Dr / Central Ave - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, B, D2, D1, C
Output Phase Sequence: A, B, D2, D1, C

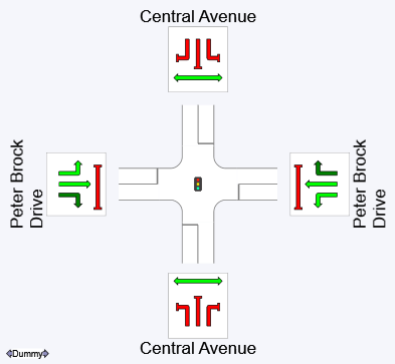
Phase Timing Summary

Phase	A	B	D2	D1	C
Phase Change Time (sec)	102	133	23	44	62
Green Time (sec)	25	24	15	12	34
Phase Time (sec)	31	30	21	18	40
Phase Split	22%	21%	15%	13%	29%

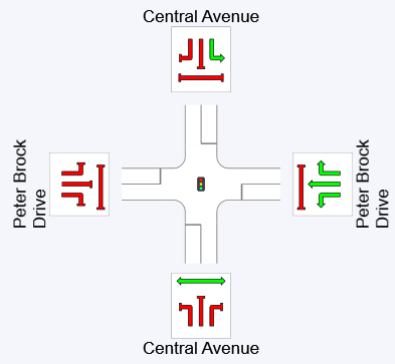
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

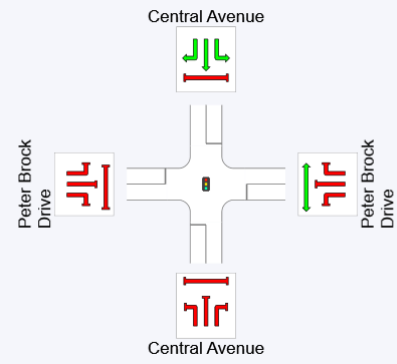
Phase A **REF**



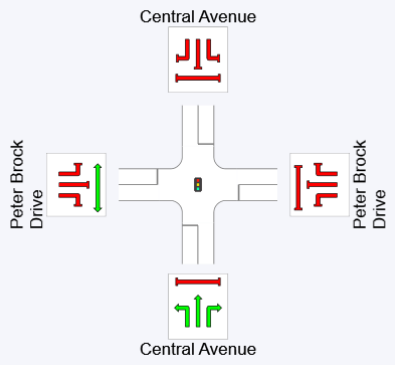
Phase B



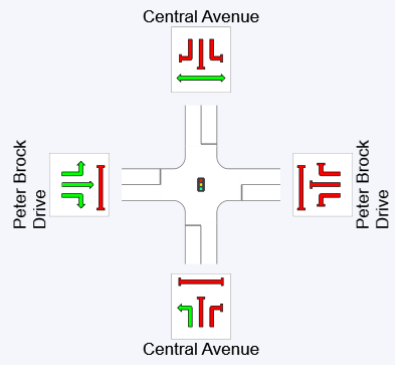
Phase D2



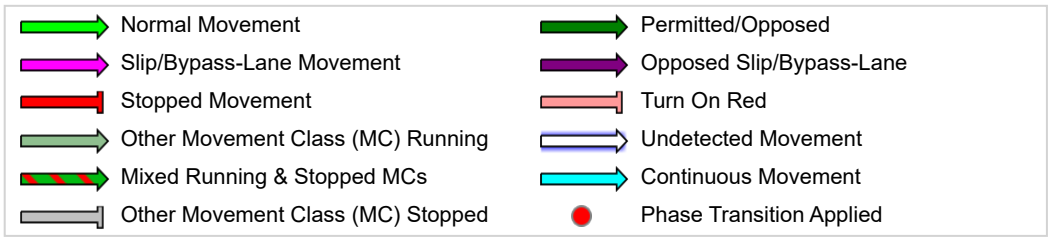
Phase D1



Phase C



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 14 [14. Peter Brock Dr / Central Ave - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Central Avenue															
Lane 1	85	0.0	85	0.0	144	0.592	100	73.0	LOS F	5.9	41.1	Full	500	0.0	0.0
Lane 2	1	0.0	1	0.0	172	0.006	100	67.4	LOS E	0.1	0.4	Short	30	0.0	NA
Approach	86	0.0	86	0.0		0.592		72.9	LOS F	5.9	41.1				
East: Peter Brock Drive															
Lane 1	336	0.0	315	0.0	877	0.359	100	8.2	LOS A	5.1	35.4	Full	300	0.0	0.0
Lane 2	334	0.0	312	0.0	870[1]	0.359	100	15.1	LOS B	8.6	60.4	Full	300	0.0	0.0
Lane 3	359	0.0	336	0.0	673	0.499	100	24.7	LOS B	9.9	69.3	Short	35	0.0	NA
Approach	1029	0.0	963[N1]	0.0		0.499		16.2	LOS B	9.9	69.3				
North: Central Avenue															
Lane 1	100	0.0	100	0.0	433	0.231	100	47.8	LOS D	5.5	38.8	Short	90	0.0	NA
Lane 2	234	0.0	234	0.0	411	0.569	100	58.0	LOS E	14.3	100.1	Full	500	0.0	0.0
Approach	334	0.0	334	0.0		0.569		55.0	LOS D	14.3	100.1				
West: Peter Brock Drive															
Lane 1	229	0.0	221	0.0	363	0.608	100	37.5	LOS C	11.3	79.3	Full	260	0.0	0.0
Lane 2	204	0.0	197	0.0	323[1]	0.608	100	37.2	LOS C	9.7	67.8	Full	260	0.0	0.0
Lane 3	73	0.0	70	0.0	174	0.403	100	52.5	LOS D	3.9	27.0	Short	35	0.0	NA
Approach	506	0.0	487[N1]	0.0		0.608		39.6	LOS C	11.3	79.3				
Intersection	1955	0.0	1871[N 1]	0.0		0.608		31.8	LOS C	14.3	100.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Central Avenue

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	42	43	-	85	0.0	144	0.592	100	NA	NA
Lane 2	-	-	1	1	0.0	172	0.006	100	0.0	1
Approach	42	43	1	86	0.0		0.592			
East: Peter Brock Drive										

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	314	-	315	0.0	877	0.359	100	NA	NA
Lane 2	-	312	-	312	0.0	870[1]	0.359	100	NA	NA
Lane 3	-	-	336	336	0.0	673	0.499	100	68.3	2
Approach	1	626	336	963	0.0		0.499			

North: Central Avenue

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	12	88	-	100	0.0	433	0.231	100	0.0	2
Lane 2	-	-	234	234	0.0	411	0.569	100	NA	NA
Approach	12	88	234	334	0.0		0.569			

West: Peter Brock Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	16	204	-	221	0.0	363	0.608	100	NA	NA
Lane 2	-	197	-	197	0.0	323[1]	0.608	100	NA	NA
Lane 3	-	-	70	70	0.0	174	0.403	100	0.0	2
Approach	16	401	70	487	0.0		0.608			

	Total	%HV	Deg.Satn (v/c)
Intersection	1871	0.0	0.608

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 14 [14. Peter Brock Dr / Central Ave - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, B, D2, D1, C
Output Phase Sequence: A, B, D2, D1, C

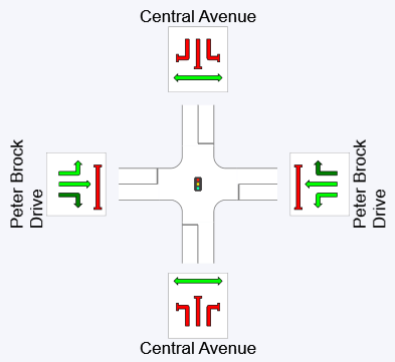
Phase Timing Summary

Phase	A	B	D2	D1	C
Phase Change Time (sec)	65	83	134	31	50
Green Time (sec)	12	45	31	13	9
Phase Time (sec)	18	51	37	19	15
Phase Split	13%	36%	26%	14%	11%

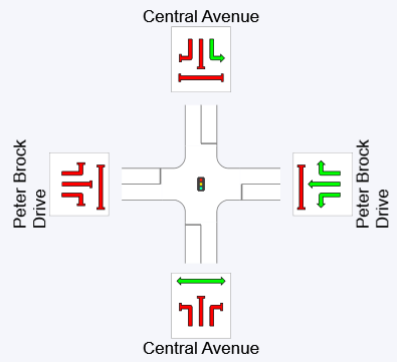
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

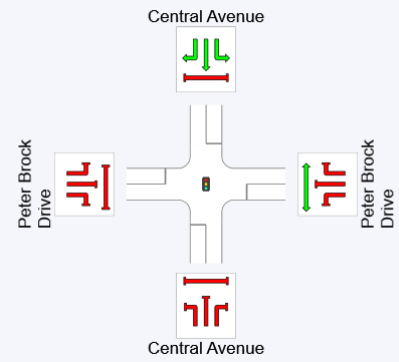
Phase A **REF**



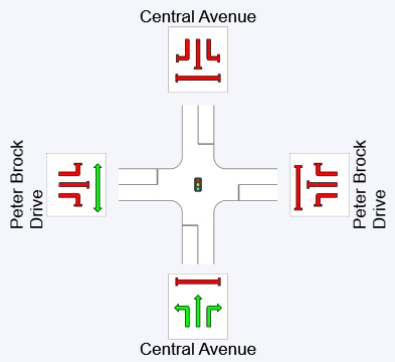
Phase B



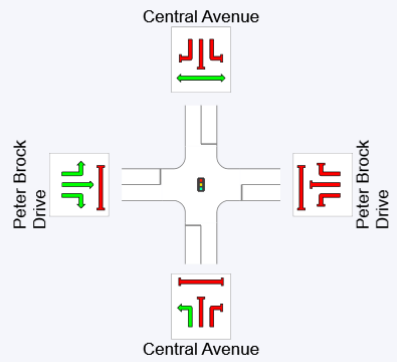
Phase D2



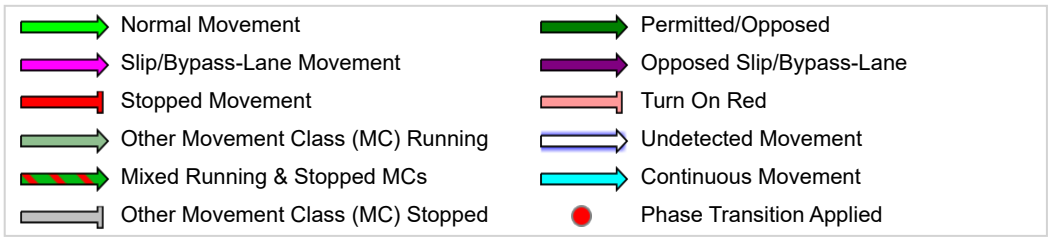
Phase D1



Phase C



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 14 [14. Peter Brock Dr / Central Ave - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Central Avenue															
Lane 1	75	0.0	75	0.0	239	0.314	100	62.2	LOS E	4.7	33.0	Full	500	0.0	0.0
Lane 2	1	0.0	1	0.0	265	0.004	100	60.0	LOS E	0.1	0.4	Short	30	0.0	NA
Approach	76	0.0	76	0.0		0.314		62.2	LOS E	4.7	33.0				
East: Peter Brock Drive															
Lane 1	318	0.0	318	0.0	598	0.531	100	23.8	LOS B	12.3	86.2	Full	300	0.0	0.0
Lane 2	241	0.0	241	0.0	454[1]	0.531	100	31.4	LOS C	10.7	74.8	Full	300	0.0	0.0
Lane 3	107	0.0	107	0.0	262	0.409	100	57.1	LOS E	6.2	43.6	Short	35	0.0	NA
Approach	666	0.0	666	0.0		0.531		31.9	LOS C	12.3	86.2				
North: Central Avenue															
Lane 1	62	0.0	62	0.0	167	0.370	100	66.4	LOS E	4.1	28.8	Short	90	0.0	NA
Lane 2	68	0.0	68	0.0	159	0.427	100	73.3	LOS F	4.6	32.0	Full	500	0.0	0.0
Approach	130	0.0	130	0.0		0.427		70.0	LOS E	4.6	32.0				
West: Peter Brock Drive															
Lane 1	600	0.0	515	0.0	973	0.530	100	25.4	LOS B	23.3	163.1	Full	260	0.0	0.0
Lane 2	618	0.0	531	0.0	1003	0.530	100	5.2	LOS A	7.1	50.0	Full	260	0.0	0.0
Lane 3	123	0.0	106	0.0	689	0.153	100	15.2	LOS B	1.9	13.0	Short	35	0.0	NA
Approach	1341	0.0	1152[N1]	0.0		0.530		15.2	LOS B	23.3	163.1				
Intersection	2213	0.0	2024[N1]	0.0		0.531		25.9	LOS B	23.3	163.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: Central Avenue

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	32	43	-	75	0.0	239	0.314	100	NA	NA
Lane 2	-	-	1	1	0.0	265	0.004	100	0.0	1
Approach	32	43	1	76	0.0		0.314			

East: Peter Brock Drive											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	1	317	-	318	0.0	598	0.531	100	NA	NA	
Lane 2	-	241	-	241	0.0	454[1]	0.531	100	NA	NA	
Lane 3	-	-	107	107	0.0	262	0.409	100	25.0	2	
Approach	1	558	107	666	0.0		0.531				
North: Central Avenue											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	1	61	-	62	0.0	167	0.370	100	0.0	2	
Lane 2	-	-	68	68	0.0	159	0.427	100	NA	NA	
Approach	1	61	68	130	0.0		0.427				
West: Peter Brock Drive											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	75	441	-	515	0.0	973	0.530	100	NA	NA	
Lane 2	-	531	-	531	0.0	1003	0.530	100	NA	NA	
Lane 3	-	-	106	106	0.0	689	0.153	100	0.0	2	
Approach	75	972	106	1152	0.0		0.530				

	Total	%HV	Deg.Satn (v/c)
Intersection	2024	0.0	0.531

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 14 [14. Peter Brock Dr / Central Ave - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, B, D2, D1, C
Output Phase Sequence: A, B, D2, D1, C

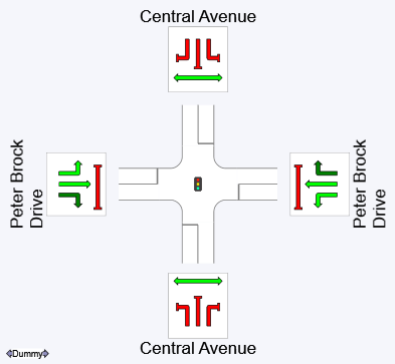
Phase Timing Summary

Phase	A	B	D2	D1	C
Phase Change Time (sec)	105	136	14	32	58
Green Time (sec)	25	12	12	20	41
Phase Time (sec)	31	18	18	26	47
Phase Split	22%	13%	13%	19%	34%

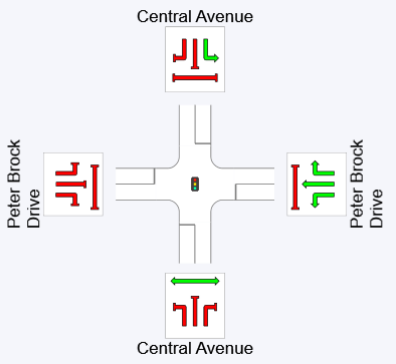
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

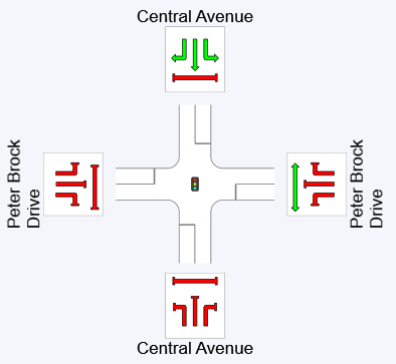
Phase A **REF**



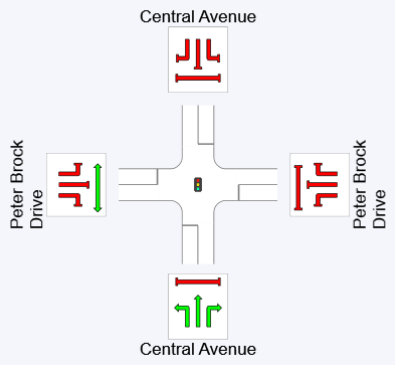
Phase B



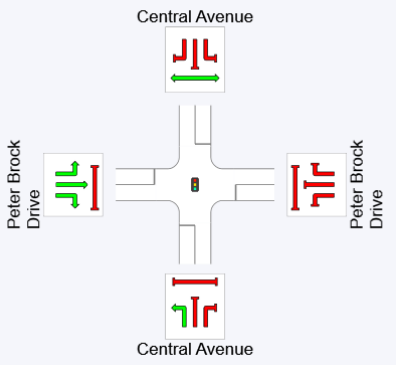
Phase D2



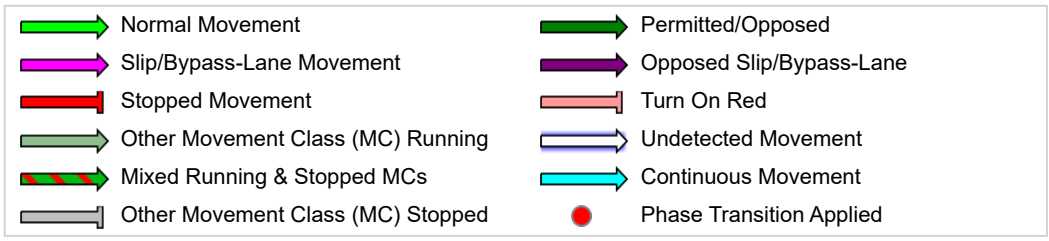
Phase D1



Phase C



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 14 [14. Peter Brock Dr / Central Ave - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Central Avenue															
Lane 1	46	0.0	46	0.0	98	0.469	100	72.5	LOS F	3.2	22.1	Full	500	-46.5 N3	0.0
Lane 2	1	0.0	1	0.0	159	0.006	100	68.5	LOS E	0.1	0.4	Short	30	0.0	NA
Approach	47	0.0	47	0.0		0.469		72.4	LOS F	3.2	22.1				
East: Peter Brock Drive															
Lane 1	597	0.0	597	0.0	474	1.259	100	292.7	LOS F	69.9 N4	489.6 N4	Full	300	-50.0 N3	50.0
Lane 2	480	0.0	480	0.0	382 1	1.259	100	297.2	LOS F	69.9 N4	489.6 N4	Full	300	-50.0 N7	50.0
Lane 3	333	0.0	333	0.0	737	0.452	100	33.9	LOS C	11.9	83.3	Short	35	0.0	NA
Approach	1410	0.0	1410	0.0		1.259		233.1	LOS F	69.9	489.6				
North: Central Avenue															
Lane 1	59	0.0	59	0.0	418	0.141	100	47.0	LOS D	3.2	22.5	Short	90	0.0	NA
Lane 2	245	0.0	245	0.0	199	1.231	100	292.9	LOS F	39.7	277.7	Full	500	-50.0 N7	0.0
Approach	304	0.0	304	0.0		1.231		245.2	LOS F	39.7	277.7				
West: Peter Brock Drive															
Lane 1	291	0.0	276	0.0	329	0.838	100	44.2	LOS D	17.4	121.8	Full	260	0.0	0.0
Lane 2	264	0.0	250	0.0	299 1	0.838	100	42.8	LOS D	14.8	103.9	Full	260	0.0	0.0
Lane 3	75	0.0	71	0.0	136	0.522	100	59.0	LOS E	4.3	30.1	Short	35	0.0	NA
Approach	630	0.0	597 N1	0.0		0.838		45.4	LOS D	17.4	121.8				
Intersection	2391	0.0	2358 N1	0.0		1.259		184.0	LOS F	69.9	489.6				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.
N4 Average back of queue has been restricted to the available queue storage space.
N7 The capacity reduction has been determined from the queue blockage probability of a Site further downstream due to intermediate continuous lanes.

