

ATTACHMENT 2

DEGREE OF SATURATION

Ratio of Demand Volume to Capacity (v/c ratio)

 **Site: 1 [Princes Highway/ Ryan Road- Ultimate Year - 2046 -revised-AM - slip lane -100m double R*]**

Princes Highway/ Ryan Road

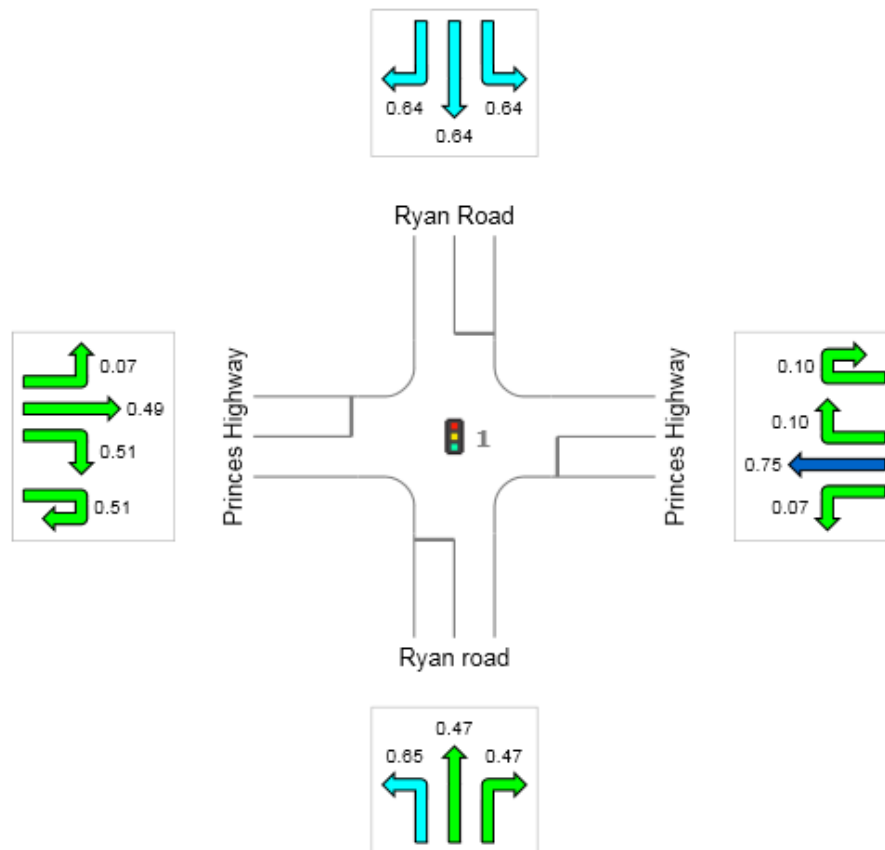
Ultimate Year

2046 (AM Peak)






Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

All Movement Classes

	South	East	North	West	Intersection
Degree of Saturation	0.65	0.75	0.64	0.51	0.75



Colour code based on Degree of Saturation

					
[< 0.6]	[0.6 – 0.7]	[0.7 – 0.8]	[0.8 – 0.9]	[0.9 – 1.0]	[> 1.0]

LANE SUMMARY

 **Site: 1 [Princes Highway/ Ryan Road- Ultimate Year - 2046 -revised-AM - slip lane -100m double R*]**

Princes Highway/ Ryan Road

Ultimate Year

2046 (AM Peak)

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

Lane Use and Performance													
	Demand Total veh/h	Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Ryan road													
Lane 1	524	4.0	811 ¹	0.646	100	19.8	LOS B	19.0	137.2	Short	10	0.0	NA
Lane 2	41	4.0	89 ¹	0.485	100	40.9	LOS A	1.9	14.0	Full	500	0.0	0.0
Lane 3	184	4.0	395	0.485	100	50.2	LOS A	9.5	68.6	Short	25	0.0	NA
Approach	749	4.0		0.646		28.5	LOS B	19.0	137.2				
East: Princes Highway													
Lane 1	47	10.0	671	0.071	100	30.5	LOS A	1.7	13.1	Short	75	0.0	NA
Lane 2	515	10.0	687 ¹	0.750	100	34.0	LOS C	25.7	195.4	Full	500	0.0	0.0
Lane 3	532	10.0	709	0.750	100	34.4	LOS C	26.9	204.2	Full	500	0.0	0.0
Lane 4	532	10.0	709	0.750	100	34.4	LOS C	26.9	204.2	Full	500	0.0	0.0
Lane 5	16	10.0	163	0.097	100	60.4	LOS A	0.9	6.6	Short	120	0.0	NA
Approach	1642	10.0		0.750		34.4	LOS C	26.9	204.2				
North: Ryan Road													
Lane 1	133	4.0	209	0.636	100	49.3	LOS B	6.2	45.2	Full	500	0.0	0.0
Lane 2	112	4.0	175 ¹	0.636	100	64.3	LOS B	6.6	47.6	Short	25	0.0	NA
Approach	244	4.0		0.636		56.1	LOS B	6.6	47.6				
West: Princes Highway													
Lane 1	46	10.0	671	0.069	100	30.5	LOS A	1.7	12.8	Short	75	0.0	NA
Lane 2	351	10.0	709	0.495	100	30.1	LOS A	15.5	118.1	Full	500	0.0	0.0
Lane 3	351	10.0	709	0.495	100	30.1	LOS A	15.5	118.1	Full	500	0.0	0.0
Lane 4	351	10.0	709	0.495	100	30.1	LOS A	15.5	118.1	Full	500	0.0	0.0
Lane 5	53	10.0	175	0.300	58 ⁶	61.7	LOS A	3.0	22.5	Short	120	0.0	NA
Lane 6	88	10.0	172	0.515	100	63.4	LOS A	5.1	39.0	Short	120	0.0	NA
Approach	1240	10.0		0.515		33.8	LOS A	15.5	118.1				
Intersection	3876	8.5		0.750		34.4	LOS C	26.9	204.2				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Lane LOS values are based on degree of saturation per lane.

Intersection and Approach LOS values are based on worst degree of saturation for any lane.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akelik 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 adjacent full-length lanes. Some upstream delays at entry to short lanes are not included.
- ⁶ Lane under-utilisation due to downstream effects

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Organisation: VICROADS | Processed: Thursday, 13 July 2017 2:07:05 PM

Printed: C:\Princesham East PSP\Ultimate Year - 2046 - Ryan Road sin7

PHASING SUMMARY

Site: 1 [Princes Highway/ Ryan Road- Ultimate Year - 2046 -revised-AM - slip lane -100m double R*]

Princes Highway/ Ryan Road

Ultimate Year

2046 (AM Peak)

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

Phase times specified by the user

Sequence: Split Phasing

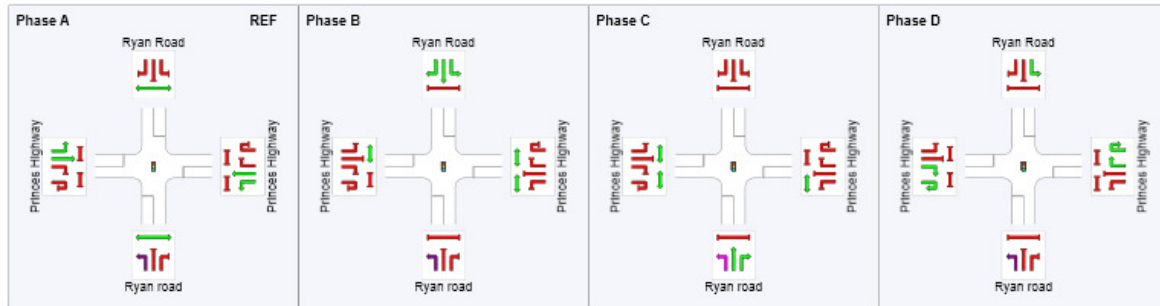
Movement Class: All Movement Classes

Input Sequence: A, B, C, D

Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	52	70	102
Green Time (sec)	46	12	26	12
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	52	18	32	18
Phase Split	43 %	15 %	27 %	15 %