Approach Lane Flows (veh/h)

South: Central Avenue

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	40	6	-	46	0.0	98	0.469	100	NA	NA

Lane 2	-	-	1	1	0.0	159	0.006	100	0.0	1
Approach	40	6	1	47	0.0		0.469			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	596	-	597	0.0	474	1.259	100	NA	NA
Lane 2	-	480	-	480	0.0	382[1]	1.259	100	NA	NA
Lane 3	-	-	333	333	0.0	737	0.452	100	86.3	2
Approach	1	1076	333	1410	0.0		1.259			

North: Central Avenue

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	58	-	59	0.0	418	0.141	100	0.0	2
Lane 2	-	-	245	245	0.0	199	1.231	100	NA	NA
Approach	1	58	245	304	0.0		1.231			

West: Peter Brock Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	8	268	-	276	0.0	329	0.838	100	NA	NA
Lane 2	-	250	-	250	0.0	299[1]	0.838	100	NA	NA
Lane 3	-	-	71	71	0.0	136	0.522	100	0.0	2
Approach	8	518	71	597	0.0		0.838			

	Total	%HV	Deg.Satn (v/c)
Intersection	2358	0.0	1.259

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: Central Avenue Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

Project: \\ghdnet\ghd\AU\Sydney\Projects\21\12526027\Tech\Traffic Impact Assessments\04. SIDRA Models\Town Centre TIA\Town Centre Modelling - 2 lane_20210910.sip9

PHASING SUMMARY

Site: 14 [14. Peter Brock Dr / Central Ave - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, B, D2, D1, C
Output Phase Sequence: A, B, D2, D1, C

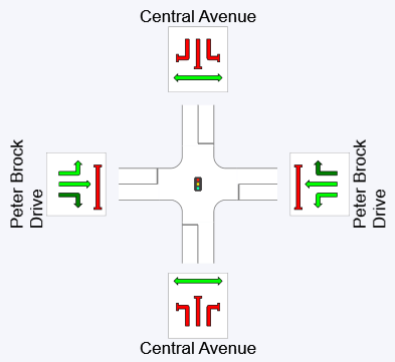
Phase Timing Summary

Phase	A	B	D2	D1	C
Phase Change Time (sec)	52	70	126	22	40
Green Time (sec)	12	50	30	12	6
Phase Time (sec)	18	56	36	18	12
Phase Split	13%	40%	26%	13%	9%

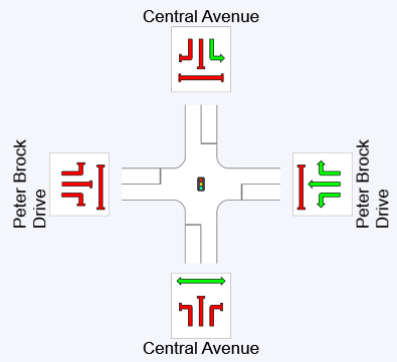
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified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

Output Phase Sequence

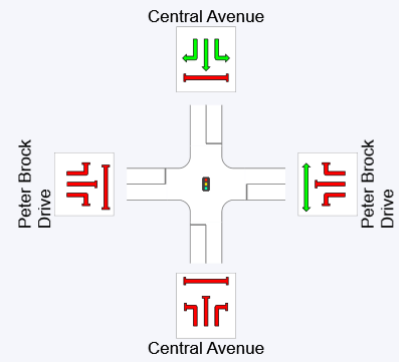
Phase A **REF**



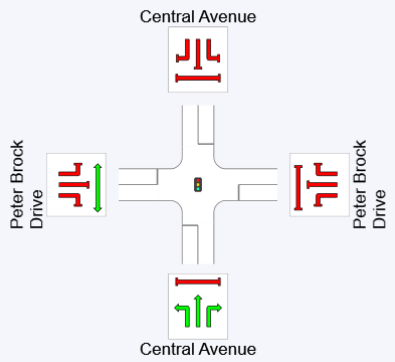
Phase B



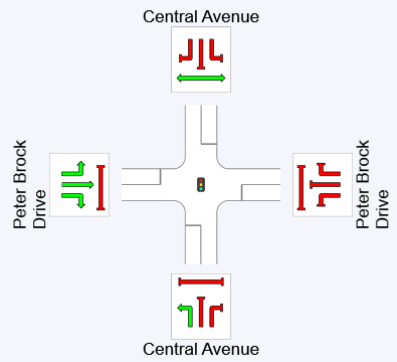
Phase D2



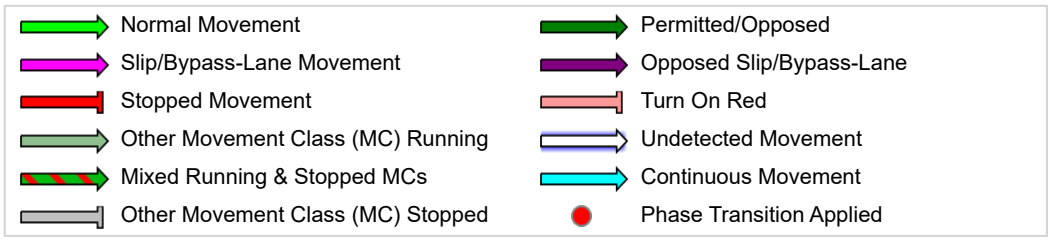
Phase D1



Phase C



REF: Reference Phase
VAR: Variable Phase



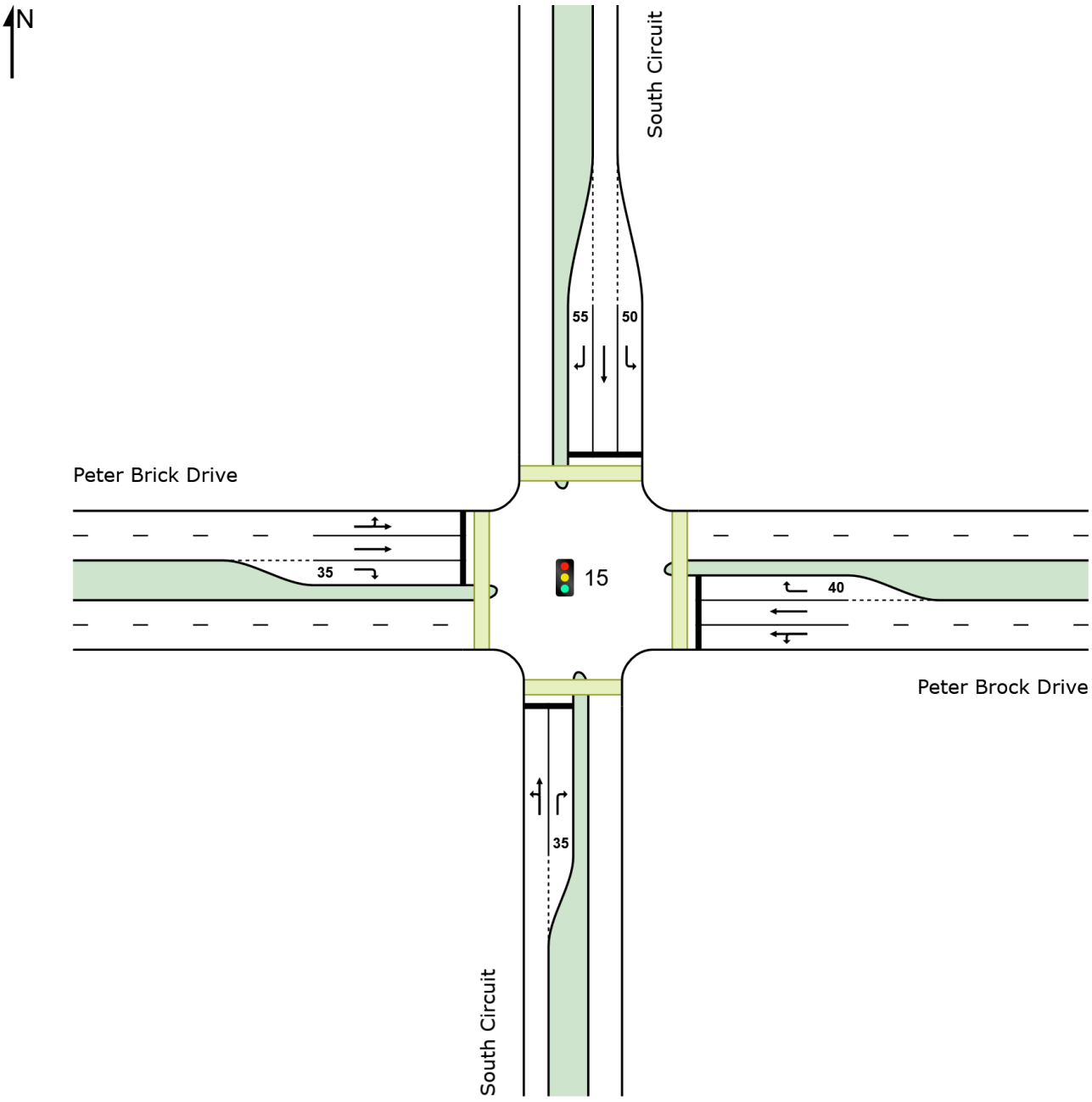
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SITE LAYOUT

Site: 15 [15. Peter Brock Dr / South Circuit East - 2026 AM (Site Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	248	0.0	248	0.0	451	0.550	100	59.2	LOS E	14.4	100.7	Full	330	0.0	0.0
Lane 2	40	0.0	40	0.0	451	0.089	100	49.2	LOS D	2.1	14.6	Short	35	0.0	NA
Approach	288	0.0	288	0.0		0.550		57.9	LOS E	14.4	100.7				
East: Peter Brock Drive															
Lane 1	168	0.0	168	0.0	279	0.602	100	63.7	LOS E	10.5	73.3	Full	180	0.0	0.0
Lane 2	167	0.0	167	0.0	277[1]	0.602	100	59.3	LOS E	10.7	74.6	Full	180	0.0	0.0
Lane 3	273	0.0	273	0.0	457[1]	0.597	100	40.0	LOS C	13.6	95.2	Short	40	0.0	NA
Approach	608	0.0	608	0.0		0.602		51.9	LOS D	13.6	95.2				
North: South Circuit															
Lane 1	188	0.0	188	0.0	517	0.363	100	28.2	LOS B	5.9	41.0	Short	50	0.0	NA
Lane 2	115	0.0	115	0.0	265	0.435	100	60.8	LOS E	7.3	51.3	Full	220	0.0	0.0
Lane 3	147	0.0	147	0.0	252	0.583	100	68.0	LOS E	9.6	67.4	Short	55	0.0	NA
Approach	450	0.0	450	0.0		0.583		49.5	LOS D	9.6	67.4				
West: Peter Brick Drive															
Lane 1	136	0.0	136	0.0	505	0.269	100	7.6	LOS A	1.5	10.4	Full	300	0.0	0.0
Lane 2	138	0.0	138	0.0	515	0.269	100	31.2	LOS C	5.7	39.6	Full	300	0.0	0.0
Lane 3	26	0.0	26	0.0	587	0.044	100	27.9	LOS B	1.0	7.2	Short	35	0.0	NA
Approach	300	0.0	300	0.0		0.269		20.3	LOS B	5.7	39.6				
Intersection	1646	0.0	1646	0.0		0.602		46.5	LOS D	14.4	100.7				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Approach Lane Flows (veh/h)

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
South: South Circuit										
Lane 1	54	194	-	248	0.0	451	0.550	100	NA	NA
Lane 2	-	-	40	40	0.0	451	0.089	100	0.0	1
Approach	54	194	40	288	0.0		0.550			
East: Peter Brock Drive										

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	35	133	-	168	0.0	279	0.602	100	NA	NA
Lane 2	-	167	-	167	0.0	277[1]	0.602	100	NA	NA
Lane 3	-	-	273	273	0.0	457[1]	0.597	100	86.3	2
Approach	35	300	273	608	0.0		0.602			

North: South Circuit

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	188	-	-	188	0.0	517	0.363	100	0.0	2
Lane 2	-	115	-	115	0.0	265	0.435	100	NA	NA
Lane 3	-	-	147	147	0.0	252	0.583	100	23.4	2
Approach	188	115	147	450	0.0		0.583			

West: Peter Brick Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	9	127	-	136	0.0	505	0.269	100	NA	NA
Lane 2	-	138	-	138	0.0	515	0.269	100	NA	NA
Lane 3	-	-	26	26	0.0	587	0.044	100	0.0	2
Approach	9	265	26	300	0.0		0.269			

	Total	%HV	Deg.Satn (v/c)
Intersection	1646	0.0	0.602

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brick Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

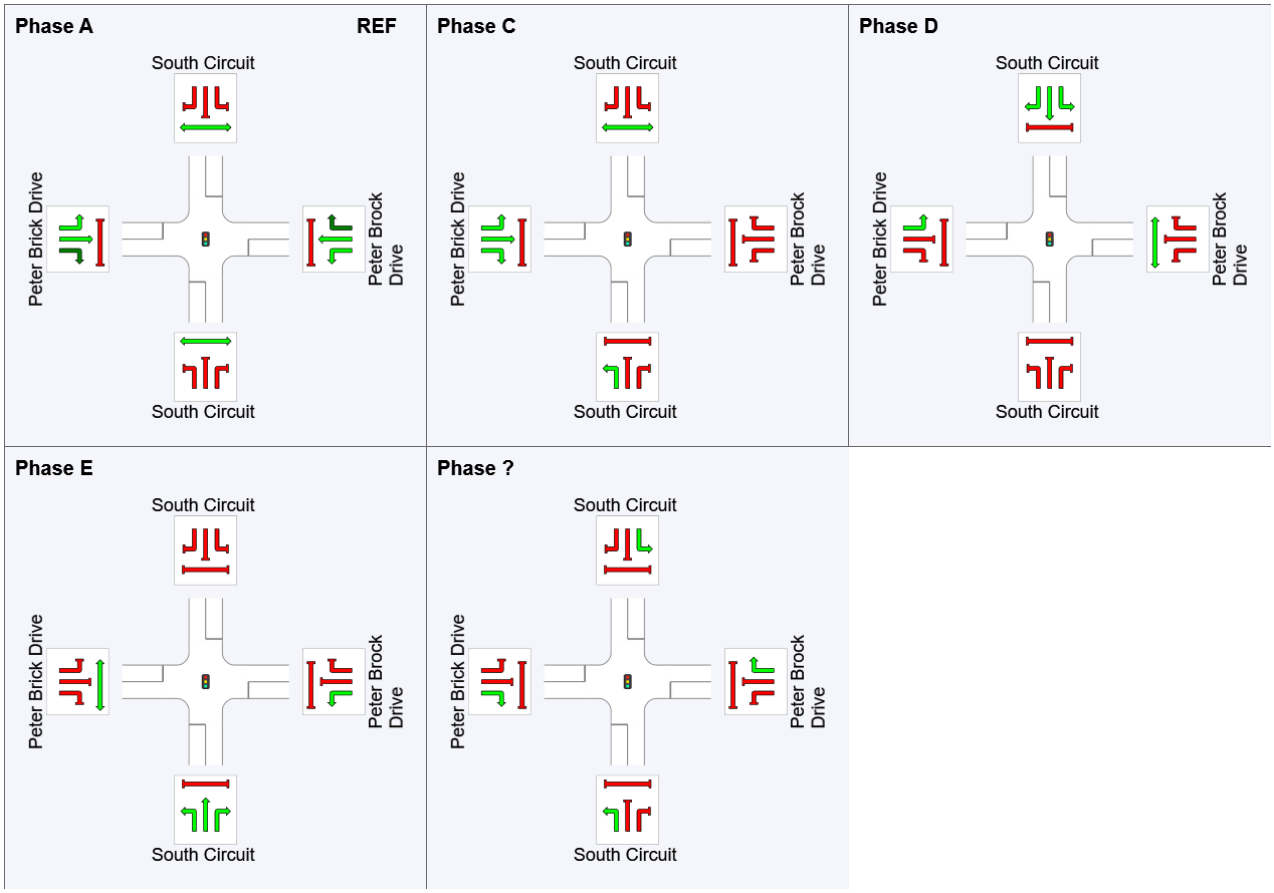
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import - Copy
Reference Phase: Phase A
Input Phase Sequence: A, C, D, E, ?
Output Phase Sequence: A, C, D, E, ?