DEGREE OF SATURATION

Ratio of Demand Volume to Capacity (v/c ratio)

 **Site: 1 [Princes Highway/ Ryan Road- Ultimate Year - 2046 -revised-PM - slip lane 100m double R *]**

Princes Highway/ Ryan Road

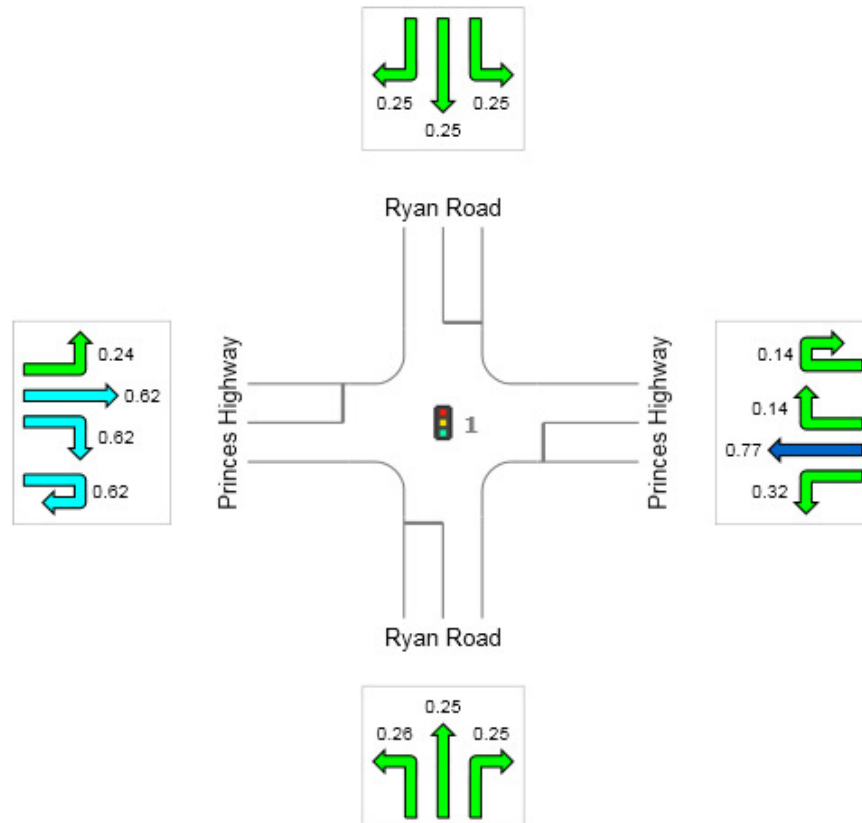
Ultimate Year

2046 (PM Peak)







Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

All Movement Classes

	South	East	North	West	Intersection
Degree of Saturation	0.26	0.77	0.25	0.62	0.77



Colour code based on Degree of Saturation

					
[< 0.6]	[0.6 - 0.7]	[0.7 - 0.8]	[0.8 - 0.9]	[0.9 - 1.0]	[> 1.0]

LANE SUMMARY

 Site: 1 [Princes Highway/ Ryan Road- Ultimate Year - 2046 -revised-PM - slip lane 100m double R *]

Princes Highway/ Ryan Road

Ultimate Year

2046 (PM Peak)

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

Lane Use and Performance												
	Demand Flows							95% Back of Queue				
	Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %
South: Ryan Road												
Lane 1	197	4.0	754 ¹	0.281	100	13.1	LOS A	4.2	30.6	Short	10	0.0
Lane 2	42	4.0	170	0.250	100	60.3	LOS A	2.4	17.3	Full	500	0.0
Lane 3	42	4.0	167	0.250	100	62.2	LOS A	2.4	17.1	Short	25	0.0
Approach	281	4.0		0.281		27.6	LOS A	4.2	30.6			
East: Princes Highway												
Lane 1	197	10.0	613	0.321	100	36.2	LOS A	8.4	63.8	Short	75	0.0
Lane 2	447	10.0	579 ¹	0.773	100	37.8	LOS C	23.2	176.1	Full	500	0.0
Lane 3	501	10.0	648	0.773	100	38.6	LOS C	26.7	202.7	Full	500	0.0
Lane 4	501	10.0	648	0.773	100	38.6	LOS C	26.7	202.7	Full	500	0.0
Lane 5	64	10.0	450	0.143	100	41.8	LOS A	2.9	21.7	Short	120	0.0
Approach	1709	10.0		0.773		38.2	LOS C	26.7	202.7			
North: Ryan Road												
Lane 1	49	4.0	195	0.253	100	41.9	LOS A	2.2	15.6	Full	500	0.0
Lane 2	42	4.0	167	0.253	100	62.2	LOS A	2.4	17.3	Short	25	0.0
Approach	92	4.0		0.253		51.3	LOS A	2.4	17.3			
West: Princes Highway												
Lane 1	149	10.0	613	0.244	100	35.3	LOS A	6.2	47.0	Short	75	0.0
Lane 2	387	10.0	628 ¹	0.616	100	34.4	LOS B	18.6	141.2	Full	500	0.0
Lane 3	399	10.0	648	0.616	100	34.7	LOS B	19.3	146.8	Full	500	0.0
Lane 4	399	10.0	648	0.616	100	34.7	LOS B	19.3	146.8	Full	500	0.0
Lane 5	170	10.0	467	0.363	58 ⁶	44.3	LOS A	8.1	61.5	Short	120	0.0
Lane 6	289	10.0	464	0.623	100	47.7	LOS B	15.0	114.1	Short	120	0.0
Approach	1794	10.0		0.623		37.7	LOS B	19.3	146.8			
Intersection	3876	9.4		0.773		37.5	LOS C	26.7	202.7			

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Lane LOS values are based on degree of saturation per lane.

Intersection and Approach LOS values are based on worst degree of saturation for any lane.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akelik 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 adjacent full-length lanes. Some upstream delays at entry to short lanes are not included.

⁶ Lane under-utilisation due to downstream effects

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Organisation: VICROADS | Processed: Thursday, 13 July 2017 2:11:24 PM

Project: C:\Pakenham East PSP\Ultimate Year - 2046_Ryan Road.sln7

PHASING SUMMARY

Site: 1 [Princes Highway/ Ryan Road- Ultimate Year - 2046 -revised-PM - slip lane 100m double R *]

Princes Highway/ Ryan Road

Ultimate Year

2046 (PM Peak)

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

Phase times specified by the user

Sequence: Split Phasing

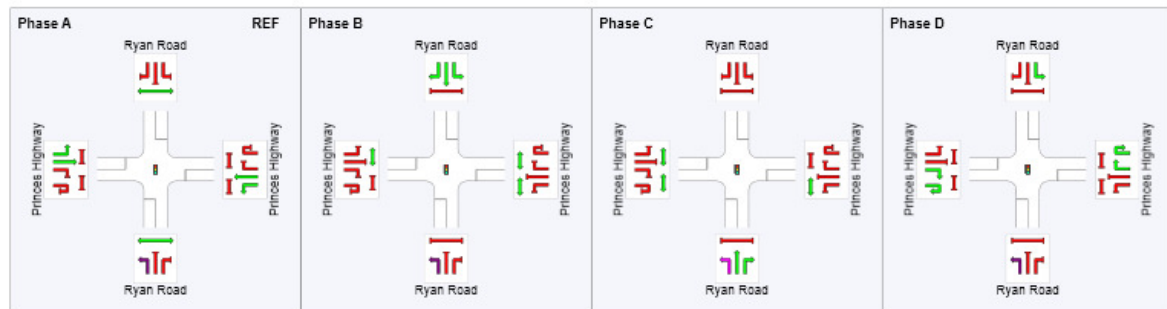
Movement Class: All Movement Classes

Input Sequence: A, B, C, D

Output Sequence: A, B, C, D


Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	48	65	82
Green Time (sec)	42	11	11	32
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	48	17	17	38
Phase Split	40 %	14 %	14 %	32 %