Phase Timing Summary

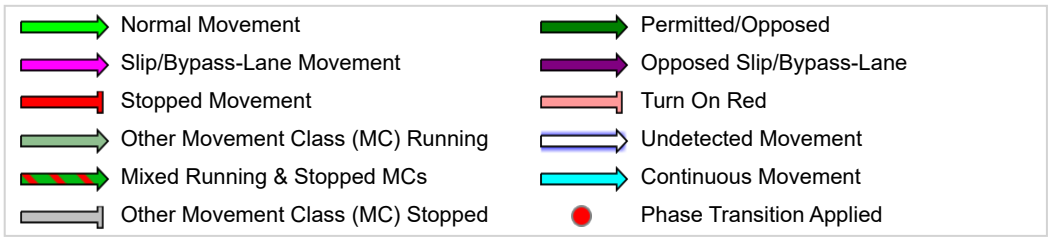
Phase	A	C	D	E	?
Phase Change Time (sec)	67	95	110	135	35
Green Time (sec)	22	9	19	34	26
Phase Time (sec)	28	15	25	40	32
Phase Split	20%	11%	18%	29%	23%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	58	0.0	58	0.0	164	0.353	100	66.9	LOS E	3.8	26.9	Full	330	0.0	0.0
Lane 2	95	0.0	95	0.0	172	0.551	100	73.2	LOS F	6.4	45.0	Short	35	0.0	NA
Approach	153	0.0	153	0.0		0.551		70.8	LOS F	6.4	45.0				
East: Peter Brock Drive															
Lane 1	195	0.0	195	0.0	1014	0.193	100	20.7	LOS B	6.9	48.3	Full	180	0.0	0.0
Lane 2	196	0.0	196	0.0	1017	0.193	100	18.7	LOS B	6.9	48.6	Full	180	0.0	0.0
Lane 3	392	0.0	392	0.0	616[1]	0.636	100	41.9	LOS C	20.5	143.3	Short	40	0.0	NA
Approach	783	0.0	783	0.0		0.636		30.8	LOS C	20.5	143.3				
North: South Circuit															
Lane 1	181	0.0	181	0.0	677	0.268	100	38.8	LOS C	8.6	60.1	Short	50	0.0	NA
Lane 2	144	0.0	144	0.0	181	0.795	100	72.8	LOS F	10.4	72.6	Full	220	0.0	0.0
Lane 3	80	0.0	80	0.0	172	0.464	100	72.6	LOS F	5.4	37.5	Short	55	0.0	NA
Approach	405	0.0	405	0.0		0.795		57.6	LOS E	10.4	72.6				
West: Peter Brick Drive															
Lane 1	267	0.0	267	0.0	771	0.346	100	19.7	LOS B	7.3	51.4	Full	300	0.0	0.0
Lane 2	279	0.0	279	0.0	808	0.346	100	13.0	LOS A	6.5	45.4	Full	300	0.0	0.0
Lane 3	207	0.0	207	0.0	525	0.394	100	21.2	LOS B	5.8	40.3	Short	35	0.0	NA
Approach	753	0.0	753	0.0		0.394		17.6	LOS B	7.3	51.4				
Intersection	2094	0.0	2094	0.0		0.795		34.2	LOS C	20.5	143.3				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	7	51	-	58	0.0	164	0.353	100	NA	NA
Lane 2	-	-	95	95	0.0	172	0.551	100	27.8	1
Approach	7	51	95	153	0.0		0.551			

East: Peter Brock Drive											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	3	192	-	195	0.0	1014	0.193	100	NA	NA	
Lane 2	-	196	-	196	0.0	1017	0.193	100	NA	NA	
Lane 3	-	-	392	392	0.0	616[1]	0.636	100	100.0	2	
Approach	3	388	392	783	0.0		0.636				
North: South Circuit											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	181	-	-	181	0.0	677	0.268	100	21.7	2	
Lane 2	-	144	-	144	0.0	181	0.795	100	NA	NA	
Lane 3	-	-	80	80	0.0	172	0.464	100	0.0	2	
Approach	181	144	80	405	0.0		0.795				
West: Peter Brick Drive											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	67	200	-	267	0.0	771	0.346	100	NA	NA	
Lane 2	-	279	-	279	0.0	808	0.346	100	NA	NA	
Lane 3	-	-	207	207	0.0	525	0.394	100	17.8	2	
Approach	67	479	207	753	0.0		0.394				
	Total	%HV	Deg.Satn (v/c)								
Intersection	2094	0.0	0.795								

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brick Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

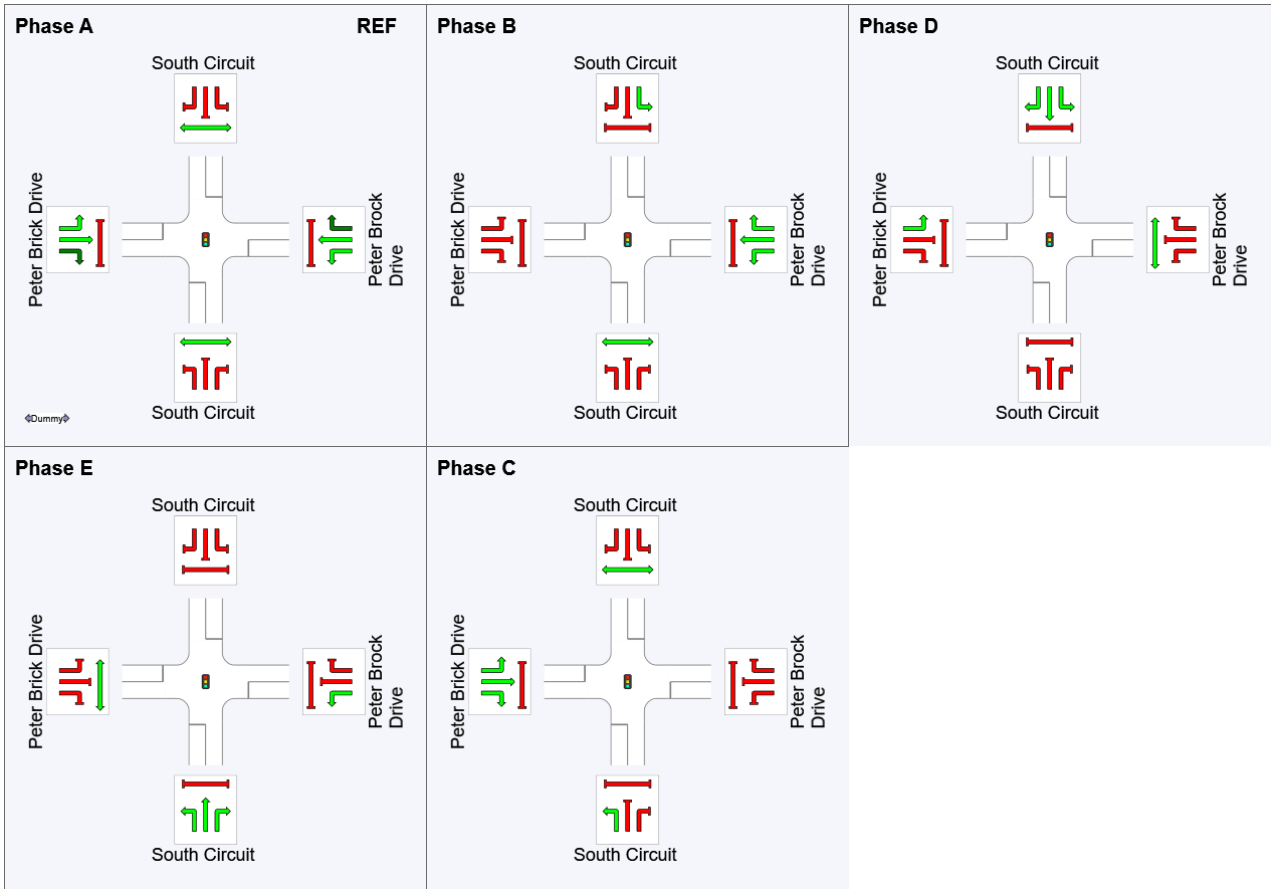
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, B, D, E, C
Output Phase Sequence: A, B, D, E, C

Phase Timing Summary

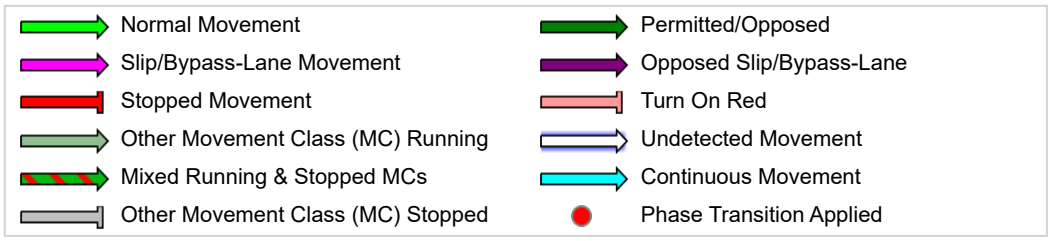
Phase	A	B	D	E	C
Phase Change Time (sec)	99	140	38	57	76
Green Time (sec)	35	32	13	13	17
Phase Time (sec)	41	38	19	19	23
Phase Split	29%	27%	14%	14%	16%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	287	0.0	287	0.0	339[1]	0.847	100	65.9	LOS E	20.3	142.3	Full	330	0.0	0.0
Lane 2	62	0.0	62	0.0	385	0.161	100	54.4	LOS D	3.5	24.3	Short	35	0.0	NA
Approach	349	0.0	349	0.0		0.847		63.9	LOS E	20.3	142.3				
East: Peter Brock Drive															
Lane 1	253	0.0	253	0.0	690	0.366	100	38.2	LOS C	12.0	84.1	Full	180	0.0	0.0
Lane 2	220	0.0	220	0.0	601[1]	0.366	100	33.1	LOS C	10.5	73.6	Full	180	0.0	1.8[8]
Lane 3	403	0.0	403	0.0	481	0.838	100	67.7	LOS E	24.8	173.7	Short	40	0.0	NA
Approach	876	0.0	876	0.0		0.838		50.5	LOS D	24.8	173.7				
North: South Circuit															
Lane 1	337	0.0	337	0.0	684[1]	0.493	100	31.5	LOS C	14.8	103.7	Short	50	0.0	NA
Lane 2	246	0.0	246	0.0	384[1]	0.641	100	54.5	LOS D	15.3	107.3	Full	220	0.0	0.0
Lane 3	121	0.0	121	0.0	385	0.315	100	56.3	LOS D	7.0	49.2	Short	55	0.0	NA
Approach	704	0.0	704	0.0		0.641		43.8	LOS D	15.3	107.3				
West: Peter Brick Drive															
Lane 1	347	0.0	332	0.0	390	0.853	100	35.6	LOS C	19.5	136.7	Full	300	0.0	0.0
Lane 2	312	0.0	298	0.0	350[1]	0.853	100	31.5	LOS C	15.8	110.8	Full	300	0.0	0.0
Lane 3	77	0.0	74	0.0	135	0.546	100	54.0	LOS D	4.2	29.6	Short	35	0.0	NA
Approach	736	0.0	704[N1]	0.0		0.853		35.8	LOS C	19.5	136.7				
Intersection	2665	0.0	2633[N1]	0.0		0.853		46.5	LOS D	24.8	173.7				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
8 Probability of Blockage has been set on the basis of a queue that overflows from a short lane.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	52	235	-	287	0.0	339[1]	0.847	100	NA	NA
Lane 2	-	-	62	62	0.0	385	0.161	100	0.0	1

Approach	52	235	62	349	0.0		0.847				
East: Peter Brock Drive											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	60	193	-	253	0.0	690	0.366	100	NA	NA	
Lane 2	-	220	-	220	0.0	601[1]	0.366	100	NA	NA	
Lane 3	-	-	403	403	0.0	481	0.838	100	100.0	2	
Approach	60	413	403	876	0.0		0.838				
North: South Circuit											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	337	-	-	337	0.0	684[1]	0.493	100	72.8	2	
Lane 2	-	246	-	246	0.0	384[1]	0.641	100	NA	NA	
Lane 3	-	-	121	121	0.0	385	0.315	100	0.0	2	
Approach	337	246	121	704	0.0		0.641				
West: Peter Brick Drive											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	1	331	-	332	0.0	390	0.853	100	NA	NA	
Lane 2	-	298	-	298	0.0	350[1]	0.853	100	NA	NA	
Lane 3	-	-	74	74	0.0	135	0.546	100	0.0	2	
Approach	1	629	74	704	0.0		0.853				
	Total	%HV	Deg.Satn (v/c)								
Intersection	2633	0.0	0.853								

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
East Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Peter Brick Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

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PHASING SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

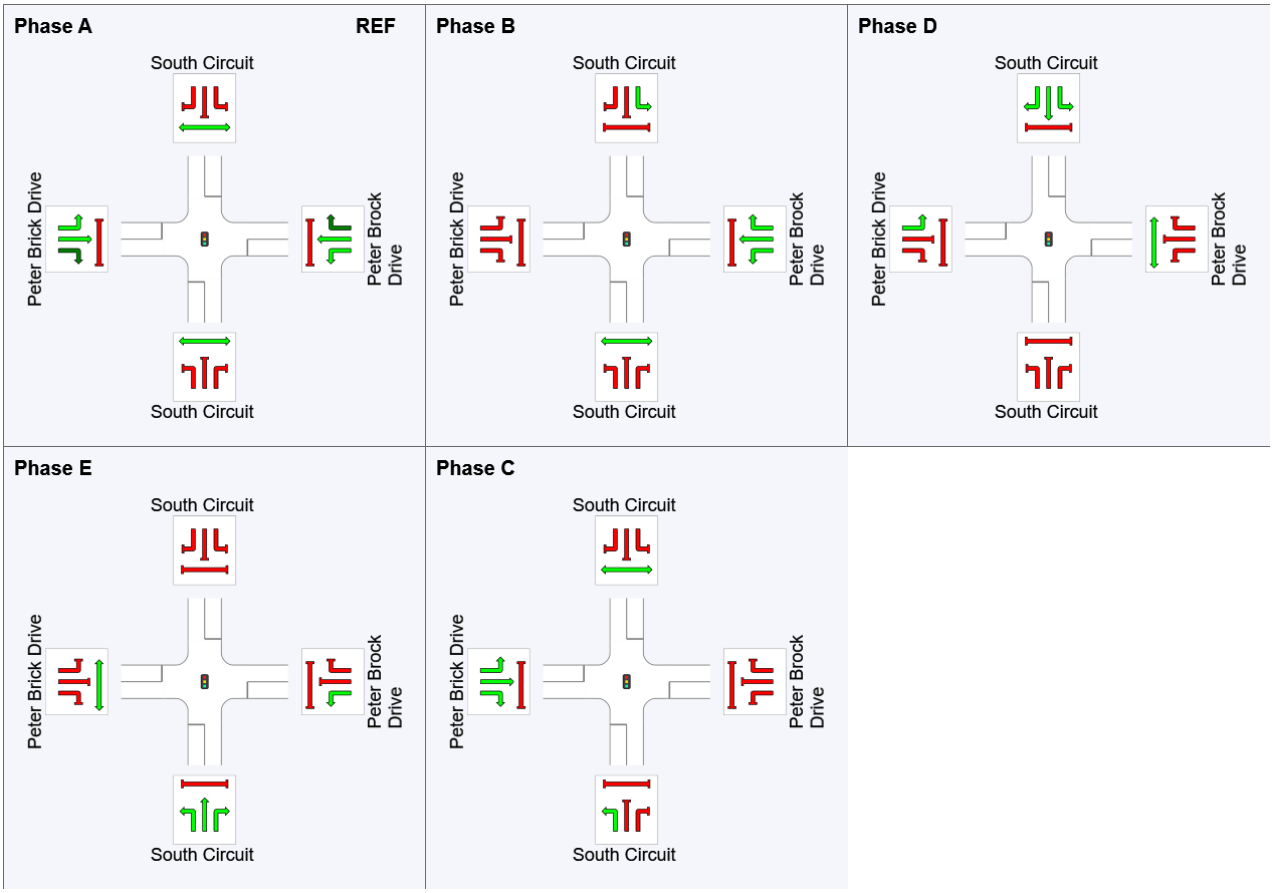
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, B, D, E, C
Output Phase Sequence: A, B, D, E, C

Phase Timing Summary

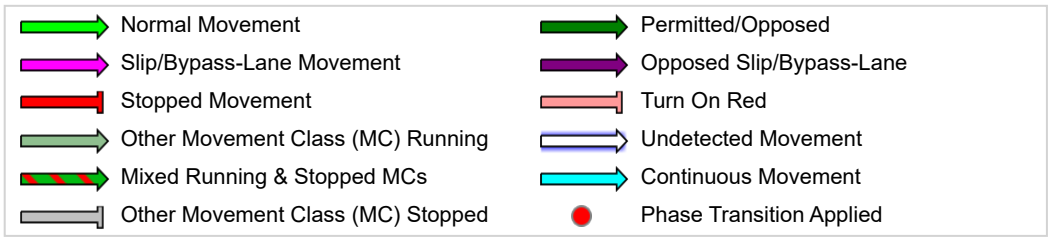
Phase	A	B	D	E	C
Phase Change Time (sec)	94	116	12	47	82
Green Time (sec)	16	30	29	29	6
Phase Time (sec)	22	36	35	35	12
Phase Split	16%	26%	25%	25%	9%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	402	0.0	402	0.0	382	1.053	100	99.3	LOS F	39.2	274.1	Full	330	0.0	0.0
Lane 2	165	0.0	165	0.0	273[1]	0.605	100	58.8	LOS E	10.0	69.7	Short	35	0.0	NA
Approach	567	0.0	567	0.0		1.053		87.5	LOS F	39.2	274.1				
East: Peter Brock Drive															
Lane 1	555	0.0	555	0.0	515	1.078	100	135.7	LOS F	54.8	383.4	Full	180	0.0	75.4
Lane 2	330	0.0	330	0.0	306[1]	1.078	100	162.4	LOS F	39.6	276.9	Full	180	0.0	44.5
Lane 3	415	0.0	415	0.0	507[1]	0.819	100	38.4	LOS C	20.7	144.7	Short	40	0.0	NA
Approach	1300	0.0	1300	0.0		1.078		111.4	LOS F	54.8	383.4				
North: South Circuit															
Lane 1	311	0.0	311	0.0	438	0.710	100	47.8	LOS D	13.4	93.6	Short	50	0.0	NA
Lane 2	121	0.0	121	0.0	181	0.668	100	69.1	LOS E	8.3	58.4	Full	220	0.0	0.0
Lane 3	118	0.0	118	0.0	172	0.684	100	75.2	LOS F	8.2	57.4	Short	55	0.0	NA
Approach	550	0.0	550	0.0		0.710		58.4	LOS E	13.4	93.6				
West: Peter Brick Drive															
Lane 1	352	0.0	345	0.0	682	0.506	100	24.1	LOS B	13.6	95.5	Full	300	0.0	0.0
Lane 2	292	0.0	286	0.0	566[1]	0.506	100	23.1	LOS B	10.5	73.3	Full	300	0.0	0.0
Lane 3	195	0.0	191	0.0	490	0.390	100	31.4	LOS C	6.9	48.4	Short	35	0.0	NA
Approach	839	0.0	822[N1]	0.0		0.506		25.4	LOS B	13.6	95.5				
Intersection	3256	0.0	3239[N1]	0.0		1.078		76.4	LOS F	54.8	383.4				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	26	376	-	402	0.0	382	1.053	100	NA	NA
Lane 2	-	-	165	165	0.0	273[1]	0.605	100	68.9	1
Approach	26	376	165	567	0.0		1.053			

East: Peter Brock Drive											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	554	-	555	0.0	515	1.078	100	NA	NA
Lane 2	-	330	-	330	0.0	306[1]	1.078	100	NA	NA
Lane 3	-	-	415	415	0.0	507[1]	0.819	100	100.0	2
Approach	1	884	415	1300	0.0		1.078			
North: South Circuit										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	311	-	-	311	0.0	438	0.710	100	63.0	2
Lane 2	-	121	-	121	0.0	181	0.668	100	NA	NA
Lane 3	-	-	118	118	0.0	172	0.684	100	8.8	2
Approach	311	121	118	550	0.0		0.710			
West: Peter Brick Drive										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	344	-	345	0.0	682	0.506	100	NA	NA
Lane 2	-	286	-	286	0.0	566[1]	0.506	100	NA	NA
Lane 3	-	-	191	191	0.0	490	0.390	100	34.5	2
Approach	1	630	191	822	0.0		0.506			

	Total	%HV	Deg.Satn (v/c)
Intersection	3239	0.0	1.078

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brick Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

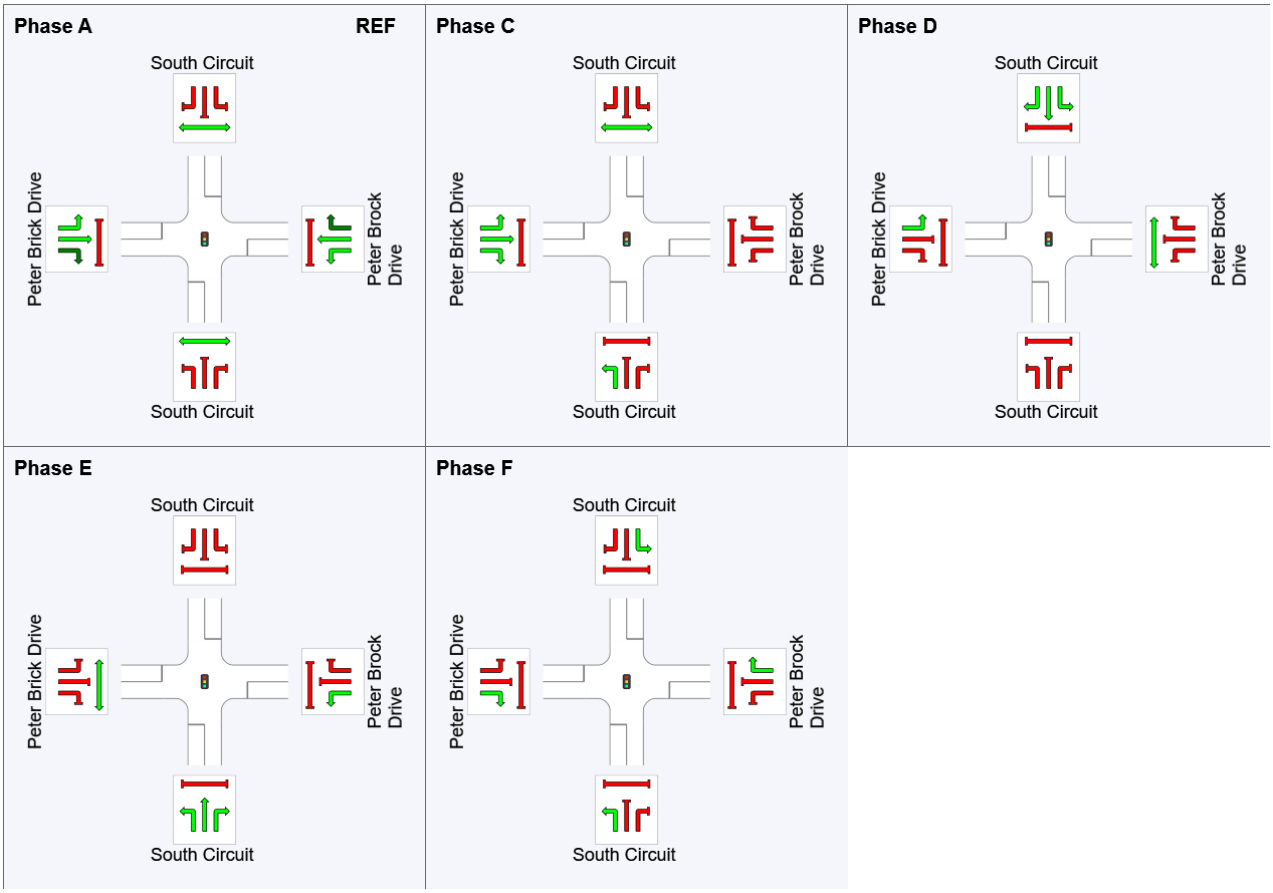
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import
Reference Phase: Phase A
Input Phase Sequence: A, C, D, E, F
Output Phase Sequence: A, C, D, E, F

Phase Timing Summary

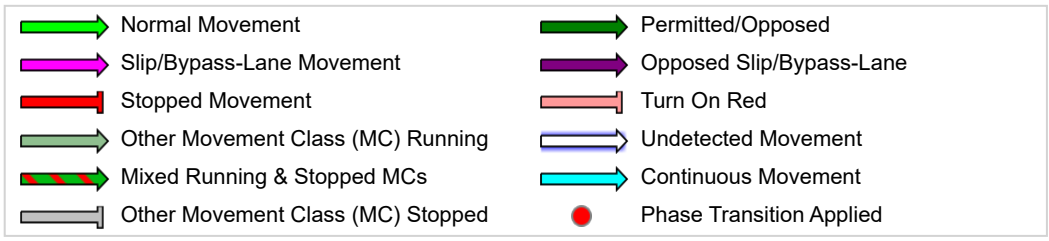
Phase	A	C	D	E	F
Phase Change Time (sec)	70	113	125	4	38
Green Time (sec)	37	6	13	28	26
Phase Time (sec)	43	12	19	34	32
Phase Split	31%	9%	14%	24%	23%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	243	0.0	243	0.0	416	0.584	100	66.7	LOS E	14.7	102.7	Full	330	0.0	0.0
Lane 2	198	0.0	198	0.0	305[1]	0.650	100	56.9	LOS E	11.8	82.8	Short	35	0.0	NA
Approach	441	0.0	441	0.0		0.650		62.3	LOS E	14.7	102.7				
East: Peter Brock Drive															
Lane 1	326	0.0	326	0.0	524	0.621	100	51.1	LOS D	18.9	132.1	Full	180	0.0	0.0
Lane 2	252	0.0	252	0.0	406[1]	0.621	100	43.9	LOS D	14.1	98.4	Full	180	0.0	0.0
Lane 3	197	0.0	197	0.0	444	0.443	100	35.8	LOS C	8.8	61.6	Short	40	0.0	NA
Approach	775	0.0	775	0.0		0.621		44.9	LOS D	18.9	132.1				
North: South Circuit															
Lane 1	145	0.0	145	0.0	345	0.420	100	35.6	LOS C	5.7	40.0	Short	50	0.0	NA
Lane 2	157	0.0	157	0.0	237	0.663	100	65.2	LOS E	10.6	73.9	Full	220	0.0	0.0
Lane 3	131	0.0	131	0.0	226	0.581	100	69.7	LOS E	8.7	60.7	Short	55	0.0	NA
Approach	433	0.0	433	0.0		0.663		56.6	LOS E	10.6	73.9				
West: Peter Brick Drive															
Lane 1	569	0.0	489	0.0	738	0.663	100	4.2	LOS A	5.9	41.3	Full	300	0.0	0.0
Lane 2	564	0.0	485	0.0	733[1]	0.663	100	16.4	LOS B	16.9	118.0	Full	300	0.0	0.0
Lane 3	5	0.0	4	0.0	458	0.009	100	25.4	LOS B	0.1	0.9	Short	35	0.0	NA
Approach	1138	0.0	979[N1]	0.0		0.663		10.3	LOS A	16.9	118.0				
Intersection	2787	0.0	2628[N1]	0.0		0.663		36.9	LOS C	18.9	132.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	32	211	-	243	0.0	416	0.584	100	NA	NA
Lane 2	-	-	198	198	0.0	305[1]	0.650	100	85.7	1
Approach	32	211	198	441	0.0		0.650			

East: Peter Brock Drive											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	77	249	-	326	0.0	524	0.621	100	NA	NA	
Lane 2	-	252	-	252	0.0	406[1]	0.621	100	NA	NA	
Lane 3	-	-	197	197	0.0	444	0.443	100	44.6	2	
Approach	77	501	197	775	0.0		0.621				
North: South Circuit											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	145	-	-	145	0.0	345	0.420	100	0.0	2	
Lane 2	-	157	-	157	0.0	237	0.663	100	NA	NA	
Lane 3	-	-	131	131	0.0	226	0.581	100	13.9	2	
Approach	145	157	131	433	0.0		0.663				
West: Peter Brick Drive											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	1	488	-	489	0.0	738	0.663	100	NA	NA	
Lane 2	-	485	-	485	0.0	733[1]	0.663	100	NA	NA	
Lane 3	-	-	4	4	0.0	458	0.009	100	0.0	2	
Approach	1	974	4	979	0.0		0.663				
	Total	%HV	Deg.Satn (v/c)								
Intersection	2628	0.0	0.663								

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Peter Brick Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										

PHASING SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

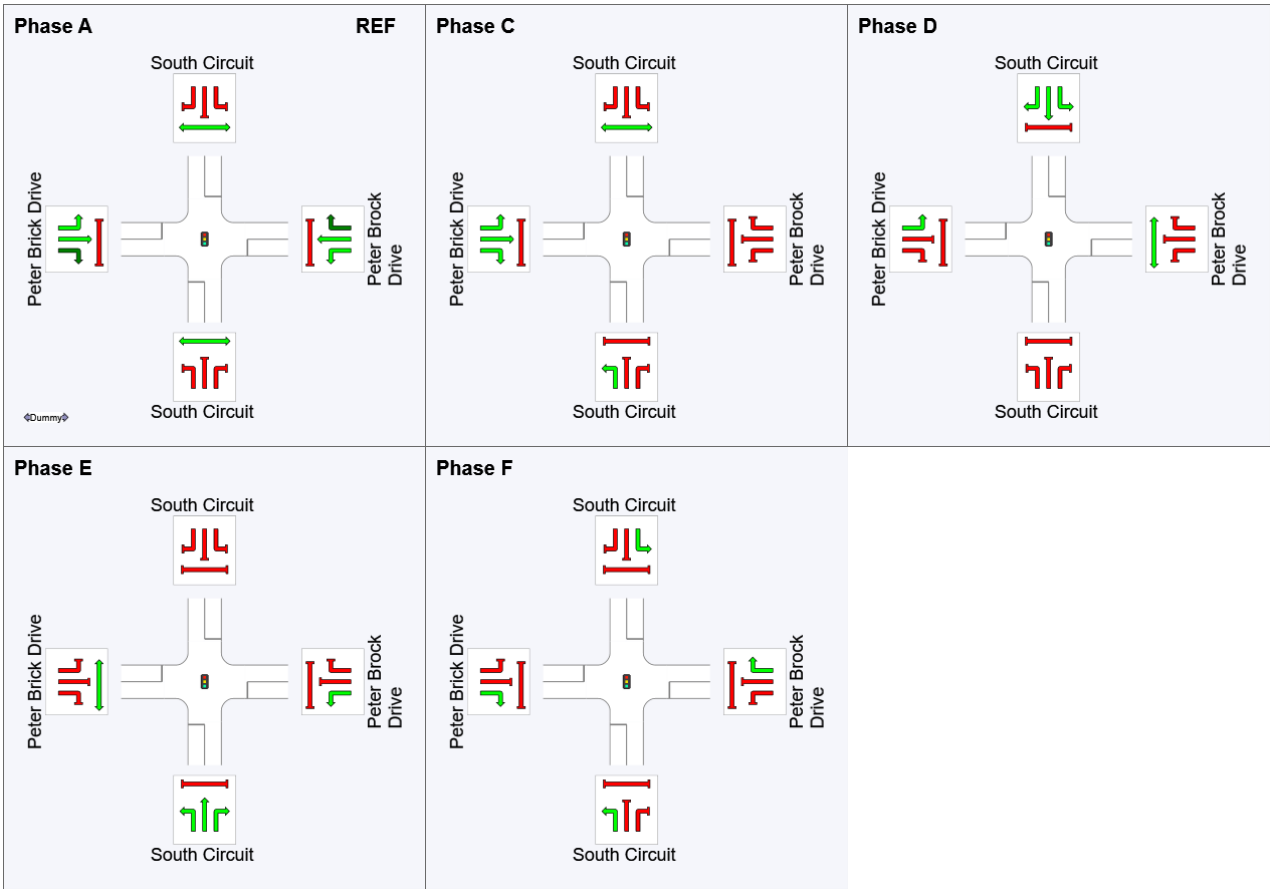
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, C, D, E, F
Output Phase Sequence: A, C, D, E, F

Phase Timing Summary

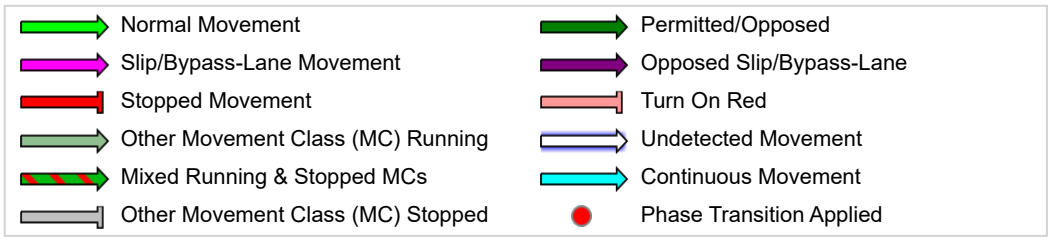
Phase	A	C	D	E	F
Phase Change Time (sec)	78	124	137	20	57
Green Time (sec)	40	7	17	31	15
Phase Time (sec)	46	13	23	37	21
Phase Split	33%	9%	16%	26%	15%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	128	0.0	128	0.0	193	0.665	100	92.7	LOS F	10.5	73.6	Full	330	-0.7 N7	0.0
Lane 2	89	0.0	89	0.0	186	0.479	100	71.7	LOS F	5.9	41.5	Short	35	0.0	NA
Approach	217	0.0	217	0.0		0.665		84.0	LOS F	10.5	73.6				
East: Peter Brock Drive															
Lane 1	657	0.0	657	0.0	514	1.279	100	304.9	LOS F	105.4	737.6	Full	180	-48.0 N7	100.0
Lane 2	726	0.0	726	0.0	567 1	1.279	100	318.3	LOS F	128.6	900.0	Full	180	-28.1 N7	100.0
Lane 3	329	0.0	329	0.0	677	0.486	100	29.8	LOS C	11.2	78.3	Short	40	0.0	NA
Approach	1712	0.0	1712	0.0		1.279		257.7	LOS F	128.6	900.0				
North: South Circuit															
Lane 1	29	0.0	29	0.0	172	0.168	100	50.5	LOS D	1.5	10.7	Short	50	0.0	NA
Lane 2	74	0.0	74	0.0	181	0.407	100	66.4	LOS E	4.9	34.3	Full	220	0.0	0.0
Lane 3	28	0.0	28	0.0	124	0.225	100	71.7	LOS F	1.8	12.9	Short	55	-28.1 N7	NA
Approach	131	0.0	131	0.0		0.407		64.0	LOS E	4.9	34.3				
West: Peter Brick Drive															
Lane 1	423	0.0	410	0.0	1123	0.366	100	14.0	LOS A	10.8	75.3	Full	300	0.0	0.0
Lane 2	389	0.0	377	0.0	1030 1	0.366	100	10.5	LOS A	8.2	57.4	Full	300	0.0	0.0
Lane 3	125	0.0	121	0.0	225	0.538	100	43.3	LOS D	5.3	37.4	Short	35	0.0	NA
Approach	937	0.0	908 N1	0.0		0.538		16.5	LOS B	10.8	75.3				
Intersection	2997	0.0	2968 N1	0.0		1.279		162.7	LOS F	128.6	900.0				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N7 The capacity reduction has been determined from the queue blockage probability of a Site further downstream due to intermediate continuous lanes.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	127	-	128	0.0	193	0.665	100	NA	NA
Lane 2	-	-	89	89	0.0	186	0.479	100	20.4	1

Approach	1	127	89	217	0.0		0.665				
East: Peter Brock Drive											
Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	1	656	-	657	0.0	514	1.279	100	NA	NA	
Lane 2	-	726	-	726	0.0	567[1]	1.279	100	NA	NA	
Lane 3	-	-	329	329	0.0	677	0.486	100	67.3	2	
Approach	1	1382	329	1712	0.0		1.279				
North: South Circuit											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	29	-	-	29	0.0	172	0.168	100	0.0	2	
Lane 2	-	74	-	74	0.0	181	0.407	100	NA	NA	
Lane 3	-	-	28	28	0.0	124	0.225	100	0.0	2	
Approach	29	74	28	131	0.0		0.407				
West: Peter Brick Drive											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	76	335	-	410	0.0	1123	0.366	100	NA	NA	
Lane 2	-	377	-	377	0.0	1030[1]	0.366	100	NA	NA	
Lane 3	-	-	121	121	0.0	225	0.538	100	11.1	2	
Approach	76	711	121	908	0.0		0.538				
	Total	%HV	Deg.Satn (v/c)								
Intersection	2968	0.0	1.279								

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
East Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Peter Brick Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									

Project: \\ghdnet\ghd\AU\Sydney\Projects\21\12526027\Tech\Traffic Impact Assessments\04. SIDRA Models\Town Centre TIA\Town Centre Modelling - 2 lane_20210910.sip9