DEGREE OF SATURATION

Ratio of Demand Volume to Capacity (v/c ratio)

 **Site: 2 [Princes Highway/ Connector A- Ultimate Year - 2046 -revised-AM -50m R - slip lane -100m- double R*]**

Princes Highway/ Connector A

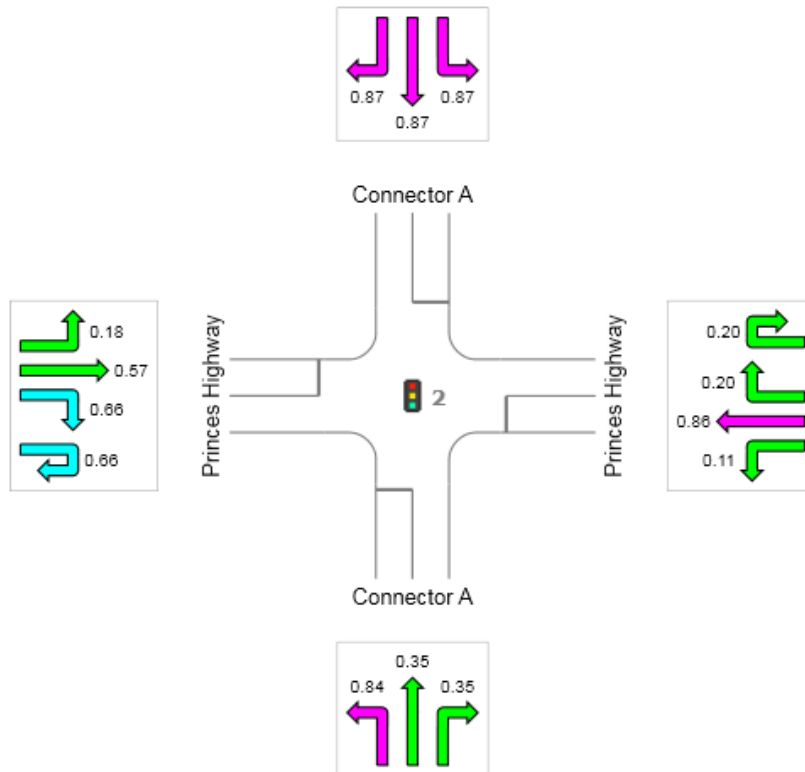
Ultimate Year

2046 (AM Peak)

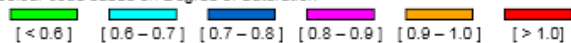
Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

All Movement Classes

	South	East	North	West	Intersection
Degree of Saturation	0.84	0.88	0.87	0.66	0.87



Colour code based on Degree of Saturation



LANE SUMMARY

Site: 2 [Princes Highway/ Connector A- Ultimate Year - 2046 -revised-AM -50m R - slip lane -100m- double R*]

Princes Highway/ Connector A

Ultimate Year

2046 (AM Peak)

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

Lane Use and Performance													
	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Connector A													
Lane 1	678	4.0	811	0.836	100	35.5	LOS C	32.3	233.7	Short	100	0.0	NA
Lane 2	146	4.0	417	0.351	100	46.2	LOS A	7.3	52.6	Full	500	0.0	0.0
Lane 3	144	4.0	410	0.351	100	48.1	LOS A	7.1	51.7	Short	50	0.0	NA
Approach	968	4.0		0.836		39.0	LOS C	32.3	233.7				
East: Princes Highway													
Lane 1	61	10.0	540	0.113	100	37.4	LOS A	2.5	19.3	Short	75	0.0	NA
Lane 2	470	10.0	546 ¹	0.861	100	50.0	LOS C	28.7	218.3	Full	500	0.0	0.0
Lane 3	491	10.0	570	0.861	100	50.2	LOS C	30.3	230.4	Full	500	0.0	0.0
Lane 4	491	10.0	570	0.861	100	50.2	LOS C	30.3	230.4	Full	500	0.0	0.0
Lane 5	33	10.0	165	0.198	100	61.2	LOS A	1.8	13.8	Short	120	0.0	NA
Approach	1546	10.0		0.861		49.9	LOS C	30.3	230.4				
North: Connector A													
Lane 1	287	4.0	331	0.867	100	62.9	LOS C	17.1	123.8	Full	500	0.0	0.0
Lane 2	235	4.0	271 ¹	0.867	100	67.8	LOS C	15.1	109.2	Short	50	0.0	NA
Approach	522	4.0		0.867		65.1	LOS C	17.1	123.8				
West: Princes Highway													
Lane 1	98	10.0	540	0.181	100	38.2	LOS A	4.2	31.7	Short	75	0.0	NA
Lane 2	323	10.0	570	0.566	100	37.5	LOS A	15.8	120.4	Full	500	0.0	0.0
Lane 3	323	10.0	570	0.566	100	37.5	LOS A	15.8	120.4	Full	500	0.0	0.0
Lane 4	323	10.0	570	0.566	100	37.5	LOS A	15.8	120.4	Full	500	0.0	0.0
Lane 5	68	10.0	175	0.386	58 ⁶	62.3	LOS A	3.9	29.3	Short	120	0.0	NA
Lane 6	114	10.0	173	0.663	100	65.2	LOS B	6.8	52.0	Short	120	0.0	NA
Approach	1248	10.0		0.663		41.4	LOS B	15.8	120.4				
Intersection	4285	7.9		0.867		46.8	LOS C	32.3	233.7				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Lane LOS values are based on degree of saturation per lane.

Intersection and Approach LOS values are based on worst degree of saturation for any lane.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akeelik 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 adjacent full-length lanes. Some upstream delays at entry to short lanes are not included.

⁶ Lane under-utilisation due to downstream effects

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Project: P:\Pakenham East PSD\Ultimate Year - 2046 -Connector A.cin?

PHASING SUMMARY

Site: 2 [Princes Highway/ Connector A- Ultimate Year - 2046 -revised-AM -50m R - slip lane -100m- double R*]

Princes Highway/ Connector A

Ultimate Year

2046 (AM Peak)

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

Phase times specified by the user

Sequence: Split Phasing

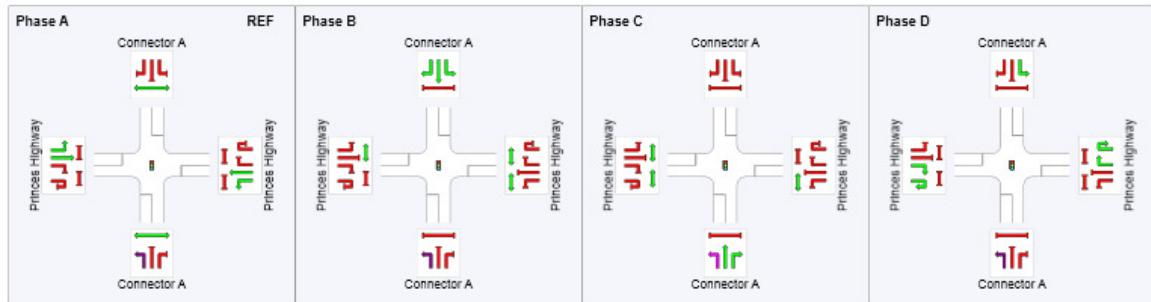
Movement Class: All Movement Classes

Input Sequence: A, B, C, D

Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	43	69	102
Green Time (sec)	37	20	27	12
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	43	26	33	18
Phase Split	36 %	22 %	28 %	15 %




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Project: C:\Pakenham East PSPI\Ultimate Year - - 2046 -Connector A.sip7

DEGREE OF SATURATION

Ratio of Demand Volume to Capacity (v/c ratio)

 **Site: 2 [Princes Highway/ Connector A- Ultimate Year - 2046 -revised-PM - 50m R - slip lane 100m - double R*]**

Princes Highway/ Connector A

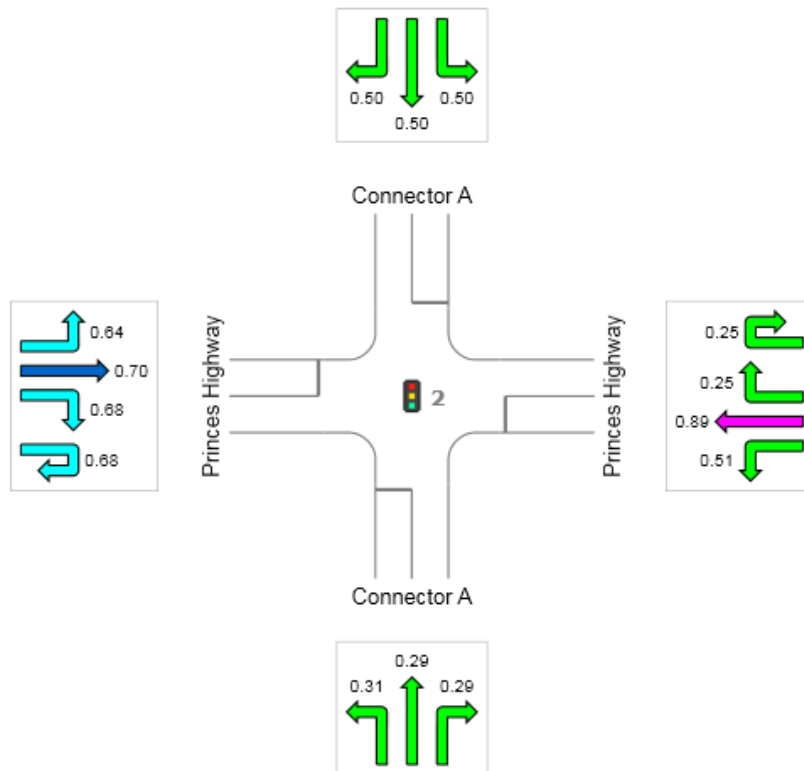
Ultimate Year

2046 (PM Peak)







Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

All Movement Classes

	South	East	North	West	Intersection
Degree of Saturation	0.31	0.89	0.50	0.70	0.89



Colour code based on Degree of Saturation

					
[< 0.6]	[0.6 – 0.7]	[0.7 – 0.8]	[0.8 – 0.9]	[0.9 – 1.0]	[> 1.0]

LANE SUMMARY

Site: 2 [Princes Highway/ Connector A- Ultimate Year - 2046 -revised-PM - 50m R - slip lane 100m - double R *]

Princes Highway/ Connector A

Ultimate Year

2046 (PM Peak)

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

Lane Use and Performance													
	Demand Total veh/h	Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Connector A													
Lane 1	255	4.0	314	0.313	100	14.9	LOS A	6.3	45.4	Short	100	0.0	NA
Lane 2	55	4.0	185	0.295	100	59.5	LOS A	3.1	22.2	Full	500	0.0	0.0
Lane 3	54	4.0	182	0.295	100	61.4	LOS A	3.0	21.9	Short	50	0.0	NA
Approach	363	4.0		0.313		28.5	LOS A	6.3	45.4				
East: Princes Highway													
Lane 1	255	10.0	496	0.513	100	44.6	LOS A	12.6	95.5	Short	75	0.0	NA
Lane 2	403	10.0	454 ¹	0.887	100	55.7	LOS C	25.6	194.3	Full	500	0.0	0.0
Lane 3	465	10.0	524	0.887	100	56.1	LOS C	30.2	229.9	Full	500	0.0	0.0
Lane 4	465	10.0	524	0.887	100	56.1	LOS C	30.2	229.9	Full	500	0.0	0.0
Lane 5	137	10.0	542	0.252	100	38.4	LOS A	5.9	45.1	Short	120	0.0	NA
Approach	1724	10.0		0.887		52.9	LOS C	30.2	229.9				
North: Connector A													
Lane 1	105	4.0	210	0.499	100	41.8	LOS A	4.6	33.5	Full	500	0.0	0.0
Lane 2	91	4.0	182	0.499	100	63.0	LOS A	5.3	38.0	Short	50	0.0	NA
Approach	196	4.0		0.499		51.7	LOS A	5.3	38.0				
West: Princes Highway													
Lane 1	320	10.0	496	0.645	100	46.5	LOS B	16.5	125.6	Short	75	0.0	NA
Lane 2	353	10.0	503 ¹	0.703	100	41.2	LOS C	18.4	140.0	Full	500	0.0	0.0
Lane 3	369	10.0	524	0.703	100	41.6	LOS C	19.4	147.5	Full	500	0.0	0.0
Lane 4	369	10.0	524	0.703	100	41.6	LOS C	19.4	147.5	Full	500	0.0	0.0
Lane 5	219	10.0	555	0.395	58 ⁶	40.2	LOS A	10.0	76.2	Short	120	0.0	NA
Lane 6	374	10.0	552	0.678	100	44.3	LOS B	19.1	145.5	Short	120	0.0	NA
Approach	2004	10.0		0.703		42.7	LOS C	19.4	147.5				
Intersection	4287	9.2		0.887		46.0	LOS C	30.2	229.9				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Lane LOS values are based on degree of saturation per lane.

Intersection and Approach LOS values are based on worst degree of saturation for any lane.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akgelik 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 adjacent full-length lanes. Some upstream delays at entry to short lanes are not included.

⁶ Lane under-utilisation due to downstream effects

PHASING SUMMARY

Site: 2 [Princes Highway/ Connector A- Ultimate Year - 2046 -revised-PM - 50m R - slip lane 100m - double R*]

Princes Highway/ Connector A

Ultimate Year

2046 (PM Peak)

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

Phase times specified by the user

Sequence: Split Phasing

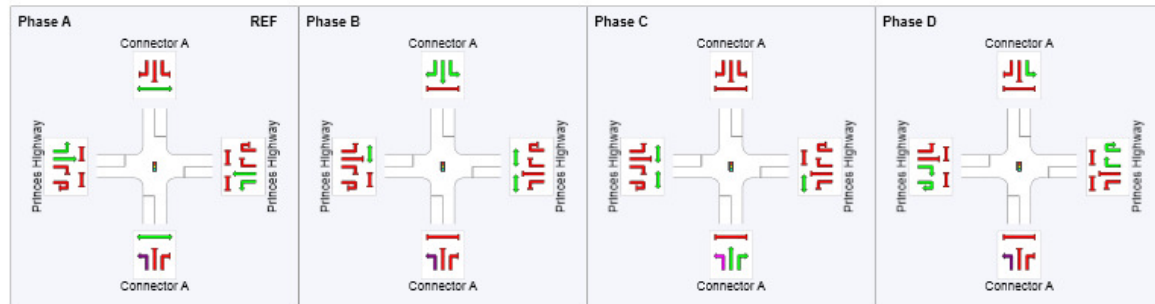
Movement Class: All Movement Classes

Input Sequence: A, B, C, D

Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	40	58	76
Green Time (sec)	34	12	12	38
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	40	18	18	44
Phase Split	33 %	15 %	15 %	37 %



DEGREE OF SATURATION

Ratio of Demand Volume to Capacity (v/c ratio)