PHASING SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

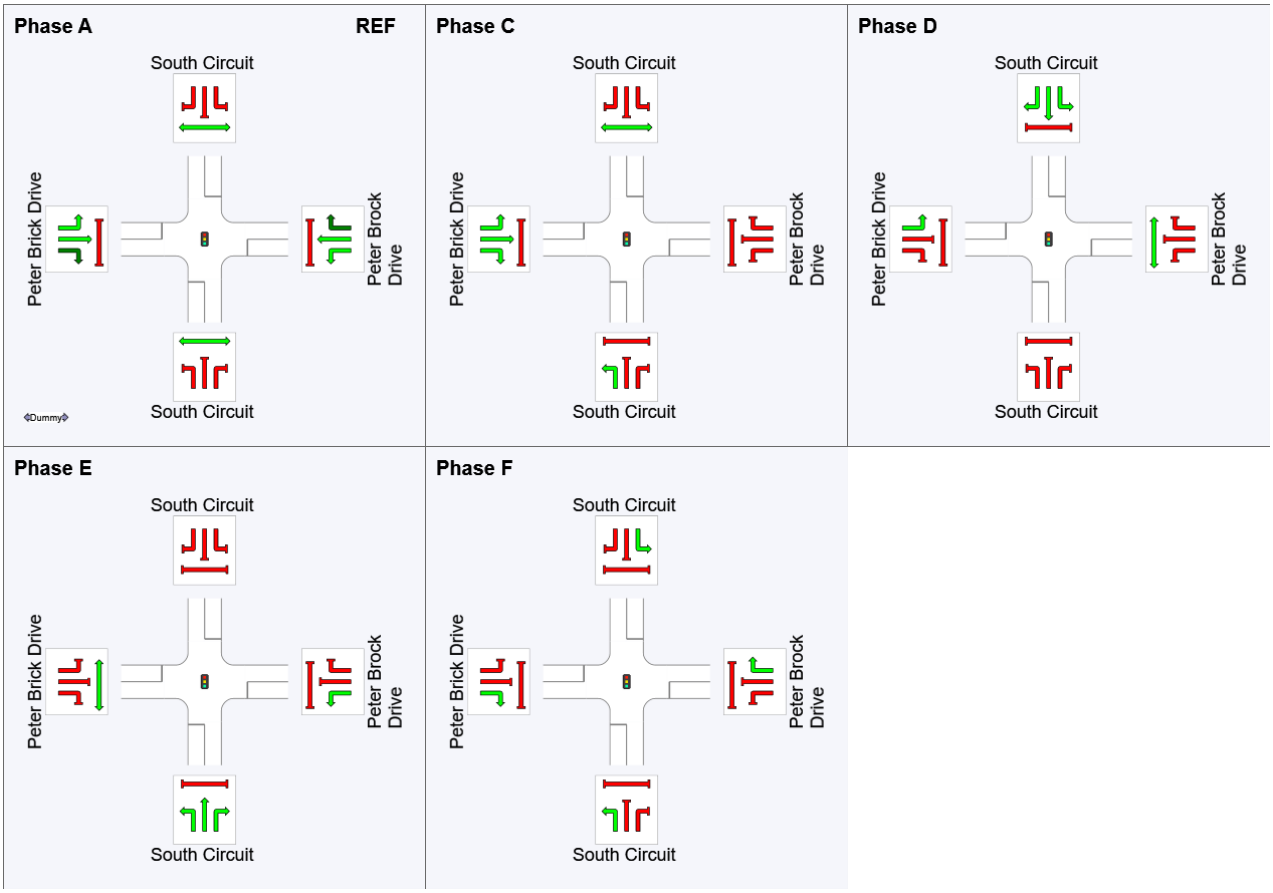
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, C, D, E, F
Output Phase Sequence: A, C, D, E, F

Phase Timing Summary

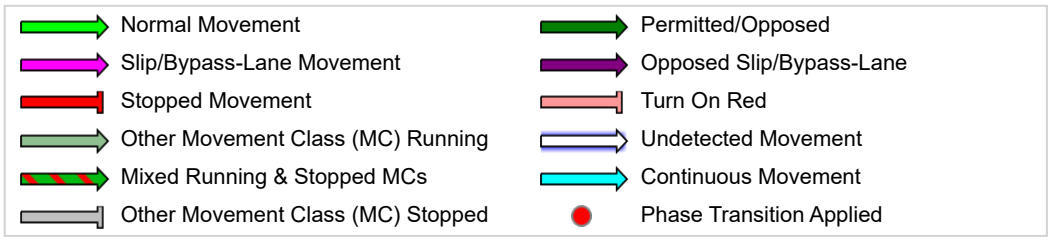
Phase	A	C	D	E	F
Phase Change Time (sec)	60	137	9	28	48
Green Time (sec)	71	6	13	14	6
Phase Time (sec)	77	12	19	20	12
Phase Split	55%	9%	14%	14%	9%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



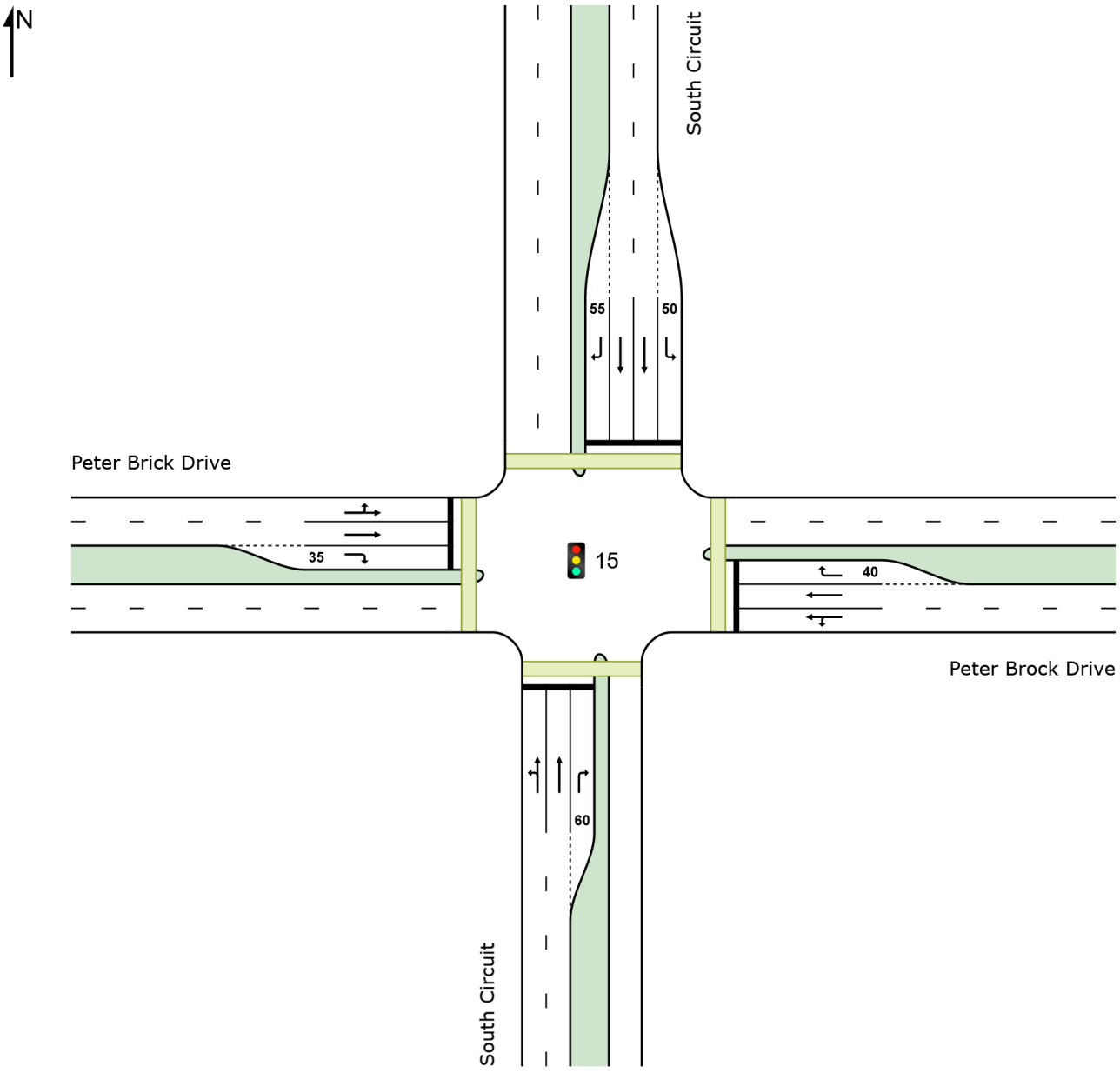
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SITE LAYOUT

Site: 15 [15. Peter Brock Dr / South Circuit East - 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	225	0.0	225	0.0	442	0.508	100	51.4	LOS D	13.3	93.4	Full	330	0.0	0.0
Lane 2	240	0.0	240	0.0	474	0.508	100	49.2	LOS D	14.2	99.2	Full	330	0.0	0.0
Lane 3	62	0.0	62	0.0	159	0.389	100	73.0	LOS F	4.1	29.0	Short	60	0.0	NA
Approach	527	0.0	527	0.0		0.508		52.9	LOS D	14.2	99.2				
East: Peter Brock Drive															
Lane 1	274	0.0	274	0.0	402	0.681	100	56.0	LOS D	17.3	121.3	Full	180	0.0	0.0
Lane 2	199	0.0	199	0.0	292[1]	0.681	100	51.5	LOS D	11.9	83.4	Full	180	0.0	0.0
Lane 3	403	0.0	403	0.0	534[1]	0.755	100	29.7	LOS C	16.4	114.9	Short	40	0.0	NA
Approach	876	0.0	876	0.0		0.755		42.9	LOS D	17.3	121.3				
North: South Circuit															
Lane 1	337	0.0	337	0.0	935[1]	0.360	100	26.2	LOS B	13.2	92.3	Short	50	0.0	NA
Lane 2	74	0.0	74	0.0	474	0.157	20[6]	44.5	LOS D	4.0	27.7	Full	220	0.0	0.0
Lane 3	310	0.0	310	0.0	395[1]	0.785	100	54.6	LOS D	19.9	139.4	Full	220	0.0	0.0
Lane 4	121	0.0	121	0.0	159	0.760	100	78.3	LOS F	8.7	60.6	Short	55	0.0	NA
Approach	842	0.0	842	0.0		0.785		45.7	LOS D	19.9	139.4				
West: Peter Brick Drive															
Lane 1	345	0.0	335	0.0	431	0.776	100	24.1	LOS B	16.0	111.9	Full	300	0.0	0.0
Lane 2	314	0.0	305	0.0	393[1]	0.776	100	30.6	LOS C	15.2	106.4	Full	300	0.0	0.0
Lane 3	77	0.0	75	0.0	634	0.118	100	30.7	LOS C	3.1	21.5	Short	35	0.0	NA
Approach	736	0.0	714[N1]	0.0		0.776		27.5	LOS B	16.0	111.9				
Intersection	2981	0.0	2959[N1]	0.0		0.785		41.8	LOS C	19.9	139.4				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
6 Lane under-utilisation due to downstream effects
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	52	173	-	225	0.0	442	0.508	100	NA	NA
Lane 2	-	240	-	240	0.0	474	0.508	100	NA	NA
Lane 3	-	-	62	62	0.0	159	0.389	100	0.0	2
Approach	52	413	62	527	0.0		0.508			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	60	214	-	274	0.0	402	0.681	100	NA	NA
Lane 2	-	199	-	199	0.0	292[1]	0.681	100	NA	NA
Lane 3	-	-	403	403	0.0	534[1]	0.755	100	100.0	2
Approach	60	413	403	876	0.0		0.755			

North: South Circuit

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	337	-	-	337	0.0	935[1]	0.360	100	61.7	2
Lane 2	-	74	-	74	0.0	474	0.157	20[6]	NA	NA
Lane 3	-	310	-	310	0.0	395[1]	0.785	100	NA	NA
Lane 4	-	-	121	121	0.0	159	0.760	100	13.8	3
Approach	337	384	121	842	0.0		0.785			

West: Peter Brick Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	334	-	335	0.0	431	0.776	100	NA	NA
Lane 2	-	305	-	305	0.0	393[1]	0.776	100	NA	NA
Lane 3	-	-	75	75	0.0	634	0.118	100	0.0	2
Approach	1	639	75	714	0.0		0.776			

	Total	%HV	Deg.Satn (v/c)
Intersection	2959	0.0	0.785

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: Peter Brick Drive Merge Type: **Not Applied**												

Full Length Lane	1	Merge Analysis not applied.
Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

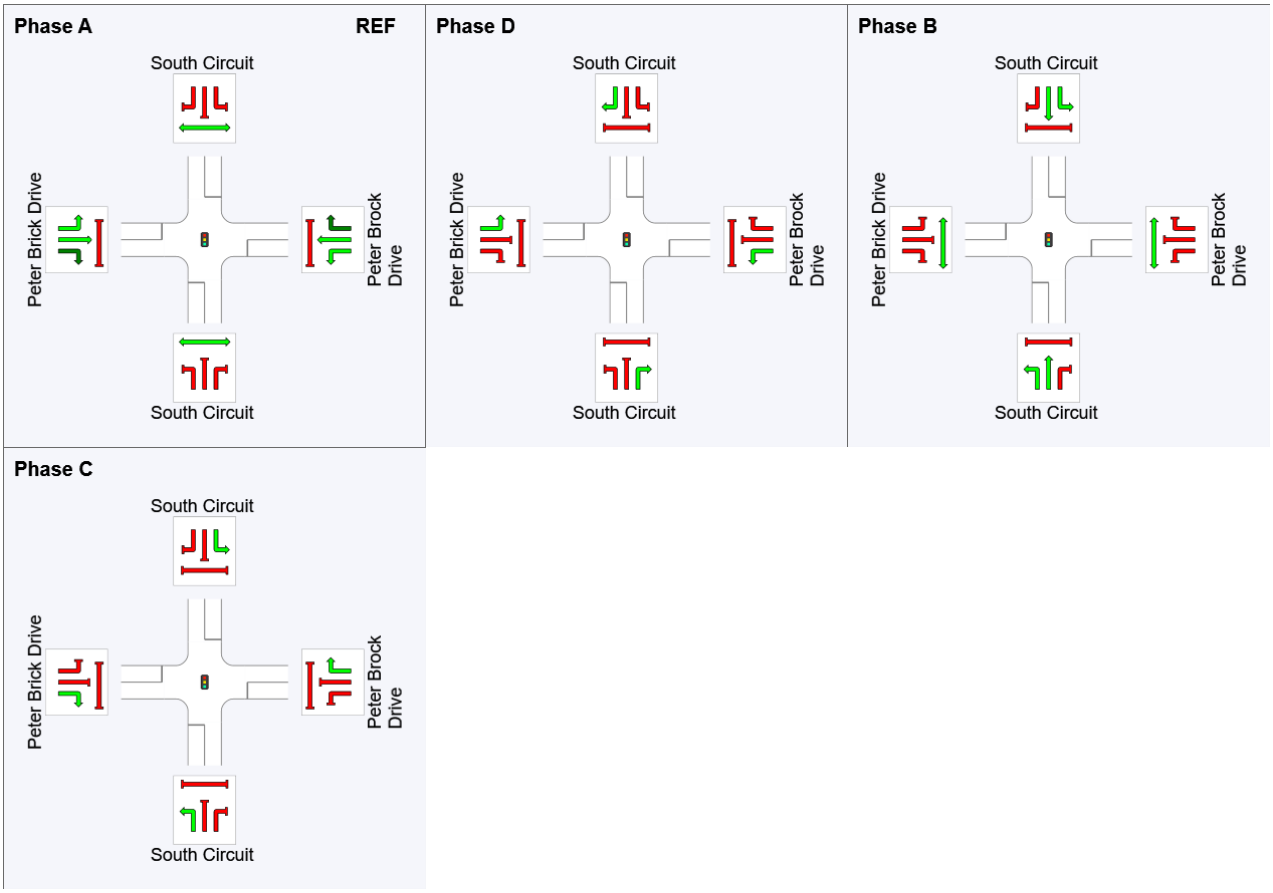
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import - Copy
Reference Phase: Phase A
Input Phase Sequence: A, D, B, C
Output Phase Sequence: A, D, B, C

Phase Timing Summary

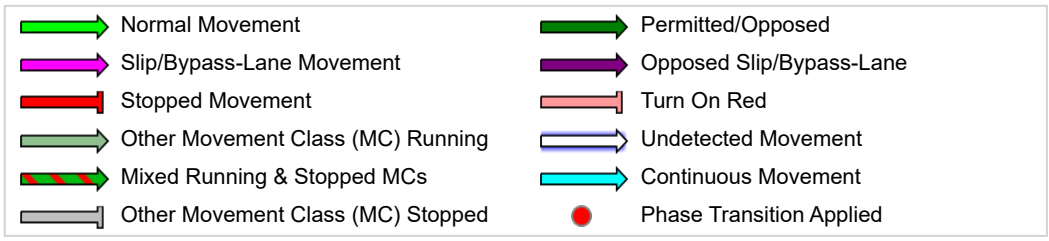
Phase	A	D	B	C
Phase Change Time (sec)	82	119	137	37
Green Time (sec)	31	12	34	39
Phase Time (sec)	37	18	40	45
Phase Split	26%	13%	29%	32%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2036 PM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	308	0.0	308	0.0	377	0.817	100	63.2	LOS E	21.4	150.1	Full	330	0.0	0.0
Lane 2	275	0.0	275	0.0	337[1]	0.817	100	61.7	LOS E	18.8	131.5	Full	330	0.0	0.0
Lane 3	165	0.0	165	0.0	199	0.829	100	79.0	LOS F	12.1	84.4	Short	60	0.0	NA
Approach	748	0.0	748	0.0		0.829		66.1	LOS E	21.4	150.1				
East: Peter Brock Drive															
Lane 1	569	0.0	569	0.0	696	0.818	100	45.5	LOS D	36.2	253.3	Full	180	0.0	36.2
Lane 2	316	0.0	316	0.0	386[1]	0.818	100	44.5	LOS D	18.4	128.5	Full	180	0.0	0.0
Lane 3	415	0.0	415	0.0	536[1]	0.775	100	29.0	LOS C	17.1	119.4	Short	40	0.0	NA
Approach	1300	0.0	1300	0.0		0.818		40.0	LOS C	36.2	253.3				
North: South Circuit															
Lane 1	311	0.0	311	0.0	597[1]	0.521	100	41.7	LOS C	16.1	112.4	Short	50	0.0	NA
Lane 2	126	0.0	126	0.0	390	0.323	100	51.6	LOS D	7.4	51.6	Full	220	0.0	0.0
Lane 3	126	0.0	126	0.0	390	0.323	100	51.6	LOS D	7.4	51.6	Full	220	0.0	0.0
Lane 4	118	0.0	118	0.0	199	0.593	100	71.7	LOS F	7.9	55.4	Short	55	0.0	NA
Approach	681	0.0	681	0.0		0.593		50.6	LOS D	16.1	112.4				
West: Peter Brick Drive															
Lane 1	355	0.0	348	0.0	696	0.500	100	23.5	LOS B	13.6	95.1	Full	300	0.0	0.0
Lane 2	289	0.0	284	0.0	568[1]	0.500	100	22.6	LOS B	10.2	71.5	Full	300	0.0	0.0
Lane 3	195	0.0	191	0.0	428	0.447	100	32.8	LOS C	7.1	49.6	Short	35	0.0	NA
Approach	839	0.0	824[N1]	0.0		0.500		25.4	LOS B	13.6	95.1				
Intersection	3568	0.0	3553[N 1]	0.0		0.829		44.1	LOS D	36.2	253.3				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	26	282	-	308	0.0	377	0.817	100	NA	NA