 **Site: 3 [Princes Highway/ Connector B- Ultimate Year - 2046 -revised-AM - slip lane -100m double R *]**

Princes Highway/ Connector B

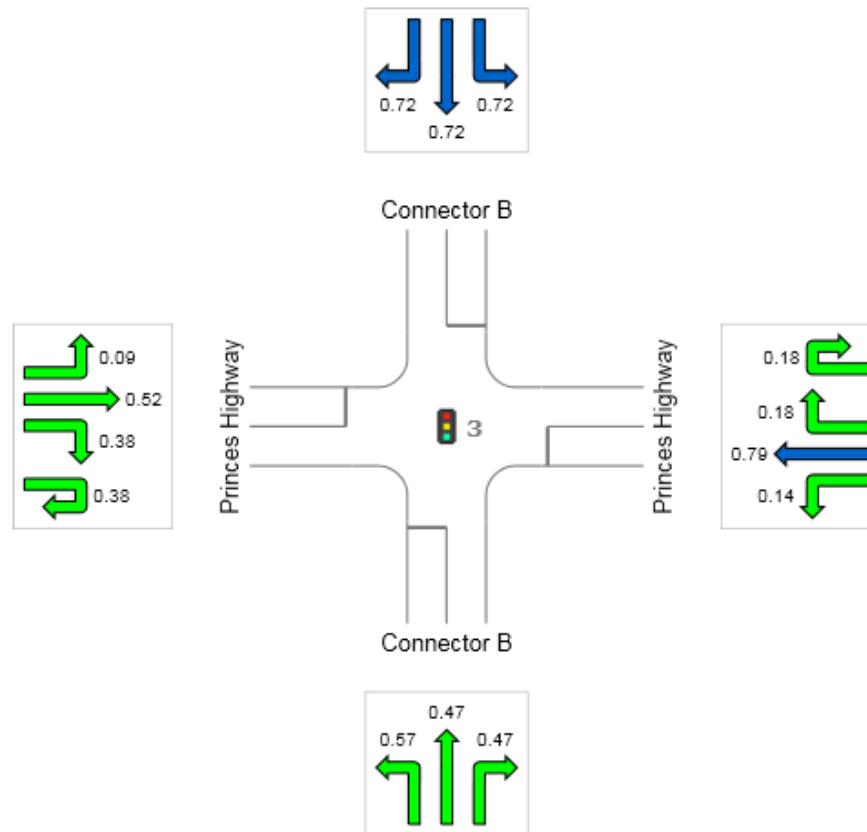
Ultimate Year

2046 (AM Peak)

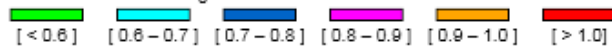
Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

All Movement Classes

	South	East	North	West	Intersection
Degree of Saturation	0.57	0.79	0.72	0.52	0.79



Colour code based on Degree of Saturation



LANE SUMMARY

 Site: 3 [Princes Highway/ Connector B- Ultimate Year - 2046 -revised-AM - slip lane -100m double R*]

Princes Highway/ Connector B

Ultimate Year

2046 (AM Peak)

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

Lane Use and Performance													
	Demand Total veh/h	Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Connector B													
Lane 1	493	4.0	882 ¹	0.571	100	17.5	LOS A	15.6	113.1	Short	10	0.0	NA
Lane 2	53	4.0	113 ¹	0.466	100	38.8	LOS A	2.4	17.1	Full	500	0.0	0.0
Lane 3	213	4.0	456	0.466	100	47.0	LOS A	10.6	77.0	Short	25	0.0	NA
Approach	758	4.0		0.571		27.3	LOS A	15.6	113.1				
East: Princes Highway													
Lane 1	76	10.0	540	0.140	100	37.7	LOS A	3.2	24.2	Short	75	0.0	NA
Lane 2	429	10.0	546 ¹	0.786	100	42.9	LOS C	23.7	179.8	Full	500	0.0	0.0
Lane 3	449	10.0	570	0.786	100	43.2	LOS C	25.0	189.9	Full	500	0.0	0.0
Lane 4	449	10.0	570	0.786	100	43.2	LOS C	25.0	189.9	Full	500	0.0	0.0
Lane 5	33	10.0	178	0.183	100	60.0	LOS A	1.8	13.6	Short	120	0.0	NA
Approach	1435	10.0		0.786		43.2	LOS C	25.0	189.9				
North: Connector B													
Lane 1	194	4.0	270 ¹	0.718	100	51.7	LOS C	9.5	69.0	Full	500	0.0	0.0
Lane 2	136	4.0	189 ¹	0.718	100	61.6	LOS C	7.9	57.0	Short	25	0.0	NA
Approach	329	4.0		0.718		55.8	LOS C	9.5	69.0				
West: Princes Highway													
Lane 1	49	10.0	540	0.092	100	37.1	LOS A	2.0	15.5	Short	75	0.0	NA
Lane 2	295	10.0	570	0.517	100	36.8	LOS A	14.2	107.9	Full	500	0.0	0.0
Lane 3	295	10.0	570	0.517	100	36.8	LOS A	14.2	107.9	Full	500	0.0	0.0
Lane 4	295	10.0	570	0.517	100	36.8	LOS A	14.2	107.9	Full	500	0.0	0.0
Lane 5	42	10.0	190	0.224	58 ⁶	60.0	LOS A	2.3	17.8	Short	120	0.0	NA
Lane 6	71	10.0	185	0.384	100	61.4	LOS A	4.0	30.6	Short	120	0.0	NA
Approach	1047	10.0		0.517		39.4	LOS A	14.2	107.9				
Intersection	3569	8.2		0.786		39.9	LOS C	25.0	189.9				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Lane LOS values are based on degree of saturation per lane.

Intersection and Approach LOS values are based on worst degree of saturation for any lane.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akelik 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 adjacent full-length lanes. Some upstream delays at entry to short lanes are not included.

⁶ Lane under-utilisation due to downstream effects

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Organisation: VICROADS | Processed: Thursday, 13 July 2017 2:34:04 PM

Printed: C:\Pakenham East PSPU Ultimate Year - 2046 -Connector B sin7

PHASING SUMMARY

Site: 3 [Princes Highway/ Connector B- Ultimate Year - 2046 -revised-AM - slip lane -100m double R*]

Princes Highway/ Connector B

Ultimate Year

2046 (AM Peak)

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

Phase times specified by the user

Sequence: Split Phasing

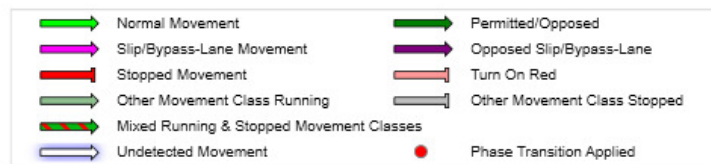
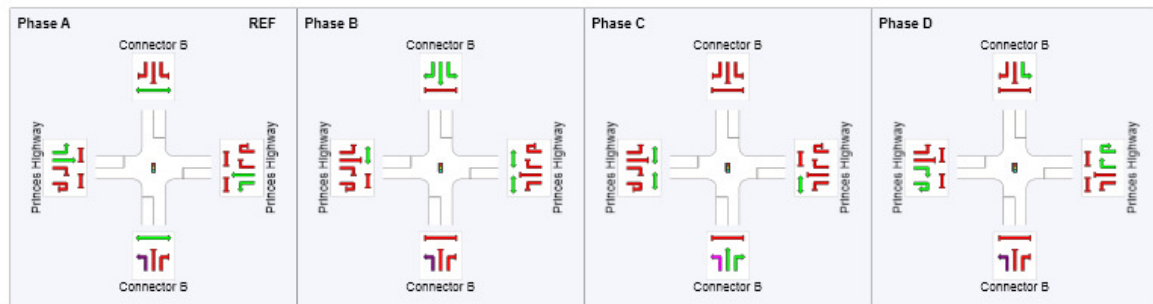
Movement Class: All Movement Classes

Input Sequence: A, B, C, D

Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	43	65	101
Green Time (sec)	37	16	30	13
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	43	22	36	19
Phase Split	36 %	18 %	30 %	16 %



DEGREE OF SATURATION

Ratio of Demand Volume to Capacity (v/c ratio)

Site: 3 [Princes Highway/ Connector B- Ultimate Year - 2046 -revised-PM - slip lane -100m double R *]

Princes Highway/ Connector B

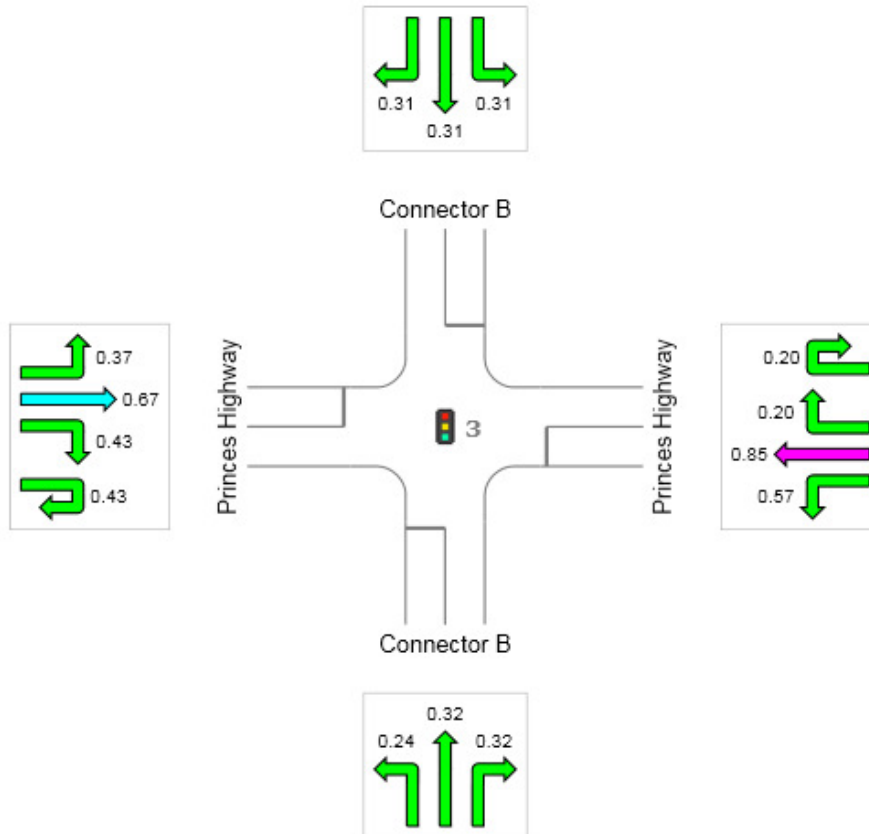
Ultimate Year

2046 (PM Peak)

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

All Movement Classes

	South	East	North	West	Intersection
Degree of Saturation	0.32	0.85	0.31	0.67	0.85



Colour code based on Degree of Saturation



LANE SUMMARY

 Site: 3 [Princes Highway/ Connector B- Ultimate Year - 2046 -revised-PM - slip lane -100m double R*]

Princes Highway/ Connector B

Ultimate Year

2046 (PM Peak)

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

Lane Use and Performance													
	Demand Total veh/h	Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Connector B													
Lane 1	185	3.8	788 ¹	0.235	100	12.2	LOS A	3.7	26.6	Short	10	0.0	NA
Lane 2	41	4.0	127 ¹	0.323	100	58.8	LOS A	2.3	16.5	Full	500	0.0	0.0
Lane 3	59	4.0	182	0.323	100	61.7	LOS A	3.3	24.1	Short	25	0.0	NA
Approach	285	3.9		0.323		29.1	LOS A	3.7	26.6				
East: Princes Highway													
Lane 1	285	10.0	467	0.568	100	46.9	LOS A	13.5	102.7	Short	75	0.0	NA
Lane 2	374	10.0	438 ¹	0.854	100	52.3	LOS C	22.7	172.7	Full	500	0.0	0.0
Lane 3	421	10.0	493	0.854	100	52.8	LOS C	26.1	198.1	Full	500	0.0	0.0
Lane 4	421	10.0	493	0.854	100	52.8	LOS C	26.1	198.1	Full	500	0.0	0.0
Lane 5	115	10.0	569	0.202	100	36.3	LOS A	4.8	36.3	Short	120	0.0	NA
Approach	1597	10.0		0.854		50.5	LOS C	26.1	198.1				
North: Connector B													
Lane 1	67	4.0	220	0.306	100	40.0	LOS A	2.9	20.7	Full	500	0.0	0.0
Lane 2	56	4.0	182	0.306	100	61.5	LOS A	3.1	22.8	Short	25	0.0	NA
Approach	123	4.0		0.306		49.7	LOS A	3.1	22.8				
West: Princes Highway													
Lane 1	173	10.0	467	0.370	100	44.3	LOS A	8.3	62.7	Short	75	0.0	NA
Lane 2	332	10.0	493 ¹	0.673	100	42.6	LOS B	17.5	132.7	Full	500	0.0	0.0
Lane 3	332	10.0	493	0.673	100	42.6	LOS B	17.5	132.9	Full	500	0.0	0.0
Lane 4	332	10.0	493	0.673	100	42.6	LOS B	17.5	132.9	Full	500	0.0	0.0
Lane 5	147	10.0	584	0.252	58 ⁶	36.9	LOS A	6.2	47.4	Short	120	0.0	NA
Lane 6	251	10.0	580	0.432	100	39.2	LOS A	11.4	86.8	Short	120	0.0	NA
Approach	1586	10.0		0.673		41.7	LOS B	17.5	132.9				
Intersection	3572	9.3		0.854		44.9	LOS C	26.1	198.1				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Lane LOS values are based on degree of saturation per lane.

Intersection and Approach LOS values are based on worst degree of saturation for any lane.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akelik 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 adjacent full-length lanes. Some upstream delays at entry to short lanes are not included.

⁶ Lane under-utilisation due to downstream effects

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Organisation: VICROADS | Processed: Thursday, 13 July 2017 2:37:19 PM

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PHASING SUMMARY

 Site: 3 [Princes Highway/ Connector B- Ultimate Year - 2046 -revised-PM - slip lane -100m double R*]

Princes Highway/ Connector B

Ultimate Year

2046 (PM Peak)

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

Phase times specified by the user

Sequence: Split Phasing

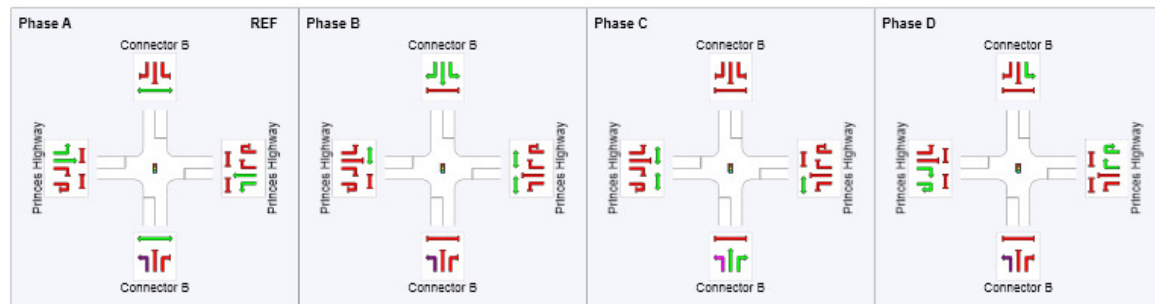
Movement Class: All Movement Classes

Input Sequence: A, B, C, D

Output Sequence: A, B, C, D


Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	38	56	74
Green Time (sec)	32	12	12	40
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	38	18	18	46
Phase Split	32 %	15 %	15 %	38 %