Lane 2	-	275	-	275	0.0	337[1]	0.817	100	NA	NA
Lane 3	-	-	165	165	0.0	199	0.829	100	36.2	2
Approach	26	557	165	748	0.0		0.829			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	568	-	569	0.0	696	0.818	100	NA	NA
Lane 2	-	316	-	316	0.0	386[1]	0.818	100	NA	NA
Lane 3	-	-	415	415	0.0	536[1]	0.775	100	100.0	2
Approach	1	884	415	1300	0.0		0.818			

North: South Circuit

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	311	-	-	311	0.0	597[1]	0.521	100	80.7	2
Lane 2	-	126	-	126	0.0	390	0.323	100	NA	NA
Lane 3	-	126	-	126	0.0	390	0.323	100	NA	NA
Lane 4	-	-	118	118	0.0	199	0.593	100	5.7	3
Approach	311	252	118	681	0.0		0.593			

West: Peter Brick Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	347	-	348	0.0	696	0.500	100	NA	NA
Lane 2	-	284	-	284	0.0	568[1]	0.500	100	NA	NA
Lane 3	-	-	191	191	0.0	428	0.447	100	36.8	2
Approach	1	631	191	824	0.0		0.500			

	Total	%HV	Deg.Satn (v/c)
Intersection	3553	0.0	0.829

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Peter Brick Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2036 PM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

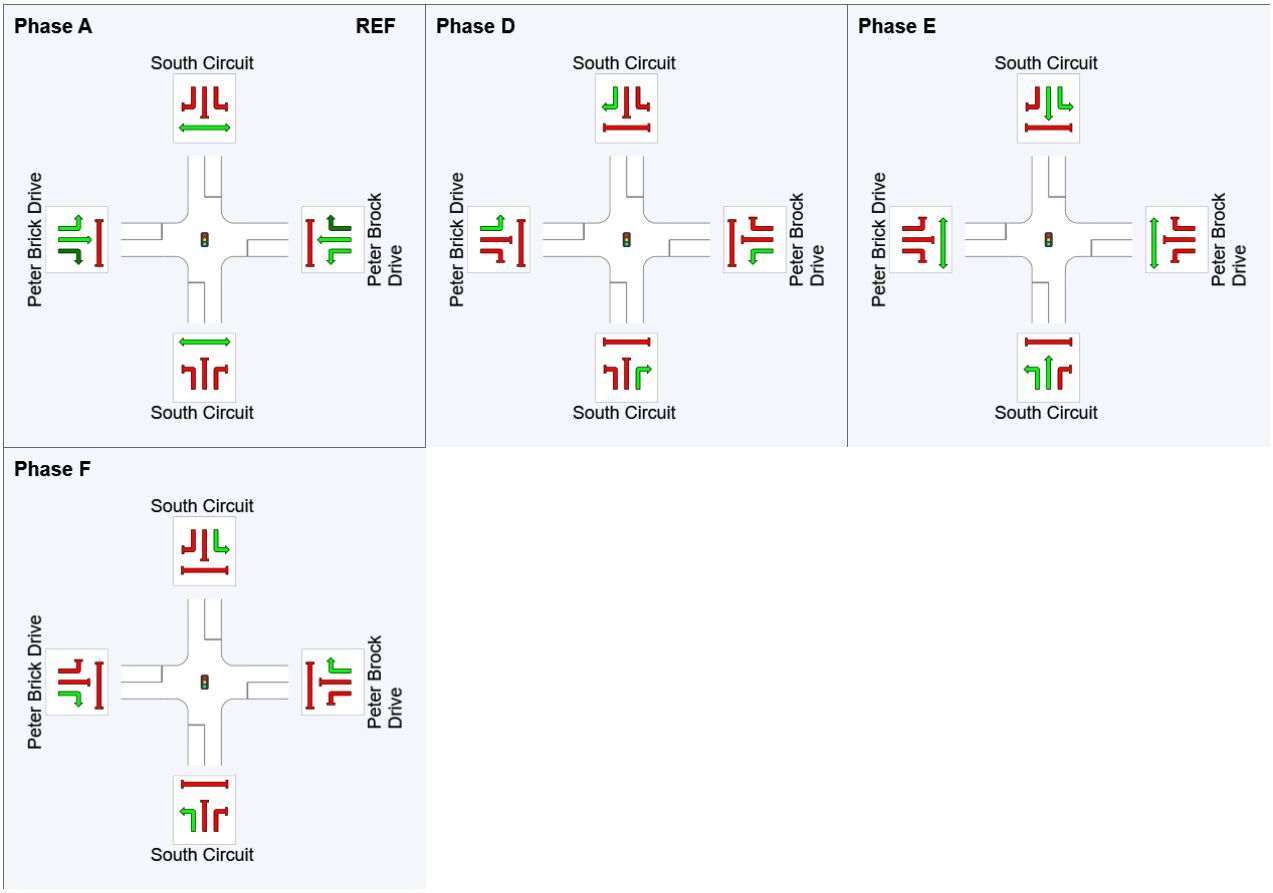
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1 - Import - Copy
Reference Phase: Phase A
Input Phase Sequence: A, D, E, F
Output Phase Sequence: A, D, E, F

Phase Timing Summary

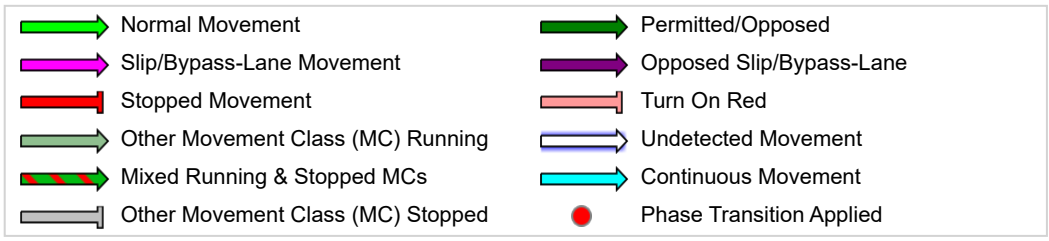
Phase	A	D	E	F
Phase Change Time (sec)	69	125	6	40
Green Time (sec)	50	15	28	23
Phase Time (sec)	56	21	34	29
Phase Split	40%	15%	24%	21%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2041 AM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	215	0.0	215	0.0	428	0.502	100	65.1	LOS E	13.2	92.2	Full	330	0.0	0.0
Lane 2	183	0.0	183	0.0	365[1]	0.502	100	49.5	LOS D	10.6	74.5	Full	330	0.0	0.0
Lane 3	198	0.0	198	0.0	343[1]	0.577	100	55.9	LOS D	11.7	81.9	Short	35	0.0	NA
Approach	596	0.0	596	0.0		0.577		57.3	LOS E	13.2	92.2				
East: Peter Brock Drive															
Lane 1	323	0.0	323	0.0	510	0.632	100	51.3	LOS D	18.8	131.9	Full	180	0.0	0.0
Lane 2	255	0.0	255	0.0	404[1]	0.632	100	44.9	LOS D	14.4	100.9	Full	180	0.0	0.0
Lane 3	197	0.0	197	0.0	463	0.426	100	34.6	LOS C	8.5	59.5	Short	40	0.0	NA
Approach	775	0.0	775	0.0		0.632		45.0	LOS D	18.8	131.9				
North: South Circuit															
Lane 1	145	0.0	145	0.0	345	0.420	100	35.7	LOS C	5.8	40.3	Short	50	0.0	NA
Lane 2	127	0.0	127	0.0	195	0.651	100	67.8	LOS E	8.7	60.7	Full	220	0.0	0.0
Lane 3	127	0.0	127	0.0	195	0.651	100	67.8	LOS E	8.7	60.7	Full	220	0.0	0.0
Lane 4	131	0.0	131	0.0	186	0.705	100	74.8	LOS F	9.1	63.8	Short	55	0.0	NA
Approach	530	0.0	530	0.0		0.705		60.7	LOS E	9.1	63.8				
West: Peter Brick Drive															
Lane 1	569	0.0	489	0.0	724	0.675	100	4.4	LOS A	6.2	43.5	Full	300	0.0	0.0
Lane 2	564	0.0	485	0.0	719[1]	0.675	100	17.8	LOS B	18.0	125.9	Full	300	0.0	0.0
Lane 3	5	0.0	4	0.0	492	0.009	100	24.3	LOS B	0.1	0.9	Short	35	0.0	NA
Approach	1138	0.0	979[N1]	0.0		0.675		11.1	LOS A	18.0	125.9				
Intersection	3039	0.0	2880[N1]	0.0		0.705		38.9	LOS C	18.8	131.9				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	32	183	-	215	0.0	428	0.502	100	NA	NA

Lane 2	-	183	-	183	0.0	365[1]	0.502	100	NA	NA
Lane 3	-	-	198	198	0.0	343[1]	0.577	100	84.7	2
Approach	32	366	198	596	0.0		0.577			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	77	246	-	323	0.0	510	0.632	100	NA	NA
Lane 2	-	255	-	255	0.0	404[1]	0.632	100	NA	NA
Lane 3	-	-	197	197	0.0	463	0.426	100	41.3	2
Approach	77	501	197	775	0.0		0.632			

North: South Circuit

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	145	-	-	145	0.0	345	0.420	100	0.0	2
Lane 2	-	127	-	127	0.0	195	0.651	100	NA	NA
Lane 3	-	127	-	127	0.0	195	0.651	100	NA	NA
Lane 4	-	-	131	131	0.0	186	0.705	100	18.4	3
Approach	145	254	131	530	0.0		0.705			

West: Peter Brick Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	488	-	489	0.0	724	0.675	100	NA	NA
Lane 2	-	485	-	485	0.0	719[1]	0.675	100	NA	NA
Lane 3	-	-	4	4	0.0	492	0.009	100	0.0	2
Approach	1	974	4	979	0.0		0.675			

	Total	%HV	Deg.Satn (v/c)
Intersection	2880	0.0	0.705

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Peter Brock Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
North Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Peter Brick Drive Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2041 AM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

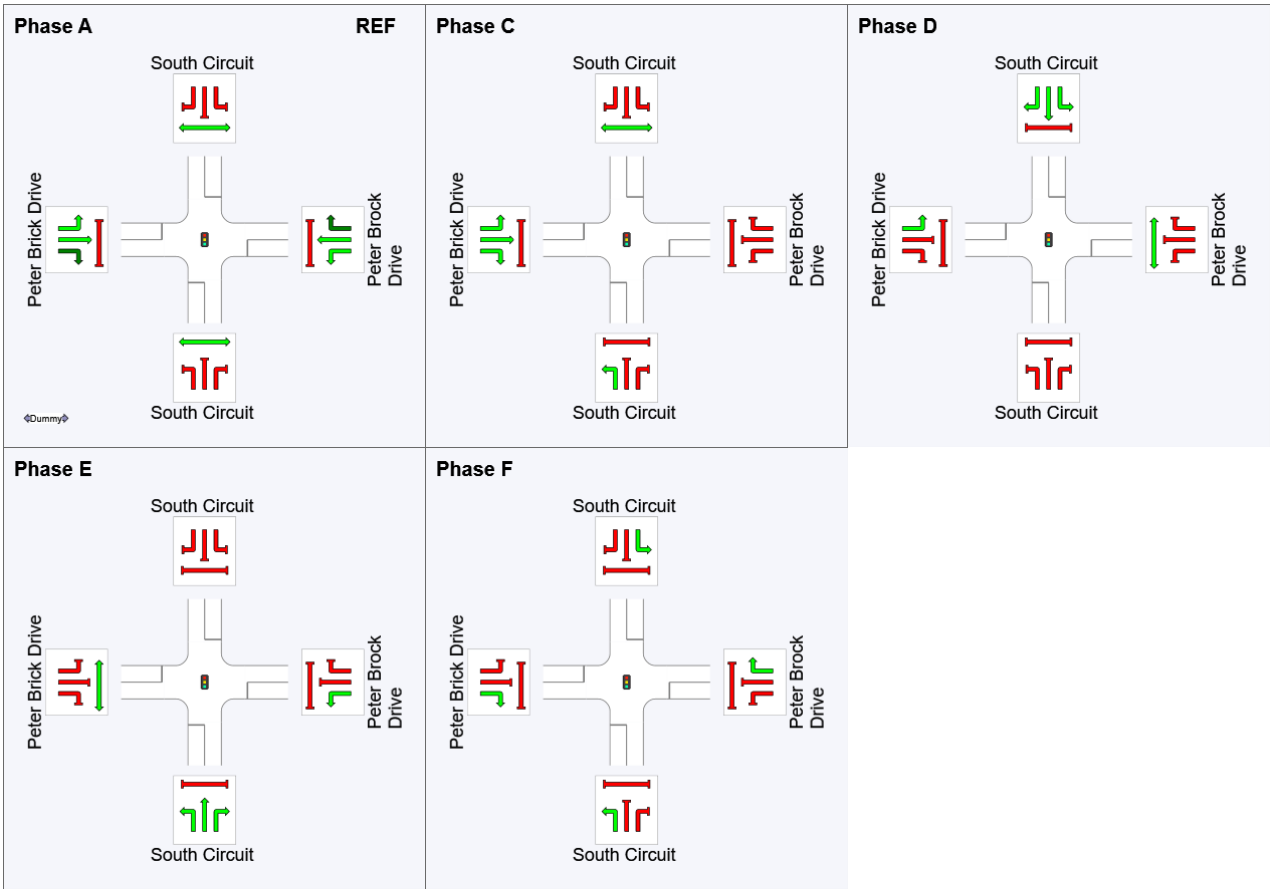
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, C, D, E, F
Output Phase Sequence: A, C, D, E, F

Phase Timing Summary

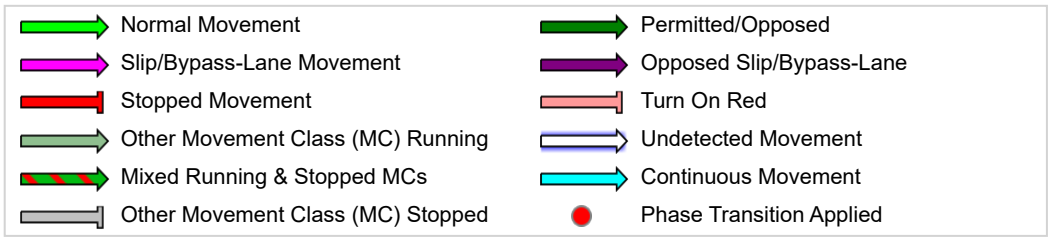
Phase	A	C	D	E	F
Phase Change Time (sec)	78	123	136	16	54
Green Time (sec)	39	7	14	32	18
Phase Time (sec)	45	13	20	38	24
Phase Split	32%	9%	14%	27%	17%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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LANE SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2041 PM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1	163	0.0	163	0.0	180	0.904	100	108.2	LOS F	14.8	103.4	Full	330	-0.1 N7	0.0
Lane 2	145	0.0	145	0.0	161 1	0.904	100	82.2	LOS F	11.3	79.1	Full	330	-5.6 N7	0.0
Lane 3	89	0.0	89	0.0	172	0.516	100	73.0	LOS F	6.0	42.0	Short	35	0.0	NA
Approach	397	0.0	397	0.0		0.904		90.8	LOS F	14.8	103.4				
East: Peter Brock Drive															
Lane 1	772	0.0	772	0.0	818	0.943	100	66.3	LOS E	63.4	443.9	Full	180	-13.6 N7	89.8
Lane 2	611	0.0	611	0.0	647 1	0.943	100	59.8	LOS E	43.6	305.3	Full	180	0.0	53.6
Lane 3	329	0.0	329	0.0	654	0.503	100	25.8	LOS B	11.4	79.5	Short	40	-5.6 N7	NA
Approach	1712	0.0	1712	0.0		0.943		56.2	LOS D	63.4	443.9				
North: South Circuit															
Lane 1	29	0.0	29	0.0	226	0.128	100	47.8	LOS D	1.5	10.4	Short	50	0.0	NA
Lane 2	96	0.0	95	0.0	181	0.526	100	67.3	LOS E	6.4	44.9	Full	220	0.0	0.0
Lane 3	96	0.0	95	0.0	181	0.526	100	67.3	LOS E	6.4	44.9	Full	220	0.0	0.0
Lane 4	28	0.0	28	0.0	172	0.162	100	70.0	LOS E	1.8	12.6	Short	55	0.0	NA
Approach	248	0.0	247 N1	0.0		0.526		65.3	LOS E	6.4	44.9				
West: Peter Brick Drive															
Lane 1	407	0.0	395	0.0	1082	0.365	100	15.0	LOS B	10.6	74.3	Full	300	0.0	0.0
Lane 2	405	0.0	393	0.0	1077	0.365	100	11.6	LOS A	9.1	63.5	Full	300	0.0	0.0
Lane 3	125	0.0	121	0.0	298	0.406	100	37.8	LOS C	5.0	34.9	Short	35	0.0	NA
Approach	937	0.0	908 N1	0.0		0.406		16.6	LOS B	10.6	74.3				
Intersection	3294	0.0	3265 N1	0.0		0.943		50.1	LOS D	63.4	443.9				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N7 The capacity reduction has been determined from the queue blockage probability of a Site further downstream due to intermediate continuous lanes.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S	L2	T1	R2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane

To Exit:	W	N	E			veh/h	v/c	%	%	No.
Lane 1	1	162	-	163	0.0	180	0.904	100	NA	NA
Lane 2	-	145	-	145	0.0	161[1]	0.904	100	NA	NA
Lane 3	-	-	89	89	0.0	172	0.516	100	21.5	2
Approach	1	307	89	397	0.0		0.904			

East: Peter Brock Drive

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	771	-	772	0.0	818	0.943	100	NA	NA
Lane 2	-	611	-	611	0.0	647[1]	0.943	100	NA	NA
Lane 3	-	-	329	329	0.0	654	0.503	100	68.7	2
Approach	1	1382	329	1712	0.0		0.943			

North: South Circuit

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	29	-	-	29	0.0	226	0.128	100	0.0	2
Lane 2	-	95	-	95	0.0	181	0.526	100	NA	NA
Lane 3	-	95	-	95	0.0	181	0.526	100	NA	NA
Lane 4	-	-	28	28	0.0	172	0.162	100	0.0	3
Approach	29	191	28	247	0.0		0.526			

West: Peter Brick Drive

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	76	319	-	395	0.0	1082	0.365	100	NA	NA
Lane 2	-	393	-	393	0.0	1077	0.365	100	NA	NA
Lane 3	-	-	121	121	0.0	298	0.406	100	4.8	2
Approach	76	711	121	908	0.0		0.406			

	Total	%HV	Deg.Satn (v/c)
Intersection	3265	0.0	0.943

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Some upstream delays at entry to short lanes are not included.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Peter Brock Drive Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
North Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: Peter Brick Drive												

Merge Type: **Not Applied**		
Full Length Lane	1	Merge Analysis not applied.
Full Length Lane	2	Merge Analysis not applied.