DEGREE OF SATURATION

Ratio of Demand Volume to Capacity (v/c ratio)

 **Site: 1 [Princes Highway/ Connector C- Ultimate Year - 2046 -revised-AM - Base case with 15m left-turn lane*]**

Princes Highway/ Connector C

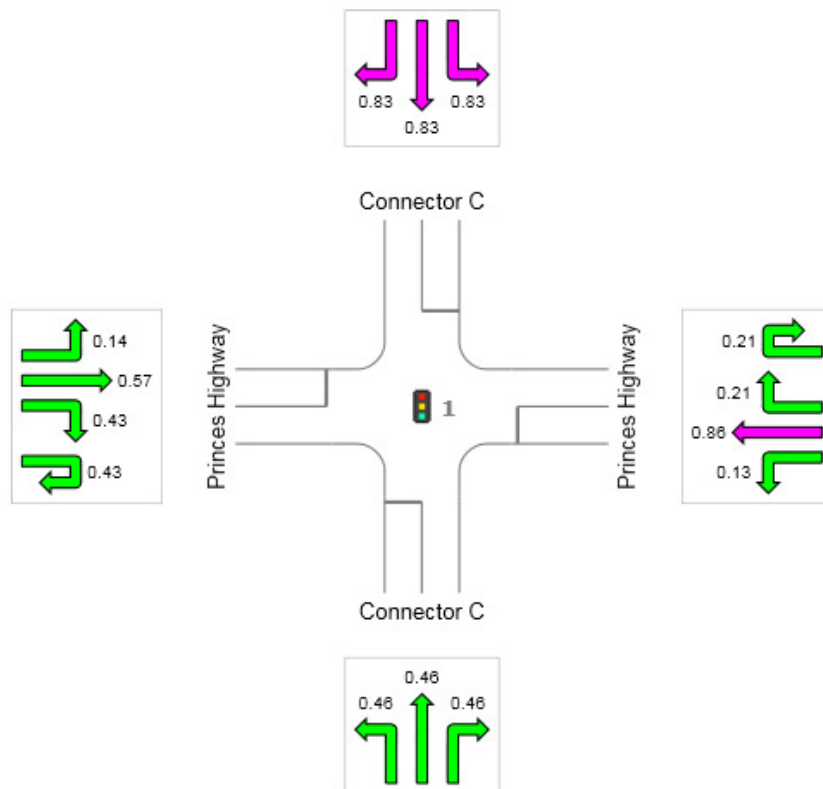
Ultimate Year

2046 (AM Peak)

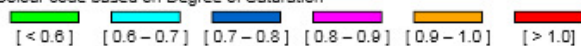
Signals - Fixed Time Isolated Cycle Time = 110 seconds (User-Given Phase Times)

All Movement Classes

	South	East	North	West	Intersection
Degree of Saturation	0.46	0.86	0.83	0.57	0.86



Colour code based on Degree of Saturation



LANE SUMMARY

 Site: 1 [Princes Highway/ Connector C- Ultimate Year - 2046 -revised-AM - Base case with 15m left-turn lane*]

Princes Highway/ Connector C

Ultimate Year

2046 (AM Peak)

Signals - Fixed Time Isolated Cycle Time = 110 seconds (User-Given Phase Times)

Lane Use and Performance													
	Demand Total veh/h	Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Connector C													
Lane 1	254	4.0	555 ¹	0.457	100	28.7	LOS A	9.1	66.1	Short	15	0.0	NA
Lane 2	148	4.0	324 ¹	0.457	100	34.4	LOS A	5.9	42.6	Full	500	0.0	0.0
Lane 3	171	4.0	374 ¹	0.457	100	43.1	LOS A	7.7	55.7	Short	25	0.0	NA
Approach	573	4.0		0.457		34.5	LOS A	9.1	66.1				
East: Princes Highway													
Lane 1	57	10.0	446	0.127	100	39.7	LOS A	2.4	17.9	Short	75	0.0	NA
Lane 2	364	10.0	461 ¹	0.855	100	50.2	LOS C	22.7	172.4	Full	500	0.0	0.0
Lane 3	403	10.0	471	0.855	100	50.3	LOS C	23.3	176.7	Full	500	0.0	0.0
Lane 4	403	10.0	471	0.855	100	50.3	LOS C	23.3	176.7	Full	500	0.0	0.0
Lane 5	42	10.0	197	0.214	100	54.7	LOS A	2.1	16.1	Short	120	0.0	NA
Approach	1299	10.0		0.855		49.9	LOS C	23.3	176.7				
North: Connector C													
Lane 1	251	4.0	301 ¹	0.834	100	53.0	LOS C	12.5	90.6	Full	500	0.0	0.0
Lane 2	170	4.0	204 ¹	0.834	100	60.2	LOS C	9.6	69.3	Short	25	0.0	NA
Approach	421	4.0		0.834		55.9	LOS C	12.5	90.6				
West: Princes Highway													
Lane 1	63	10.0	446	0.142	100	39.8	LOS A	2.6	19.9	Short	75	0.0	NA
Lane 2	267	10.0	471	0.566	100	38.8	LOS A	12.6	95.7	Full	500	0.0	0.0
Lane 3	267	10.0	471	0.566	100	38.8	LOS A	12.6	95.7	Full	500	0.0	0.0
Lane 4	267	10.0	471	0.566	100	38.8	LOS A	12.6	95.7	Full	500	0.0	0.0
Lane 5	86	10.0	203	0.425	100	56.2	LOS A	4.5	34.0	Short	120	0.0	NA
Approach	949	10.0		0.566		40.5	LOS A	12.6	95.7				
Intersection	3242	8.2		0.855		45.2	LOS C	23.3	176.7				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Lane LOS values are based on degree of saturation per lane.

Intersection and Approach LOS values are based on worst degree of saturation for any lane.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akelik 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 adjacent full-length lanes. Some upstream delays at entry to short lanes are not included.

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Organisation: VICROADS | Processed: Friday, 14 July 2017 11:14:16 AM

Project: C:\Pakenham East PSPI\Ultimate Year - - 2046 -Connector C.sip7

PHASING SUMMARY

Site: 1 [Princes Highway/ Connector C- Ultimate Year - 2046 -revised-AM - Base case with 15m left-turn lane*]

Princes Highway/ Connector C

Ultimate Year

2046 (AM Peak)

Signals - Fixed Time Isolated Cycle Time = 110 seconds (User-Given Phase Times)

Phase times specified by the user

Sequence: Split Phasing

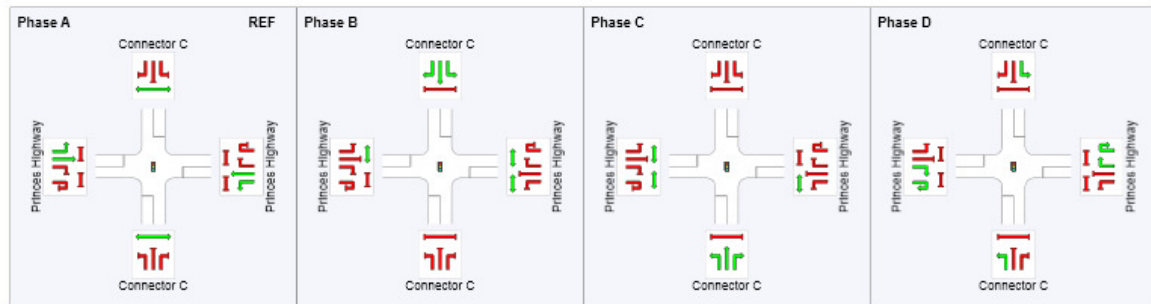
Movement Class: All Movement Classes

Input Sequence: A, B, C, D

Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	34	58	91
Green Time (sec)	28	18	27	13
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	34	24	33	19
Phase Split	31 %	22 %	30 %	17 %