PHASING SUMMARY

Site: 15 [15. Peter Brock Dr / South Circuit East - 2041 PM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network User-Given Cycle Time)

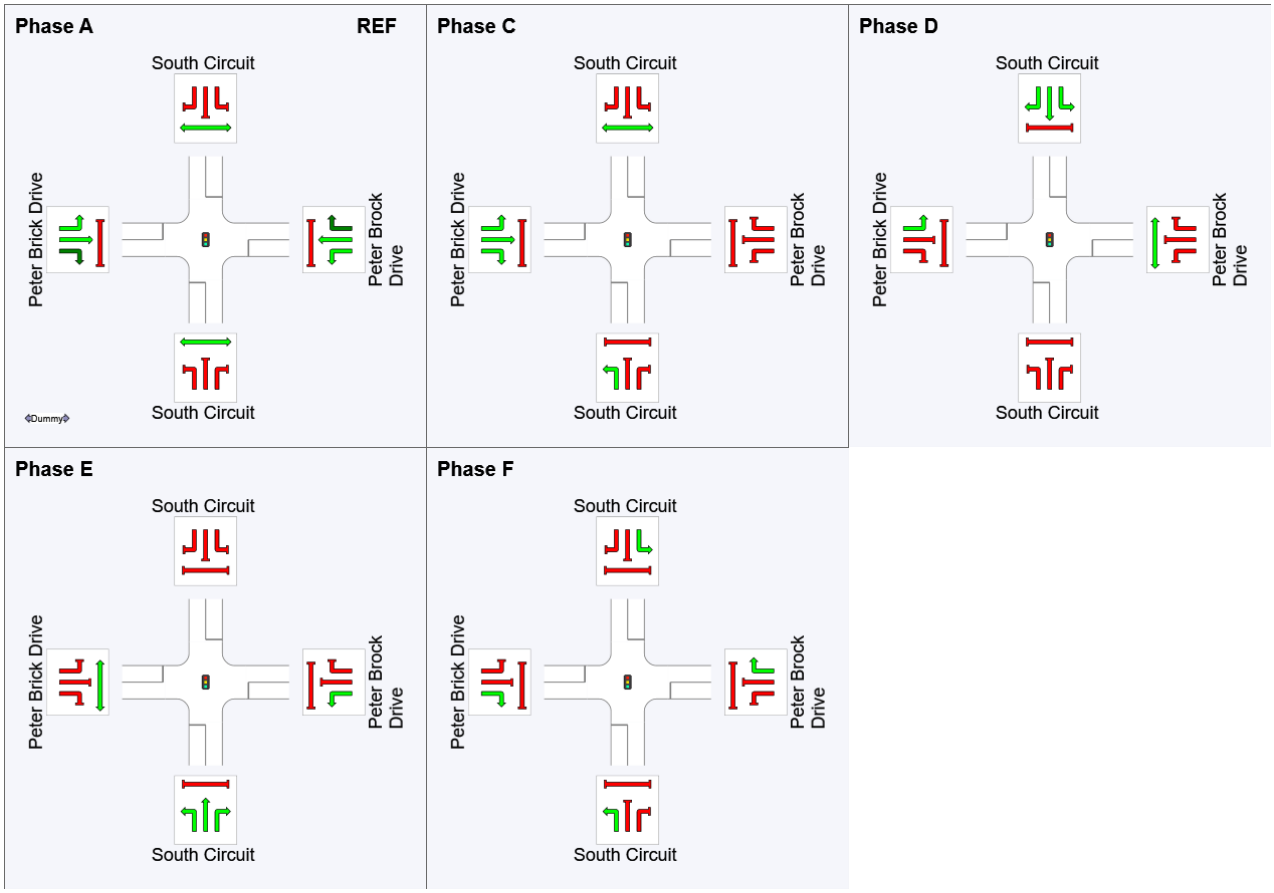
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: v1
Reference Phase: Phase A
Input Phase Sequence: A, C, D, E, F
Output Phase Sequence: A, C, D, E, F

Phase Timing Summary

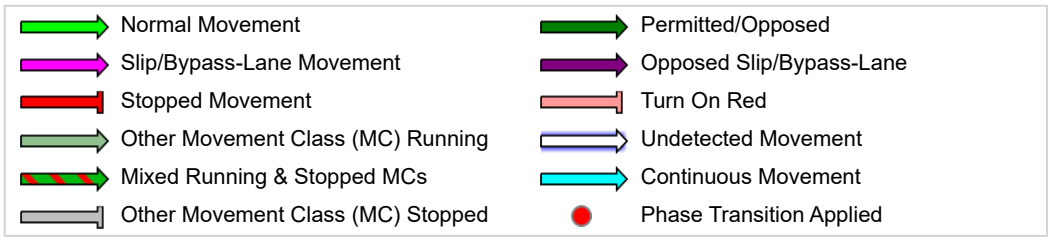
Phase	A	C	D	E	F
Phase Change Time (sec)	60	134	6	25	44
Green Time (sec)	68	6	13	13	10
Phase Time (sec)	74	12	19	19	16
Phase Split	53%	9%	14%	14%	11%

See the Timing Analysis 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, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



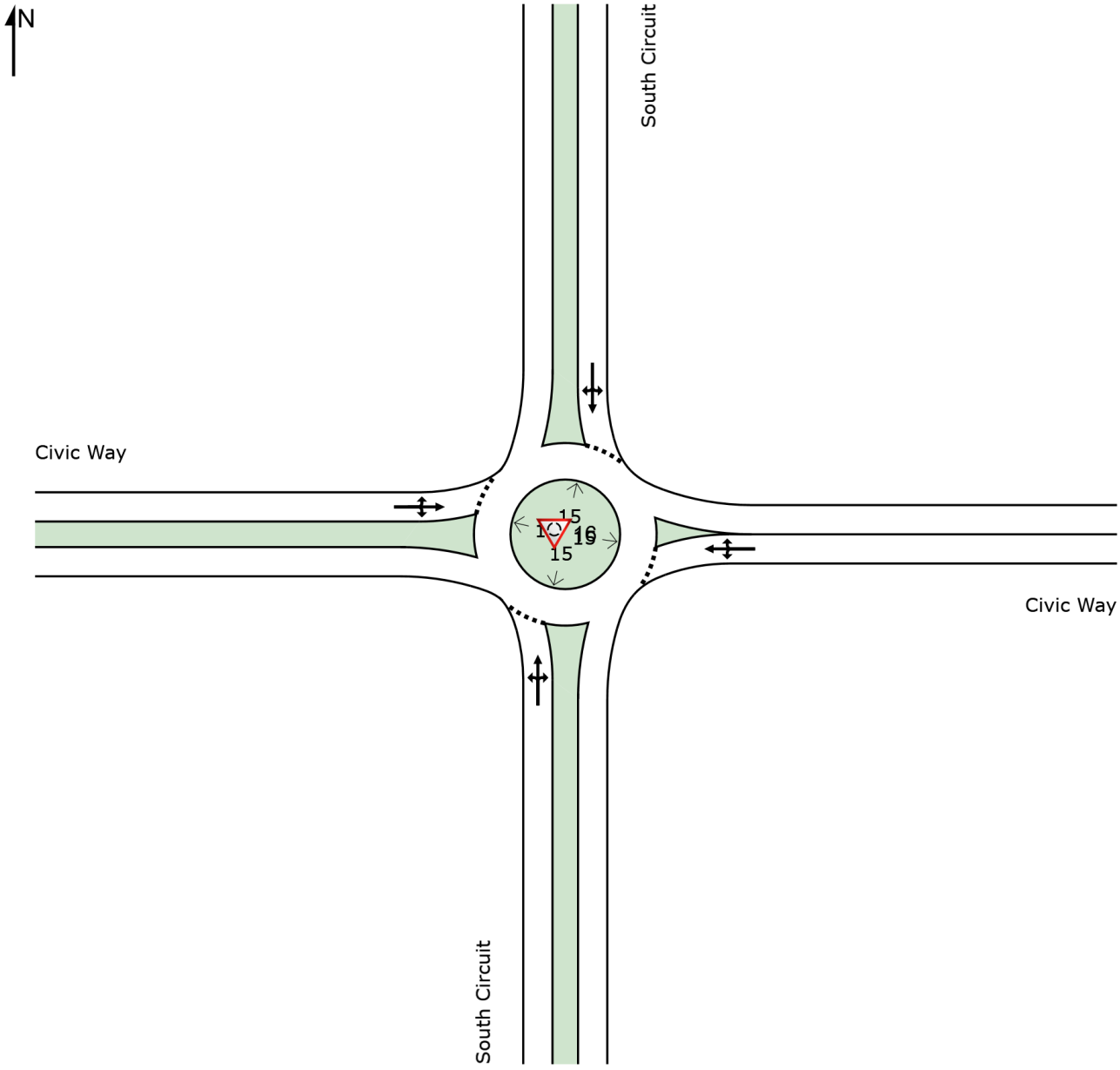
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SITE LAYOUT

Site: 16 [16. South Circuit East / Civic Way - 2026 AM (Site Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 16 [16. South Circuit East / Civic Way - 2026 AM (Site Folder: 2026)]

Network: 2026 AM [Forecast 2026 AM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1[d]	393	0.0	393	0.0	1199	0.328	100	6.2	LOS A	1.9	13.5	Full	220	0.0	0.0
Approach	393	0.0	393	0.0		0.328		6.2	LOS A	1.9	13.5				
East: Civic Way															
Lane 1[d]	292	0.0	292	0.0	1069	0.273	100	8.5	LOS A	2.1	14.5	Full	105	0.0	0.0
Approach	292	0.0	292	0.0		0.273		8.5	LOS A	2.1	14.5				
North: South Circuit															
Lane 1[d]	380	0.0	380	0.0	1398	0.272	100	5.0	LOS A	1.7	11.8	Full	180	0.0	0.0
Approach	380	0.0	380	0.0		0.272		5.0	LOS A	1.7	11.8				
West: Civic Way															
Lane 1[d]	3	0.0	3	0.0	909	0.003	100	7.3	LOS A	0.0	0.1	Full	60	0.0	0.0
Approach	3	0.0	3	0.0		0.003		7.3	LOS A	0.0	0.1				
Intersection	1068	0.0	1068	0.0		0.328		6.4	LOS A	2.1	14.5				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	325	67	393	0.0	1199	0.328	100	NA	NA
Approach	1	325	67	393	0.0		0.328			

East: Civic Way

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	140	10	142	292	0.0	1069	0.273	100	NA	NA
Approach	140	10	142	292	0.0		0.273			

North: South Circuit

Mov.	L2	T1	R2	Total	%HV		Deg.	Lane	Prob.	Ov.

From N To Exit:	E	S	W			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	49	310	21	380	0.0	1398	0.272	100	NA	NA
Approach	49	310	21	380	0.0		0.272			
West: Civic Way										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	1	1	3	0.0	909	0.003	100	NA	NA
Approach	1	1	1	3	0.0		0.003			

	Total	%HV	Deg.Satn (v/c)
Intersection	1068	0.0	0.328

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
East Exit: Civic Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
North Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Civic Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

LANE SUMMARY

Site: 16 [16. South Circuit East / Civic Way - 2026 PM (Site Folder: 2026)]

Network: 2026 PM [Forecast 2026 PM Peak (Network Folder: 2026)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1[d]	494	0.0	494	0.0	1527	0.323	100	5.6	LOS A	2.0	14.3	Full	220	0.0	0.0
Approach	494	0.0	494	0.0		0.323		5.6	LOS A	2.0	14.3				
East: Civic Way															
Lane 1[d]	66	0.0	66	0.0	1019	0.065	100	8.0	LOS A	0.4	2.8	Full	105	0.0	0.0
Approach	66	0.0	66	0.0		0.065		8.0	LOS A	0.4	2.8				
North: South Circuit															
Lane 1[d]	427	0.0	427	0.0	1248	0.342	100	5.4	LOS A	2.2	15.1	Full	180	0.0	0.0
Approach	427	0.0	427	0.0		0.342		5.4	LOS A	2.2	15.1				
West: Civic Way															
Lane 1[d]	41	0.0	41	0.0	950	0.043	100	10.3	LOS A	0.3	2.2	Full	60	0.0	0.0
Approach	41	0.0	41	0.0		0.043		10.3	LOS A	0.3	2.2				
Intersection	1028	0.0	1028	0.0		0.342		5.9	LOS A	2.2	15.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	368	125	494	0.0	1527	0.323	100	NA	NA
Approach	1	368	125	494	0.0		0.323			

East: Civic Way

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	36	1	29	66	0.0	1019	0.065	100	NA	NA
Approach	36	1	29	66	0.0		0.065			

North: South Circuit

Mov.	L2	T1	R2	Total	%HV		Deg.	Lane	Prob.	Ov.

From N To Exit:	E	S	W			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	95	331	1	427	0.0	1248	0.342	100	NA	NA
Approach	95	331	1	427	0.0		0.342			
West: Civic Way										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	1	39	41	0.0	950	0.043	100	NA	NA
Approach	1	1	39	41	0.0		0.043			

	Total	%HV	Deg.Satn (v/c)
Intersection	1028	0.0	0.342

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Civic Way Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Civic Way Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 16 [16. South Circuit East / Civic Way - 2036 AM (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1[d]	547	0.0	547	0.0	1244	0.440	100	5.9	LOS A	3.2	22.3	Full	220	0.0	0.0
Approach	547	0.0	547	0.0		0.440		5.9	LOS A	3.2	22.3				
East: Civic Way															
Lane 1[d]	280	0.0	280	0.0	903	0.310	100	10.7	LOS A	3.1	21.8	Full	105	0.0	0.0
Approach	280	0.0	280	0.0		0.310		10.7	LOS A	3.1	21.8				
North: South Circuit															
Lane 1[d]	631	0.0	631	0.0	1462	0.431	100	5.4	LOS A	3.2	22.4	Full	180	0.0	0.0
Approach	631	0.0	631	0.0		0.431		5.4	LOS A	3.2	22.4				
West: Civic Way															
Lane 1[d]	21	0.0	21	0.0	915	0.023	100	6.8	LOS A	0.2	1.1	Full	60	0.0	0.0
Approach	21	0.0	21	0.0		0.023		6.8	LOS A	0.2	1.1				
Intersection	1479	0.0	1479	0.0		0.440		6.6	LOS A	3.2	22.4				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	88	418	41	547	0.0	1244	0.440	100	NA	NA
Approach	88	418	41	547	0.0		0.440			

East: Civic Way

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	201	6	73	280	0.0	903	0.310	100	NA	NA
Approach	201	6	73	280	0.0		0.310			

North: South Circuit

Mov.	L2	T1	R2	Total	%HV		Deg.	Lane	Prob.	Ov.

From N To Exit:	E	S	W			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	41	501	89	631	0.0	1462	0.431	100	NA	NA
Approach	41	501	89	631	0.0		0.431			
West: Civic Way										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	2	17	2	21	0.0	915	0.023	100	NA	NA
Approach	2	17	2	21	0.0		0.023			

	Total	%HV	Deg.Satn (v/c)
Intersection	1479	0.0	0.440

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Civic Way Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Civic Way Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 16 [16. South Circuit East / Civic Way - 2036 PM (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1[d]	712	0.0	695	0.0	1482	0.469	100	5.0	LOS A	3.1	21.4	Full	220	-12.6[N3]	0.0
Approach	712	0.0	695[N1]	0.0		0.469		5.0	LOS A	3.1	21.4				
East: Civic Way															
Lane 1[d]	41	0.0	41	0.0	923	0.044	100	7.2	LOS A	0.3	2.1	Full	105	-0.4[N3]	0.0
Approach	41	0.0	41	0.0		0.044		7.2	LOS A	0.3	2.1				
North: South Circuit															
Lane 1[d]	462	0.0	462	0.0	1197	0.386	100	5.7	LOS A	2.7	18.6	Full	180	0.0	0.0
Approach	462	0.0	462	0.0		0.386		5.7	LOS A	2.7	18.6				
West: Civic Way															
Lane 1[d]	200	0.0	200	0.0	816	0.245	100	12.8	LOS A	2.8	19.5	Full	60	-8.3[N3]	0.0
Approach	200	0.0	200	0.0		0.245		12.8	LOS A	2.8	19.5				
Intersection	1415	0.0	1398[N1]	0.0		0.469		6.4	LOS A	3.1	21.4				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	24	574	97	695	0.0	1482	0.469	100	NA	NA
Approach	24	574	97	695	0.0		0.469			

East: Civic Way

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	39	1	1	41	0.0	923	0.044	100	NA	NA
Approach	39	1	1	41	0.0		0.044			

North: South Circuit

Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	42	416	4	462	0.0	1197	0.386	100	NA	NA
Approach	42	416	4	462	0.0		0.386			
West: Civic Way										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	104	2	94	200	0.0	816	0.245	100	NA	NA
Approach	104	2	94	200	0.0		0.245			
	Total	%HV	Deg.Satn (v/c)							
Intersection	1398	0.0		0.469						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Civic Way Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Civic Way Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 16 [16. South Circuit East / Civic Way - 2041 AM (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1[d]	315	0.0	315	0.0	1009	0.312	100	7.6	LOS A	2.0	14.2	Full	220	0.0	0.0
Approach	315	0.0	315	0.0		0.312		7.6	LOS A	2.0	14.2				
East: Civic Way															
Lane 1[d]	331	0.0	331	0.0	970	0.341	100	10.0	LOS A	3.2	22.6	Full	105	0.0	0.0
Approach	331	0.0	331	0.0		0.341		10.0	LOS A	3.2	22.6				
North: South Circuit															
Lane 1[d]	526	0.0	526	0.0	1493	0.352	100	6.7	LOS A	2.4	16.7	Full	180	0.0	0.0
Approach	526	0.0	526	0.0		0.352		6.7	LOS A	2.4	16.7				
West: Civic Way															
Lane 1[d]	48	0.0	48	0.0	971	0.049	100	5.9	LOS A	0.3	2.0	Full	60	0.0	0.0
Approach	48	0.0	48	0.0		0.049		5.9	LOS A	0.3	2.0				
Intersection	1220	0.0	1220	0.0		0.352		7.8	LOS A	3.2	22.6				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	20	261	34	315	0.0	1009	0.312	100	NA	NA
Approach	20	261	34	315	0.0		0.312			

East: Civic Way

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	202	3	126	331	0.0	970	0.341	100	NA	NA
Approach	202	3	126	331	0.0		0.341			

North: South Circuit

Mov.	L2	T1	R2	Total	%HV		Deg.	Lane	Prob.	Ov.