DEGREE OF SATURATION

Ratio of Demand Volume to Capacity (v/c ratio)

Site: 1 [Princes Highway/ Connector C- Ultimate Year - 2046 -revised-PM - Base case with 15m left-turn lane*]

Princes Highway/ Connector C

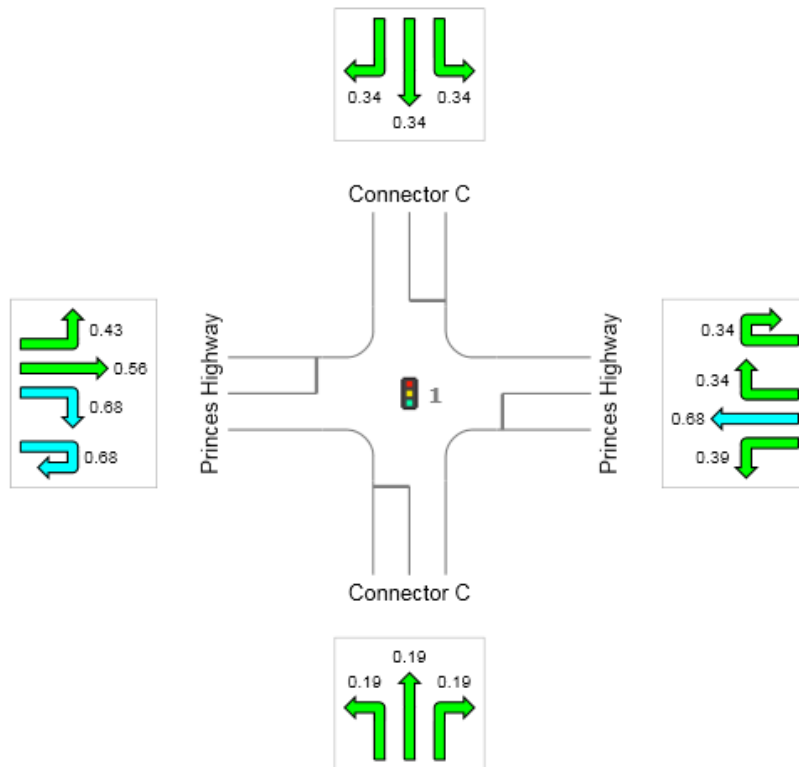
Ultimate Year

2046 (PM Peak)

Signals - Fixed Time Isolated Cycle Time = 110 seconds (User-Given Phase Times)

All Movement Classes

	South	East	North	West	Intersection
Degree of Saturation	0.19	0.68	0.34	0.68	0.68



Colour code based on Degree of Saturation

[< 0.6]	[0.6 - 0.7]	[0.7 - 0.8]	[0.8 - 0.9]	[0.9 - 1.0]	[> 1.0]
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LANE SUMMARY

Site: 1 [Princes Highway/ Connector C- Ultimate Year - 2046 -revised-PM - Base case with 15m left-turn lane*]

Princes Highway/ Connector C

Ultimate Year

2046 (PM Peak)

Signals - Fixed Time Isolated Cycle Time = 110 seconds (User-Given Phase Times)

Lane Use and Performance													
	Demand Total veh/h	Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Connector C													
Lane 1	133	3.8	714 ¹	0.188	100	26.3	LOS A	4.3	31.4	Short	15	0.0	NA
Lane 2	42	4.0	225	0.188	100	51.8	LOS A	2.1	14.9	Full	500	0.0	0.0
Lane 3	40	4.0	216	0.188	100	54.0	LOS A	2.0	14.4	Short	25	0.0	NA
Approach	215	3.9		0.188		36.4	LOS A	4.3	31.4				
East: Princes Highway													
Lane 1	200	10.0	510	0.392	100	39.4	LOS A	8.6	65.6	Short	75	0.0	NA
Lane 2	387	10.0	537 ¹	0.682	100	37.4	LOS B	17.5	133.1	Full	500	0.0	0.0
Lane 3	387	10.0	538	0.682	100	37.4	LOS B	17.6	133.5	Full	500	0.0	0.0
Lane 4	387	10.0	538	0.682	100	37.4	LOS B	17.6	133.5	Full	500	0.0	0.0
Lane 5	147	10.0	436	0.338	100	42.0	LOS A	6.5	49.5	Short	120	0.0	NA
Approach	1448	10.0		0.682		38.1	LOS B	17.6	133.5				
North: Connector C													
Lane 1	86	4.0	256	0.337	100	34.2	LOS A	3.2	22.9	Full	500	0.0	0.0
Lane 2	73	4.0	216	0.337	100	55.2	LOS A	3.7	26.8	Short	25	0.0	NA
Approach	159	4.0		0.337		43.8	LOS A	3.7	26.8				
West: Princes Highway													
Lane 1	221	10.0	510	0.434	100	39.9	LOS A	9.7	73.6	Short	75	0.0	NA
Lane 2	300	10.0	538	0.558	100	35.7	LOS A	13.7	104.3	Full	500	0.0	0.0
Lane 3	300	10.0	538	0.558	100	35.7	LOS A	13.7	104.3	Full	500	0.0	0.0
Lane 4	300	10.0	538	0.558	100	35.7	LOS A	13.7	104.3	Full	500	0.0	0.0
Lane 5	301	10.0	443	0.679	100	46.1	LOS B	14.8	112.4	Short	120	0.0	NA
Approach	1423	10.0		0.679		38.6	LOS B	14.8	112.4				
Intersection	3245	9.3		0.682		38.5	LOS B	17.6	133.5				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Lane LOS values are based on degree of saturation per lane.

Intersection and Approach LOS values are based on worst degree of saturation for any lane.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akelik 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 adjacent full-length lanes. Some upstream delays at entry to short lanes are not included.

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Project: C:\Pakenham East PSPI\Ultimate Year - - 2046 -Connector C.sip7

PHASING SUMMARY

Site: 1 [Princes Highway/ Connector C- Ultimate Year - 2046 -revised-PM - Base case with 15m left-turn lane*]

Princes Highway/ Connector C

Ultimate Year

2046 (PM Peak)

Signals - Fixed Time Isolated Cycle Time = 110 seconds (User-Given Phase Times)

Phase times specified by the user

Sequence: Split Phasing

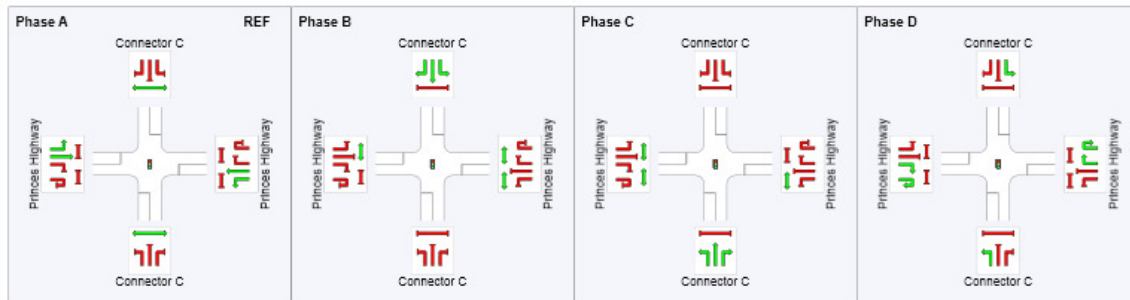
Movement Class: All Movement Classes

Input Sequence: A, B, C, D

Output Sequence: A, B, C, D

Phase Timing Results

Phase	A	B	C	D
Reference Phase	Yes	No	No	No
Phase Change Time (sec)	0	38	57	76
Green Time (sec)	32	13	13	28
Yellow Time (sec)	4	4	4	4
All-Red Time (sec)	2	2	2	2
Phase Time (sec)	38	19	19	34
Phase Split	35 %	17 %	17 %	31 %



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