From N To Exit:	E	S	W			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	36	224	266	526	0.0	1493	0.352	100	NA	NA
Approach	36	224	266	526	0.0		0.352			
West: Civic Way										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	39	1	8	48	0.0	971	0.049	100	NA	NA
Approach	39	1	8	48	0.0		0.049			

	Total	%HV	Deg.Satn (v/c)
Intersection	1220	0.0	0.352

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
East Exit: Civic Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
North Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
West Exit: Civic Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

LANE SUMMARY

Site: 16 [16. South Circuit East / Civic Way - 2041 PM (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1[d]	474	0.0	472	0.0	814	0.580	100	5.0	LOS A	15.6[N5]	109.0[N5]	Full	220	-45.2[N3]	0.0
Approach	474	0.0	472[N1]	0.0		0.580		5.0	LOS A	15.6	109.0				
East: Civic Way															
Lane 1[d]	57	0.0	57	0.0	798	0.071	100	7.0	LOS A	1.2[N5]	8.7[N5]	Full	105	-35.2[N3]	14.0
Approach	57	0.0	57	0.0		0.071		7.0	LOS A	1.2	8.7				
North: South Circuit															
Lane 1[d]	85	0.0	84	0.0	1252	0.067	100	5.2	LOS A	0.3	2.1	Full	180	0.0	0.0
Approach	85	0.0	84[N1]	0.0		0.067		5.2	LOS A	0.3	2.1				
West: Civic Way															
Lane 1[d]	189	0.0	189	0.0	557	0.339	100	7.0	LOS A	5.7[N5]	39.8[N5]	Full	60	-42.9[N3]	27.6
Approach	189	0.0	189	0.0		0.339		7.0	LOS A	5.7	39.8				
Intersection	805	0.0	802[N1]	0.0		0.580		5.7	LOS A	15.6	109.0				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.
N5 Continuous Lane results determined by Back of Queue values of downstream lanes (proportional to lane movement flows).

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	39	389	44	472	0.0	814	0.580	100	NA	NA
Approach	39	389	44	472	0.0		0.580			

East: Civic Way

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	23	3	31	57	0.0	798	0.071	100	NA	NA
Approach	23	3	31	57	0.0		0.071			

North: South Circuit											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	14	61	9	84	0.0	1252	0.067	100	NA	NA	
Approach	14	61	9	84	0.0		0.067				
West: Civic Way											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	142	1	46	189	0.0	557	0.339	100	NA	NA	
Approach	142	1	46	189	0.0		0.339				
	Total	%HV	Deg.Satn (v/c)								
Intersection	802	0.0		0.580							

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

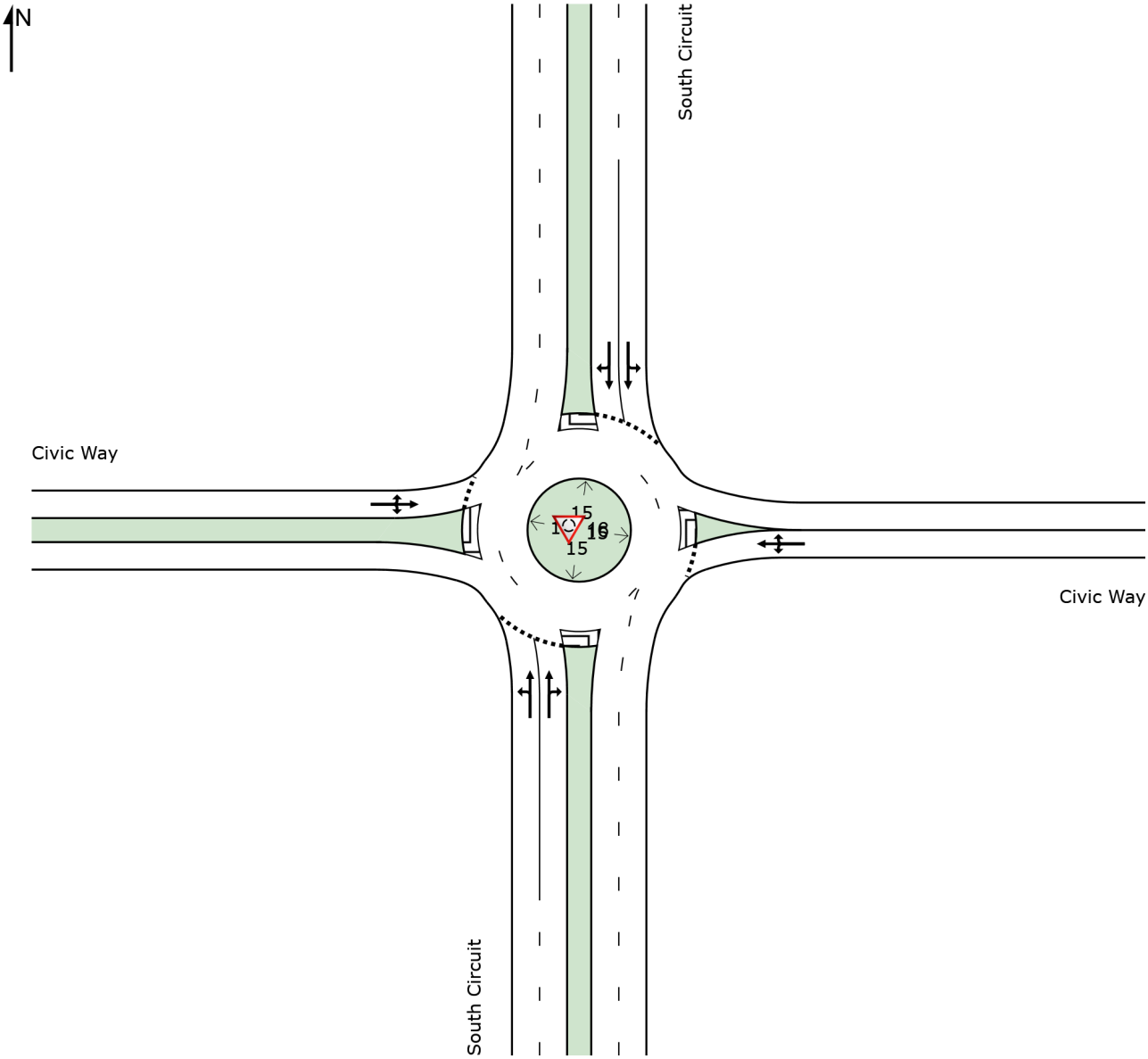
	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: Civic Way Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
West Exit: Civic Way Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

SITE LAYOUT

Site: 16 [16. South Circuit East / Civic Way - 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



LANE SUMMARY

Site: 16 [16. South Circuit East / Civic Way - 2036 AM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 AM [Forecast 2036 AM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1[d]	385	0.0	385	0.0	1422	0.271	100	5.2	LOS A	1.7	11.9	Full	220	0.0	0.0
Lane 2	340	0.0	340	0.0	1255	0.271	100	5.8	LOS A	1.6	11.5	Full	220	0.0	0.0
Approach	725	0.0	725	0.0		0.271		5.5	LOS A	1.7	11.9				
East: Civic Way															
Lane 1[d]	280	0.0	280	0.0	833	0.336	100	14.2	LOS A	4.2	29.3	Full	105	0.0	0.0
Approach	280	0.0	280	0.0		0.336		14.2	LOS A	4.2	29.3				
North: South Circuit															
Lane 1[d]	409	0.0	409	0.0	1610	0.254	100	4.7	LOS A	1.5	10.4	Full	180	0.0	0.0
Lane 2	360	0.0	360	0.0	1416	0.254	100	5.7	LOS A	1.4	10.1	Full	180	0.0	0.0
Approach	769	0.0	769	0.0		0.254		5.2	LOS A	1.5	10.4				
West: Civic Way															
Lane 1[d]	21	0.0	21	0.0	812	0.026	100	8.9	LOS A	0.2	1.5	Full	60	0.0	0.0
Approach	21	0.0	21	0.0		0.026		8.9	LOS A	0.2	1.5				
Intersection	1795	0.0	1795	0.0		0.336		6.8	LOS A	4.2	29.3				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	88	297	-	385	0.0	1422	0.271	100	NA	NA
Lane 2	-	299	41	340	0.0	1255	0.271	100	NA	NA
Approach	88	596	41	725	0.0		0.271			

East: Civic Way

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	201	6	73	280	0.0	833	0.336	100	NA	NA

Approach	201	6	73	280	0.0		0.336				
North: South Circuit											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	41	368	-	409	0.0	1610	0.254	100	NA	NA	
Lane 2	-	271	89	360	0.0	1416	0.254	100	NA	NA	
Approach	41	639	89	769	0.0		0.254				
West: Civic Way											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	2	17	2	21	0.0	812	0.026	100	NA	NA	
Approach	2	17	2	21	0.0		0.026				
	Total	%HV	Deg.Satn (v/c)								
Intersection	1795	0.0		0.336							

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Civic Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
North Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Civic Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

LANE SUMMARY

Site: 16 [16. South Circuit East / Civic Way - 2036 PM_Sensitivity Analysis (Site Folder: 2036)]

Network: 2036 PM [Forecast 2036 PM Peak_Sensitivity Analysis (Network Folder: 2036)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1[d]	428	0.0	428	0.0	1800	0.238	100	4.5	LOS A	1.4	9.8	Full	220	0.0	0.0
Lane 2	367	0.0	367	0.0	1540	0.238	100	5.5	LOS A	1.4	9.6	Full	220	0.0	0.0
Approach	795	0.0	795	0.0		0.238		5.0	LOS A	1.4	9.8				
East: Civic Way															
Lane 1[d]	41	0.0	41	0.0	858	0.048	100	8.8	LOS A	0.4	2.7	Full	105	0.0	0.0
Approach	41	0.0	41	0.0		0.048		8.8	LOS A	0.4	2.7				
North: South Circuit															
Lane 1[d]	315	0.0	315	0.0	1377	0.228	100	5.3	LOS A	1.4	9.8	Full	180	0.0	0.0
Lane 2	278	0.0	278	0.0	1219	0.228	100	5.5	LOS A	1.3	9.4	Full	180	0.0	0.0
Approach	593	0.0	593	0.0		0.228		5.4	LOS A	1.4	9.8				
West: Civic Way															
Lane 1[d]	200	0.0	200	0.0	835	0.240	100	16.9	LOS B	3.8	26.3	Full	60	0.0	0.0
Approach	200	0.0	200	0.0		0.240		16.9	LOS B	3.8	26.3				
Intersection	1629	0.0	1629	0.0		0.240		6.7	LOS A	3.8	26.3				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	25	403	-	428	0.0	1800	0.238	100	NA	NA
Lane 2	-	268	99	367	0.0	1540	0.238	100	NA	NA
Approach	25	671	99	795	0.0		0.238			

East: Civic Way

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	39	1	1	41	0.0	858	0.048	100	NA	NA

Approach	39	1	1	41	0.0		0.048				
North: South Circuit											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	42	273	-	315	0.0	1377	0.228	100	NA	NA	
Lane 2	-	274	4	278	0.0	1219	0.228	100	NA	NA	
Approach	42	547	4	593	0.0		0.228				
West: Civic Way											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	104	2	94	200	0.0	835	0.240	100	NA	NA	
Approach	104	2	94	200	0.0		0.240				
	Total	%HV	Deg.Satn (v/c)								
Intersection	1629	0.0		0.240							

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Civic Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
North Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Civic Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

LANE SUMMARY

Site: 16 [16. South Circuit East / Civic Way - 2041 AM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 AM [Forecast 2041 AM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1[d]	252	0.0	252	0.0	1220	0.207	100	6.5	LOS A	1.3	9.4	Full	220	0.0	0.0
Lane 2	218	0.0	218	0.0	1055	0.207	100	7.4	LOS A	1.3	8.9	Full	220	0.0	0.0
Approach	470	0.0	470	0.0		0.207		6.9	LOS A	1.3	9.4				
East: Civic Way															
Lane 1[d]	331	0.0	331	0.0	922	0.359	100	11.9	LOS A	4.0	27.8	Full	105	0.0	0.0
Approach	331	0.0	331	0.0		0.359		11.9	LOS A	4.0	27.8				
North: South Circuit															
Lane 1[d]	331	0.0	331	0.0	1635	0.203	100	4.6	LOS A	1.1	8.0	Full	180	0.0	0.0
Lane 2	292	0.0	292	0.0	1439	0.203	100	8.3	LOS A	1.1	7.8	Full	180	0.0	0.0
Approach	623	0.0	623	0.0		0.203		6.3	LOS A	1.1	8.0				
West: Civic Way															
Lane 1[d]	48	0.0	48	0.0	872	0.055	100	7.1	LOS A	0.4	2.5	Full	60	0.0	0.0
Approach	48	0.0	48	0.0		0.055		7.1	LOS A	0.4	2.5				
Intersection	1472	0.0	1472	0.0		0.359		7.8	LOS A	4.0	27.8				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	20	232	-	252	0.0	1220	0.207	100	NA	NA
Lane 2	-	184	34	218	0.0	1055	0.207	100	NA	NA
Approach	20	416	34	470	0.0		0.207			

East: Civic Way

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	202	3	126	331	0.0	922	0.359	100	NA	NA

Approach	202	3	126	331	0.0		0.359			
North: South Circuit										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	36	295	-	331	0.0	1635	0.203	100	NA	NA
Lane 2	-	26	266	292	0.0	1439	0.203	100	NA	NA
Approach	36	321	266	623	0.0		0.203			
West: Civic Way										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	39	1	8	48	0.0	872	0.055	100	NA	NA
Approach	39	1	8	48	0.0		0.055			
	Total	%HV	Deg.Satn (v/c)							
Intersection	1472	0.0		0.359						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
East Exit: Civic Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
North Exit: South Circuit Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									
Full Length Lane	2	Merge Analysis not applied.									
West Exit: Civic Way Merge Type: **Not Applied**											
Full Length Lane	1	Merge Analysis not applied.									

LANE SUMMARY

Site: 16 [16. South Circuit East / Civic Way - 2041 PM_Sensitivity Analysis (Site Folder: 2041)]

Network: 2041 PM [Forecast 2041 PM Peak_Sensitivity Analysis (Network Folder: 2041)]

Oran Park Development
Town Centre Area Rezoning
Traffic Analysis
Site Category: Existing Design
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: South Circuit															
Lane 1[d]	455	0.0	453	0.0	1652	0.274	100	4.6	LOS A	1.6	11.2	Full	220	0.0	0.0
Lane 2	199	0.0	199	0.0	724	0.274	100	5.5	LOS A	20.8[N5]	145.3[N5]	Full	220	-43.8[N3]	0.0
Approach	654	0.0	652[N1]	0.0		0.274		4.9	LOS A	20.8	145.3				
East: Civic Way															
Lane 1[d]	57	0.0	57	0.0	739	0.077	100	7.6	LOS A	4.2[N5]	29.1[N5]	Full	105	-35.2[N3]	14.0
Approach	57	0.0	57	0.0		0.077		7.6	LOS A	4.2	29.1				
North: South Circuit															
Lane 1[d]	106	0.0	106	0.0	1475	0.072	100	4.8	LOS A	0.3	2.4	Full	180	0.0	0.0
Lane 2	96	0.0	96	0.0	1336	0.072	100	5.2	LOS A	0.3	2.4	Full	180	0.0	0.0
Approach	202	0.0	201[N1]	0.0		0.072		5.0	LOS A	0.3	2.4				
West: Civic Way															
Lane 1[d]	189	0.0	189	0.0	878	0.215	100	9.5	LOS A	1.9	13.4	Full	60	0.0	0.0
Approach	189	0.0	189	0.0		0.215		9.5	LOS A	1.9	13.4				
Intersection	1102	0.0	1099[N1]	0.0		0.274		5.8	LOS A	20.8	145.3				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.
N3 Capacity Adjustment due to downstream lane blockage determined by the program.
N5 Continuous Lane results determined by Back of Queue values of downstream lanes (proportional to lane movement flows).

Approach Lane Flows (veh/h)

South: South Circuit

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	39	414	-	453	0.0	1652	0.274	100	NA	NA
Lane 2	-	155	44	199	0.0	724	0.274	100	NA	NA
Approach	39	569	44	652	0.0		0.274			

East: Civic Way

Mov.	L2	T1	R2	Total	%HV		Deg.	Lane	Prob.	Ov.

From E To Exit:	S	W	N			Cap. veh/h	Satn v/c	Util. %	SL Ov. %	Lane No.
Lane 1	23	3	31	57	0.0	739	0.077	100	NA	NA
Approach	23	3	31	57	0.0		0.077			
North: South Circuit										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	14	92	-	106	0.0	1475	0.072	100	NA	NA
Lane 2	-	87	9	96	0.0	1336	0.072	100	NA	NA
Approach	14	178	9	201	0.0		0.072			
West: Civic Way										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	142	1	46	189	0.0	878	0.215	100	NA	NA
Approach	142	1	46	189	0.0		0.215			

	Total	%HV	Deg.Satn (v/c)
Intersection	1099	0.0	0.274

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
East Exit: Civic Way Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: South Circuit Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
West Exit: Civic Way Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

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